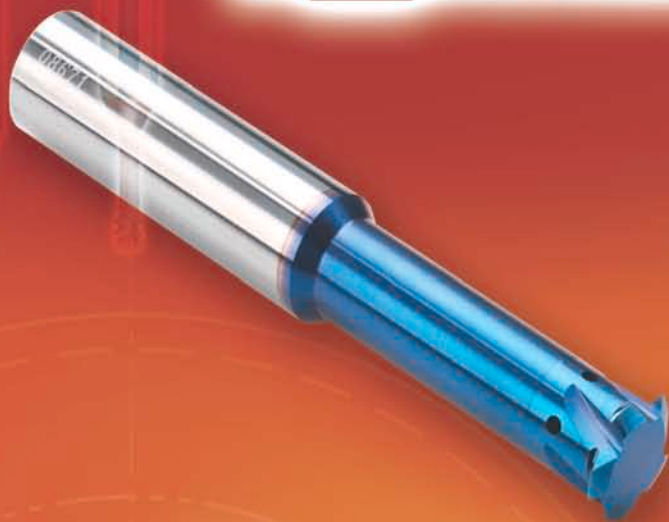




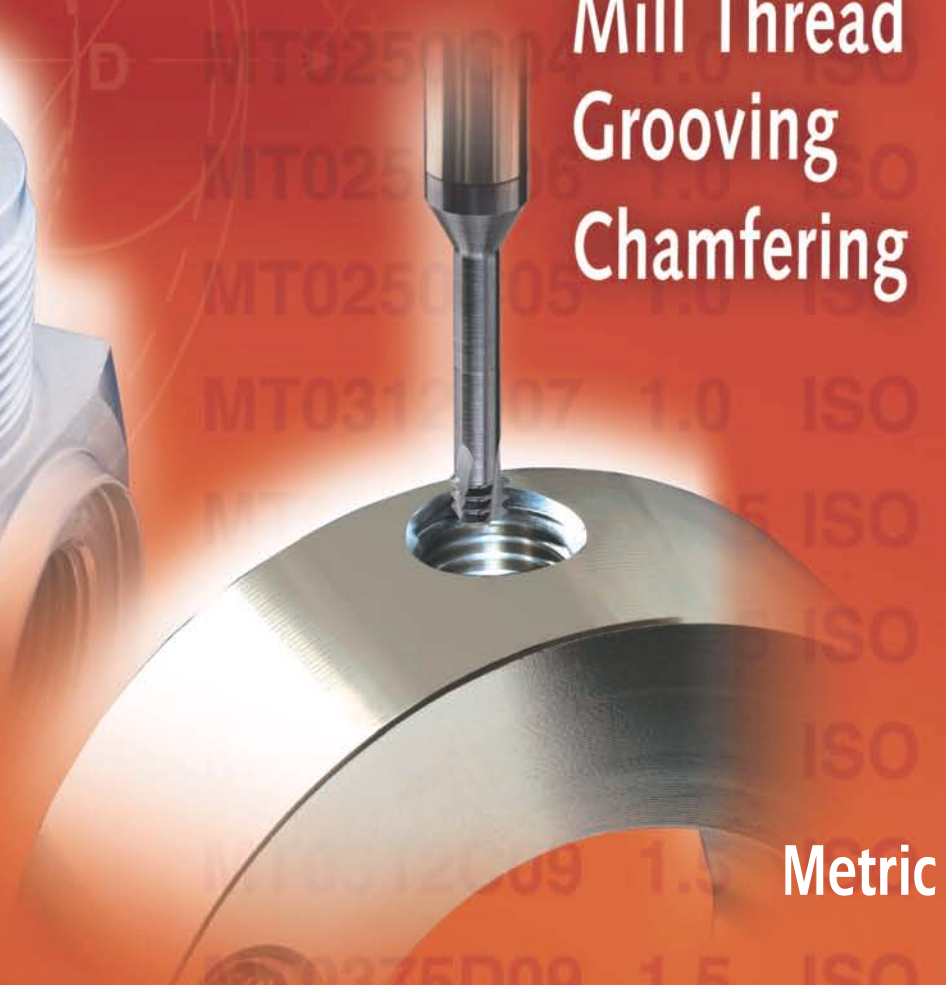
Carmex
Precision Tools Ltd.



Solid Carbide Milling Tools

The Complete Solution

- Mill Thread
- Grooving
- Chamfering



Metric

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Mill-Thread Solid Carbide



Advantages of Mill-Thread Solid Carbide

Carbide grade: MT7 Sub-micron grade with Titanium Aluminium Nitride multi-layer coating (ISO K10-K20). To be run at medium to high cutting speeds. General purpose for all materials.

- Thread is generated in one pass.
- Spiral flutes allow smooth cutting action.
- Shorter machining time due to multi, 3 to 6, flutes.
- 2.2 mm and up cutting diameter.
- Threads up to shoulder in blind holes.
- Longer tool life due to special multi-layer coating.
- Same tool can be used for a variety of materials.
- Excellent surface finish.
- Low cutting pressure allows thin wall machining.
- Same tool used for R.H. and L.H. threads.

Thread Mills with Internal Coolant

- Coolant fluid washes the chips out of hole
- Increased tool life

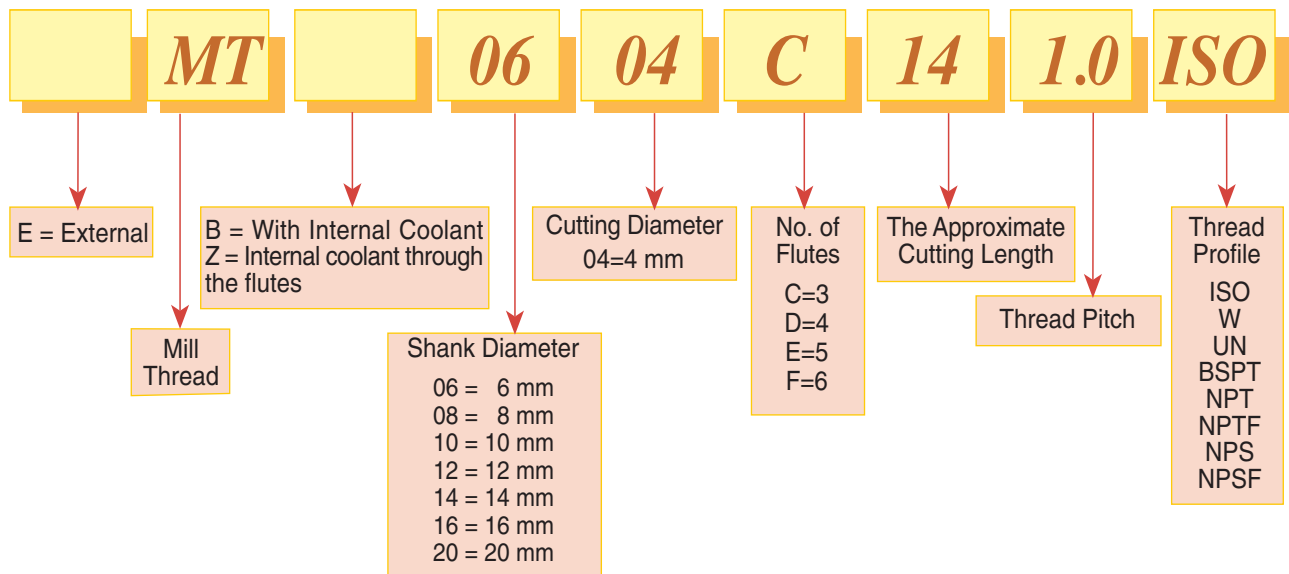
MTZ - Thread Mills with Internal Coolant through the flutes

Those unique thread mills enable the coolant fluid stream to reach efficiently the cutting edge, for smooth cutting operation.

- Especially for threading on "through holes"
 - Direct chip removal
- Optimal for machines without external coolant

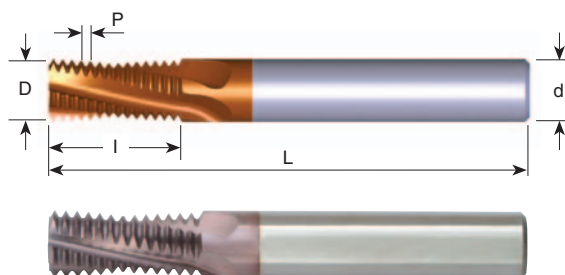
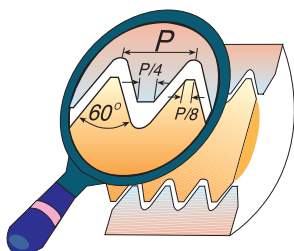
Product Identification

Mill-Thread Solid Carbide Ordering Codes



ISO

Tools for Internal Thread



Pitch mm	M coarse	M fine	Ordering Code	d	D	No. of Flutes	I	L
0.5	M3	$\varnothing \geq 4$	MT06022C5 0.5 ISO	6	2.2	3	5.3	58
0.5		$\varnothing \geq 5$	MT06038C10 0.5 ISO	6	3.8	3	10.3	58
0.7	M4	$\varnothing \geq 5$	MT06031C7 0.7 ISO	6	3.1	3	7.4	58
0.75		$\varnothing \geq 6$	MT06045C10 0.75ISO	6	4.5	3	10.1	58
0.8	M5	$\varnothing \geq 6$	MT06036C9 0.8 ISO	6	3.6	3	9.2	58
1.0	M6	$\varnothing \geq 7$	MT0604C10 1.0 ISO	6	4.0	3	10.5	58
1.0	M6	$\varnothing \geq 7$	MT0604C14 1.0 ISO	6	4.0	3	14.5	58
1.0		$\varnothing \geq 9$	MT0606C12 1.0 ISO	6	6.0	3	12.5	58
1.0		$\varnothing \geq 10$	MT0808D16 1.0 ISO	8	8.0	4	16.5	64
1.25	M8	$\varnothing \geq 10$	MT0605C14 1.25ISO	6	5.0	3	14.4	58
1.25	M8	$\varnothing \geq 10$	MT0605C19 1.25ISO	6	5.0	3	19.4	58
1.5	M10	$\varnothing \geq 12$	MT0807C17 1.5 ISO	8	7.0	3	17.3	64
1.5	M10	$\varnothing \geq 12$	MT0807C24 1.5 ISO	8	7.0	3	24.8	76
1.5		$\varnothing \geq 14$	MT1010D21 1.5 ISO	10	10.0	4	21.8	73
1.5		$\varnothing \geq 20$	MT1616F33 1.5 ISO	16	16.0	6	33.8	105
1.75	M12	$\varnothing \geq 14$	MT0808C20 1.75ISO	8	8.0	3	20.1	64
1.75	M12	$\varnothing \geq 14$	MT0808C28 1.75ISO	8	8.0	3	28.9	76
2.0	M16	$\varnothing \geq 17$	MT1010C27 2.0 ISO	10	10.0	3	27.0	73
2.0	M16	$\varnothing \geq 17$	MT1010C39 2.0 ISO	10	10.0	3	39.0	105
2.0		$\varnothing \geq 18$	MT1212D27 2.0 ISO	12	12.0	4	27.0	84
2.0		$\varnothing \geq 26$	MT2020F41 2.0 ISO	20	20.0	6	41.0	105
2.5	M20	$\varnothing \geq 22$	MT1414D33 2.5 ISO	14	14.0	4	33.8	84
2.5	M20	$\varnothing \geq 22$	MT1414D48 2.5 ISO	14	14.0	4	48.8	105
3.0	M24	$\varnothing \geq 25$	MT1616C40 3.0 ISO	16	16.0	3	40.5	105
3.0	M24	$\varnothing \geq 25$	MT1616C58 3.0 ISO	16	16.0	3	58.5	120
3.0	M27	$\varnothing \geq 28$	MT2020D43 3.0 ISO	20	20.0	4	43.5	105

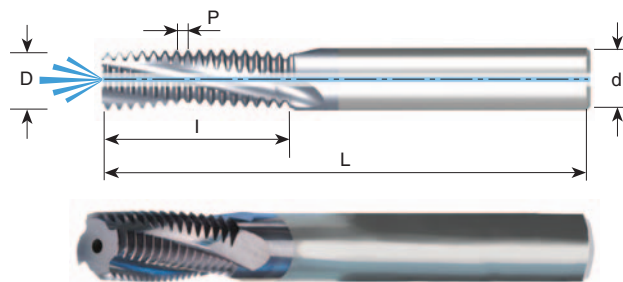
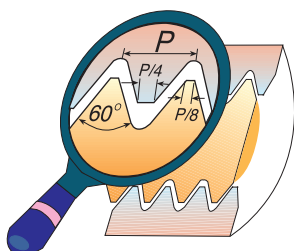
Order example: MT 1212D27 2.0 ISO MT7

