



zeus Form knurling tools

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Form knurling tools RD1

Ideal for
all knurling profiles



Series 130



Tool holder Designation

Product series 130-16 U 250806-A
Shank size 16 x 16 mm
For right and left use
State of development
Design for knurling wheels
25 x 8 x 6 (Ø x width x bore)

Knurling profiles on DIN 82 workpiece:

Plunge knurling



Selection of knurling wheels:



Feed knurling



Selection of knurling wheels:



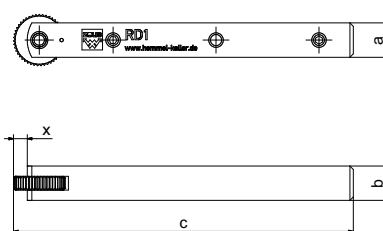
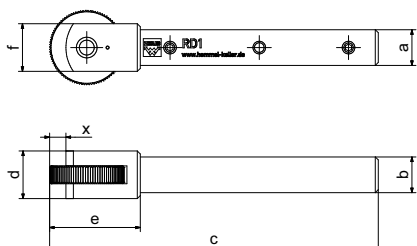
Product features:

- Centre height must be adjusted
- Set screws in shank for clearance angle correction
- Carbide pins

TOOL VERSIONS:

Order no.	Tool holder Designation	Working area Ø [mm]	Dimension [mm]							Knurling wheels (Ø x b x b) [mm]
			a	b	c	d	e	f	x	
31000759	130-10U150404-A	3-50	10	10	99	–	–	–	1.5/4	10/15 x 4 x 4
31000760	130-10U150604-A	3-50	10	10	99	14	19	–	1.5/4	10/15 x 6 x 4
31000762	130-12U150404-A	3-50	12	12	99	–	–	–	1.5/4	10/15 x 4 x 4
31000763	130-12U250606-A	8-200	12	12	110.5	16	30.5	16	3/5.5	20/25 x 6 x 6
31000764	130-12U250806-A	8-200	12	12	110.5	16	30.5	16	3/5.5	20/25 x 8 x 6
31000765	130-14U150604-A	3-50	14	14	99	–	–	–	1.5/4	10/15 x 6 x 4
31000766	130-14U250606-A	8-200	14	14	110.5	–	–	–	3/5.5	20/25 x 6 x 6
31000767	130-16U250806-A	8-200	16	16	110.5	–	–	–	3/5.5	20/25 x 8 x 6
31000768	130-20U251006-A	8-200	20	20	110.5	–	–	–	3/5.5	20/25 x 10 x 6

Other variants available on request





Form knurling tools RD1

Ideal for all knurling profiles, features exceptionally easy handling



Series 131



Tool holder
Designation

Product series
Shank size 10 x 10 mm
Right-hand version
131-10 R 150404-VS-A
State of development
Solid shank
Design for knurling wheels
15 x 4 x 4 (Ø x width x bore)

Knurling profiles on DIN 82 workpiece:

Plunge knurling



Selection of knurling wheels:



Feed knurling



Selection of knurling wheels:



Product features:

- All holders equipped with Click-Pin® system – for fast retooling of the knurling wheels
- Set screws in shank for clearance angle correction
- Carbide pin
- Modular shank design: Shank size 10 x 10 mm optionally adaptable

TOOL VERSIONS:

Order no.	Tool holder Designation	Working area Ø [mm]	Dimension [mm]							Knurling wheels (Ø x b x b) [mm]
			a	b	c	d	e	f	x	
31002706	131-10R150404-VS-A	3-50	10	10	99	12	19	17.5	1.5/4	10/15 x 4 x 4
31002707	131-12R150404-VS-A	3-50	12	12	99	12	19	19.5	1.5/4	10/15 x 4 x 4
31002708	131-16R150404-VS-A	3-50	16	16	99	19	19	23.5	1.5/4	10/15 x 4 x 4

