

Mill-Thread Solid Carbide



Advantages of Mill-Thread Solid Carbide

- 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 hole.
- 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.

MT - Thread Mills without internal coolant

MTB - Thread Mills with internal coolant bore for blind holes

MTZ - Thread Mills with internal coolant through the flutes

MTQ - Thread Mills that include relieved neck for deep work pieces

FMT - Fast Thread Mills with internal coolant bore

Contents:

Page:

Product Identification	204
ISO	205
ISO - with internal Coolant Bore - MTB	206
ISO - with internal Coolant through the Flutes - MTZ	207
ISO - with internal Coolant Bore - MTQ	208
ISO - with internal Coolant Bore - FMT	209
G (55°)	209
G (55°) - with internal Coolant Bore - MTB	210
G (55°) - with internal Coolant through the Flutes - MTZ	210
G (55°) - with internal Coolant through the Flutes - FMT	211
Whitworth - with internal Coolant through the Flutes - MTZ	211
UN	212
UN - with internal Coolant Bore - MTB	213
UN - with internal Coolant through the Flutes - MTZ	214
UN - with internal Coolant Bore - MTQ	215
UN - with internal Coolant Bore - FMT	216

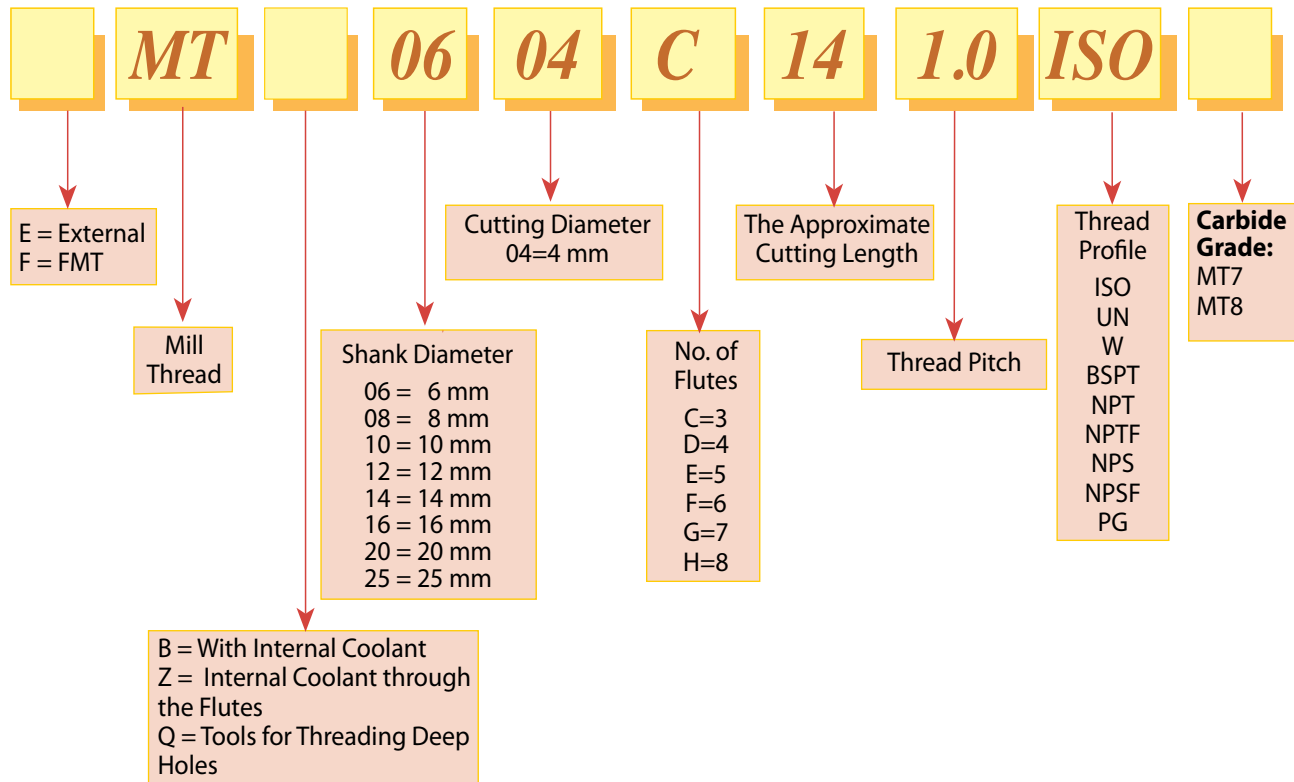
Contents:

Page:

BSPT	216
BSPT - with internal Coolant Bore - MTB	217
BSPT - with internal Coolant through the Flutes - MTZ	217
NPT	218
NPT - with internal Coolant Bore - MTB	218
NPT - with internal Coolant through the Flutes - MTZ	219
NPTF	219
NPTF - with internal Coolant Bore - MTB	220
NPTF - with internal Coolant through the Flutes - MTZ	220
Solid Carbide Tapered End Mills	221
NPS - with internal Coolant Bore - MTB	222
NPSF - with internal Coolant Bore - MTB	222
PG DIN 40430 - with internal Coolant Bore MTB	223
Mill - Thread Solid Carbide for External Threads	
ISO	224
UN	224

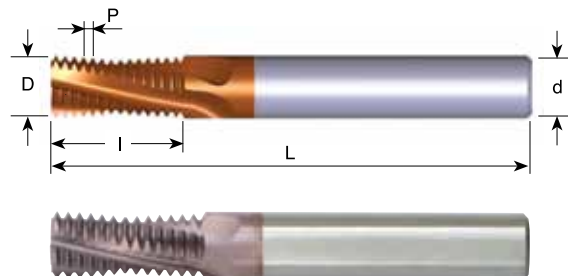
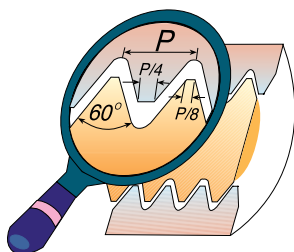
Product Identification