For thread mills with coolant bore see following pages

For small thread mills see pages 22 & 27 

ISO With internal coolant bore

Tools for Internal Thread



Pitch mm	M coarse	M fine	Ordering Code	d	D	No. of Flutes	I	L
0.5		$\varnothing \geq 5$	MTB06038C10 0.5 ISO	6	3.8	3	10.3	58
0.7	M 4	$\varnothing \geq 5$	MTB06031C7 0.7 ISO	6	3.1	3	7.4	58
0.75		$\varnothing \geq 6$	MTB06045C10 0.75 ISO	6	4.5	3	10.1	58
0.8	M 5	$\varnothing \geq 6$	MTB06038C9 0.8 ISO	6	3.8	3	9.2	58
1.0	M 6	$\varnothing \geq 7$	MTB06046C10 1.0 ISO	6	4.6	3	10.5	58
1.0	M 6	$\varnothing \geq 7$	MTB06046C14 1.0 ISO	6	4.6	3	14.5	58
1.0		$\varnothing \geq 9$	MTB0606C12 1.0 ISO	6	6.0	3	12.5	58
1.0		$\varnothing \geq 10$	MTB0808D16 1.0 ISO	8	8.0	4	16.5	64
1.0		$\varnothing \geq 12$	MTB1010D24 1.0 ISO	10	10.0	4	24.5	73
1.25	M 8	$\varnothing \geq 10$	MTB0606C14 1.25 ISO	6	6.0	3	14.4	58
1.25	M 8	$\varnothing \geq 10$	MTB0606C19 1.25 ISO	6	6.0	3	19.4	58
1.5	M10	$\varnothing \geq 12$	MTB08078C17 1.5 ISO	8	7.8	3	17.0	64
1.5	M10	$\varnothing \geq 12$	MTB08078C24 1.5 ISO	8	7.8	3	24.8	76
1.5		$\varnothing \geq 14$	MTB1010D21 1.5 ISO	10	10.0	4	21.8	73
1.5		$\varnothing \geq 16$	MTB1212D26 1.5 ISO	12	12.0	4	26.3	84
1.5		$\varnothing \geq 20$	MTB1616F33 1.5 ISO	16	16.0	6	33.8	105
1.75	M12	$\varnothing \geq 12$	MTB1009C20 1.75 ISO	10	9.0	3	20.1	73
1.75	M12	$\varnothing \geq 12$	MTB1009C28 1.75 ISO	10	9.0	3	28.9	73
2.0	M14	$\varnothing \geq 15$	MTB1010C27 2.0 ISO	10	10.0	3	27.0	73
2.0	M16	$\varnothing \geq 17$	MTB12118D27 2.0 ISO	12	11.8	4	27.0	84
2.0	M16	$\varnothing \geq 17$	MTB12118D39 2.0 ISO	12	11.8	4	39.0	105
2.0		$\varnothing \geq 26$	MTB2020F41 2.0 ISO	20	20.0	6	41.0	105
2.5	M20	$\varnothing \geq 22$	MTB1615E33 2.5 ISO	16	15.0	5	33.8	105
2.5	M20	$\varnothing \geq 22$	MTB1615E48 2.5 ISO	16	15.0	5	48.8	105
3.0	M24	$\varnothing \geq 25$	MTB2018D40 3.0 ISO	20	18.0	4	40.5	105
3.0	M24	$\varnothing \geq 25$	MTB2018D58 3.0 ISO	20	18.0	4	58.5	120
3.0	M27	$\varnothing \geq 27$	MTB2020D43 3.0 ISO	20	20.0	4	43.5	105

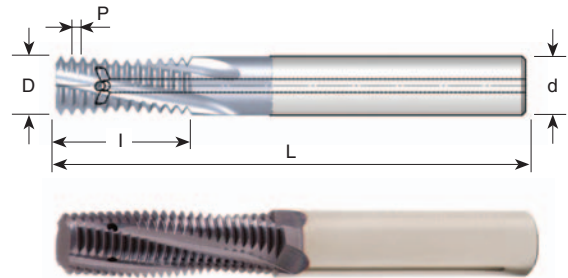
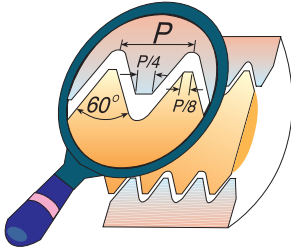
Order example: MTB 08078C17 1.5 ISO MT7

For thread mills with coolant through the flutes see next page

For small thread mills see pages 22 & 27



ISO With internal coolant through the flutes Tools for Internal Thread

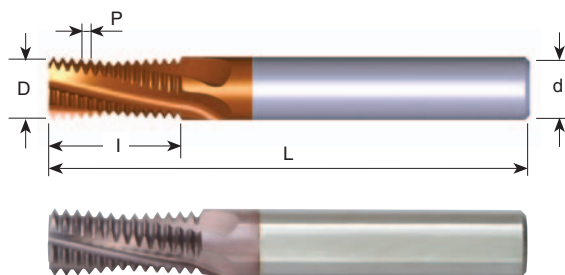
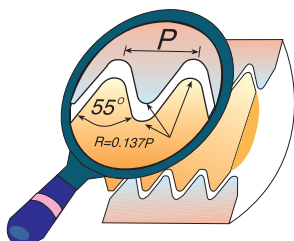


Pitch mm	M coarse	M fine	Ordering Code	d	D	No. of Flutes	I	L
1.0	M6	$\varnothing \geq 7$	MTZ06048C10 1.0 ISO	6	4.8	3	10.5	58
1.0		$\varnothing \geq 9$	MTZ0606C12 1.0 ISO	6	6.0	3	12.5	58
1.0		$\varnothing \geq 10$	MTZ0808D16 1.0 ISO	8	8.0	4	16.5	64
1.25	M8	$\varnothing \geq 10$	MTZ0606C14 1.25 ISO	6	6.0	3	14.4	58
1.25	M8	$\varnothing \geq 10$	MTZ0606C19 1.25 ISO	6	6.0	3	19.4	58
1.5	M10	$\varnothing \geq 12$	MTZ08078C17 1.5 ISO	8	7.8	3	17.0	64
1.5		$\varnothing \geq 14$	MTZ1010D21 1.5 ISO	10	10.0	4	21.8	73
1.5		$\varnothing \geq 16$	MTZ1212D26 1.5 ISO	12	12.0	4	26.3	84
1.5		$\varnothing \geq 20$	MTZ1616E33 1.5 ISO	16	16.0	5	33.8	101
1.75	M12	$\varnothing \geq 12$	MTZ1009C20 1.75 ISO	10	9.0	3	20.1	73
1.75	M12	$\varnothing \geq 12$	MTZ1009C28 1.75 ISO	10	9.0	3	28.9	73
2.0	M14	$\varnothing \geq 15$	MTZ1010C27 2.0 ISO	10	10.0	3	27.0	73
2.0	M16	$\varnothing \geq 17$	MTZ12118D27 2.0 ISO	12	11.8	4	27.0	84
2.5	M20	$\varnothing \geq 22$	MTZ1615E33 2.5 ISO	16	15.0	5	33.8	101

Order example: MTZ 08078C17 1.5 ISO MT7

G (55°)

Same Tool for Internal and External Thread

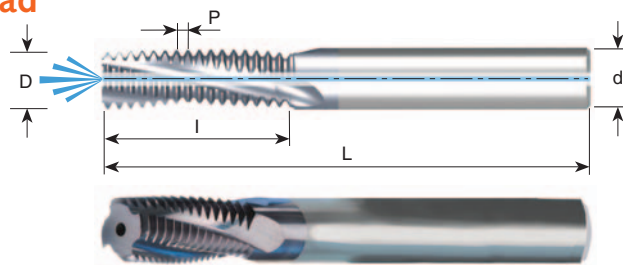


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	G1/8	MT0606C9 28 W	6	6.0	3	9.5	58
19	G1/4-3/8	MT0808C14 19 W	8	8.0	3	14.0	64
14	G1/2-7/8	MT1212D19 14 W	12	12.0	4	19.0	84
14	G1/2-7/8	MT1212D26 14 W	12	12.0	4	26.3	84
11	G1-11/2	MT1212C24 11 W	12	12.0	3	24.2	84
11	G1-3	MT1616D38 11 W	16	16.0	4	38.1	105
11	G≥1	MT2020E47 11 W	20	20.0	5	47.3	105

Order example: MT 1212D19 14 W MT7

With internal coolant bore

Same Tool for Internal and External Thread



Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	G1/8	MTB08078C14 28W	8	7.8	3	14.1	64
19	G1/4-3/8	MTB1010D16 19W	10	10.0	4	16.7	73
14	G1/2-7/8	MTB1616E26 14W	16	16.0	5	26.3	105
11	G≥1	MTB1616D38 11W	16	16.0	4	38.1	105
11	G≥1	MTB2020E47 11W	20	20.0	5	47.3	105

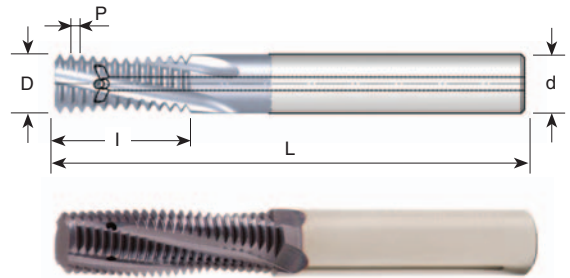
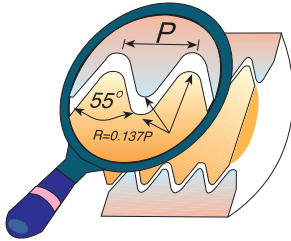
Order example: MTB 1010D16 19 W MT7

For thread mills with coolant through the flutes see next page

For small thread mills see pages 22 & 27 

G (55°) With internal coolant through the flutes

Same Tool for Internal and External Thread

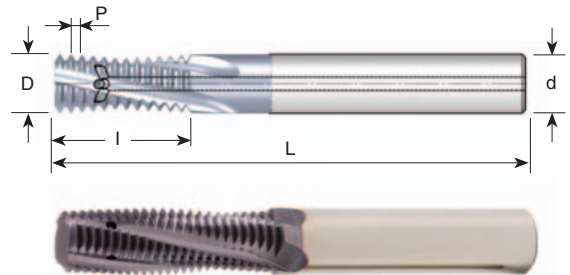
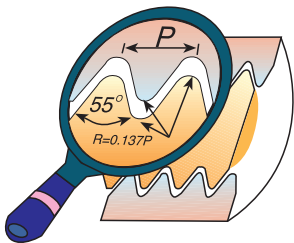


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	G1/8	MTZ08078C14 28W	8	7.8	3	14.1	64
19	G1/4-3/8	MTZ1010D16 19W	10	10.0	4	16.7	73
14	G1/2-7/8	MTZ1616E26 14W	16	16.0	5	26.3	101
11	G≥1	MTZ1616D38 11W	16	16.0	4	38.1	101

Order example: MTZ 08078C14 28W MT7

Whitworth BSW With internal coolant through the flutes

Same Tool for Internal and External Thread

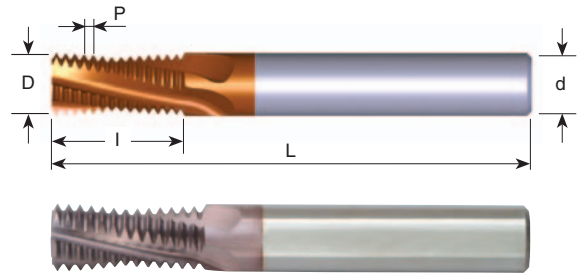
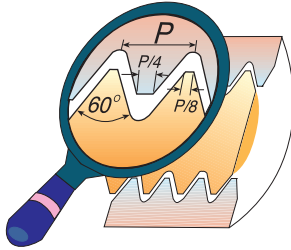


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
20	1/4	MTZ06046C12 20W	6	4.6	3	12.1	58
18	5/16	MTZ06053C14 18W	6	5.3	3	14.8	58
16	3/8	MTZ08068C16 16W	8	6.8	3	16.7	64
16	1/2	MTZ10092D24 16W	10	9.2	4	24.6	73
14	7/16	MTZ08078D20 14W	8	7.8	4	20.9	64
12	1/2	MTZ10086D24 12W	10	8.6	4	24.4	73
11	5/8	MTZ12109D28 11W	12	10.9	4	28.9	84

Order example: MTZ 08068C16 16W MT7

UN

Tools for Internal Thread



Pitch TPI	UNC	UNF	UNEF	Ordering Code	d	D	No. of Flutes	I	L
40	5			MT06025C6 40 UN	6	2.5	3	6.0	58
32	8	10	12	MT06032C6 32 UN	6	3.2	3	6.8	58
28		1/4		MT0604C11 28 UN	6	4.0	3	11.3	58
28			7/16-1/2	MT0606C14 28 UN	6	6.0	3	14.1	58
24		5/16		MT0605C14 24 UN	6	5.0	3	14.3	58
24		3/8	9/16-5/8	MT0807C21 24 UN	8	7.0	3	20.6	64
20	1/4			MT06045C12 20 UN	6	4.5	3	12.1	58
20		7/16-1/2		MT0807C21 20 UN	8	7.0	3	21.0	64
20			3/4-1	MT1212E27 20 UN	12	12.0	5	27.3	84
18	5/16			MT0605C14 18 UN	6	5.0	3	14.8	58
18		9/16-5/8	1 1/8-1 5/8	MT1010D26 18 UN	10	10.0	4	26.1	73
16	3/8			MT0606C16 16 UN	6	6.0	3	16.7	58
16		3/4		MT1212D31 16 UN	12	12.0	4	31.0	84
14	7/16			MT0807C20 14 UN	8	7.0	3	20.9	64
14		7/8		MT1615E37 14 UN	16	15.0	5	37.2	105
13	1/2			MT0808C22 13 UN	8	8.0	3	22.5	64
12	9/16			MT1010C26 12 UN	10	10.0	3	26.5	73
12		1-1 1/2		MT1616E41 12 UN	16	16.0	5	41.3	105
11	5/8			MT1010C28 11 UN	10	10.0	3	28.9	73
10	3/4			MT1212C34 10 UN	12	12.0	3	34.3	84
9	7/8			MT1615C38 9 UN	16	15.0	3	38.1	105
8	1			MT1616C42 8 UN	16	16.0	3	42.9	105
7	1 1/8 - 1 1/4			MT2020D45 7 UN	20	20.0	4	45.3	105

