



PRÄZISIONSWERKZEUGE



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THE TOOLING SPECIALISTS FOR PRECISION COMPONENT MACHINING

ZEUS^{ECO} KNURLING TECHNOLOGY



- > KNURLING WHEELS
- > FORM KNURLING TOOLS
- > CUT KNURLING TOOLS

ZEUS^{ECO} KNURLING WHEELS

HSS KNURLING WHEELS - WITH CHAMFER - FORM KNURLING, DIN 403



AA

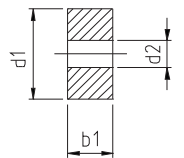
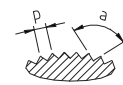
BL 30°

BR 30°

BL 45°

BR 45°

GE 30°



STANDARD PITCH MM



Type No.	Dimension				Form					
	Ø mm	Width mm	Bore mm	Pitch mm	AA	BL30°	BL45°	BR30°	BR45°	GE30°
08	10	4	4	●	P	P	P	P	P	P
08	15	6	4	□	P	P	-	P	-	P
08	20	6	6	■	P	P	-	P	-	P
08	20	8	6	■	P	P	-	P	-	P

Pitch / Profile angle 90°

●	0,6 / 0,8 / 1,0
□	0,6 / 0,8 / 1,0 / 1,2
■	0,6 / 0,8 / 1,0 / 1,2 / 1,5

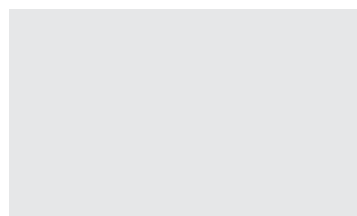
STANDARD PITCH CP (TPI)



Type No.	Dimension				Form					
	Ø mm	Width mm	Bore mm	Pitch cp	AA	BL30°	BL45°	BR30°	BR45°	GE30°
08	10	4	4	●	P	-	P	-	P	-
08	15	6	4	●	P	-	P	-	P	-
08	20	6	6	●	P	-	P	-	P	-
08	5/8	1/4	1/4	●	P	-	P	-	P	-

Pitch / Profile angle 90°

●	cp 30 / cp 35 / cp 40
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HSS KNURLING WHEELS - WITHOUT CHAMFER - CUT KNURLING, DIN 403



STANDARD PITCH MM



Type No.	Dimension				Price in €				
					Form				
	Ø mm	Width mm	Bore mm	Pitch mm	AA	BL30°	BL15°	BR30°	BR15°
09	15	4	8	□	P	P	P	P	P
09	25	6	8	■	P	P	P	P	P

Pitch / Profile angle 90°

□	0,6 / 0,8 / 1,0 / 1,2
■	0,6 / 0,8 / 1,0 / 1,2 / 1,5

ZEUS^{ECO} FORM KNURLING TOOLS

ZEUS^{ECO} FORM KNURLING TOOLS 830



Machine type: Conventional and CNC – suitable for:
 • Lathe machines and automatic short-turning lathes

Application: Form knurling (non-cutting forming)

Knurling profile on work piece

DIN 82:

Knurling wheels:

Tool direction:

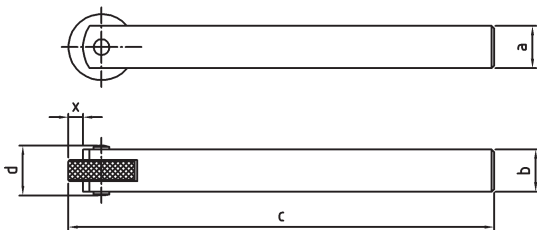
Product features:

RAA	RBL	RBR	RGE	RGV	RKE	RKV
AA	BR	BL	GV	GE	KV	KE

- Plunge knurling: Suitable for all knurling profiles, patterns and markings
- Feed knurling: Suitable for RAA, RBR, RBL

