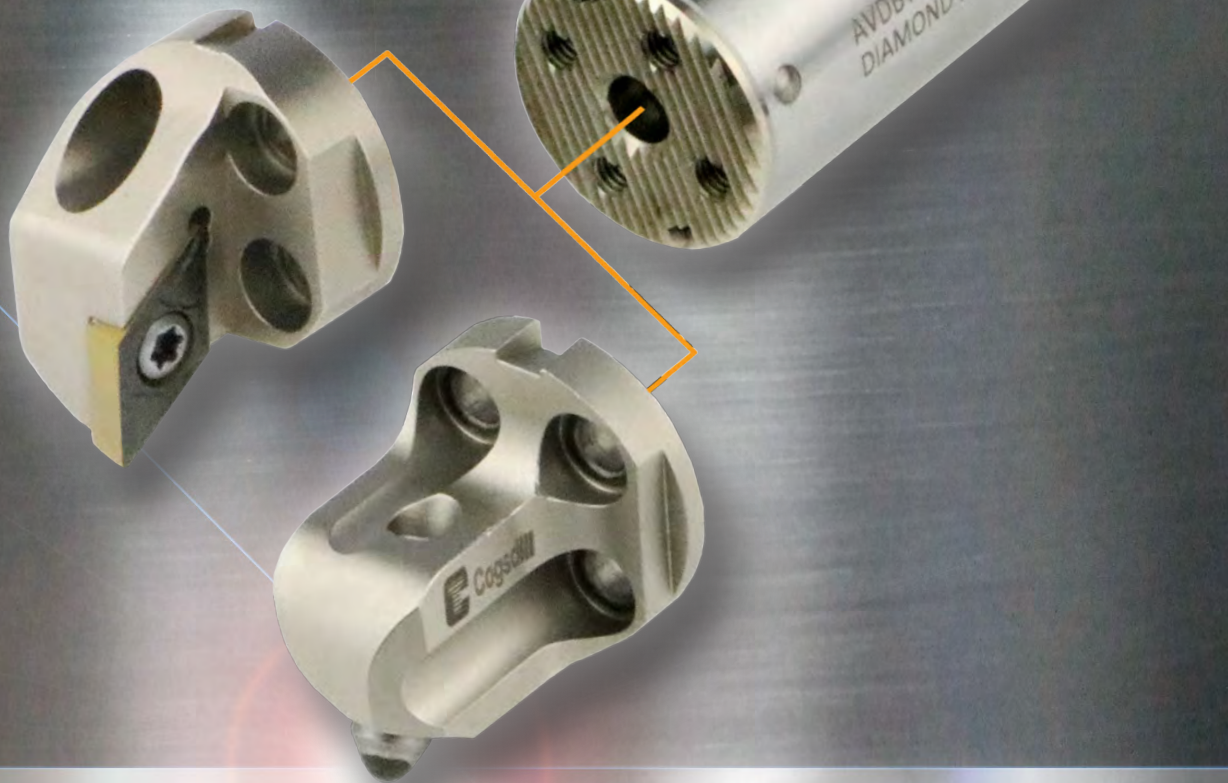




ANTI-VIBRATION
TECHNOLOGY

Anti-Vibration

Diamond Burnishing Tools



GOOD(BYE) VIBRATIONS

Switch from turning/boring
to burnishing in seconds

#GAMECHANGER

cogsdill.co.uk



UP TO 15xD

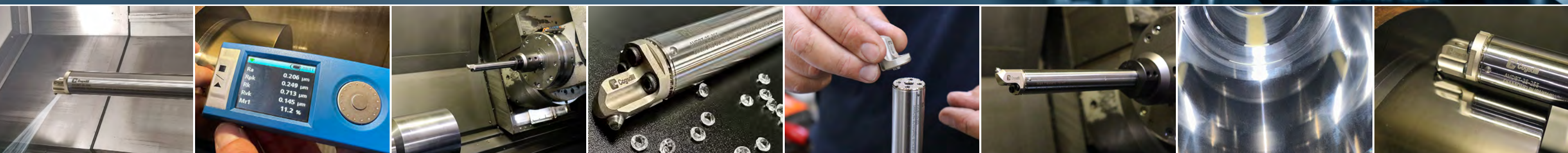
3xD



Introducing the most anticipated addition to the Cogsdill's burnishing portfolio
Anti-Vibration Diamond Burnishing Tools (AVDBT)

Combining Cogsdill's proven diamond insert geometry with the latest auto-tuning, mass dampening, anti-vibration technology – AVDBT offers incredibly low Ra surface finishing for both external diameters and internal bores at depths up to a staggering 15xD!

ACTUAL SIZE



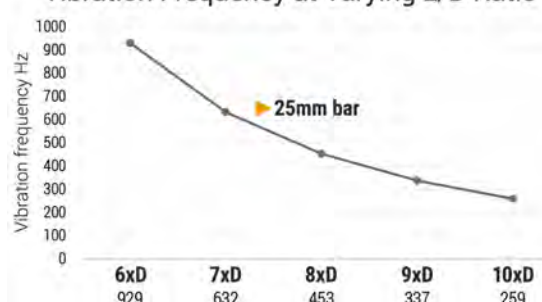
Good(bye) Vibrations

CHATTER

Typically, with conventional single point boring and burnishing, surface finish deterioration can arise when machining applications over 4xD due to increased vibration and regenerative tool chatter. This becomes more problematic when working with even higher overhangs.

