

A close-up, high-contrast photograph of a Gühring thread milling cutter in operation. The cutter is a multi-fluted metal tool with a central cutting edge, positioned vertically and drilling into a dark metal workpiece. The workpiece has several other pre-drilled holes, some of which are also being milled. The lighting is dramatic, highlighting the metallic surfaces and the precision of the manufacturing process. The Gühring logo is prominently displayed in a yellow box at the top right.

GÜHRING

Thread milling cutters

Leader in process reliability
and thread quality

THE GÜHRING THREAD MILLING CUTTER TYPES



TM Thread milling cutters without chamfer

- thread milling without chamfer up to max. 2.5xD
- standard thread profile, pitch-bound
- application up to <55 HRC
- **Thread types: M, MF, UNC, G, Rp, NPT, NPTF**



TMC Thread milling cutters with 45° chamfer

- for the machining of chamfer 45° and thread in one working step up to max. 2.5xD
- standard thread profile, pitch-bound
- application up to <55 HRC
- **Thread types: M, MF, UNC, UNF, G, Rp**



TMU Universal thread milling cutters

- with corrected thread profile
- cross-dimension, pitch-bound
- universal range of applications up to <55 HRC
- **new thread types**
Internal threads: M, MF, UNC, UNF, UNEF, UNS, UN, G, Rp, Rc, NPT, NPTF
External threads: M, MF, G



DTMC Drill thread milling cutters

- for complete machining of core hole, chamfer 45° and thread in one working step
- standard thread profile, pitch-bound
- **Thread types: M**



SC-TMC Thread milling cutters with 45° chamfer

- for the machining of chamfer 45° and thread in one working step up to max. 2xD
- standard thread profile, pitch-bound
- increased numbers of flutes
- optimised cutting edge geometry
- **Thread types: M, MF**



counterclockwise M4

SC-MTM3 Micro thread milling cutters

- thread milling up to max. 4xD
- standard thread profile, pitch-bound
- increased numbers of flutes
- optimised cutting edge geometry
- application up to <55 HRC
- **Thread types: M, UNC, UNF**



MTM3 Micro thread milling cutters

- circular thread milling up to max. 3xD
- standard thread profile, pitch-bound
- application up to <55 HRC
- **Thread types: M, UNC, UNF, G, Rp, MJ, UNJC, UNJF**



MTM1 Micro thread milling cutters

- circular thread milling up to max. 3xD
- universal application with corrected thread profile
- application up to <55 HRC
- **Thread types: M, MF**



MTMH3 Micro thread milling cutters

- circular thread milling 2.5xD (**counterclockwise M4**) and 3xD
- standard thread profile, pitch-bound
- suitable for hardened steels up to HRC 66
- **Thread types: M**


















counterclockwise M4

MTMH3-Z Circular thread milling cutters

- for complete machining of core hole and thread in one working step
- standard thread profile, pitch-bound
- suitable for hardened steels up to HRC 66
- **Thread types: M, MF, UNC, UNF, G, Rp**

Compass Thread milling cutters

Thread depth	≤2xD				≤2.5xD		≤1.5xD		≤2xD		≤2.5xD		universal	
Tool material	VHM													
Type	TM SP	TM SP	TM SP	TM SP	TM SP	TM SP	TMC SP	TMC SP	TMC SP	TMC SP	TMC SP	TMC SP	TMU SP	TMU SP
Surface														
Coolant supply	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shank form	HA	HB	HA	HB	HA	HB	HA	HB	HA	HB	HA	HB	HA	HB
 Through holes and blind holes														
	Thread type	Art. no./page												
M	4132 P. 21	4133 P. 21	3737 P. 21	3743 P. 21	3735 P. 24	3740 P. 24	3525 P. 26	3543 P. 26	3526 P. 28	3544 P. 28	3759 P. 31	3760 P. 31	3541 P. 33	3556 P. 33
MF			3737 P. 21	3743 P. 21			3527 P. 26	3545 P. 26	3528 P. 29	3546 P. 29	3762 P. 31	3763 P. 31	3541 P. 33	3556 P. 33
UNC			4134 P. 22	4135 P. 22			3516 P. 27	3534 P. 27	3517 P. 29	3535 P. 29			3595 P. 35	3596 P. 35
UNF			4136 P. 22	4137 P. 22			3518 P. 27	3536 P. 27	3519 P. 30	3537 P. 30			3595 P. 35	3596 P. 35
UNEF													3595 P. 35	3596 P. 35
UNS													3595 P. 35	3596 P. 35
UN-8/UN-12/UN-16/UN-20													3595 P. 35	3596 P. 35
G [BSP]			3745 P. 23	3748 P. 23	3746 P. 25	3750 P. 25	3514 P. 28	3529 P. 28	3515 P. 30	3533 P. 30	3765 P. 32	3766 P. 32	3542 P. 35	3557 P. 35
Rp [BSPP]			3745 P. 23	3748 P. 23	3746 P. 25	3750 P. 25	3514 P. 28	3529 P. 28	3515 P. 30	3533 P. 30	3765 P. 32	3766 P. 32	3542 P. 35	3557 P. 35
NPT			3753 P. 23	3754 P. 23									3768 P. 36	3769 P. 36
NPTF			3756 P. 24	3757 P. 24									3772 P. 37	3773 P. 37
Rc [BSPT, PT]														4770 P. 36
EG M	EG threads can be produced with every thread milling cutter types and dimensions													
EG UNC [STI]														
EG UNF [STI]														
MJ														
UNJC														
UNJF														
Suitable lubricant														

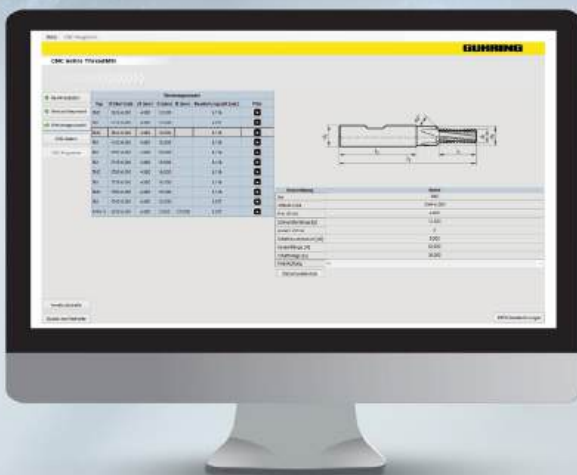
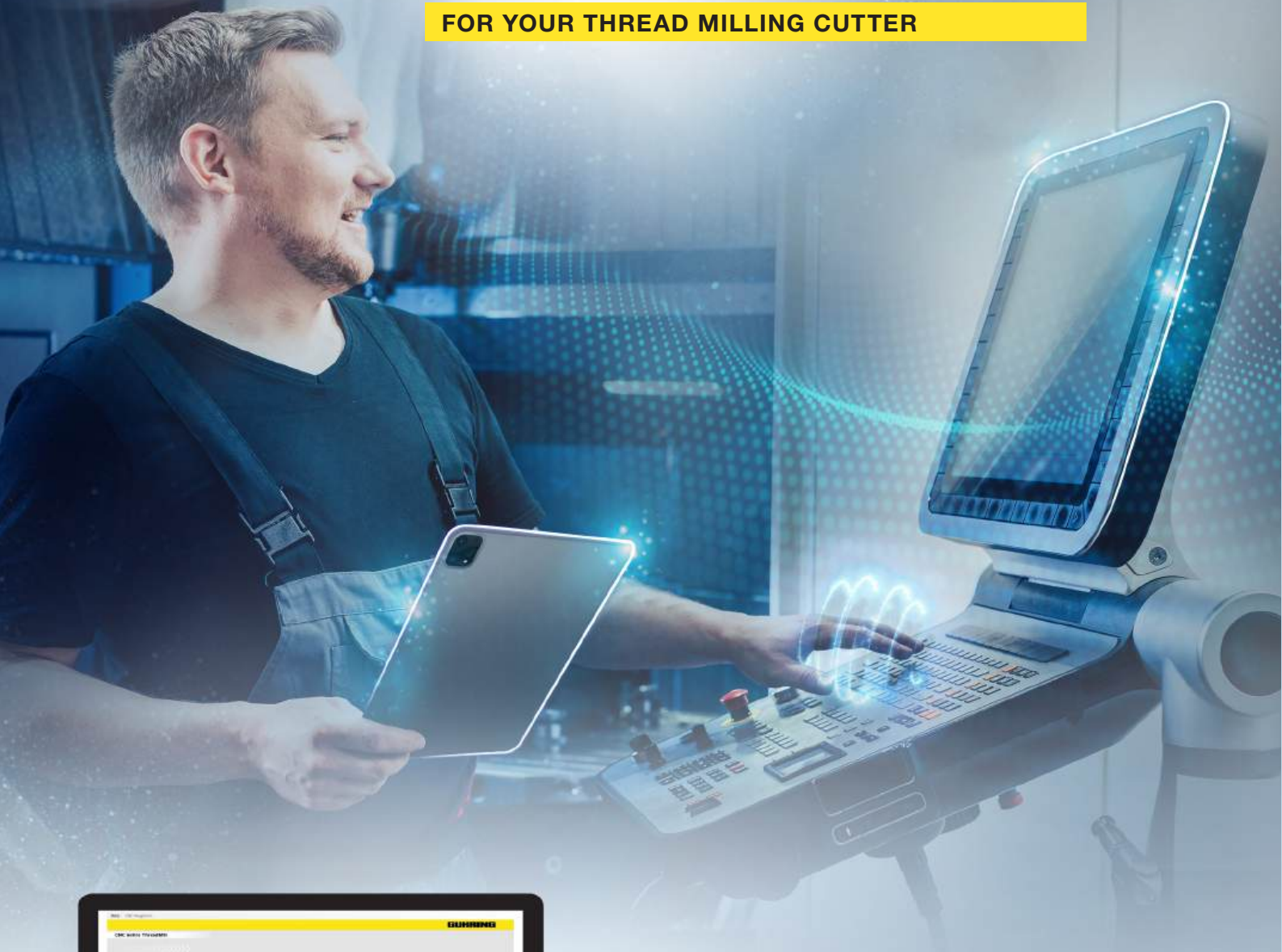
○ = Air ● = Neat oil ● = Soluble oil □ = dry

P	●	●	●	●	●	●	●	●	●	●	●	●	●	●
M	●	●	●	●	●	●	●	●	●	●	●	●	●	●
K	●	●	●	●	●	●	●	●	●	●	●	●	●	●
N	●	●	●	●	●	●	●	●	●	●	●	●	●	●
S	●	●	●	●	●	●	●	●	●	●	●	●	●	●
H	○	○	○	○	○	○	○	○	○	○	○	○	○	○

universal		SC-Line			≤2.5xD	≤3xD	≤1.5xD	≤2xD	≤2.5xD						
		≤2xD	≤3xD	≤4xD											
VHM															
TMU SP	TMU SP	SC TMC SP	SC MTM3 SP	SC MTM3 SP	MTMH3-Z	MTMH3 SP	MTM3 SP	MTM1 SP	MTMH3 SP	DTMC SP	DTMC SP	DTMC SP	DTMC SP	DTMC SP	DTMC SP
HA	HB	HB	HA	HA	HA/HB	HA	HA	HA	HA	HA	HA	HA	HA	HA	HA
external thread	external thread		counter-clockwise M4	counter-clockwise M4	counter-clockwise M4 core hole and thread	counter-clockwise M4									
Art. no./page															
4162 P. 34	4163 P. 34	4000 P. 19	4001 P. 17	4477 P. 17	4002 P. 14	4496 P. 12	4226 P. 9	4225 P. 9	4227 P. 12	3774 P. 39	3775 P. 39	3778 P. 39	3779 P. 40	3782 P. 40	3783 P. 41
4162 P. 34	4163 P. 34	4000 P. 19			4002 P. 14			4225 P. 9							
			4880 P. 18		4700 P. 15		4223 P. 11								
			4880 P. 18		4700 P. 15		4223 P. 11								
3542 P. 35	3557 P. 35				4780 P. 15		4228 P. 10								
3542 P. 35	3557 P. 35				4780 P. 15		4228 P. 10								
EG threads can be produced with every thread milling cutter types and dimensions										-					
							4214 P. 10								
							4215 P. 11								
							4215 P. 11								
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
○	○	○	○	○	•	•	○	○	•						

CNC Gühro ThreadMill

FIND THE OPTIMAL CNC PROGRAMME
FOR YOUR THREAD MILLING CUTTER



To the optimal CNC programme in five steps

- 1. Specify the thread data**
select from all current thread standards
- 2. Select the material**
you are always referred to the optimal parameters
- 3. Select the tool**
technical data, drawing, machining time and video simplify selection
- 4. Record CNC data**
enter required milling strategy and parameters
- 5. Receive CNC programme with code and data sheet**
programming data (Sinumerik, Haidenhain, Fancu, Philips, Mazatrol or Hurco) are imported and automatically recognised

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Process-reliable threading up to 3xD

Circular thread milling cutters

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Core hole and thread production cleverly combined

SC-Line thread milling cutters

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Speed cutting line for thread milling
with high-end performance

Classic thread milling cutters

from page 20

Universal all-rounder for internal threads

Drill thread milling cutters

from page 38

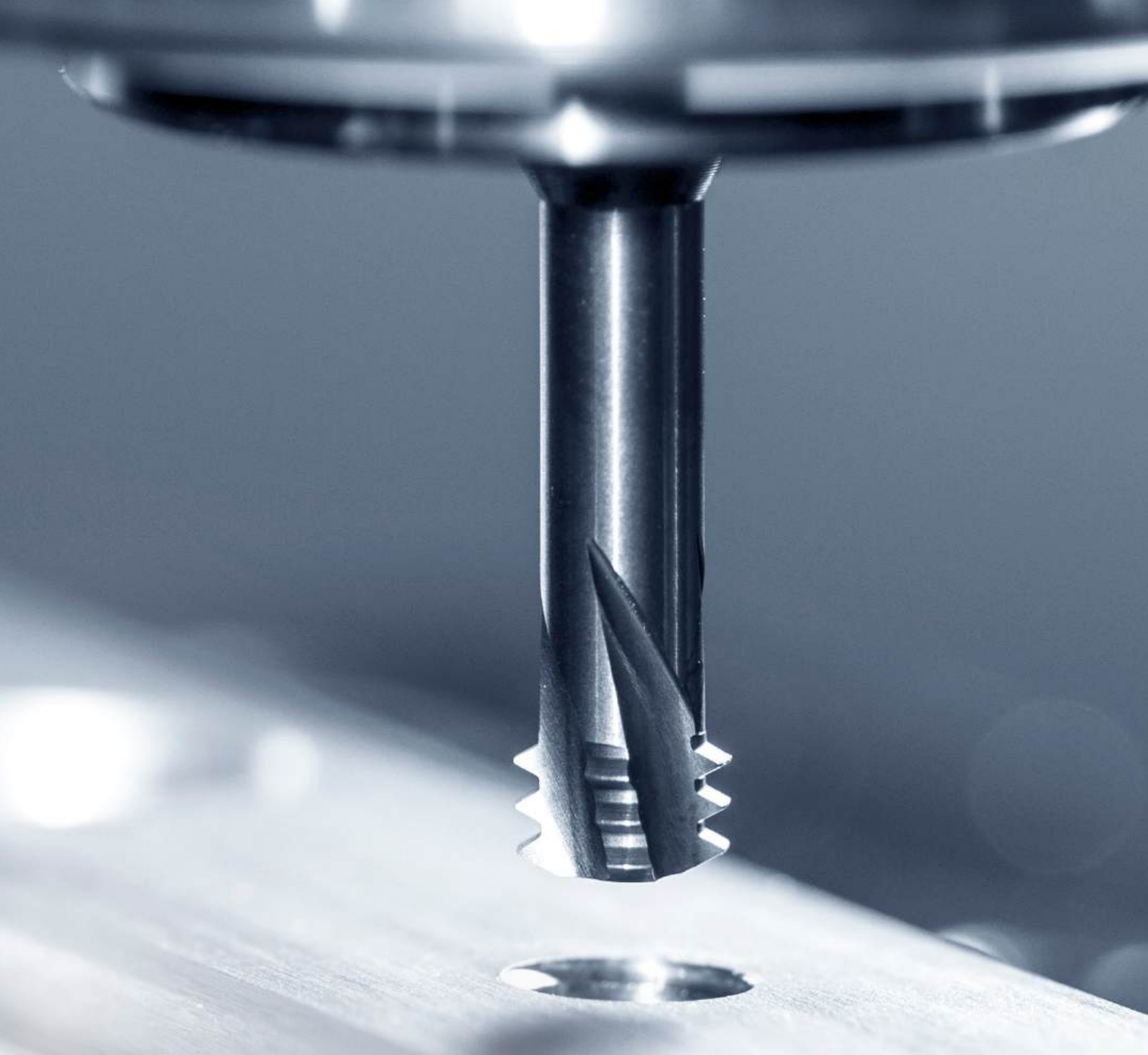
3 in 1: drilling, countersinking and threading
in cast iron and non-ferrous metals

Technical section

from page 42

Cutting data

from page 58



MTM3 | MTM1 | MTMH3

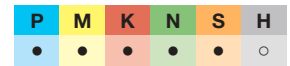
Micro thread milling cutters

- excellent properties for soft, high-strength and hardened materials (aluminium, stainless steel, titanium up to 66 HRC possible)
- low cutting pressure
- very good thread quality
- blind hole and through-hole up to max. 3xD

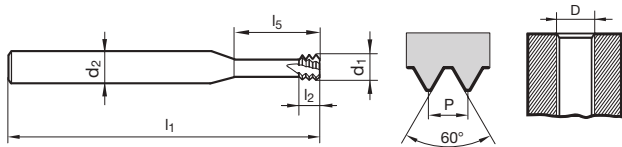


Micro thread milling cutters for ISO metric threads

Article no. 4226



H = 55 HRC



Standard Article no.

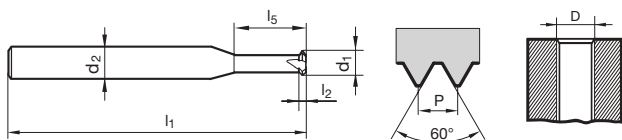
Company std.

4226

D	P	d1	d2	l1	l2	l5	Z	Order no.	Availability
M1,6	0.350	1.20	3.00	39.00	1.10	4.80	3	4226 1.600	●
M1,8	0.350	1.40	3.00	39.00	1.10	5.40	3	4226 1.800	●
M2	0.400	1.55	3.00	39.00	1.20	6.00	4	4226 2.000	●
M2,5	0.450	1.95	3.00	39.00	1.40	7.50	4	4226 2.500	●
M3	0.500	2.40	6.00	58.00	1.50	9.50	4	4226 3.000	●
M3,5	0.600	2.80	6.00	58.00	1.80	11.00	4	4226 3.500	●
M4	0.700	3.20	6.00	58.00	2.10	12.50	4	4226 4.000	●
M5	0.800	4.00	6.00	58.00	2.40	16.00	4	4226 5.000	●
M6	1.000	4.80	6.00	58.00	3.00	20.00	4	4226 6.000	●
M8	1.250	5.95	6.00	58.00	3.80	24.00	4	4226 8.000	●
M10	1.500	7.80	8.00	73.00	4.50	33.00	4	4226 10.000	●
M12	1.750	9.00	10.00	84.00	5.30	38.00	4	4226 12.000	●
M16	2.000	11.80	12.00	84.00	6.00	35.00	5	4226 16.000	●
M20	2.500	15.00	16.00	109.00	7.50	56.00	5	4226 20.000	●

Micro thread milling cutters for ISO metric threads

Article no. 4225



Standard Article no.

Company std.

4225

D	Pmax.	d1	d2	l1	l2	l5	Z	Order no.	Availability
M1 - M1,1	0.250	0.70	3.00	39.00	0.25	3.40	3	4225 1.100	●
M1,2	0.250	0.90	3.00	39.00	0.25	3.70	3	4225 1.200	●
M1.4 - M1.8	0.350	1.05	3.00	39.00	0.40	3.80	3	4225 1.800	●
M2 - M2.4	0.400	1.50	3.00	39.00	0.40	7.00	3	4225 2.400	●
M2.5 - M3	0.500	2.00	3.00	39.00	0.50	9.00	4	4225 3.000	●
M3.5 - M4.5	0.750	2.80	6.00	58.00	0.80	14.00	4	4225 4.500	●
M5 - M7	1.000	4.00	6.00	58.00	1.00	19.00	4	4225 7.000	●
M8 - M10	1.500	6.40	8.00	64.00	1.50	24.00	5	4225 10.000	●
M12 - M14	2.000	9.00	12.00	84.00	1.80	36.00	5	4225 14.000	●
M16 - M20	2.500	13.00	14.00	100.00	2.20	50.00	5	4225 20.000	●



Micro thread milling cutters for MJ threads

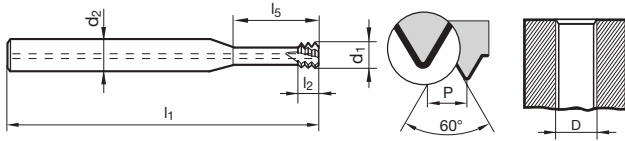
Article no. **4214**



with internal cooling \geq MJ5



H = 55 HRC



Standard
Article no.

Company std.

4214

D	d1 mm	d2 mm	l1 mm	l2 mm	l5 mm	Z
MJ3	2.40	6.00	58.00	1.50	9.50	4
MJ4	3.20	6.00	58.00	2.10	12.50	4
MJ5	3.90	6.00	58.00	2.40	16.00	4
MJ6	4.80	6.00	58.00	3.00	19.00	4
MJ8	6.10	8.00	64.00	3.80	25.00	4
MJ10	7.95	8.00	73.00	4.50	33.00	4
MJ12	9.20	10.00	73.00	5.30	30.00	4
MJ16	10.80	12.00	84.00	6.00	35.00	5

Order no.	Availability
4214 3.000	●
4214 4.000	●●
4214 5.000	●●●
4214 6.000	●●●●
4214 8.000	●●●●●
4214 10.000	●●●●●●
4214 12.000	●●●●●●●
4214 16.000	●●●●●●●●

Micro thread milling cutters for BSP-threads

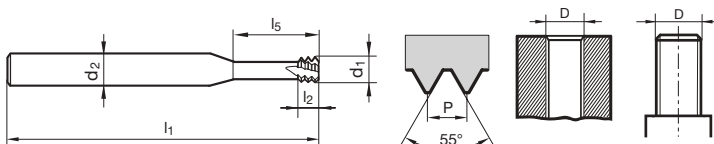
Article no. **4228**



Thread milling cutters for internal and external threads



H = 55 HRC



Standard
Article no.

Company std.