- Easy tool handling
- Centre height adjustable

Tool holder No.	Working area Ø mm	a mm	b mm	c mm	d mm	x mm	Knurling wheels (Ø x width x bore) mm	Spare Part Pin
830-08U150404	3-20	8	8	104	10	4	15x4x4	06TER9537
830-16U250606	15-200	16	16	130,5	18	5,5	20x6x6	06TER0984
830-16U250806	15-200	16	16	130,5	18	5,5	20x8x6	06TER0984



06TER9537
06TER0984

ZEUS^{ECO} FORM KNURLING TOOLS

ZEUS^{ECO} FORM KNURLING TOOLS 841



Machine type: Conventional and CNC – suitable for:
 • Lathe machines and automatic short-turning lathes

Application: Form knurling (non-cutting forming)

Knurling profile on work piece DIN 82:



RAA



RGE30°



RGE45°

Knurling wheels:

2xAA

1xBL30° / 1x BR30°

1xBL45° / 1x BR45°

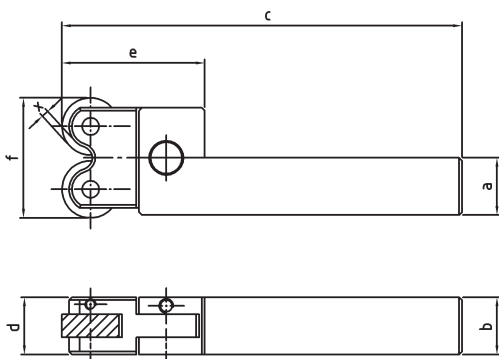
Tool direction:

- Plunge knurling
- Feed knurling

Product features:

- Modular system: universal knurling tool for both right- / and left-hand orientation. Easy tool conversion.
- Knurl pins and pivot pins fixed by a screw – for a quick replacement of the knurling wheels and the tool head
- Flexible centering
- Easy tool handling

Tool holder No.	Working area Ø mm	a mm	b mm	c mm	d mm	e mm	f mm	x mm	Knurling wheels (Ø x width x bore) mm	Spare Part Pin
841-20M200606	10-80	20	20	130	20	50	42	2,5	20x6x6	21BHR0170
841-20M200806	10-80	20	20	130	20	50	42	2,5	20x8x6	21BHR0170



21BHR0170

ZEUS^{ECO} FORM KNURLING TOOLS

ZEUS^{ECO} FORM KNURLING TOOLS 851



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

Application: Form knurling (non-cutting forming)

Knurling profile on work piece DIN 82:



RAA



RGE30°



RGE45°

Knurling wheels:

2xAA

1xBL30° / 1x BR30°

1xBL45° / 1x BR45°

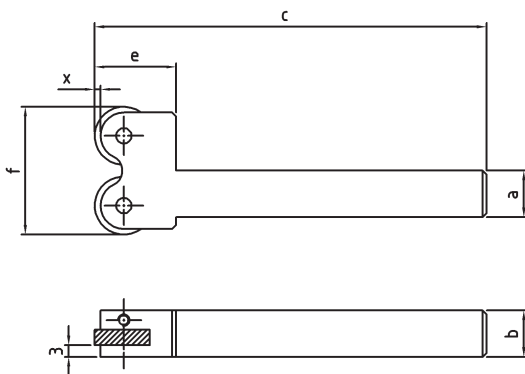
Tool direction:

- Plunge knurling
- Feed knurling

Product features:

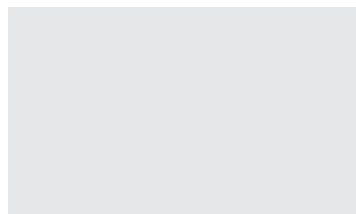
- Knurl pins with face fixed by a screw – for a quick replacement of knurling wheels
- Easy tool handling

Tool holder No.	Working area Ø mm	a mm	b mm	c mm	e mm	f mm	x mm	Knurling wheels (Ø x width x bore) mm	Spare Part Pin
851-12R150404	8-15	12	12	101	21	33	1,5	15x4x4**	21BHR0172



