



Carmex
Precision Tools Ltd.



Solid Carbide Milling Tools

The Complete Solution

Mill Thread
Grooving
Chamfering

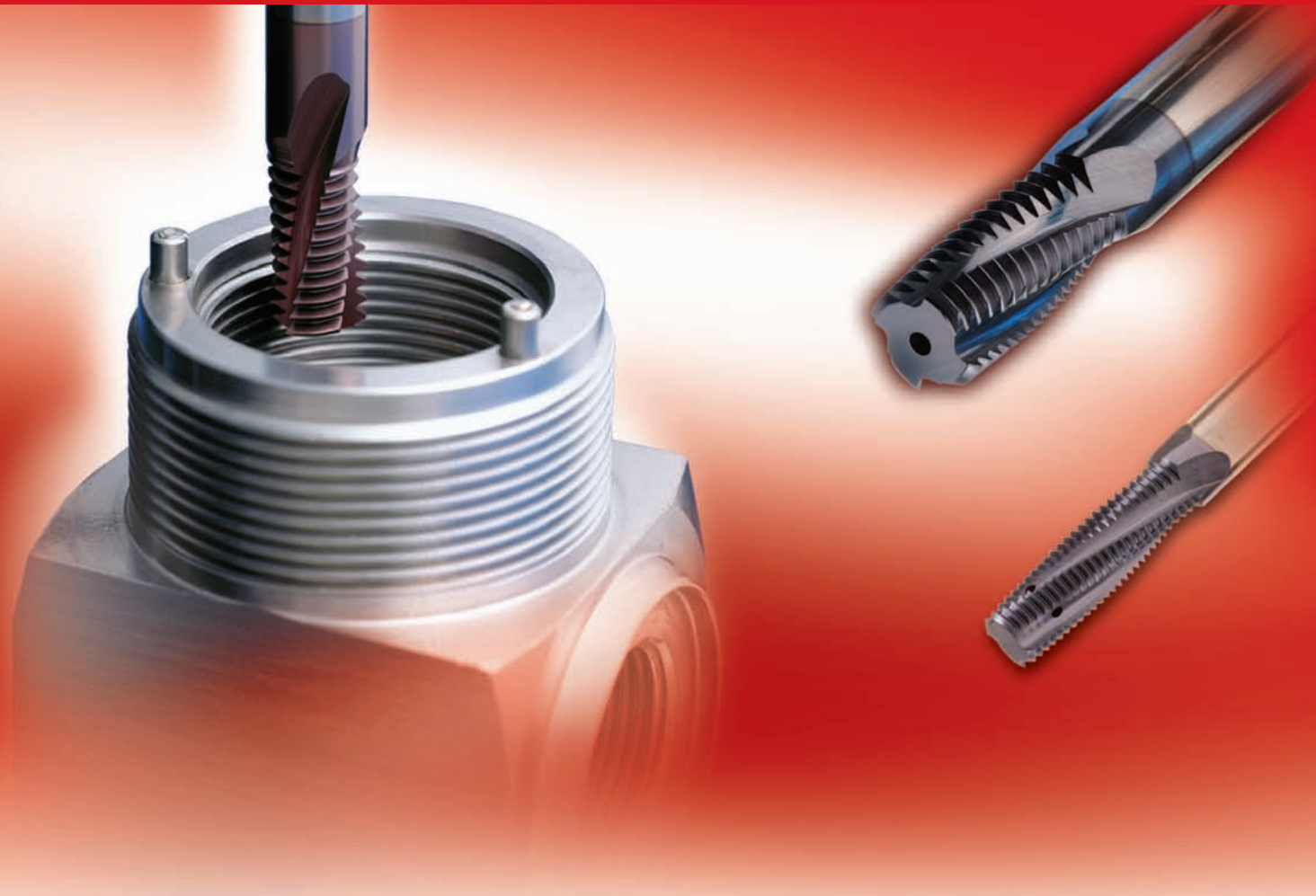


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Mill-Thread Solid Carbide



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

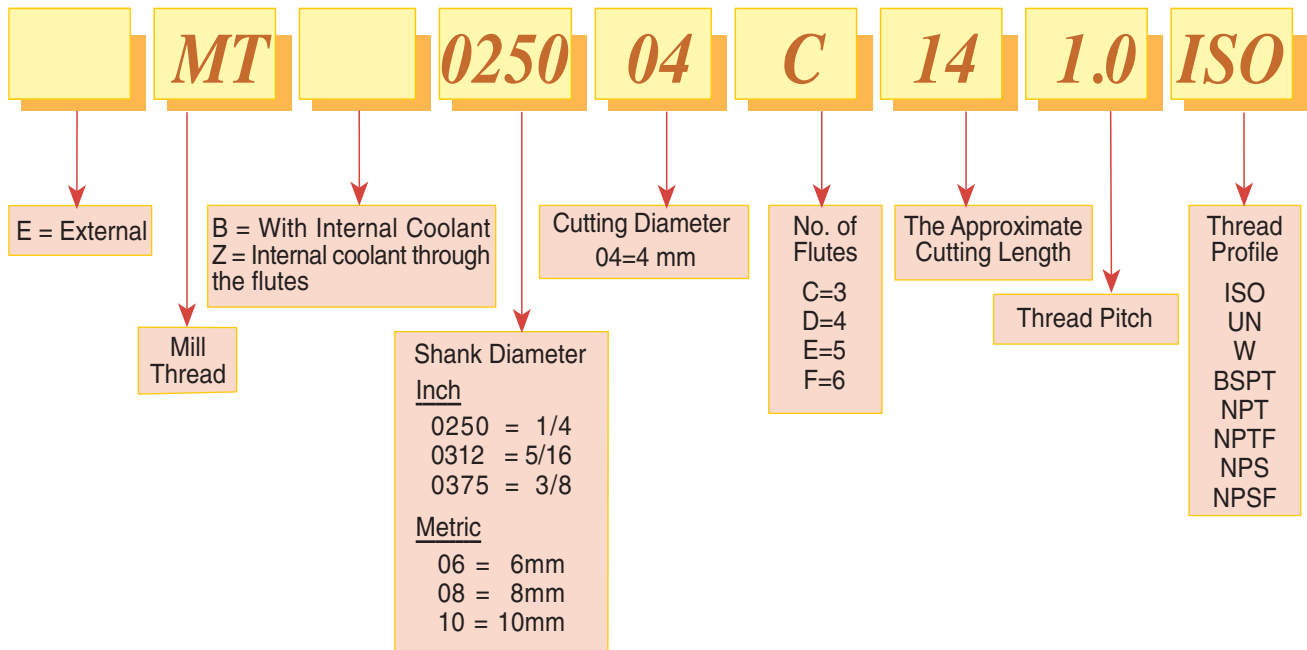
MTZ - Thread Mills with Internal Coolant through the flutes

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

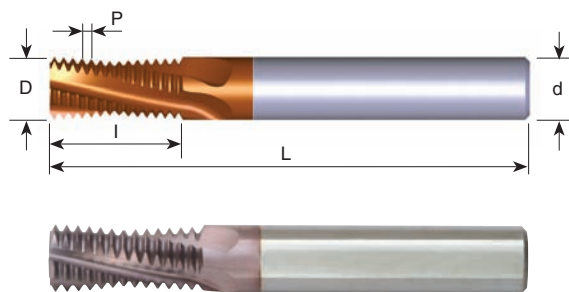
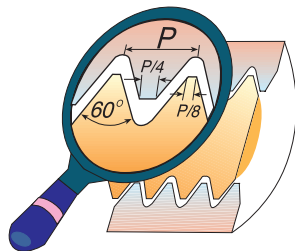
Mill-Thread Solid Carbide Ordering Codes



Mill - Thread Solid Carbide

ISO

Tools for Internal Thread



Pitch mm	M coarse	M fine mm	Ordering Code	d	D	No. of Flutes	l	L
0.5	M3	$\varnothing \geq 4$	MT0250C02 0.5 ISO	1/4	.087	3	.21	2.5
0.5		$\varnothing \geq 5$	MT0250C04 0.5 ISO	1/4	.150	3	.41	2.5
0.7	M4	$\varnothing \geq 5$	MT0250C03 0.7 ISO	1/4	.122	3	.29	2.5
0.75		$\varnothing \geq 6$	MT0250C04 0.75 ISO	1/4	.177	3	.40	2.5
0.8	M5	$\varnothing \geq 6$	MT0250C04 0.8 ISO	1/4	.142	3	.36	2.5
1.0	M6	$\varnothing \geq 7$	MT0250C04 1.0 ISO	1/4	.157	3	.41	2.5
1.0		$\varnothing \geq 7$	MT0250C06 1.0 ISO	1/4	.157	3	.57	2.5
1.0		$\varnothing \geq 9$	MT0250C05 1.0 ISO	1/4	.236	3	.49	2.5
1.0		$\varnothing \geq 10$	MT0312D07 1.0 ISO	5/16	.313	4	.65	2.5
1.25	M8	$\varnothing \geq 10$	MT0250C06 1.25 ISO	1/4	.197	3	.57	2.5
1.25		$\varnothing \geq 10$	MT0250C07 1.25 ISO	1/4	.197	3	.76	2.5
1.5	M10	$\varnothing \geq 12$	MT0312C07 1.5 ISO	5/16	.276	3	.68	2.5
1.5		$\varnothing \geq 12$	MT0312C09 1.5 ISO	5/16	.276	3	.98	2.5
1.5		$\varnothing \geq 14$	MT0375D09 1.5 ISO	3/8	.375	4	.86	3.0
1.5		$\varnothing \geq 20$	MT0625F13 1.5 ISO	5/8	.625	6	1.33	4.0
1.75	M12	$\varnothing \geq 14$	MT0312C08 1.75 ISO	5/16	.313	3	.79	2.5
1.75		$\varnothing \geq 14$	MT0312C11 1.75 ISO	5/16	.313	3	1.14	2.5
2.0	M16	$\varnothing \geq 17$	MT0375C11 2.0 ISO	3/8	.375	3	1.06	3.0
2.0		$\varnothing \geq 17$	MT0375C15 2.0 ISO	3/8	.375	3	1.54	4.0
2.0		$\varnothing \geq 18$	MT0500D11 2.0 ISO	1/2	.472	4	1.06	3.5
2.0		$\varnothing \geq 26$	MT0750F16 2.0 ISO	3/4	.750	6	1.61	4.0
2.5	M20	$\varnothing \geq 22$	MT0625D13 2.5 ISO	5/8	.551	4	1.33	4.0
2.5		$\varnothing \geq 22$	MT0625D19 2.5 ISO	5/8	.551	4	1.92	4.0
3.0	M24	$\varnothing \geq 25$	MT0625C16 3.0 ISO	5/8	.625	3	1.59	4.0
3.0		$\varnothing \geq 25$	MT0625C23 3.0 ISO	5/8	.625	3	2.31	4.5
3.0	M27	$\varnothing \geq 28$	MT0750D17 3.0 ISO	3/4	.750	4	1.71	4.0

Order example: MT 0500D11 2.0 ISO MT7

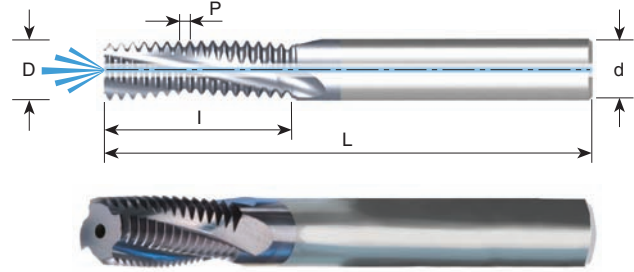
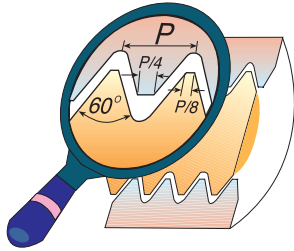
For thread mills with coolant bore see following pages