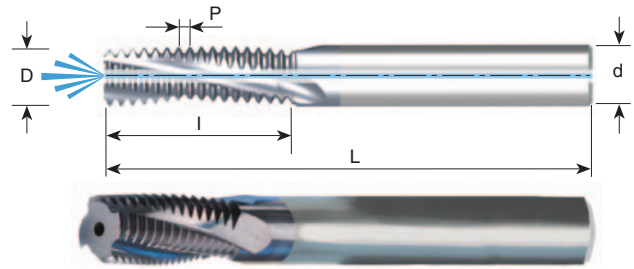
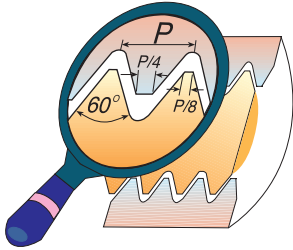
Order example: MT 1615E37 14UN MT7

For thread mills with coolant bore see following pages

For small thread mills see pages 23-24 & 28



UN With internal coolant bore Tools for Internal Thread



Pitch TPI	UNC	UNF	UNEF	Ordering Code	d	D	No. of Flutes	I	L
32	8	10	12	MTB06032C6 32 UN	6	3.2	3	6.8	58
32			5/16	MTB0606C14 32 UN	6	6.0	3	14.7	58
32			3/8	MTB0808D18 32 UN	8	8.0	4	18.7	64
28		1/4		MTB0605C11 28 UN	6	5.0	3	11.3	58
28			7/16-1/2	MTB0606C14 28 UN	6	6.0	3	14.1	58
24		5/16		MTB08066C14 24 UN	8	6.6	3	14.3	64
24		3/8	9/16-5/8	MTB0808D21 24 UN	8	8.0	4	20.6	64
20	1/4			MTB06047C12 20 UN	6	4.7	3	12.1	58
20		7/16		MTB0808C21 20 UN	8	8.0	3	21.0	64
20		1/2		MTB1010D22 20 UN	10	10.0	4	22.3	73
20			3/4-1	MTB1212E27 20 UN	12	12.0	5	27.3	84
18	5/16			MTB06056C14 18 UN	6	5.6	3	14.8	58
18		9/16-5/8	1 1/8-1 5/8	MTB12113D26 18 UN	12	11.3	4	26.1	84
16	3/8			MTB08067C16 16 UN	8	6.7	3	16.7	64
16		3/4		MTB1212D31 16 UN	12	12.0	4	31.0	84
14	7/16			MTB08077C20 14 UN	8	7.7	3	20.9	64
14		7/8		MTB1616E37 14 UN	16	16.0	5	37.2	105
13	1/2			MTB10092C22 13 UN	10	9.2	3	22.5	73
12	9/16			MTB12105C26 12 UN	12	10.5	3	26.5	84
12		1-1 1/2		MTB1616E41 12 UN	16	16.0	5	41.3	105
11	5/8			MTB12114C28 11 UN	12	11.4	3	28.9	84
10	3/4			MTB16144D34 10 UN	16	14.4	4	34.3	105
9	7/8			MTB1616C38 9 UN	16	16.0	3	38.1	105
8	1			MTB20195D42 8 UN	20	19.5	4	42.9	105
7	1 1/8-1 1/4			MTB2020D45 7 UN	20	20.0	4	45.3	105

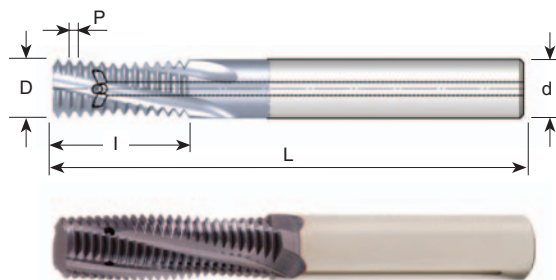
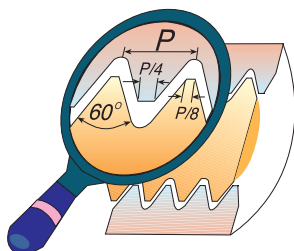
Order example: MTB 1212D31 16 UN MT7

For thread mills with coolant through the flutes see next page

For small thread mills see pages 23-24 & 28 

UN With internal coolant through the flutes

Tools for Internal Thread



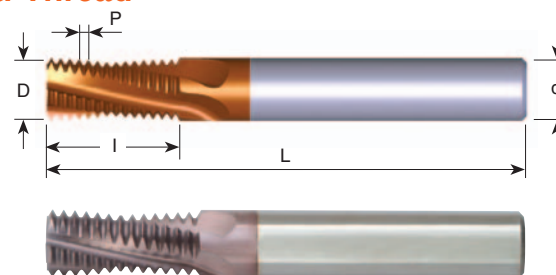
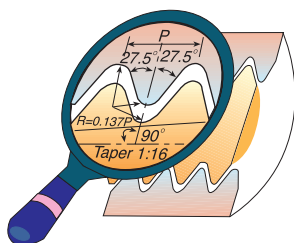
Pitch TPI	UNC	UNF	UNEF	Ordering Code	d	D	No. of Flutes	I	L
28		1/4		MTZ0605C11 28 UN	6	5.0	3	11.3	58
28			7/16-1/2	MTZ0606C14 28 UN	6	6.0	3	14.1	58
24		5/16		MTZ08066C14 24 UN	8	6.6	3	14.3	64
24		3/8	9/16-5/8	MTZ0808D21 24 UN	8	8.0	4	20.6	64
20		7/16		MTZ0808C21 20 UN	8	8.0	3	21.0	64
20		1/2		MTZ1010D22 20 UN	10	10.0	4	22.3	73
20			3/4-1	MTZ1212E27 20 UN	12	12.0	5	27.3	84
18	5/16			MTZ06056C14 18 UN	6	5.6	3	14.8	58
18		9/16-5/8	1 1/8-1 5/8	MTZ12113D26 18 UN	12	11.3	4	26.1	84
16	3/8			MTZ08067C16 16 UN	8	6.7	3	16.7	64
16		3/4		MTZ1212D31 16 UN	12	12.0	4	31.0	84
14	7/16			MTZ08077C20 14 UN	8	7.7	3	20.9	64
14		7/8		MTZ1616E37 14 UN	16	16.0	5	37.2	101
13	1/2			MTZ10092C22 13 UN	10	9.2	3	22.5	73
12	9/16			MTZ12105C26 12 UN	12	10.5	3	26.5	84
11	5/8			MTZ12114C28 11 UN	12	11.4	3	28.9	84
10	3/4			MTZ16144D34 10 UN	16	14.4	4	34.3	101

Order example: MTZ 0808D21 24UN MT7

For small thread mills see pages 23-24 & 28



BSPT Same Tool for Internal and External Thread

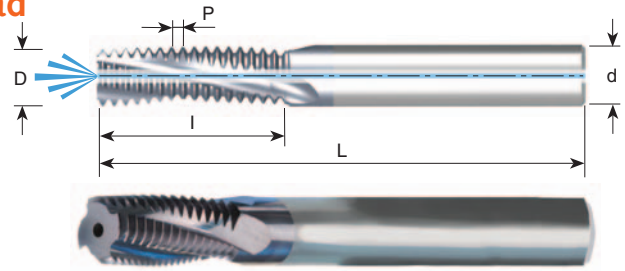


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	RC1/8	MT0606C9 28 BSPT	6	6.0	3	9.5	58
19	RC1/4-3/8	MT0808C14 19 BSPT	8	8.0	3	14.0	64
14	RC1/2-7/8	MT1212D19 14 BSPT	12	12.0	4	19.1	84
11	RC1-2	MT1616D28 11 BSPT	16	16.0	4	28.9	105

Order example: MT 1616D28 11 BSPT MT7

BSPT With internal coolant bore

Same Tool for Internal and External Thread

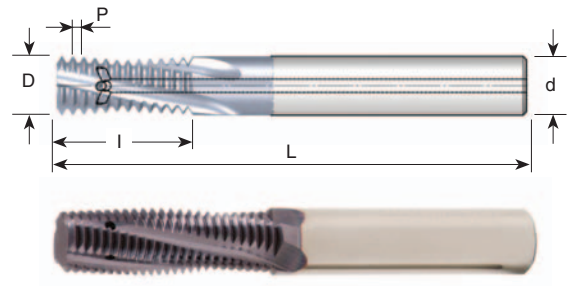
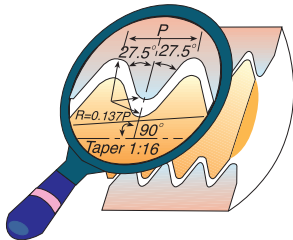


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	RC1/8	MTB08078C14 28 BSPT	8	7.8	3	14.1	64
19	RC1/4-3/8	MTB1010D16 19 BSPT	10	10.0	4	16.7	73
14	RC1/2-7/8	MTB1616E26 14 BSPT	16	16.0	5	26.3	105
11	RC1-2	MTB1616D28 11 BSPT	16	16.0	4	28.9	105

Order example: MTB 0807C14 28 BSPT MT7

BSPT With internal coolant through the flutes

Same Tool for Internal and External Thread

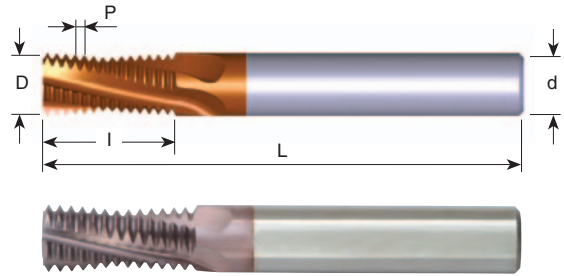
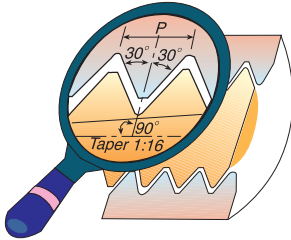


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	RC1/8	MTZ08078C14 28 BSPT	8	7.8	3	14.1	64
19	RC1/4-3/8	MTZ1010D16 19 BSPT	10	10.0	4	16.7	73
14	RC1/2-7/8	MTZ1616E26 14 BSPT	16	16.0	5	26.3	101
11	RC1-2	MTZ1616D28 11 BSPT	16	16.0	4	28.9	101

Order example: MTZ 1010D16 19 BSPT MT7

NPT

Same Tool for Internal and External Thread

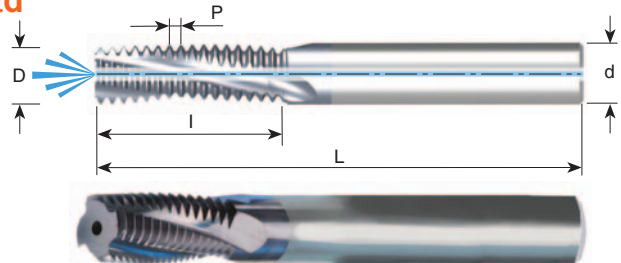


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/16-1/8	MT0606C9 27 NPT	6	6.0	3	9.9	58
18	1/4-3/8	MT0808C14 18 NPT	8	8.0	3	14.8	64
14	1/2-3/4	MT1212D20 14 NPT	12	12.0	4	20.9	84
11.5	1-2	MT1616D27 11.5 NPT	16	16.0	4	27.6	105
8	≥2 1/2	MT2020D39 8 NPT	20	20.0	4	39.7	105

Order example: MT 0808C14 18 NPT MT7

With internal coolant

Same Tool for Internal and External Thread



Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/8	MTB08076C10 27 NPT	8	7.6	3	10.8	64
18	1/4-3/8	MTB1010D16 18 NPT	10	10.0	4	16.2	73
14	1/2-3/4	MTB16155D22 14 NPT	16	15.5	4	22.7	105
11.5	1-2	MTB2020D29 11.5 NPT	20	20.0	4	29.8	105
8	≥2 1/2	MTB2020D39 8 NPT	20	20.0	4	39.7	105

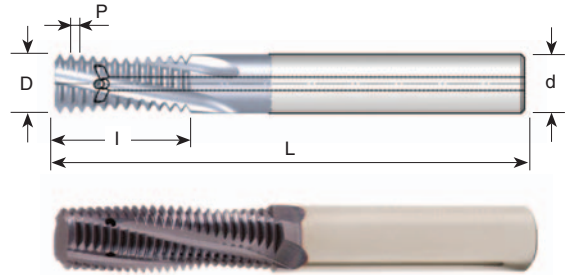
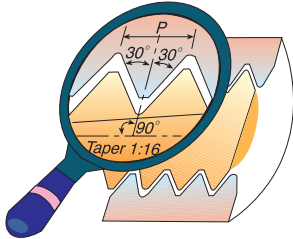
Order example: MTB 1010D16 18 NPT MT7

