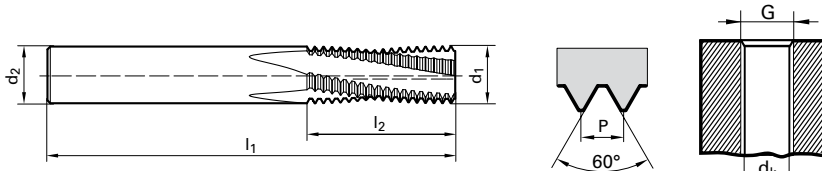


# GUHRING

## Thread milling cutters

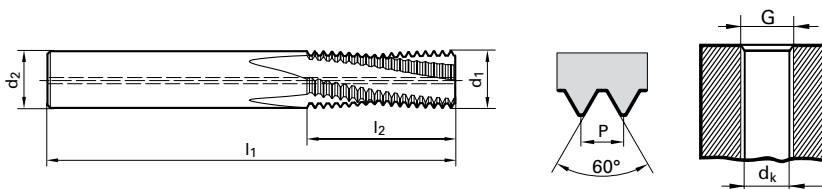


**Solid carbide thread milling cutters at special net prices**

**Thread milling cutter TM without IC for ISO metric threads**
**Guhring no.**
**4133**
**Standard**
**Guhring std.**
**Tool material**
**Solid carbide**
**Carbide grade**
**K/P**
**Surface finish**
**Type**
**TM SP**
**Thread length**
**2xD**
**Cooling**
**plain h6**
**Cutting direction**
**right-hand**


G	P	d1	d2	dk	l1	l2	Z	Code no.
	mm	mm	mm	mm	mm	mm		
M 6	1.00	4.800	6.000	5.000	54.00	13.50	3	6,000
M 8	1.25	6.400	8.000	6.800	62.00	18.10	3	8,000
M10	1.50	7.950	10.000	8.500	74.00	21.80	3	10,000
M12	1.75	9.950	10.000	10.200	74.00	25.40	4	12,000
M14	2.00	11.200	12.000	12.000	90.00	31.00	4	14,000
M16	2.00	12.800	14.000	14.000	90.00	35.00	4	16,000
M20	2.50	14.950	16.000	17.500	102.00	41.30	4	20,000

**Availability**

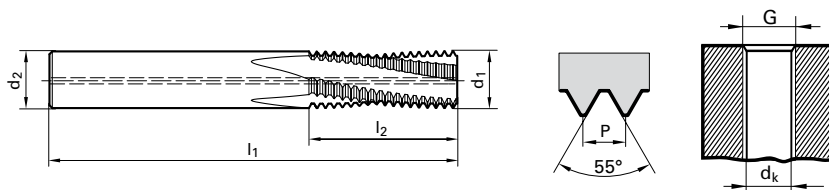
**Thread milling cutter TM with IC for ISO metric threads**
**Guhring no.**
**3737**
**Standard**
**Guhring std.**
**Tool material**
**Solid carbide**
**Carbide grade**
**K/P**
**Surface finish**
**Type**
**TM SP**
**Thread length**
**2xD**
**Cooling**
**axial**
**Shank form**
**plain h6**
**Cutting direction**
**right-hand**


G	P	d1	d2	dk	l1	l2	Z	Code no.
	mm	mm	mm	mm	mm	mm		
M 6	1.00	4.800	6.000	5.000	54.00	13.50	3	6,000
M 8	1.25	6.400	8.000	6.800	62.00	18.10	3	8,000
M 8 X1	1.00	6.400	8.000	7.000	62.00	17.50	3	8,005
M10	1.50	7.950	10.000	8.500	74.00	21.80	3	10,000
M10 X1	1.00	7.950	10.000	9.000	74.00	21.50	3	10,005
M10 X1.25	1.25	7.950	10.000	8.800	74.00	21.90	3	10,006
M12	1.75	9.950	10.000	10.200	74.00	25.40	4	12,000
M14	2.00	11.200	12.000	12.000	90.00	31.00	4	14,000
M14 X1.50	1.50	11.200	12.000	12.500	90.00	30.80	4	14,007
M16	2.00	12.800	14.000	14.000	90.00	35.00	4	16,000
M16 X1.50	1.50	12.800	14.000	14.500	90.00	33.80	4	16,007
M20	2.50	14.950	16.000	17.500	102.00	41.30	4	20,000
M20 X1.50	1.50	14.950	16.000	18.500	102.00	42.80	4	20,007