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	$\emptyset \geq 4$	MT06022C5 0.5 ISO	6	2.2	3	5.3	58
0.5		$\emptyset \geq 5$	MT06038C10 0.5 ISO	6	3.8	3	10.3	58
0.7	M4	$\emptyset \geq 5$	MT06031C7 0.7 ISO	6	3.1	3	7.4	58
0.75		$\emptyset \geq 6$	MT06045C10 0.75 ISO	6	4.5	3	10.1	58
0.8	M5	$\emptyset \geq 6$	MT06036C9 0.8 ISO	6	3.6	3	9.2	58
1.0	M6	$\emptyset \geq 7$	MT0604C10 1.0 ISO	6	4.0	3	10.5	58
1.0	M6	$\emptyset \geq 7$	MT0604C14 1.0 ISO	6	4.0	3	14.5	58
1.0		$\emptyset \geq 9$	MT0606C12 1.0 ISO	6	6.0	3	12.5	58
1.0		$\emptyset \geq 10$	MT0808D16 1.0 ISO	8	8.0	4	16.5	64
1.25	M8	$\emptyset \geq 10$	MT0605C14 1.25 ISO	6	5.0	3	14.4	58
1.25	M8	$\emptyset \geq 10$	MT0605C19 1.25 ISO	6	5.0	3	19.4	58
1.5	M10	$\emptyset \geq 12$	MT0807C17 1.5 ISO	8	7.0	3	17.3	64
1.5	M10	$\emptyset \geq 12$	MT0807C24 1.5 ISO	8	7.0	3	24.8	76
1.5		$\emptyset \geq 14$	MT1010D21 1.5 ISO	10	10.0	4	21.8	73
1.5		$\emptyset \geq 20$	MT1616F33 1.5 ISO	16	16.0	6	33.8	105
1.75	M12	$\emptyset \geq 14$	MT0808C20 1.75 ISO	8	8.0	3	20.1	64
1.75	M12	$\emptyset \geq 14$	MT0808C28 1.75 ISO	8	8.0	3	28.9	76
2.0	M16	$\emptyset \geq 17$	MT1010C27 2.0 ISO	10	10.0	3	27.0	73
2.0	M16	$\emptyset \geq 17$	MT1010C39 2.0 ISO	10	10.0	3	39.0	105
2.0		$\emptyset \geq 18$	MT1212D27 2.0 ISO	12	12.0	4	27.0	84
2.0		$\emptyset \geq 26$	MT2020F41 2.0 ISO	20	20.0	6	41.0	105
2.5	M20	$\emptyset \geq 22$	MT1414D33 2.5 ISO	14	14.0	4	33.8	84
2.5	M20	$\emptyset \geq 22$	MT1414D48 2.5 ISO	14	14.0	4	48.8	105
3.0	M24	$\emptyset \geq 25$	MT1616C40 3.0 ISO	16	16.0	3	40.5	105
3.0	M24	$\emptyset \geq 25$	MT1616C58 3.0 ISO	16	16.0	3	58.5	120
3.0	M27	$\emptyset \geq 28$	MT2020D43 3.0 ISO	20	20.0	4	43.5	105

Order example: MT 1212D27 2.0 ISO MT7

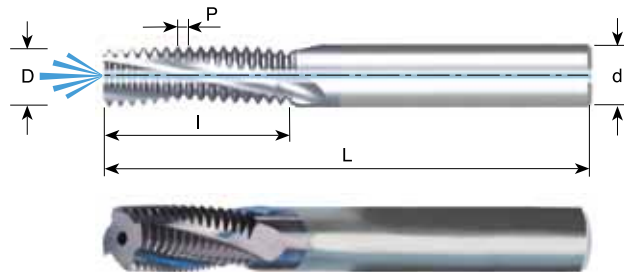
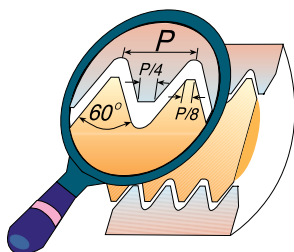
For thread mills with coolant bore see following pages

For small thread mills see pages 227-228, 235 & 245



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		$\emptyset \geq 5$	MTB06038C10 0.5 ISO	6	3.8	3	10.3	58
0.7	M4	$\emptyset \geq 5$	MTB06031C7 0.7 ISO	6	3.1	3	7.4	58
0.75		$\emptyset \geq 6$	MTB06045C10 0.75 ISO	6	4.5	3	10.1	58
0.75		$\emptyset \geq 12$	MTB1010D24 0.75 ISO	10	10.0	4	24.4	73
0.8	M5	$\emptyset \geq 6$	MTB06038C9 0.8 ISO	6	3.8	3	9.2	58
1.0	M6	$\emptyset \geq 7$	MTB06046C10 1.0 ISO	6	4.6	3	10.5	58
1.0	M6	$\emptyset \geq 7$	MTB06046C14 1.0 ISO	6	4.6	3	14.5	58
1.0		$\emptyset \geq 9$	MTB0606C12 1.0 ISO	6	6.0	3	12.5	58
1.0		$\emptyset \geq 10$	MTB0808D16 1.0 ISO	8	8.0	4	16.5	64
1.0		$\emptyset \geq 12$	MTB1010D24 1.0 ISO	10	10.0	4	24.5	73
1.25	M8	$\emptyset \geq 10$	MTB0606C14 1.25 ISO	6	6.0	3	14.4	58
1.25	M8	$\emptyset \geq 10$	MTB0606C19 1.25 ISO	6	6.0	3	19.4	58
1.5	M10	$\emptyset \geq 12$	MTB08078C17 1.5 ISO	8	7.8	3	17.0	64
1.5	M10	$\emptyset \geq 12$	MTB08078C24 1.5 ISO	8	7.8	3	24.8	76
1.5		$\emptyset \geq 14$	MTB1010D21 1.5 ISO	10	10.0	4	21.8	73
1.5		$\emptyset \geq 16$	MTB1212D26 1.5 ISO	12	12.0	4	26.3	84
1.5		$\emptyset \geq 20$	MTB1616F33 1.5 ISO	16	16.0	6	33.8	105
1.75	M12	$\emptyset \geq 12$	MTB1009C20 1.75 ISO	10	9.0	3	20.1	73
1.75	M12	$\emptyset \geq 12$	MTB1009C28 1.75 ISO	10	9.0	3	28.9	73
2.0	M14	$\emptyset \geq 15$	MTB1010C27 2.0 ISO	10	10.0	3	27.0	73
2.0	M16	$\emptyset \geq 17$	MTB12118D27 2.0 ISO	12	11.8	4	27.0	84
2.0	M16	$\emptyset \geq 17$	MTB12118D39 2.0 ISO	12	11.8	4	39.0	105
2.0		$\emptyset \geq 26$	MTB2020F41 2.0 ISO	20	20.0	6	41.0	105
2.5	M20	$\emptyset \geq 22$	MTB1615E33 2.5 ISO	16	15.0	5	33.8	105
2.5	M20	$\emptyset \geq 22$	MTB1615E48 2.5 ISO	16	15.0	5	48.8	105
3.0	M24	$\emptyset \geq 25$	MTB2018D40 3.0 ISO	20	18.0	4	40.5	105
3.0	M24	$\emptyset \geq 25$	MTB2018D58 3.0 ISO	20	18.0	4	58.5	120
3.0	M27	$\emptyset \geq 27$	MTB2020D43 3.0 ISO	20	20.0	4	43.5	105