For small thread mills see pages 21 & 26



ISO With internal coolant bore

Tools for Internal Thread



Pitch mm	M coarse	M fine mm	Ordering Code	d	D	No. of Flutes	l	L
0.5		$\varnothing \geq 5$	MTB0250C04 0.5 ISO	1/4	.150	3	.41	2.5
0.7	M 4	$\varnothing \geq 5$	MTB0250C02 0.7 ISO	1/4	.122	3	.29	2.5
0.75		$\varnothing \geq 6$	MTB0250C04 0.75 ISO	1/4	.177	3	.40	2.5
0.8	M 5	$\varnothing \geq 6$	MTB0250C03 0.8 ISO	1/4	.150	3	.36	2.5
1.0	M 6	$\varnothing \geq 7$	MTB0250C04 1.0 ISO	1/4	.181	3	.41	2.5
1.0	M 6	$\varnothing \geq 7$	MTB0250C06 1.0 ISO	1/4	.181	3	.60	2.5
1.0		$\varnothing \geq 9$	MTB0250C05 1.0 ISO	1/4	.250	3	.50	2.5
1.0		$\varnothing \geq 10$	MTB0312D06 1.0 ISO	5/16	.312	4	.65	2.5
1.0		$\varnothing \geq 12$	MTB0375D09 1.0 ISO	3/8	.375	4	.96	3.0
1.25	M 8	$\varnothing \geq 10$	MTB0250C05 1.25 ISO	1/4	.250	3	.57	2.5
1.25	M 8	$\varnothing \geq 10$	MTB0250C07 1.25 ISO	1/4	.250	3	.76	2.5
1.5	M10	$\varnothing \geq 12$	MTB0312C06 1.5 ISO	5/16	.307	3	.67	2.5
1.5	M10	$\varnothing \geq 12$	MTB0312C09 1.5 ISO	5/16	.307	3	.98	2.5
1.5		$\varnothing \geq 14$	MTB0375D08 1.5 ISO	3/8	.375	4	.86	3.0
1.5		$\varnothing \geq 16$	MTB0500D10 1.5 ISO	1/2	.500	4	1.04	4.0
1.5		$\varnothing \geq 20$	MTB0625F13 1.5 ISO	5/8	.625	6	1.33	4.0
1.75	M12	$\varnothing \geq 12$	MTB0375C07 1.75 ISO	3/8	.354	3	.79	3.0
1.75	M12	$\varnothing \geq 12$	MTB0375C11 1.75 ISO	3/8	.354	3	1.14	3.0
2.0	M14	$\varnothing \geq 15$	MTB0375C10 2.0 ISO	3/8	.375	3	1.06	3.0
2.0	M16	$\varnothing \geq 17$	MTB0500D10 2.0 ISO	1/2	.465	4	1.06	4.0
2.0	M16	$\varnothing \geq 17$	MTB0500D15 2.0 ISO	1/2	.465	4	1.54	4.0
2.0		$\varnothing \geq 26$	MTB0750F16 2.0 ISO	3/4	.750	6	1.61	4.0
2.5	M20	$\varnothing \geq 22$	MTB0625E13 2.5 ISO	5/8	.591	5	1.33	4.0
2.5	M20	$\varnothing \geq 22$	MTB0625E19 2.5 ISO	5/8	.591	5	1.92	4.0
3.0	M24	$\varnothing \geq 25$	MTB0750D15 3.0 ISO	3/4	.709	4	1.59	4.0
3.0	M27	$\varnothing \geq 27$	MTB0750D17 3.0 ISO	3/4	.750	4	1.71	4.0

Order example: MTB 0312C06 1.5 ISO MT7

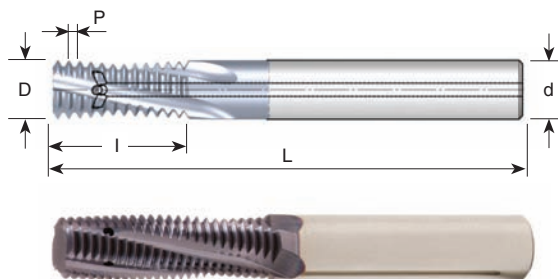
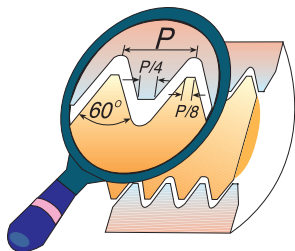
For thread mills with coolant through the flutes see next page

For small thread mills see pages 21 & 26



ISO With internal coolant through the flutes

Tools for Internal Thread - Metric Shanks



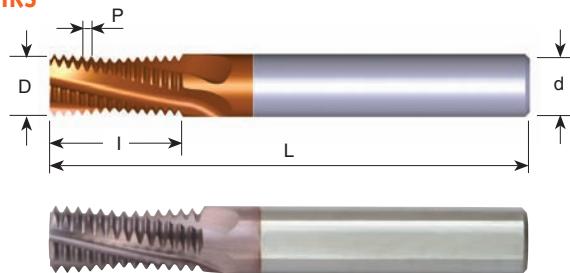
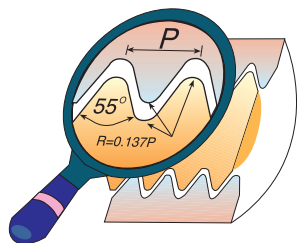
Pitch mm	M coarse	M fine	Ordering Code	d mm	D	No. of Flutes	l	L
1.0	M6	$\varnothing \geq 7$	MTZ06048C10 1.0 ISO	6	.189	3	.41	2.3
1.0		$\varnothing \geq 9$	MTZ0606C12 1.0 ISO	6	.236	3	.49	2.3
1.0		$\varnothing \geq 10$	MTZ0808D16 1.0 ISO	8	.315	4	.65	2.5
1.25	M8	$\varnothing \geq 10$	MTZ0606C14 1.25 ISO	6	.236	3	.57	2.3
1.25	M8	$\varnothing \geq 10$	MTZ0606C19 1.25 ISO	6	.236	3	.76	2.3
1.5	M10	$\varnothing \geq 12$	MTZ08078C17 1.5 ISO	8	.307	3	.67	2.5
1.5		$\varnothing \geq 14$	MTZ1010D21 1.5 ISO	10	.394	4	.86	2.9
1.5		$\varnothing \geq 16$	MTZ1212D26 1.5 ISO	12	.472	4	1.03	3.3
1.5		$\varnothing \geq 20$	MTZ1616E33 1.5 ISO	16	.630	5	1.33	4.0
1.75	M12	$\varnothing \geq 12$	MTZ1009C20 1.75 ISO	10	.354	3	.79	2.9
1.75	M12	$\varnothing \geq 12$	MTZ1009C28 1.75 ISO	10	.354	3	1.14	2.9
2.0	M14	$\varnothing \geq 15$	MTZ1010C27 2.0 ISO	10	.394	3	1.06	2.9
2.0	M16	$\varnothing \geq 17$	MTZ12118D27 2.0 ISO	12	.465	4	1.06	3.3
2.5	M20	$\varnothing \geq 22$	MTZ1615E33 2.5 ISO	16	.591	5	1.33	4.0

Order example: MTZ 08078C17 1.5 ISO MT7



G (55°) BSF, BSP

Same Tool for Internal and External Thread - Metric shanks

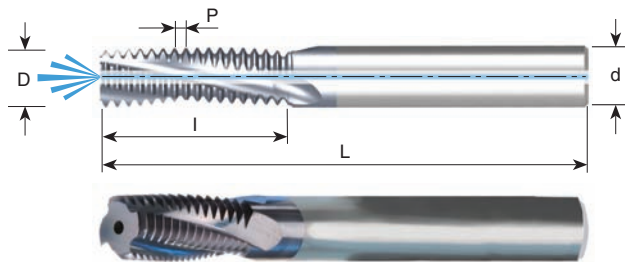


Pitch TPI	Standard	Ordering Code	d mm	D	No. of Flutes	I	L
28	G1/8	MT0606C9 28 W	6	.236	3	.38	2.3
19	G1/4-3/8	MT0808C14 19 W	8	.315	3	.55	2.5
14	G1/2-7/8	MT1212D19 14 W	12	.472	4	.75	3.3
14	G1/2-7/8	MT1212D26 14 W	12	.472	4	1.04	3.3
11	G1-1 1/2	MT1212C24 11 W	12	.472	3	.95	3.3
11	G≥1	MT1616D38 11 W	16	.630	4	1.50	4.1
11	G≥1	MT2020E47 11 W	20	.787	5	1.86	4.1

Order example: MT 1212D19 14 W MT7

With internal coolant bore

Same Tool for Internal and External Thread - Metric shanks

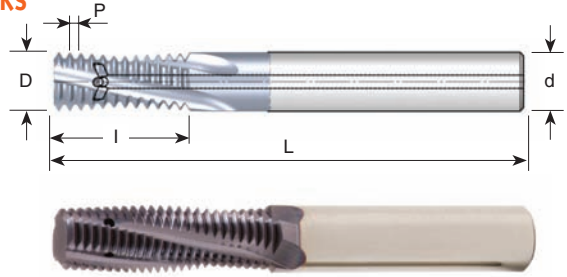
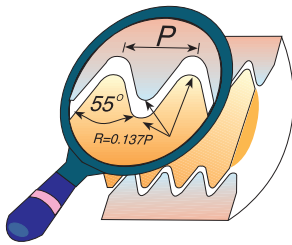


Pitch TPI	Standard	Ordering Code	d mm	D	No. of Flutes	I	L
28	G1/8	MTB08078C14 28W	8	.307	3	.56	2.5
19	G1/4-3/8	MTB1010D16 19W	10	.394	4	.66	2.9
14	G1/2-7/8	MTB1616E26 14W	16	.630	5	1.04	4.1
11	G≥1	MTB1616D38 11W	16	.630	4	1.50	4.1
11	G≥1	MTB2020E47 11W	20	.787	5	1.86	4.1

Order example: MTB 1010D16 19 W MT7

G (55°) BSF, BSP With internal coolant through the flutes

Same Tool for Internal and External Thread - Metric shanks

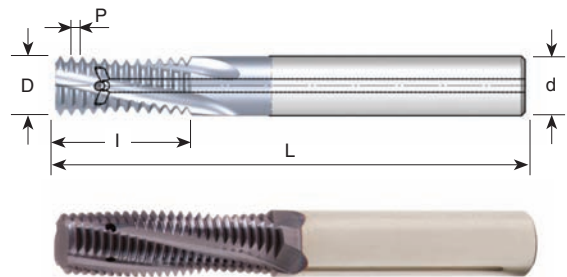
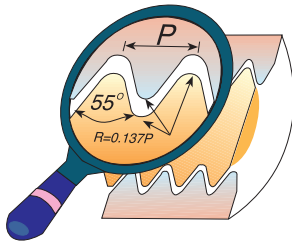


Pitch TPI	Standard	Ordering Code	d mm	D	No. of Flutes	I	L
28	G1/8	MTZ08078C14 28W	8	.307	3	.56	2.5
19	G1/4-3/8	MTZ1010D16 19W	10	.394	4	.66	2.9
14	G1/2-7/8	MTZ1616E26 14W	16	.630	5	1.04	4.0
11	G≥1	MTZ1616D38 11W	16	.630	4	1.50	4.0

Order example: MTZ 08078C14 28 W MT7

Whitworth BSW With internal coolant through the flutes

Same Tool for Internal and External Thread - Metric Shanks



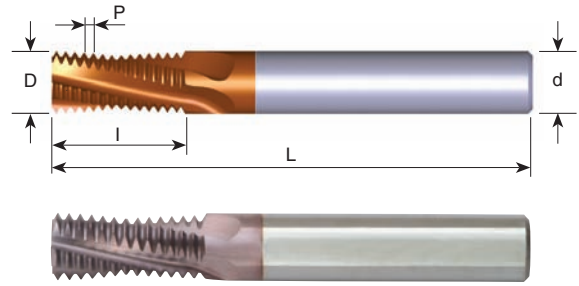
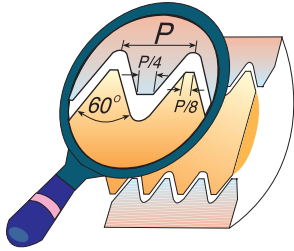
Pitch TPI	Standard	Ordering Code	d mm	D	No. of Flutes	I	L
* 20	1/4	MTZ06045C12 20W	6	.181	3	.48	2.3
18	5/16	MTZ06053C14 18W	6	.209	3	.58	2.3
16	3/8	MTZ08064C16 16W	8	.268	3	.66	2.5
16	1/2	MTZ10092D24 16W	10	.362	4	.97	2.9
14	7/16	MTZ08074D20 14W	8	.307	4	.82	2.5
12	1/2	MTZ10085D24 12W	10	.339	4	.96	2.9
11	5/8	MTZ12109D28 11W	12	.429	4	1.14	3.3

Order example: MTZ 08064C16 16 W MT7

* Cutter without coolant

UN

Tools for Internal Thread



Pitch TPI	UNC	UNF	UNEF	Ordering Code	d	D	No. of Flutes	I	L
40	5			MT0250C02 40UN	1/4	.098	3	.24	2.5
32	8	10	12	MT0250C02 32UN	1/4	.126	3	.27	2.5
28		1/4		MT0250C04 28UN	1/4	.157	3	.45	2.5
28			7/16-1/2	MT0250C05 28UN	1/4	.236	3	.57	2.5
24		5/16		MT0250C06 24UN	1/4	.197	3	.56	2.5
24		3/8	9/16-5/8	MT0312C08 24UN	5/16	.276	3	.81	2.5
20	1/4			MT0250C05 20UN	1/4	.177	3	.48	2.5
20		7/16-1/2		MT0312C08 20UN	5/16	.276	3	.83	2.5
20			3/4-1	MT0500E11 20UN	1/2	.472	5	1.08	3.5
18	5/16			MT0250C06 18UN	1/4	.197	3	.58	2.5
18		9/16-5/8	1 1/8-1 5/8	MT0375D10 18UN	3/8	.375	4	1.03	3.0
16	3/8			MT0250C07 16UN	1/4	.236	3	.66	2.5
16		3/4		MT0500D12 16UN	1/2	.472	4	1.22	3.5
14	7/16			MT0312C08 14UN	5/16	.276	3	.82	2.5
14		7/8		MT0625E15 14UN	5/8	.591	5	1.46	4.0
13	1/2			MT0312C09 13UN	5/16	.313	3	.88	2.5
12	9/16			MT0375C10 12UN	3/8	.375	3	1.04	3.0
12		1-1 1/2		MT0625E16 12UN	5/8	.625	5	1.63	4.0
11	5/8			MT0375C11 11UN	3/8	.375	3	1.14	3.0
10	3/4			MT0500C14 10UN	1/2	.472	3	1.35	3.5
9	7/8			MT0625C15 9UN	5/8	.591	3	1.50	4.0
8	1			MT0625C17 8UN	5/8	.625	3	1.69	4.0
7	1 1/8-1 1/4			MT0750D17 7UN	3/4	.750	4	1.78	4.0

