



The new RF2-LD generation for swiss type autolathes meets high demands with regards to process stability, efficiency and profitability. Due to the modular system with four shank adaptors and two cut knurling heads, the tool series can be adjusted easily to different applications and machine types. The small but rigid tool design is ideal for limited work spaces, and excels also in long-term operations. The best alternative for producing excellent RGE profiles on small diameters.

APPLICATION ADVANTAGES:

PROCESS STABILITY:

- Minimal vibration, high quality visual profiles, close tolerances
- Serration between tool holder and cut knurling head for increased stability and precision during processing
- Fine adjustment of the knurl head through setting spindle (with scale) – ensuring a knurling profile parallel to the axis
- Precise fine adjustment of the tool head by means of scaling aid: for an easy presetting and reproducible processes
- All setting parameters can be preset and documented
- Controlled tool change: precise fitting of the knurl and exact location of the knurl holding unit
- Rigid tool construction allows an exact positioning of the cut knurling tool head – for an optimal tool guiding on the work piece

EFFICIENCY:

- Higher feed and speed rates, reduced production times
- Reduced wear on knurling wheels
- Modular shank system for cost-effective use on all CNC- / and cam-controlled swiss type autolathes
- Modular cut knurling tool head for right-/lefthand use

TOOL HANDLING:

- Reduced setting times through user-friendly fine adjustment of the clearance angle and the knurling tool head
- User-friendly fine adjustment of the center height through vertical height adjustment with the setting spindle
- Easy setting of the work piece diameter with the setting scale and the synchronously adjusted setting spindle



- **Increased efficiency:** Exchangeable tool head for processing different work piece diameters



- **Modular product design:** Modular shank adaptors for an easy adjustment to required shank size diameters



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

APPLICATION EXAMPLE:

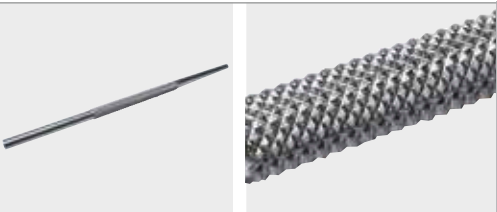


APPLICATION:

Material: 9SMnPb28K
Knurling Profile/Pitch (DIN 82): RGE30° / P. 1.0
Machine: Boley BE42
No. of pcs. produced/ knurling wheel: 2,000

APPLICATION PARAMETERS zeus® RF2:

Knurling tool: 241-16M150408
Knurling wheel: AA 15x4x8, P. 1.0
Cycle time: 10 sec/piece
Speed rate: 55 m/min
Feed rate: 0.1 mm/rev
Tool life knurling wheel: 330 min/knurling wheel
Performance: 1.41 m²/knurling wheel



zeus® CUT KNURLING TOOL 241:

THE SPECIALIST FOR RGE – PROFILES WITH MAXIMUM PROCESS-STABILITY ON SMALL DIAMETERS!



Machine type: Conventional and CNC – suitable for:
• Swiss type autolathes

Application: Cut knurling (swarf removal)

Knurling profile on work piece DIN 82: RGE30° RGE45°
Knurling wheels: 2 x AA 1 x BL15° / 1 x BR15°

Tool direction: • Feed knurling

Product highlights: • Serration between tool holder and cut knurling head
• Scale and positioning aids
• Precise knurl holding unit
• Modular shank construction for conversion to alternative shank sizes
• Exchangeable tool head for adaptation to different work piece diameters
• Setting scale and synchronously adjusted setting spindle for adjustment of the work piece diameter / clearance angle correction
• Carbide bushings
• Special surface hardening for increased wear resistance

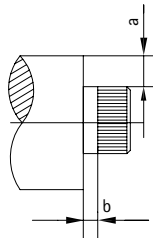
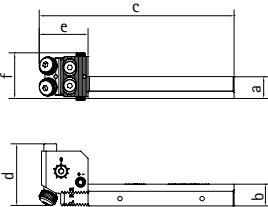
ORDER EXAMPLE:

Tool holder No. 241-08 M 100306
Product series 241-08 M 100306
Shank size 8 x 8 mm Modular For knurling wheels 10x3x6 (Ø x width x bore)

TOOL TYPES:

Tool holder with adaptor	Tool holder with full-shank	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
241-08M100306	241-08M100306	2-12	8	8	107	34	27	26	10 x 3 x 6	21BHR0889
241-10M100306	241-10M100306-VS	2-12	10	10	107	34	27	26	10 x 3 x 6	21BHR0889
241-12M100306	241-12M100306-VS	2-12	12	12	107	34	27	26	10 x 3 x 6	21BHR0889
241-16M100306	241-16M100306-VS	2-12	16	16	107	34	27	29	10 x 3 x 6	21BHR0889
241-08M150408	241-08M150408	3-50	8	8	114	36	34	32	15 x 4 x 8	21BHR0792
241-10M150408	241-10M150408-VS	3-50	10	10	114	36	34	32	15 x 4 x 8	21BHR0792
241-12M150408	241-12M150408-VS	3-50	12	12	114	36	34	32	15 x 4 x 8	21BHR0792
241-16M150408	241-16M150408-VS	3-50	16	16	114	36	34	32	15 x 4 x 8	21BHR0792
241-20M150408-A*	241-20R/L150408-VS	3-50	20	20	118	45	38	36	15 x 4 x 8	21BHR0792

* Design as 241-08M100306, shank, however as 241-20/25M (as shown on page 41)



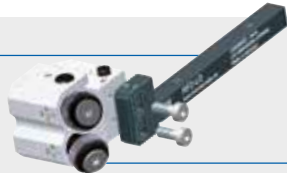
For more information on the required minimum distance to work piece shoulder, please refer to page 67.

MODULAR PARTS:

SHANK ADAPTORS:

Shank size	Part-No.
10 x 10	21BHR0833
12 x 12	21BHR0834
16 x 16	21BHR0835

Modular shank construction for conversion to alternative shank sizes



CUT KNURLING HEADS:

Working area	Cut knurling head	Part-No.
1,5 - 12 mm	RFK 10x3x6	21BHR0831
3 - 50 mm	RFK 15x4x8	21BHR0832

Optional: For conversion to alternative working area