Order example: MTB 08078C17 1.5 ISO MT7

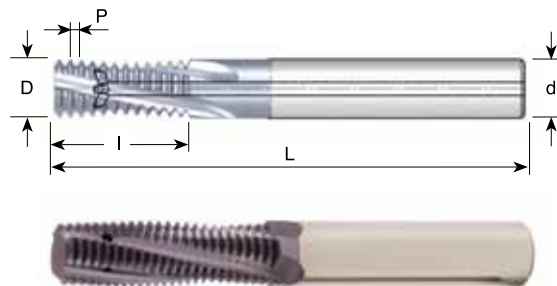
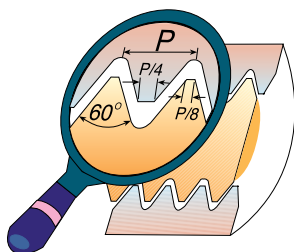
For thread mills with coolant through the flutes see next page

For small thread mills see pages 227-228, 235 & 245



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	$\emptyset \geq 7$	MTZ06048C10 1.0 ISO	6	4.8	3	10.5	58
1.0		$\emptyset \geq 9$	MTZ0606C12 1.0 ISO	6	6.0	3	12.5	58
1.0		$\emptyset \geq 10$	MTZ0808D16 1.0 ISO	8	8.0	4	16.5	64
1.25	M8	$\emptyset \geq 10$	MTZ0606C14 1.25 ISO	6	6.0	3	14.4	58
1.25	M8	$\emptyset \geq 10$	MTZ0606C19 1.25 ISO	6	6.0	3	19.4	58
1.5	M10	$\emptyset \geq 12$	MTZ08078C17 1.5 ISO	8	7.8	3	17.0	64
1.5		$\emptyset \geq 14$	MTZ1010D21 1.5 ISO	10	10.0	4	21.8	73
1.5		$\emptyset \geq 16$	MTZ1212D26 1.5 ISO	12	12.0	4	26.3	84
1.5		$\emptyset \geq 20$	MTZ1616E33 1.5 ISO	16	16.0	5	33.8	101
1.75	M12	$\emptyset \geq 12$	MTZ1009C20 1.75 ISO	10	9.0	3	20.1	73
1.75	M12	$\emptyset \geq 12$	MTZ1009C28 1.75 ISO	10	9.0	3	28.9	73
2.0	M14	$\emptyset \geq 15$	MTZ1010C27 2.0 ISO	10	10.0	3	27.0	73
2.0	M16	$\emptyset \geq 17$	MTZ12118D27 2.0 ISO	12	11.8	4	27.0	84
2.5	M20	$\emptyset \geq 22$	MTZ1615E33 2.5 ISO	16	15.0	5	33.8	101

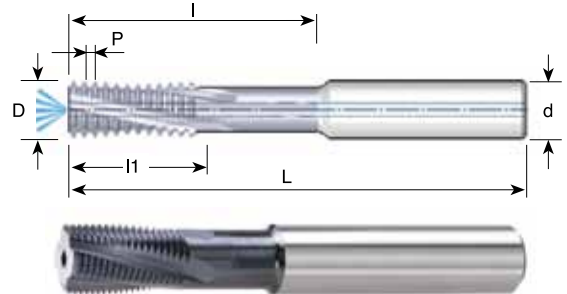
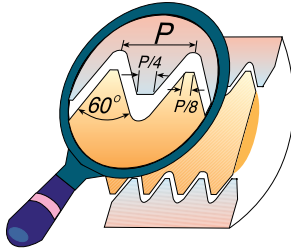
Order example: MTZ 08078C17 1.5 ISO MT7

For small thread mills see pages 227-228, 235 & 245



ISO With relieved neck and internal coolant bore

Tools for Internal Thread



Pitch TPI	M fine	Ordering Code	d	D	No. of Flutes	l1	l	L
1.0	$\emptyset \geq 12$	MTQ1010D32 1.0 ISO	10	10.0	4	18.0	32.0	73
1.0	$\emptyset \geq 14$	MTQ1212D38 1.0 ISO	12	12.0	4	21.0	38.0	84
1.0	$\emptyset \geq 18$	MTQ1616F45 1.0 ISO	16	16.0	6	26.0	45.0	105
1.5	$\emptyset \geq 13$	MTQ1010D30 1.5 ISO	10	10.0	4	18.0	30.0	73
1.5	$\emptyset \geq 15$	MTQ1212D34 1.5 ISO	12	12.0	4	19.5	34.5	84
1.5	$\emptyset \geq 19$	MTQ1616F43 1.5 ISO	16	16.0	6	25.5	43.5	105
1.5	$\emptyset \geq 23$	MTQ2020F60 1.5 ISO	20	20.0	6	36.0	60.0	105
2.0	$\emptyset \geq 16$	MTQ1212D42 2.0 ISO	12	12.0	4	24.0	42.0	84
2.0	$\emptyset \geq 20$	MTQ1616E45 2.0 ISO	16	16.0	5	26.0	45.0	105
2.0	$\emptyset \geq 24$	MTQ2020F56 2.0 ISO	20	20.0	6	34.0	56.0	105
3.0	$\emptyset \geq 22$	MTQ1616D45 3.0 ISO	16	16.0	4	30.0	45.0	105
3.0	$\emptyset \geq 26$	MTQ2020E54 3.0 ISO	20	20.0	5	33.0	54.0	105
3.5	$\emptyset \geq 26$	MTQ2020D45 3.5 ISO	20	20.0	4	28.0	45.5	105
4.0	$\emptyset \geq 31$	MTQ2525D64 4.0 ISO	25	25.0	4	40.0	64.0	160