Order example: [MT 0625E15 14 UN](#) [MT7](#)

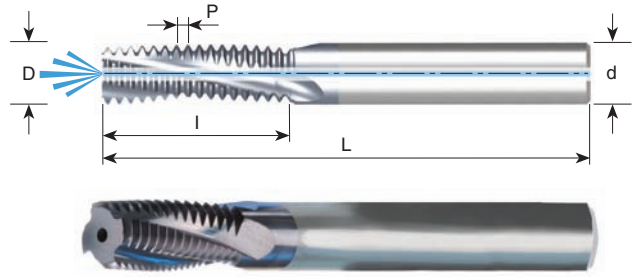
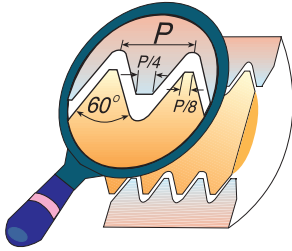
For thread mills with coolant bore see following pages

For small thread mills see pages 22-23 & 27



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	MTB0250C02 32 UN	1/4	.126	3	.27	2.5
32			5/16	MTB0250C05 32 UN	1/4	.250	3	.58	2.5
32			3/8	MTB0312D07 32 UN	5/16	.312	4	.74	2.5
28		1/4		MTB0250C04 28 UN	1/4	.197	3	.44	2.5
28			7/16-1/2	MTB0250C05 28 UN	1/4	.250	3	.56	2.5
24		5/16		MTB0312C05 24 UN	5/16	.260	3	.56	2.5
24		3/8	9/16-5/8	MTB0312D08 24 UN	5/16	.312	4	.81	2.5
20	1/4			MTB0250C04 20 UN	1/4	.185	3	.48	2.5
20		7/16		MTB0312C08 20 UN	5/16	.312	3	.83	2.5
20		1/2		MTB0375D08 20 UN	3/8	.375	4	.88	3.0
20			3/4-1	MTB0500E10 20 UN	1/2	.500	5	1.07	4.0
18	5/16			MTB0250C05 18 UN	1/4	.220	3	.58	2.5
18		9/16-5/8	1 1/8-1 5/8	MTB0500D10 18 UN	1/2	.445	4	1.03	4.0
16	3/8			MTB0312C06 16 UN	5/16	.264	3	.66	2.5
16		3/4		MTB0500D12 16 UN	1/2	.500	4	1.22	4.0
14	7/16			MTB0312C08 14 UN	5/16	.303	3	.82	2.5
14		7/8		MTB0625E14 14 UN	5/8	.625	5	1.46	4.0
13	1/2			MTB0375C08 13 UN	3/8	.362	3	.89	3.0
12	9/16			MTB0500C10 12 UN	1/2	.413	3	1.04	4.0
12		1-1 1/2		MTB0625E16 12 UN	5/8	.625	5	1.63	4.0
11	5/8			MTB0500C11 11 UN	1/2	.449	3	1.14	4.0
10	3/4			MTB0625D13 10 UN	5/8	.567	4	1.35	4.0
9	7/8			MTB0625C15 9 UN	5/8	.625	3	1.50	4.0
8	1			MTB0750D16 8 UN	3/4	.750	4	1.69	4.0
7	1 1/8-1 1/4			MTB0750D17 7 UN	3/4	.750	4	1.78	4.0

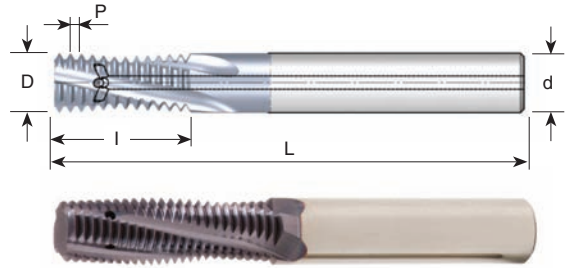
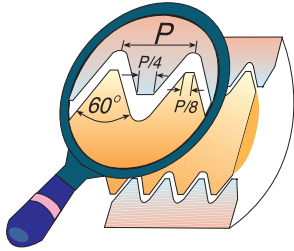
Order example: MTB 0625E14 14 UN MT7

For thread mills with coolant through the flutes see next page

For small thread mills see pages 22-23 & 27 

UN With internal coolant through the flutes

Tools for Internal Thread - Metric Shanks



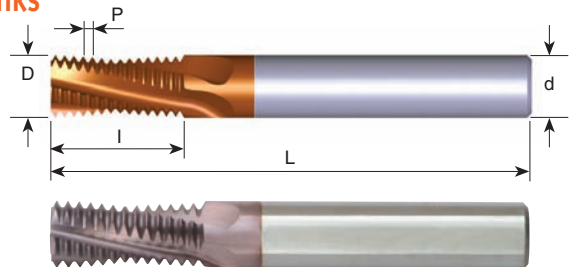
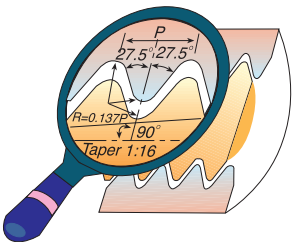
Pitch TPI	UNC	UNF	UNEF	Ordering Code	d mm	D	No. of Flutes	I	L
28		1/4		MTZ0605C11 28 UN	6	.197	3	.44	2.3
28			7/16-1/2	MTZ0606C14 28 UN	6	.236	3	.56	2.3
24		5/16		MTZ08066C14 24 UN	8	.260	3	.56	2.5
24		3/8	9/16-5/8	MTZ0808D21 24 UN	8	.315	4	.81	2.5
20		7/16		MTZ0808C21 20 UN	8	.315	3	.83	2.5
20		1/2		MTZ1010D22 20 UN	10	.394	4	.88	2.9
20			3/4-1	MTZ1212E27 20 UN	12	.472	5	1.07	3.3
18	5/16			MTZ06056C14 18 UN	6	.220	3	.58	2.3
18		9/16-5/8	1 1/8-1 5/8	MTZ12113D26 18 UN	12	.445	4	1.03	3.3
16	3/8			MTZ08067C16 16 UN	8	.264	3	.66	2.5
16		3/4		MTZ1212D31 16 UN	12	.472	4	1.22	3.3
14	7/16			MTZ08077C20 14 UN	8	.303	3	.82	2.5
14		7/8		MTZ1616E37 14 UN	16	.630	5	1.46	4.0
13	1/2			MTZ10092C22 13 UN	10	.362	3	.89	2.9
12	9/16			MTZ12105C26 12 UN	12	.413	3	1.04	3.3
11	5/8			MTZ12114C28 11 UN	12	.449	3	1.14	3.3
10	3/4			MTZ16144D34 10 UN	16	.567	4	1.35	4.0

Order example: MTZ 0808D21 24 UN MT7
 For small thread mills see pages 22-23 & 27



BSPT

Same Tool for Internal and External Thread - Metric shanks

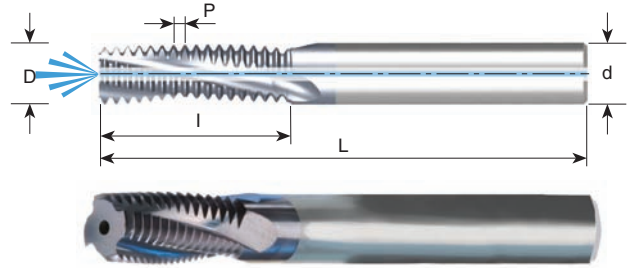


Pitch TPI	Standard	Ordering Code	d mm	D	No. of Flutes	I	L
28	RC1/8	MT0606C9 28 BSPT	6	.236	3	.38	2.3
19	RC1/4-3/8	MT0808C14 19 BSPT	8	.315	3	.55	2.5
14	RC1/2-7/8	MT1212D19 14 BSPT	12	.472	4	.75	3.3
11	RC1-2	MT1616D28 11 BSPT	16	.630	4	1.14	4.1

Order example: MT 1616D28 11 BSPT MT7

BSPT With internal coolant bore

Same Tool for Internal and External Thread - Metric shanks

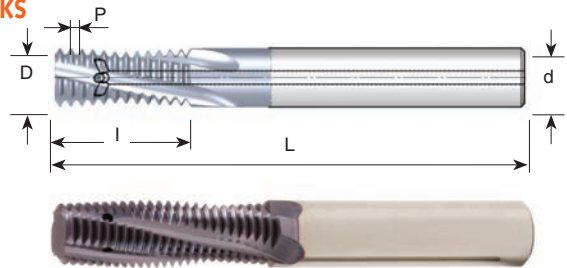
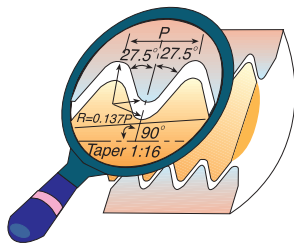


Pitch TPI	Standard	Ordering Code	d mm	D	No. of Flutes	I	L
28	RC1/8	MTB08078C14 28 BSPT	8	.307	3	.56	2.5
19	RC1/4-3/8	MTB1010D16 19 BSPT	10	.394	4	.66	2.9
14	RC1/2-7/8	MTB1616E26 14 BSPT	16	.630	5	1.04	4.1
11	RC1-2	MTB1616D28 11 BSPT	16	.630	4	1.14	4.1

Order example: MTB 08078C14 28 BSPT MT7

BSPT With internal coolant through the flutes

Same Tool for Internal and External Thread - Metric shanks

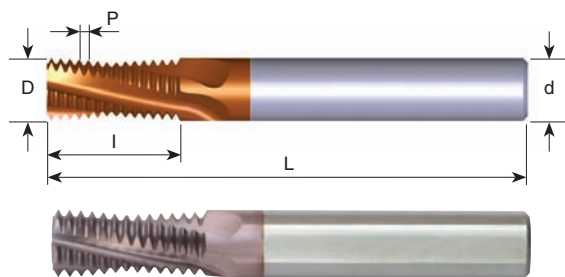
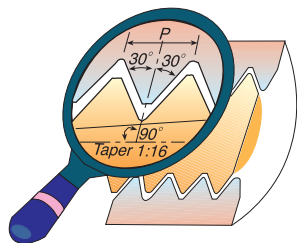


Pitch TPI	Standard	Ordering Code	d mm	D	No. of Flutes	I	L
28	RC1/8	MTZ08078C14 28 BSPT	8	.307	3	.56	2.5
19	RC1/4-3/8	MTZ1010D16 19 BSPT	10	.394	4	.66	2.9
14	RC1/2-7/8	MTZ1616E26 14 BSPT	16	.630	5	1.04	4.0
11	RC1-2	MTZ1616D28 11 BSPT	16	.630	4	1.14	4.0

Order example: MTZ 1010D16 19 BSPT MT7

NPT

Same Tool for Internal and External Thread

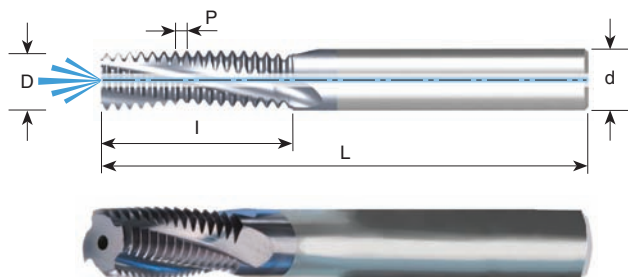


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/16	MT0250C03 27 NPT	1/4	.230	3	.39	2.5
27	1/8	MT0250C04 27 NPT	1/4	.250	3	.39	2.5
18	1/4-3/8	MT0312C06 18 NPT	5/16	.312	3	.58	2.5
14	1/2-3/4	MT0500D08 14 NPT	1/2	.500	4	.82	3.5
11.5	1-2	MT0625D11 11.5 NPT	5/8	.625	4	1.09	4.0
8	≥ 2 1/2	MT0750D16 8 NPT	3/4	.750	4	1.56	4.0

Order example: MT 0312C06 18 NPT MT7

NPT With internal coolant

Same Tool for Internal and External Thread



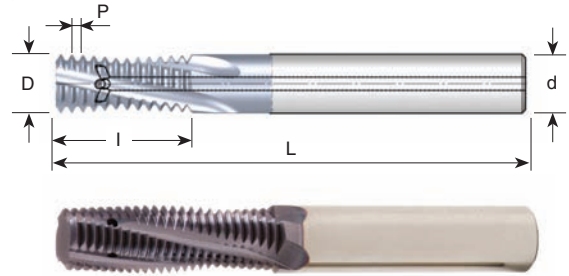
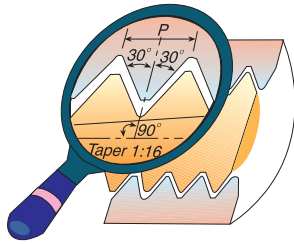
Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/8	MTB0312C04 27 NPT	5/16	.299	3	.43	2.5
18	1/4-3/8	MTB0375D06 18 NPT	3/8	.375	4	.64	3.0
14	1/2-3/4	MTB0625D08 14 NPT	5/8	.610	4	.89	4.0
11.5	1-2	MTB0750D11 11.5NPT	3/4	.750	4	1.17	4.0
8	≥ 2 1/2	MTB0750D15 8 NPT	3/4	.750	4	1.56	4.0