4228

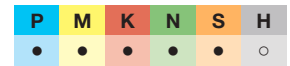
D	P G/inch	d1 mm	d2 mm	l1 mm	l2 mm	l5 mm	Z
G1/16-G1/8	28	6.20	8.00	64.00	2.70	19.50	4
G1/4-G3/8	19	9.95	10.00	73.00	4.00	25.00	4
G1/2-G7/8	14	11.95	12.00	84.00	5.40	37.00	4
G1-G2	11	15.95	16.00	105.00	6.90	44.00	5

Order no.	Availability
4228 9.728	●
4228 16.662	●●
4228 30.201	●●●
4228 59.614	●●●●

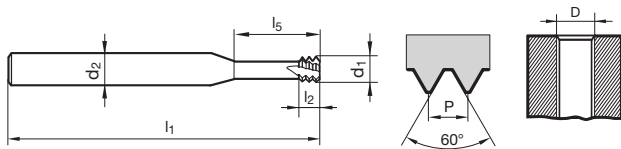


Micro thread milling cutters for UNC and UNF threads

Article no. 4223



H = 55 HRC



Standard Article no.	Company std.
	4223

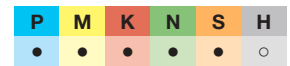
D	P G/inch	d1 mm	d2 mm	l1 mm	l2 mm	l5 mm	Z	Order no.	Availability
UNF No 1	72	1.45	3.00	39.00	1.10	5.80	3	4223 1.853	●
UNC No 1+UNF No 2	64	1.40	3.00	39.00	1.20	6.00	3	4223 1.854	●
UNC No 2+UNF No 3	56	1.65	3.00	39.00	1.40	7.00	4	4223 2.184	●
UNC No 3+UNF No 4	48	1.90	3.00	39.00	1.60	8.00	4	4223 2.515	●
UNC No 4	40	2.10	6.00	58.00	1.90	9.00	4	4223 2.845	●
UNC No 5+UNF No 6	40	2.45	6.00	58.00	1.90	10.00	4	4223 3.175	●
UNC No 6	32	2.55	6.00	58.00	2.40	11.00	4	4223 3.505	●
UNF No 8	36	3.30	6.00	58.00	2.10	12.00	4	4223 4.165	●
UNC No 8	32	3.20	6.00	58.00	2.40	13.00	4	4223 4.166	●
UNF No10	32	3.70	6.00	58.00	2.40	15.00	4	4223 4.825	●
UNC No10+UNC No12	24	3.50	6.00	58.00	3.20	16.00	4	4223 4.826	●
UNF No12	28	4.20	6.00	58.00	2.70	16.00	4	4223 5.485	●
UNF 1/4	28	5.00	6.00	58.00	2.70	19.60	4	4223 6.349	●
UNC 1/4	20	4.75	6.00	58.00	3.80	20.00	4	4223 6.350	●
UNF 5/16+UNF 3/8	24	6.60	8.00	64.00	3.20	24.00	4	4223 7.937	●
UNC 5/16	18	6.00	6.00	58.00	4.20	23.00	4	4223 7.938	●
UNC 3/8	16	6.70	8.00	64.00	4.80	25.00	4	4223 9.525	●
UNF 7/16	20	8.00	8.00	64.00	3.80	34.60	4	4223 11.112	●
UNC 7/16	14	7.70	8.00	64.00	5.40	25.00	4	4223 11.113	●
UNF 1/2	20	9.95	10.00	73.00	3.80	31.00	4	4223 12.700	●
UNC 1/2	13	9.95	10.00	73.00	5.90	31.00	4	4223 12.701	●
UNF 5/8	18	12.00	12.00	84.00	4.20	35.00	4	4223 15.874	●
UNC 5/8	11	12.00	12.00	84.00	6.90	35.00	4	4223 15.875	●

Micro thread milling cutters for UNJ threads

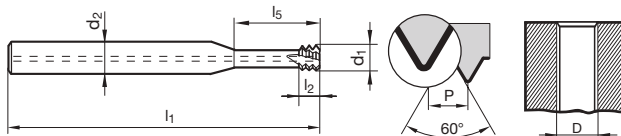
Article no. 4215



with internal cooling ≥ UNJF 1/4



H = 55 HRC



Standard Article no.	Company std.
	4215

D	P G/inch	d1 mm	d2 mm	l1 mm	l2 mm	l5 mm	Z	Order no.	Availability
UNJC No 6	32	2.70	6.00	58.00	2.40	11.00	4	4215 3.505	●
UNJC No 8+UNJF No10	32	3.30	6.00	58.00	2.40	14.00	4	4215 4.166	●
UNJC No10+UNJC No12	24	3.70	6.00	58.00	3.20	15.00	4	4215 4.826	●
UNJF 1/4	28	5.10	8.00	64.00	2.70	19.50	4	4215 6.349	●
UNJC 1/4	20	4.90	6.00	58.00	3.80	19.50	4	4215 6.350	●
UNJF 5/16+UNJF 3/8	24	6.70	8.00	64.00	3.20	24.00	4	4215 7.937	●
UNJC 5/16+UNJF 9/16	18	6.15	8.00	64.00	4.20	24.00	4	4215 7.938	●
UNJC 3/8+UNJF 3/4	16	6.90	8.00	64.00	4.80	26.00	4	4215 9.525	●
UNJF 7/16	20	8.00	10.00	73.00	3.80	30.00	4	4215 11.112	●
UNJC 7/16+UNJF 7/8	14	7.90	10.00	73.00	5.40	30.00	4	4215 11.113	●
UNJC 1/2	13	9.40	10.00	73.00	5.90	30.00	4	4215 12.700	●



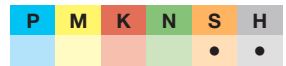
Micro thread milling cutters

Micro thread milling cutters for ISO metric threads

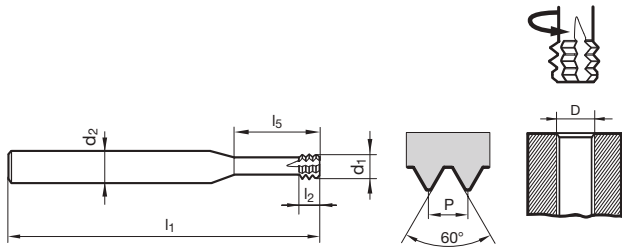
Article no. 4496



rotation-direction left-hand • suitable for hardened steels up to HRC 66



H = 66 HRC



Standard Article no.

Company std.

4496

D	P mm	d1 mm	d2 mm	l1 mm	l2 mm	l5 mm	Z
M2	0.400	1.55	3.00	39.00	1.20	5.00	4
M2,5	0.450	1.95	3.00	39.00	1.40	6.50	4
M3	0.500	2.35	6.00	58.00	1.50	7.50	4
M3,5	0.600	2.80	6.00	58.00	1.80	9.00	4
M4	0.700	3.10	6.00	58.00	2.10	10.00	4
M5	0.800	3.80	6.00	58.00	2.40	12.50	4
M6	1.000	4.80	6.00	58.00	3.00	15.00	4
M8	1.250	5.95	6.00	58.00	3.80	20.00	5
M10	1.500	7.80	8.00	64.00	4.50	25.00	5
M12	1.750	9.00	10.00	73.00	5.30	30.00	6
M16	2.000	11.80	12.00	84.00	6.00	35.00	6

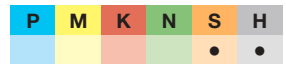
Order no.	Availability
4496 2.000	●
4496 2.500	●
4496 3.000	●
4496 3.500	●
4496 4.000	●
4496 5.000	●
4496 6.000	●
4496 8.000	●
4496 10.000	●
4496 12.000	●
4496 16.000	●

Micro thread milling cutters for ISO metric threads

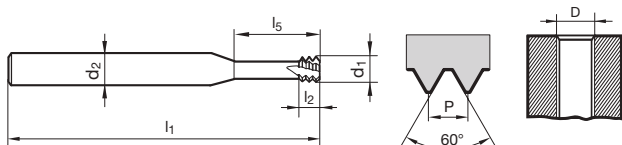
Article no. 4227



for hard machining 45-65 HRC



H = 66 HRC



Standard Article no.

Company std.

4227

D	P mm	d1 mm	d2 mm	l1 mm	l2 mm	l5 mm	Z
M2	0.400	1.55	3.00	39.00	1.20	6.00	4
M2,5	0.450	1.95	3.00	39.00	1.40	7.50	4
M3	0.500	2.35	6.00	58.00	1.50	9.50	4
M4	0.700	3.10	6.00	58.00	2.10	12.50	4
M5	0.800	3.80	6.00	58.00	2.40	16.00	4
M6	1.000	4.80	6.00	58.00	3.00	20.00	4
M8	1.250	5.95	6.00	58.00	3.80	24.00	4
M10	1.500	7.80	8.00	64.00	4.50	23.00	4
M12	1.750	9.00	10.00	73.00	5.30	26.00	5
M16	2.000	11.80	12.00	90.00	6.00	40.00	5

Order no.	Availability
4227 2.000	●
4227 2.500	●
4227 3.000	●
4227 4.000	●
4227 5.000	●
4227 6.000	●
4227 8.000	●
4227 10.000	●
4227 12.000	●
4227 16.000	●



MTMH3-Z

Circular thread milling cutters

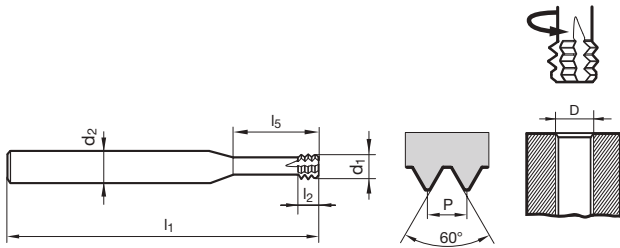
- X core hole and thread can be produced in one step
- X universally usable in unhardened and hardened materials up to 66 HRC
- X high process reliability
- X intermediate dimensions can be produced, e.g. with M10x(1.5) also M12x1.5 possible



with cooling grooves • rotation-direction left-hand • suitable for hardened steels up to HRC 66



H = 66 HRC



Standard
Article no.

Company std.

4002

D	P mm	d1 mm	d2 mm	l1 mm	l2 mm	l5 mm	Z	Order no.	Availability
M2	0.400	1.40	3.00	39.00	1.20	5.00	4	4002 2.000	●
M2,5	0.450	1.80	3.00	39.00	1.30	6.50	4	4002 2.500	●
M3	0.500	2.40	6.00	58.00	1.50	7.50	4	4002 3.000	●
M3,5	0.600	2.70	6.00	58.00	1.80	9.00	4	4002 3.500	●
M4	0.700	3.10	6.00	58.00	2.10	10.00	4	4002 4.000	●
M5	0.800	3.80	6.00	58.00	2.40	12.50	4	4002 5.000	●
M6x1/M8x1	1.000	4.60	8.00	64.00	3.00	15.00	4	4002 6.000	●
M5x0,5/M6x0,5	0.500	3.80	6.00	58.00	1.50	15.00	4	4002 6.003	●
M8x1,25/M10x1,25	1.250	6.20	8.00	64.00	3.60	20.00	4	4002 8.000	●
M6x0,75/M8x0,75	0.750	4.60	8.00	64.00	2.30	20.00	4	4002 8.004	●
M10x1,5/M12x1,5	1.500	7.50	10.00	73.00	4.50	25.00	4	4002 10.000	●
M12	1.750	9.00	10.00	73.00	5.20	30.00	4	4002 12.000	●
M10x1/M12x1	1.000	7.50	8.00	64.00	3.00	25.00	4	4002 12.005	●
M14x2/M16x2	2.000	11.50	12.00	90.00	6.00	40.00	4	4002 16.000	●
M14x1,5/M16x1,5	1.500	11.50	12.00	90.00	4.50	40.00	4	4002 16.007	●
M18x2,5/M20x2,5	2.500	14.50	16.00	105.00	7.50	50.00	4	4002 20.000	●



Circular drill thread milling cutters for UNC and UNF threads

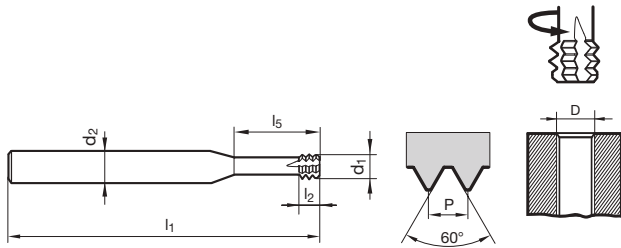
Article no. 4700



with cooling grooves • rotation-direction left-hand • suitable for hardened steels up to HRC 66



H = 66 HRC



Standard Article no.

Company std.

4700

D	P G/inch	d1 mm	d2 mm	l1 mm	l2 mm	l5 mm	Z	Order no.	Availability
UNF No 1	72	1.40	3.00	39.00	1.10	5.00	4	4700 1.853	●
UNC No 1+UNF No 2	64	1.40	3.00	39.00	1.20	5.00	4	4700 1.854	●
UNC No 2+UNF No 3	56	1.60	3.00	39.00	1.40	5.50	4	4700 2.184	●
UNC No 3+UNF No 4	48	1.90	3.00	39.00	1.60	6.50	4	4700 2.515	●
UNC No 4	40	2.10	6.00	58.00	1.90	7.50	4	4700 2.845	●
UNC No 5+UNF No 6	40	2.40	6.00	58.00	1.90	8.00	4	4700 3.175	●
UNC No 6	32	2.60	6.00	58.00	2.40	9.00	4	4700 3.505	●
UNF No 8	36	3.20	6.00	58.00	2.10	10.50	4	4700 4.165	●
UNC No 8	32	3.10	6.00	58.00	2.40	10.50	4	4700 4.166	●
UNF No10	32	3.60	6.00	58.00	2.40	12.50	4	4700 4.825	●
UNC No10+UNC No12	24	3.60	6.00	58.00	3.20	12.50	4	4700 4.826	●
UNF No12	28	4.10	6.00	58.00	2.70	14.00	4	4700 5.485	●
UNF 1/4	28	4.80	6.00	58.00	2.70	16.00	4	4700 6.349	●
UNC 1/4	20	4.80	6.00	58.00	3.80	16.00	4	4700 6.350	●
UNF 5/16+UNF 3/8	24	6.30	8.00	64.00	3.20	20.00	4	4700 7.937	●
UNC 5/16	18	6.30	8.00	64.00	4.20	20.00	4	4700 7.938	●
UNC 3/8	16	7.20	8.00	64.00	4.80	24.00	4	4700 9.525	●
UNF 7/16	20	8.30	10.00	73.00	3.80	28.00	4	4700 11.112	●
UNC 7/16	14	8.30	10.00	73.00	5.40	28.00	4	4700 11.113	●
UNF 1/2	20	9.70	10.00	73.00	3.80	31.00	4	4700 12.700	●
UNC 1/2	13	9.70	10.00	73.00	5.90	31.00	4	4700 12.701	●
UNF 5/8	18	11.80	12.00	90.00	4.20	40.00	4	4700 15.874	●
UNC 5/8	11	11.80	12.00	90.00	6.90	40.00	4	4700 15.875	●

Circular drill thread milling cutters for BSP threads

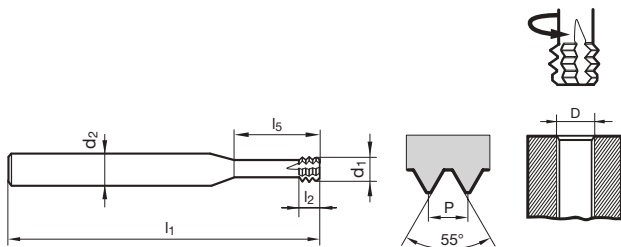
Article no. 4780



with cooling grooves • rotation-direction left-hand • suitable for hardened steels up to HRC 66



H = 66 HRC




Standard Article no.

Company std.

4780

D	P G/inch	d1 mm	d2 mm	l1 mm	l2 mm	l5 mm	Z	Order no.	Availability
G1/16-G1/8	28	6.10	8.00	64.00	2.70	24.00	4	4780 9.728	●
G1/4-G3/8	19	10.30	12.00	90.00	4.00	40.00	4	4780 16.662	●
G1/2-G5/8-G3/4	14	15.70	16.00	105.00	5.40	50.00	4	4780 26.441	●



SC-MTM3 | SC-TMC

SC-Line thread milling cutters

- X top performance when thread milling up to 1,300 N/mm²
- X up to 50 % shorter machining times
- X high process reliability
- X blind hole and through-hole up to max. 4xD



Micro thread milling cutters for ISO metric threads

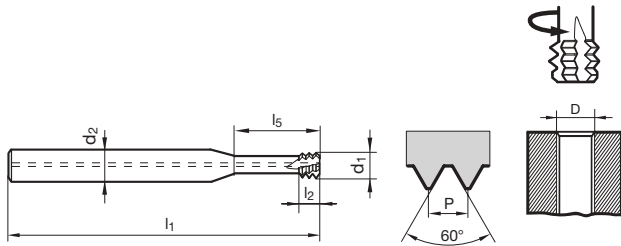
Article no. 4001



M1.6 - M3 with 2 cooling grooves • with internal cooling \geq M3.5 • rotation-direction left-hand



H = 55 HRC



Standard Article no.

Company std.

4001

D	P	d1	d2	l1	l2	l5	Z	Order no.	Availability
M1,6	0.350	1.20	3.00	39.00	1.10	4.80	3	4001 1.600	●
M1,8	0.350	1.40	3.00	39.00	1.10	5.40	4	4001 1.800	●
M2	0.400	1.55	3.00	39.00	1.20	6.00	4	4001 2.000	●
M2,5	0.450	1.95	3.00	39.00	1.40	7.50	4	4001 2.500	●
M3	0.500	2.40	3.00	39.00	1.50	9.50	5	4001 3.000	●
M3,5	0.600	2.80	6.00	58.00	1.80	11.00	5	4001 3.500	●
M4	0.700	3.20	6.00	58.00	2.10	12.50	5	4001 4.000	●
M5	0.800	4.00	6.00	58.00	2.40	16.00	6	4001 5.000	●
M6	1.000	4.80	6.00	58.00	3.00	20.00	6	4001 6.000	●
M8	1.250	5.95	8.00	73.00	3.80	24.00	7	4001 8.000	●
M10	1.500	7.80	8.00	73.00	4.50	33.00	7	4001 10.000	●
M12	1.750	9.00	10.00	84.00	5.30	38.00	7	4001 12.000	●
M16	2.000	11.80	12.00	100.00	6.00	48.00	8	4001 16.000	●
M20	2.500	15.00	16.00	105.00	7.50	60.00	8	4001 20.000	●

Micro thread milling cutters for ISO metric threads

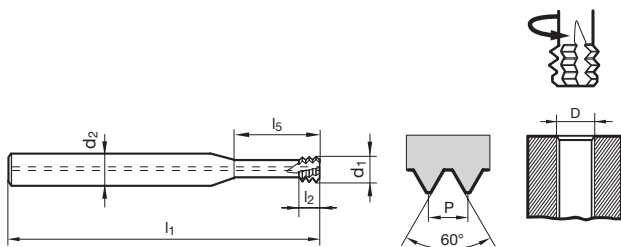
Article no. 4477



M2 - M3 with 2 cooling grooves • with internal cooling \geq M4 • rotation-direction left-hand



H = 55 HRC



Standard Article no.

Company std.

4477

D	P	d1	d2	l1	l2	l5	Z	Order no.	Availability
M2	0.400	1.55	3.00	39.00	1.20	8.00	4	4477 2.000	●
M2,5	0.450	1.95	3.00	39.00	1.40	10.00	4	4477 2.500	●
M3	0.500	2.40	3.00	39.00	1.50	12.50	4	4477 3.000	●
M4	0.700	3.20	6.00	58.00	2.10	16.50	4	4477 4.000	●
M5	0.800	4.00	6.00	58.00	2.40	20.50	4	4477 5.000	●
M6	1.000	4.80	8.00	73.00	3.00	24.50	6	4477 6.000	●
M8	1.250	6.20	8.00	73.00	3.80	32.50	6	4477 8.000	●
M10	1.500	8.00	10.00	84.00	4.50	40.50	6	4477 10.000	●
M12	1.750	9.60	12.00	100.00	5.30	48.50	6	4477 12.000	●
M16	2.000	12.50	14.00	115.00	6.00	64.50	6	4477 16.000	●
M20	2.500	15.80	16.00	130.00	7.50	80.50	6	4477 20.000	●



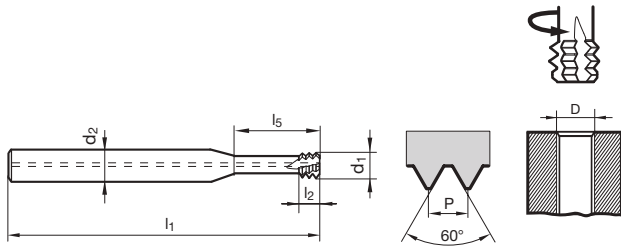
Micro thread milling cutters for UNC and UNF threads

Article no. **4880**



M1.6 - M3 with 2 cooling grooves • with internal cooling \geq M3.5 • rotation-direction left-hand

H = 55 HRC



Standard
Article no.

Company std.

4880

D	P	d1	d2	l1	l2	l5	Z	Order no.	Availability
UNF No1-72	0.353	1.45	3.00	39.00	1.10	5.80	4	4880 1.853	●
UNC No1+UNF No2-64	0.397	1.40	3.00	39.00	1.20	6.00	4	4880 1.854	●
UNC No2+UNF No3-56	0.454	1.65	3.00	39.00	1.40	7.00	4	4880 2.184	●
UNC No3+UNF No4-48	0.529	1.90	3.00	39.00	1.60	8.00	4	4880 2.515	●
UNC No4-40	0.635	2.10	3.00	39.00	1.90	9.00	5	4880 2.845	●
UNC No5+UNF No6-40	0.635	2.45	3.00	39.00	1.90	10.00	5	4880 3.175	●
UNF No5-44	0.577	2.45	3.00	39.00	1.70	10.00	5	4880 3.176	●
UNC No6-32	0.794	2.55	3.00	39.00	2.40	11.00	5	4880 3.505	●
UNF No8-36	0.706	3.30	6.00	58.00	2.10	12.00	5	4880 4.165	●
UNC No8-32	0.794	3.20	6.00	58.00	2.40	13.00	5	4880 4.166	●
UNF No10-32	0.794	3.70	6.00	58.00	2.40	15.00	5	4880 4.825	●
UNC No10+UNC No12-24	1.058	3.50	6.00	58.00	3.20	16.00	5	4880 4.826	●
UNF No12-28	0.907	4.20	6.00	58.00	2.70	16.00	6	4880 5.485	●
UNF 1/4-28	0.907	5.00	6.00	58.00	2.70	19.60	6	4880 6.349	●
UNC 1/4-20	1.270	4.75	6.00	58.00	3.80	20.00	6	4880 6.350	●
UNF 5/16+UNF3/8-24	1.058	6.60	8.00	73.00	3.20	24.00	6	4880 7.937	●
UNC 5/16-18	1.411	6.00	6.00	58.00	4.20	23.00	6	4880 7.938	●
UNC 3/8-16	1.587	6.70	8.00	73.00	4.80	25.00	6	4880 9.525	●
UNF 7/16-20	1.270	8.00	8.00	73.00	3.80	34.60	6	4880 11.112	●
UNC 7/16-14	1.814	7.70	8.00	73.00	5.40	25.00	6	4880 11.113	●
UNF 1/2-20	1.270	9.95	10.00	84.00	3.80	31.00	6	4880 12.700	●
UNC 1/2-13	1.954	9.95	10.00	84.00	5.90	31.00	6	4880 12.701	●
UNF 5/8-18	1.411	12.00	12.00	90.00	4.20	35.00	6	4880 15.874	●
UNC 5/8-11	2.309	12.00	12.00	90.00	6.90	35.00	6	4880 15.875	●

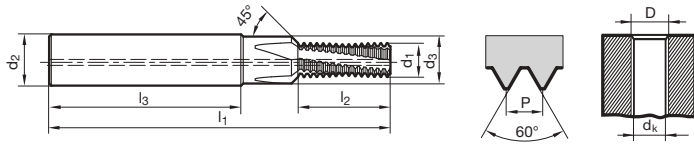


Thread milling cutters with chamfer for ISO metric threads

Article no. 4000



with internal cooling \geq M4



Standard
Article no.

Company std.
4000

D	P mm	d1 mm	d2 mm	d3 mm	dk mm	l1 mm	l3 mm	l2 mm	Z	Order no.	Availability
										Standard	Company std.
M3	0.500	2.30	6.00	3.40	2.50	48.00	36.00	6.80	5	4000 3.000	●
M4	0.700	3.10	6.00	4.50	3.30	48.00	36.00	8.80	5	4000 4.000	●
M4 x 0,5	0.500	3.10	6.00	4.50	3.50	48.00	36.00	8.80	5	4000 4.003	●
M5	0.800	4.00	6.00	5.50	4.20	54.00	36.00	10.80	5	4000 5.000	●
M5 x 0,5	0.500	4.00	6.00	5.50	4.50	54.00	36.00	10.80	5	4000 5.003	●
M6	1.000	4.70	8.00	6.60	5.00	62.00	36.00	13.50	6	4000 6.000	●
M6 x 0,5	0.500	4.70	8.00	6.60	5.20	62.00	36.00	12.80	6	4000 6.003	●
M6 x 0,75	0.750	4.70	8.00	6.60	5.20	62.00	36.00	13.10	6	4000 6.004	●
M8	1.250	6.30	10.00	9.00	6.80	74.00	40.00	18.10	7	4000 8.000	●
M8 x 1	1.000	6.30	10.00	9.00	7.00	74.00	40.00	17.50	7	4000 8.005	●
M10	1.500	7.80	12.00	11.00	8.50	80.00	45.00	21.80	7	4000 10.000	●
M10 x 1	1.000	7.80	12.00	11.00	9.00	80.00	45.00	21.50	7	4000 10.005	●
M10 x 1,25	1.250	7.80	12.00	11.00	8.80	80.00	45.00	21.90	7	4000 10.006	●
M12	1.750	9.50	14.00	13.50	10.20	90.00	45.00	25.40	7	4000 12.000	●
M12 x 1	1.000	9.50	14.00	13.50	11.00	90.00	45.00	25.50	7	4000 12.005	●
M12 x 1,5	1.500	9.50	14.00	13.50	10.50	90.00	45.00	26.30	7	4000 12.007	●
M14	2.000	10.80	16.00	15.50	12.00	102.00	48.00	31.00	7	4000 14.000	●
M14 x 1,5	1.500	10.80	16.00	15.50	12.50	102.00	48.00	30.80	7	4000 14.007	●
M16	2.000	12.70	18.00	17.50	14.00	102.00	48.00	35.00	8	4000 16.000	●
M16 x 1,5	1.500	12.70	18.00	17.50	14.50	102.00	48.00	33.80	8	4000 16.007	●



TM | TMC | TMU

Classic thread milling cutters

- X high process reliability: tool breakage does not directly lead to workpiece waste
- X thread dimensional accuracy can be influenced: e.g. 6G, 7G, EG thread
- X blind hole and through-hole, right-hand and left-hand threads can be produced with one tool
- X different thread sizes with the same pitch possible:
example milling cutter: $\text{Ø}12 \times \text{M}1.5$; thread: $\text{M}16 \times 1.5$, $\text{M}20 \times 1.5$ and $\text{M}30 \times 1.5$ with one tool
- X thread milling near to the bottom of the hole possible max. $0.5 \times P$

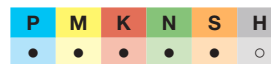


Thread milling cutters without chamfer for ISO metric threads

Article no. 4132



without chamfer



H = 55 HRC

Thread milling cutters without chamfer for ISO metric threads

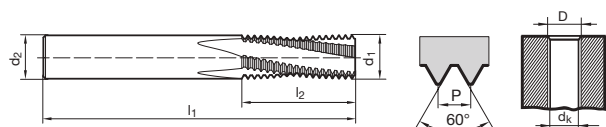
Article no. 4133



without chamfer



H = 55 HRC



Standard Article no.