**Availability**


### Thread milling cutter TM with IC for BSP-threads

<b>Guhring no.</b>	<b>3748</b>
<b>Standard</b>	<b>Guhring std.</b>
<b>Tool material</b>	<b>Solid carbide</b>
<b>Carbide grade</b>	<b>K/P</b>
<b>Surface finish</b>	<b>C</b>
<b>Type</b>	<b>TM SP</b>
<b>Thread length</b>	<b>2xD</b>
<b>Cooling</b>	<b>axial</b>
<b>Shank form</b>	<b>plain h6</b>
<b>Cutting direction</b>	<b>right-hand</b>

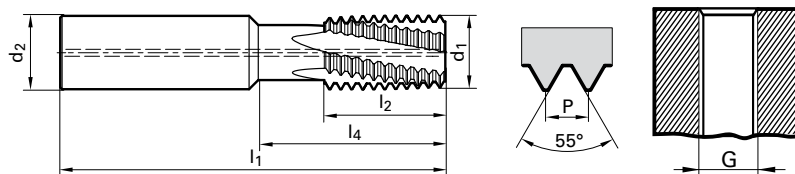


G	P	d1	d2	dk	l1	l2	Z	Code no.
	G/inch	mm	mm	mm	mm	mm		
G 1/8	28.00	7.950	8.000	8.800	64.00	21.30	3	9,728
G 1/4	19.00	10.500	12.000	11.800	90.00	28.70	4	13,157
G 3/8	19.00	13.600	14.000	15.250	90.00	35.40	4	16,662

<b>Availability</b>
●
●
●

### Thread milling cutter TMU with IC for BSP-threads

<b>Guhring no.</b>	<b>3542</b>
<b>Standard</b>	<b>Guhring std.</b>
<b>Tool material</b>	<b>Solid carbide</b>
<b>Carbide grade</b>	<b>K/P</b>
<b>Surface finish</b>	<b>C</b>
<b>Type</b>	<b>TMU SP</b>
<b>Thread length</b>	
<b>Cooling</b>	<b>axial</b>
<b>Shank form</b>	<b>plain h6</b>
<b>Cutting direction</b>	<b>right-hand</b>



G	P	d1	d2	l1	l2	l4	Z	Code no.
	G/inch	mm	mm	mm	mm	mm		
G 19	19.00	9.950	10.000	70.00	16.00	25.00	4	10,190
G 14	14.00	15.950	16.000	90.00	25.00	40.00	5	16,140
G 11	11.00	19.950	20.000	105.00	33.00	50.00	5	20,110

<b>Availability</b>
●
●
●

### Thread milling cutter TM with IC for NPT-threads

Guhring no.

3754

Standard

Guhring std.

Tool material

Solid carbide

Carbide grade

K/P

Surface finish

C

Type

TM SP

Thread length

Cooling

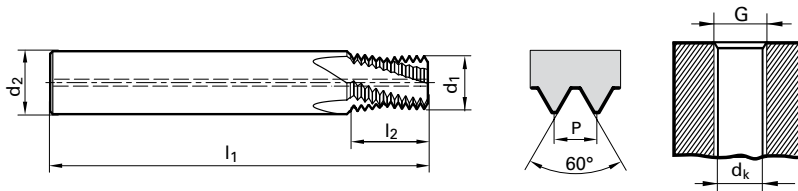
axial

Shank form

plain h6

Cutting direction

right-hand



G	P	d1	d2	dk	l1	l2	Z	Code no.
	G/inch	mm	mm	mm	mm	mm		
1/16	27.00	5.900	8.000	6.150	54.00	9.90	3	8,190
1/8	27.00	7.300	8.000	8.400	64.00	9.90	3	10,620
1/4	18.00	9.950	12.000	11.100	72.00	19.00	4	14,140
3/8	18.00	12.500	14.000	14.300	80.00	14.80	4	17,570

Availability



### Thread milling cutter TMU with IC for NPT-threads

Guhring no.

3769

Standard

Guhring std.