Order example: MTB 0312C04 27 NPT MT7

For thread mills with coolant through the flutes see next page
 For conical preparation end mills see page 16

NPT With internal coolant through the flutes

Same Tool for Internal and External Thread - Metric shanks

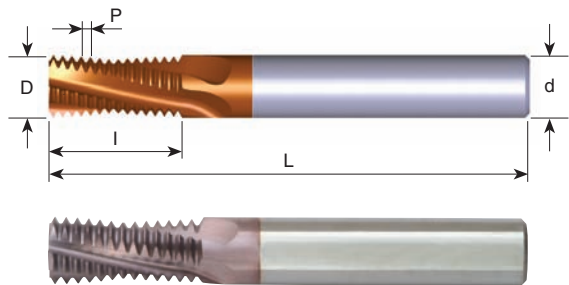
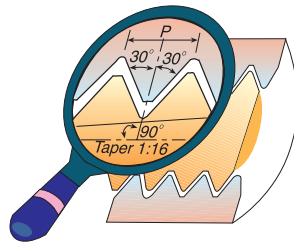


Pitch TPI	Standard	Ordering Code	d mm	D	No. of Flutes	I	L
27	1/8	MTZ08076C10 27NPT	8	.299	3	.43	2.5
18	1/4-3/8	MTZ1010D16 18NPT	10	.394	4	.64	2.9
14	1/2-3/4	MTZ16155D22 14NPT	16	.610	4	.89	4.0

Order example: MTZ 08076C10 27 NPT MT7

NPTF

Same Tool for Internal and External Thread



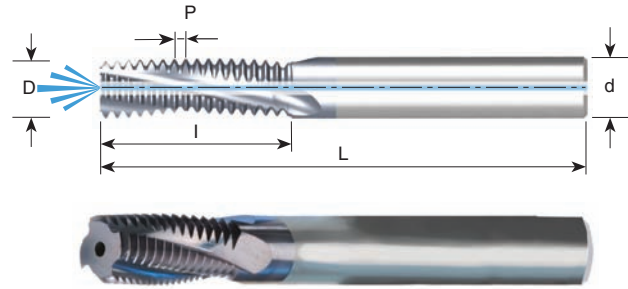
Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/16	MT0250C03 27 NPTF	1/4	.230	3	.39	2.5
27	1/8	MT0250C04 27 NPTF	1/4	.250	3	.39	2.5
18	1/4-3/8	MT0312C06 18 NPTF	5/16	.312	3	.58	2.5
14	1/2-3/4	MT0500D08 14 NPTF	1/2	.500	4	.82	3.5
11.5	1-2	MT0625D11 11.5 NPTF	5/8	.625	4	1.09	4.0
8	≥ 2 1/2	MT0750D16 8 NPTF	3/4	.750	4	1.56	4.0

Order example: MT 0500D08 14 NPTF MT7

For thread mills with coolant bore see next page
 For conical preparation end mills see page 16

NPTF With internal coolant

Same Tool for Internal and External Thread

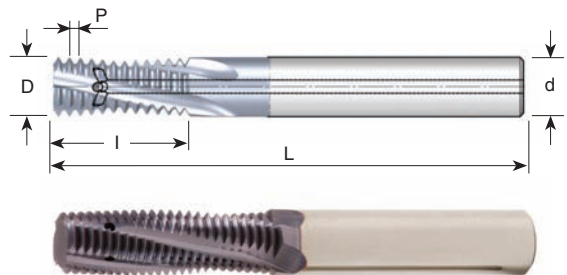
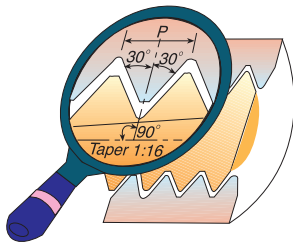


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/8	MTB0312C04 27 NPTF	5/16	.299	3	.43	2.5
18	1/4-3/8	MTB0375D06 18 NPTF	3/8	.375	4	.64	3.0
14	1/2-3/4	MTB0625D08 14 NPTF	5/8	.610	4	.89	4.0
11.5	1-2	MTB0750D11 11.5NPTF	3/4	.750	4	1.17	4.0
8	≥ 2 1/2	MTB0750D15 8 NPTF	3/4	.750	4	1.57	4.0

Order example: MTB 0312C04 27 NPTF MT7

NPTF With internal coolant through the flutes

Same Tool for Internal and External Thread - Metric shanks

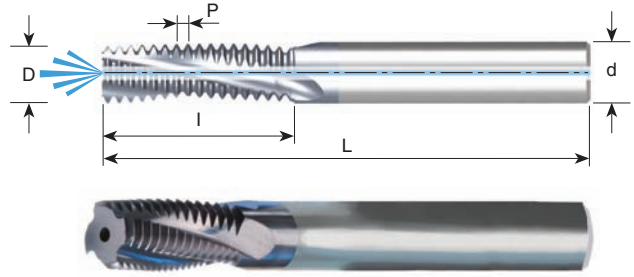
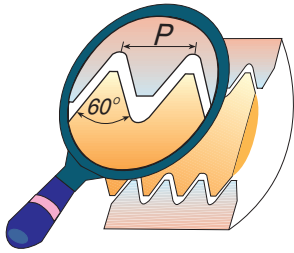


Pitch TPI	Standard	Ordering Code	d mm	D	No. of Flutes	I	L
27	1/8	MTZ08076C10 27NPTF	8	.299	3	.43	2.5
18	1/4-3/8	MTZ1010D16 18NPTF	10	.394	4	.64	2.9
14	1/2-3/4	MTZ16155D22 14NPTF	16	.610	4	.89	4.0

Order example: MTZ 1010D16 18 NPTF MT7

NPS With internal coolant

Same Tool for Internal and External Thread

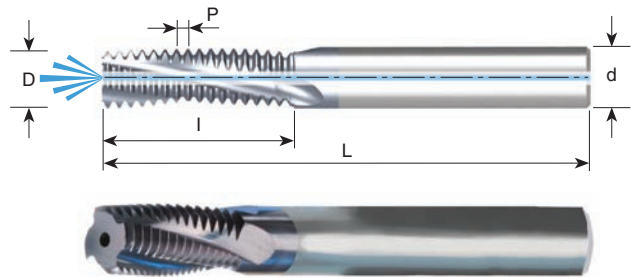
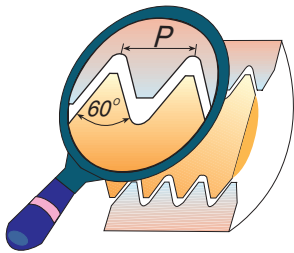


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/8	MTB0312C04 27 NPS	5/16	.299	3	.43	2.5
18	1/4-3/8	MTB0375D06 18 NPS	3/8	.375	4	.64	3.0
14	1/2-3/4	MTB0625D08 14 NPS	5/8	.610	4	.89	4.0
11.5	1-2	MTB0750D11 11.5 NPS	3/4	.750	4	1.17	4.0

Order example: MTB 0375D06 18 NPS

NPSF 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	MTB0312C04 27 NPSF	5/16	.299	3	.43	2.5
18	1/4-3/8	MTB0375D06 18 NPSF	3/8	.375	4	.64	3.0
14	1/2-3/4	MTB0625D08 14 NPSF	5/8	.610	4	.89	4.0
11.5	1-2	MTB0750D11 11.5 NPSF	3/4	.750	4	1.17	4.0

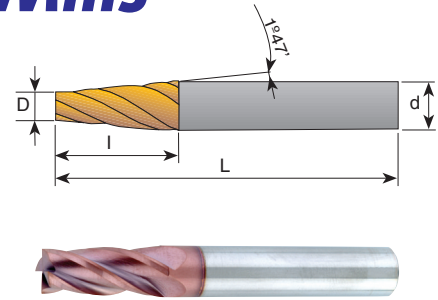
Order example: MTB 0312C04 27 NPSF

Solid Carbide Tapered End Mills

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

Advantages:

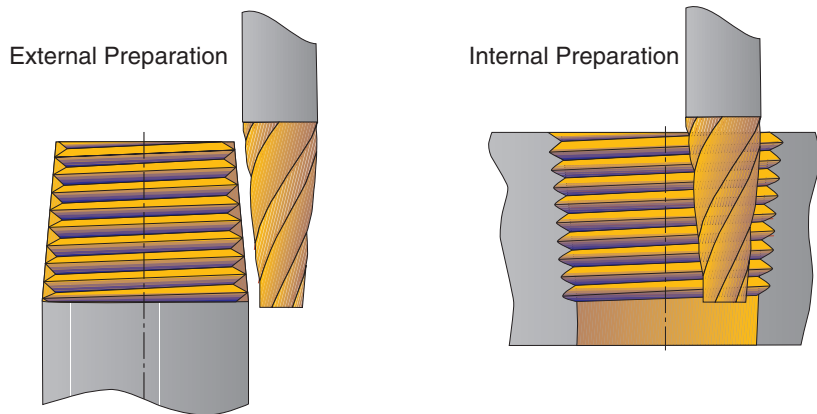
- * Increases the tool life of mill thread cutters and indexable inserts.
- * Equal and uniform load along the cutting edge of the mill thread cutter.
- * Shorter machining time during the mill thread operation, due to the tapered preparation.



Ordering Code	d	D	l	L	No. of Flutes	Size
SC0375D09	3/8	.32	.95	3	4	NPT 1/8" - 1" NPTF 1/8" - 1" BSPT 1/8" - 1"
SC0500D12	1/2	.42	1.26	3.5	4	NPT 1/4" - 3" NPTF 1/4" - 3" BSPT 1/4" - 3"

Order example: SC 0500D12 MT7

Carbide grade: MT7

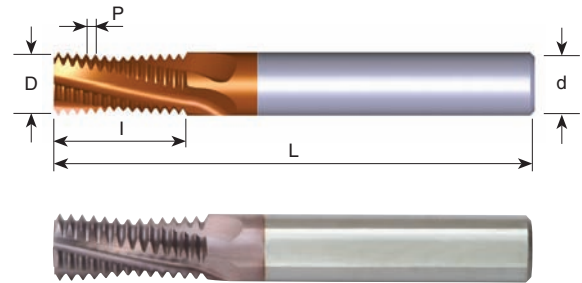
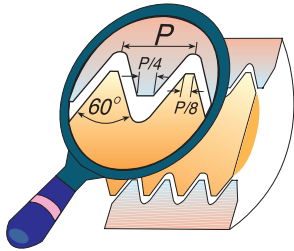


Mill - Thread Solid Carbide for External Threads

Advantages:

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

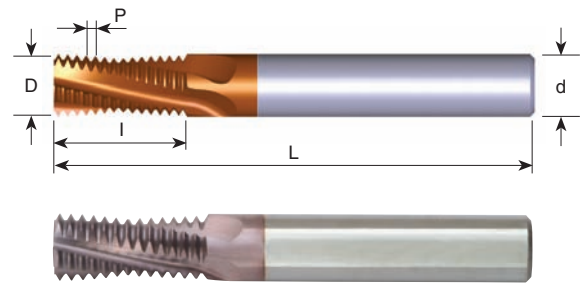
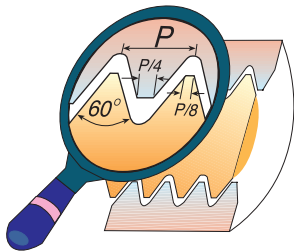
ISO - Metric Shanks



Pitch mm	Ordering Code	d mm	D	No. of Flutes	I	L
1.0	EMT1010D16 1.0 ISO	10	.394	4	.65	2.9
1.0	EMT1212E20 1.0 ISO	12	.472	5	.81	3.3
1.5	EMT1010D15 1.5 ISO	10	.394	4	.62	2.9
1.5	EMT1212D20 1.5 ISO	12	.472	4	.80	3.3
1.75	EMT1212D20 1.75 ISO	12	.472	4	.79	3.3
2.0	EMT1010C17 2.0 ISO	10	.394	3	.67	2.9
2.0	EMT1212D21 2.0 ISO	12	.472	4	.83	3.3