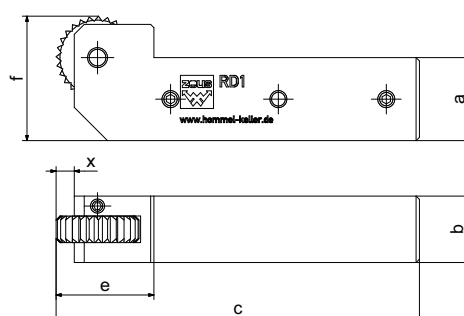
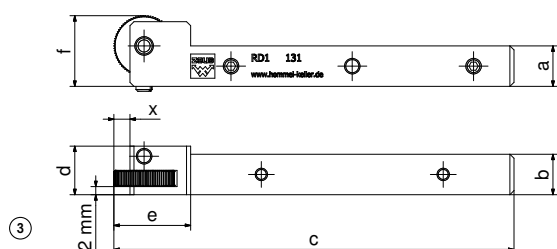
Other variants available on request

Left-hand version of all shank dimensions available on request

Order no.	Tool holder Designation	Working area Ø [mm]	Dimension [mm]						Knurling wheels (Ø x b x b) [mm]
			a	b	c	e	f	x	
31000714	131-20U250806-A-Z	8-200	20	20	109.5	29.5	32.5	3/5.5	20/25 x 8 x 6
31000715	131-25U250806-A-Z	8-200	25	20	109.5	29.5	37.5	3/5.5	20/25 x 8 x 6

ADAPTER BRACKET FOR BASE SHANK 10 x 10 mm:

Order no.	Shank size [mm]
21BHR1653	12 x 12
21BHR1654	16 x 16





Form knurling tools RD1

Ideal for all knurling profiles and applications up to a shoulder



Series 132



Tool holder Designation

Product series 132
Shank size 10 x 10 mm
Right-hand version R
Design for knurling wheels 15 x 6 x 6A11 (Ø x width x bore)
Stepped bore
Solid shank
State of development VS-A

Knurling profiles on DIN 82 workpiece:

Plunge knurling



Selection of knurling wheels:



Feed knurling



Selection of knurling wheels:



Product features:

- Knurling wheel fixed by means of carbide collar studs
- Set screws in shank for clearance angle correction
- Modular shank design: Shank size 10 x 10 mm optionally adaptable

TOOL VERSIONS:

Order no.	Tool holder Designation	Working area Ø [mm]	Dimension [mm]							Knurling wheels (Ø x b x b) [mm]
			a	b	c	d	e	f	x	
31002726	132-10R150606A11-VS-A	3-50	10	10	101	19	21	18	1.3	15 x 6 x 6A11
31002227	132-12R150606A11-VS-A	3-50	12	12	101	19	21	20	1.3	15 x 6 x 6A11
31002729	132-16R150606A11-VS-A	3-50	16	16	101	19	21	24	1.3	15 x 6 x 6A11

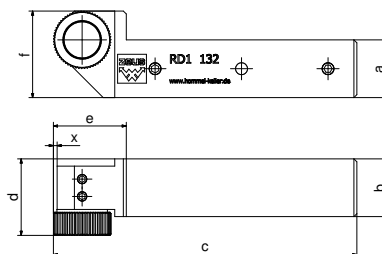
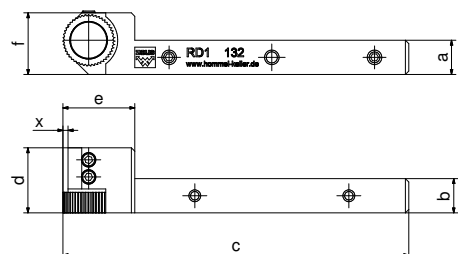
Other variants available on request

Left-hand version of all shank dimensions available on request

Order no.	Tool holder Designation	Working area Ø [mm]	Dimension [mm]							Knurling wheels (Ø x b x b) [mm]
			a	b	c	d	e	f	x	
31000742	132-20U200806A13-A	8-200	20	20	105.5	24	25.3	30	1.3	20 x 8 x 6A13
31000743	132-25U200806A13-A	8-200	25	20	105.5	24	25.3	30	1.3	20 x 8 x 6A13

ADAPTER BRACKET FOR BASE SHANK 10 x 10 mm:

Order no.	Shank size [mm]
21BHR1653	12 x 12
21BHR1654	16 x 16





Form knurling tools RD2

Excellent for axial profiling,
features flexible centring



Series 141



Tool holder Designation

141-10 M 100404-VS-A

Product series
Shank size 10 x 10 mm
Modular
State of development
Solid shank
Design for knurling wheels
10 x 4 x 4 (Ø x width x bore)

Knurling profiles on DIN 82 workpiece:

Plunge/feed knurling



Selection of knurling wheels:

2 x AA	2 x BR	2 x BL	1 x BL30°/ 1 x BR30°	1 x BL45°/ 1 x BR45°
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Product features:

- Shank size 20 x 20 mm and 25 x 25 mm with Click-Pin® system – for fast retooling of the knurling wheels
- Modular design: Tool can be used as right-hand and left-hand version
- Knurling head with flexible centring
- Set screws in shank for clearance angle correction
- Carbide pins
- Modular shank design: Shank size 10 x 10 mm optionally adaptable

TOOL VERSIONS:

Order no.	Tool holder Designation	Working area Ø [mm]	Dimension [mm]							Knurling wheels (Ø x b x b) [mm]
			a	b	c	d	e	f	x	
31002702	141-10M100404-VS-A	3-25	10	10	105.5	12	25.5	21	1	10 x 4 x 4
31002703	141-12M100404-VS-A	3-25	12	12	105.5	12	25.5	22.5	1	10 x 4 x 4
31002658	141-16M150404-VS-A	6-60	16	16	119	16	39	33	1.5	15 x 4 x 4
31000741	141-16M150604-VS-A	6-60	16	16	119	16	39	33	1.5	15 x 6 x 4

Other variants available on request

Order no.	Tool holder Designation	Working area Ø [mm]	Dimension [mm]							Knurling wheels (Ø x b x b) [mm]
			a	b	c	d	e	f	x	
31002704	141-20M200806-B	10-110	20	20	130	20	50	42	2.5	20 x 8 x 6
31002705	141-25M200806-B	10-110	25	20	130	20	50	46	2.5	20 x 8 x 6
31002721	141-25M250806-B	15-220	25	20	136	20	56	55	2.5	25 x 8 x 6

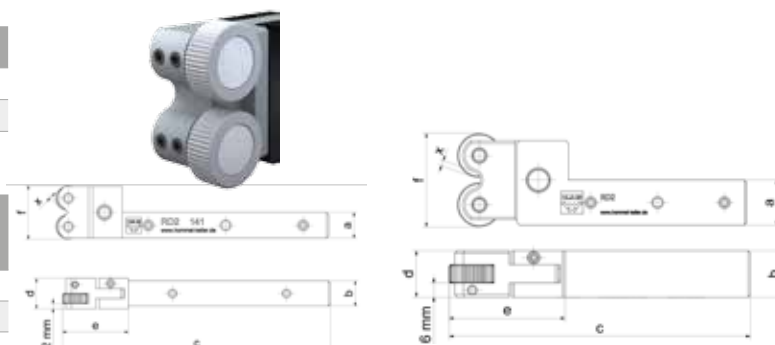
Tools of series 141 can be converted to series 142 and vice versa by replacing the knurling head, with a shank size of 16 x 16 mm or larger

ADAPTER BRACKET FOR BASE SHANK 10 x 10 mm:

Order no.	Shank size [mm]
21BHR1653	12 x 12
21BHR1654	16 x 16

KNURLING HEADS 142:

Order no. Series 142	Shank size [mm]	Knurling wheels (Ø x w x b) [mm]
21BHR0532	16 x 16	15 x 6 x 6A11
21BHR0533	20 x 20	20 x 8 x 6A13





Form knurling tools RD2

Excellent for all axial profiling
and applications up to a shoulder



Series 142



Tool holder
Designation

Product series • 142-20 M 200806A13-A • State of development
Shank size 20 x 20 mm •
Modular •
Stepped bore
Design for knurling wheels
20 x 8 x 6 A13 (Ø x width x bore)

Knurling profiles on DIN 82 workpiece:

Plunge/feed knurling



Selection of knurling wheels

2 x AA	2 x BR	2 x BL	1 x BL30°/ 1 x BR30°	1 x BL45°/ 1 x BR45°
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Product features:

- Knurling wheels fixed by means of carbide collar studs
- Modular design: Tool can be used as right-hand and left-hand version. Retooling by simply turning the knurling head
- Knurling head with flexible centring
- Set screws in shank for clearance angle correction

TOOL VERSIONS:

Order no.	Tool holder Designation	Working area Ø [mm]	Dimension [mm]							Knurling wheels (Ø x b x b) [mm]
			a	b	c	d	e	f	x	
31002801	142-10M150606A11-VS-A	3-40	10	10	110	19	30	30.4	1.5	15 x 6 x 6A11
31002803	142-12M150606A11-VS-A	3-40	12	12	110	19	30	30.4	1.5	15 x 6 x 6A11
31000751	142-16M150606A11-A	6-60	16	16	119	19	39	33	1.5	15 x 6 x 6A11