For thread mills with coolant through the flutes see next page

For conical preparation end mills see page 17

NPT With internal coolant through the flutes

Same Tool for Internal and External Thread

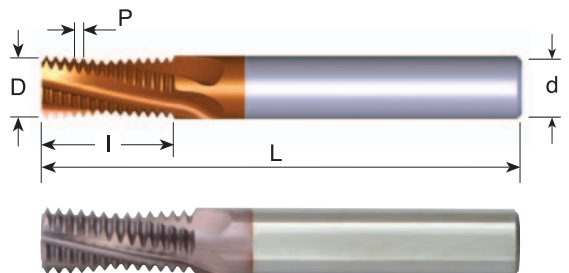
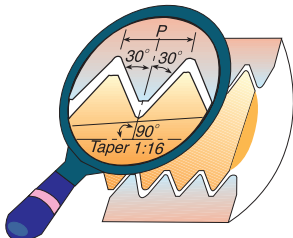


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/8	MTZ08076C10 27NPT	8	7.6	3	10.8	64
18	1/4-3/8	MTZ1010D16 18NPT	10	10.0	4	16.2	73
14	1/2-3/4	MTZ16155D22 14NPT	16	15.5	4	22.7	101

Order example: MTZ 08076C10 27 NPT MT7

NPTF

Same Tool for Internal and External Thread



Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/16-1/8	MT0606C9 27 NPTF	6	6.0	3	9.9	58
18	1/4-3/8	MT0808C14 18 NPTF	8	8.0	3	14.8	64
14	1/2-3/4	MT1212D20 14 NPTF	12	12.0	4	20.9	84
11.5	1-2	MT1616D27 11.5 NPTF	16	16.0	4	27.6	105
8	≥ 2 1/2	MT2020D39 8 NPTF	20	20.0	4	39.7	105

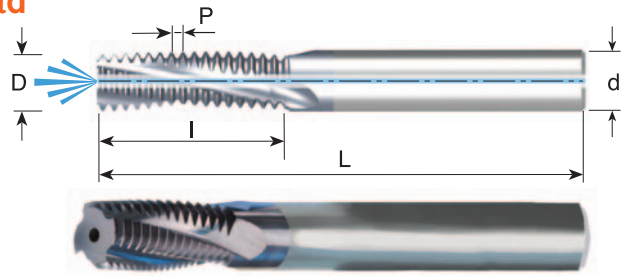
Order example: MT 1212D20 14 NPTF MT7

For thread mills with coolant bore see next page

For conical preparation end mills see page 17

NPTF With internal coolant

Same Tool for Internal and External Thread

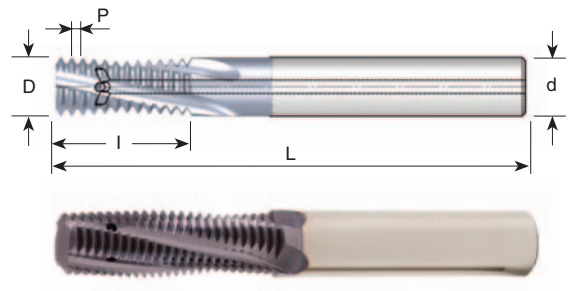
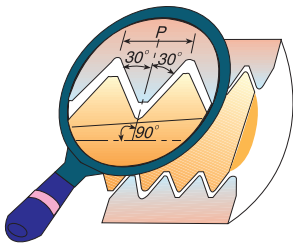


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/8	MTB08076C10 27 NPTF	8	7.6	3	10.8	64
18	1/4-3/8	MTB1010D16 18 NPTF	10	10.0	4	16.2	73
14	1/2-3/4	MTB16155D22 14 NPTF	16	15.5	4	22.7	105
11.5	1-2	MTB2020D29 11.5 NPTF	20	20.0	4	29.8	105
8	≥ 2 1/2	MTB2020D39 8 NPTF	20	20.0	4	39.7	105

Order example: MTB 16155D22 14 NPTF MT7

NPTF With internal coolant through the flutes

Same Tool for Internal and External Thread

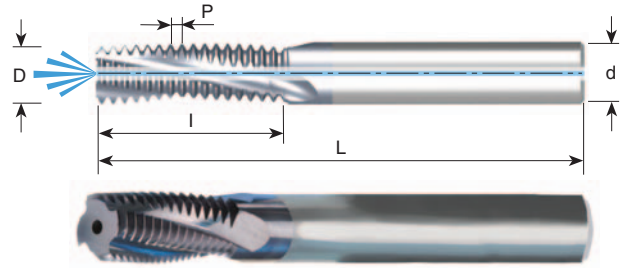
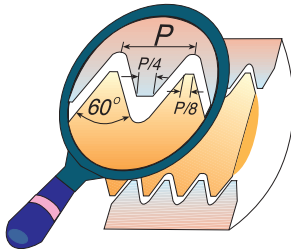


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/8	MTZ08076C10 27 NPTF	8	7.6	3	10.8	64
18	1/4-3/8	MTZ1010D16 18 NPTF	10	10.0	4	16.2	73
14	1/2-3/4	MTZ16155D22 14 NPTF	16	15.5	4	22.7	101

Order example: MTZ 1010D16 18 NPTF MT7

NPS With internal coolant bore

Same Tool for Internal and External Thread - Inch shanks

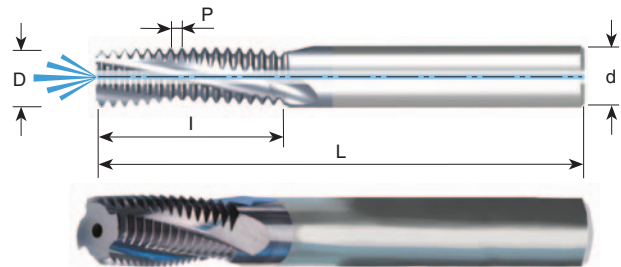
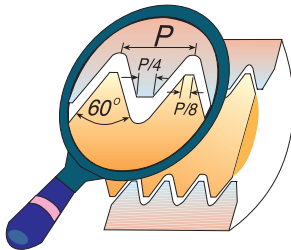


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/8	MTB0312C04 27 NPS	5/16	7.60	3	10.8	63
18	1/4-3/8	MTB0375D06 18 NPS	3/8	9.50	4	16.2	76
14	1/2-3/4	MTB0625D08 14 NPS	5/8	15.50	4	22.7	101
11.5	1-2	MTB0750D11 11.5 NPS	3/4	19.05	4	29.8	101

Order example: MTB 0375D06 18 NPS MT7

NPSF With internal coolant bore

Same Tool for Internal and External Thread - Inch shanks



Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/8	MTB0312C04 27 NPSF	5/16	7.60	3	10.8	63
18	1/4-3/8	MTB0375D06 18 NPSF	3/8	9.50	4	16.2	76
14	1/2-3/4	MTB0625D08 14 NPSF	5/8	15.50	4	22.7	101
11.5	1-2	MTB0750D11 11.5 NPSF	3/4	19.05	4	29.8	101

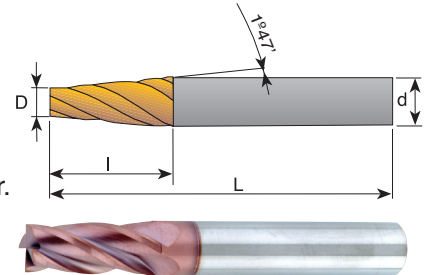
Order example: MTB 0312C04 27 NPSF MT7

Solid Carbide Tapered End Mills

Solid carbide tapered end mills are used for milling preparation of conic threads before the thread milling operation.

Advantages:

- * Increases the tool life of mill thread cutters and indexable inserts.
- * Equal and uniform load along the cutting edge of the mill thread cutter.
- * Shorter machining time during the mill thread operation, due to the tapered preparation.

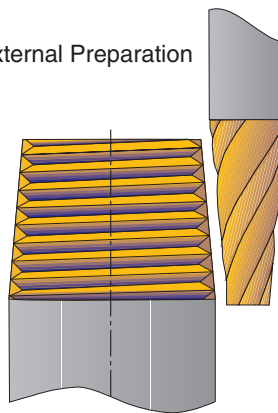


Ordering Code	d	D	l	L	No. of Flutes	Size
SC1085D24	10	8.5	24	73	4	NPT 1/8" - 1" NPTF 1/8" - 1" BSPT 1/8" - 1"
SC1210D32	12	10	32	84	4	NPT 1/4" - 3" NPTF 1/4" - 3" BSPT 1/4" - 3"

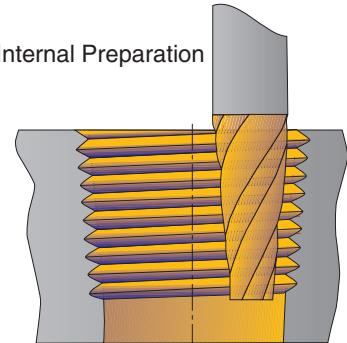
Order example: SC1085D24 MT7

Carbide grade: MT7

External Preparation



Internal Preparation

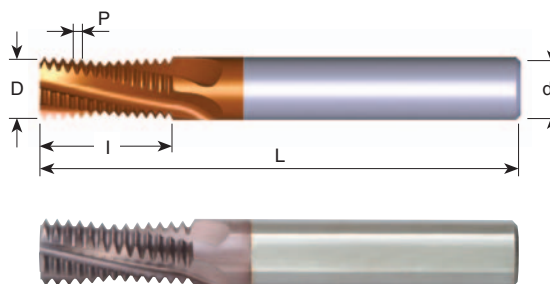
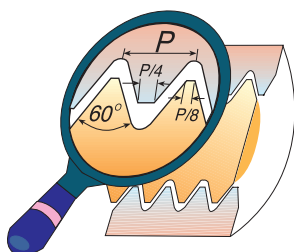


Mill - Thread Solid Carbide for External Threads

Advantages:

- ★ Excellent surface finish thanks to the spiral flutes
- ★ Short machining time due to multi 3 to 5 flutes

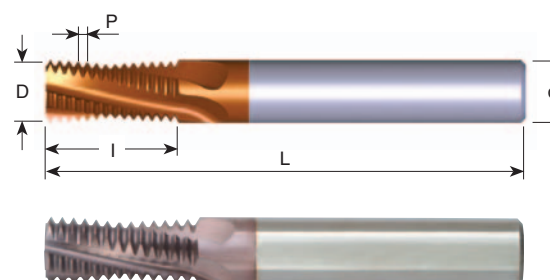
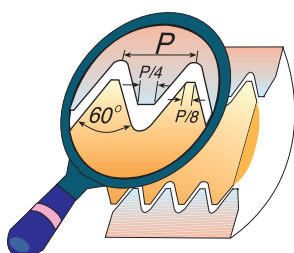
ISO



Pitch mm	Ordering Code	d	D	No. of Flutes	I	L
1.0	EMT1010D16 1.0 ISO	10	10.0	4	16.5	73
1.0	EMT1212E20 1.0 ISO	12	12.0	5	20.5	84
1.5	EMT1010D15 1.5 ISO	10	10.0	4	15.8	73
1.5	EMT1212D20 1.5 ISO	12	12.0	4	20.3	84
1.75	EMT1212D20 1.75 ISO	12	12.0	4	20.1	84
2.0	EMT1010C17 2.0 ISO	10	10.0	3	17.0	73
2.0	EMT1212D21 2.0 ISO	12	12.0	4	21.0	84

Order example: EMT 1010D15 1.5 ISO MT7

UN



Pitch TPI	Ordering Code	d	D	No. of Flutes	I	L
24	EMT1010D16 24 UN	10	10.0	4	16.4	73
20	EMT1212E21 20 UN	12	12.0	5	21.0	84
18	EMT1212D20 18 UN	12	12.0	4	20.5	84
16	EMT1212D21 16 UN	12	12.0	4	21.4	84
14	EMT1212D20 14 UN	12	12.0	4	20.9	84
12	EMT1212D20 12 UN	12	12.0	4	20.1	84

Order example: EMT 1212D20 18 UN MT7

Carbide Grade and Speed Selection

ISO Standard	Material	Cutting Speed m/min	Feed mm/tooth											
			Ø2	Ø3	Ø4	Ø6	Ø8	Ø10	Ø12	Ø14	Ø16	Ø20	Ø25	Ø30
P	Low and Medium Carbon Steels	100-250	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
	High Carbon Steels	110-180	0.02	0.03	0.03	0.05	0.06	0.07	0.08	0.09	0.10	0.12	0.15	0.18
	Alloy Steels, Treated Steels	90-160	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.10	0.11
M	Stainless Steels	110-170	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.10	0.11
	Cast Steels	130-170	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.10	0.11
K	Cast Iron	70-150	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
N	Aluminum	160-300	0.03	0.04	0.04	0.06	0.07	0.08	0.09	0.11	0.12	0.15	0.18	0.21
	Synthetics, Duroplastics, Thermoplastics	100-400	0.05	0.06	0.07	0.09	0.10	0.11	0.12	0.13	0.15	0.18	0.22	0.25
S	Nickel Alloys, Titanium Alloys	20- 80	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.05

For cutters with long cutting length reduce feed rate by 40%

Mini Mill-Thread



Specially designed solid-carbide thread mills for internal threads from very small bores