21BHR0172

** Knurling wheels 15x4x4 are available from the zeus® product programme



ZEUS^{ECO} FORM KNURLING TOOLS

ZEUS^{ECO} FORM KNURLING TOOLS 861



Machine type: Conventional and CNC – suitable for:
 • Lathe machines and automatic short-turning lathes

Application: Form knurling (non-cutting forming)

Knurling profile on work piece DIN 82:



RAA



RGE30°



RGE45°

Knurling wheels:

2xAA

1xBL30° / 1x BR30°

1xBL45° / 1x BR45°

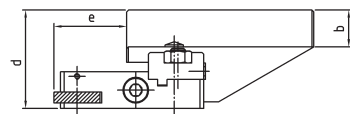
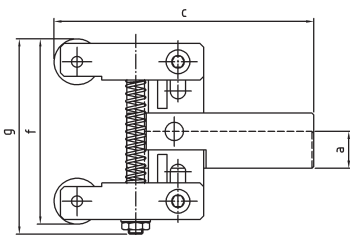
Tool direction:

- Plunge knurling
- Feed knurling

Product features:

- Low radial pressure on the work piece and machine
- Easy setting of the knurl holder to diameter and center line
- Knurl pins fixed by a screw – for a quick replacement of the knurling wheels
- Feed knurling with knurl length < 100 mm

Tool holder No.	Working area Ø mm	a mm	b mm	c mm	d mm	e mm	f mm	g mm	Knurling wheels (Ø x width x bore) mm	Spare Part Pin
861-20R250606	25-50	20	20	136,5	52	39,5	101	106,5	25x6x6**	21BHR0170

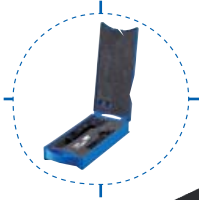


21BHR0170

** Knurling wheels 25x6x6 are available from the zeus® product programme

ZEUS^{ECO} FORM KNURLING TOOLS

ZEUS^{ECO} FORM KNURLING TOOL SET 800-12



RW 830-08U150404



RW 851-12R150404

Application: Form knurling (non-cutting forming)

Set includes:

- Tool holder 830-08U150404
- Knurling wheel 15x4x4 1 x Form AA, Pitch 0,6

Knurling profile on work piece DIN 82:



RAA

1xAA

Knurling wheels:

- Tool holder 851-12R150404
- Knurling wheel 15x4x4 2 x Form AA, Pitch 0,8
- Knurling wheel 15x4x4 je 1 x Form BL30°, Pitch 0,6/0,8/1,0
- Knurling wheel 15x4x4 je 1 x Form BR30°, Pitch 0,6/0,8/1,0

Knurling profile on work piece DIN 82:



RAA

2xAA



RGE30°

1xBL30° / 1xBR30°

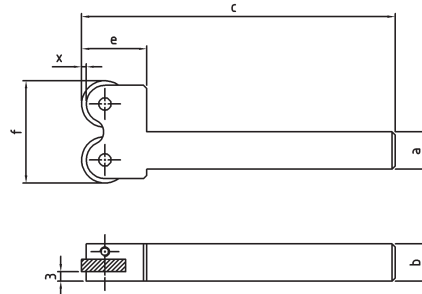
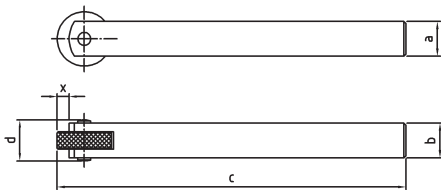
Knurling wheels:

- 3 Spare Part Pins

SET 800-12 -PRODUCT DETAILS

Tool holder No.	Working area Ø mm	a mm	b mm	c mm	d mm	x mm	
830-08U150404	3-20	8	8	104	10	4	
Tool holder No.	Working area Ø mm	a mm	b mm	c mm	e mm	f mm	x mm
851-12R150404	8-15	12	12	101	21	33	1,5