Order example: EMT 1010D15 1.5 ISO MT7

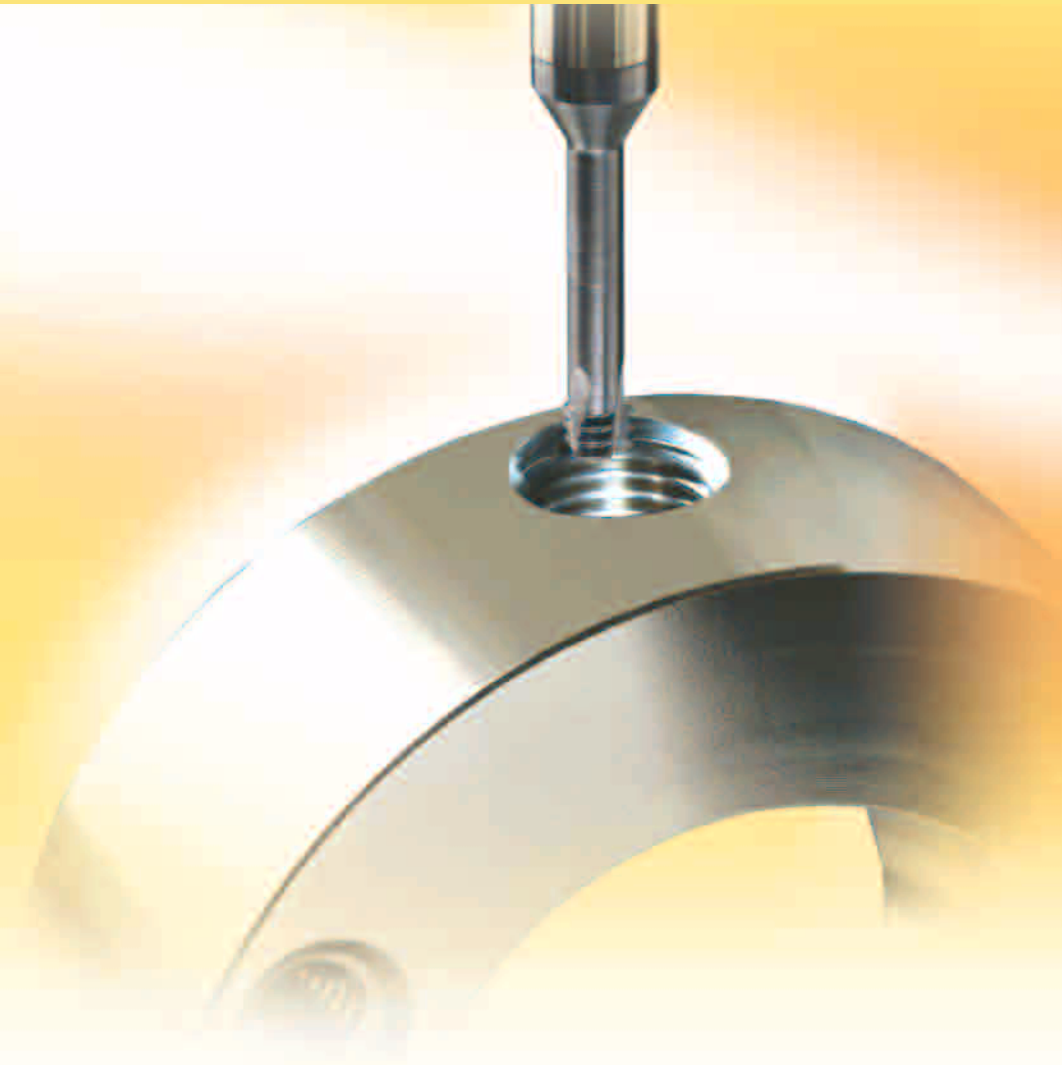
UN - Metric Shanks



Pitch TPI	Ordering Code	d mm	D	No. of Flutes	I	L
24	EMT1010D16 24 UN	10	.394	4	.65	2.9
20	EMT1212E21 20 UN	12	.472	5	.83	3.3
18	EMT1212D20 18 UN	12	.472	4	.81	3.3
16	EMT1212D21 16 UN	12	.472	4	.84	3.3
14	EMT1212D20 14 UN	12	.472	4	.82	3.3
12	EMT1212D20 12 UN	12	.472	4	.79	3.3

Order example: EMT 1212D20 18 UN MT7

Mini Mill-Thread



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

Advantages of Mill-Thread Solid Carbide

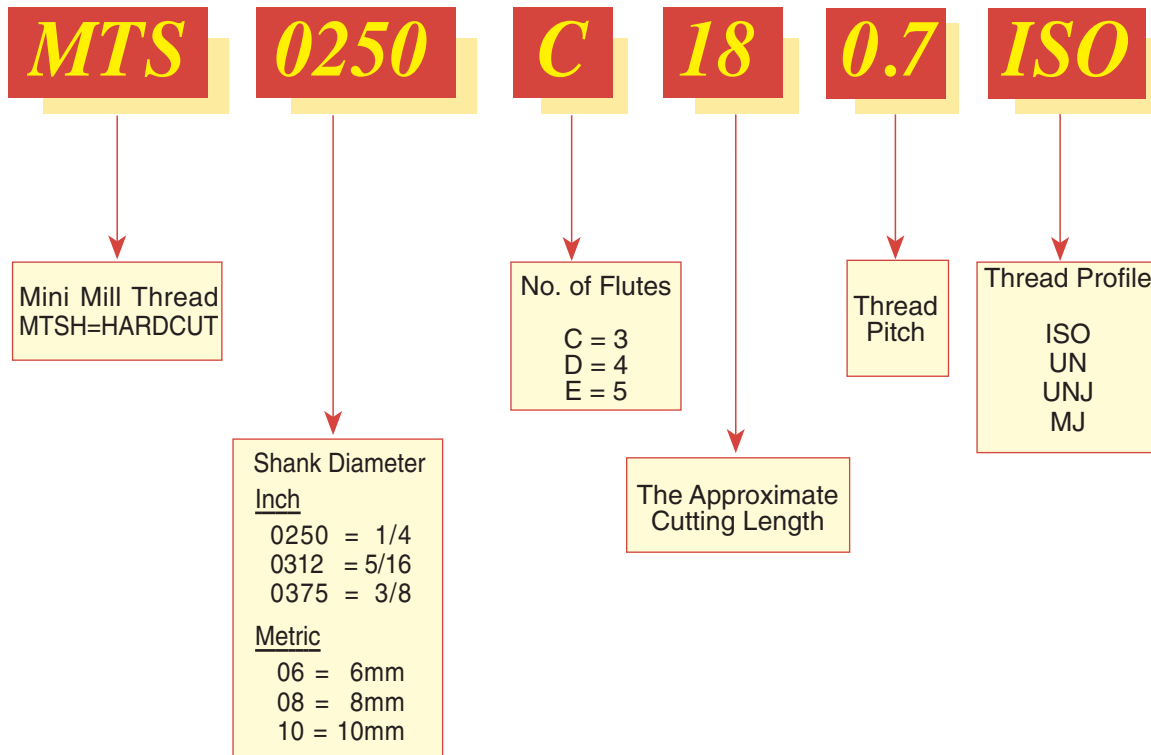
Carbide grade: MT7 Sub-Micron grade with Titanium Aluminum Nitride multi-layer coating (ISO K10 - K20). To be run at medium to high cutting speeds. General purpose for all materials.

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

- Threading from 0-80 UNF (bore diameter $\varnothing.05$).
- 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.

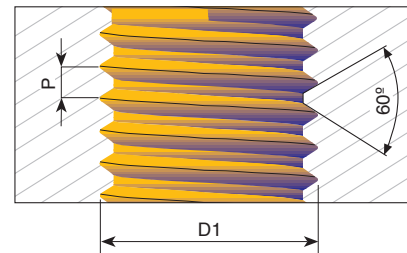
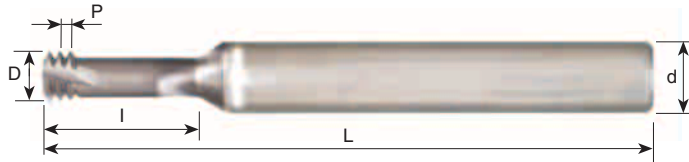
Product Identification

Mini Mill-Thread Ordering Codes



ISO

Tools for Internal Thread



For thread depth up to $2xD1$

Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L
0.25	M1	MTS03007C2 0.25 ISO	3mm	.028	3	.10	1.5
0.25	M1.2	MTS03009C3 0.25 ISO	3mm	.035	3	.12	1.5
0.4	M2	MTS0250C18 0.4 ISO	1/4	.061	3	.18	2.5
0.45	M2.2	MTS0250C20 0.45 ISO	1/4	.065	3	.20	2.5
0.45	M2.5	MTS0250C22 0.45 ISO	1/4	.077	3	.22	2.5
0.5	M3	MTS0250C26 0.5 ISO	1/4	.093	3	.26	2.5
0.6	M3.5	MTS0250C30 0.6 ISO	1/4	.108	3	.30	2.5
0.7	M4	MTS0250C35 0.7 ISO	1/4	.122	3	.35	2.5
0.8	M5	MTS0250C49 0.8 ISO	1/4	.150	3	.49	2.5
1.0	M6	MTS0250C55 1.0 ISO	1/4	.183	3	.55	2.5
1.25	M8	MTS0250C71 1.25 ISO	1/4	.234	3	.71	2.5
1.5	M10	MTS0312C91 1.5 ISO	5/16	.307	3	.91	2.5
1.75	M12	MTS0375C10 1.75 ISO	3/8	.354	3	1.02	3.0
2.0	M16	MTS0500D13 2.0 ISO	1/2	.465	4	1.38	3.5
2.5	M20	MTS0625E16 2.5 ISO	5/8	.591	5	1.69	4.0

For thread depth up to $3xD1$

Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L
* 0.3	M1.4	MTS03011C4 0.3 ISO	3mm	.041	3	.16	1.5
* 0.35	M1.6	MTS03012C5 0.35 ISO	3mm	.047	3	.19	1.5
* 0.4	M2	MTS03016C6 0.4 ISO	3mm	.061	3	.24	1.5
0.45	M2.5	MTS0250C30 0.45 ISO	1/4	.077	3	.30	2.5
0.5	M3	MTS0250C37 0.5 ISO	1/4	.093	3	.37	2.5
0.7	M4	MTS0250C49 0.7 ISO	1/4	.122	3	.49	2.5
0.8	M5	MTS0250C63 0.8 ISO	1/4	.150	3	.63	2.5
1.0	M6	MTS0250C79 1.0 ISO	1/4	.183	3	.79	2.5
1.25	M8	MTS0250C94 1.25 ISO	1/4	.234	3	.94	2.5

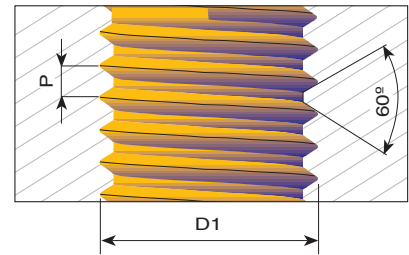
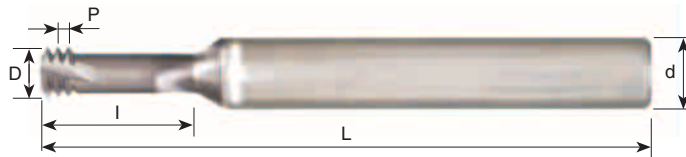
Order example: MTS 0250C26 0.5 ISO MT7

*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



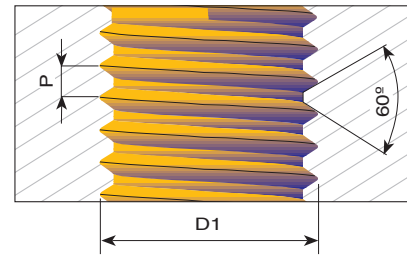
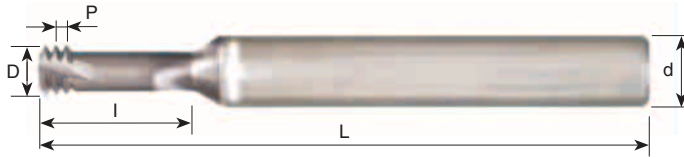
For thread depth up to 2xD1

Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	I	L
72		1	MTS0250C15 72 UN	1/4	.057	3	.15	2.5
64	1	2	MTS0250C15 64 UN	1/4	.055	3	.15	2.5
56	2	3	MTS0250C17 56 UN	1/4	.065	3	.17	2.5
48	3	4	MTS0250C20 48 UN	1/4	.075	3	.20	2.5
40	4		MTS0250C25 40 UN	1/4	.083	3	.25	2.5
40	5	6	MTS0250C28 40 UN	1/4	.096	3	.28	2.5
36		8	MTS0250C35 36 UN	1/4	.130	3	.35	2.5
32	6		MTS0250C28 32 UN	1/4	.100	3	.28	2.5
32	8		MTS0250C37 32 UN	1/4	.126	3	.37	2.5
32		10	MTS0250C41 32 UN	1/4	.146	3	.41	2.5
28		12	MTS0250C43 28 UN	1/4	.165	3	.43	2.5
28		1/4	MTS0250C57 28 UN	1/4	.197	3	.57	2.5
24	10,12		MTS0250C42 24 UN	1/4	.138	3	.42	2.5
24		5/16, 3/8	MTS0312C67 24 UN	5/16	.260	3	.67	2.5
20	1/4		MTS0250C55 20 UN	1/4	.187	3	.55	2.5
20		7/16	MTS0312C98 20 UN	5/16	.312	3	.98	2.5
18	5/16		MTS0250C67 18 UN	1/4	.236	3	.67	2.5
18	5/8		MTS0500D14 18 UN	1/2	.500	4	1.38	3.5
16	3/8		MTS0312C87 16 UN	5/16	.264	3	.87	2.5
14	7/16		MTS0312C98 14 UN	5/16	.303	3	.98	2.5
13	1/2		MTS0375C10 13 UN	3/8	.362	3	1.08	3.0
12	9/16		MTS0500C12 12 UN	1/2	.413	3	1.24	3.5
11	5/8		MTS0500C13 11 UN	1/2	.449	3	1.36	3.5
10	3/4		MTS0625D16 10 UN	5/8	.567	4	1.63	4.0