Company std.

4132

4133

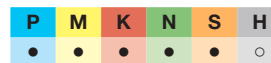
D	P mm	d1 mm	d2 mm	dk mm	l1 mm	l2 mm	Z	4132		4133	
								Order no.	Availability	Order no.	Availability
M6	1.000	4.80	6.00	5.00	54.00	13.50	3	4132 6.000	●	4133 6.000	●
M8	1.250	6.40	8.00	6.80	62.00	18.10	3	4132 8.000	●	4133 8.000	●
M10	1.500	7.95	10.00	8.50	74.00	21.80	3	4132 10.000	●	4133 10.000	●
M12	1.750	9.95	10.00	10.20	74.00	25.40	4	4132 12.000	●	4133 12.000	●
M14	2.000	11.20	12.00	12.00	90.00	31.00	4	4132 14.000	●	4133 14.000	●
M16	2.000	12.80	14.00	14.00	90.00	35.00	4	4132 16.000	●	4133 16.000	●
M20	2.500	14.95	16.00	17.50	102.00	41.30	4	4132 20.000	●	4133 20.000	●

Thread milling cutters without chamfer for ISO metric threads

Article no. 3737



without chamfer



H = 55 HRC

Thread milling cutters without chamfer for ISO metric threads

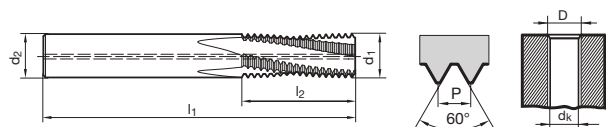
Article no. 3743



without chamfer



H = 55 HRC



Standard Article no.

Company std.

3737

3743

D	P mm	d1 mm	d2 mm	dk mm	l1 mm	l2 mm	Z	3737		3743	
								Order no.	Availability	Order no.	Availability
M3	0.500	2.30	4.00	2.50	40.00	6.80	3	3737 3.000	●		
M4	0.700	3.00	6.00	3.30	48.00	8.80	3	3737 4.000	●	3743 4.000	●
M5	0.800	4.00	6.00	4.20	54.00	10.80	3	3737 5.000	●	3743 5.000	●
M6	1.000	4.80	6.00	5.00	54.00	13.50	3	3737 6.000	●	3743 6.000	●
M8	1.250	6.40	8.00	6.80	62.00	18.10	3	3737 8.000	●	3743 8.000	●
M8 x 1	1.000	6.40	8.00	7.00	62.00	17.50	3	3737 8.005	●	3743 8.005	●
M10	1.500	7.95	10.00	8.50	74.00	21.80	3	3737 10.000	●	3743 10.000	●
M10 x 1	1.000	7.95	10.00	9.00	74.00	21.50	3	3737 10.005	●	3743 10.005	●
M10 x 1,25	1.250	7.95	10.00	8.80	74.00	21.90	3	3737 10.006	●	3743 10.006	●
M12	1.750	9.95	10.00	10.20	74.00	25.40	4	3737 12.000	●	3743 12.000	●
M12 x 1,5	1.500	9.95	10.00	10.50	74.00	26.30	4	3737 12.007	●	3743 12.007	●
M14	2.000	11.20	12.00	12.00	90.00	31.00	4	3737 14.000	●	3743 14.000	●
M14 x 1,5	1.500	11.20	12.00	12.50	90.00	30.80	4	3737 14.007	●	3743 14.007	●
M16	2.000	12.80	14.00	14.00	90.00	35.00	4	3737 16.000	●	3743 16.000	●
M16 x 1,5	1.500	12.80	14.00	14.50	90.00	33.80	4	3737 16.007	●	3743 16.007	●
M20	2.500	14.95	16.00	17.50	102.00	41.30	4	3737 20.000	●	3743 20.000	●
M20 x 1,5	1.500	14.95	16.00	18.50	102.00	42.80	4	3737 20.007	●	3743 20.007	●



Thread milling cutters without chamfer

Thread milling cutters without chamfer for UNC threads

Article no. 4134



without chamfer



H = 55 HRC

Thread milling cutters without chamfer for UNC threads

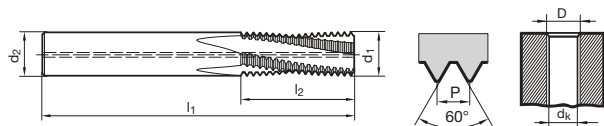
Article no. 4135



without chamfer



H = 55 HRC



Standard
Article no.

Company std.

D	d1 mm	d2 mm	dk mm	l1 mm	l2 mm	Z
10 - 24	3.40	6.00	3.90	54.00	11.10	3
12 - 24	4.10	6.00	4.50	54.00	12.20	3
1/4 - 20	4.70	6.00	5.10	54.00	14.60	3
5/16 - 18	6.10	8.00	6.60	64.00	17.60	3
3/8 - 16	7.60	8.00	8.00	64.00	21.40	3
7/16 - 14	9.00	10.00	9.40	74.00	24.50	3
1/2 - 13	9.95	10.00	10.80	74.00	28.30	4
9/16 - 12	11.40	12.00	12.20	90.00	30.70	4
5/8 - 11	12.70	14.00	13.50	90.00	35.80	4

4134		4135	
Order no.	Availability	Order no.	Availability
4134 4.826	●	4135 4.826	●
4134 5.486	●	4135 5.486	●
4134 6.350	●	4135 6.350	●
4134 7.938	●	4135 7.938	●
4134 9.525	●	4135 9.525	●
4134 11.113	●	4135 11.113	●
4134 12.700	●	4135 12.700	●
4134 14.288	●	4135 14.288	●
4134 15.875	●	4135 15.875	●

Thread milling cutters without chamfer for UNF threads

Article no. 4136



without chamfer



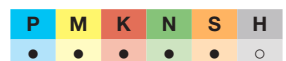
H = 55 HRC

Thread milling cutters without chamfer for UNF threads

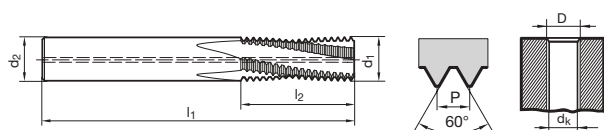
Article no. 4137



without chamfer



H = 55 HRC



Standard
Article no.

Company std.

D	d1 mm	d2 mm	dk mm	l1 mm	l2 mm	Z
10 - 32	3.80	6.00	4.10	54.00	11.50	3
12 - 28	4.30	6.00	4.60	54.00	12.20	3
1/4 - 28	5.10	6.00	5.50	54.00	14.10	3
5/16 - 24	6.30	8.00	6.90	64.00	17.50	3
3/8 - 24	7.80	8.00	8.50	64.00	20.60	3
7/16 - 20	9.40	10.00	9.90	74.00	24.80	3
1/2 - 20	9.95	10.00	11.50	74.00	27.30	4
9/16 - 18	11.40	12.00	12.90	90.00	30.30	4
5/8 - 18	12.70	14.00	14.50	90.00	33.20	4

4136		4137	
Order no.	Availability	Order no.	Availability
4136 4.826	●	4137 4.826	●
4136 5.486	●	4137 5.486	●
4136 6.350	●	4137 6.350	●
4136 7.938	●	4137 7.938	●
4136 9.525	●	4137 9.525	●
4136 11.113	●	4137 11.113	●
4136 12.700	●	4137 12.700	●
4136 14.288	●	4137 14.288	●
4136 15.875	●	4137 15.875	●

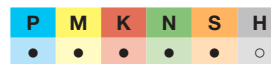


Thread milling cutters without chamfer for BSP threads

Article no. 3745



without chamfer



H = 55 HRC

Thread milling cutters without chamfer for BSP threads

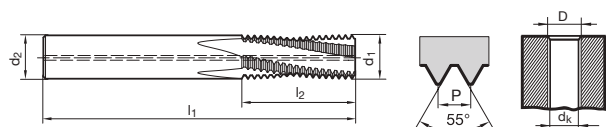
Article no. 3748



without chamfer



H = 55 HRC



Standard Article no.

Company std.

3745

3748

D	P	d1	d2	dk	l1	l2	Z
	G/inch	mm	mm	mm	mm	mm	
G1/8	28	7.95	8.00	8.80	64.00	21.30	3
G1/4	19	10.50	12.00	11.80	90.00	28.70	4
G3/8	19	13.60	14.00	15.25	90.00	35.40	4

Order no.	Availability	Order no.	Availability
3745 9.728	●	3748 9.728	●
3745 13.157	●	3748 13.157	●
3745 16.662	●	3748 16.662	●

Thread milling cutters without chamfer for NPT threads

Article no. 3753



without chamfer



H = 55 HRC

Thread milling cutters without chamfer for NPT threads

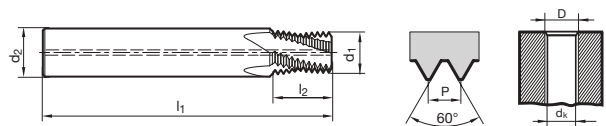
Article no. 3754



without chamfer



H = 55 HRC



Standard Article no.

Company std.

3753

3754

D	P	d1	d2	dk	l1	l2	Z
	G/inch	mm	mm	mm	mm	mm	
1/16	27	5.90	8.00	6.15	54.00	9.90	3
1/8	27	7.30	8.00	8.40	64.00	9.90	3
1/4	18	9.95	12.00	11.10	72.00	19.00	4
3/8	18	12.50	14.00	14.30	80.00	14.80	4

Order no.	Availability	Order no.	Availability
3753 8.190	●	3754 8.190	●
3753 10.620	●	3754 10.620	●
3753 14.140	●	3754 14.140	●
3753 17.570	●	3754 17.570	●



Thread milling cutters without chamfer

Thread milling cutters without chamfer for NPTF threads

Article no. 3756



without chamfer



H = 55 HRC

Thread milling cutters without chamfer for NPTF threads

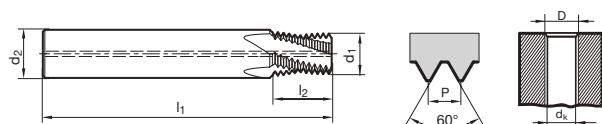
Article no. 3757



without chamfer



H = 55 HRC



Standard
Article no.

Company std.

3756

3757

D	P G/inch	d1 mm	d2 mm	dk mm	l1 mm	l2 mm	Z
1/16	27	5.90	8.00	6.15	54.00	9.90	3
1/8	27	7.30	8.00	8.40	64.00	9.90	3
1/4	18	9.95	12.00	11.10	72.00	19.00	4
3/8	18	12.50	14.00	14.30	80.00	14.80	4

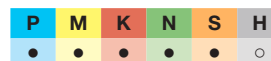
Order no.	Availability	Order no.	Availability
3756 8.190	●	3757 8.190	●
3756 10.620	●	3757 10.620	●
3756 14.140	●	3757 14.140	●
3756 17.570	●	3757 17.570	●

Thread milling cutters without chamfer for ISO metric threads

Article no. 3735



without chamfer



H = 55 HRC

Thread milling cutters without chamfer for ISO metric threads

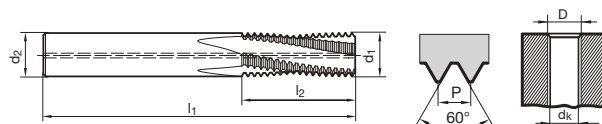
Article no. 3740



without chamfer



H = 55 HRC



Standard
Article no.

Company std.

3735

3740

D	P mm	d1 mm	d2 mm	dk mm	l1 mm	l2 mm	Z
M6	1.000	4.80	6.00	5.00	54.00	16.50	3
M8	1.250	6.40	8.00	6.80	62.00	21.90	3
M10	1.500	7.95	10.00	8.50	74.00	26.30	3
M12	1.750	9.95	10.00	10.20	74.00	32.40	4
M14	2.000	11.20	12.00	12.00	90.00	37.00	4
M16	2.000	12.80	14.00	14.00	90.00	43.00	4
M20	2.500	14.95	16.00	17.50	102.00	48.80	4

Order no.	Availability	Order no.	Availability
3735 6.000	●	3740 6.000	●
3735 8.000	●	3740 8.000	●
3735 10.000	●	3740 10.000	●
3735 12.000	●	3740 12.000	●
3735 14.000	●	3740 14.000	●
3735 16.000	●	3740 16.000	●
3735 20.000	●	3740 20.000	●



Thread milling cutters without chamfer for BSP threads

Article no. 3746



VHM S TM SP R HA 2,5xD 55 HRC

without chamfer

P	M	K	N	S	H
●	●	●	●	●	○

H = 55 HRC

Thread milling cutters without chamfer for BSP threads

Article no. 3750

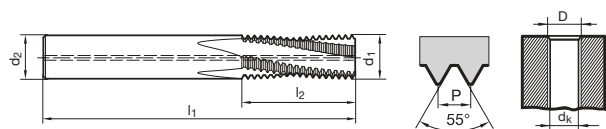


VHM S TM SP R HB 2,5xD 55 HRC

without chamfer

P	M	K	N	S	H
●	●	●	●	●	○

H = 55 HRC



Standard Article no.

Company std.

3746

3750

D	P G/inch	d1 mm	d2 mm	dk mm	l1 mm	l2 mm	Z
G1/8	28	7.95	8.00	8.80	64.00	24.90	3
G1/4	19	10.50	12.00	11.80	90.00	35.40	4
G3/8	19	13.60	14.00	15.25	90.00	43.50	4

Order no.	Availability	Order no.	Availability
3746 9.728	●	3750 9.728	●
3746 13.157	●	3750 13.157	●
3746 16.662	●	3750 16.662	●



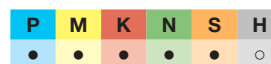
Thread milling cutters with chamfer

Thread milling cutters with chamfer for ISO metric threads

Article no. **3525**



with chamfer



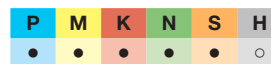
H = 55 HRC

Thread milling cutters with chamfer for ISO metric threads

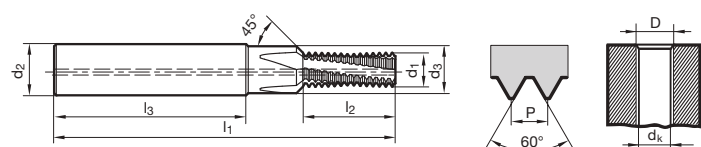
Article no. **3543**



with chamfer



H = 55 HRC



Standard
Article no.

D	P mm	d1 mm	d2 mm	d3 mm	dk mm	l1 mm	l3 mm	l2 mm	Z
M3	0.500	2.30	6.00	3.40	2.50	48.00	36.00	5.30	3
M4	0.700	3.00	6.00	4.50	3.30	48.00	36.00	7.40	3
M5	0.800	4.00	6.00	5.50	4.20	54.00	36.00	9.20	3
M6	1.000	4.80	8.00	6.60	5.00	62.00	36.00	10.50	3
M8	1.250	6.40	10.00	9.00	6.80	74.00	40.00	13.10	3
M10	1.500	7.95	12.00	11.00	8.50	80.00	45.00	17.30	4
M12	1.750	9.95	14.00	13.50	10.20	90.00	45.00	20.10	4
M14	2.000	11.20	16.00	15.50	12.00	102.00	48.00	25.00	4
M16	2.000	12.80	18.00	17.50	14.00	102.00	48.00	27.00	4
M20	2.500	14.50	20.00	21.50	17.50	125.00	50.00	33.80	4

Company std.

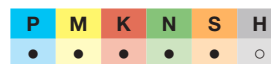
3525		3543	
Order no.	Availability	Order no.	Availability
3525 3.000	●	3543 3.000	●
3525 4.000	●	3543 4.000	●
3525 5.000	●	3543 5.000	●
3525 6.000	●	3543 6.000	●
3525 8.000	●	3543 8.000	●
3525 10.000	●	3543 10.000	●
3525 12.000	●	3543 12.000	●
3525 14.000	●	3543 14.000	●
3525 16.000	●	3543 16.000	●
3525 20.000	●	3543 20.000	●

Thread milling cutters with chamfer for ISO metric fine threads

Article no. **3527**



with chamfer



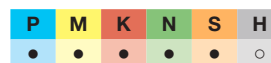
H = 55 HRC

Thread milling cutters with chamfer for ISO metric fine threads

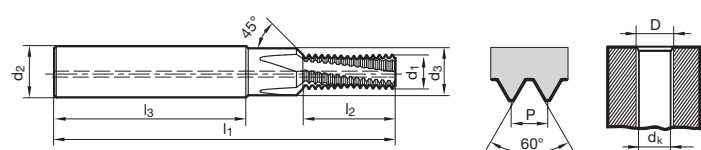
Article no. **3545**



with chamfer



H = 55 HRC



Standard
Article no.

D	P mm	d1 mm	d2 mm	d3 mm	dk mm	l1 mm	l3 mm	l2 mm	Z
M4 x 0,5	0.500	3.00	6.00	4.50	3.50	48.00	36.00	7.30	3
M5 x 0,5	0.500	4.00	6.00	5.50	4.50	54.00	36.00	8.80	3
M6 x 0,5	0.500	4.80	8.00	6.60	5.50	62.00	36.00	9.80	3
M6 x 0,75	0.750	4.80	8.00	6.60	5.20	62.00	36.00	10.10	3
M8 x 0,75	0.750	6.40	10.00	9.00	7.20	74.00	40.00	13.10	3
M8 x 1	1.000	6.40	10.00	9.00	7.00	74.00	40.00	13.50	3
M10 x 1	1.000	7.95	12.00	11.00	9.00	80.00	45.00	16.50	4
M10 x 1,25	1.250	7.95	12.00	11.00	8.80	80.00	45.00	16.90	4
M12 x 1	1.000	9.95	14.00	13.50	11.00	90.00	45.00	19.50	4
M12 x 1,5	1.500	9.95	14.00	13.50	10.50	90.00	45.00	20.30	4
M14 x 1,5	1.500	11.20	16.00	15.50	12.50	102.00	48.00	23.30	4
M16 x 1,5	1.500	12.80	18.00	17.50	14.50	102.00	48.00	26.30	4

Company std.

3527		3545	
Order no.	Availability	Order no.	Availability
3527 4.003	●	3545 4.003	●
3527 5.003	●	3545 5.003	●
3527 6.003	●	3545 6.003	●
3527 6.004	●	3545 6.004	●
3527 8.004	●	3545 8.004	●
3527 8.005	●	3545 8.005	●
3527 10.005	●	3545 10.005	●
3527 10.006	●	3545 10.006	●
3527 12.005	●	3545 12.005	●
3527 12.007	●	3545 12.007	●
3527 14.007	●	3545 14.007	●
3527 16.007	●	3545 16.007	●



Thread milling cutters with chamfer for UNC threads

Article no. 3516



VHM S TMC SP R HA 1,5xD 55 HRC

with chamfer

P M K N S H
● ● ● ● ● ○

H = 55 HRC

Thread milling cutters with chamfer for UNC threads

Article no. 3534

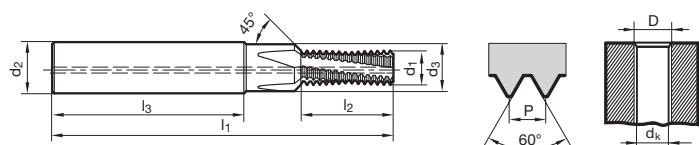


VHM S TMC SP R HB 1,5xD 55 HRC

with chamfer

P M K N S H
● ● ● ● ● ○

H = 55 HRC



Standard Article no.

Company std.

3516 3534

D	P mm	d1 mm	d2 mm	d3 mm	dk mm	l1 mm	l3 mm	l2 mm	Z	Order no.	Availability	Order no.	Availability
1/4 - 20	1.270	4.80	8.00	6.60	5.10	62.00	36.00	12.10	3	3516 6.350	●	3534 6.350	●
5/16 - 18	1.411	5.95	10.00	9.00	6.60	74.00	40.00	14.80	3	3516 7.938	●	3534 7.938	●
3/8 - 16	1.587	7.10	12.00	11.00	8.00	80.00	45.00	16.70	4	3516 9.525	●	3534 9.525	●
7/16 - 14	1.814	7.95	12.00	11.00	9.40	80.00	45.00	19.00	4	3516 11.113	●	3534 11.113	●
1/2 - 13	1.954	9.95	14.00	13.50	10.80	90.00	45.00	22.50	4	3516 12.700	●	3534 12.700	●

Thread milling cutters with chamfer for UNF threads

Article no. 3518



VHM S TMC SP R HA 1,5xD 55 HRC

with chamfer

P M K N S H
● ● ● ● ● ○

H = 55 HRC

Thread milling cutters with chamfer for UNF threads

Article no. 3536

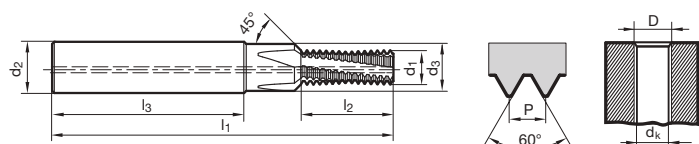


VHM S TMC SP R HB 1,5xD 55 HRC

with chamfer

P M K N S H
● ● ● ● ● ○

H = 55 HRC



Standard Article no.

Company std.

3518 3536

D	P mm	d1 mm	d2 mm	d3 mm	dk mm	l1 mm	l3 mm	l2 mm	Z	Order no.	Availability	Order no.	Availability
1/4 - 28	0.907	4.80	8.00	6.60	5.50	62.00	36.00	11.30	3	3518 6.350	●	3536 6.350	●
5/16 - 24	1.058	5.95	10.00	9.00	6.90	74.00	40.00	13.20	3	3518 7.938	●	3536 7.938	●
3/8 - 24	1.058	7.95	12.00	11.00	8.50	80.00	45.00	16.40	4	3518 9.525	●	3536 9.525	●
7/16 - 20	1.270	7.95	12.00	11.00	9.90	80.00	45.00	18.40	4	3518 11.113	●	3536 11.113	●
1/2 - 20	1.270	9.95	14.00	13.50	11.50	90.00	45.00	21.00	4	3518 12.700	●	3536 12.700	●



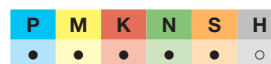
Thread milling cutters with chamfer

Thread milling cutters with chamfer for BSP threads

Article no. **3514**



with chamfer



H = 55 HRC

Thread milling cutters with chamfer for BSP threads

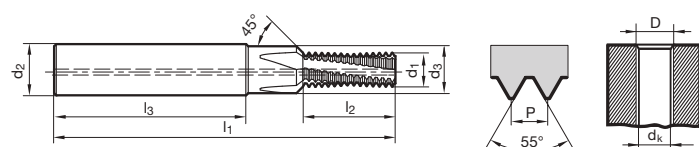
Article no. **3529**



with chamfer



H = 55 HRC



Standard
Article no.

D	P	d1	d2	d3	dk	l1	l3	l2	Z
	G/inch	mm	mm	mm	mm	mm	mm	mm	
G1/8	28	7.95	12.00	11.00	8.80	80.00	45.00	15.90	4
G1/4	19	9.95	14.00	13.90	11.80	90.00	45.00	22.10	4
G3/8	19	13.60	18.00	17.50	15.25	102.00	48.00	27.40	4

Company std.

3514		3529	
Order no.	Availability	Order no.	Availability
3514 9.728	●	3529 9.728	●
3514 13.157	●	3529 13.157	●
3514 16.662	●	3529 16.662	●

Thread milling cutters with chamfer for ISO metric threads

Article no. **3526**



with chamfer



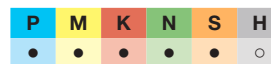
H = 55 HRC

Thread milling cutters with chamfer for ISO metric threads

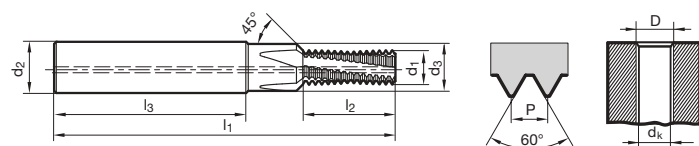
Article no. **3544**



with chamfer



H = 55 HRC



Standard
Article no.