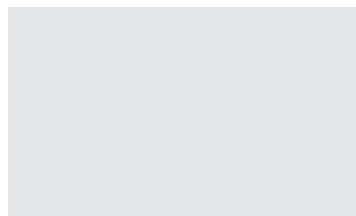
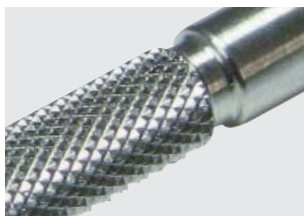
Knurling wheels Ø x width x bore (mm)	Spare Part Pin
15x4x4	06TER9537
Knurling wheels Ø x width x bore (mm)	Spare Part Pin
15x4x4	21BHR0172



06TER9537



21BHR0172



ZEUS^{ECO} FORM KNURLING TOOLS

ZEUS^{ECO} FORM KNURLING TOOL SET 800-20



Application: Form knurling (non-cutting forming)

Set includes:

- Tool holder 830-16U250806
- Knurling wheels 20x8x6 1 x Form AA, Pitch 0,8

Knurling profile on work piece DIN 82:



RAA

Knurling wheels:

1xAA

- Tool holders 841-20M200806
- Knurling wheels 20x8x6 2 x Form AA, Pitch 0,8/1,0
- Knurling wheels 20x8x6 je 1 x Form BL30°, Pitch 0,8/1,0/1,2
- Knurling wheels 20x8x6 je 1 x Form BR30°, Pitch 0,8/1,0/1,2

Knurling profile on work piece DIN 82:



RAA



RGE30°

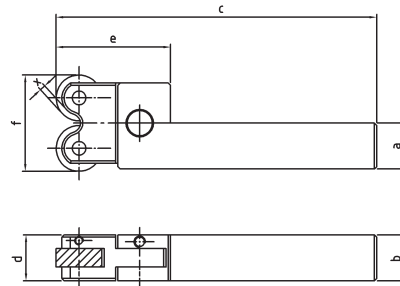
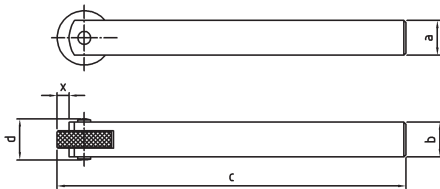
Knurling wheels:

2xAA

1xBL30° / 1xBR30°

- 3 Spare Part Pins

SET 800-20 PRODUCT DETAILS										
Tool holder No.	Working area Ø mm	a mm	b mm	c mm	d mm	x mm			Knurling wheels Ø x width x bore (mm)	Spare Part Pin
830-16U250806	15-200	16	16	130,5	18	5,5			20x8x6	06TER0984
Tool holder No.	Working area Ø mm	a mm	b mm	c mm	d mm	e mm	f mm	x mm	Knurling wheels Ø x width x bore (mm)	Spare Part Pin
841-20M200806	10-80	20	20	130	20	50	42	2,5	20x8x6	21BHR0170



06TER0984



21BHR0170

ZEUS^{ECO} CUT KNURLING TOOLS

ZEUS^{ECO} CUT KNURLING TOOLS 931



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

Application: Cut knurling (swarf removal)

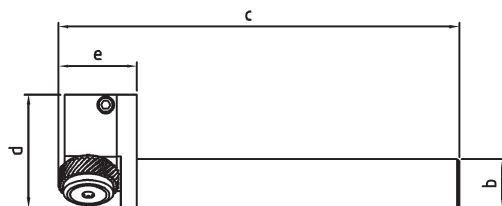
Knurling profile on work piece DIN 82:
RAA

Knurling wheels: 1xBR30°

Tool direction: • Feed knurling

Product features: • Adjustment of the clearance angle with set screws in the shank