Tool material

Solid carbide

Carbide grade

K/P

Surface finish

C

Type

TMU SP

Thread length

Cooling

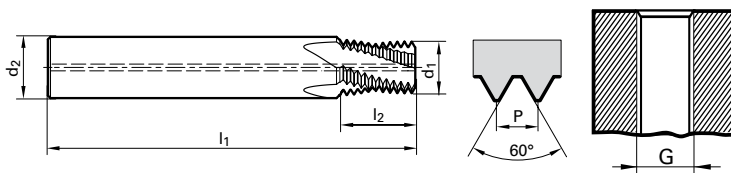
axial

Shank form

plain h6

Cutting direction

right-hand



G	P	d1	d2	l1	l2	Z	Code no.
	G/inch	mm	mm	mm	mm		
NPT 14	14.00	14.500	16.000	90.00	19.05	5	21,900
NPT 11.5	11.50	18.500	20.000	90.00	23.19	5	34,180

Availability



### Thread milling cutter TM with IC for UNC-threads

Guhring no.

4135

Standard

Guhring std.

Tool material

Solid carbide

Carbide grade

K/P

Surface finish

C

Type

TM SP

Thread length

2xD

Cooling

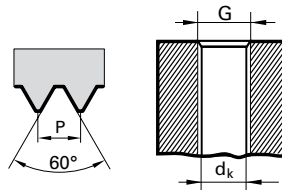
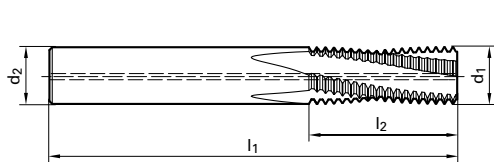
axial

Shank form

plain h6

Cutting direction

right-hand



G	d1	d2	dk	l1	l2	Z	Code no.
	mm	mm	mm	mm	mm		
NR.10 -24	3.400	6.000	3.900	54.00	11.10	3	4,826
NR.12 -24	4.100	6.000	4.500	54.00	12.20	3	5,486
1/4 -20	4.700	6.000	5.100	54.00	14.60	3	6,350
5/16-18	6.100	8.000	6.600	64.00	17.60	3	7,938
3/8 -16	7.600	8.000	8.000	64.00	21.40	3	9,525
7/16-14	9.000	10.000	9.400	74.00	24.50	3	11,113
1/2 -13	9.950	10.000	10.800	74.00	28.30	4	12,700
9/16-12	11.400	12.000	12.200	90.00	30.70	4	14,288
5/8 -11	12.700	14.000	13.500	90.00	35.80	4	15,875

Availability



### Thread milling cutter TM with IC for UNF-threads

Guhring no.

4137

Standard

Guhring std.

Tool material

Solid carbide

Carbide grade

K/P

Surface finish

C

Type

TM SP

Thread length

2xD

Cooling

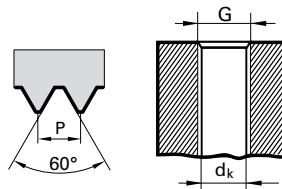
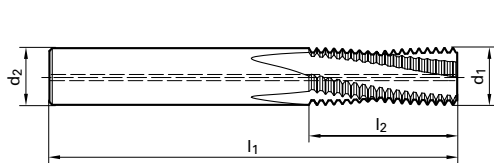
axial

Shank form

plain h6

Cutting direction

right-hand

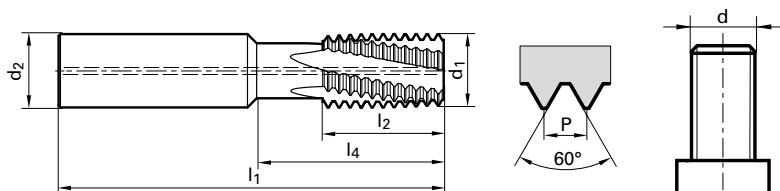


G	d1	d2	dk	l1	l2	Z	Code no.
	mm	mm	mm	mm	mm		
NR.10 -32	3.800	6.000	4.100	54.00	11.50	3	4.826
NR.12 -28	4.300	6.000	4.600	54.00	12.20	3	5.486
1/4 -28	5.100	6.000	5.500	54.00	14.10	3	6.350
5/16-24	6.300	8.000	6.900	64.00	17.50	3	7.938
3/8 -24	7.800	8.000	8.500	64.00	20.60	3	9.525
7/16-20	9.400	10.000	9.900	74.00	24.80	3	11.113
1/2 -20	9.950	10.000	11.500	74.00	27.30	4	12.700
9/16-18	11.400	12.000	12.900	90.00	30.30	4	14.288
5/8 -18	12.700	14.000	14.500	90.00	33.20	4	15.875