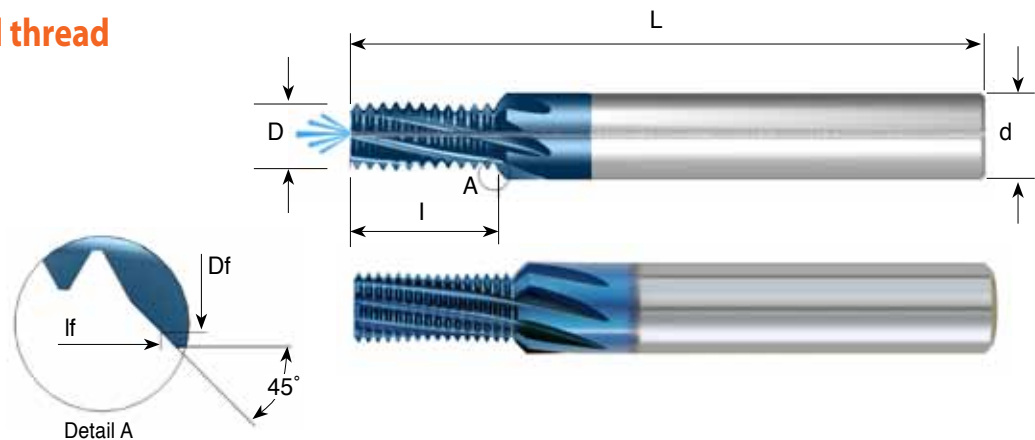
Order example: MTQ 1010D30 1.5 ISO MT7

For small thread mills see pages 227-228, 235 & 245



ISO Fast MT With internal coolant bore

Tools for Internal thread

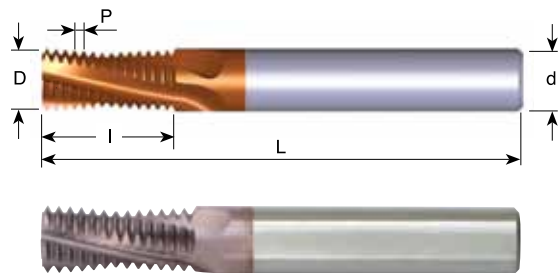
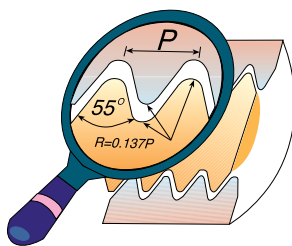


Pitch mm	M coarse	M fine	Ordering Code	d	D	Df	Flutes	I	If	L
1.0	M6	$\emptyset \geq 7$	FMT 08048 F10 1.0 ISO	8	4.8	6.8	6	10.5	11.5	64
1.25	M8	$\emptyset \geq 10$	FMT 10064 G14 1.25 ISO	10	6.4	9.6	7	14.4	16.0	73
1.5	M10	$\emptyset \geq 12$	FMT 1008 G17 1.5 ISO	10	8.0	9.8	7	17.3	18.2	73
1.75	M12	$\emptyset \geq 12$	FMT 12095 G20 1.75 ISO	12	9.5	11.7	7	20.1	21.2	84

Order example: FMT 1008 G17 1.5 ISO MT8

G (55°) BSF, BSP

Same Tool for Internal and External Thread



Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	G1/16-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	$G \geq 1$	MT1212C24 11 W	12	12.0	3	24.2	84
11	$G \geq 1$	MT1616D38 11 W	16	16.0	4	38.1	105
11	$G \geq 1$	MT2020E47 11 W	20	20.0	5	47.3	105

Order example: MT 1212D19 14 W MT7

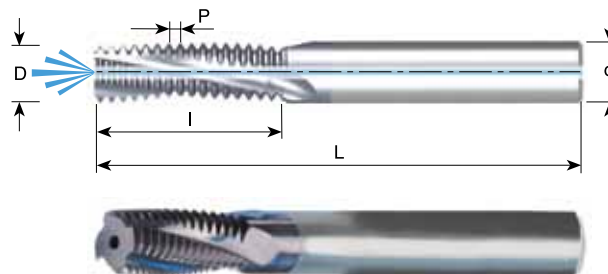
For small thread mills see pages 231, 234 & 247

For thread mills with coolant see next page



G (55°) BSF, BSP With internal coolant bore

Same Tool for Internal and External Thread



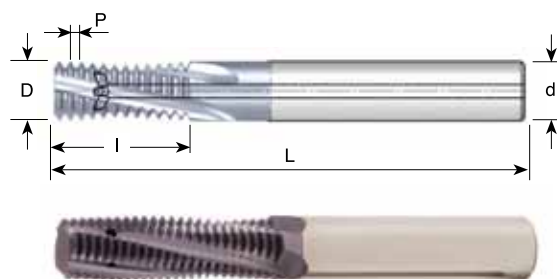
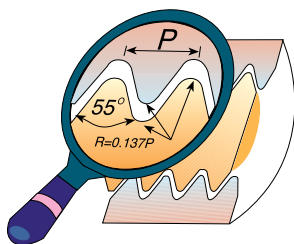
Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	G1/8	MTB08078C14 28W	8	7.8	3	14.1	64
19	G1/4-3/8	MTB1010D16 19W	10	10.0	4	16.7	73
14	G1/2-7/8	MTB1616E26 14W	16	16.0	5	26.3	105
11	G≥1	MTB1616D38 11W	16	16.0	4	38.1	105
11	G≥1	MTB2020E47 11W	20	20.0	5	47.3	105

Order example: MTB 1010D16 19 W MT7

For small thread mills see pages 231, 234 & 247

G 55° BSF, BSP 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

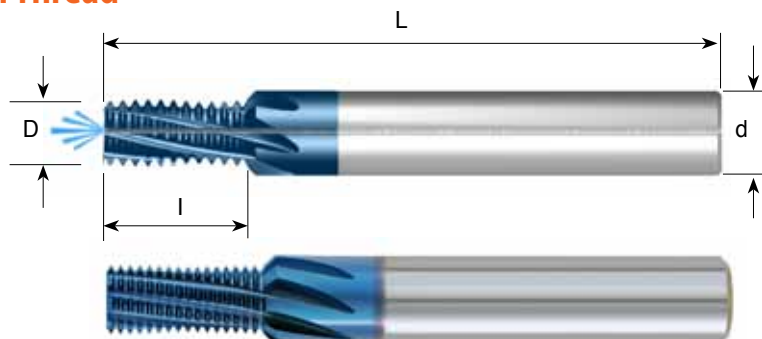
Order example: MTZ 08078C14 28 W MT7

For small thread mills see pages 231, 234 & 247



G 55° Fast MT With internal coolant bore

Same Tool for Internal and External Thread



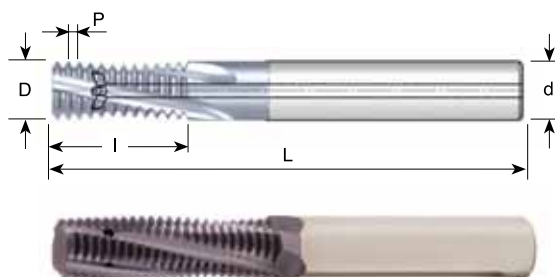
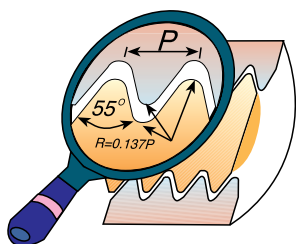
Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	G1/8	FMT08078H14 28W	8	7.8	8	14.1	64
19	G1/4-3/8	FMT1010G16 19W	10	10.0	7	16.7	73
14	G1/2-7/8	FMT1616H26 14W	14	14.0	8	26.3	84
11	G≥1	FMT1616H38 11W	16	16.0	8	38.1	105