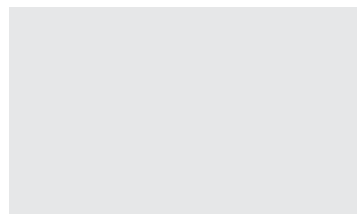
Tool holder No.	Working area Ø mm	a mm	b mm	c mm	d mm	e mm	f mm	Knurling wheels (Ø x width x bore) mm	Spare Part
931-10R100306	1,5-15	10	10	98	15	17	20,5	10x3x6	21BHR0503
931-12R150408-A1	3-50	12	12	99,5	28	19,5	19,5	15x4x8	21BHR0505
931-16R150408	3-50	16	16	99	24	19,5	28	15x4x8	21BHR0505



21BHR0503



21BHR0505




ZEUS^{ECO} CUT KNURLING TOOLS

ZEUS^{ECO} CUT KNURLING TOOLS 931



Machine type: Conventional and CNC – suitable for:
 • Lathe machines and automatic short-turning lathes

Application: Cut knurling (swarf removal)

Knurling profile on work piece 
 DIN 82:

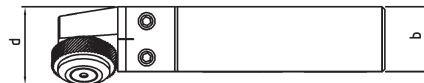
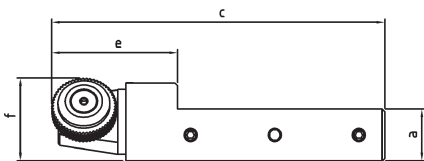
RAA

Knurling wheels: 1xBR30°

Tool direction: • Feed knurling

Product features: • Adjustment of the clearance angle with set screws in the shank

Tool holder No.	Working area Ø mm	a mm	b mm	c mm	d mm	e mm	f mm	Knurling wheels (Ø x width x bore) mm	Spare Part
931-20R250608-A1	10-300	20	25	129	30	49	32	25x6x8	21BHR0507



21BHR0507

ZEUS^{ECO} CUT KNURLING TOOLS

ZEUS^{ECO} CUT KNURLING TOOLS 951



Machine type: Conventional and CNC- suitable for:
• Swiss type autolathes and small autolathes

Application: Cut knurling (swarf removal)

Knurling profile on work piece DIN 82:



RGE30°



RGE45°

Knurling wheels:

2xAA

1xBL15° / 1xBR15°

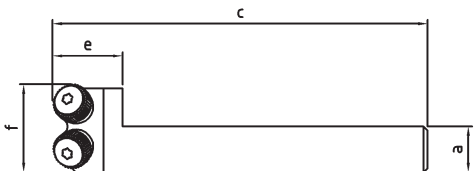
Tool direction:

- Feed knurling

Product features:

- Adjustment of the clearance angle with set screws in the shank

Tool holder No.	Working area Ø mm	a mm	b mm	c mm	d mm	e mm	f mm	Knurling wheels (Ø x width x bore) mm	Spare Part
951-10R100306	2-15	10	10	98,5	23	18,5	20,5	10x3x6**	21BHR0502
951-12R100306	2-15	12	12	98,5	26	18,5	23	10x3x6**	21BHR0889
951-12R150408	3-50	12	12	108	34	28	32	15x4x8	21BHR0504
951-16R150408	3-50	16	16	108	34	28	32	15x4x8	21BHR0504

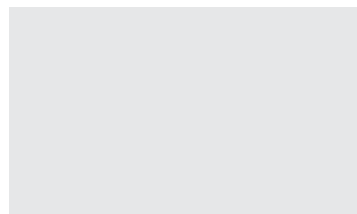


21BRH0502
21BHR0889



21BHR0504

** Knurling wheels 10x3x6 are available from the zeus® product programme



ZEUS^{ECO} CUT KNURLING TOOLS

ZEUS^{ECO} CUT KNURLING TOOLS 941



Machine type: Conventional and CNC – suitable for:
 • Lathe machines and automatic short-turning lathes

