



The alternative for knurling impressive RAA profiles. Setting and scaling aids for a fine adjustment of the cut knurling head offer special advantages concerning precision, knurl quality and user-friendliness. The simplified tool setting in combination with a more stable design allow for increased process rigidity. The optimal tool solution for visual knurling profiles with minimal pressure!

APPLICATION ADVANTAGES:

PROCESS STABILITY:

- Process stability through protection from radial deflection and axial torque: for an optimal tool guiding of the work piece and minimal vibration of the tool. Superb precision and surface quality on the work piece. Easy and precise positioning of the cut knurling head
- Lock-in position at 30° - for an optimal starting position
- Precise fine adjustment of the tool head by means of scaling aid: for an easy presetting and reproducible processes
- Controlled tool change: precise fitting of the knurl and exact location of the knurl holding unit
- All setting parameters can be preset and documented

EFFICIENCY:

- Higher feed and speed rates, reduced production times
- Reduced wear on knurling wheels
- Modular cut knurling tool head for right-/left-hand turning machines
- Reduced setting time through easy presetting and reproducible setting parameters

TOOL HANDLING:

- Integrated set screws for easy adjustment of the clearance angle
- Fine adjustment of the cut knurling head with setting spindle for a perfectly milled profile and even knurl depth
- Easy change of knurling wheels and precise positioning of the knurl holding unit
- Stability and precision due to a three-point bearing of the tool head on the shank construction



- **Modular use right and left:** Retooling through fast and easy turning of the cut knurling head

- **User-friendly tool handling:** Scaling and positioning aids

zeus® CUT KNURLING TOOL 231:

THE SPECIALIST FOR FIRST-CLASS VISUAL PROFILES WITH EXCEPTIONAL DEMANDS ON SURFACE QUALITY!



Machine type: Conventional and CNC – suitable for:
• Automatic short-turning lathes, Universal lathes, Turning- / milling centre
• Multispindle automatic lathes

Application: Cut knurling (swarf removal)

Knurling profile on work piece DIN 82:

RAA	RBL30°	RBR30°
1 x BR30° (right-turning) 1 x BL30° (left-turning)	1 x AA	1 x AA

- Tool direction:** • Feed knurling
- Product highlights:**
- Setting spindle for fine adjustment of the cut knurling head
 - Scaling and positioning aids
 - Lock-in position at 30° for an optimal starting position
 - Precise knurl holding unit
 - Integrated set screws for clearance angle adjustment
 - Exchangeable tool head for flexible use on right-/ and left-hand turning machines
 - Carbide bushings
 - Special surface hardening for increased wear resistance

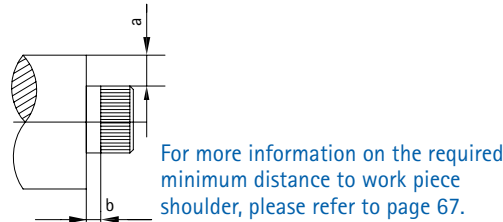
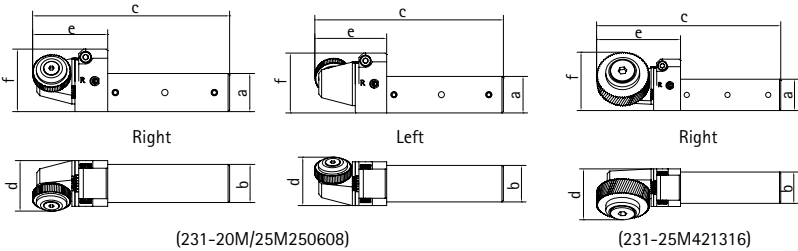
ORDER EXAMPLE:

Tool holder No. 231-25 M 250608 - A
Product series 231-25 M 250608 - A Model A
Shank size 25x25 mm Modular For knurling wheels 25x6x8 (Ø x width x bore)

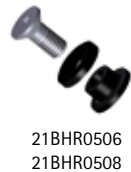
TOOL TYPES:

Tool holder No.	Working area Ø mm	a mm	b mm	c mm	d mm	e mm	f mm	Knurling wheels mm (Ø x width x bore)	Spare part E-Kit
231-20M250608-A	10-300	20	25	129	33	49	36	25 x 6 x 8	21BHR0506
231-25M250608-A	10-300	25	25	129	33	49	41	25 x 6 x 8	21BHR0506
231-25M421316	30-3000	25	25	147	41	67	47	42 x 13 x 16	21BHR0508

Further tools versions with VDI-shank system available on demand.



For more information on the required minimum distance to work piece shoulder, please refer to page 67.



21BHR0506
21BHR0508

APPLICATION EXAMPLE:

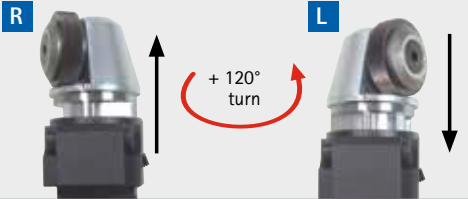


APPLICATION:

Material: 1.4305
Knurling Profile/Pitch (DIN 82): RAA / P. 1.0
Machine: Boley BE 42
No. of pcs. produced/ knurling wheel: 400

APPLICATION PARAMETERS zeus® RF1:

Knurling tool: 231-20M250608-A
Knurling wheel: BR30° 25x6x8, P. 1.0
Cycle time: 25 sec/piece
Speed rate: 35 m/min
Feed rate: 0.08 mm/rev
Tool life knurling wheel: 166 min/knurling wheel
Performance: 0.72 m²/knurling wheel



FLEXIBILITY:

Fast and easy turning of the tool head for right- / and left-hand use