Order example: FMT 1616 H38 11W MT8

* Without cutting chamfer

Whitworth BSW With internal coolant through the flutes

Same Tool for Internal and External Thread



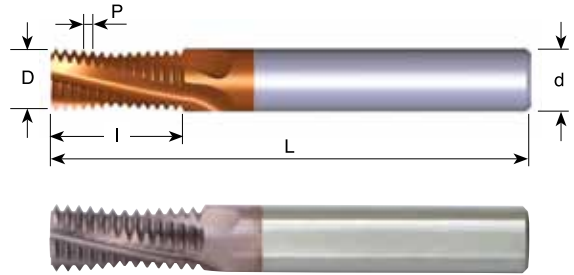
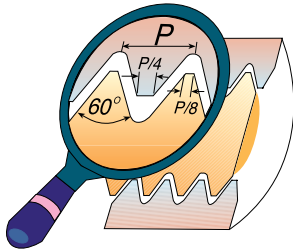
Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
* 20	1/4	MTZ06046C12 20W	6	4.6	3	12.1	58
18	5/16	MTZ06053C14 18W	6	5.3	3	14.8	58
16	3/8	MTZ08064C16 16W	8	6.8	3	16.7	64
16	1/2	MTZ10092D24 16W	10	9.2	4	24.6	73
14	7/16	MTZ08078D20 14W	8	7.8	4	20.9	64
12	1/2	MTZ10086D24 12W	10	8.6	4	24.4	73
11	5/8	MTZ12109D28 11W	12	10.9	4	28.9	84

Order example: MTZ 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			MT06025C6 40UN	6	2.5	3	6.0	58
32	8	10	12	MT06032C6 32UN	6	3.2	3	6.8	58
28		1/4		MT0604C11 28UN	6	4.0	3	11.3	58
28			7/16-1/2	MT0606C14 28UN	6	6.0	3	14.1	58
24		5/16		MT0605C14 24UN	6	5.0	3	14.3	58
24		3/8	9/16-5/8	MT0807C21 24UN	8	7.0	3	20.6	64
20	1/4			MT06045C12 20UN	6	4.5	3	12.1	58
20		7/16-1/2		MT0807C21 20UN	8	7.0	3	21.0	64
20			3/4-1	MT1212E27 20UN	12	12.0	5	27.3	84
18	5/16			MT0605C14 18UN	6	5.0	3	14.8	58
18		9/16-5/8	1 1/8-1 5/8	MT1010D26 18UN	10	10.0	4	26.1	73
16	3/8			MT0606C16 16UN	6	6.0	3	16.7	58
16		3/4		MT1212D31 16UN	12	12.0	4	31.0	84
14	7/16			MT0807C20 14UN	8	7.0	3	20.9	64
14		7/8		MT1615E37 14UN	16	15.0	5	37.2	105
13	1/2			MT0808C22 13UN	8	8.0	3	22.5	64
12	9/16			MT1010C26 12UN	10	10.0	3	26.5	73
12		1-1 1/2		MT1616E41 12UN	16	16.0	5	41.3	105
11	5/8			MT1010C28 11UN	10	10.0	3	28.9	73
10	3/4			MT1212C34 10UN	12	12.0	3	34.3	84
9	7/8			MT1615C38 9UN	16	15.0	3	38.1	105
8	1			MT1616C42 8UN	16	16.0	3	42.9	105
7	1 1/8-1 1/4			MT2020D45 7UN	20	20.0	4	45.3	105

Order example: MT 1615 E37 14 UN MT7

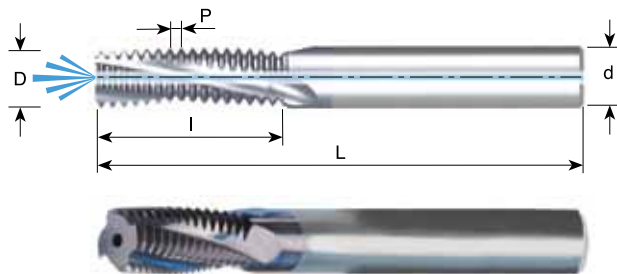
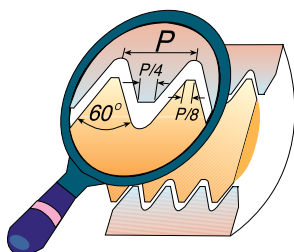
For thread mills with coolant bore see following pages

For small thread mills see pages 229-230, 235 & 246



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

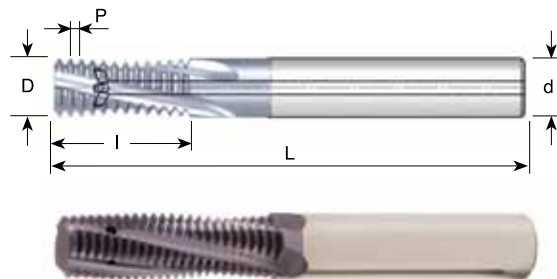
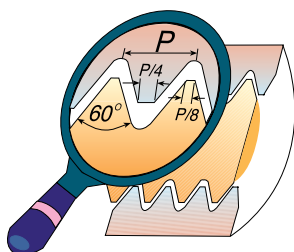
For thread mills with coolant through the flutes see next page

For small thread mills see pages 229-230, 235 & 246



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

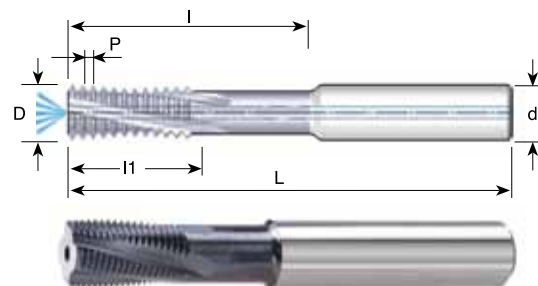
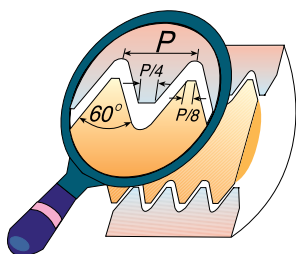
Order example: MTZ 0808D21 24 UN MT7