D	P	d1	d2	d3	dk	l1	l3	l2	Z
	mm	mm	mm	mm	mm	mm	mm	mm	
M3	0.500	2.30	6.00	3.40	2.50	48.00	36.00	6.80	3
M4	0.700	3.00	6.00	4.50	3.30	48.00	36.00	8.80	3
M5	0.800	4.00	6.00	5.50	4.20	54.00	36.00	10.80	3
M6	1.000	4.80	8.00	6.60	5.00	62.00	36.00	13.50	3
M8	1.250	6.40	10.00	9.00	6.80	74.00	40.00	18.10	3
M10	1.500	7.95	12.00	11.00	8.50	80.00	45.00	21.80	4
M12	1.750	9.95	14.00	13.50	10.20	90.00	45.00	25.40	4
M14	2.000	11.20	16.00	15.50	12.00	102.00	48.00	31.00	4
M16	2.000	12.80	18.00	17.50	14.00	102.00	48.00	35.00	4
M20	2.500	14.50	20.00	21.50	17.50	125.00	50.00	41.30	4

Company std.

3526		3544	
Order no.	Availability	Order no.	Availability
3526 3.000	●	3544 3.000	●
3526 4.000	●	3544 4.000	●
3526 5.000	●	3544 5.000	●
3526 6.000	●	3544 6.000	●
3526 8.000	●	3544 8.000	●
3526 10.000	●	3544 10.000	●
3526 12.000	●	3544 12.000	●
3526 14.000	●	3544 14.000	●
3526 16.000	●	3544 16.000	●
3526 20.000	●	3544 20.000	●



Thread milling cutters with chamfer for ISO metric fine threads

Article no. 3528



with chamfer



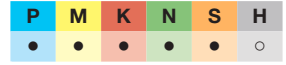
H = 55 HRC

Thread milling cutters with chamfer for ISO metric fine threads

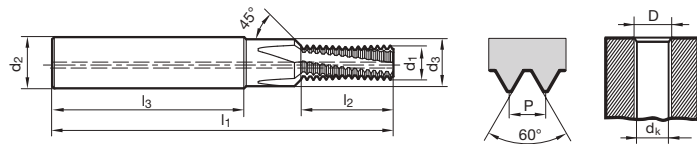
Article no. 3546



with chamfer



H = 55 HRC



Standard Article no.

Company std.

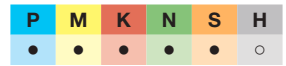
D	P mm	d1 mm	d2 mm	d3 mm	dk mm	l1 mm	l3 mm	l2 mm	Z	3528		3546	
										Order no.	Availability	Order no.	Availability
M4 x 0,5	0.500	3.00	6.00	4.50	3.50	48.00	36.00	8.80	3	3528 4.003	●	3546 4.003	●
M5 x 0,5	0.500	4.00	6.00	5.50	4.50	54.00	36.00	10.80	3	3528 5.003	●	3546 5.003	●
M6 x 0,5	0.500	4.80	8.00	6.60	5.50	62.00	36.00	12.80	3	3528 6.003	●	3546 6.003	●
M6 x 0,75	0.750	4.80	8.00	6.60	5.20	62.00	36.00	13.10	3	3528 6.004	●	3546 6.004	●
M8 x 0,75	0.750	6.40	10.00	9.00	7.20	74.00	40.00	16.90	3	3528 8.004	●	3546 8.004	●
M8 x 1	1.000	6.40	10.00	9.00	7.00	74.00	40.00	17.50	3	3528 8.005	●	3546 8.005	●
M10 x 1	1.000	7.95	12.00	11.00	9.00	80.00	45.00	21.50	4	3528 10.005	●	3546 10.005	●
M10 x 1,25	1.250	7.95	12.00	11.00	8.80	80.00	45.00	21.90	4	3528 10.006	●	3546 10.006	●
M12 x 1	1.000	9.95	14.00	13.50	11.00	90.00	45.00	25.50	4	3528 12.005	●	3546 12.005	●
M12 x 1,5	1.500	9.95	14.00	13.50	10.50	90.00	45.00	26.30	4	3528 12.007	●	3546 12.007	●
M14 x 1,5	1.500	11.20	16.00	15.50	12.50	102.00	48.00	30.80	4	3528 14.007	●	3546 14.007	●
M16 x 1,5	1.500	12.80	18.00	17.50	14.50	102.00	48.00	33.80	4	3528 16.007	●	3546 16.007	●

Thread milling cutters with chamfer for UNC threads

Article no. 3517



with chamfer



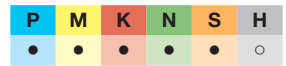
H = 55 HRC

Thread milling cutters with chamfer for UNC threads

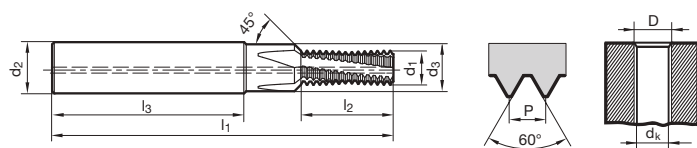
Article no. 3535



with chamfer



H = 55 HRC



Standard Article no.

Company std.

D	P mm	d1 mm	d2 mm	d3 mm	dk mm	l1 mm	l3 mm	l2 mm	Z	3517		3535	
										Order no.	Availability	Order no.	Availability
1/4 - 20	1.270	4.80	8.00	6.60	5.10	62.00	36.00	14.60	3	3517 6.350	●	3535 6.350	●
5/16 - 18	1.411	5.95	10.00	9.00	6.60	74.00	40.00	17.60	3	3517 7.938	●	3535 7.938	●
3/8 - 16	1.587	7.10	12.00	11.00	8.00	80.00	45.00	21.40	4	3517 9.525	●	3535 9.525	●
7/16 - 14	1.814	7.95	12.00	11.00	9.40	80.00	45.00	24.50	4	3517 11.113	●	3535 11.113	●
1/2 - 13	1.954	9.95	14.00	13.50	10.80	90.00	45.00	28.30	4	3517 12.700	●	3535 12.700	●



Thread milling cutters with chamfer

Thread milling cutters with chamfer for UNF threads

Article no. **3519**



with chamfer



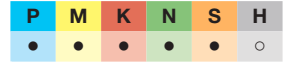
H = 55 HRC

Thread milling cutters with chamfer for UNF threads

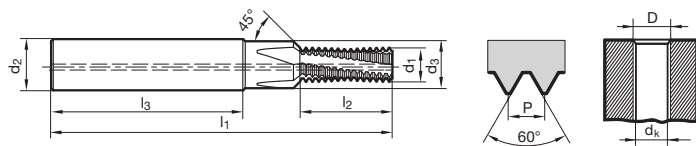
Article no. **3537**



with chamfer



H = 55 HRC



Standard
Article no.

Company std.			
3519	3537		
Order no.	Availability	Order no.	Availability
3519 6.350	●	3537 6.350	●
3519 7.938	●	3537 7.938	●
3519 9.525	●	3537 9.525	●
3519 11.113	●	3537 11.113	●
3519 12.700	●	3537 12.700	●

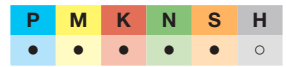
D	P mm	d1 mm	d2 mm	d3 mm	dk mm	l1 mm	l3 mm	l2 mm	Z
1/4 - 28	0.907	4.80	8.00	6.60	5.50	62.00	36.00	14.10	3
5/16 - 24	1.058	5.95	10.00	9.00	6.90	74.00	40.00	17.50	3
3/8 - 24	1.058	7.95	12.00	11.00	8.50	80.00	45.00	20.60	4
7/16 - 20	1.270	7.95	12.00	11.00	9.90	80.00	45.00	24.80	4
1/2 - 20	1.270	9.95	14.00	13.50	11.50	90.00	45.00	27.30	4

Thread milling cutters with chamfer for BSP threads

Article no. **3515**



with chamfer



H = 55 HRC

Thread milling cutters with chamfer for BSP threads

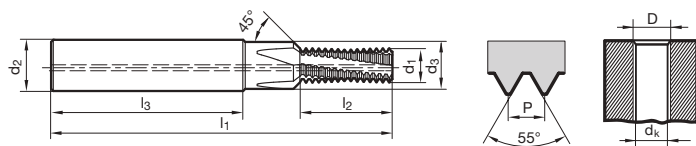
Article no. **3533**



with chamfer



H = 55 HRC



Standard
Article no.

Company std.			
3515	3533		
Order no.	Availability	Order no.	Availability
3515 9.728	●	3533 9.728	●
3515 13.157	●	3533 13.157	●
3515 16.662	●	3533 16.662	●

D	P G/inch	d1 mm	d2 mm	d3 mm	dk mm	l1 mm	l3 mm	l2 mm	Z
G1/8	28	7.95	12.00	11.00	8.80	80.00	45.00	21.30	4
G1/4	19	9.95	14.00	13.90	11.80	90.00	45.00	28.70	4
G3/8	19	13.60	18.00	17.50	15.25	102.00	48.00	35.40	4



Thread milling cutters with chamfer for ISO metric threads

Article no. 3759



VHM S TMC SP R HA 2,5xD 55 HRC

with chamfer

P M K N S H
● ● ● ● ● ○

H = 55 HRC

Thread milling cutters with chamfer for ISO metric threads

Article no. 3760

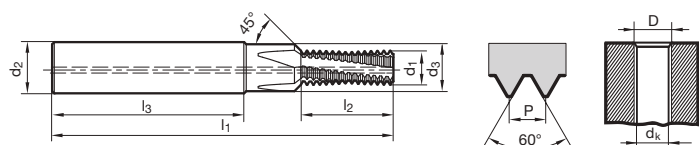


VHM S TMC SP R HB 2,5xD 55 HRC

with chamfer

P M K N S H
● ● ● ● ● ○

H = 55 HRC



Standard Article no.

Company std.			
3759	3760		
Order no.	Availability	Order no.	Availability
3759 3.000	●	3760 3.000	●
3759 4.000	●	3760 4.000	●
3759 5.000	●	3760 5.000	●
3759 6.000	●	3760 6.000	●
3759 8.000	●	3760 8.000	●
3759 10.000	●	3760 10.000	●
3759 12.000	●	3760 12.000	●
3759 14.000	●	3760 14.000	●
3759 16.000	●	3760 16.000	●
3759 20.000	●	3760 20.000	●

D	P mm	d1 mm	d2 mm	d3 mm	dk mm	l1 mm	l3 mm	l2 mm	Z
M3	0.500	2.30	6.00	3.40	2.50	48.00	36.00	7.80	3
M4	0.700	3.00	6.00	4.50	3.30	48.00	35.60	10.90	3
M5	0.800	4.00	6.00	5.50	4.20	54.00	36.00	13.20	3
M6	1.000	4.80	8.00	6.60	5.00	62.00	36.00	16.50	3
M8	1.250	6.40	10.00	9.00	6.80	74.00	40.00	21.90	3
M10	1.500	7.95	12.00	11.00	8.50	80.00	45.00	26.30	4
M12	1.750	9.95	14.00	13.50	10.20	90.00	45.00	32.40	4
M14	2.000	11.20	16.00	15.50	12.00	102.00	48.00	37.00	4
M16	2.000	12.80	18.00	17.50	14.00	102.00	48.00	43.00	4
M20	2.500	14.50	20.00	21.50	17.50	125.00	50.00	48.80	4

Thread milling cutters with chamfer for ISO metric fine threads

Article no. 3762



VHM S TMC SP R HA 2,5xD 55 HRC

with chamfer

P M K N S H
● ● ● ● ● ○

H = 55 HRC

Thread milling cutters with chamfer for ISO metric fine threads

Article no. 3763

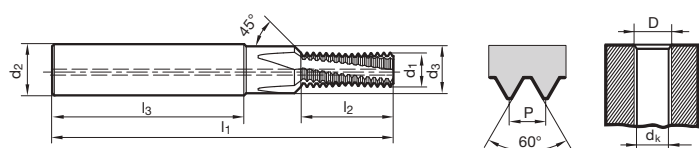


VHM S TMC SP R HB 2,5xD 55 HRC

with chamfer

P M K N S H
● ● ● ● ● ○

H = 55 HRC



Standard Article no.

Company std.			
3762	3763		
Order no.	Availability	Order no.	Availability
3762 4.003	●	3763 4.003	●
3762 5.003	●	3763 5.003	●
3762 6.003	●	3763 6.003	●
3762 6.004	●	3763 6.004	●
3762 8.004	●	3763 8.004	●
3762 8.005	●	3763 8.005	●
3762 10.005	●	3763 10.005	●
3762 10.006	●	3763 10.006	●
3762 12.005	●	3763 12.005	●
3762 12.007	●	3763 12.007	●
3762 14.007	●	3763 14.007	●
3762 16.007	●	3763 16.007	●

D	P mm	d1 mm	d2 mm	d3 mm	dk mm	l1 mm	l3 mm	l2 mm	Z
M4 x 0,5	0.500	3.00	6.00	4.50	3.50	48.00	36.20	10.30	3
M5 x 0,5	0.500	4.00	6.00	5.50	4.50	54.00	36.00	12.80	3
M6 x 0,5	0.500	4.80	8.00	6.60	5.50	62.00	36.00	15.30	3
M6 x 0,75	0.750	4.80	8.00	6.60	5.20	62.00	36.00	15.40	3
M8 x 0,75	0.750	6.40	10.00	9.00	7.20	74.00	40.00	20.60	3
M8 x 1	1.000	6.40	10.00	9.00	7.00	74.00	40.00	20.50	3
M10 x 1	1.000	7.95	12.00	11.00	9.00	80.00	45.00	25.50	4
M10 x 1,25	1.250	7.95	12.00	11.00	8.80	80.00	45.00	25.60	4
M12 x 1	1.000	9.95	14.00	13.50	11.00	90.00	45.00	30.50	4
M12 x 1,5	1.500	9.95	14.00	13.50	10.50	90.00	45.00	30.80	4
M14 x 1,5	1.500	11.20	16.00	15.50	12.50	102.00	48.00	38.30	4
M16 x 1,5	1.500	12.80	18.00	17.50	14.50	102.00	48.00	41.30	4



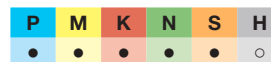
Thread milling cutters with chamfer

Thread milling cutters with chamfer for BSP threads

Article no. **3765**



with chamfer



H = 55 HRC

Thread milling cutters with chamfer for BSP threads

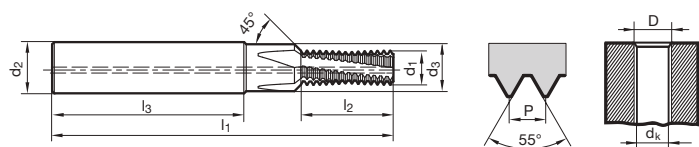
Article no. **3766**



with chamfer



H = 55 HRC



Standard
Article no.

Company std.			
3765	3766		
Order no.	Availability	Order no.	Availability
3765 9.728	●	3766 9.728	●
3765 13.157	●	3766 13.157	●
3765 16.662	●	3766 16.662	●

D	P G/inch	d1 mm	d2 mm	d3 mm	dk mm	l1 mm	l3 mm	l2 mm	Z
G1/8	28	7.95	12.00	11.00	8.80	80.00	45.00	24.90	4
G1/4	19	9.95	14.00	13.90	11.80	90.00	45.00	35.40	4
G3/8	19	13.60	18.00	17.50	15.25	102.00	48.00	43.50	4



Universal thread milling cutters for ISO metric threads

Article no. 3541



Universal thread milling cutters for internal threads M/MF



H = 55 HRC

Universal thread milling cutters for ISO metric threads

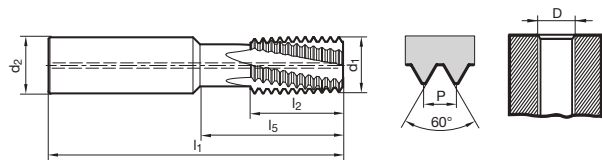
Article no. 3556



Universal thread milling cutters for internal threads M/MF



H = 55 HRC



Standard
Article no.

Company std.

3541

3556

P mm	D	d1 mm	d2 mm	l1 mm	l5 mm	l2 mm	Z	Company std.			
								3541		3556	
								Order no.	Availability	Order no.	Availability
0.500	≥ 10	7.95	8.00	64.00	20.00	20.00	4	3541 8.050	●	3556 8.050	●
1.000	≥ 12	9.95	10.00	70.00	25.00	16.00	4	3541 10.100	●	3556 10.100	●
1.250	≥ 14	9.95	10.00	70.00	25.00	16.00	4	3541 10.125	●	3556 10.125	●
1.500	≥ 14	9.95	10.00	70.00	25.00	16.00	4	3541 10.150	●	3556 10.150	●
1.000	≥ 16	11.95	12.00	80.00	31.00	20.00	4	3541 12.100	●	3556 12.100	●
1.250	≥ 16	11.95	12.00	80.00	31.00	20.00	4	3541 12.125	●	3556 12.125	●
1.500	≥ 16	11.95	12.00	80.00	31.00	20.00	4	3541 12.150	●	3556 12.150	●
1.000	≥ 18	15.95	16.00	90.00	40.00	25.00	5	3541 16.100	●	3556 16.100	●
1.500	≥ 20	15.95	16.00	90.00	40.00	25.00	5	3541 16.150	●	3556 16.150	●
2.000	≥ 22	15.95	16.00	90.00	40.00	25.00	5	3541 16.200	●	3556 16.200	●
3.000	≥ 24	17.95	18.00	102.00	50.00	33.00	5	3541 18.300	●	3556 18.300	●
1.000	≥ 24	19.95	20.00	105.00	50.00	33.00	5	3541 20.100	●	3556 20.100	●
1.500	≥ 26	19.95	20.00	105.00	50.00	33.00	5	3541 20.150	●	3556 20.150	●
2.000	≥ 26	19.95	20.00	105.00	50.00	33.00	5	3541 20.200	●	3556 20.200	●
2.500	≥ 26	19.95	20.00	105.00	50.00	33.00	5	3541 20.250	●	3556 20.250	●
3.000	≥ 27	19.95	20.00	105.00	50.00	33.00	5	3541 20.300	●	3556 20.300	●
3.500	≥ 30	19.95	20.00	105.00	50.00	33.00	5	3541 20.350	●	3556 20.350	●



External thread milling cutters for ISO metric threads

Article no. **4162**



Universal thread milling cutters for external threads M/MF



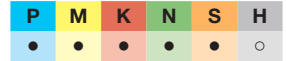
H = 55 HRC

External thread milling cutters for ISO metric threads

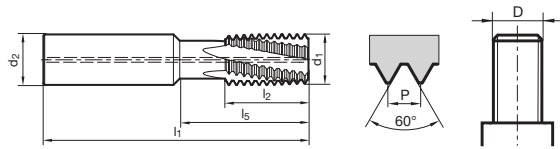
Article no. **4163**



Universal thread milling cutters for external threads M/MF



H = 55 HRC



Standard
Article no.

Company std.

P mm	D	d1 mm	d2 mm	l1 mm	l5 mm	l2 mm	Z	Company std.			
								4162	4163		
								Order no.	Availability	Order no.	Availability
0.500	≥ 3	9.95	10.00	70.00	25.00	16.00	4	4162 10.050	●	4163 10.050	●
0.750	≥ 5	9.95	10.00	70.00	25.00	16.00	4	4162 10.075	●	4163 10.075	●
1.000	≥ 6	11.95	12.00	80.00	31.00	20.00	4	4162 12.100	●	4163 12.100	●
1.250	≥ 8	11.95	12.00	80.00	31.00	20.00	4	4162 12.125	●	4163 12.125	●
1.500	≥ 10	11.95	12.00	80.00	31.00	20.00	4	4162 12.150	●	4163 12.150	●
1.500	≥ 10	15.95	16.00	90.00	40.00	25.00	5	4162 16.150	●	4163 16.150	●
2.000	≥ 14	15.95	16.00	90.00	40.00	25.00	5	4162 16.200	●	4163 16.200	●
2.500	≥ 18	15.95	16.00	90.00	40.00	25.00	5	4162 16.250	●	4163 16.250	●
3.000	≥ 24	19.95	20.00	105.00	50.00	33.00	5	4162 20.300	●	4163 20.300	●
0.700	≥ 4	9.95	10.00	70.00	25.00	16.00	4			4163 10.070	●
0.800	≥ 5	9.95	10.00	70.00	25.00	16.00	4			4163 10.080	●
1.750	≥ 12	15.95	16.00	90.00	40.00	25.00	5			4163 16.175	●



Universal thread milling cutters for UN threads

Article no. 3595



Universal thread milling cutters for internal threads



H = 55 HRC

Universal thread milling cutters for UN threads

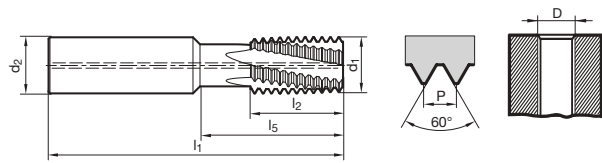
Article no. 3596



Universal thread milling cutters for internal threads



H = 55 HRC



Standard
Article no.

Company std.

3595

3596

P G/inch	D	d1 mm	d2 mm	l1 mm	l5 mm	l2 mm	Z	Company std.							
								3595		3596					
				Order no.	Availability	Order no.	Availability								
24	≥ 1/2	9.95	10.00	70.00	25.00	16.00	4	3595 10.240	●	3596 10.240	●				
16	≥ 5/8	11.95	12.00	80.00	31.00	20.00	4	3595 12.160	●	3596 12.160	●				
18	≥ 5/8	11.95	12.00	80.00	31.00	20.00	4	3595 12.180	●	3596 12.180	●				
20	≥ 11/16	11.95	12.00	80.00	31.00	20.00	4	3595 12.200	●	3596 12.200	●				
24	≥ 5/8	11.95	12.00	80.00	31.00	20.00	4	3595 12.240	●	3596 12.240	●				
14	≥ 7/8	15.95	16.00	90.00	40.00	25.00	5	3595 16.140	●	3596 16.140	●				
16	≥ 7/8	15.95	16.00	90.00	40.00	25.00	5	3595 16.160	●	3596 16.160	●				
18	≥ 7/8	15.95	16.00	90.00	40.00	25.00	5	3595 16.180	●	3596 16.180	●				
20	≥ 13/16	15.95	16.00	90.00	40.00	25.00	5	3595 16.200	●	3596 16.200	●				
8	≥ 1	19.95	20.00	105.00	50.00	33.00	5	3595 20.080	●	3596 20.080	●				
12	≥ 1	19.95	20.00	105.00	50.00	33.00	5	3595 20.120	●	3596 20.120	●				
14	≥ 1	19.95	20.00	105.00	50.00	33.00	5	3595 20.140	●	3596 20.140	●				
16	≥ 1	19.95	20.00	105.00	50.00	33.00	5	3595 20.160	●	3596 20.160	●				
10	≥ 3/4	11.95	12.00	80.00	31.00	20.00	4			3596 12.100	●				
8	≥ 7/8	15.95	16.00	90.00	40.00	25.00	5			3596 16.080	●				
9	≥ 7/8	15.95	16.00	90.00	40.00	25.00	5			3596 16.090	●				
12	≥ 7/8	15.95	16.00	90.00	40.00	25.00	5			3596 16.120	●				
7	≥ 1	19.95	20.00	105.00	50.00	33.00	5			3596 20.070	●				

Universal thread milling cutters for BSP threads

Article no. 3542



Universal thread milling cutters for internal and external threads



H = 55 HRC

Universal thread milling cutters for BSP threads

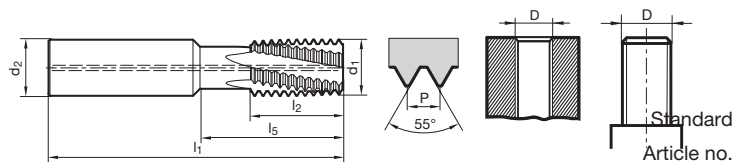
Article no. 3557



Universal thread milling cutters for internal and external threads



H = 55 HRC



Standard
Article no.

Company std.