Advantages of Mill-Thread Solid Carbide

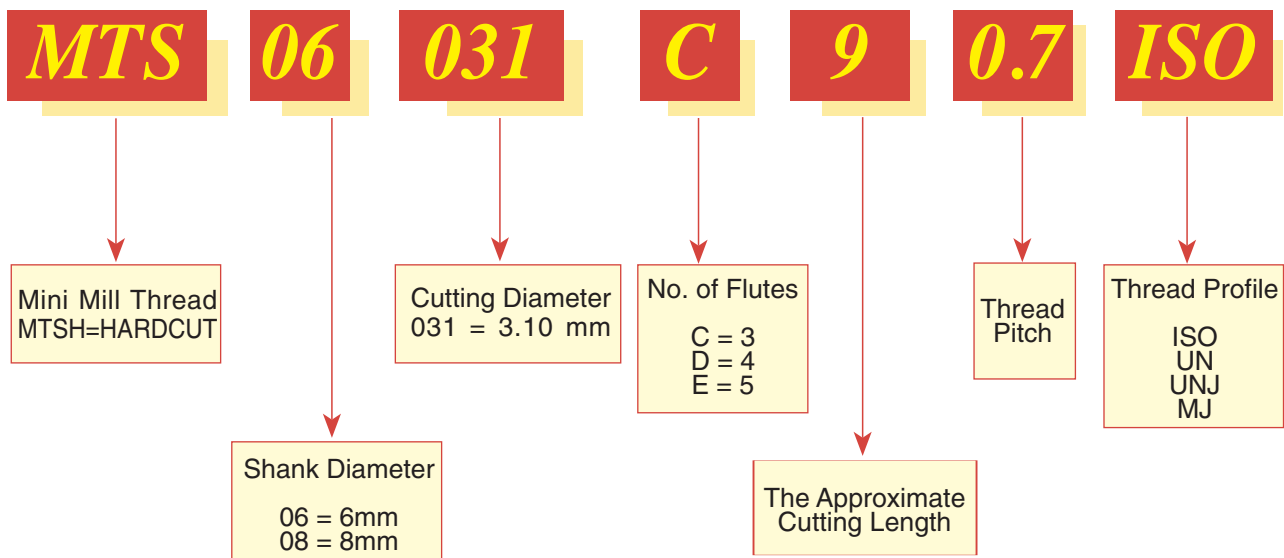
Carbide grade: MT7 Sub-Micron grade with Titanium Aluminum Nitride multi-layer coating (ISO K10 - K20). To be run at medium to high cutting speeds. General purpose for all materials.

Due to the unique tool design, accurate geometries and high quality grade, the following are achieved:

- Threading from M1.2 x 0.25 (bore diameter $\varnothing$ 0.95).
- Working in high cutting speed.
- Short machining time.
- Low cutting forces thanks to the short profile.
- No broken taps.
- Threading up to shoulder in blind holes.
- Machining of hardened materials up to 40 HRC.

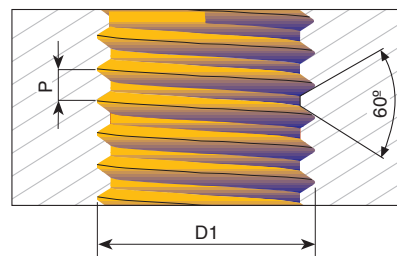
Product Identification

Mini Mill-Thread Ordering Codes



ISO

Tools for Internal Thread



For thread depth up to $2 \times D1$

Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L
0.25	M1.2	MTS03009C3 0.25 ISO	3	0.90	3	3.0	39
0.4	M2	MTS06016C4 0.4 ISO	6	1.55	3	4.5	58
0.45	M2.2	MTS06017C5 0.45 ISO	6	1.65	3	5.0	58
0.45	M2.5	MTS0602C5 0.45 ISO	6	1.95	3	5.5	58
0.5	M3	MTS06024C6 0.5 ISO	6	2.35	3	6.5	58
0.6	M3.5	MTS06028C7 0.6 ISO	6	2.75	3	7.5	58
0.7	M4	MTS06031C9 0.7 ISO	6	3.10	3	9.0	58
0.8	M5	MTS06038C12 0.8 ISO	6	3.80	3	12.5	58
1.0	M6	MTS06047C14 1.0 ISO	6	4.65	3	14.0	58
1.25	M8	MTS0606C18 1.25 ISO	6	5.95	3	18.0	58
1.5	M10	MTS08078C23 1.5 ISO	8	7.80	3	23.0	64
1.75	M12	MTS1009C26 1.75 ISO	10	9.00	3	26.0	73
2.0	M16	MTS12118D35 2.0 ISO	12	11.80	4	35.0	84
2.5	M20	MTS1615E43 2.5 ISO	16	15.00	5	43.0	105

For thread depth up to $3 \times D1$

Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L
* 0.3	M1.4	MTS03011C4 0.3 ISO	3	1.05	3	4.0	39
* 0.35	M1.6	MTS03012C5 0.35 ISO	3	1.20	3	5.0	39
* 0.4	M2	MTS03016C6 0.4 ISO	3	1.55	3	6.0	39
0.45	M2.5	MTS0602C7 0.45 ISO	6	1.95	3	7.5	58
0.5	M3	MTS06024C9 0.5 ISO	6	2.35	3	9.5	58
0.7	M4	MTS06031C12 0.7 ISO	6	3.10	3	12.5	58
0.8	M5	MTS06038C16 0.8 ISO	6	3.80	3	16.0	58
1.0	M6	MTS06047C20 1.0 ISO	6	4.65	3	20.0	58
1.25	M8	MTS0606C24 1.25 ISO	6	5.95	3	24.0	58

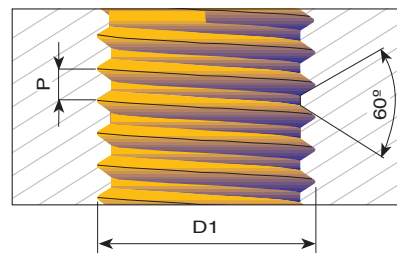
Order example: MTS 06047C14 1.0 ISO MT7

*Specially designed for the production of dental implants

- Machining Titanium, surgical stainless steels and hardened materials.
- Suitable for high speed air turbine machines (30,000-40,000 RPM) and for standard machining centers (6,000 RPM and higher).
- Can also be used for general purpose threading.

UN

Tools for Internal Thread



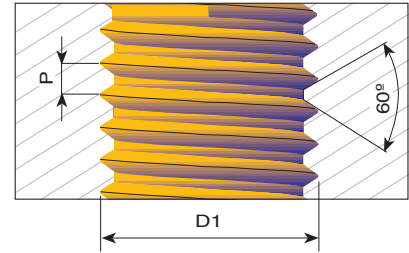
For thread depth up to 2xD1

Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	I	L
72		1	MTS06014C3 72 UN	6	1.45	3	3.7	58
64	1	2	MTS06014C3 64 UN	6	1.40	3	3.8	58
56	2	3	MTS06016C4 56 UN	6	1.65	3	4.4	58
48	3	4	MTS06019C5 48 UN	6	1.90	3	5.2	58
40	4		MTS06021C6 40 UN	6	2.10	3	6.3	58
40	5	6	MTS06024C7 40 UN	6	2.45	3	7.0	58
36		8	MTS06033C9 36 UN	6	3.30	3	9.0	58
32	6		MTS06025C7 32 UN	6	2.55	3	7.1	58
32	8		MTS06032C9 32 UN	6	3.20	3	9.5	58
32		10	MTS06037C10 32 UN	6	3.70	3	10.5	58
28		12	MTS06042C11 28 UN	6	4.20	3	11.0	58
28		1/4	MTS0605C14 28 UN	6	5.00	3	14.5	58
24	10,12		MTS06035C10 24 UN	6	3.50	3	10.6	58
24		5/16, 3/8	MTS08066C17 24 UN	8	6.60	3	17.0	64
20	1/4		MTS06047C14 20 UN	6	4.75	3	14.0	58
20		7/16	MTS0808C25 20 UN	8	8.00	3	25.0	64
18	5/16		MTS0606C17 18 UN	6	6.00	3	17.0	58
18		5/8	MTS1212D35 18 UN	12	12.00	4	35.0	84
16	3/8		MTS08067C22 16 UN	8	6.70	3	22.0	64
14	7/16		MTS08077C25 14 UN	8	7.70	3	25.0	64
13	1/2		MTS10092C27 13 UN	10	9.20	3	27.5	73
12	9/16		MTS12105C31 12 UN	12	10.50	3	31.5	84
11	5/8		MTS12114C34 11 UN	12	11.40	3	34.5	84
10	3/4		MTS16144D41 10 UN	16	14.40	4	41.5	105

Order example: MTS 06021C6 40 UN MT7

UN

Tools for Internal Thread



For thread depth up to $3 \times D1$

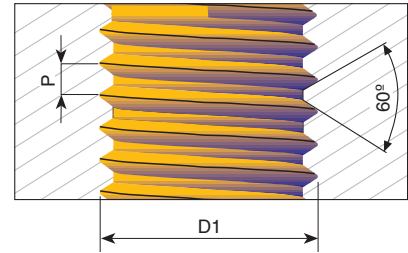
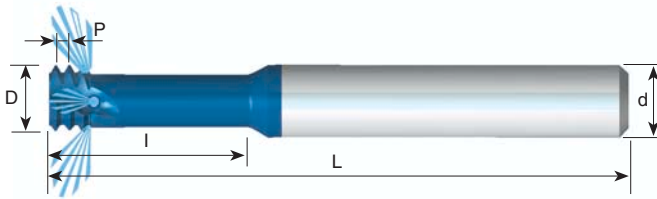
Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	I	L
80		0	MTS06012C4 80 UN	6	1.15	3	4.0	58
* 72		1	MTS03015C6 72 UN	3	1.45	3	6.0	39
56	2	3	MTS06016C6 56 UN	6	1.65	3	6.6	58
40	4		MTS06021C8 40 UN	6	2.10	3	8.0	58
40	5	6	MTS06024C9 40 UN	6	2.45	3	9.6	58
32	6		MTS06025C10 32 UN	6	2.55	3	10.5	58
32	8		MTS06032C12 32 UN	6	3.20	3	12.5	58
32		10	MTS06037C15 32 UN	6	3.70	3	15.0	58
28		1/4	MTS0605C19 28 UN	6	5.00	3	19.0	58
24		5/16, 3/8	MTS08066C24 24 UN	8	6.60	3	24.0	64
20	1/4		MTS06047C19 20 UN	6	4.75	3	19.0	58
18	5/16		MTS0606C23 18 UN	6	6.00	3	23.0	58

Order example: MTS 0605C19 28 UN MT7

***Specially designed for the production of dental implants**

- Machining Titanium, surgical stainless steels and hardened materials.
- Suitable for high speed air turbine machines (30,000-40,000 RPM) and for standard machining centers (6,000 RPM and higher).
- Can also be used for general purpose threading.

UNJ With internal coolant through the flutes



For thread depth up to $2.5 \times D1$

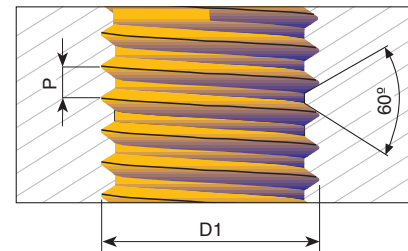
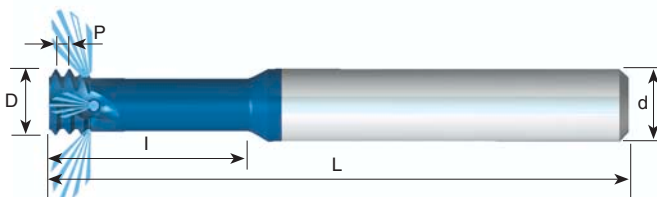
Pitch TPI	UNJC	UNJF	Ordering Code	d	D	No. of Flutes	I	L
*32	8	10	MTS06033C10 32 UNJ	6	3.30	3	10.5	58
28		1/4	MTS08051C16 28 UNJ	8	5.10	3	16.0	64
24		5/16, 3/8	MTS08067C20 24 UNJ	8	6.70	3	20.0	64
*20	1/4		MTS06049C16 20 UNJ	6	4.90	3	16.0	58
20		7/16	MTS0808C28 20 UNJ	8	8.00	3	28.0	64
18	5/16		MTS08061C20 18 UNJ	8	6.15	3	20.0	64
16	3/8		MTS08069C24 16 UNJ	8	6.90	3	24.0	64
14	7/16		MTS08079C25 14 UNJ	8	7.90	3	25.0	64
13	1/2		MTS10094C27 13 UNJ	10	9.40	3	27.5	73

* without coolant

Order example: MTS06049C16 20UNJ MT8

Carbide grade MT8 Sub Micron grade with Aluminium Titanium Nitride (AlTiN) multi-layer coating (ISO K10-K20). Extremely high heat resistant and smooth cutting operation, for high performance, and normal machining conditions. General purpose for all materials.