For small thread mills see pages 229-230, 235 & 246



UN With relieved neck and internal coolant bore

Tools for Internal Thread



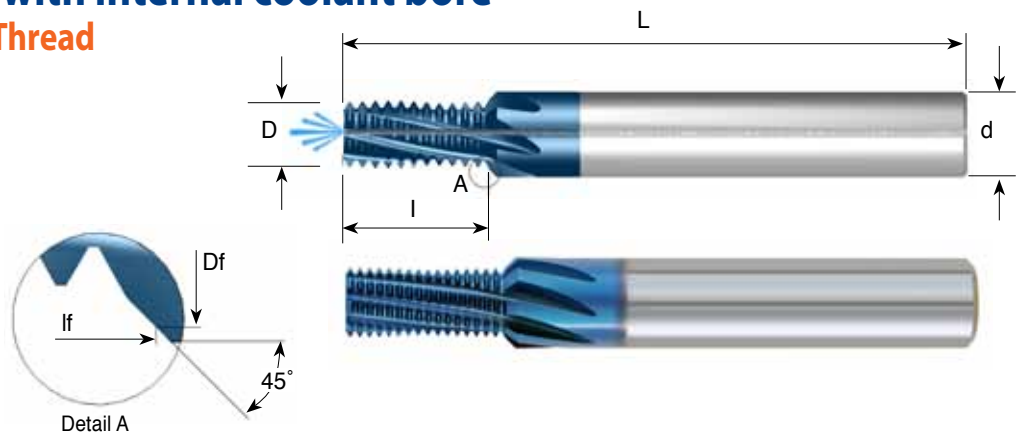
Pitch TPI	Thread size	Ordering Code	d	D	No. of Flutes	I1	I	L
20	$\varnothing \geq 12$	MTQ1010D30 20 UN	10	10.0	4	17.8	30.5	73
20	$\varnothing \geq 14$	MTQ1212E35 20 UN	12	12.0	5	20.3	35.6	84
20	$\varnothing \geq 18$	MTQ1616F43 20 UN	16	16.0	6	25.4	43.2	105
18	$\varnothing \geq 15$	MTQ1212D35 18 UN	12	12.0	4	19.7	35.3	84
16	$\varnothing \geq 15$	MTQ1212D35 16 UN	12	12.0	4	20.7	35.0	84
16	$\varnothing \geq 19$	MTQ1616E42 16 UN	16	16.0	5	25.4	42.9	105
16	$\varnothing \geq 23$	MTQ2020F58 16 UN	20	20.0	6	36.5	58.8	105
14	$\varnothing \geq 20$	MTQ1616E45 14 UN	16	16.0	5	25.4	45.3	105
12	$\varnothing \geq 16$	MTQ1212D42 12 UN	12	12.0	4	25.4	42.3	84
12	$\varnothing \geq 24$	MTQ2020E55 12 UN	20	20.0	5	33.9	55.1	105

Order example: MTQ 1212D35 16 UN MT7



UN Fast MT with internal coolant bore

Tools for Internal Thread



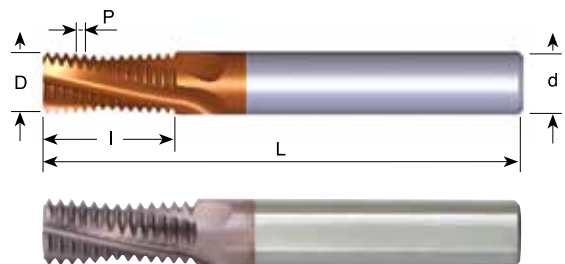
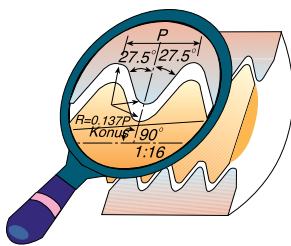
Pitch TPI	UNC	UNF	UNEF	Ordering Code	d	D	Df	Flutes	I	If	L
24		5/16, 3/8	9/16, 5/8, 11/16	FMT 10066 G14 24 UN	10	6.6	9.6	7	14.3	15.8	73
20	1/4			* FMT 08048 E12 20 UN	8	4.8	6.8	5	12.1	13.1	64
20		7/16, 1/2	3/4, 1	FMT 12092 H21 20 UN	12	9.2	11.4	8	21.0	22.1	84
18	5/16	9/16, 5/8	11/16	FMT 1006 F14 18 UN	10	6.0	8.4	6	14.8	16.0	73
16	3/8	3/4		FMT 10074 F16 16 UN	10	7.4	9.6	6	16.7	17.8	73
14	7/16	7/8		FMT 12085 F20 14 UN	12	8.5	10.7	6	20.9	22.0	84

Order example: FMT 08048 E12 20 UN MT8

* without internal coolant

BSPT

Same Tool for Internal and External Thread



Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	RC1/16-1/8	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

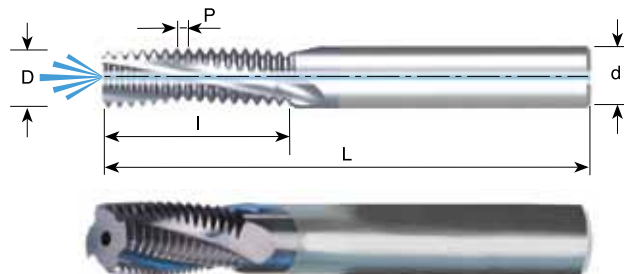
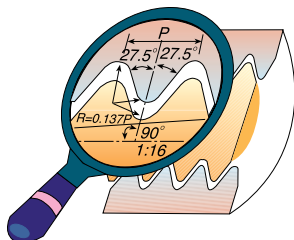
Order example: MT 1616D28 11 BSPT MT7

For thread mills with coolant through the flutes see next page

For conical preparation end mills see page 221

BSPT With internal coolant bore

Same Tool for Internal and External Thread

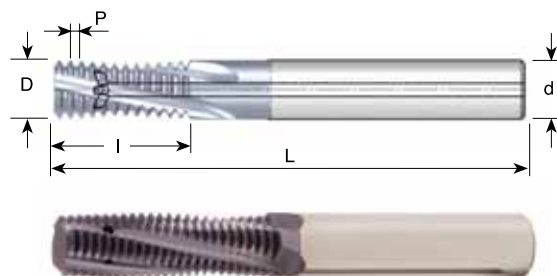
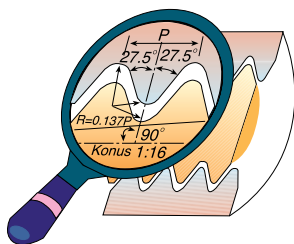


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	RC1/8	MTB08078C14 28 BSPT	8	7.8	3	14.1	64
19	RC1/4-3/8	MTB1010D16 19 BSPT	10	10.0	4	16.7	73
14	RC1/2-7/8	MTB1616E26 14 BSPT	16	16.0	5	26.3	105
11	RC1-2	MTB1616D28 11 BSPT	16	16.0	4	28.9	105

Order example: MTB 08078C14 28 BSPT MT7

BSPT With internal coolant through the flutes

Same Tool for Internal and External Thread



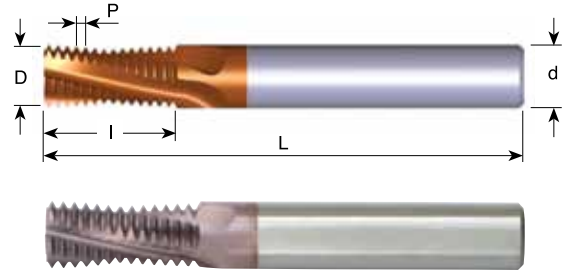
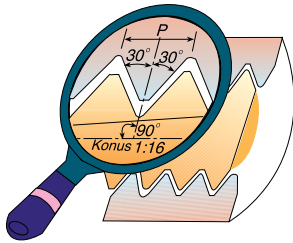
Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
28	RC1/8	MTZ08078C14 28 BSPT	8	7.8	3	14.1	64
19	RC1/4-3/8	MTZ1010D16 19 BSPT	10	10.0	4	16.7	73
14	RC1/2-7/8	MTZ1616E26 14 BSPT	16	16.0	5	26.3	101
11	RC1-2	MTZ1616D28 11 BSPT	16	16.0	4	28.9	101