Availability



<b>External thread milling cutter with IC for ISO metric threads</b>	<b>Guhring no.</b>	<b>4163</b>
	<b>Standard</b>	<b>Guhring std.</b>
	<b>Tool material</b>	<b>Solid carbide</b>
	<b>Carbide grade</b>	<b>K/P</b>
	<b>Surface finish</b>	<b>C</b>
	<b>Type</b>	<b>TMU SP</b>
	<b>Thread length</b>	
	<b>Cooling</b>	<b>axial</b>
	<b>Shank form</b>	<b>plain h6</b>
	<b>Cutting direction</b>	<b>right-hand</b>



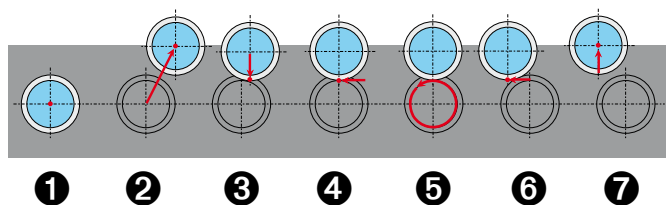
G	P	d1	d2	dk	l1	l2	Z	Code no.
	mm	mm	mm	mm	mm	mm		
0.50	10.000	9.950	10.000	70.00	16.00	25.00	4	10,050
0.75	10.000	9.950	10.000	70.00	16.00	25.00	4	10,075
1.00	12.000	11.950	12.000	80.00	20.00	31.00	4	12,100
1.25	12.000	11.950	12.000	80.00	20.00	31.00	4	12,125
1.50	12.000	11.950	12.000	80.00	20.00	31.00	4	12,150
1.50	16.000	15.950	16.000	90.00	25.00	40.00	5	16,150
2.00	16.000	15.950	16.000	90.00	25.00	40.00	5	16,200
2.50	16.000	15.950	16.000	90.00	25.00	40.00	5	16,250
3.00	20.000	19.950	20.000	105.00	33.00	50.00	5	20,300

Availability
●
●
●
●
●
●
●
●
●

### Machine example

Coating:	TiCN
Thread:	M14 6g external thread
Pitch:	1.5 mm
Thread depth:	13.4 mm

Tool material:	38MnSiV5
Cutting speed:	100 m/min
Feed per tooth:	0.06 mm
Cutting time:	4.8 s



### Programming example:

CNC code:	Plain text
N10 M6 T1	Tool call
N20 G90 G54 G00 X0.000 Y0.000 M8	Work offset, coolant on
① N30 Z2.000 S1996 M3 D1	Positioning centered on start position above bolt and spindle speed call-up
N40 G91	Switch to incremental
② N50 X7.557 Y13.990	Movement to thread milling start position laterally to bolt
N60 G01 Z15.400 F1000	Withdrawal to start depth
③ N70 G42 G01 X0.000 Y7.975 F1000	Cutter radius compensation on
④ N80 G01 X7.557 Y0.000 F645	Linear entry movement, start of thread milling
⑤ N90 G03 X0.000 Y-0.000 Z1.500 J-6.015 I0.000 F1289	360° thread milling cycle with axial movement of the thread pitch in Z-direction
⑥ N100 G01 X0.000 Y7.975 F2578	Linear withdrawal movement, end of thread milling
⑦ N110 G40 G01 X0.000 Y7.975 F1000	Cutter radius compensation off
N120 G90	Switch to absolute
N130 G80 G00 Z2.000 M9	Withdrawal to end position above bolt, coolant off
N140 M30	End

# SPECIAL THREAD MILLING CUTTERS FOR SPECIAL APPLICATIONS



## MICRO MACHINING

### MICRO MACHINING

Especially for the machining of smallest threads from diameter 2 mm up to a thread length of 3xD Guhring offers special thread milling cutters made from solid carbide. They are available for the thread types M, MF, UNC and UNF and enable the micro machining of high precision threads with highest cutting parameters and long tool life in the medical and aerospace industry, the electrotechnology, the clock and watch industry and many other fields.



### HARD MACHINING

For the hard machining of materials from 55 to 65 HRC we offer a special hard thread milling cutter. Thanks to the extremely wear-resistant and tough carbide, the special geometry and the extremely wear-resistant TiAlN coating the hard thread milling cutter TMZH for metric ISO threads from M4 to M16 realizes maximum tool life, as shown in practice.