MJ With internal coolant through the flutes



For thread depth up to $2.5 \times D1$

Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L
* 0.7	MJ4	MTS06032C10 0.7 MJ	6	3.20	3	10.0	58
* 0.8	MJ5	MTS06039C12 0.8 MJ	6	3.90	3	12.5	58
* 1.0	MJ6	MTS06048C15 1.0 MJ	6	4.80	3	15.0	58
1.25	MJ8	MTS08061C20 1.25 MJ	8	6.10	3	20.0	64
1.5	MJ10	MTS0808C25 1.5 MJ	8	8.00	3	25.0	64
1.75	MJ12	MTS10092C30 1.75 MJ	10	9.20	3	30.0	73
2.0	MJ14, MJ16	MTS1010C35 2.0 MJ	10	10.00	3	35.0	73

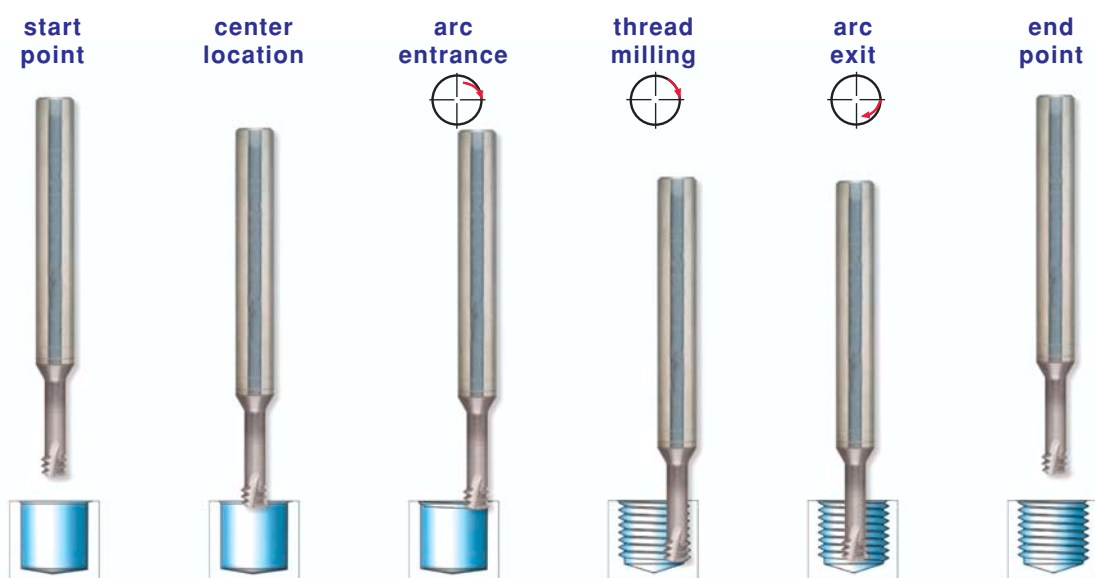
* without coolant

Order example: MTS06048C15 1.0 MJ MT8

Carbide grade MT8 Sub Micron grade with Aluminium Titanium Nitride (AlTiN) multi-layer coating (ISO K10-K20). Extremely high heat resistant and smooth cutting operation, for high performance, and normal machining conditions. General purpose for all materials.

Cutting Data

ISO Standard	Material	Cutting Speed m/min	Feed mm/tooth													
			Cutting Diameter = D													
			ø1	ø1.5	ø2	ø3	ø4	ø5	ø6	ø7	ø8	ø9	ø10	ø12	ø14	ø15
P	Low & Medium Carbon Steels	60-120	0.04	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.18
	High Carbon Steels	60-90	0.03	0.04	0.05	0.06	0.08	0.09	0.10	0.12	0.13	0.14	0.14	0.16	0.17	0.18
	Alloy Steels, Treated Steels	50-80	0.03	0.04	0.04	0.05	0.05	0.06	0.07	0.07	0.08	0.09	0.10	0.12	0.13	0.14
M	Stainless Steels	60-90	0.02	0.03	0.03	0.04	0.05	0.06	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13
	Cast Steels	70-90	0.03	0.04	0.04	0.05	0.05	0.06	0.07	0.07	0.08	0.09	0.10	0.12	0.13	0.14
K	Cast Iron	40-80	0.04	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.18
N	Aluminum	80-150	0.04	0.05	0.05	0.07	0.09	0.11	0.13	0.14	0.15	0.16	0.16	0.17	0.18	0.18
	Synthetics, Duroplastics, Thermoplastics	50-200	0.09	0.10	0.11	0.12	0.14	0.16	0.18	0.19	0.19	0.19	0.19	0.19	0.20	0.20
S	Nickel Alloys and Titanium Alloys	20-40	0.03	0.03	0.03	0.04	0.04	0.05	0.06	0.06	0.06	0.07	0.07	0.07	0.08	0.08



Mini Mill-Thread vs. Taps

Features	Mini Mill-Thread	Taps
Thread surface quality	High	Medium
Thread geometry	Very accurate	Medium
Thread tolerances	4H, 5H, 6H with std cutter	6H with standard tap, 4H with specific tap
Machining time	Same as tap or shorter	Short
Tool breakage	Almost not possible	Could happen often
Machining load	Very low	High
Range of thread diameters	Wide range of diameters	Specific tap for each diameter
Right/Left hand threading	Same cutter	Specific tap for each
Geometric shape	Full profile	Partial profile

HARDCUT

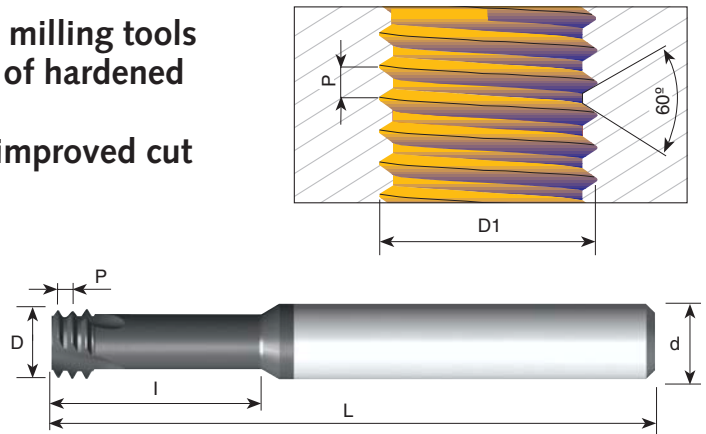
Carmex presents a unique line of thread milling tools designed specifically for the machining of hardened materials up to 62HRC.

These tools provide high performance, improved cut and an excellent surface finish.

Carbide grade: MT9

Sub-micron carbide grade with advanced Titanium Aluminium Nitride coating.

- Threading from M1.4 x 0.3
- Perfect solution for the Die and Mold industry
- Working at high cutting speeds
- Short machining time
- Low cutting forces thanks to the short profile
- Threading up to shoulder in blind holes



ISO

Tools for Internal Thread

For thread depth up to $2 \times D1$

Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L
0.4	M2	MTSH06016C4 0.4 ISO	6	1.55	3	4.5	58
0.45	M2.2	MTSH06017C5 0.45 ISO	6	1.65	3	5.0	58
0.45	M2.5	MTSH0602C5 0.45 ISO	6	1.95	3	5.5	58
0.5	M3	MTSH06024C6 0.5 ISO	6	2.35	3	6.5	58
0.6	M3.5	MTSH06028C7 0.6 ISO	6	2.75	3	7.5	58
0.7	M4	MTSH06031C9 0.7 ISO	6	3.10	3	9.0	58
0.8	M5	MTSH06038C12 0.8 ISO	6	3.80	3	12.5	58
1.0	M6	MTSH06047C14 1.0 ISO	6	4.65	3	14.0	58
1.25	M8	MTSH0606C18 1.25 ISO	6	5.95	3	18.0	58
1.5	M10	MTSH08078C23 1.5 ISO	8	7.80	3	23.0	64
1.75	M12	MTSH1009C26 1.75 ISO	10	9.00	3	26.0	73

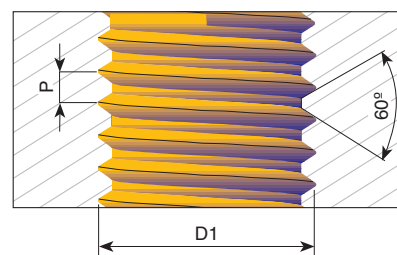
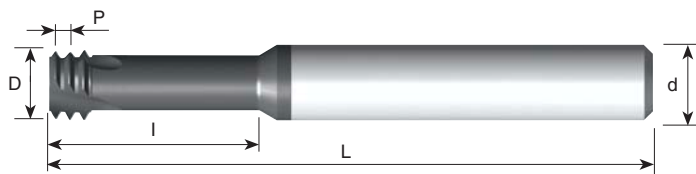
For thread depth up to $3 \times D1$

Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L
0.3	M1.4	MTSH03011C4 0.3 ISO	3	1.05	3	3.8	39
0.35	M1.6	MTSH03012C5 0.35 ISO	3	1.20	3	4.8	39
0.45	M2.5	MTSH0602C7 0.45 ISO	6	1.95	3	7.5	58
0.5	M3	MTSH06024C9 0.5 ISO	6	2.35	3	9.5	58
0.7	M4	MTSH06031C12 0.7 ISO	6	3.10	3	12.5	58
0.8	M5	MTSH06038C16 0.8 ISO	6	3.80	3	16.0	58
1.0	M6	MTSH06047C20 1.0 ISO	6	4.65	3	20.0	58
1.25	M8	MTSH0606C24 1.25 ISO	6	5.95	3	24.0	58

Order example: MTSH 06031C9 0.7 ISO

UN

Tools for Internal Thread



For thread depth up to $2 \times D1$

Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	I	L
72		1	MTSH06014C3 72 UN	6	1.45	3	3.7	58
64	1	2	MTSH06014C3 64 UN	6	1.40	3	3.8	58
56	2	3	MTSH06016C4 56 UN	6	1.65	3	4.4	58
48	3	4	MTSH06019C5 48 UN	6	1.90	3	5.2	58
40	4		MTSH06021C6 40 UN	6	2.10	3	6.3	58
40	5	6	MTSH06024C7 40 UN	6	2.45	3	7.0	58
36		8	MTSH06033C9 36 UN	6	3.30	3	9.0	58
32	6		MTSH06025C7 32 UN	6	2.55	3	7.1	58
32	8		MTSH06032C9 32 UN	6	3.20	3	9.5	58
32		10	MTSH06037C10 32 UN	6	3.70	3	10.5	58
28		12	MTSH06042C11 28 UN	6	4.20	3	11.0	58
28		1/4	MTSH0605C14 28 UN	6	5.00	3	14.5	58
24	10,12		MTSH06035C10 24 UN	6	3.50	3	10.6	58
24		5/16	MTSH08066C17 24 UN	8	6.60	3	17.0	64
20	1/4		MTSH06047C14 20 UN	6	4.75	3	14.0	58
18	5/16		MTSH0606C17 18 UN	6	6.00	3	17.0	58
18		5/8	MTSH1212D35 18 UN	12	12.00	4	35.0	84
16	3/8		MTSH08067C22 16 UN	8	6.70	3	22.0	64
14	7/16		MTSH08077C25 14 UN	8	7.70	3	25.0	64
13	1/2		MTSH10092C27 13 UN	10	9.20	3	27.5	73

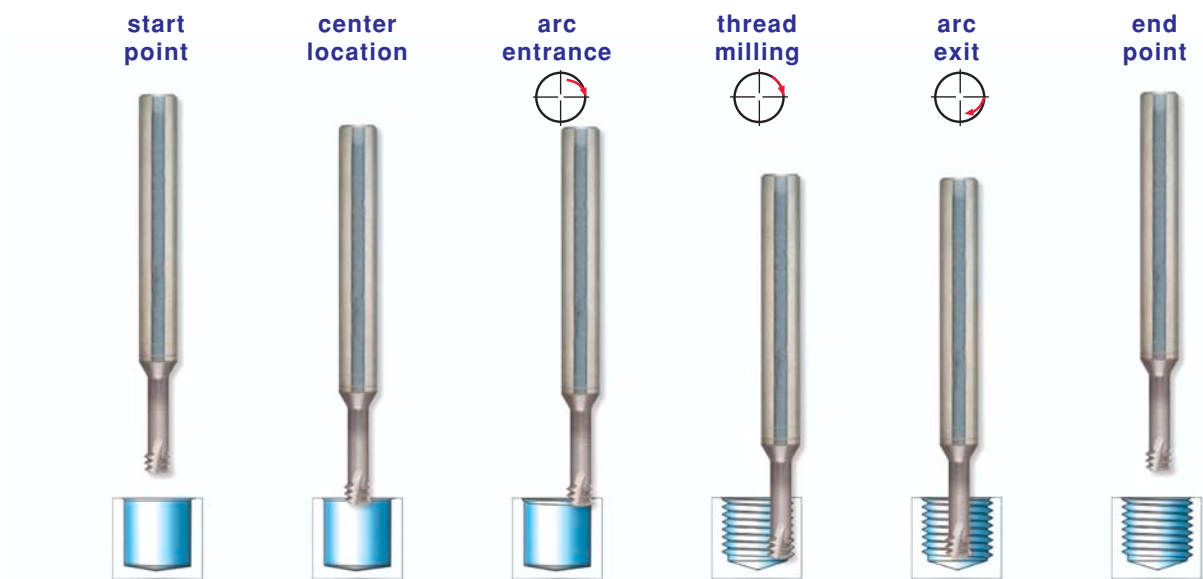
For thread depth up to $3 \times D1$

Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	I	L
80		0	MTSH06012C4 80 UN	6	1.15	3	4.0	58
40	4		MTSH06021C8 40 UN	6	2.10	3	8.0	58
40	5	6	MTSH06024C9 40 UN	6	2.45	3	9.6	58
32	8		MTSH06032C12 32 UN	6	3.20	3	12.5	58
32		10	MTSH06037C15 32 UN	6	3.70	3	15.0	58
28		1/4	MTSH0605C19 28 UN	6	5.00	3	19.0	58
24		5/16	MTSH08066C24 24 UN	8	6.60	3	24.0	64
20	1/4		MTSH06047C19 20 UN	6	4.75	3	19.0	58
18	5/16		MTSH0606C23 18 UN	6	6.00	3	23.0	58