Order example: MTZ 1010D16 19 BSPT MT7

For conical preparation end mills see page 221

NPT

Same Tool for Internal and External Thread

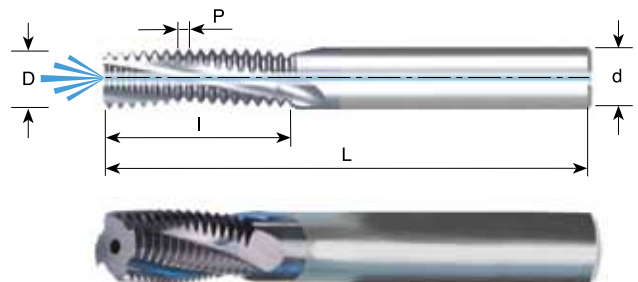


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/16-1/8	MT0606C9 27 NPT	6	6.0	3	9.9	58
18	1/4-3/8	MT0808C14 18 NPT	8	8.0	3	14.8	64
14	1/2-3/4	MT1212D20 14 NPT	12	12.0	4	20.9	84
11.5	1-2	MT1616D27 11.5 NPT	16	16.0	4	27.6	105
8	≥2 1/2	MT2020D39 8 NPT	20	20.0	4	39.7	105

Order example: MT 0808C14 18 NPT MT7

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	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

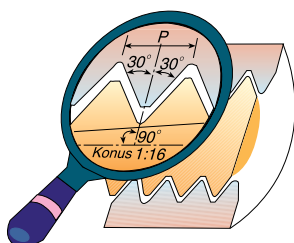
Order example: MTB 1010D16 18 NPT MT7

For thread mills with coolant through the flutes see next page

For conical preparation end mills see page 221

NPT With internal coolant through the flutes

Same Tool for Internal and External Thread

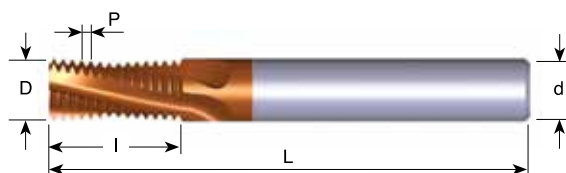
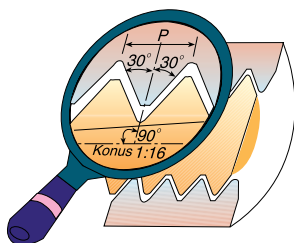


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/8	MTZ08076C10 27NPT	8	7.6	3	10.8	64
18	1/4-3/8	MTZ1010D16 18NPT	10	10.0	4	16.2	73
14	1/2-3/4	MTZ16155D22 14NPT	16	15.5	4	22.7	101

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

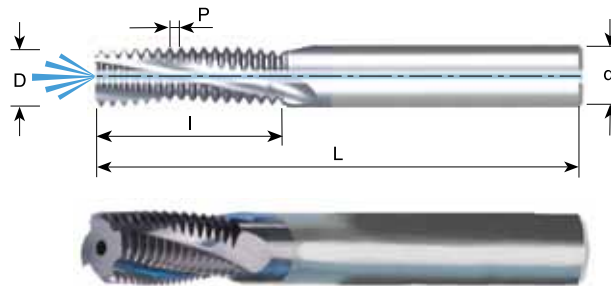
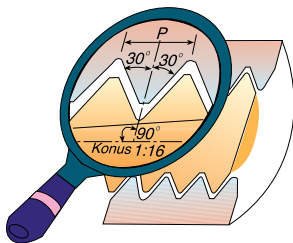
Order example: MT 1212D20 14 NPTF MT7

For thread mills with coolant bore see next page

For conical preparation end mills see page 221

NPTF With internal coolant bore

Same Tool for Internal and External Thread

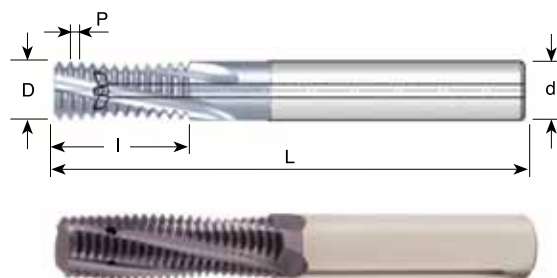
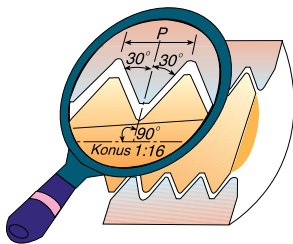


Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
27	1/8	MTB08076C10 27 NPTF	8	7.6	3	10.8	64
18	1/4-3/8	MTB1010D16 18 NPTF	10	10.0	4	16.2	73
14	1/2-3/4	MTB16155D22 14 NPTF	16	15.5	4	22.7	105
11.5	1-2	MTB2022D29 11.5 NPTF	20	20.0	4	29.8	105
8	≥ 2 1/2	MTB2020D39 8 NPTF	20	20.0	4	39.7	105

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

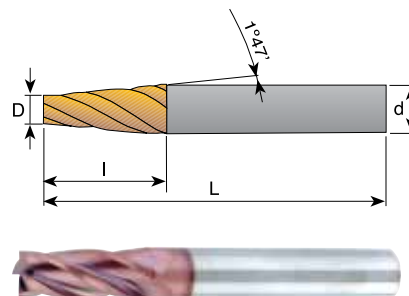
For conical preparation end mills see page 221

Solid Carbide Tapered End Mills

Solid carbide tapered end mills are used for milling preparation of conical 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.
- * Same tool for internal and external preparation.