Order example: MTS 0250C28 40UN MT7

UN

Tools for Internal Thread



For thread depth up to $3xD1$

Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	I	L
80		0	MTS0250C16 80 UN	1/4	.045	3	.16	2.5
* 72		1	MTS03015C6 72 UN	3mm	.057	3	.24	1.5
56	2	3	MTS0250C26 56 UN	1/4	.065	3	.26	2.5
40	4		MTS0250C31 40 UN	1/4	.083	3	.31	2.5
40	5	6	MTS0250C38 40 UN	1/4	.096	3	.38	2.5
32	6		MTS0250C40 32 UN	1/4	.100	3	.41	2.5
32	8		MTS0250C49 32 UN	1/4	.126	3	.49	2.5
32		10	MTS0250C59 32 UN	1/4	.146	3	.59	2.5
28		1/4	MTS0250C75 28 UN	1/4	.197	3	.75	2.5
24		5/16, 3/8	MTS0312C94 24 UN	5/16	.260	3	.94	2.5
20	1/4		MTS0250C75 20 UN	1/4	.187	3	.75	2.5
18	5/16		MTS0250C91 18 UN	1/4	.236	3	.91	2.5

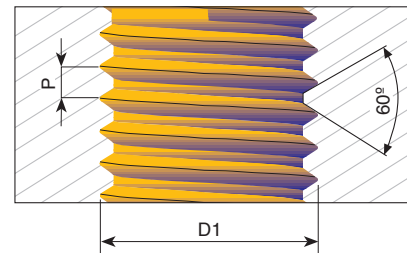
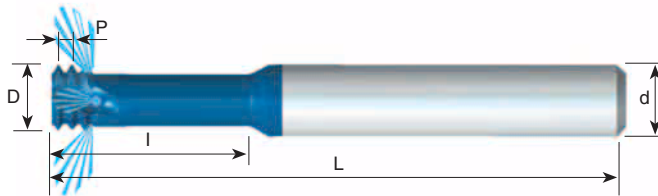
Order example: MTS 0250C26 56 UN MT7

*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

Tools for Internal Thread - Metric shanks



For thread depth up to 2.5xD1

Pitch TPI	UNJC	UNJF	Ordering Code	d mm	D	No. of Flutes	I	L
* 32	8	10	MTS06033C10 32 UNJ	6	.130	3	.41	2.3
28		1/4	MTS08051C16 28 UNJ	8	.201	3	.63	2.5
24		5/16, 3/8	MTS08067C20 24 UNJ	8	.264	3	.79	2.5
* 20	1/4		MTS06049C16 20 UNJ	6	.193	3	.63	2.3
20		7/16	MTS0808C28 20 UNJ	8	.315	3	1.10	2.5
18	5/16		MTS08061C20 18 UNJ	8	.242	3	.79	2.5
16	3/8		MTS08069C24 16 UNJ	8	.272	3	.94	2.5
14	7/16		MTS08079C25 14 UNJ	8	.311	3	.98	2.5
13	1/2		MTS10094C27 13 UNJ	10	.370	3	1.08	2.9

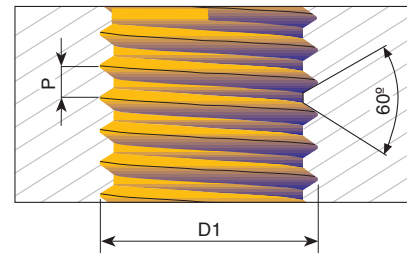
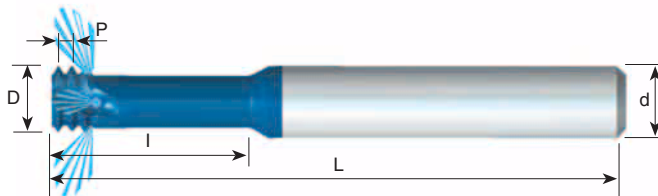
* Cutters without coolant

Order example: MTS 06049C16 20 UNJ MT8

Carbide grade MT8 Sub Micron grade with Aluminium Titanium Nitride (AlTiN) multi-layer coating (ISO K 10-K20). Extremely high resistant and smooth cutting operation, for high performance, and normal machining conditions. General purpose for all materials

MJ With internal coolant through the flutes

Tools for Internal Thread - Metric shanks



For thread depth up to 2.5xD1

Pitch mm	D1	Ordering Code	d mm	D	No. of Flutes	I	L
* 0.7	MJ4	MTS06032C10 0.7 MJ	6	.126	3	.39	2.3
* 0.8	MJ5	MTS06039C12 0.8 MJ	6	.154	3	.49	2.3
* 1.0	MJ6	MTS06048C15 1.0 MJ	6	.189	3	.59	2.3
1.25	MJ8	MTS08061C20 1.25 MJ	8	.240	3	.79	2.5
1.5	MJ10	MTS0808C25 1.5 MJ	8	.315	3	.98	2.5
1.75	MJ12	MTS10092C30 1.75 MJ	10	.362	3	1.18	2.9
2.0	MJ14, MJ16	MTS1010C35 2.0 MJ	10	.394	3	1.38	2.9

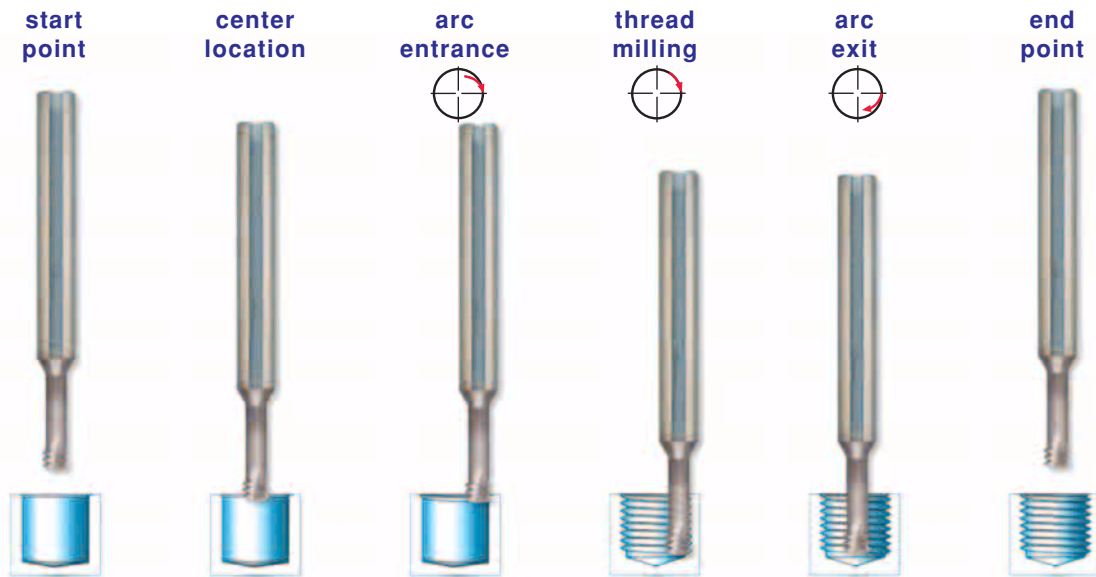
* Cutters without coolant

Order example: MTS 06048C15 1.0 MJ MT8

Carbide grade MT8 Sub Micron grade with Aluminium Titanium Nitride (AlTiN) multi-layer coating (ISO K 10-K20). Extremely high resistant and smooth cutting operation, for high performance, and normal machining conditions. General purpose for all materials

Cutting Data

ISO Standard	Materials	Cutting Speed ft/min	Feed inch/tooth												
			Cutting Diameter												
			Ø .06	Ø .08	Ø .12	Ø .16	Ø .20	Ø .24	Ø .28	Ø .31	Ø .35	Ø .39	Ø .47	Ø .55	Ø .59
P	Low and Medium Carbon Steels	200-390	.0018	.0021	.0028	.0035	.0043	.0050	.0057	.0060	.0062	.0064	.0067	.0070	.0071
	High Carbon Steels	200-300	.0016	.0019	.0024	.0030	.0035	.0041	.0046	.0050	.0054	.0057	.0062	.0067	.0069
	Alloy Steels, Treated Steels	160-260	.0015	.0017	.0019	.0021	.0024	.0026	.0028	.0033	.0037	.0041	.0047	.0052	.0055
M	Stainless Steels	200-300	.0011	.0013	.0016	.0019	.0022	.0025	.0026	.0031	.0035	.0038	.0044	.0049	.0051
	Cast Steels	230-300	.0015	.0017	.0019	.0021	.0024	.0026	.0028	.0033	.0037	.0041	.0047	.0052	.0055
K	Cast Iron	130-260	.0018	.0021	.0028	.0035	.0043	.0050	.0057	.0060	.0062	.0064	.0067	.0070	.0071
N	Aluminum	260-490	.0018	.0021	.0028	.0035	.0043	.0050	.0057	.0060	.0062	.0064	.0067	.0070	.0071
	Synthetics, Duroplastics, Thermoplastics	160-660	.0038	.0042	.0049	.0056	.0063	.0070	.0073	.0074	.0075	.0075	.0077	.0078	.0078
S	Nickel Alloys, Titanium Alloys	70-130	.0011	.0013	.0015	.0017	.0020	.0022	.0024	.0025	.0026	.0027	.0029	.0031	.0031



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

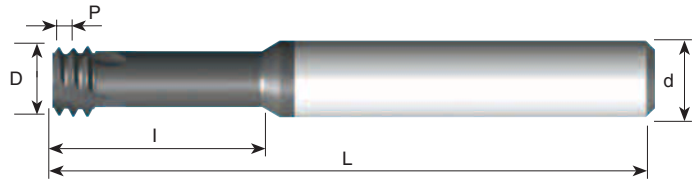
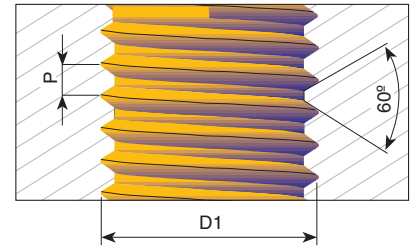
A unique line of thread milling tools designed specifically for the machining of hardened materials up to 62HRc.

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 0-80 UNF
- 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 2xD1

Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L
0.4	M2	MTSH0250C18 0.4 ISO	1/4	.061	3	.18	2.5
0.45	M2.2	MTSH0250C20 0.45 ISO	1/4	.065	3	.20	2.5
0.45	M2.5	MTSH0250C22 0.45 ISO	1/4	.077	3	.22	2.5
0.5	M3	MTSH0250C26 0.5 ISO	1/4	.093	3	.26	2.5
0.6	M3.5	MTSH0250C30 0.6 ISO	1/4	.108	3	.30	2.5
0.7	M4	MTSH0250C35 0.7 ISO	1/4	.122	3	.35	2.5
0.8	M5	MTSH0250C49 0.8 ISO	1/4	.150	3	.49	2.5
1.0	M6	MTSH0250C55 1.0 ISO	1/4	.183	3	.55	2.5
1.25	M8	MTSH0250C71 1.25 ISO	1/4	.234	3	.71	2.5
1.5	M10	MTSH0312C91 1.5 ISO	5/16	.307	3	.91	2.5
1.75	M12	MTSH0375C10 1.75 ISO	3/8	.354	3	1.02	3.0
2.0	M16	MTSH12118D35 2.0 ISO	12mm	.465	4	1.38	3.3

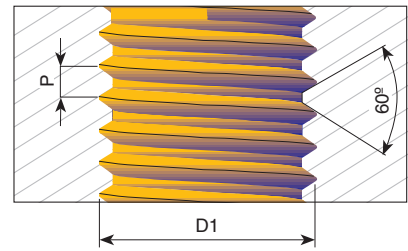
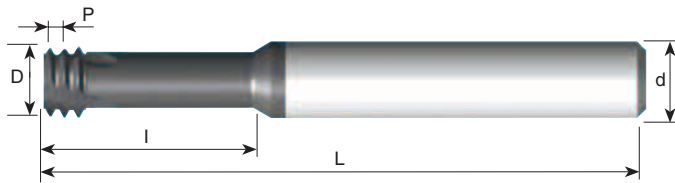
For thread depth up to 3xD1

Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L
0.3	M1.4	MTSH03011C4 0.3 ISO	3mm	.041	3	.16	1.5
0.35	M1.6	MTSH03012C5 0.35 ISO	3mm	.047	3	.19	1.5
0.4	M2	MTSH03016C6 0.4 ISO	3mm	.061	3	.24	1.5
0.45	M2.5	MTSH0250C30 0.45 ISO	1/4	.077	3	.30	2.5
0.5	M3	MTSH0250C37 0.5 ISO	1/4	.093	3	.37	2.5
0.7	M4	MTSH0250C49 0.7 ISO	1/4	.122	3	.49	2.5
0.8	M5	MTSH0250C63 0.8 ISO	1/4	.150	3	.63	2.5
1.0	M6	MTSH0250C79 1.0 ISO	1/4	.183	3	.79	2.5
1.25	M8	MTSH0250C94 1.25 ISO	1/4	.234	3	.94	2.5