Application: Cut knurling (swarf removal)

Knurling profile on work piece DIN 82:



RGE30°



RGE45°

Knurling wheels:

2xAA

1xBL15°/1xBR15°

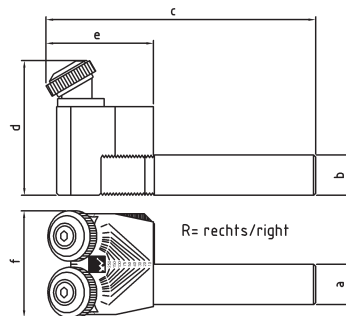
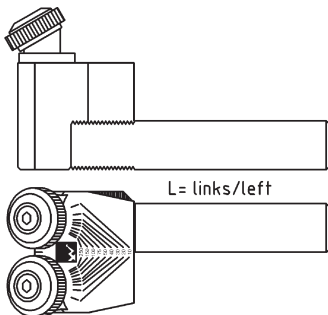
Tool direction:

- Feed knurling

Product features:

- Modular system: universal knurling tool for both left-/ and right and orientation. Easy tool conversion
- Flexible use: Vertical height adjustment for shank 20 and 25
- Setting of the centre height for shank 25 through vertical height adjustment of the tool head
- Setting scale for fast setting of the work piece diameter

Tool holder No.	Working area Ø mm	a mm	b mm	c mm	d mm	e mm	f mm	Knurling wheels (Ø x width x bore) mm	Spare Part
941-20/25M250608-A.1	10-250	20	20	134	68	54	58	25x6x8	21BHR0506



21BHR0506

ZEUS^{ECO} CUT KNURLING TOOL SET 900-12



RW 931-12R100306



RW 951-12R150408

Application: Cut knurling (swarf removal)

Set includes:

- Tool holder 931-12R150408
- Knurling wheel 15x4x8 je 1 x Form BR30°, Pitch 0,8/1,0

Knurling profile on work piece DIN 82:



RAA

Knurling wheels:

1xBR30°

- Tool holder 951-12R100306
- Knurling wheel 10x3x6 2 x Form AA, Pitch 0,8/1,0

Knurling profile on work piece DIN 82:



RGE30°

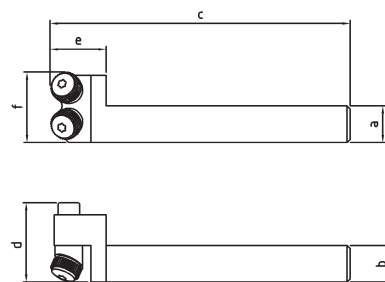
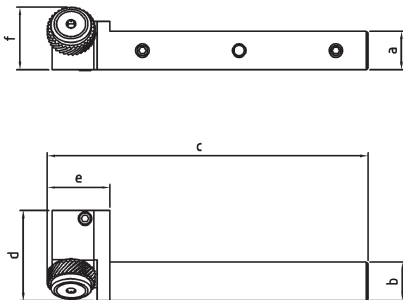
Knurling wheels:

2xAA

SET 900-12 - PRODUCT DETAILS

Tool holder Nr.	Working area Ø mm	a mm	b mm	c mm	d mm	e mm	f mm
931-12R150408-A1	3-50	12	12	99,5	28	19,5	19,5
Tool holder Nr.	Working area Ø mm	a mm	b mm	c mm	d mm	e mm	f mm
951-12R100306	2-15	12	12	98,5	26	18,5	23