3542

3557

P G/inch	D	d1 mm	d2 mm	l1 mm	l5 mm	l2 mm	Z	Company std.							
								3542		3557					
				Order no.	Availability	Order no.	Availability								
19	≥ 1/4	9.95	10.00	70.00	25.00	16.00	4	3542 10.190	●	3557 10.190	●				
14	≥ 1/2	15.95	16.00	90.00	40.00	25.00	5	3542 16.140	●	3557 16.140	●				
11	≥ 1	19.95	20.00	105.00	50.00	33.00	5	3542 20.110	●	3557 20.110	●				

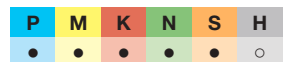


Universal thread milling cutters

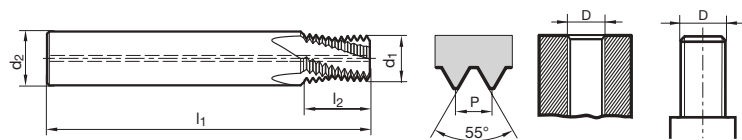
Universal thread milling cutters for Rc threads Article no. 4770



Universal thread milling cutters for internal and external threads



H = 55 HRC



Standard Article no.	Company std.	
	4770	
	Order no.	Availability
	4770 9.728	●
	4770 13.157	●
	4770 20.955	●
	4770 33.249	●

P G/inch	D	d1 mm	d2 mm	l1 mm	l2 mm	Z
28	Rc1/8	7.40	8.00	64.00	8.60	3
19	Rc1/4-Rc3/8	9.12	10.00	74.00	14.04	4
14	Rc1/2-Rc3/4	14.80	16.00	90.00	19.05	5
11	Rc 1-Rc 2	18.00	20.00	105.00	33.40	5

Universal thread milling cutters for NPT threads Article no. 3768



Universal thread milling cutters for internal and external threads



H = 55 HRC

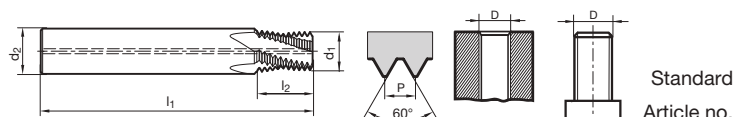
Universal thread milling cutters for NPT threads Article no. 3769



Universal thread milling cutters for internal and external threads



H = 55 HRC



P G/inch	D	d1 mm	d2 mm	l1 mm	l2 mm	Z
14	≥ 1/2	14.50	16.00	90.00	19.05	5
11	≥ 1	18.50	20.00	90.00	23.19	5

Standard Article no.		Company std.	
		3768	3769
Order no.	Availability	Order no.	Availability
3768 21.900	●	3769 21.900	●
3768 34.180	●	3769 34.180	●



Universal thread milling cutters for NPTF threads

Article no. 3772



Universal thread milling cutters for internal and external threads



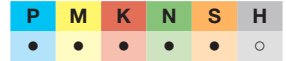
H = 55 HRC

Universal thread milling cutters for NPTF threads

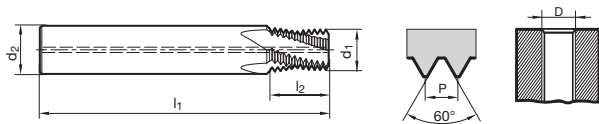
Article no. 3773



Universal thread milling cutters for internal and external threads



H = 55 HRC



Standard
Article no.

Company std.

3772

3773

P G/inch	D	d1 mm	d2 mm	l1 mm	l2 mm	Z
14	≥ 1/2	14.50	16.00	90.00	19.05	5
11	≥ 1	18.50	20.00	90.00	23.19	5

Order no.	Availability	Order no.	Availability
3772 21.900	●	3773 21.900	●
3772 34.180	●	3773 34.180	●



DTMC

Drill thread milling cutters

- X increased productivity thanks to a reduction in process time of up to 50 %
- X high cost-effectiveness thanks to drilling, countersinking 45° and thread milling in a single working step
- X save on tool space
- X for blind hole and through-hole up to max. 2.5xD



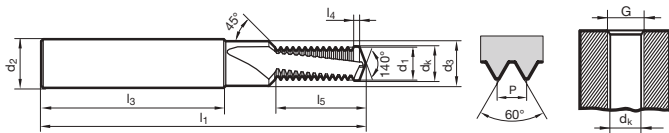
Drill thread milling cutters for ISO metric threads

Article no. 3774



Drill thread milling cutters for ISO metric threads

Article no. 3775



Standard Article no.

Company std.

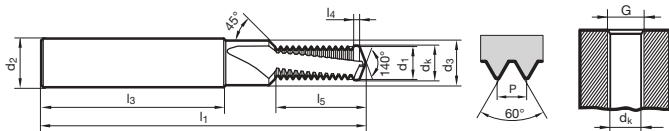
3774

3775

D	P mm	d1 mm	d2 mm	d3 mm	dk mm	l1 mm	l3 mm	l4 mm	l5 mm	Z	Company std.			
											Order no.	Availability	Order no.	Availability
M 3	0.500	2.40	6.00	3.40	2.50	48.00	36.00	0.50	5.50	2	3774 3.000	●		
M 4	0.700	3.20	6.00	4.50	3.30	48.00	36.00	0.70	6.90	2	3774 4.000	●	3775 4.000	●
M 5	0.800	4.00	6.00	5.50	4.20	54.00	36.00	0.80	8.80	2	3774 5.000	●	3775 5.000	●
M 6	1.000	4.75	8.00	6.60	5.00	62.00	36.00	1.00	10.90	2	3774 6.000	●	3775 6.000	●
M 8	1.250	6.35	10.00	9.00	6.80	74.00	40.00	1.25	13.70	2	3774 8.000	●	3775 8.000	●
M10	1.500	7.95	12.00	11.00	8.50	80.00	45.00	1.50	18.00	2	3774 10.000	●	3775 10.000	●
M12	1.750	9.95	14.00	13.50	10.20	90.00	45.00	1.50	20.90	2	3774 12.000	●	3775 12.000	●
M14	2.000	11.20	16.00	15.50	12.00	102.00	48.00	1.50	23.70	2	3774 14.000	●	3775 14.000	●
M16	2.000	13.20	18.00	17.50	14.00	102.00	48.00	1.50	26.00	2	3774 16.000	●	3775 16.000	●

Drill thread milling cutters for ISO metric threads

Article no. 3778



Standard Article no.

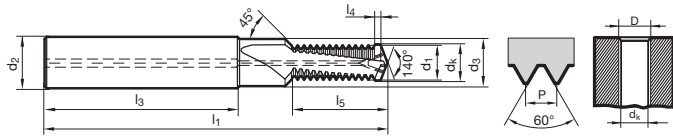
Company std.

3778

D	P mm	d1 mm	d2 mm	d3 mm	dk mm	l1 mm	l3 mm	l4 mm	l5 mm	Z	Company std.	
											Order no.	Availability
M 3	0.500	2.40	6.00	3.40	2.50	48.00	36.00	0.50	7.00	2	3778 3.000	●
M 4	0.700	3.20	6.00	4.50	3.30	48.00	36.00	0.70	9.00	2	3778 4.000	●
M 5	0.800	4.00	6.00	5.50	4.20	54.00	36.00	0.80	11.20	2	3778 5.000	●
M 6	1.000	4.75	8.00	6.60	5.00	62.00	36.00	1.00	13.90	2	3778 6.000	●
M 8	1.250	6.35	10.00	9.00	6.80	74.00	40.00	1.25	18.70	2	3778 8.000	●
M10	1.500	7.95	12.00	11.00	8.50	80.00	45.00	1.50	22.50	2	3778 10.000	●
M12	1.750	9.95	14.00	13.50	10.20	90.00	45.00	1.50	26.10	2	3778 12.000	●
M14	2.000	11.20	16.00	15.50	12.00	102.00	48.00	1.50	31.70	2	3778 14.000	●
M16	2.000	13.20	18.00	17.50	14.00	102.00	48.00	1.50	36.00	2	3778 16.000	●



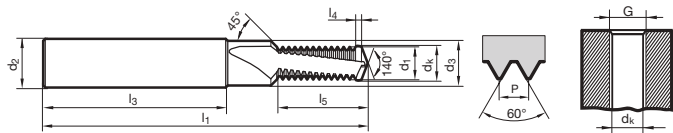
Drill thread milling cutters for ISO metric threads Article no. 3779



Standard	Company std.
Article no.	3779

D	P	d1	d2	d3	dk	l1	l3	l4	l5	Z	Order no.	Availability
M 4	0.700	3.20	6.00	4.50	3.30	48.00	36.00	0.70	9.00	2	3779 4.000	●
M 5	0.800	4.00	6.00	5.50	4.20	54.00	36.00	0.80	11.20	2	3779 5.000	●
M 6	1.000	4.75	8.00	6.60	5.00	62.00	36.00	1.00	13.90	2	3779 6.000	●
M 8	1.250	6.35	10.00	9.00	6.80	74.00	40.00	1.25	18.70	2	3779 8.000	●
M10	1.500	7.95	12.00	11.00	8.50	80.00	45.00	1.50	22.50	2	3779 10.000	●
M12	1.750	9.95	14.00	13.50	10.20	90.00	45.00	1.50	26.10	2	3779 12.000	●
M14	2.000	11.20	16.00	15.50	12.00	102.00	48.00	1.50	31.70	2	3779 14.000	●
M16	2.000	13.20	18.00	17.50	14.00	102.00	48.00	1.50	36.00	2	3779 16.000	●

Drill thread milling cutters for ISO metric threads Article no. 3782



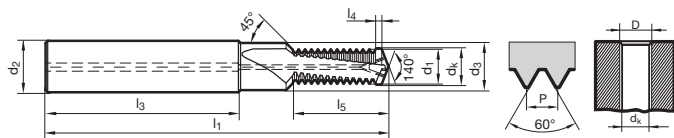
Standard	Company std.
Article no.	3782

D	P	d1	d2	d3	dk	l1	l3	l4	l5	Z	Order no.	Availability
M 3	0.500	2.40	6.00	3.40	2.50	48.00	36.00	0.50	8.50	2	3782 3.000	●
M 4	0.700	3.20	6.00	4.50	3.30	48.00	36.00	0.70	11.10	2	3782 4.000	●
M 5	0.800	4.00	6.00	5.50	4.20	54.00	36.00	0.80	13.60	2	3782 5.000	●
M 6	1.000	4.75	8.00	6.60	5.00	62.00	36.00	1.00	16.90	2	3782 6.000	●
M 8	1.250	6.35	10.00	9.00	6.80	74.00	40.00	1.25	22.50	2	3782 8.000	●
M10	1.500	7.95	12.00	11.00	8.50	80.00	45.00	1.50	27.00	2	3782 10.000	●
M12	1.750	9.95	14.00	13.50	10.20	90.00	45.00	1.50	31.40	2	3782 12.000	●
M14	2.000	11.20	16.00	15.50	12.00	102.00	48.00	1.50	39.70	2	3782 14.000	●
M16	2.000	13.20	18.00	17.50	14.00	102.00	48.00	1.50	46.00	2	3782 16.000	●



Drill thread milling cutters for ISO metric threads

Article no. 3783



Standard
Article no.

Company std.
3783

D	P mm	d1 mm	d2 mm	d3 mm	dk mm	l1 mm	l3 mm	l4 mm	l5 mm	Z
M 4	0.700	3.20	6.00	4.50	3.30	48.00	36.00	0.70	11.10	2
M 5	0.800	4.00	6.00	5.50	4.20	54.00	36.00	0.80	13.60	2
M 6	1.000	4.75	8.00	6.60	5.00	62.00	36.00	1.00	16.90	2
M 8	1.250	6.35	10.00	9.00	6.80	74.00	40.00	1.25	22.50	2
M10	1.500	7.95	12.00	11.00	8.50	80.00	45.00	1.50	27.00	2
M12	1.750	9.95	14.00	13.50	10.20	90.00	45.00	1.50	31.40	2
M14	2.000	11.20	16.00	15.50	12.00	102.00	48.00	1.50	39.70	2
M16	2.000	13.20	18.00	17.50	14.00	102.00	48.00	1.50	46.00	2

Order no.	Availability
3783 4.000	●
3783 5.000	●
3783 6.000	●
3783 8.000	●
3783 10.000	●
3783 12.000	●
3783 14.000	●
3783 16.000	●

Technical section

GÜHRING



Tapping size holes for thread milling cutters

Std. ISO metric threads DIN 13					ISO metric fine threads DIN 13									
Nom. Ø	Pitch P	Tapping size hole Ø DIN 336 mm	Core diameter of int. thread 6H*		Nom. x Ø	Pitch P	Tapping size hole Ø DIN 336 mm	Core diameter of int. thread 6H		Nom. x Ø	Pitch P	Tapping size hole Ø DIN 336 mm	Core diameter of int. thread 6H	
			min. mm	max. mm				min. mm	max. mm				min. mm	max. mm
M 1	0.25	0.75	0.729	0.785	M 2.5 x 0.35	2.15	2.121	2.221	M 22 x 1.00	21.00	20.917	21.153		
M 1.1	0.25	0.85	0.829	0.885	M 3.0 x 0.35	2.65	2.621	2.721	M 22 x 1.50	20.50	20.376	20.676		
M 1.2	0.25	0.95	0.929	0.985	M 3.5 x 0.35	3.15	3.121	3.221	M 22 x 2.00	20.00	19.835	20.210		
M 1.4	0.30	1.10	1.075	1.142	M 4.0 x 0.50	3.50	3.459	3.599	M 24 x 1.00	23.00	22.917	23.153		
M 1.6	0.35	1.25	1.221	1.321	M 4.5 x 0.50	4.00	3.959	4.099	M 24 x 1.50	22.50	22.376	22.676		
M 1.8	0.35	1.45	1.421	1.521	M 5.0 x 0.50	4.50	4.459	4.599	M 24 x 2.00	22.00	21.835	22.210		
M 2	0.40	1.60	1.567	1.679	M 5.5 x 0.50	5.00	4.959	5.099	M 25 x 1.00	24.00	23.917	24.153		
M 2.2	0.45	1.75	1.713	1.838	M 6.0 x 0.75	5.20	5.188	5.378	M 25 x 1.50	23.50	23.376	23.676		
M 2.5	0.45	2.05	2.013	2.138	M 7.0 x 0.75	6.20	6.188	6.378	M 25 x 2.00	23.00	22.835	23.210		
M 3	0.50	2.50	2.459	2.599	M 8.0 x 0.50	7.50	7.459	7.599	M 27 x 1.00	26.00	25.917	26.153		
M 3.5	0.60	2.90	2.850	3.010	M 8.0 x 0.75	7.20	7.188	7.378	M 27 x 1.50	25.50	25.376	25.676		
M 4	0.70	3.30	3.242	3.422	M 8.0 x 1.00	7.00	6.917	7.153	M 27 x 2.00	25.00	24.835	25.210		
M 4.5	0.75	3.70	3.688	3.878	M 9.0 x 0.75	8.20	8.188	8.378	M 28 x 1.00	27.00	26.917	27.153		
M 5	0.80	4.20	4.134	4.334	M 9.0 x 1.00	8.00	7.917	8.153	M 28 x 1.50	26.50	26.376	26.676		
M 6	1.00	5.00	4.917	5.153	M 10 x 0.75	9.20	9.188	9.378	M 28 x 2.00	26.00	25.835	26.210		
M 7	1.00	6.00	5.917	6.153	M 10 x 1.00	9.00	8.917	9.153	M 30 x 1.00	29.00	28.917	29.153		
M 8	1.25	6.80	6.647	6.912	M 10 x 1.25	8.80	8.647	8.912	M 30 x 1.50	28.50	28.376	28.676		
M 9	1.25	7.80	7.647	7.912	M 11 x 0.75	10.20	10.188	10.378	M 30 x 2.00	28.00	27.835	28.210		
M 10	1.50	8.50	8.376	8.676	M 11 x 1.00	10.00	9.917	10.153	M 30 x 3.00	27.00	26.752	27.252		
M 11	1.50	9.50	9.376	9.676	M 12 x 1.00	11.00	10.917	11.153	M 32 x 1.50	30.50	30.376	30.676		
M 12	1.75	10.20	10.106	10.441	M 12 x 1.25	10.80	10.647	10.912	M 32 x 2.00	30.00	29.835	30.210		
M 14	2.00	12.00	11.835	12.210	M 12 x 1.50	10.50	10.376	10.676	M 33 x 1.50	31.50	31.376	31.676		
M 16	2.00	14.00	13.835	14.210	M 14 x 1.00	13.00	12.917	13.153	M 33 x 2.00	31.00	30.835	31.210		
M 18	2.50	15.50	15.294	15.744	M 14 x 1.25	12.80	12.647	12.912	M 33 x 3.00	30.00	29.752	30.252		
M 20	2.50	17.50	17.294	17.744	M 14 x 1.50	12.50	12.376	12.676	M 35 x 1.50	33.50	33.376	33.676		
M 22	2.50	19.50	19.294	19.744	M 15 x 1.00	14.00	13.917	14.153	M 36 x 1.50	34.50	34.376	34.676		
M 24	3.00	21.00	20.752	21.252	M 15 x 1.50	13.50	13.376	13.676						
M 27	3.00	24.00	23.752	24.252	M 16 x 1.00	15.00	14.917	15.153						
M 30	3.50	26.50	26.211	26.771	M 16 x 1.25	14.80	14.647	14.912						
M 33	3.50	29.50	29.211	29.771	M 16 x 1.50	14.50	14.376	14.676						
M 36	4.00	32.00	31.670	32.270	M 17 x 1.00	16.00	15.917	16.153						
M 39	4.00	35.00	34.670	35.270	M 17 x 1.50	15.50	15.376	15.676						
M 42	4.50	37.50	37.129	37.799	M 18 x 1.00	17.00	16.917	17.153						
M 45	4.50	40.50	40.129	40.799	M 18 x 1.50	16.50	16.376	16.676						
M 48	5.00	43.00	42.587	43.297	M 20 x 1.00	19.00	18.917	19.153						
M 52	5.00	47.00	46.587	47.297	M 20 x 1.50	18.50	18.376	18.676						
M 56	5.50	50.50	50.046	50.796	M 20 x 2.00	18.00	17.835	18.210						

* M 1.1 up to M 1.4 tapping size hole of int. thread 5H

MJ threads DIN ISO 5855					
Nom. Ø	x	Pitch P	Tapping size hole Ø	Core diameter of int. thread 5H*	
				min. mm	max. mm
MJ 3	x	0.50	2.60	2.513	2.653
MJ 4	x	0.70	3.40	3.318	3.498
MJ 5	x	0.80	4.30	4.221	4.421
MJ 6	x	0.50	5.55	5.513	5.625
MJ 6	x	0.75	5.35	5.269	5.419
MJ 6	x	1.00	5.10	5.026	5.216
MJ 8	x	0.50	7.55	7.513	7.625
MJ 8	x	0.75	7.35	7.269	7.419
MJ 8	x	1.00	7.10	7.026	7.216
MJ 8	x	1.25	6.90	6.782	6.994
MJ 10	x	1.00	9.10	9.026	9.216
MJ 10	x	1.25	8.90	8.782	8.994
MJ 10	x	1.50	8.60	8.539	8.775
MJ 12	x	1.75	10.40	10.295	10.560
MJ 16	x	2.00	14.20	14.051	14.351

UNJC threads ISO 3161				
Nom. Ø	Threads	Tapping size hole Ø	Core diameter of int. thread 3B	
			min. mm	max. mm
No. 6	- 32	2.85	2.733	2.939
No. 8	- 32	3.55	3.393	3.599
No. 10	- 24	4.00	3.795	4.064
No. 12	- 24	4.60	4.455	4.704
1/4	- 20	5.30	5.113	5.387
5/16	- 18	6.75	6.563	6.833
3/8	- 16	8.20	7.978	8.255
7/16	- 14	9.60	9.346	9.639
1/2	- 13	11.00	10.798	11.095
9/16	- 12	12.40	12.228	12.482
5/8	- 11	13.80	13.627	13.904

UNJF threads ISO 3161				
Nom. Ø	Threads	Tapping size hole Ø	Core diameter of int. thread 3B	
			min. mm	max. mm
No. 6	- 40	3.00	2.888	3.053
No. 8	- 36	3.60	3.480	3.663
No. 10	- 32	4.20	4.054	4.255
No. 12	- 28	4.75	4.602	4.816
1/4	- 28	5.60	5.466	5.662
5/16	- 24	7.00	6.906	7.109
3/8	- 24	8.60	8.494	8.679
7/16	- 20	10.00	9.876	10.084
1/2	- 20	11.60	11.463	11.661
9/16	- 18	13.00	12.913	13.122
5/8	- 18	14.60	14.501	14.702



Tapping size holes for thread milling cutters

RC [BSPT], according to BS 21 and ISO 7/1 Tapered Whitworth pipe thread 1:16								
Version A (avoid if possible)	Version B	Nom. Ø inch	Threads per inch	Tapp. size hole Ø cylindr. (A) d ₁	Tapp. size hole Ø conical (B) D ₁	Cutting depth ET mm	Drilling depth BT (min) mm	Info mm inch
		1/16	28	6.20	6.56	7.40	11.90	7.720 0.3040
		1/8	28	8.20	8.57	7.70	11.90	9.728 0.3830
		1/4	19	11.00	11.45	11.50	17.70	13.157 0.5180
		3/8	19	14.50	14.95	11.90	18.10	16.662 0.6560
		1/2	14	18.00	18.63	15.60	24.00	20.955 0.8250
		3/4	14	23.50	24.12	16.90	25.30	26.441 1.0410
		1	11	29.50	30.29	19.80	30.60	33.249 1.3090
		1 1/4	11	37.6	39	21.4	32.2	41.910 1.6500
		1 1/2	11	43.5	44.9	21.4	32.2	47.803 1.8820
		2	11	55.1	56.7	25.7	36.5	59.614 2.3470

BSW (Whitworth) threads BS84					(Whitworth) threads (nach DIN-ISO 228-1)					Steel armoured conduit threads to DIN 40430				
Nom. Ø	Threads per inch	Tapping size hole Ø	Core diameter of int. thread		Nom. Ø	Threads per inch	Tapping size hole Ø DIN 336 mm	Core diameter of int. thread		Nom. Ø	Threads per inch	Tapping size hole Ø	Core diameter of int. thread	
inch	per inch	mm	min. mm	max. mm	inch	per inch	mm	min. mm	max. mm	inch	per inch	mm	min. mm	max. mm
W 1/16	60	1.20	1.045	1.230	G 1/16	28	6.80	6.561	6.843	Pg 7	20	11.40	11.280	11.430
W 3/32	48	1.80	1.704	1.912	G 1/8	28	8.80	8.566	8.848	Pg 9	18	14.00	13.860	14.010
W 1/8	40	2.50	2.362	2.591	G 1/4	19	11.80	11.445	11.890	Pg 11	18	17.30	17.260	17.410
W 5/32	32	3.20	2.952	3.214	G 3/8	19	15.25	14.950	15.395	Pg 13.5	18	19.00	19.060	19.210
W 3/16	24	3.60	3.407	3.745	G 1/2	14	19.00	18.631	19.172	Pg 16	18	21.30	21.160	21.310
W 7/32	24	4.50	4.201	4.539	G 5/8	14	21.00	20.587	21.128	Pg 21	16	26.90	26.780	27.030
W 1/4	20	5.10	4.724	5.156	G 3/4	14	24.50	24.117	24.658	Pg 29	16	35.50	35.480	35.730
W 5/16	18	6.50	6.130	6.590	G 7/8	14	28.25	27.877	28.418	Pg 36	16	45.50	45.480	45.730
W 3/8	16	7.90	7.492	7.987	G 1	11	30.75	30.291	30.931	Pg 42	16	52.50	52.480	52.730
W 7/16	14	9.20	8.789	9.330	G 1 1/8	11	35.50	34.939	35.579	Pg 48	16	57.80	57.780	58.030
W 1/2	12	10.50	9.989	10.591	G 1 1/4	11	39.50	38.952	39.592					
W 9/16	12	12.00	11.577	12.179	G 1 1/2	11	45.25	44.845	45.485					
W 5/8	11	13.50	12.918	13.558	G 1 3/4	11	51.00	50.788	51.428					
W 3/4	10	16.25	15.797	16.483	G 2	11	57.00	56.656	57.296					
W 7/8	9	19.25	18.611	19.353										
W 1	8	22.00	21.334	22.147										
W 1 1/8	7	24.50	23.928	24.832										
W 1 1/4	7	27.75	27.103	28.007										
W 1 3/8	6	30.50	29.504	30.528										
W 1 1/2	6	33.50	32.679	33.703										
W 1 5/8	5	35.50	34.769	35.963										
W 1 3/4	5	39.00	37.944	39.138										
W 2	4.5	44.50	43.571	44.877										



Tapping size holes for thread milling cutters

NPT ANSI B 2.1 American tapered pipe thread 1:16						
Version A (avoid if possible)	Version B	Nom. Threads per inch	Tapp. size hole Ø cylindr. (A) d ₁	Tapp. size hole Ø conical (B) D ₁	Cutting depth ET mm	Drilling depth BT (min) mm
		1/16 - 27	6.15	6.39	9.29	10.7
		1/8 - 27	8.40	8.74	9.32	10.8
		1/4 - 18	11.10	11.36	13.52	15.6
		3/8 - 18	14.30	14.80	13.83	16.0
		1/2 - 14	17.90	18.32	18.07	20.8
		3/4 - 14	23.30	23.67	18.55	21.3
		1 - 11,5	29.00	29.69	22.29	25.6
		1 1/4 - 11,5	37.70	38.45	22.80	26.1
		1 1/2 - 11,5	43.70	44.52	22.80	26.1
		2 - 11,5	55.60	56.56	23.20	26.5
		2 1/2 - 8	66.30	67.62	31.75	36.3
		3 - 8	82.30	83.52	33.74	38.5

Metric/metric fine EG-threads (EG M14 x 1.25) for wire thread inserts DIN 8140				
Nom. Ø	x Pitch P	Tapping size hole Ø	Core diameter of int. thread	
			min. mm	max. mm
EG M 4	0.70	4.20	4.152	4.292
EG M 5	0.80	5.25	5.174	5.334
EG M 6	1.00	6.30	6.217	6.407
EG M 8	1.25	8.40	8.271	8.483
EG M10	1.50	10.50	10.324	10.560
EG M12	1.75	12.50	12.379	12.644
EG M14 x 1.25	14.40	14.271	14.483	
EG M16	2.00	16.50	16.433	16.733