Order example: MTSH 0250C35C 0.7 ISO MT9

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	MTSH0250C15 72 UN	1/4	.057	3	.15	2.5
64	1	2	MTSH0250C15 64 UN	1/4	.055	3	.15	2.5
56	2	3	MTSH0250C17 56 UN	1/4	.065	3	.17	2.5
48	3	4	MTSH0250C20 48 UN	1/4	.075	3	.20	2.5
40	4		MTSH0250C25 40 UN	1/4	.083	3	.25	2.5
40	5	6	MTSH0250C28 40 UN	1/4	.096	3	.28	2.5
36		8	MTSH0250C35 36 UN	1/4	.130	3	.35	2.5
32	6		MTSH0250C28 32 UN	1/4	.100	3	.28	2.5
32	8		MTSH0250C37 32 UN	1/4	.126	3	.37	2.5
32		10	MTSH0250C41 32 UN	1/4	.146	3	.41	2.5
28		12	MTSH0250C43 28 UN	1/4	.165	3	.43	2.5
28		1/4	MTSH0250C57 28 UN	1/4	.197	3	.57	2.5
24	10,12		MTSH0250C42 24 UN	1/4	.138	3	.42	2.5
24		5/16, 3/8	MTSH0312C67 24 UN	5/16	.260	3	.67	2.5
20	1/4		MTSH0250C55 20 UN	1/4	.187	3	.55	2.5
20		7/16	MTSH0312C98 20 UN	5/16	.312	3	.98	2.5
18	5/16		MTSH0250C67 18 UN	1/4	.236	3	.67	2.5
16	3/8		MTSH0312C87 16 UN	5/16	.264	3	.87	2.5
14	7/16		MTSH0312C98 14 UN	5/16	.303	3	.98	2.5
13	1/2		MTSH0375C10 13 UN	3/8	.362	3	1.08	3.0
12	9/16		MTSH12105C31 12 UN	12mm	.413	3	1.24	3.3
11	5/8		MTSH12114C34 11 UN	12mm	.449	3	1.36	3.3

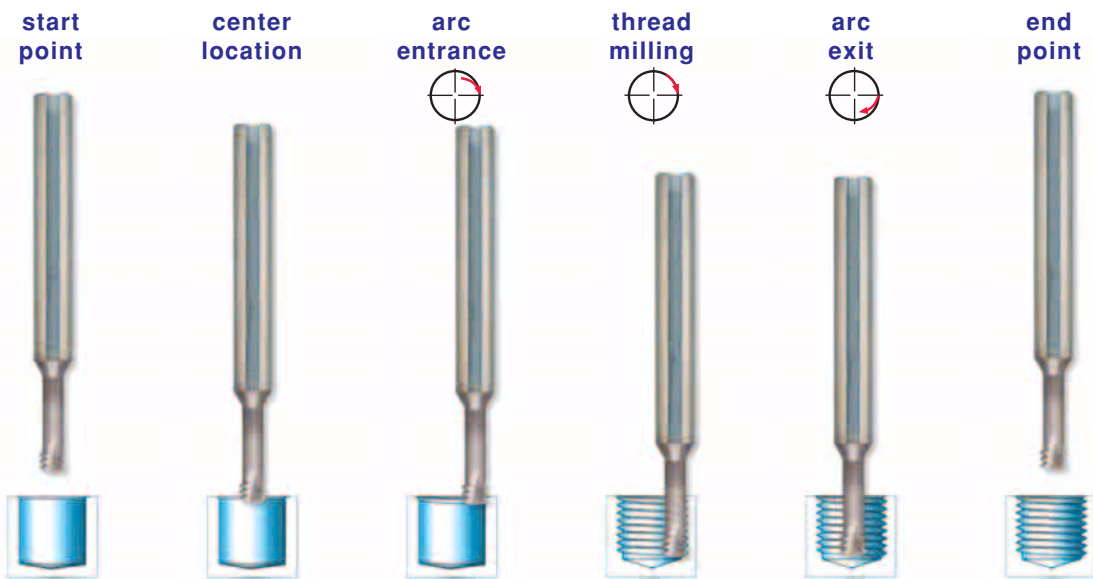
For thread depth up to 3xD1

Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	I	L
80		0	MTSH0250C16 80 UN	1/4	.045	3	.16	2.5
72		1	MTSH03015C6 72 UN	3mm	.057	3	.24	1.5
56	2	3	MTSH0250C26 56 UN	1/4	.065	3	.26	2.5
40	4		MTSH0250C31 40 UN	1/4	.083	3	.31	2.5
40	5	6	MTSH0250C38 40 UN	1/4	.096	3	.38	2.5
32	6		MTSH0250C40 32 UN	1/4	.100	3	.41	2.5
32	8		MTSH0250C49 32 UN	1/4	.126	3	.49	2.5
32		10	MTSH0250C59 32 UN	1/4	.146	3	.59	2.5
28		1/4	MTSH0250C75 28 UN	1/4	.197	3	.75	2.5
24		5/16, 3/8	MTSH0312C94 24 UN	5/16	.260	3	.94	2.5
20	1/4		MTSH0250C75 20 UN	1/4	.187	3	.75	2.5
18	5/16		MTSH0250C91 18 UN	1/4	.236	3	.91	2.5

Order example: MTSH 0250C28 40 UN MT9

Cutting Data

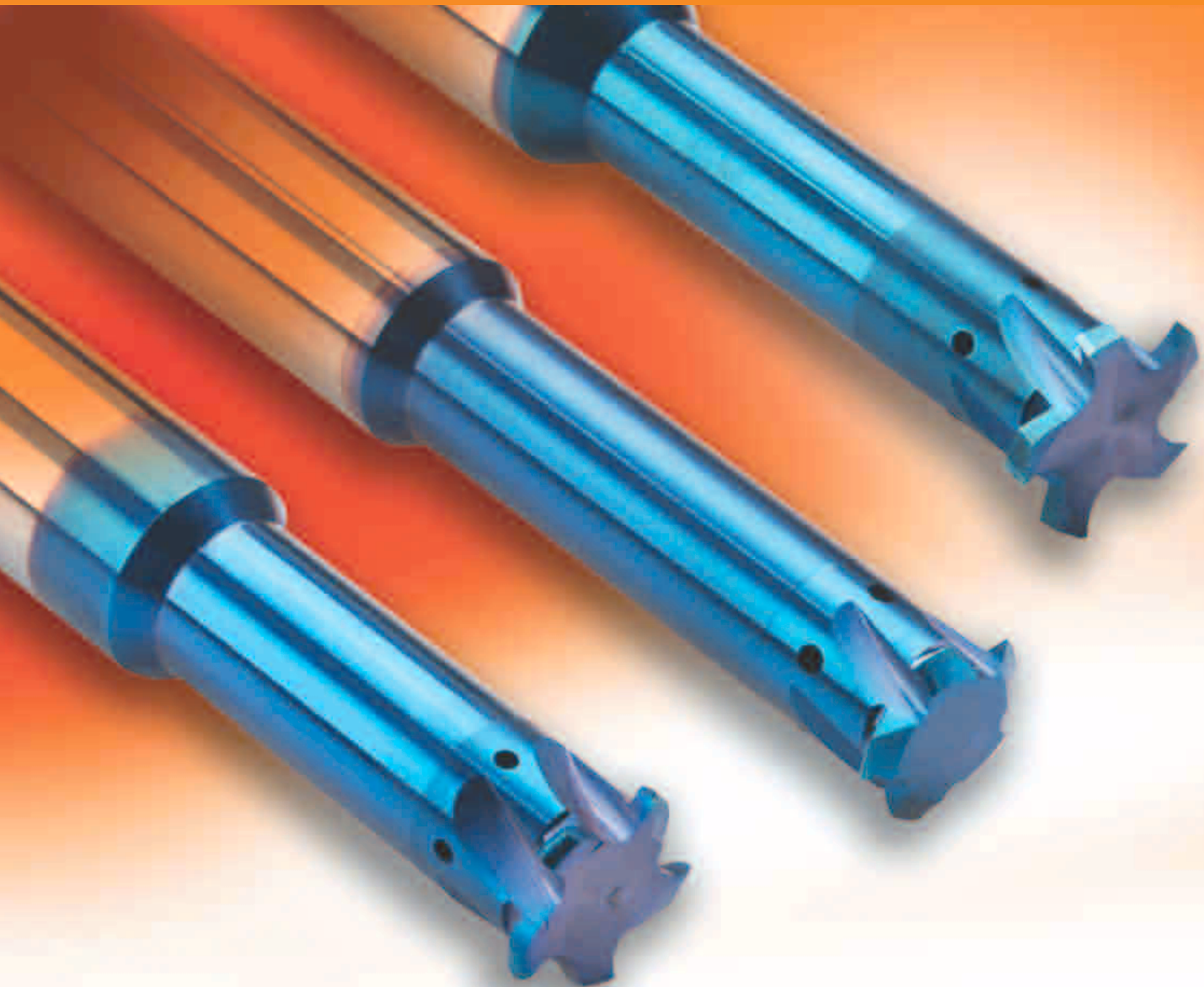
ISO	Material	Hardness HRC	Cutting Speed ft/min	Feed inch/tooth								
				Cutting Diameter = D								
				ø.06	ø.08	ø.12	ø.16	ø.20	ø.24	ø.28	ø.31	ø.35
H	Hardened Steels	45-50	200-230	.0016	.0016	.0020	.0020	.0024	.0024	.0028	.0028	.0031
		51-55	160-200	.0012	.0012	.0016	.0016	.0020	.0020	.0024	.0024	.0028
		56-62	130-160	.0008	.0008	.0012	.0012	.0016	.0016	.0020	.0020	.0024



CASE STUDY

Application	Internal Thread M4 X 0.7
Thread Depth	.31 Inch
Workpiece Material	Tool Steel: D2
Hardness	60-62 (HRc)
Cutter Description	MTSH0250C35 0.7 ISO
Machining Conditions	Cutting Speed: 144 ft/min Feed: .0012 Inch/min
Machine	Mori Seiki VN5000
Control	Fanuc
Cooling Lubricant	Emulsion
Tool Life (No. of Threads)	84