Other variants available on request

Order no.	Tool holder Designation	Working area Ø [mm]	Dimension [mm]							Knurling wheels (Ø x b x b) [mm]
			a	b	c	d	e	f	x	
31000752	142-20M200806A13-A	10-110	20	20	130	24	50	42	2.4	20 x 8 x 6A13
31000753	142-25M200806A13-A	10-110	25	20	130	24	50	46	2.4	20 x 8 x 6A13

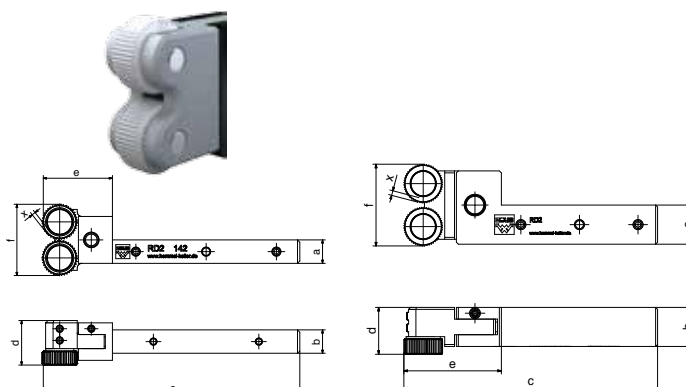
Tools of series 142 can be converted to series 141 and vice versa by replacing the knurling head, with a shank size of 16 x 16 mm or larger

ADAPTER BRACKET FOR BASE SHANK 10 x 10 mm:

Order no.	Shank size [mm]
21BHR1653	12 x 12
21BHR1654	16 x 16

KNURLING HEADS 141:

Order no. Series 141	Shank size [mm]	Knurling wheels (Ø x w x b) [mm]
21BHR1527	16 x 16	15 x 4 x 4
21BHR0529	16 x 16	15 x 6 x 4
21BHR1795	20 x 20	20 x 8 x 6
21BHR1796	25 x 20	25 x 8 x 6





Form knurling tools RD2

Ideal for very small workpiece diameters,
features gentle tangential profiling



Series 161



Tool holder Designation

Product series • 161-10 R 150404-VS -A • State of development
Shank size 10 x 10 mm •
Right-hand version •
Solid shank
Design for knurling wheels
15 x 4 x 4 (Ø x width x bore)

Knurling profiles on DIN 82 workpiece:

Plunge/feed knurling



Selection of knurling wheels:

2 x AA	2 x BR	2 x BL	1 x BL30°/ 1 x BR30°	1 x BL45°/ 1 x BR45°
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Product features:

- Knurl holder is easily adjustable to workpiece diameter by means of synchronous spindle
- Set screws in shank for clearance angle correction
- Carbide pins with surface secured by set screw
- Modular shank design: Shank size 10 x 10 mm optionally adaptable

TOOL VERSIONS:

Order no.	Tool holder Designation	Working area Ø [mm]	Dimension [mm]							Knurling wheels (Ø x b x b) [mm]
			a	b	c	d	e	f	x	
31002719	161-10R150404-VS-A	0-15	10	10	113.4	19.6	33.4	40	2.5	15 x 4 x 4
31002722	161-12R150404-VS-A	0-15	12	12	113.4	19.6	33.4	40	2.5	15 x 4 x 4
31002724	161-16R150404-VS-A	0-15	16	16	113.4	19.6	33.4	40	2.5	15 x 4 x 4

Order no.	Tool holder Designation	Working area Ø [mm]	Dimension [mm]								Knurling wheels (Ø x b x b) [mm]
			a	b	c	d	e	f	xa	x	
31002127	161-20M250806	3.5-65	20	25	164.8	28.4	92.8	103	33.5	1.5	20 x 8 x 6
		0-65	20	25	167.3	28.4	95.3	103	33.5	4	25 x 8 x 6

