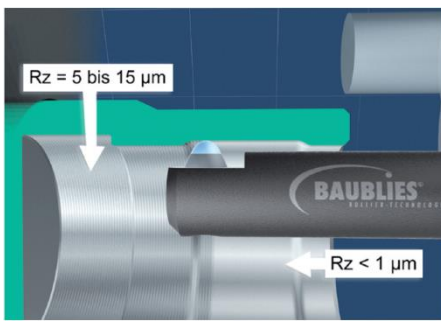


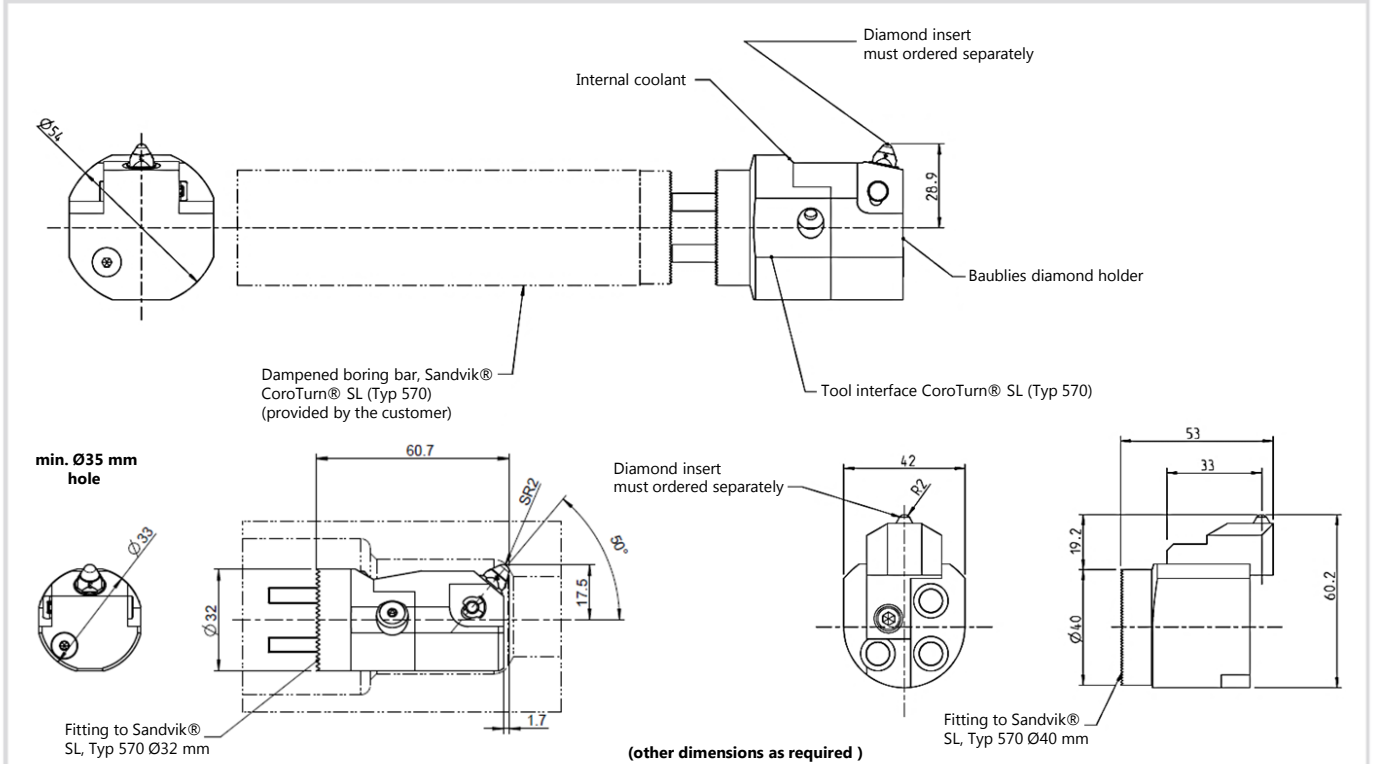
Diamond burnishing tools suitable for dampened boring bars



Diamond burnishing tools suitable for dampened boring bars

are non-intrinsic tool for smoothening and work hardening of holes and internal contours.

Technical details: Diamond burnishing tools for internal use



Diamond burnishing tools for internal use

Application: holes and internal contours

Options

- Assembly device
- Internal coolant
- Tailor made diamond shape
- Tool interfaces e.g. KM®, Sandvik® etc.

Advantages

- universally useable
- suitable for hard machining and thin walled workpieces
- changeable diamond insert
- spring loaded diamond
- regrinding of the diamond is possible

Application parameters

Please note that this information represents standard values which must be adapted to the individual cases.