Order example: MTSH 06024C7 40 UN

Cutting Data

ISO	Material	Hardness HRc	Cutting Speed m/min	Feed mm/tooth									
				Cutting Diameter = D									
				ø1.5	ø2	ø3	ø4	ø5	ø6	ø7	ø8	ø9	ø12
H	Hardened Steels	45-50	60-70	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.07	0.08	0.09
		51-55	50-60	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07	0.08
		56-62	40-50	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.07



CASE STUDY

Application	Internal Thread M4 X 0.7
Thread Depth	8.0 mm
Workpiece Material	Tool Steel: D2
Hardness	60-62 (HRc)

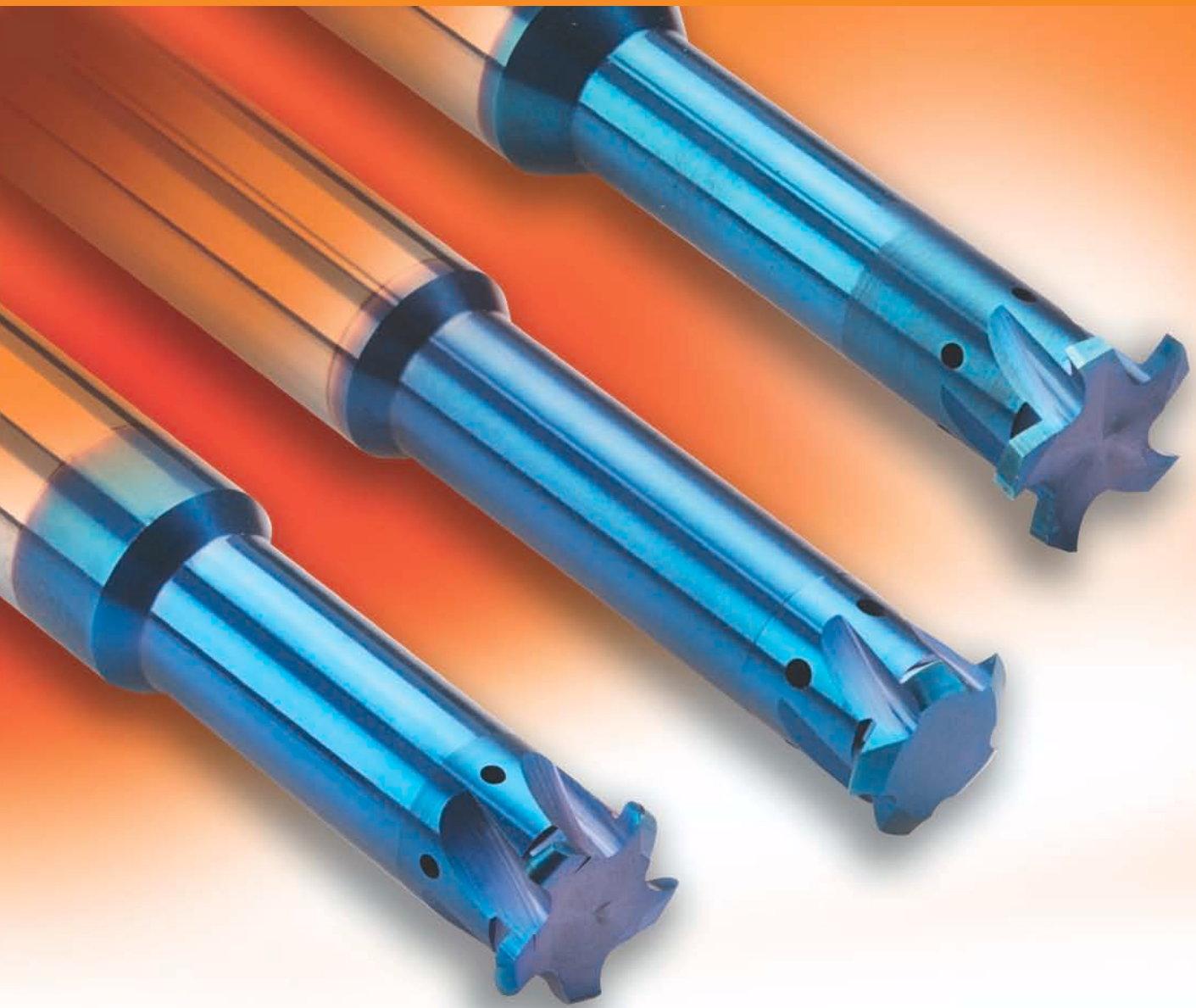
Cutter Description	MTSH06031C9 0.7 ISO
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Machining Conditions	Cutting Speed: 44 m/min Feed: 0.03 mm/tooth
----------------------	--

Machine	Mori Seiki VN5000
Control	Fanuc
Cooling Lubricant	Emulsion

Tool Life (No. of Threads)	84
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Mill-Thread Solid Carbide



For Threading and Grooving Deep Parts

Advantages

Carbide grade: MT8 Sub Micron grade with Aluminium Titanium Nitride (AlTiN) multi-layer coating (ISO K10-K20). Extremely high heat resistant and smooth cutting operation, for high performance, and normal machining conditions. General purpose for all materials.

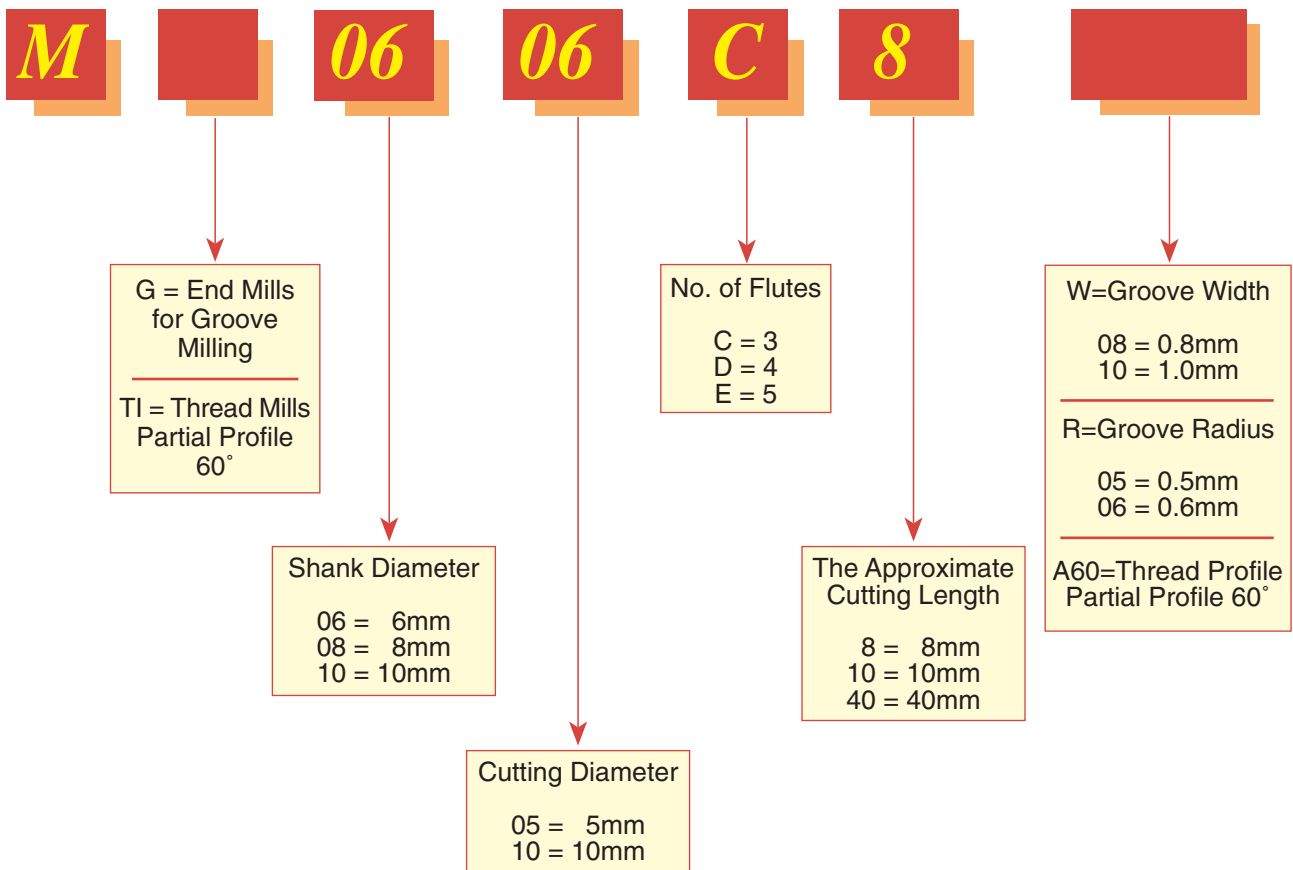
- Enables machining in deep holes.
- Coolant through the flutes is very effective for deep holes.
- Spiral flutes allow smooth cutting action.
- Shorter machining time due to multi, 3 to 5, flutes.
- Longer tool life due to special multi-layer coating.

THREADING:

- Same tool can produce a wide range of threads and pitches.
- Same tool can produce both External and Internal threads.

Product Identification

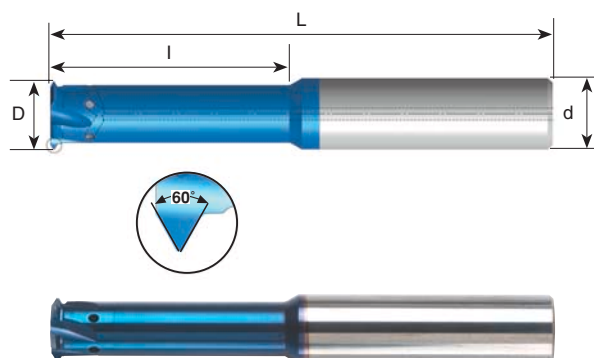
Threading and Grooving Ordering Codes



Partial Profile 60°

With internal coolant through the flutes

Same tool for Internal and External Thread



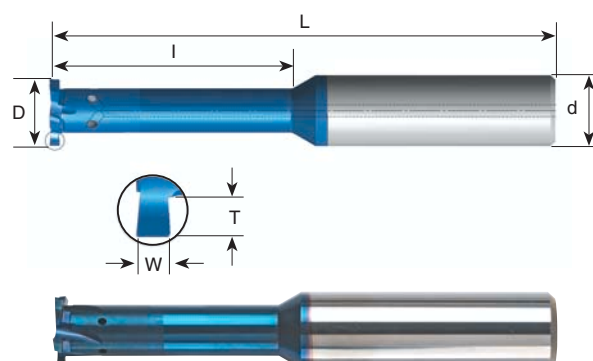
For threading deep parts

Pitch mm	Pitch TPI	Thread Dia. (min.)	Ordering Code	d	D	No. of Flutes	I	L
Int. 0.5 - 0.8 Ex. 0.4 - 0.7	56-32 64-36	$\phi \geq 6$	MTI0605D20 A60	6	5.0	4	20	58
		$\phi \geq 9$	MTI0808D28 A60	8	8.0	4	28	64
		$\phi \geq 13$	MTI1212E38 A60	12	12.0	5	38	84
Int. 1.0 - 1.75 Ex. 0.8 - 1.5	28-14 32-16	$\phi \geq 10$	MTI0808D30 A60	8	8.0	4	30	64
		$\phi \geq 12$	MTI1010D35 A60	10	10.0	4	35	73
		$\phi \geq 14$	MTI1212E39 A60	12	12.0	5	39	84
Int. 2.0 - 3.0 Ex. 1.75-2.5	13- 8 15-10	$\phi \geq 16$	MTI1212E40 A60	12	12.0	5	40	84
		$\phi \geq 18$	MTI1614E45 A60	16	14.0	5	45	101
		$\phi \geq 20$	MTI1616E50 A60	16	16.0	5	50	101

Order example: MTI 0808D28 A60 MT8

Groove Milling

With internal coolant through the flutes



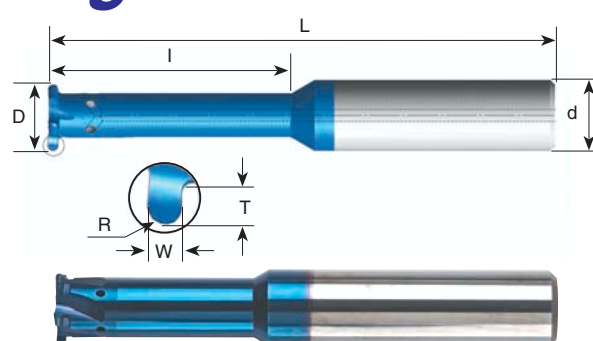
For grooving deep parts

W ± 0.02	T Max.	Groove Dia. (min.)	Ordering Code	d	D	No. of Flutes	I	L
0.80	0.8	ø>6	MG0606C8 W08	6	6.0	3	8	58
1.00	1.2	ø≥8	MG08078D10 W10	8	7.8	4	10	64
1.20	1.4	ø≥10	MG10098D20 W12	10	9.8	4	20	73
1.40	1.8	ø>16	MG1616E30 W14	16	16.0	5	30	101
1.70	2.0	ø>16	MG1616E40 W17	16	16.0	5	40	101
1.95	2.2	ø>16	MG1616E45 W19	16	16.0	5	45	101