Trying to stabilise the surface finish usually involves a lower cutting speed, reduced depth of cut, or increased feed per revolution. All adding to higher production costs or compromising on quality.

Vibration Frequency at Varying L/D Ratio



Our Anti-Vibration technology starts with the auto-tuning mass damper.

Cogsdill's tooling is unique due to the complex polymers that surround a tungsten mass within the boring bar. Vibration frequencies differ significantly over varying lengths. The polymers in turn respond by changing their form, adjusting to the cutting frequency which counteracts vibration – automatically and consistently – effectively auto-tuning the "sweet spot" with no manual adjustment required.

Turning a complex technology into a simple plug-and-play solution.

QUICK CHANGE

Designed with a quick-change interface that incorporates a serrated coupling for alignment and secure tightening. With our exchangeable heads, you can switch from turning/boring to burnishing in seconds with repeatable results time after time.

AVDBT Benefits

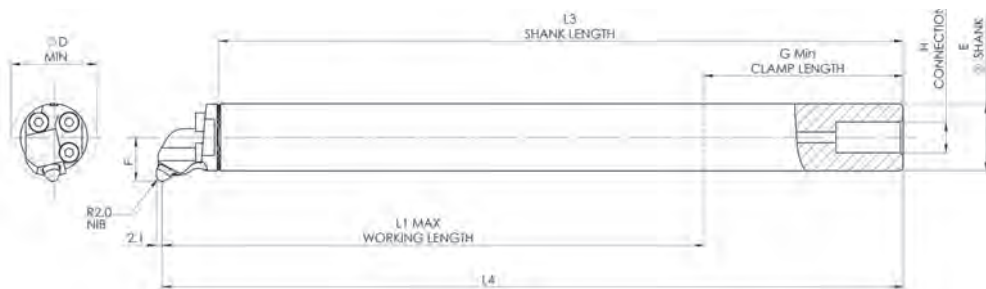
- Instant set-up (plug-and-play)
- No manual tuning / adjustments required
- Turn, bore and burnish from one tool
- Internal bores & external diameters
- Greater working length
- Superior surface finishes
- Incredible cost efficiencies
- Guaranteed repeatability
- Internal through coolant



Anti-vibration technology incorporating complex polymers

Tool Specifications

Standard Series 25 mm / 40 mm



TOOL No.	E	L3	G	L4	L1 Max	F	D	H	Weight (Kg)
AVDBT-25-255	25	255	75	275	200	16.4	32	G1/4"	1.1
AVDBT-25-330	25	330	75	350	275	16.4	32	G1/4"	1.7
AVDBT-25-430	25	430	75	450	375	16.4	32	G1/4"	2.2
AVDBT-40-408	40	408	120	428	308	24	50	G1/2"	3.9
AVDBT-40-528	40	528	120	548	428	24	50	G1/2"	5.0

Machine Clamping Requirements

To ensure these tools give the optimum performance, correct tool holding is critical.



Direct Screw Mount

- Unacceptable rigidity
- **DO NOT USE THIS**
- It will damage the bar

Reduction Sleeve

- Acceptable rigidity
- Clamping length 4xD
- For low L/D

Reduction Sleeve

- Better rigidity
- Clamping length 4xD

Hydraulic Collet

- Best rigidity
- Clamping length 3xD
- For high L/D

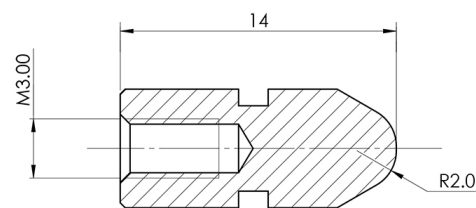
DE BEERS

All diamonds that Cogsdill use in their tool manufacturing are sourced via De Beers and adhere to their Code of Origin to provide assurance that it is natural, conflict free and meets industry-leading ethical standards.



Replaceable Diamond Nibs

The Diamond nibs are easily replaced once they have worn. The nibs are interchangeable across the AVDBT series.



Example Results

EN19

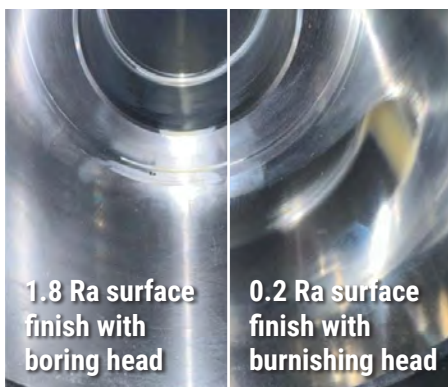
MACHINE & COMPONENT DATA

Machine	Mazak Integrex 400
Bore Diameter	104.7mm
Bore Depth	103mm
Tool	AVDBT-25-255
Bar Length	255mm
Insert	Sandvik DCMT11T304PM

BORING DATA

Speed	200 m/min
Feed	0.15 mm/rev
Depth of Cut	0.25 mm
Surface Finish Achieved	1.8 Ra

Typical grinding surface finish:
0.3 – 0.8 Ra µm



BURNISHING DATA

Speed	200 m/min
Feed	0.1 mm/rev
Depth of Cut	0.25 mm
Interference	0.2 mm (Radial)
Surface Finish Achieved	0.2 Ra
Size Change	0.012 mm



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in action on



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