



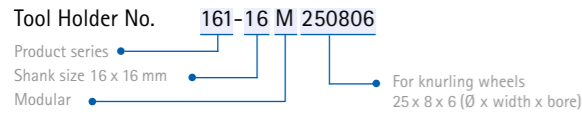
zeus® FORM KNURLING TOOL 161:

THE UNIVERSAL – DOUBLE OPERATION ON WHEELS FOR MAXIMUM RIGIDITY WITH MINIMAL PRESSURE!



- Machine type:** Conventional and CNC – suitable for:
- Automatic short-turning lathes, Universal lathes, Turning- / milling centre
 - Multispindle automatic lathes
 - Special versions for star turret machines available
- Application:** Form knurling (non-cutting forming)
- Knurling profile on work piece DIN 82:**
- RAA
 - RGE30°
 - RGE45°
- Knurling wheels:** 2 x AA 1 x BL30° / 1 x BR30° 1 x BL45° / 1 x BR45°
- Tool direction:**
- Plunge knurling
 - Feed knurling
- Product highlights:**
- Pin with face – fixed by a screw
 - With setting spindle for easy adjustment of the knurl holder to work piece diameter
 - Carbide pins
 - Special surface hardening for increased wear resistance

ORDER EXAMPLE:

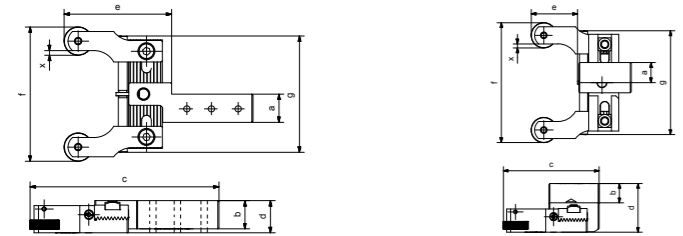


TOOL TYPES:

Tool Holder No.	Working area Ø mm	a mm	b mm	c mm	d mm	e mm	f mm	g mm	x mm	Knurling wheels mm (Ø x width x bore)	Spare part Bolt
161-16M250806	0 - 65	16	25	167,3	28,4	93,5	119	103	4	25 x 8 x 6	06TER0983
	3,5 - 65	16	25	167,3	28,4	91	115	103	1,5	20 x 8 x 6	06TER0983
161-20M250806	0 - 65	20	25	167,3	28,4	93,5	119	103	4	25 x 8 x 6	06TER0983
	3,5 - 65	20	25	167,3	28,4	91	115	103	1,5	20 x 8 x 6	06TER0983
161-25M250806	0 - 65	25	25	167,3	28,4	93,5	119	103	4	25 x 8 x 6	06TER0983
	3,5 - 65	25	25	167,3	28,4	91	115	103	1,5	20 x 8 x 6	06TER0983
161-16R/L250806-ST	0 - 65	16	16	99,3	50,4	46	119	103	4	25 x 8 x 6	06TER0983
	3,5 - 65	16	16	99,3	50,4	43,5	115	103	1,5	20 x 8 x 6	06TER0983
161-20R/L250806-ST	0 - 65	20	20	99,3	50,4	46	119	103	4	25 x 8 x 6	06TER0983
	3,5 - 65	20	20	99,3	50,4	43,5	115	103	1,5	20 x 8 x 6	06TER0983
161-25R/L250806-ST	0 - 65	25	25	99,3	50,4	46	119	103	4	25 x 8 x 6	06TER0983
	3,5 - 65	25	25	99,3	50,4	43,5	115	103	1,5	20 x 8 x 6	06TER0983



Alternative versions available on demand, e.g. for knurling to a shoulder



STAR TURRET VERSION

The star turret versions (-ST) are to be ordered separately for right- or left-handed machines.