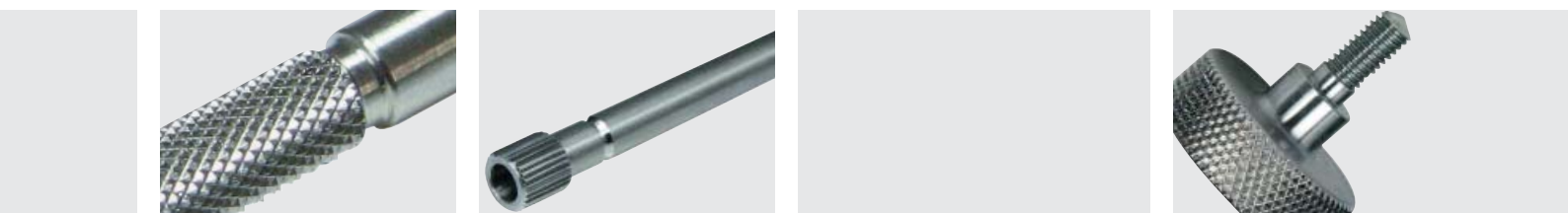
Knurling wheels Ø x width x bore (mm)	Spare Part
15x4x8	21BHR0505
Knurling wheels Ø x width x bore (mm)	Spare Part
10x3x6	21BHR0889



21BHR0889



21BHR0505



ZEUS^{ECO} CUT KNURLING TOOL SET 900-20



RW 931-20R 250608-A

Application: Cut knurling (swarf removal)

Set includes:

- Tool holder RW 931-20R 250608-A1
- Knurling wheel 25x6x8 je 1 x Form BR30°, Pitch 0,8/1,0

Knurling profile on work piece DIN 82:



RAA

Knurling wheels:

1xBR30°



RW 941-20M250608-A.1

- Tool holder 941-20/25M250608-A1
- Knurling wheel 25x6x8 je 2 x Form AA, Pitch 0,8/1,0

Knurling profile on work piece DIN 82:

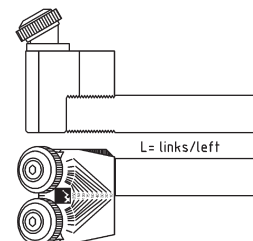
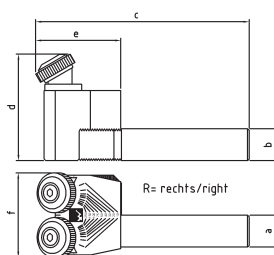
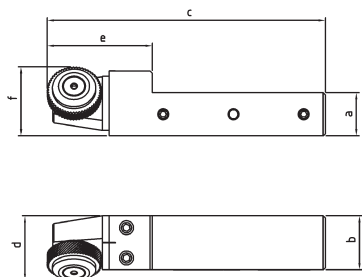


RGE30°

Knurling wheels:

2xAA

SET 900-20 PRODUCT DETAILS									
Tool holder No.	Working area Ø mm	a mm	b mm	c mm	d mm	e mm	f mm	Knurling wheels Ø x width x bore (mm)	Spare Part
931-20R250608-A1	10-300	20	25	28,5	30	49	32	25x6x8	21BHR0507
Tool holder No.	Working area Ø mm	a mm	b mm	c mm	d mm	e mm	f mm	Knurling wheels Ø x width x bore (mm)	Spare Part
941-20/25M250608-A1	10-250	20	20	134	68	54	58	25x6x8	21BHR0506



21BHR0506

21BHR0507



Success through synergies!
Quality is the source of our success.
Flexibility and speed to market ensure your success.



High profile tools!
Knurling wheels, knurling tools, cut knurling tools, marking tools, special tools.
Hardening is our job!



Hardening is our job!
Full hardening service with over 30 years of experience and all heat treatment processes.
State of the art hardening plants and technologies ensure absolute efficiency and quality.



High-tech PVD coatings!
Innovative surface technology for cutting and forming tools with qualified advice.

The Hommel + Keller Präzisionswerkzeuge GmbH is part of the Hommel + Keller group.

The Hommel + Keller group offers all fields of metal working processing, combined with modern heat treatments and high-tech PVD-coatings out of one unit.

Benefit from the synergies resulting from the close cooperation between our three companies.