UNC (UNC-STI) EG-threads for wire thread inserts ASME B18.29.1				
Nom. Ø	Threads per inch	Tapping size hole Ø mm	Core diameter of int. thread	
			min. mm	max. mm
EG Nr. 6	- 32	3.80	3.678	3.879
EG Nr. 8	- 32	4.40	4.338	4.524
EG Nr. 10	- 24	5.20	5.055	5.283
EG Nr. 12	- 24	5.80	5.715	5.944
EG 1/4	- 20	6.70	6.624	6.868
EG 5/16	- 18	8.40	8.242	8.489
EG 3/8	- 16	10.00	9.868	10.127
EG 7/16	- 14	11.60	11.506	11.783
EG 1/2	- 13	13.30	13.122	13.393
EG 9/16	- 12	14.90	14.747	15.032
EG 5/8	- 11	16.50	16.375	16.673

EG UNF (UNF-STI) threads for wire thread inserts ASME B18.29.1				
Nom. Ø	Threads per inch	Tapping size hole Ø mm	Core diameter of int. thread	
			min. mm	max. mm
EG Nr. 6	- 40	3.70	3.644	3.818
EG Nr. 8	- 36	4.40	4.321	4.498
EG Nr. 10	- 32	5.10	4.999	5.184
EG Nr. 12	- 28	5.70	5.682	5.809
EG 1/4	- 28	6.60	6.546	6.721
EG 5/16	- 24	8.25	8.166	8.352
EG 3/8	- 24	9.80	9.754	9.931
EG 7/16	- 20	11.50	11.389	11.585
EG 1/2	- 20	13.10	12.974	13.172
EG 9/16	- 18	14.70	14.592	14.798
EG 5/8	- 18	16.25	16.180	16.386

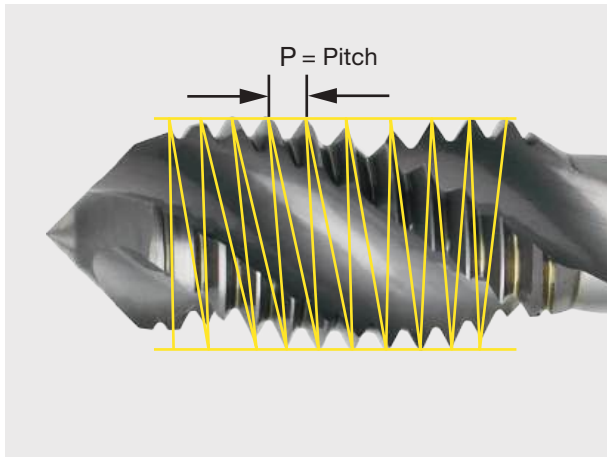
UNF threads ASME B1.1				
Nom. Threads Ø	per inch	Tapping size hole Ø DIN 336 mm	Core diameter of int. thread 2B	
			min. mm	max. mm
Nr. 1 - 72		1.55	1.473	1.610
Nr. 2 - 64		1.85	1.755	1.910
Nr. 3 - 56		2.15	2.024	2.197
Nr. 4 - 48		2.40	2.271	2.459
Nr. 5 - 44		2.70	2.550	2.741
Nr. 6 - 40		2.95	2.819	3.023
Nr. 8 - 36		3.50	3.404	3.607
Nr. 10 - 32		4.10	3.962	4.166
Nr. 12 - 28		4.60	4.496	4.724
1/4 - 28		5.50	5.359	5.588
5/16 - 24		6.90	6.782	7.036
3/8 - 24		8.50	8.382	8.636
7/16 - 20		9.90	9.728	10.033
1/2 - 20		11.50	11.328	11.608
9/16 - 18		12.90	12.751	13.081
5/8 - 18		14.50	14.351	14.681
3/4 - 16		17.50	17.323	17.678
7/8 - 14		20.40	20.269	20.650
1 - 12		23.25	23.114	23.571
1 1/8 - 12		26.50	26.289	26.746
1 1/4 - 12		29.50	29.464	29.921
1 3/8 - 12		32.75	32.639	33.096
1 1/2 - 12		36.00	35.814	36.271

UNC threads ASME B1.1				
Nom. Threads Ø	per inch	Tapping size Ø DIN 336 mm	Core diameter of int. thread 2B	
			min. mm	max. mm
Nr. 1 - 64		1.55	1.425	1.580
Nr. 2 - 56		1.85	1.694	1.872
Nr. 3 - 48		2.10	1.941	2.146
Nr. 4 - 40		2.35	2.157	2.385
Nr. 5 - 40		2.65	2.487	2.698
Nr. 6 - 32		2.85	2.642	2.896
Nr. 8 - 32		3.50	3.302	3.531
Nr. 10 - 24		3.90	3.683	3.937
Nr. 12 - 24		4.50	4.343	4.597
1/4 - 20		5.10	4.978	5.258
5/16 - 18		6.60	6.401	6.731
3/8 - 16		8.00	7.798	8.153
7/16 - 14		9.40	9.144	9.550
1/2 - 13		10.80	10.592	11.024
9/16 - 12		12.20	11.989	12.446
5/8 - 11		13.50	13.386	13.868
3/4 - 10		16.50	16.307	16.840
7/8 - 9		19.50	19.177	19.761
1 - 8		22.25	21.971	22.606
1 1/8 - 7		25.00	24.638	25.349
1 1/4 - 7		28.00	27.813	28.524
1 3/8 - 6		30.75	30.353	31.115
1 1/2 - 6		34.00	33.528	34.290
1 3/4 - 5		39.50	38.938	39.802
2 - 4.5		45.00	44.679	45.593



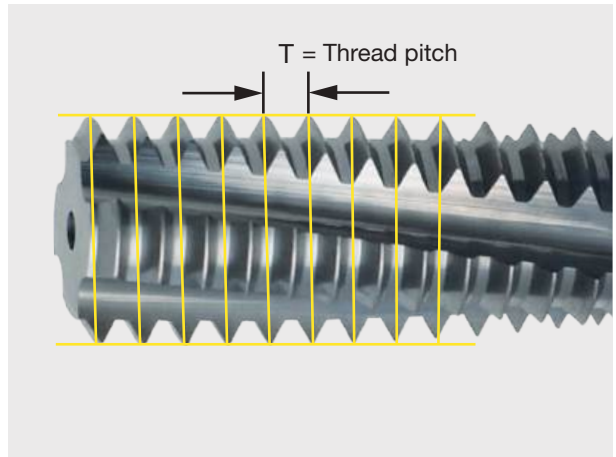
Difference between taps/fluteless taps and thread milling cutters

Taps/fluteless taps



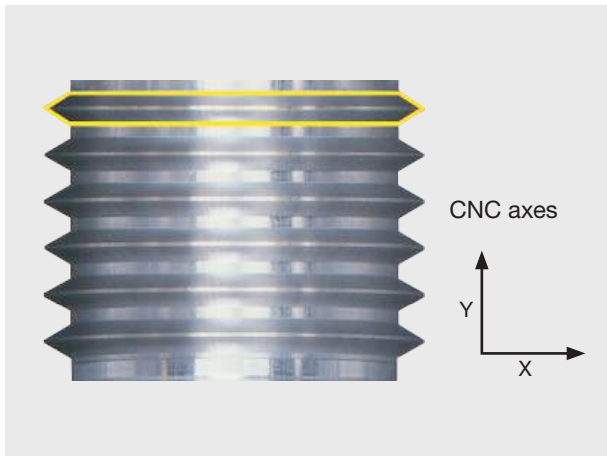
The yellow lines show the pitch angle of the thread that is ground into the tool. This means the pitch is cut into the workpiece by the tool.

Thread milling cutters

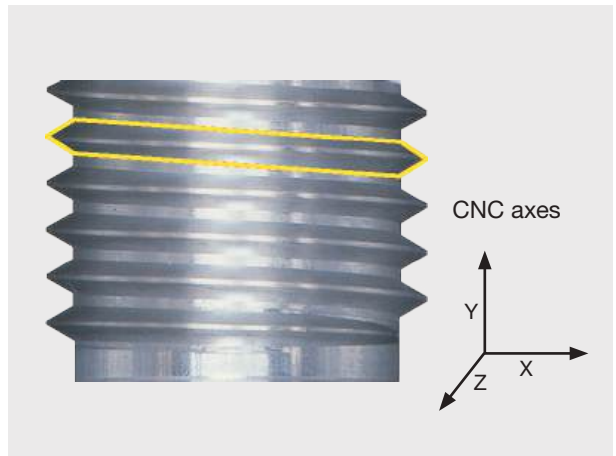


The yellow lines show that the tool does not possess a pitch angle. The pitch is produced by the Z-axis of a CNC machine.

Creation of the thread with thread milling



Thread profile without axial feed (Z axis) of the machine. A groove profile is created without pitch. A functioning thread is not created.



Through the additional programming of the Z axis the necessary pitch is produced.

Note

Due to diagonal milling in the pitch angle (Z axis) the thread profile of the tool is transferred onto the component distorted.

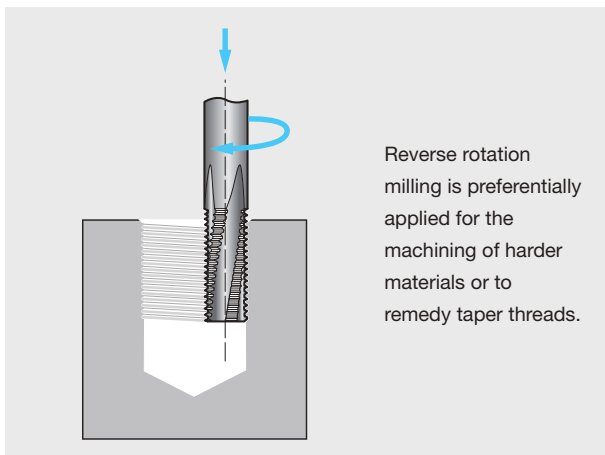
The more the milling cutter diameter (80 % of nom. Ø) approaches the nominal thread diameter and the higher the thread pitch the more pronounced the profile distortion is.



Differentiating between two milling processes

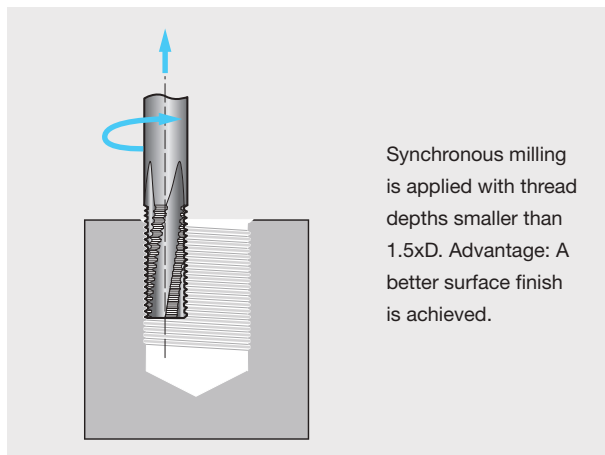
Reverse rotation milling

clockwise, with G02



Synchronous milling

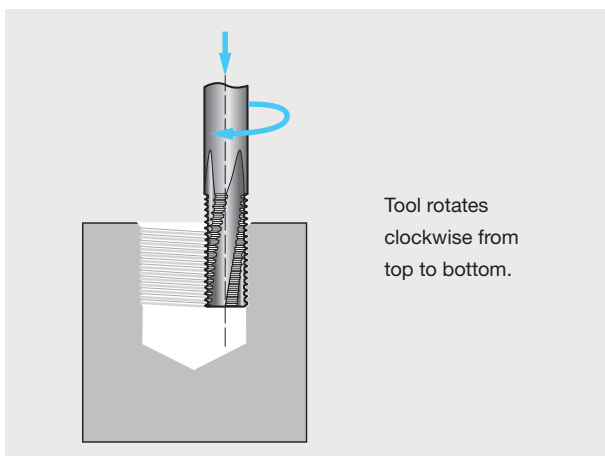
anticlockwise, with G03



Thread production with one tool

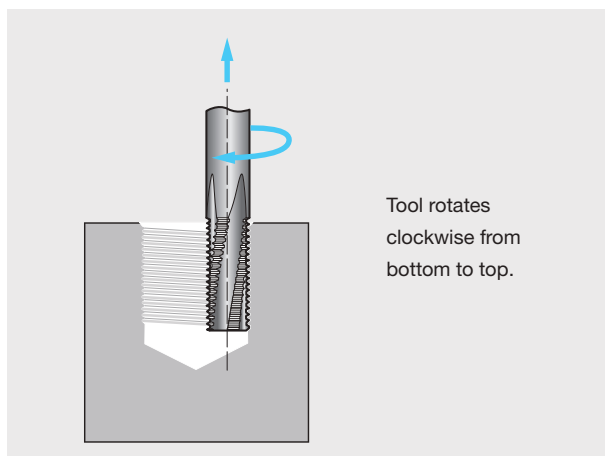
Right-hand thread

Reverse rotation milling



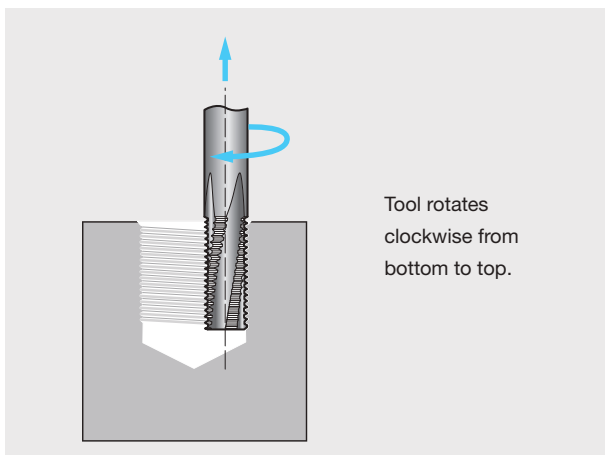
Left-hand thread

Reverse rotation milling



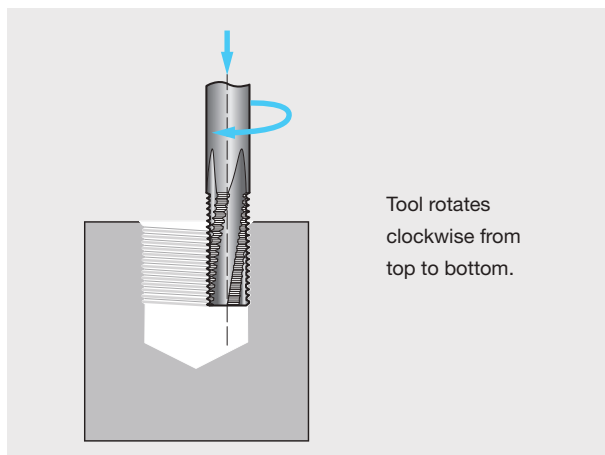
Right-hand thread

Synchronous milling



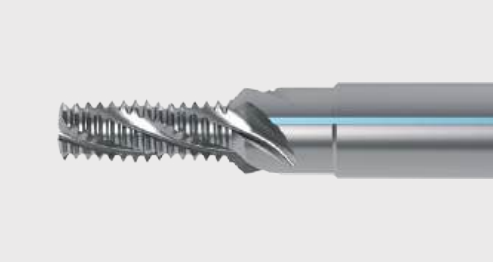
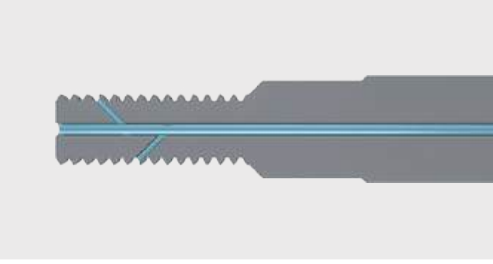
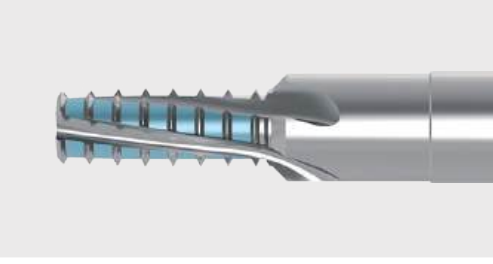
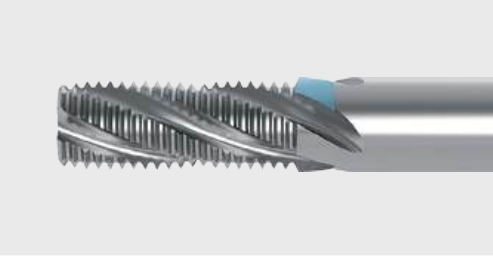
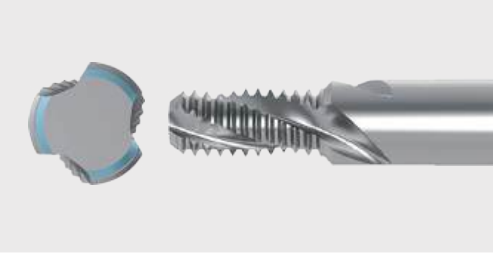
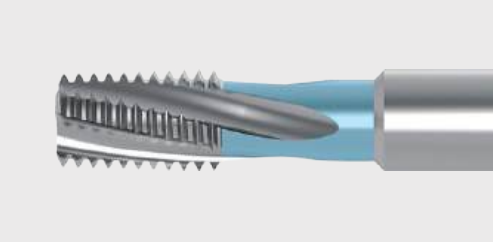
Left-hand thread

Synchronous milling





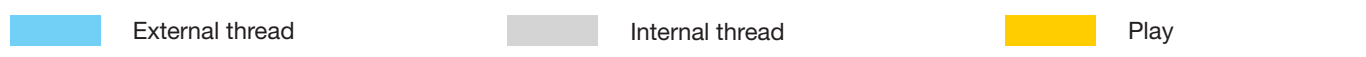
Thread milling cutter modifications

Illustration	Modification	Effect
	oil grooves at the shank	targeted cooling without weakening the tool cross-section in the cutting edge area
	radial coolant exits	targeted cooling with through hole threads
	interrupted thread	reduced cutting forces but longer machining time because two cycles are required
	de-burring cutting edge	removing the incomplete threads at the thread run-in without additional operating step
	first thread profile lengthened at the face	chamfering a tapping size hole
	grinding extended neck	enables axial distribution of cuts – useful for deep threads



The characteristics of different thread types

Geometry drawing	Standard	Application	Geometry drawing	Standard	Application
M ISO-metric thread 	DIN 13-1	General standard thread	MF ISO-metric fine thread 	DIN 13-2 bis DIN 13-11	General fine thread
UNC Unified National Coarse thread 	ASME B1.1	General UN standard thread	UNF Unified National Fine thread 	ASME B1.1 ISO-metric trapezoidal thread	General UN fine thread
UNEF Unified National Extra Fine thread 	ASME B1.1	General UN extra fine thread	UNS Unified Special thread 	ASME B1.1	General UN special thread
G Cylindrical pipe thread without thread sealing connections 	DIN EN ISO 228-1	Threads for pipes, pipe connections and fittings	Rp Whitworth pipe thread cylindrical internal thread 	DIN EN 10226-1 (based on ISO 7-1) replacement for DIN 2999-1	Internal thread for pipe threads and fittings (for in the thread sealing connections)
NPT American standard pipe threads tapered for sealing 	ANSI/ASME B1.20.1	Pipe threads and fittings	Rc Tapered Whitworth pipe thread internal thread 	DIN EN 10226-2 (hardly used in Europe, interchangeable with pipe threads according to ISO 7-1)	Internal thread for pipe threads and fittings (for in the thread sealing connections)
MJ metric thread 	DIN ISO 5855-1	for the aerospace industry	UNJ inch thread 	ISO 3161	for the aerospace industry

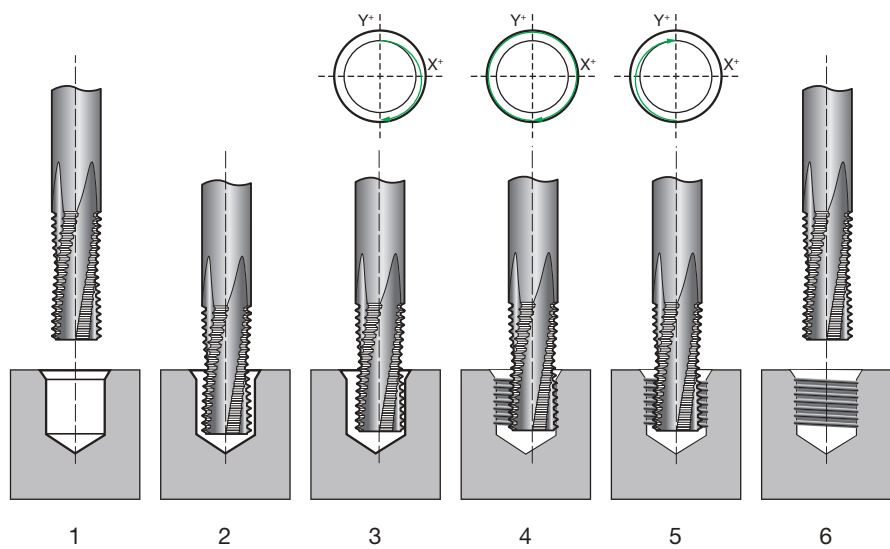
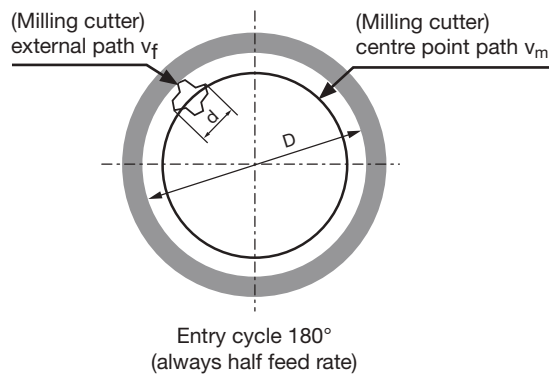




Thread milling programming

CNC internal thread milling

1. Moving to start position
2. Moving to thread depth in bore
3. 180° descending loop to contour
4. 360° full circular movement of thread milling cutter
5. 180° exit loop to centre of bore
6. Rapid movement from bore to start position



Formula of calculation

$$v_c = \frac{d \cdot \pi \cdot n}{1000}$$

$$n = \frac{v_c \cdot 1000}{d \cdot \pi}$$

$$v_f = n \cdot z \cdot f_z$$

$$v_m = \frac{v_f \cdot (D - d)}{D}$$

$$v_b = n \cdot f_b$$

- v_c = Cutting speed
- v_f = Contour feed
- v_m = Centre point path feed
- n = Revolutions
- z = Number of teeth
- f_z = Feed per tooth
- f_b = Feed per drill per revolution*
- v_b = Drill feed rate*
- D = \varnothing nom. of thread [mm]
- d = Milling cutter nom. \varnothing [mm]
- * for drill/thread milling

Possibilities to reduce radial forces

To reduce radial forces cut distribution can be undertaken:

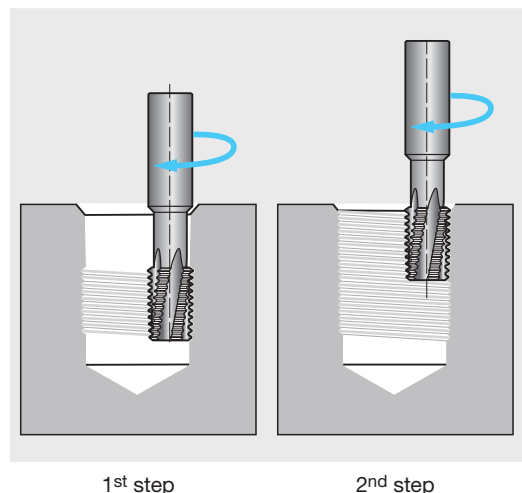
Advantage:

- for larger thread depths
- counteracts taper threads
- for unstable clamping conditions

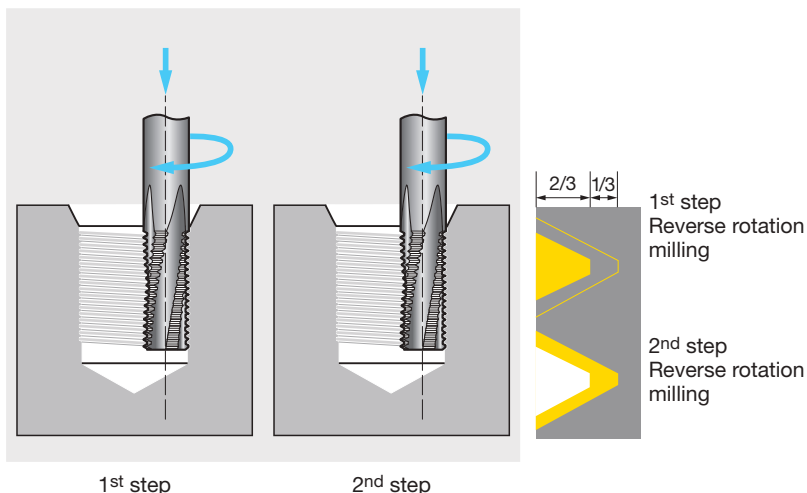
Disadvantage:

- increased tool wear
- longer production time

Axial distribution of cut



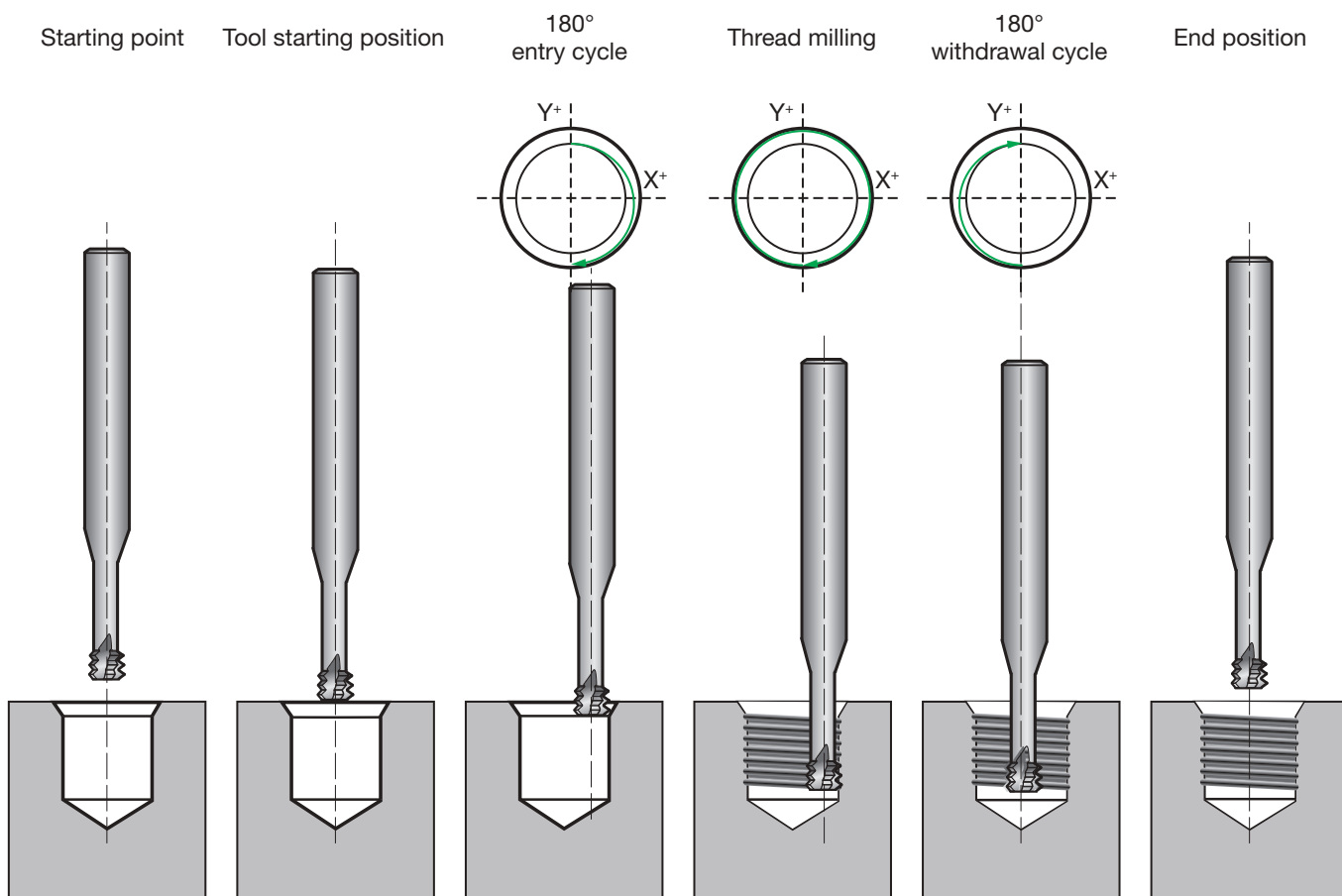
Radial distribution of cut





Thread milling programming

Programming process for micro-thread milling (Right-hand thread in reverse rotation)





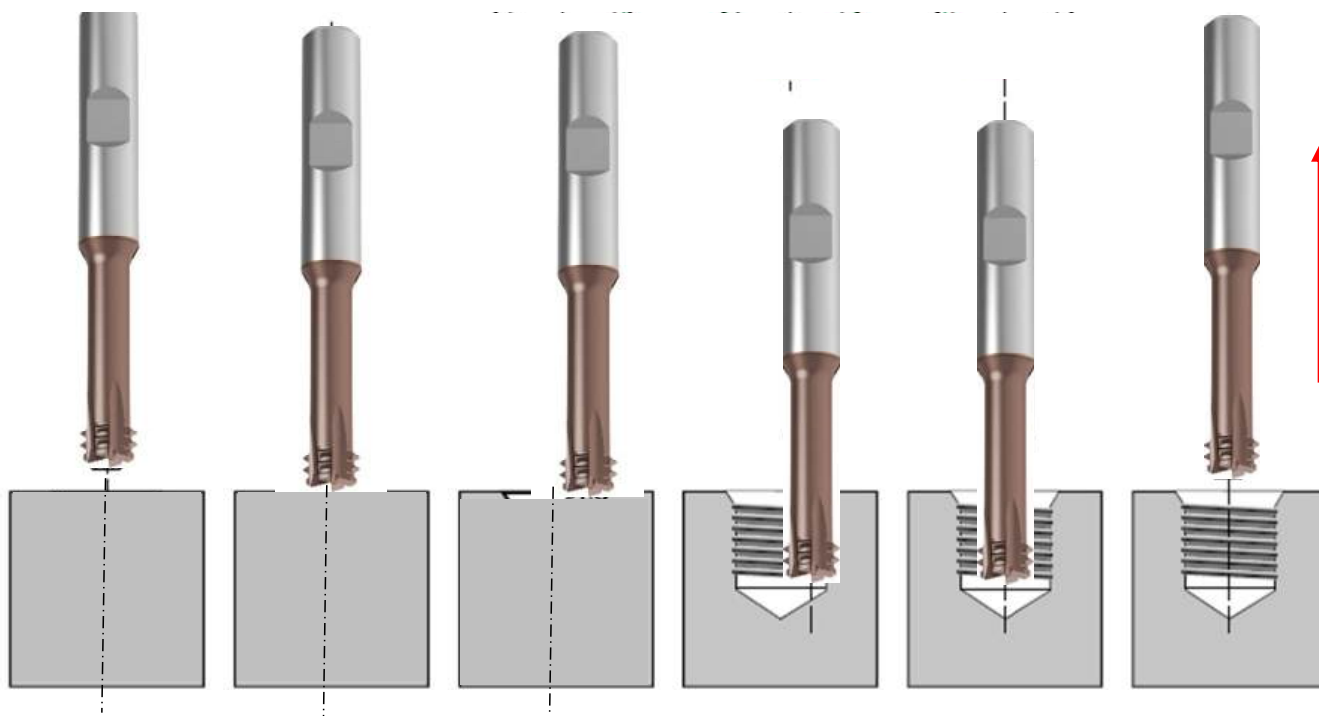
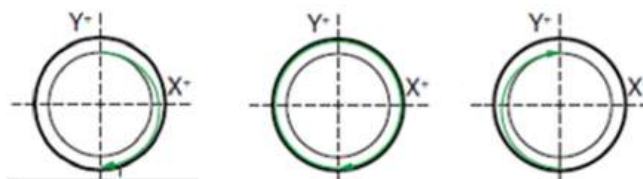
programming procedure helical drill thread milling cutter MTMH3-Z (right-hand thread by climb milling)

Core hole and thread production in one working step up to 66 HRC.

Attention: tool turns to the left, make sure that (M4) is programmed.

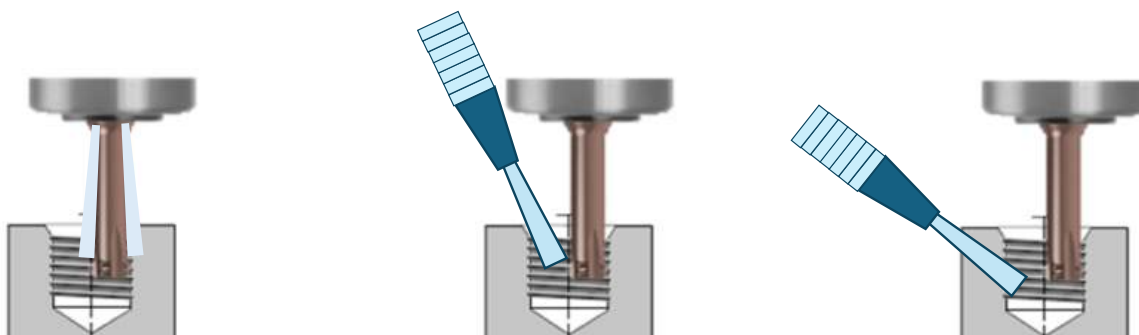


Starting point Tool starting position 180° entry cycle Thread milling 180° withdrawal cycle End position



Cooling: note, up to 54 HRC with emulsion, cool with air from ≥ 55 HRC.

Important: the chips must be flushed out of the hole!



Optimum cooling,
by spindle via cooling grooves,
emulsion or air

Good cooling,
external via a hose

Poor cooling,
external via a hose



Selecting the correct clamping chuck

Correct tool clamping also plays an essential role with thread milling. Thread milling cutters should as a rule be clamped as short as possible. A compact and mechanical clamping force is preferable. The error in concentricity should not exceed 0.02 mm.

Power chucks



A power chuck excels thanks to extremely accurate concentricity. The high clamping forces and optimal smooth running are a perfect prerequisite for the production of threads in all materials including a high pitch.

max. permissible error in concentricity: 0.003 mm

Side lock holders



A side lock holder for HB and HE shanks is a robust, cost-efficient clamping chuck with a maximum clamping force. The clamping surface prevents the tool twisting or being pulled out during machining. Therefore, side lock holders are suitable for the production in all materials including a high pitch.

max. permissible error in concentricity: 0.002 mm

Shrink fit chucks



A shrink fit chuck creates a rigid connection with the shrink fitted tool. Incorrect shrink fitting or older shrink fit chucks can result in the pulling out of the tool. Tool breakage and possible loss of the component would be the consequence. Therefore, the shrink fit chuck is only suitable for a thread pitch $< P=1.5$ mm.

max. permissible error in concentricity: 0.005 mm

Hydraulic chucks



A hydraulic chuck, similar to the shrink fit chuck, has only limited suitability for thread milling. Especially with high radial forces this clamping chuck reaches its limits. Therefore, the hydraulic chuck is recommended for softer materials such as aluminium and a thread pitch $< P=1.5$ mm.

max. permissible error in concentricity: 0.005 mm

Collet holders



Collet chucks are very well suited for micro-thread milling because only axial stresses are created. The low clamping forces only permit the milling of softer materials. Consequently, collet holders are not suitable for conventional thread milling.

max. permissible error in concentricity: 0.01 mm



Practical application of thread milling cutters

1. Tool clamping

good concentricity is important, therefore clamping as short and rigid as possible

2. Enter tool data in machine memory

1. Tool length from the front face, take drill/thread milling cutters (DTMC) from point
2. Measure tool radius with tool pre-setting equipment. General rule: measured radius – 0.022 x pitch provides the input value in machine memory

3. Input of CNC program in control

- (preferably integrated as sub-program at corresponding positions)
- a. Call-up of a self-controlling cycle (procedures should be known)
 - b. Integration of data file from our threadmill-software (DIN or Haidenhain)

4. Trial run over workpiece

- a. Tool length dimension in memory extending by an approximate value dependent on contact length (i.e. 30 mm) or offset zero point
- b. Run program in single set, visual check of travel path
- c. Allow program to run in automatic mode

Attention:

With controls where it is not definitely clear what milling path is assigned it must be clarified if the feed is positioned on the external path v_f or at the centre path v_m . As a rule we specify the milling centre point path v_m .

5. Application in workpiece

Re-set the tool extension or the zero point. Then allow the program to run in the workpiece the feed regulation must be 100% selected. Should the thread not be true to gauge, the tool radius requires correction in the tool memory:

Example:

- Thread too tight: Radius correction – input
- Thread too large: Radius correction + input

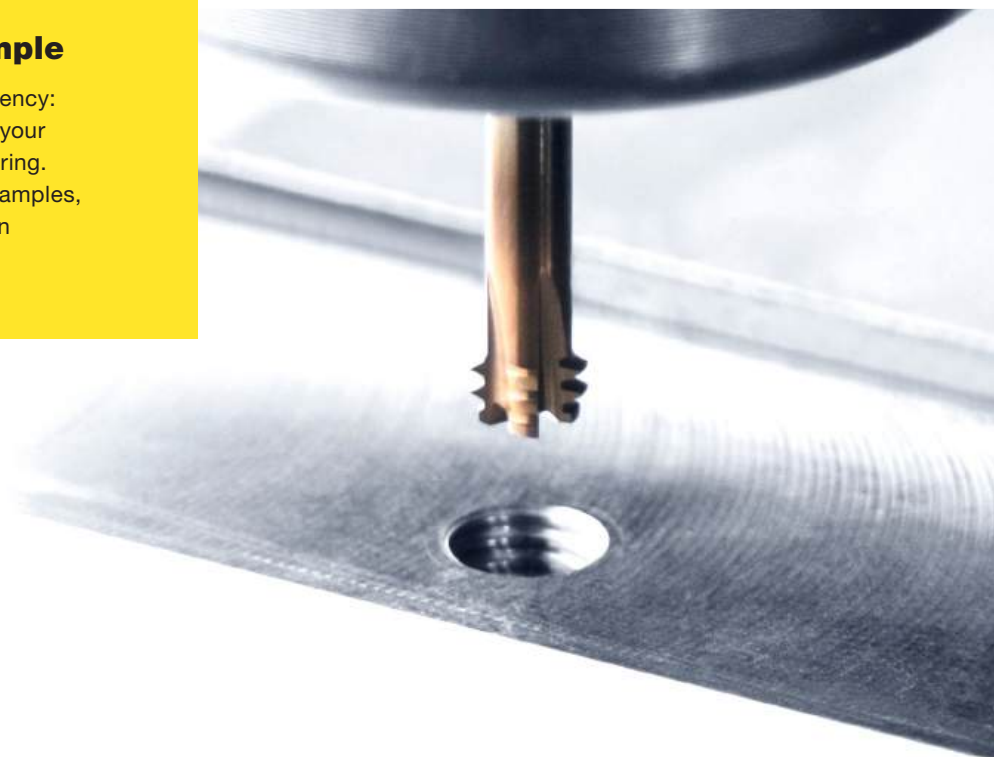




MTMH3-Z

Programming example

Process reliability meets efficiency: Our thread milling cutters are your reliable partners in manufacturing. In the following application examples, we show you how they shine in demanding projects.



Component	Injection moulding tool
Thread size	M8x(1.25), depth 16 mm, blind hole
Tool	Article 4002 MTMH3-Z M8 2.5xD SP
Material	1.2379 / 60+2 HRC
Parameters	$v_c = 30$ m/min, $f_z = 0.02$ mm (climb milling, clockwise M4)
Cooling	dry (with air)
Tool life	138 threads incl. core holes

60+2
HRC

Component	Carrier
Thread size	M6x(1), depth 13 mm, blind hole
Tool	Article 4002 MTMH3-Z M6 2.5xD SP
Material	1.4301
Parameters	$v_c = 50$ m/min, $f_z = 0,02$ mm (climb milling, clockwise M4)
Cooling	Soluble oil 8 %
Tool life	618 threads incl. core holes

VA
1.4301

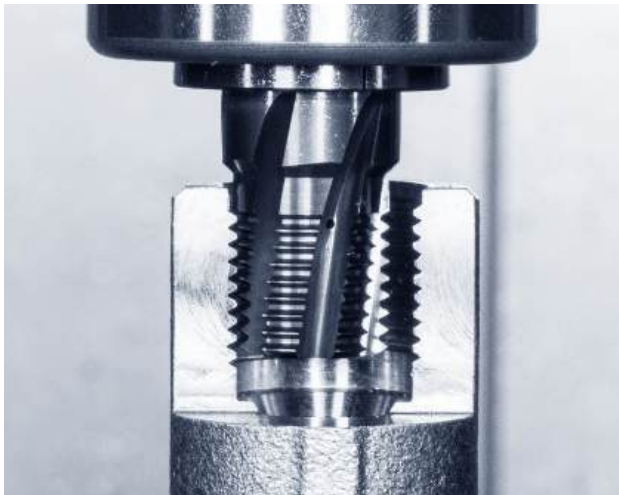


Burr-free thread machining at the beginning of the thread



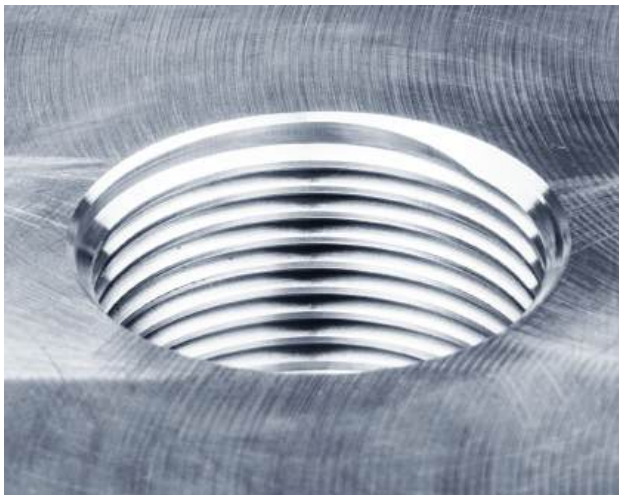
Problem

Burr-formation at the thread entry
(brittle burrs, bird's nest)



Solution

Special tool
with relief-ground de-burring edge



Result

Burr-free thread entry in one operating step



Please contact us
to work out special solutions.



Maximum economic efficiency thanks to refurbishing to original quality

Even the most wear-resistant tool will wear sometime under heavy stresses. Thanks to the refurbishment to original geometries and coatings Gühring manages to reproduce the original performance of the tool.

Re-grinding



In our service centres, tools are re-ground on the front rake face according to the degree of wear. According to width of wear marks the re-grind service is possible two or three times (from milling part diameter $d_1 > 5.0$ mm).

In order to re-define the milling portion diameter, the number of regrinds is indicated by a notch on the end of the shank. This means every notch is assigned to a diameter and re-etched.

Re-coating



If a thread mill was enhanced with a coating, the tool is re-coated following the re-grind. This way, not only the wear and corrosion-protection as well as the glide characteristics are re-produced but also the tool life prolonged.

Cutting data



Micro thread milling cutters MTM, Thread milling cutters without/with chamfer TM/TMC, Universal thread milling cutters TMU



Machining group	v_c (m/min)
P1.1.1 Unalloyed steel, annealed, 0.15 % C, Rm 420 N/mm ² , 125 HB	90
P1.1.2 Unalloyed steel, heat-treated, 0.15 % C, Rm 420 N/mm ² , 125 HB	90
P1.1.3 Unalloyed steel, annealed, 0.45 % C, Rm 640 N/mm ² , 190 HB	90
P1.1.4 Unalloyed steel, heat-treated, 0.45 % C, Rm 640 N/mm ² , 190 HB	90
P1.1.5 Unalloyed steel, heat-treated, 0.45 % C, Rm 850 N/mm ² , 250 HB	90
P1.1.6 Unalloyed steel, annealed, 0.75 % C, Rm 915 N/mm ² , 270 HB	90
P1.1.7 Unalloyed steel, heat-treated, 0.75 % C, Rm 1020 N/mm ² , 300 HB	90
P2.1.1 Low-alloy steel, annealed, Rm 610 N/mm ² , 180 HB	80
P2.1.2 Low-alloy steel, heat-treated, Rm 930 N/mm ² , 275 HB	80
P2.1.3 Low-alloy steel, heat-treated, Rm 1020 N/mm ² , 300 HB	80
P2.1.4 Low-alloy steel, heat-treated, Rm 1190 N/mm ² , 350 HB	80
P3.1.1 High-alloy steel and tool steel, annealed, Rm 680 N/mm ² , 200 HB	70
P3.1.2 High-alloy steel and tool steel, hardened and tempered, Rm 1100 N/mm ² , 325 HB	70
M1.1.1 Stainless steel, ferritic/martensitic, with machining additives	60
M1.1.2 Stainless steel, ferritic/martensitic, annealed, Rm 680 N/mm ² , 200 HB	60
M1.1.3 Stainless steel, ferritic/martensitic, heat-treated, Rm 810 N/mm ² , 240 HB	60
M2.1.1 Stainless steel, austenitic, quenched, 180 HB	45
M2.2.1 Duplex steel, high-strength stainless steels	40
K1.1.1 Grey cast iron, pearlitic/ferritic, 180 HB	120
K1.1.2 Grey cast iron, pearlitic/martensitic, 260 HB	120
K1.2.1 Cast iron with spheroidal graphite, ferritic, 160 HB	100
K1.2.2 Cast iron with spheroidal graphite, pearlitic, 250 HB	100
K1.3.1 Malleable cast iron, ferritic, 130 HB	100
K1.3.2 Malleable cast iron, pearlitic, 230 HB	100
K2.1.1 Vermicular graphite cast iron (GJV)	80
K2.2.1 Austenitic-ferritic spheroidal graphite cast iron (ADI)	80
N1.1.1 Wrought aluminium alloys, non-hardened, 60 HB	250
N1.1.2 Wrought aluminium alloys, hardened, 100 HB	250
N2.1.1 Aluminium casting alloys, non-hardened, ≤ 12 % Si, 75 HB	230
N2.1.2 Aluminium casting alloys, hardened, ≤ 12 % Si, 90 HB	230
N2.1.3 Aluminium casting alloys, non-hardened, > 12 % Si, 130 HB	230
N3.1.1 Copper and copper alloys: Free-machining alloy, Pb > 1 %	130
N3.1.2 Copper and copper alloys: CuZn, CuSnZn	130
N3.1.3 Copper and copper alloys: CuSn, lead-free copper and copper electrolyte	100
N4.1.1 Non-metallic materials: Duroplastics, fibre-reinforced plastics	300
N4.1.2 Non-metallic materials: Hard rubber, wood, etc.	300
N4.1.3 Non-metallic materials: Graphite	300
S1.1.1 Heat-resistant alloys, Fe-based, annealed, 200 HB	55
S1.1.2 Heat-resistant alloys, Fe-based, hardened, 280 HB	55
S1.1.3 Heat-resistant alloys, Ni- or Co-based, annealed, 250 HB	55
S1.1.4 Heat-resistant alloys, Ni- or Co-based, hardened, 350 HB	55
S1.1.5 Heat-resistant alloys, Ni- or Co-based, cast, 320 HB	55
S2.1.1 Titanium alloys, pure titanium, Rm 400 N/mm ²	45
S2.1.2 Titanium alloys, Alpha and Beta alloys, hardened, Rm 1050 N/mm ²	45
H1.1.1 Hardened steel, hardened and tempered, < 55 HRC	50
H1.1.2 Hardened steel, hardened and tempered, < 60 HRC	50
H1.1.3 Hardened steel, hardened and tempered, > 60 HRC	50
H2.1.1 Chilled cast iron, 400 HB	45
H2.1.2 Chilled cast iron, hardened and tempered, < 55 HRC	45