Mill-Thread Solid Carbide



For Threading and Grooving Deep Parts

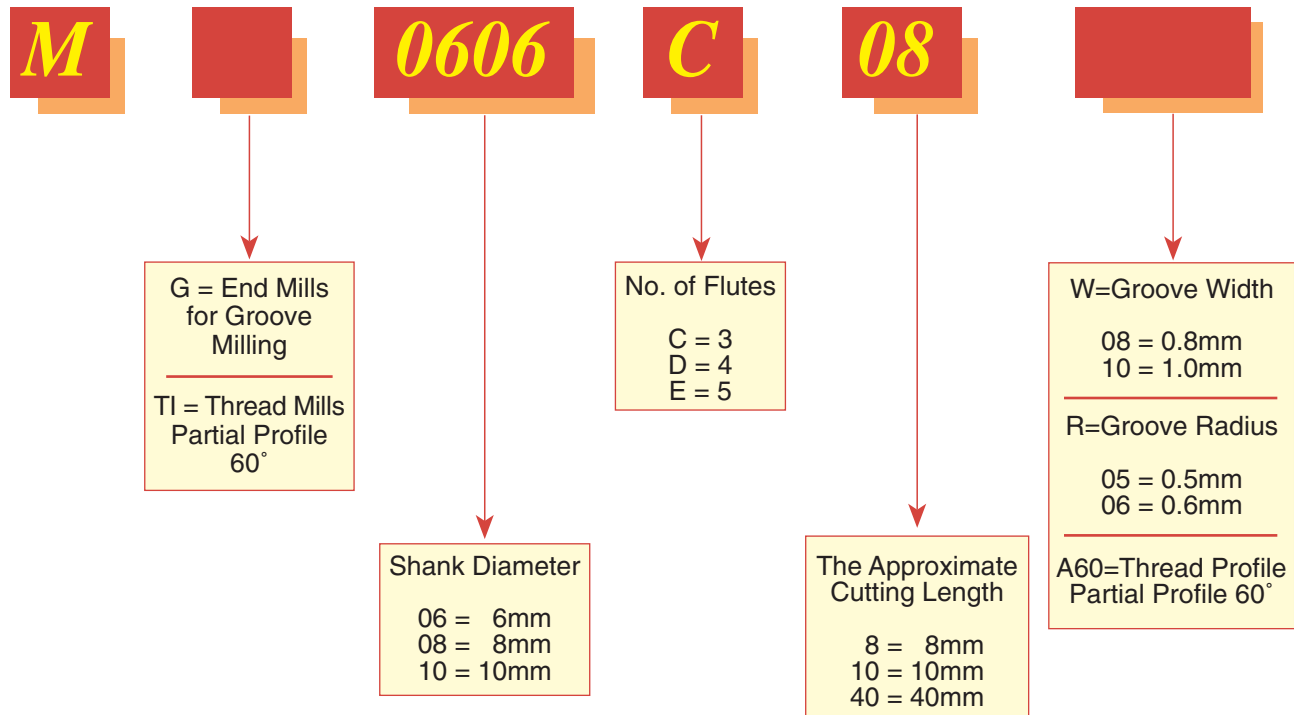
Advantages

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

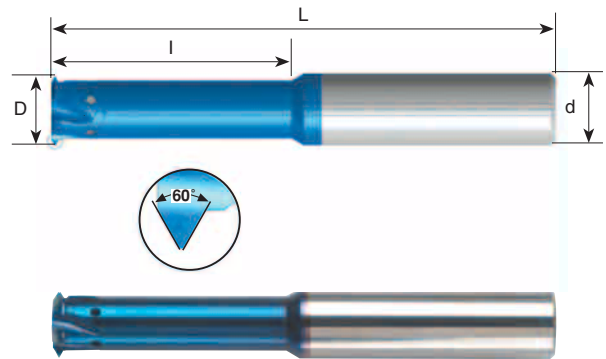
Threading and Grooving Ordering Codes



Partial Profile 60°

With internal coolant through the flutes

Same Tool for Internal and External Thread
Metric shanks



For threading deep parts

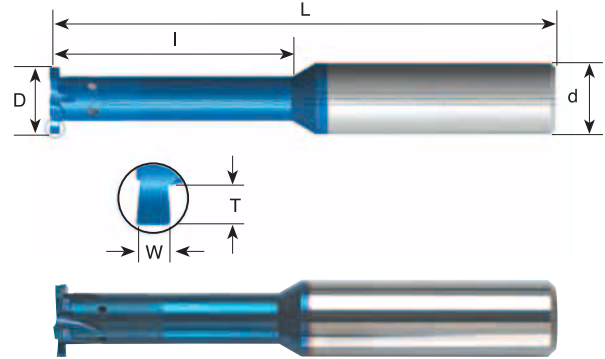
Pitch mm	Pitch TPI	Thread Dia. (min.) mm	Ordering Code	d mm	D	No. of Flutes	l	L
Int. 0.5 - 0.8 Ex. 0.4 - 0.7	56-32 64-36	$\phi \geq 6$	MTI0605D20 A60	6	.197	4	.79	2.3
		$\phi \geq 9$	MTI0808D28 A60	8	.315	4	1.10	2.5
		$\phi \geq 13$	MTI1212E38 A60	12	.472	5	1.50	3.3
Int. 1.0 - 1.75 Ex. 0.8 - 1.5	28-14 32-16	$\phi \geq 10$	MTI0808D30 A60	8	.315	4	1.18	2.5
		$\phi \geq 12$	MTI1010D35 A60	10	.394	4	1.38	2.9
		$\phi \geq 14$	MTI1212E39 A60	12	.472	5	1.54	3.3
Int. 2.0 - 3.0 Ex. 1.75-2.5	13- 8 15-10	$\phi \geq 16$	MTI1212E40 A60	12	.472	5	1.57	3.3
		$\phi \geq 18$	MTI1614E45 A60	16	.551	5	1.77	4.0
		$\phi \geq 20$	MTI1616E50 A60	16	.630	5	1.97	4.0

Order example: MTI 0808D28 A60 MT8

Groove Milling

With internal coolant through the flutes

Metric shanks



For grooving deep parts

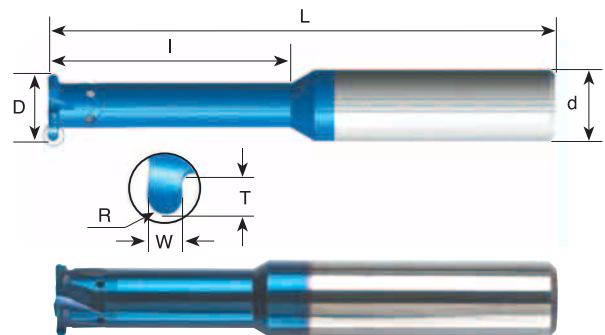
W ± 0.02	T Max.	Groove Dia. (min.) mm	Ordering Code	d mm	D	No. of Flutes	l	L
.031	.03	$\phi > 6$	MG0606C8 W8	6	.236	3	.31	2.3
.039	.05	$\phi \geq 8$	MG08078D10 W10	8	.307	4	.39	2.5
.047	.06	$\phi \geq 10$	MG10098D20 W12	10	.386	4	.79	2.9
.055	.07	$\phi > 16$	MG1616E30 W14	16	.630	5	1.18	4.0
.067	.08	$\phi > 16$	MG1616E40 W17	16	.630	5	1.57	4.0
.077	.10	$\phi > 16$	MG1616E45 W19	16	.630	5	1.77	4.0

Order example: MG 10098D20 W12 MT8

Full Radius Groove Milling

With internal coolant through the flutes

Metric shanks



For grooving deep parts

R	W ± 0.02	T Max.	Groove Dia. (min.) mm	Ordering Code	d mm	D	No. of Flutes	l	L
.020	.039	.03	$\phi > 6$	MG0606C8 R05	6	.236	3	.31	2.3
.020	.039	.04	$\phi > 8.8$	MG10088D16 R05	8	.346	4	.63	2.5
.024	.047	.04	$\phi > 10$	MG1010D20 R06	10	.394	4	.79	2.9
.035	.071	.06	$\phi > 12$	MG1212D30 R09	12	.472	4	1.18	3.3
.039	.079	.06	$\phi > 16$	MG1616E40 R10	16	.630	5	1.57	4.0
.059	.118	.09	$\phi > 16$	MG1616E40 R15	16	.630	5	1.57	4.0

Order example: MG 1010D20 R06 MT8

Mini-Chamfer



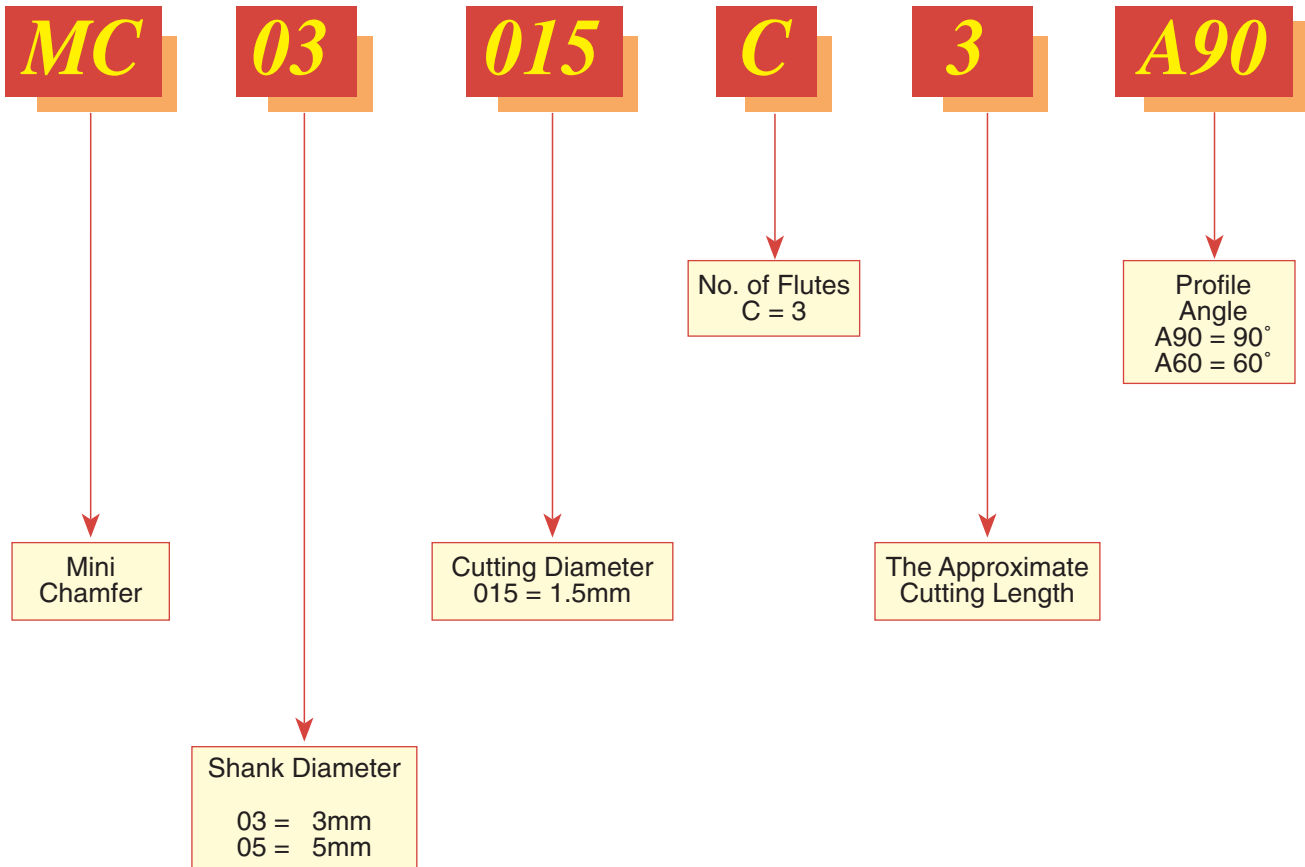
Advantages

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.

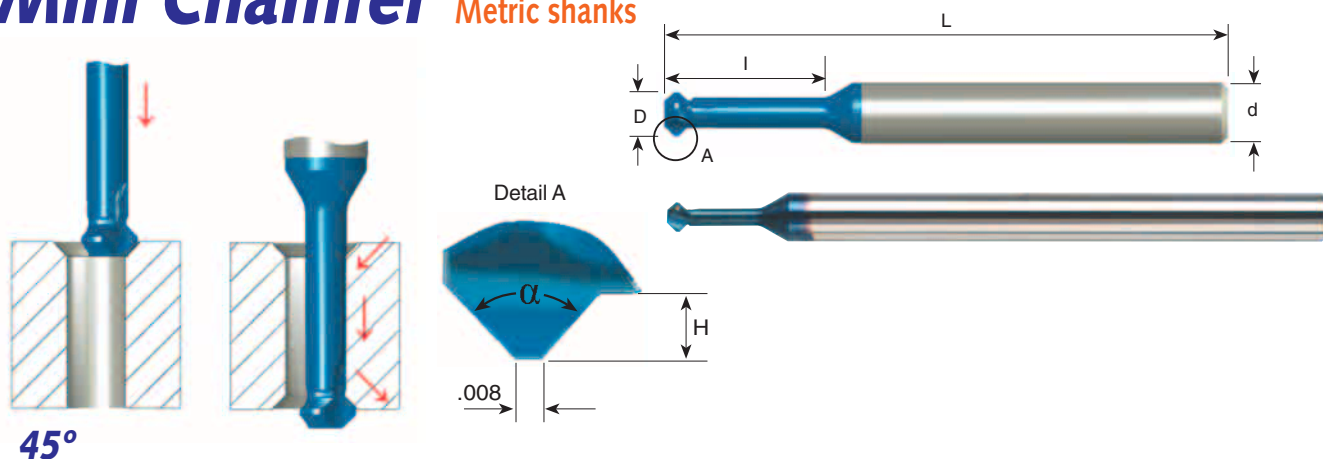
- Optimal for milling, deburring and back chamfering
- Double side cutting
- Spiral flute allows smooth cutting action

Product Identification

Mini Chamfer Ordering Codes



Mini Chamfer Metric shanks



45°

Ordering Code	d mm	D	l	H	α	No. of Flutes	L
MC03015C3 A90	3	.059	.15	.012	90°	3	1.5
MC0302C5 A90	3	.079	.20	.016	90°	3	1.5
MC03025C6 A90	3	.098	.25	.020	90°	3	1.5
MC0303C7 A90	3	.118	.30	.024	90°	3	1.5
MC04035C9 A90	4	.138	.35	.028	90°	3	2.0
MC0404C10 A90	4	.157	.39	.031	90°	3	2.0
MC05045C11 A90	5	.177	.44	.039	90°	3	2.0
MC0505C12 A90	5	.197	.49	.043	90°	3	2.0
MC06055C13 A90	6	.217	.54	.047	90°	3	2.0
MC0606C15 A90	6	.236	.59	.059	90°	3	2.0

Long Reach 45°

Ordering Code	d mm	D	l	H	α	No. of Flutes	L
MC0303C12 A90	3	.118	.47	.024	90°	3	1.5
MC04035C14 A90	4	.138	.55	.028	90°	3	2.0
MC0404C16 A90	4	.157	.63	.031	90°	3	2.0
MC05045C18 A90	5	.177	.71	.039	90°	3	2.0
MC0505C20 A90	5	.197	.79	.043	90°	3	2.0
MC06055C22 A90	6	.217	.87	.047	90°	3	2.3
MC0606C24 A90	6	.236	.94	.059	90°	3	2.3
MC0808D28 A90	8	.315	1.10	.063	90°	4	2.5
MC1010E35 A90	10	.394	1.38	.071	90°	5	2.9
MC1212F42 A90	12	.472	1.65	.083	90°	6	3.3

30°

Ordering Code	d mm	D	l	H	α	No. of Flutes	L
MC0302C5 A60	3	.079	.20	.016	60°	3	1.5
MC0303C7 A60	3	.118	.30	.024	60°	3	1.5
MC04035C9 A60	4	.138	.35	.028	60°	3	2.0
MC0404C10 A60	4	.157	.39	.031	60°	3	2.0
MC05045C11 A60	5	.177	.44	.039	60°	3	2.0
MC0505C12 A60	5	.197	.49	.043	60°	3	2.0







Carmex

Precision Tools Ltd.

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