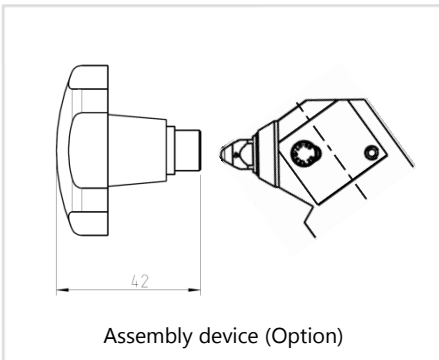
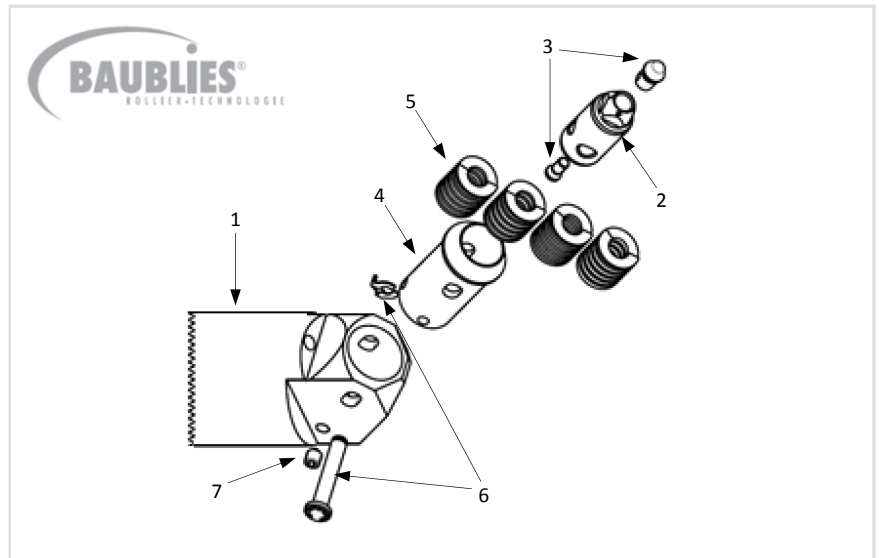
Speed	up to 150 m/min
Feed rate	0.05 - 0.2 mm/rev
Workpiece allowance	up to 0.02 mm
Tool pre-load	up to 1 mm
Lubrication	emulsion or oil; filtration of the lubricant (< 40 µm) can improve the surface quality and the tool life
Pre-machining of workpiece	surface roughness (Rz) up to 15 µm
Suitable for hard machining	

Tool assembly and handling

Diamond burnishing tools for internal use

Tool assembly and handling

- 1 Shank
- 2 Diamond holder for type form C
- 3 Diamond insert form C with screw
- 4 Bushing
- 5 Spring (including 4 several compression springs)
- 6 Pin with locking ring
- 7 Set screw



Changing components

Diamant

Slightly pre-load diamond (2) (with assembly device). Remove pin with locking ring (6). Declamp diamond. Remove or rotate diamond into the next position. During assembly pay attention to the position of the pin hole in the diamond holder. Slightly pre-load diamond (with assembly device). Insert pin with locking ring. Declamp diamond.

Tipp

- The preload of the tool during burnishing should be in a range between 0.1 and 0.5 mm.
- If the position is not vertical to the workpiece surface the wearpoint of the diamond is excentric and then the diamond can be used 4 times by rotating it in steps of 90°.
- Coolant must be used at any time
- Avoid interrupted cuts
- If the diamond is not badly damaged (cracks) regrinding is possible.

Federkennlinie Diamantglättwerkzeug

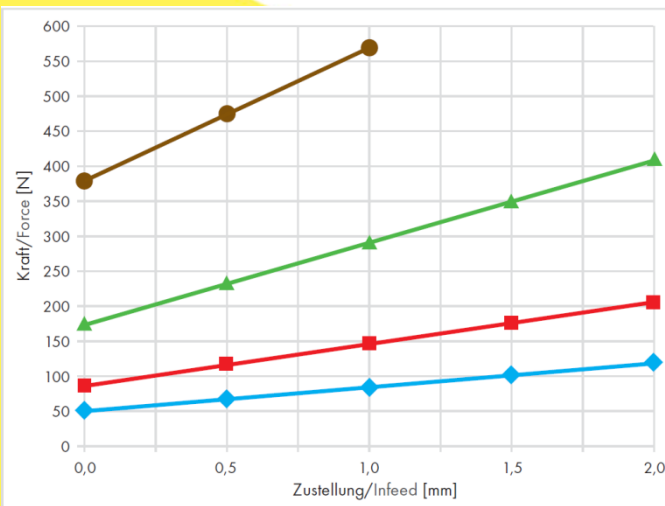
Spring load-deflection curve for diamond burnishing tools

1. Zuordnung Kraft - Weg

1. Classification force - spring deflection

Beispiel:

Wenn die rote Feder eingebaut ist, entspricht eine Zustellung am Werkstück von 0,25 mm einer Kraft von ca. 100 N.



2. Einsatzempfehlungen nach Werkstoffeigenschaften

2. Application proposal according to material properties

Abhängig von den Werkstoffeigenschaften sollte eine entsprechende Feder verwendet werden. Die Nebenstehende Tabelle soll dabei als Leitfaden dienen. Üblicherweise wird mit einer Zustellung im Bereich bis 0,5 mm gearbeitet.

Bei höherem Kraftbedarf sollte eine stärkere Feder eingebaut werden.

Federfarbe Spring Colour	Art. Nr. Art. no.	Kraft Force	Festigkeit bis zu Up to a tensile strength of
Blau/Blue ◆	13798	50 - 120 N	400 MPa [N/mm ²]
Rot/Red ■	13799	90 - 200 N	1250 MPa [N/mm ²] oder/or HRC 40
Grün/Green ▲	13800	180 - 400 N	HRC 64
Braun/Brown ●	13801	380 - 570 N	Verwendung nur in besonderen Anwendungsfällen Only used in very special applications

Depending on material properties the use of an according spring is recommended. The table should serve as a guideline.

Usually an infeed of up to 0.5 mm is used. If a higher force is required a stronger spring should be used.