ORDER EXAMPLES:

No. 161-16R250806-ST (for right-handed machine)

No. 161-16L250806-ST (for left-handed machine)

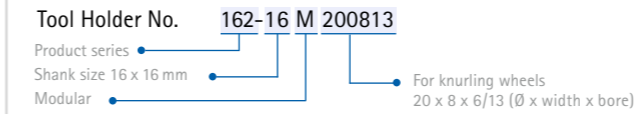
zeus® FORM KNURLING TOOL 162:

THE UNIVERSAL – DOUBLE OPERATION ON WHEELS FOR MAXIMUM RIGIDITY WITH MINIMAL PRESSURE! KNURLING TO A SHOULDER



- Machine type:** Conventional and CNC – suitable for:
- Automatic short-turning lathes, Universal lathes, Turning- / milling centre
 - Multispindle automatic lathes
- Application:** Form knurling (non-cutting forming)
- Knurling profile on work piece DIN 82:**
- RAA
 - RGE30°
 - RGE45°
- Knurling wheels:** 2 x AA 1 x BL30° / 1 x BR30° 1 x BL45° / 1 x BR45°
- Tool direction:**
- Plunge knurling
 - Feed knurling
- Product highlights:**
- Knurling to a shoulder
 - Pin with face – fixed by a screw – for a quick replacement of the knurling wheel
 - Easy adjustment of the knurl holder to work piece diameter
 - Carbide pins
 - Special surface hardening for increased wear resistance

ORDER EXAMPLE:

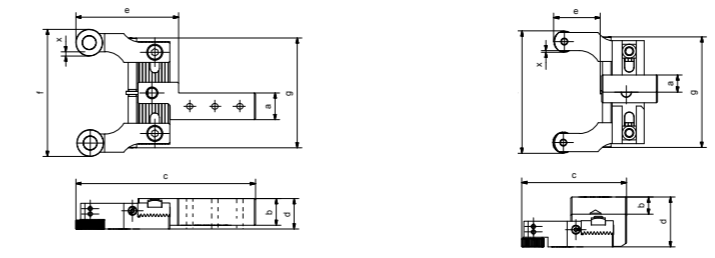


TOOL TYPES:

Tool holder No.	Working area Ø mm	a mm	b mm	c mm	d mm	e mm	f mm	g mm	x mm	Knurling wheels mm (Ø x width x bore)	Spare part Pin	Spare part Run disc
162-16M200813	3,5 - 65	16	25	164,8	28,4	92,8	114	103	1,5	20 x 8 x 6/13	06TER0445	21BHR0380
162-20M200813	3,5 - 65	20	25	164,8	28,4	92,8	114	103	1,5	20 x 8 x 6/13	06TER0445	21BHR0380
162-25M200813	3,5 - 65	25	25	164,8	28,4	92,8	114	103	1,5	20 x 8 x 6/13	06TER0445	21BHR0380
162-16R/L200813-ST	3,5 - 65	16	16	96,8	50,4	43,5	114	103	1,5	20 x 8 x 6/13	06TER0445	21BHR0380
162-20R/L200813-ST	3,5 - 65	20	20	96,8	50,4	43,5	114	103	1,5	20 x 8 x 6/13	06TER0445	21BHR0380
162-25R/L200813-ST	3,5 - 65	25	25	96,8	50,4	43,5	114	103	1,5	20 x 8 x 6/13	06TER0445	21BHR0380



Alternative versions available on demand.



STAR TURRET VERSION (ST)

The star turret versions (-ST) are to be ordered separately for right- or left-handed machines.

ORDER EXAMPLES:

No. 162-16R200813-ST (for right-handed machine)

No. 162-16L200813-ST (for left-handed machine)

GENTLE PROCESSING:
Reduced strain on work piece and machine

MODULAR DESIGN:
Retooling kit for knurling to a shoulder
E-Kit: 21BHR1214

SETTING SPINDLE:
Easy and precise setting

MODULAR DESIGN:
Retooling kit
E-Kit: 21BHR1213

KNURLING TO A SHOULDER

SETTING SPINDLE:
Easy and precise setting