Other variants available on request

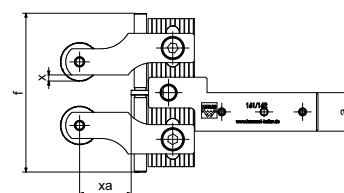
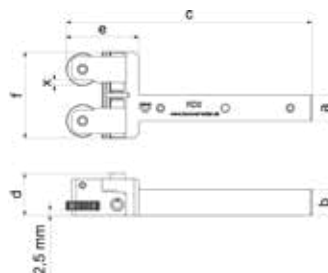
Left-hand version of all shank dimensions available on request

ADAPTER BRACKET FOR BASE SHANK 10 x 10 mm:

Order no.	Shank size [mm]
21BHR1653	12 x 12
21BHR1654	16 x 16

JAWS:

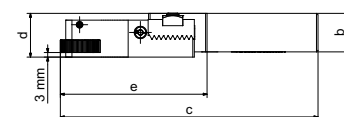
Order no. Series 162	Shank size [mm]
21BHR1673	10 x 10/12 x 12/16 x 16
21BHR1214	20 x 25



21BHR1214



21BHR1673





Form knurling tools RD2

Ideal for very small workpiece diameters
and applications up to a shoulder



Series 162



Tool holder Designation

Product series • 162-10 R 150606A11-VS-A • State of development
Shank size 10 x 10 mm • Stepped bore
Right-hand version • Solid shank
Design for knurling wheels
15 x 6 x 6A11 (Ø x width x bore)

Knurling profiles on DIN 82 workpiece:

Plunge/feed knurling



Selection of knurling wheels:

2 x AA	2 x BR	2 x BL	1 x BL30°/ 1 x BR30°	1 x BL45°/ 1 x BR45°
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Product features:

- Knurling wheels fixed by means of carbide collar studs
- Knurl holder is easily adjustable to workpiece diameter by means of synchronous spindle
- Set screws in shank for clearance angle correction
- Modular shank design: Shank size 10 x 10 mm optionally adaptable

TOOL VERSIONS:

Order no.	Tool holder Designation	Working area Ø [mm]	Dimension [mm]							Knurling wheels (Ø x b x b) [mm]
			a	b	c	d	e	f	x	
31002713	162-10R150606A11-VS-A	0-15	10	10	113.4	20.6	33.4	40	2.5	15 x 6 x 6A11
31002714	162-12R150606A11-VS-A	0-15	12	12	113.4	20.6	33.4	40	2.5	15 x 6 x 6A11
31002715	162-16R150606A11-VS-A	0-15	16	16	113.4	20.6	33.4	40	2.5	15 x 6 x 6A11

Order no.	Tool holder Designation	Working area Ø [mm]	Dimension [mm]								Knurling wheels (Ø x b x b) [mm]
			a	b	c	d	e	f	xa	x	
31002128	162-20M200806A13	3.5-65	20	25	164.8	28.4	92.8	103	33.5	1.5	20 x 8 x 6A13

Other variants available on request

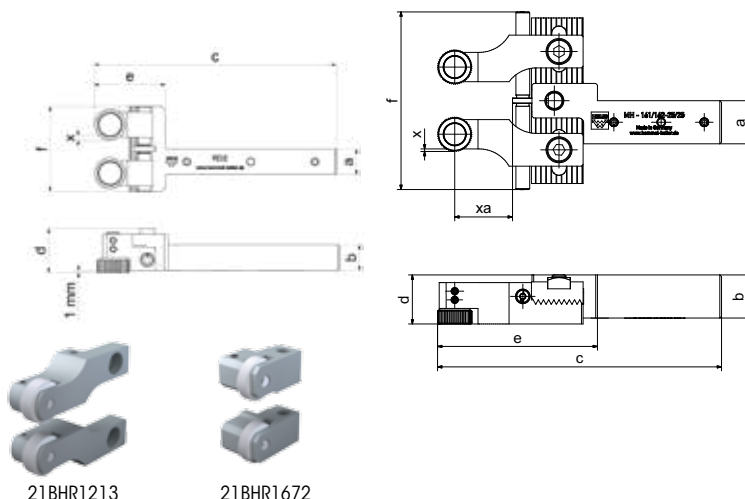
Left-hand version of all shank dimensions available on request

ADAPTER BRACKET FOR BASE SHANK 10 x 10 mm:

Order no.	Shank size [mm]
21BHR1653	12 x 12
21BHR1654	16 x 16

JAWS:

Order no. Series 161	Shank size [mm]
21BHR1672	10 x 10/12 x 12/16 x 16
21BHR1213	20 x 25