SC-Line Thread milling cutters SC-MTM3



Machining group	V _c (m/min)	f _z (mm/z) with milling part-Ø (d1)										
		1	2	3	4	5	6	8	10	12	14	16
P1.1.1 Unalloyed steel, annealed, 0.15 % C, Rm 420 N/mm ² , 125 HB	100	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
P1.1.2 Unalloyed steel, heat-treated, 0.15 % C, Rm 420 N/mm ² , 125 HB	100	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
P1.1.3 Unalloyed steel, annealed, 0.45 % C, Rm 640 N/mm ² , 190 HB	100	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
P1.1.4 Unalloyed steel, heat-treated, 0.45 % C, Rm 640 N/mm ² , 190 HB	100	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
P1.1.5 Unalloyed steel, heat-treated, 0.45 % C, Rm 850 N/mm ² , 250 HB	100	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
P1.1.6 Unalloyed steel, annealed, 0.75 % C, Rm 915 N/mm ² , 270 HB	100	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
P1.1.7 Unalloyed steel, heat-treated, 0.75 % C, Rm 1020 N/mm ² , 300 HB	100	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
P2.1.1 Low-alloy steel, annealed, Rm 610 N/mm ² , 180 HB	90	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
P2.1.2 Low-alloy steel, heat-treated, Rm 930 N/mm ² , 275 HB	90	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
P2.1.3 Low-alloy steel, heat-treated, Rm 1020 N/mm ² , 300 HB	90	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
P2.1.4 Low-alloy steel, heat-treated, Rm 1190 N/mm ² , 350 HB	90	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
P3.1.1 High-alloy steel and tool steel, annealed, Rm 680 N/mm ² , 200 HB	80	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
P3.1.2 High-alloy steel and tool steel, hardened and tempered, Rm 1100 N/mm ² , 325 HB	80	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
M1.1.1 Stainless steel, ferritic/martensitic, with machining additives	65	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
M1.1.2 Stainless steel, ferritic/martensitic, annealed, Rm 680 N/mm ² , 200 HB	65	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
M1.1.3 Stainless steel, ferritic/martensitic, heat-treated, Rm 810 N/mm ² , 240 HB	65	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
M2.1.1 Stainless steel, austenitic, quenched, 180 HB	60	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
M2.2.1 Duplex steel, high-strength stainless steels	55	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050	0.055
K1.1.1 Grey cast iron, pearlitic/ferritic, 180 HB	140	0.010	0.015	0.020	0.025	0.030	0.035	0.040	0.045	0.055	0.060	0.065
K1.1.2 Grey cast iron, pearlitic/martensitic, 260 HB	140	0.010	0.015	0.020	0.025	0.030	0.035	0.040	0.045	0.055	0.060	0.065
K1.2.1 Cast iron with spheroidal graphite, ferritic, 160 HB	115	0.010	0.015	0.020	0.025	0.030	0.035	0.040	0.045	0.055	0.060	0.065
K1.2.2 Cast iron with spheroidal graphite, pearlitic, 250 HB	115	0.010	0.015	0.020	0.025	0.030	0.035	0.040	0.045	0.055	0.060	0.065
K1.3.1 Malleable cast iron, ferritic, 130 HB	115	0.010	0.015	0.020	0.025	0.030	0.035	0.040	0.045	0.055	0.060	0.065
K1.3.2 Malleable cast iron, pearlitic, 230 HB	115	0.010	0.015	0.020	0.025	0.030	0.035	0.040	0.045	0.055	0.060	0.065
K2.1.1 Vermicular graphite cast iron (GJV)	100	0.010	0.015	0.020	0.025	0.030	0.035	0.040	0.045	0.055	0.060	0.065
K2.2.1 Austenitic-ferritic spheroidal graphite cast iron (ADI)	100	0.010	0.015	0.020	0.025	0.030	0.035	0.040	0.045	0.055	0.060	0.065
N1.1.1 Wrought aluminium alloys, non-hardened, 60 HB	280	0.010	0.015	0.020	0.025	0.030	0.035	0.045	0.050	0.060	0.065	0.070
N1.1.2 Wrought aluminium alloys, hardened, 100 HB	280	0.010	0.015	0.020	0.025	0.030	0.035	0.045	0.050	0.060	0.065	0.070
N2.1.1 Aluminium casting alloys, non-hardened, ≤ 12 % Si, 75 HB	250	0.010	0.015	0.020	0.025	0.030	0.035	0.045	0.050	0.060	0.065	0.070
N2.1.2 Aluminium casting alloys, hardened, ≤ 12 % Si, 90 HB	250	0.010	0.015	0.020	0.025	0.030	0.035	0.045	0.050	0.060	0.065	0.070
N2.1.3 Aluminium casting alloys, non-hardened, > 12 % Si, 130 HB	250	0.010	0.015	0.020	0.025	0.030	0.035	0.045	0.050	0.060	0.065	0.070
N3.1.1 Copper and copper alloys: Free-machining alloy, Pb > 1 %	140	0.010	0.015	0.020	0.025	0.030	0.035	0.045	0.050	0.060	0.065	0.070
N3.1.2 Copper and copper alloys: CuZn, CuSnZn	140	0.010	0.015	0.020	0.025	0.030	0.035	0.045	0.050	0.060	0.065	0.070
N3.1.3 Copper and copper alloys: CuSn, lead-free copper and copper electrolyte	110	0.010	0.015	0.020	0.025	0.025	0.030	0.040	0.045	0.050	0.055	0.060
N4.1.1 Non-metallic materials: Duroplastics, fibre-reinforced plastics	300	0.010	0.015	0.020	0.025	0.030	0.035	0.045	0.050	0.060	0.065	0.070
N4.1.2 Non-metallic materials: Hard rubber, wood, etc.	300	0.010	0.015	0.020	0.025	0.030	0.035	0.045	0.050	0.060	0.065	0.070
N4.1.3 Non-metallic materials: Graphite	300	0.010	0.015	0.020	0.025	0.030	0.035	0.045	0.050	0.060	0.065	0.070
S1.1.1 Heat-resistant alloys, Fe-based, annealed, 200 HB	55	0.005	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050
S1.1.2 Heat-resistant alloys, Fe-based, hardened, 280 HB	55	0.005	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050
S1.1.3 Heat-resistant alloys, Ni- or Co-based, annealed, 250 HB	55	0.005	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050
S1.1.4 Heat-resistant alloys, Ni- or Co-based, hardened, 350 HB	55	0.005	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050
S1.1.5 Heat-resistant alloys, Ni- or Co-based, cast, 320 HB	55	0.005	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050
S2.1.1 Titanium alloys, pure titanium, Rm 400 N/mm ²	40	0.005	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050
S2.1.2 Titanium alloys, Alpha and Beta alloys, hardened, Rm 1050 N/mm ²	40	0.005	0.010	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045	0.050
H1.1.1 Hardened steel, hardened and tempered, < 55 HRC	50	0.005	0.010	0.015	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045
H1.1.2 Hardened steel, hardened and tempered, < 60 HRC	50	0.005	0.010	0.015	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045
H1.1.3 Hardened steel, hardened and tempered, > 60 HRC	50	0.005	0.010	0.015	0.015	0.020	0.020	0.025	0.030	0.035	0.040	0.045
H2.1.1 Chilled cast iron, 400 HB												
H2.1.2 Chilled cast iron, hardened and tempered, < 55 HRC												



SC-Line Thread milling cutters SC-TMC



Machining group	V _c (m/min)	f _z (mm/z) with milling part-Ø (d1)										
		2	3	4	5	6	7	8	9	10	12	14
P1.1.1 Unalloyed steel, annealed, 0.15 % C, Rm 420 N/mm ² , 125 HB	100	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
P1.1.2 Unalloyed steel, heat-treated, 0.15 % C, Rm 420 N/mm ² , 125 HB	100	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
P1.1.3 Unalloyed steel, annealed, 0.45 % C, Rm 640 N/mm ² , 190 HB	100	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
P1.1.4 Unalloyed steel, heat-treated, 0.45 % C, Rm 640 N/mm ² , 190 HB	100	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
P1.1.5 Unalloyed steel, heat-treated, 0.45 % C, Rm 850 N/mm ² , 250 HB	100	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
P1.1.6 Unalloyed steel, annealed, 0.75 % C, Rm 915 N/mm ² , 270 HB	100	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
P1.1.7 Unalloyed steel, heat-treated, 0.75 % C, Rm 1020 N/mm ² , 300 HB	100	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
P2.1.1 Low-alloy steel, annealed, Rm 610 N/mm ² , 180 HB	90	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
P2.1.2 Low-alloy steel, heat-treated, Rm 930 N/mm ² , 275 HB	90	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
P2.1.3 Low-alloy steel, heat-treated, Rm 1020 N/mm ² , 300 HB	90	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
P2.1.4 Low-alloy steel, heat-treated, Rm 1190 N/mm ² , 350 HB	90	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
P3.1.1 High-alloy steel and tool steel, annealed, Rm 680 N/mm ² , 200 HB	80	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
P3.1.2 High-alloy steel and tool steel, hardened and tempered, Rm 1100 N/mm ² , 325 HB	80	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
M1.1.1 Stainless steel, ferritic/martensitic, with machining additives	60	0.010	0.010	0.015	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030
M1.1.2 Stainless steel, ferritic/martensitic, annealed, Rm 680 N/mm ² , 200 HB	60	0.010	0.010	0.015	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030
M1.1.3 Stainless steel, ferritic/martensitic, heat-treated, Rm 810 N/mm ² , 240 HB	60	0.010	0.010	0.015	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030
M2.1.1 Stainless steel, austenitic, quenched, 180 HB	55	0.010	0.010	0.015	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030
M2.2.1 Duplex steel, high-strength stainless steels	50	0.010	0.010	0.015	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030
K1.1.1 Grey cast iron, pearlitic/ferritic, 180 HB	120	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
K1.1.2 Grey cast iron, pearlitic/martensitic, 260 HB	120	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
K1.2.1 Cast iron with spheroidal graphite, ferritic, 160 HB	100	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
K1.2.2 Cast iron with spheroidal graphite, pearlitic, 250 HB	100	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
K1.3.1 Malleable cast iron, ferritic, 130 HB	100	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
K1.3.2 Malleable cast iron, pearlitic, 230 HB	100	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
K2.1.1 Vermicular graphite cast iron (GJV)	90	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
K2.2.1 Austenitic-ferritic spheroidal graphite cast iron (ADI)	90	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
N1.1.1 Wrought aluminium alloys, non-hardened, 60 HB												
N1.1.2 Wrought aluminium alloys, hardened, 100 HB												
N2.1.1 Aluminium casting alloys, non-hardened, ≤ 12 % Si, 75 HB												
N2.1.2 Aluminium casting alloys, hardened, ≤ 12 % Si, 90 HB												
N2.1.3 Aluminium casting alloys, non-hardened, > 12 % Si, 130 HB												
N3.1.1 Copper and copper alloys: Free-machining alloy, Pb > 1 %	90	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
N3.1.2 Copper and copper alloys: CuZn, CuSnZn	90	0.010	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030	0.035	0.035
N3.1.3 Copper and copper alloys: CuSn, lead-free copper and copper electrolyte	70	0.010	0.015	0.015	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030
N4.1.1 Non-metallic materials: Duroplastics, fibre-reinforced plastics												
N4.1.2 Non-metallic materials: Hard rubber, wood, etc.												
N4.1.3 Non-metallic materials: Graphite												
S1.1.1 Heat-resistant alloys, Fe-based, annealed, 200 HB	55	0.010	0.010	0.015	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030
S1.1.2 Heat-resistant alloys, Fe-based, hardened, 280 HB	55	0.010	0.010	0.015	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030
S1.1.3 Heat-resistant alloys, Ni- or Co-based, annealed, 250 HB	55	0.010	0.010	0.015	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030
S1.1.4 Heat-resistant alloys, Ni- or Co-based, hardened, 350 HB	55	0.010	0.010	0.015	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030
S1.1.5 Heat-resistant alloys, Ni- or Co-based, cast, 320 HB	55	0.010	0.010	0.015	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030
S2.1.1 Titanium alloys, pure titanium, Rm 400 N/mm ²	45	0.010	0.010	0.015	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030
S2.1.2 Titanium alloys, Alpha and Beta alloys, hardened, Rm 1050 N/mm ²	45	0.010	0.010	0.015	0.015	0.020	0.020	0.020	0.025	0.025	0.030	0.030
H1.1.1 Hardened steel, hardened and tempered, < 55 HRC												
H1.1.2 Hardened steel, hardened and tempered, < 60 HRC												
H1.1.3 Hardened steel, hardened and tempered, > 60 HRC												
H2.1.1 Chilled cast iron, 400 HB												
H2.1.2 Chilled cast iron, hardened and tempered, < 55 HRC												



Drill thread milling cutters DTMC



Machining group	v _c (m/min)	M3		M4 / M4x0.5	
		f _b (mm/rev)	f _z (mm)	f _b (mm/rev)	f _z (mm)
P1.1.1 Unalloyed steel, annealed, 0.15 % C, Rm 420 N/mm ² , 125 HB					
P1.1.2 Unalloyed steel, heat-treated, 0.15 % C, Rm 420 N/mm ² , 125 HB					
P1.1.3 Unalloyed steel, annealed, 0.45 % C, Rm 640 N/mm ² , 190 HB					
P1.1.4 Unalloyed steel, heat-treated, 0.45 % C, Rm 640 N/mm ² , 190 HB					
P1.1.5 Unalloyed steel, heat-treated, 0.45 % C, Rm 850 N/mm ² , 250 HB					
P1.1.6 Unalloyed steel, annealed, 0.75 % C, Rm 915 N/mm ² , 270 HB					
P1.1.7 Unalloyed steel, heat-treated, 0.75 % C, Rm 1020 N/mm ² , 300 HB					
P2.1.1 Low-alloy steel, annealed, Rm 610 N/mm ² , 180 HB					
P2.1.2 Low-alloy steel, heat-treated, Rm 930 N/mm ² , 275 HB					
P2.1.3 Low-alloy steel, heat-treated, Rm 1020 N/mm ² , 300 HB					
P2.1.4 Low-alloy steel, heat-treated, Rm 1190 N/mm ² , 350 HB					
P3.1.1 High-alloy steel and tool steel, annealed, Rm 680 N/mm ² , 200 HB					
P3.1.2 High-alloy steel and tool steel, hardened and tempered, Rm 1100 N/mm ² , 325 HB					
M1.1.1 Stainless steel, ferritic/martensitic, with machining additives					
M1.1.2 Stainless steel, ferritic/martensitic, annealed, Rm 680 N/mm ² , 200 HB					
M1.1.3 Stainless steel, ferritic/martensitic, heat-treated, Rm 810 N/mm ² , 240 HB					
M2.1.1 Stainless steel, austenitic, quenched, 180 HB					
M2.2.1 Duplex steel, high-strength stainless steels					
K1.1.1 Grey cast iron, pearlitic/ferritic, 180 HB	110	0.055	0.015	0.065	0.015
K1.1.2 Grey cast iron, pearlitic/martensitic, 260 HB	110	0.055	0.015	0.065	0.015
K1.2.1 Cast iron with spheroidal graphite, ferritic, 160 HB	90	0.055	0.015	0.065	0.015
K1.2.2 Cast iron with spheroidal graphite, pearlitic, 250 HB	90	0.055	0.015	0.065	0.015
K1.3.1 Malleable cast iron, ferritic, 130 HB	90	0.055	0.015	0.065	0.015
K1.3.2 Malleable cast iron, pearlitic, 230 HB	90	0.055	0.015	0.065	0.015
K2.1.1 Vermicular graphite cast iron (GJV)					
K2.2.1 Austenitic-ferritic spheroidal graphite cast iron (ADI)					
N1.1.1 Wrought aluminium alloys, non-hardened, 60 HB	250	0.060	0.020	0.070	0.025
N1.1.2 Wrought aluminium alloys, hardened, 100 HB	250	0.060	0.020	0.070	0.025
N2.1.1 Aluminium casting alloys, non-hardened, ≤ 12 % Si, 75 HB	230	0.060	0.020	0.070	0.025
N2.1.2 Aluminium casting alloys, hardened, ≤ 12 % Si, 90 HB	230	0.060	0.020	0.070	0.025
N2.1.3 Aluminium casting alloys, non-hardened, > 12 % Si, 130 HB	230	0.060	0.020	0.070	0.025
N3.1.1 Copper and copper alloys: Free-machining alloy, Pb > 1 %	130	0.045	0.015	0.050	0.020
N3.1.2 Copper and copper alloys: CuZn, CuSnZn	130	0.045	0.015	0.050	0.020
N3.1.3 Copper and copper alloys: CuSn, lead-free copper and copper electrolyte					
N4.1.1 Non-metallic materials: Duroplastics, fibre-reinforced plastics	300	0.050	0.025	0.060	0.030
N4.1.2 Non-metallic materials: Hard rubber, wood, etc.	300	0.050	0.025	0.060	0.030
N4.1.3 Non-metallic materials: Graphite	300	0.050	0.025	0.060	0.030
S1.1.1 Heat-resistant alloys, Fe-based, annealed, 200 HB					
S1.1.2 Heat-resistant alloys, Fe-based, hardened, 280 HB					
S1.1.3 Heat-resistant alloys, Ni- or Co-based, annealed, 250 HB					
S1.1.4 Heat-resistant alloys, Ni- or Co-based, hardened, 350 HB					
S1.1.5 Heat-resistant alloys, Ni- or Co-based, cast, 320 HB					
S2.1.1 Titanium alloys, pure titanium, Rm 400 N/mm ²					
S2.1.2 Titanium alloys, Alpha and Beta alloys, hardened, Rm 1050 N/mm ²					
H1.1.1 Hardened steel, hardened and tempered, < 55 HRC					
H1.1.2 Hardened steel, hardened and tempered, < 60 HRC					
H1.1.3 Hardened steel, hardened and tempered, > 60 HRC					
H2.1.1 Chilled cast iron, 400 HB					
H2.1.2 Chilled cast iron, hardened and tempered, < 55 HRC					



Circular thread milling cutters MTMH3-Z



Machining group	V _c (m/min)	f _z (mm/z) with milling part-Ø (d1)										
		1	2	3	4	5	6	7	8	10	14	16
P1.1.1 Unalloyed steel, annealed, 0.15 % C, Rm 420 N/mm ² , 125 HB	80	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
P1.1.2 Unalloyed steel, heat-treated, 0.15 % C, Rm 420 N/mm ² , 125 HB	80	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
P1.1.3 Unalloyed steel, annealed, 0.45 % C, Rm 640 N/mm ² , 190 HB	80	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
P1.1.4 Unalloyed steel, heat-treated, 0.45 % C, Rm 640 N/mm ² , 190 HB	80	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
P1.1.5 Unalloyed steel, heat-treated, 0.45 % C, Rm 850 N/mm ² , 250 HB	80	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
P1.1.6 Unalloyed steel, annealed, 0.75 % C, Rm 915 N/mm ² , 270 HB	80	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
P1.1.7 Unalloyed steel, heat-treated, 0.75 % C, Rm 1020 N/mm ² , 300 HB	80	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
P2.1.1 Low-alloy steel, annealed, Rm 610 N/mm ² , 180 HB	70	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
P2.1.2 Low-alloy steel, heat-treated, Rm 930 N/mm ² , 275 HB	70	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
P2.1.3 Low-alloy steel, heat-treated, Rm 1020 N/mm ² , 300 HB	70	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
P2.1.4 Low-alloy steel, heat-treated, Rm 1190 N/mm ² , 350 HB	70	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
P3.1.1 High-alloy steel and tool steel, annealed, Rm 680 N/mm ² , 200 HB	70	0.005	0.010	0.015	0.020	0.020	0.025	0.025	0.030	0.045	0.045	0.045
P3.1.2 High-alloy steel and tool steel, hardened and tempered, Rm 1100 N/mm ² , 325 HB	70	0.005	0.010	0.015	0.020	0.020	0.025	0.025	0.030	0.045	0.045	0.045
M1.1.1 Stainless steel, ferritic/martensitic, with machining additives	55	0.005	0.010	0.015	0.020	0.020	0.025	0.025	0.030	0.045	0.045	0.045
M1.1.2 Stainless steel, ferritic/martensitic, annealed, Rm 680 N/mm ² , 200 HB	55	0.005	0.010	0.015	0.020	0.020	0.025	0.025	0.030	0.045	0.045	0.045
M1.1.3 Stainless steel, ferritic/martensitic, heat-treated, Rm 810 N/mm ² , 240 HB	55	0.005	0.010	0.015	0.020	0.020	0.025	0.025	0.030	0.045	0.045	0.045
M2.1.1 Stainless steel, austenitic, quenched, 180 HB	50	0.005	0.010	0.010	0.015	0.015	0.020	0.020	0.025	0.035	0.035	0.035
M2.2.1 Duplex steel, high-strength stainless steels	45	0.005	0.010	0.010	0.015	0.015	0.020	0.020	0.025	0.035	0.035	0.035
K1.1.1 Grey cast iron, pearlitic/ferritic, 180 HB	80	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
K1.1.2 Grey cast iron, pearlitic/martensitic, 260 HB	80	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
K1.2.1 Cast iron with spheroidal graphite, ferritic, 160 HB	65	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
K1.2.2 Cast iron with spheroidal graphite, pearlitic, 250 HB	65	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
K1.3.1 Malleable cast iron, ferritic, 130 HB	65	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
K1.3.2 Malleable cast iron, pearlitic, 230 HB	65	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
K2.1.1 Vermicular graphite cast iron (GJV)	65	0.005	0.010	0.015	0.020	0.020	0.025	0.030	0.030	0.045	0.045	0.045
K2.2.1 Austenitic-ferritic spheroidal graphite cast iron (ADI)	65	0.005	0.010	0.015	0.020	0.020	0.025	0.030	0.030	0.045	0.045	0.045
N1.1.1 Wrought aluminium alloys, non-hardened, 60 HB	150	0.005	0.010	0.015	0.020	0.020	0.025	0.030	0.030	0.045	0.045	0.045
N1.1.2 Wrought aluminium alloys, hardened, 100 HB	150	0.005	0.010	0.015	0.020	0.020	0.025	0.030	0.030	0.045	0.045	0.045
N2.1.1 Aluminium casting alloys, non-hardened, ≤ 12 % Si, 75 HB	120	0.005	0.010	0.015	0.020	0.020	0.025	0.030	0.030	0.045	0.045	0.045
N2.1.2 Aluminium casting alloys, hardened, ≤ 12 % Si, 90 HB	120	0.005	0.010	0.015	0.020	0.020	0.025	0.030	0.030	0.045	0.045	0.045
N2.1.3 Aluminium casting alloys, non-hardened, > 12 % Si, 130 HB	120	0.005	0.010	0.015	0.020	0.020	0.025	0.030	0.030	0.045	0.045	0.045
N3.1.1 Copper and copper alloys: Free-machining alloy, Pb > 1 %	80	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
N3.1.2 Copper and copper alloys: CuZn, CuSnZn	80	0.005	0.010	0.015	0.020	0.025	0.025	0.030	0.035	0.050	0.050	0.050
N3.1.3 Copper and copper alloys: CuSn, lead-free copper and copper electrolyte	60	0.005	0.010	0.015	0.015	0.020	0.020	0.025	0.030	0.040	0.040	0.040
N4.1.1 Non-metallic materials: Duroplastics, fibre-reinforced plastics												
N4.1.2 Non-metallic materials: Hard rubber, wood, etc.												
N4.1.3 Non-metallic materials: Graphite												
S1.1.1 Heat-resistant alloys, Fe-based, annealed, 200 HB	45	0.005	0.010	0.015	0.020	0.020	0.025	0.025	0.030	0.045	0.045	0.045
S1.1.2 Heat-resistant alloys, Fe-based, hardened, 280 HB	45	0.005	0.010	0.015	0.020	0.020	0.025	0.025	0.030	0.045	0.045	0.045
S1.1.3 Heat-resistant alloys, Ni- or Co-based, annealed, 250 HB	45	0.005	0.010	0.015	0.020	0.020	0.025	0.025	0.030	0.045	0.045	0.045
S1.1.4 Heat-resistant alloys, Ni- or Co-based, hardened, 350 HB	45	0.005	0.010	0.015	0.020	0.020	0.025	0.025	0.030	0.045	0.045	0.045
S1.1.5 Heat-resistant alloys, Ni- or Co-based, cast, 320 HB	45	0.005	0.010	0.015	0.020	0.020	0.025	0.025	0.030	0.045	0.045	0.045
S2.1.1 Titanium alloys, pure titanium, Rm 400 N/mm ²	45	0.005	0.010	0.015	0.020	0.020	0.025	0.025	0.030	0.045	0.045	0.045
S2.1.2 Titanium alloys, Alpha and Beta alloys, hardened, Rm 1050 N/mm ²	45	0.005	0.010	0.015	0.020	0.020	0.025	0.025	0.030	0.045	0.045	0.045
H1.1.1 Hardened steel, hardened and tempered, < 55 HRC	40	0.005	0.010	0.015	0.020	0.020	0.025	0.025	0.030	0.045	0.045	0.045
H1.1.2 Hardened steel, hardened and tempered, < 60 HRC	40	0.005	0.010	0.015	0.020	0.020	0.025	0.025	0.030	0.045	0.045	0.045
H1.1.3 Hardened steel, hardened and tempered, > 60 HRC	40	0.005	0.010	0.015	0.020	0.020	0.025	0.025	0.030	0.045	0.045	0.045
H2.1.1 Chilled cast iron, 400 HB	30	0.005	0.010	0.015	0.015	0.020	0.025	0.025	0.030	0.040	0.040	0.040
H2.1.2 Chilled cast iron, hardened and tempered, < 55 HRC	30	0.005	0.010	0.015	0.015	0.020	0.025	0.025	0.030	0.040	0.040	0.040

ISO code

P	Steel, high-alloyed steel
M	Stainless steel
K	Grey cast iron, spheroidal graphite iron and malleable cast iron
N	Aluminium and other non-ferrous metals
S	Special-, super- and titanium-alloys
H	Hardened steel and chilled cast iron
O	Fibre-reinforced plastics (FRP), graphite

Tool recommendations regarding the suitability for application groups or specifications of max. tensile strength and hardness can be found on the product and cutting value pages.

- optimal suitability
- limited suitability

Surfaces












 AICrN

 bright

 Perrox

 Sirius

Pictograms

Cutting material	VHM Solid carbide
Machining depth	1,5xD 2xD 2,5xD 3xD 4xD
Shank form	 HA  -HA  -HB  -HA/HB to DIN 6535
Type	DTMC SP MTM3 SP MTMH3 SP MTMH3-Z SC MTM3 SP SC TMC SP TM SP TMC SP TMU SP
Internal coolant	 with internal coolant  with cooling grooves  without internal coolant
Cutting direction	 right-hand  left-hand
Hole type	 Through-hole and blind-hole threads
Cutting edge form	 140°
Hardness	55 HRC 66 HRC workable material hardness in HRC



Thread milling cutters

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