Order example: MG 10098D20 W12 MT8

Full Radius Groove Milling

With internal coolant through the flutes

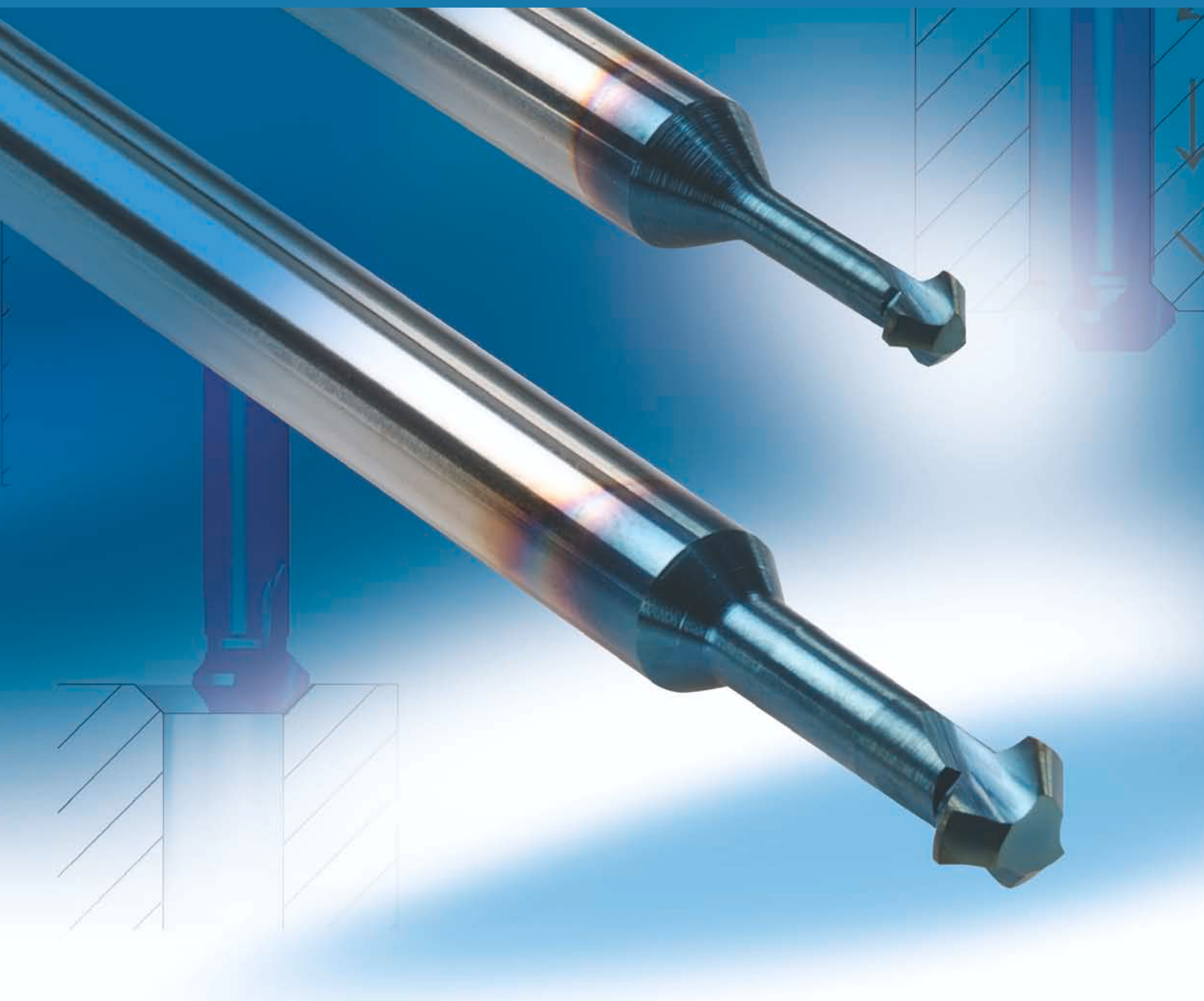


For grooving deep parts

R	W ± 0.02	T Max.	Groove Dia. (min.)	Ordering Code	d	D	No. of Flutes	I	L
0.5	1.00	0.8	ø>6	MG0606C8 R05	6	6.0	3	8	58
0.5	1.00	1.0	ø>8.8	MG10088D16 R05	10	8.8	4	16	73
0.6	1.20	1.0	ø>10	MG1010D20 R06	10	10.0	4	20	73
0.9	1.80	1.4	ø>12	MG1212D30 R09	12	12.0	4	30	84
1.0	2.00	1.6	ø>16	MG1616E40 R10	16	16.0	5	40	101
1.5	3.00	2.2	ø>16	MG1616E40 R15	16	16.0	5	40	101

Order example: MG 1010D20 R06 MT8

Mini-Chamfer



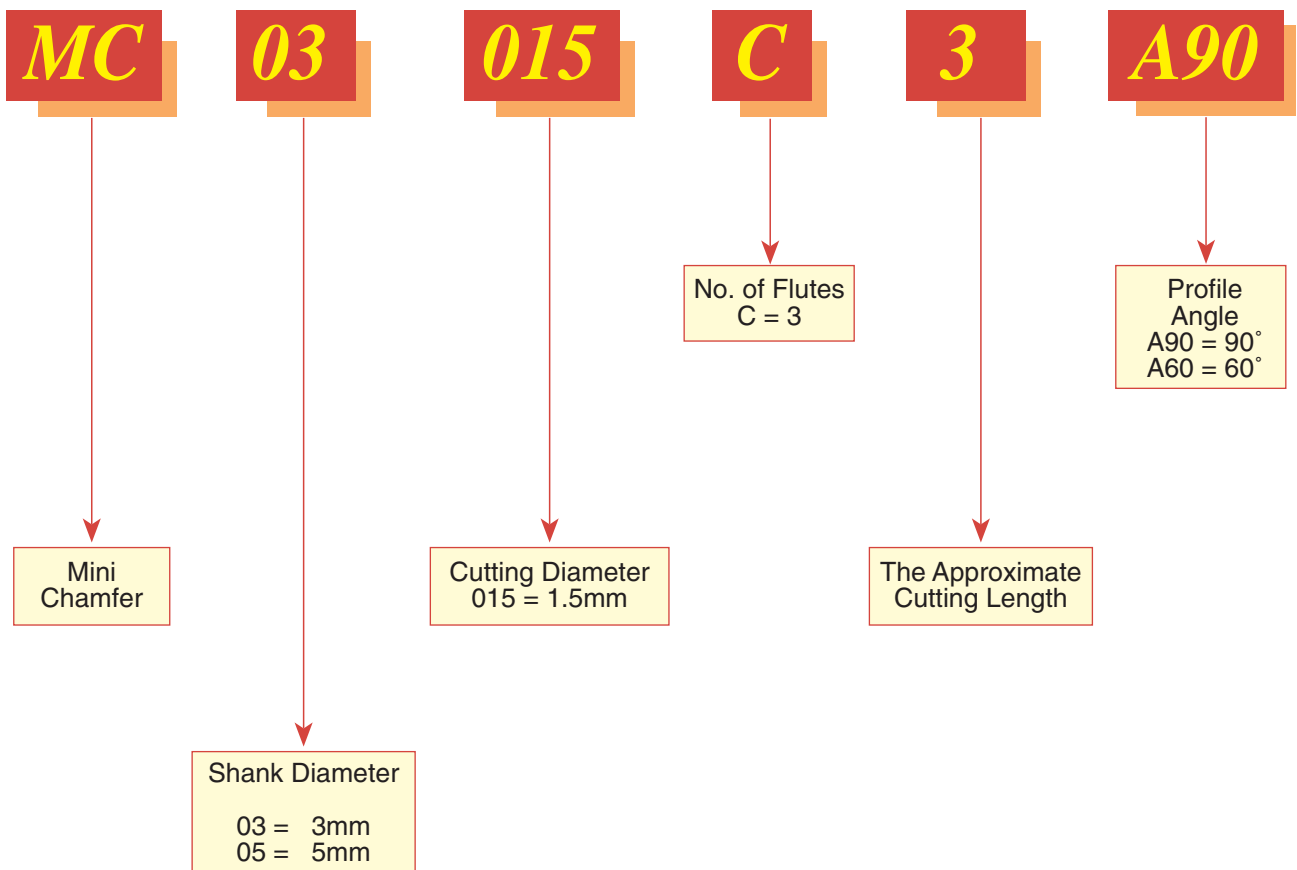
Advantages

Carbide grade: MT8 Sub Micron grade with Aluminium Titanium Nitride (AlTiN) multi-layer coating (ISO K10-K20). Extremely high heat resistant and smooth cutting operation, for high performance, and normal machining conditions. General purpose for all materials.

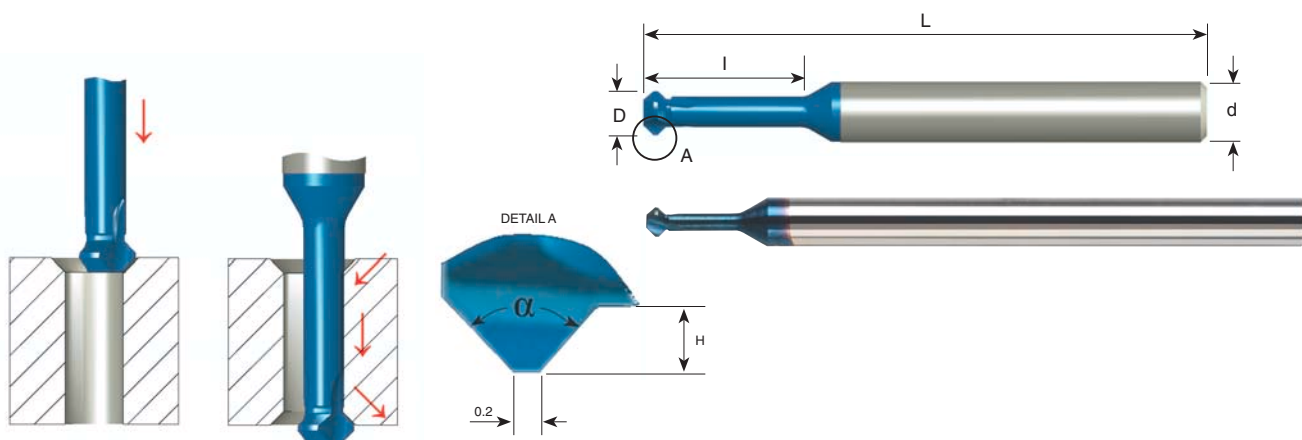
- Optimal for milling, deburring and back chamfering
- Double side cutting
- Spiral flute allows smooth cutting action

Product Identification

Mini Chamfer Ordering Codes



Mini Chamfer



45°

Ordering Code	d	D	I	H	α	No. of Flutes	L
MC03015C3 A90	3	1.5	3.8	0.3	90°	3	39
MC0302C5 A90	3	2.0	5.0	0.4	90°	3	39
MC03025C6 A90	3	2.5	6.3	0.5	90°	3	39
MC0303C7 A90	3	3.0	7.5	0.6	90°	3	39
MC04035C9 A90	4	3.5	8.8	0.7	90°	3	51
MC0404C10 A90	4	4.0	10.0	0.8	90°	3	51
MC05045C11 A90	5	4.5	11.3	1.0	90°	3	51
MC0505C12 A90	5	5.0	12.5	1.1	90°	3	51
MC06055C13 A90	6	5.5	13.8	1.2	90°	3	51
MC0606C15 A90	6	6.0	15.0	1.5	90°	3	51

Long Reach 45°

Ordering Code	d	D	I	H	α	No. of Flutes	L
MC0303C12 A90	3	3.0	12.0	0.6	90°	3	39
MC04035C14 A90	4	3.5	14.0	0.7	90°	3	51
MC0404C16 A90	4	4.0	16.0	0.8	90°	3	51
MC05045C18 A90	5	4.5	18.0	1.0	90°	3	51
MC0505C20 A90	5	5.0	20.0	1.1	90°	3	51
MC06055C22 A90	6	5.5	22.0	1.2	90°	3	58
MC0606C24 A90	6	6.0	24.0	1.5	90°	3	58

30°

Ordering Code	d	D	I	H	α	No. of Flutes	L
MC0302C5 A60	3	2.0	5.0	0.4	60°	3	39
MC0303C7 A60	3	3.0	7.5	0.6	60°	3	39
MC04035C9 A60	4	3.5	8.8	0.7	60°	3	51
MC0404C10 A60	4	4.0	10.0	0.8	60°	3	51
MC05045C11 A60	5	4.5	11.3	1.0	60°	3	51
MC0505C12 A60	5	5.0	12.5	1.1	60°	3	51







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