Series 191



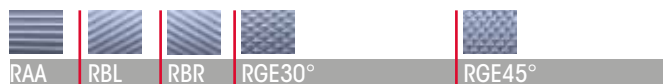
Tool holder
Designation

191 - 12M 150404 - B

Product series
Shank size Ø 12
Modular
State of development
Design for knurling wheels
15 x 4 x 4 (Ø x width x bore)

Knurling profiles on DIN 82 workpiece:

Feed knurling



Selection of knurling wheels:

3 x AA	3 x BR	3 x BL	1 x BL30° / 2 x BR30° //	1 x BL45° / 2 x BR45° //
			1 x BR30° / 2 x BL30°	1 x BR45° / 2 x BL45°

Product features:

- Easy and precise fine adjustment
- Modular exchangeable knurl holder jaws for conversion to knurling up to a shoulder (192) or a cut knurling tool (291)
- Carbide pins

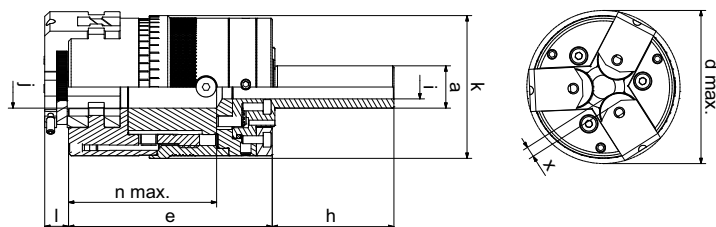
TOOL VERSIONS:

Order no.	Tool holder Designation	Working area Ø [mm]	Dimension [mm]										Knurling wheels (Ø x b x b) [mm]
			a Ø	d max. Ø	e	h	i Ø	j Ø	k Ø	l	n max.	x Ø	
31001902	191-12M150404-B	2-13.5	12	57	78	45	9	16	54	9	56	1.5	10 x 4 x 4
		3-8.5	12	57	78	45	9	16	54	9	56	4	15 x 4 x 4

Other variants available on request

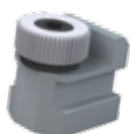
d = for max. workpiece Ø

n = max. workpiece length (with Ø)



JAWS:

Order no. Form knurling up to a shoulder	Order no. Cut knurling
21BHR1128	21BHR1127





Form knurling tools RD3

Maximum stability
up to a shoulder



Series 192



Tool holder
Designation

192-12 M 150606A8-B

Product series
Shank size Ø 12
Modular

State of development
Stepped bore
Design for knurling wheels
15 x 6 x 6A8 (Ø x width x bore)

Knurling profiles on DIN 82 workpiece:

Feed knurling



Selection of knurling wheels:

3 x AA	3 x BR	3 x BL	1 x BL30° / 2 x BR30° //	1 x BL45° / 2 x BR45° //
			1 x BR30° / 2 x BL30°	1 x BR45° / 2 x BL45°

Product features:

- Easy and precise fine adjustment
- Modular exchangeable knurl holder jaws for conversion to a form knurling tool (191) or a cut knurling tool (291)
- Carbide collar studs

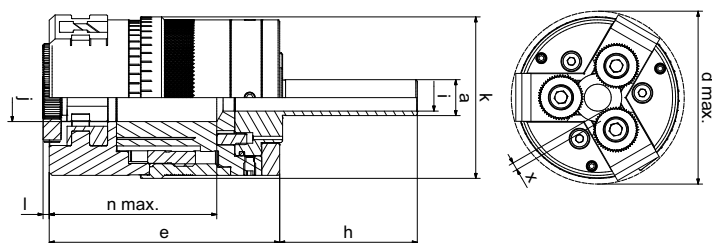
TOOL VERSIONS:

Order no.	Tool holder Designation	Working area Ø [mm]	Dimension [mm]										Knurling wheels (Ø x b x b) [mm]
			a Ø	d max. Ø	e	h	i Ø	j Ø	k Ø	l	n max.	x Ø	
31001948	192-12M150606A8-B	3-12	12	57	78	45	9	16	54	2	56	2.5	15 x 6 x 6A8

Other variants available on request

d = for max. workpiece Ø

n = max. workpiece length (with Ø)



JAWS:

Order no. Form knurling	Order no. Cut knurling
21BHR1096	21BHR1127





Form knurling tools SETS

Maximum flexibility in combination –
the perfect standard equipment



Set 100-12



SET consisting of:

- 1 x tool: 131
- 3 x knurling wheel:
15 x 4 x 4 mm
- 3 x profile: AA
- Pitches: 0.5/0.6/0.8 mm



- 1 x tool: 141
- 12 x knurling wheel:
10 x 4 x 4 mm
- 6 x profile: AA
- 3 x profile: BL30°
- 3 x profile: BR30°
- Pitches: 0.5/0.6/0.8 mm

Knurling profiles on DIN 82 workpiece for tool 131:

Plunge/feed knurling



Selection of knurling wheels:



Knurling profiles on DIN 82 workpiece for tool 141:

Plunge/feed knurling



Selection of knurling wheels:



TOOL VERSIONS:

Order no. Set	Order no. Holder	Tool holder Designation	Working area Ø [mm]	Dimension [mm]	Knurling wheels (Ø x b x b) [mm]
31002691	31002707	131-12R150404-VS-A	3-50	see page 10	10/15 x 4 x 4
	31002703	141-12M100404-VS-A	3-25	see page 12	10 x 4 x 4

Set 100-16



SET consisting of:

- 1 x tool: 131
- 3 x knurling wheel:
15 x 4 x 4 mm
- 3 x profile: AA
- Pitches: 0.6/0.8/1.0 mm



- 1 x tool: 141
- 12 x knurling wheel:
10 x 4 x 4 mm
- 6 x profile: AA
- 3 x profile: BL30°
- 3 x profile: BR30°
- Pitches: 0.6/0.8/1.0 mm

Knurling profiles on DIN 82 workpiece for tool 131:

Plunge/feed knurling



Selection of knurling wheels:



Knurling profiles on DIN 82 workpiece for tool 141:

Plunge/feed knurling



Selection of knurling wheels:



TOOL VERSIONS:

Order no. Set	Order no. Holder	Tool holder Designation	Working area Ø [mm]	Dimension [mm]	Knurling wheels (Ø x b x b) [mm]
31002694	31002708	131-16R150404-VS-A	3-50	see page 10	10/15 x 4 x 4
	31002658	141-16M150404-VS-A	6-60	see page 12	15 x 4 x 4



Form knurling tools SETS



Set 100-20



SET consisting of:

- 1 x tool: 131
- 3 x knurling wheel:
20 x 8 x 6 mm
- 3 x profile: AA
- Pitches: 0.8/1.0/1.5 mm



- 1 x tool: 141
- 12 x knurling wheel:
20 x 8 x 6 mm
- 6 x profile: AA
- 3 x profile: BL30°
- 3 x profile: BR30°
- Pitches: 0.8/1.0/1.5 mm

Knurling profiles on DIN 82 workpiece for tool 131:

Plunge/feed knurling



Selection of knurling wheels:



Knurling profiles on DIN 82 workpiece for tool 141:

Plunge/feed knurling



Selection of knurling wheels:



TOOL VERSIONS:

Order no. Set	Order no. Holder	Tool holder Designation	Working area Ø [mm]	Dimension [mm]	Knurling wheels (Ø x b x b) [mm]
31002695	31000714	131-20U250806-A-Z	8-200	see page 10	20/25 x 8 x 6
	31002704	141-20M200806-B	10-110	see page 12	20 x 8 x 6

Set 100-25



SET consisting of:

- 1 x tool: 131
- 3 x knurling wheel:
20 x 8 x 6 mm
- 3 x profile: AA
- Pitches: 0.8/1.0/1.5 mm



- 1 x tool: 141
- 12 x knurling wheel:
20 x 8 x 6 mm
- 6 x profile: AA
- 3 x profile: BL30°
- 3 x profile: BR30°
- Pitches: 0.8/1.0/1.5 mm

Knurling profiles on DIN 82 workpiece for tool 131:

Plunge/feed knurling



Selection of knurling wheels:



Knurling profiles on DIN 82 workpiece for tool 141:

Plunge/feed knurling



Selection of knurling wheels:



TOOL VERSIONS:

Order no. Set	Order no. Holder	Tool holder Designation	Working area Ø [mm]	Dimension [mm]	Knurling wheels (Ø x b x b) [mm]
31002696	31000715	131-25U250806-A-Z	8-200	see page 10	20/25 x 8 x 6
	31002705	141-25M200806-B	10-110	see page 12	20 x 8 x 6