## HARD MACHINING

### APPLICATION EXAMPLE

Type	Hard Thread Milling Cutter
Diameter	M12
Coating	TiAlN
Material	Tool steel
Material description	1.2379 62 HRC
Workpiece	die
Depth of thread [mm]	9
Cooling	dry machining
Coolant	
Machine Type	machining centre
$v_c$ [m/min]	25
Tool life	250 threads



# SPECIAL THREAD MILLING CUTTERS FOR SPECIAL APPLICATIONS



## COMBINATION DRILL / THREAD MILLING CUTTER

Component: Pump housing AISi12

Machining processes:

Drilling, chamfering, facing and thread milling, blind holes  
M10x1, thread depth = 15 mm

Tool:

Solid carbide drill / thread milling cutter DTMZ M10x1 with IC and spot facer

Cutting rates:  $vc = 280$  m/min./ $fb = 0.07$ / $fz = 0.05$  mm

Tool life: 24.000 threads



## COMBINATION DRILL / THREAD MILLING CUTTER

Component:

Transmission housing AISi9Cu3

Machining processes:

Drilling, chamfering and burr-free thread milling, blind holes  
M12x1.5, thread depth = 24 mm

Tool:

Solid carbide drill / thread milling cutter DTMZ M12x1.5 with IC and de-burring edge

Cutting rates:  $vc = 230$  m/min.

$fb = 0.10$

$fz = 0.07$  mm

Tool life: 20.000 threads

## COMBINATION DRILL / THREAD MILLING CUTTER

Component: Cylinder head AISi9Cu3

Machining processes:

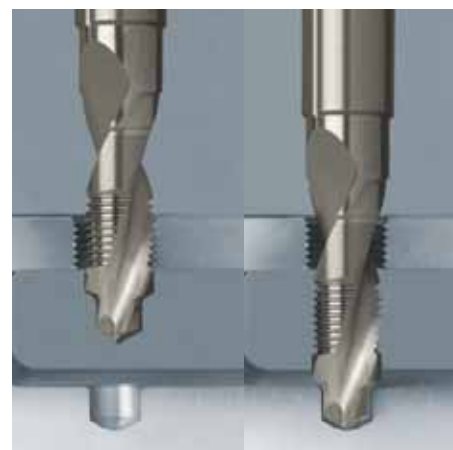
Drilling tapping size hole and 2nd hole, chamfering, reverse countersinking and burr-free thread milling, through holes M16x1.5, thread depth = 12 mm

Tool:

Solid carbide drill / thread milling cutter DTMZ M16x1.5 with IC, 1st drilling step and core drilling step as well as reverse countersinking

Cutting rates:  $vc = 250$  m/min./ $fb = 0.20$ / $fz = 0.08$  mm

Tool life: 16.000 threads





# TMC ACTIVE

## THREAD MILLING CUTTERS IN SPECIAL SIZES WITH SHORT DELIVERY PERIODS

Your **ACTIVE** advantages:

**Quotation within 72hrs!**

**Tool dispatch maximum 4 weeks!**

**Order**

**Inquiry**

New customer

Street no.

Telephone

Date

Contact for questions

Order no.

Town/post code

Fax

Signature

**Quantity**



Minimum order quantity 3 tools

**Thread type**



M     MF     G     UNC     UNF  
 UN     NPT     NPTF

**Pitch P**



(i.e. 0.75 mm, 1 mm, 19 Gg, 11.5 Gg)  
at M, G, UNC, UNF, NPT and NPTF no pitch required

**Dimensions**



Cutting  $\varnothing d_1$     Shank dia.  $d_2$



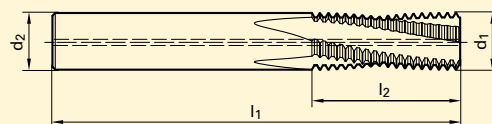
Total length  $l_1$     Thread length  $l_2$

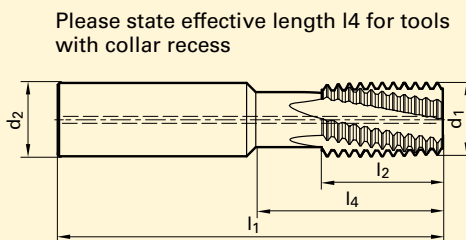


Effective length  $l_4$

All tools are designed with axial IC



\* shank diameter  $d_2$  must not be less than the cutting edge diameter  $d_1$



Please state effective length  $l_4$  for tools with collar recess

**Coating**



bright     TiCN

DRILLING

TAPPING/THREAD MILLING/  
FLUTELESS TAPPING

MILLING

REAMING

PCD



SPECIAL TOOLING  
SOLUTIONS

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# GUHRING

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