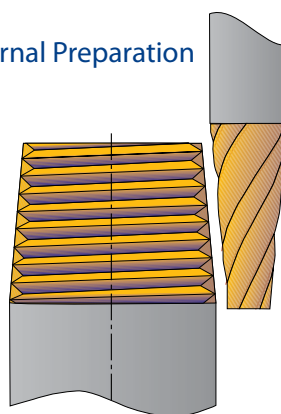


Ordering Code	d	D	I	L	No. of Flutes	Size
SC0652D12	6	5.2	12	58	4	NPT 1/16" - 1/8" NPTF 1/16" - 1/8" BSPT 1/16" - 1/8"
SC1085D24	10	8.5	24	73	4	NPT 1/8" - 1" NPTF 1/8" - 1" BSPT 1/8" - 1"
SC1210D32	12	10	32	84	4	NPT 1/4" - 3" NPTF 1/4" - 3" BSPT 1/4" - 3"

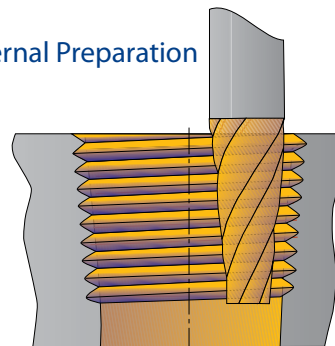
Order example: SC 1085D24 MT7

Carbide grade: MT7

External Preparation

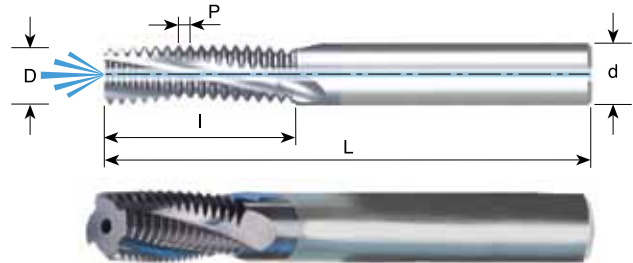
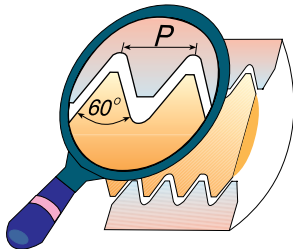


Internal Preparation



NPS With internal coolant bore

Same Tool for Internal and External Thread - Inch Shank

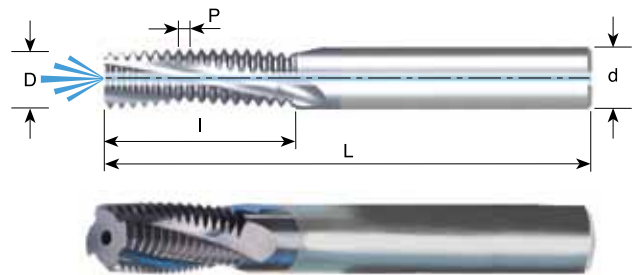
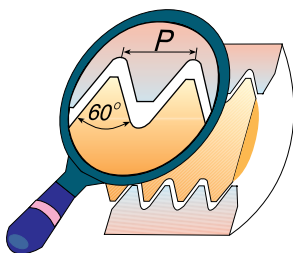


Pitch TPI	Standard	Ordering Code	d inch	D	No. of Flutes	I	L
27	1/8	MTB0312C04 27 NPS	5/16	7.6	3	10.8	63
18	1/4-3/8	MTB0375D06 18 NPS	3/8	9.5	4	16.2	76
14	1/2-3/4	MTB0625D08 14 NPS	5/8	15.5	4	22.7	101
11.5	1-2	MTB0750D11 11.5 NPS	3/4	19.0	4	29.8	101

Order example: MTB 0375D06 18 NPS MT7

NPSF With internal coolant bore

Same Tool for Internal and External Thread - Inch Shank

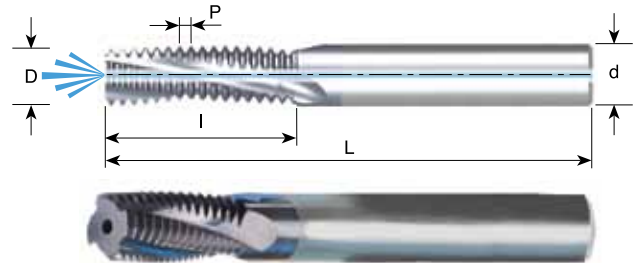
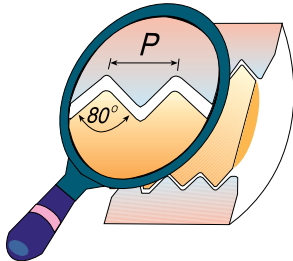


Pitch TPI	Standard	Ordering Code	d inch	D	No. of Flutes	I	L
27	1/8	MTB0312C04 27 NPSF	5/16	7.6	3	10.8	63
18	1/4-3/8	MTB0375D06 18 NPSF	3/8	9.5	4	16.2	76
14	1/2-3/4	MTB0625D08 14 NPSF	5/8	15.5	4	22.7	101
11.5	1-2	MTB0750D11 11.5 NPSF	3/4	19.0	4	29.8	101

Order example: MTB 0312C04 27 NPSF MT7

PG DIN 40430 - With internal coolant bore

Same Tool for Internal and External Thread



Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L
20	Pg 7	MTB1010D19 20 PG	10	10.0	4	19.7	73
18	Pg 9, 11, 13.5, 16	MTB1212D20 18 PG	12	12.0	4	20.5	84
16	Pg 21, 29, 36, 42, 48	MTB1212D23 16 PG	12	12.0	4	23.0	84

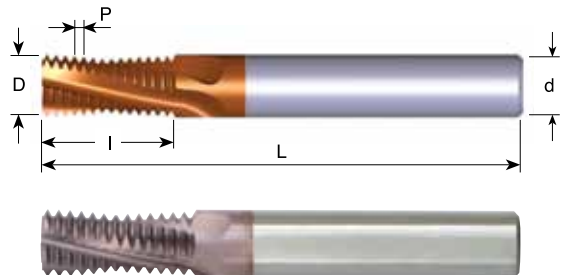
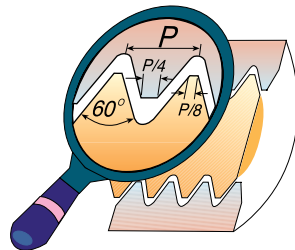
Order example: MTB 1212 D20 18 PG MT7

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

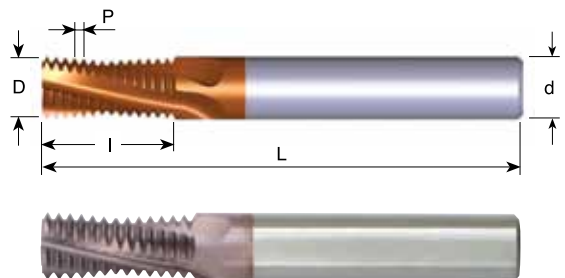
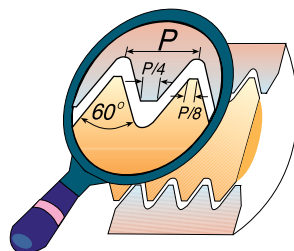
ISO



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
1.25	EMT1010D16 1.25 ISO	10	10.0	4	16.9	73
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

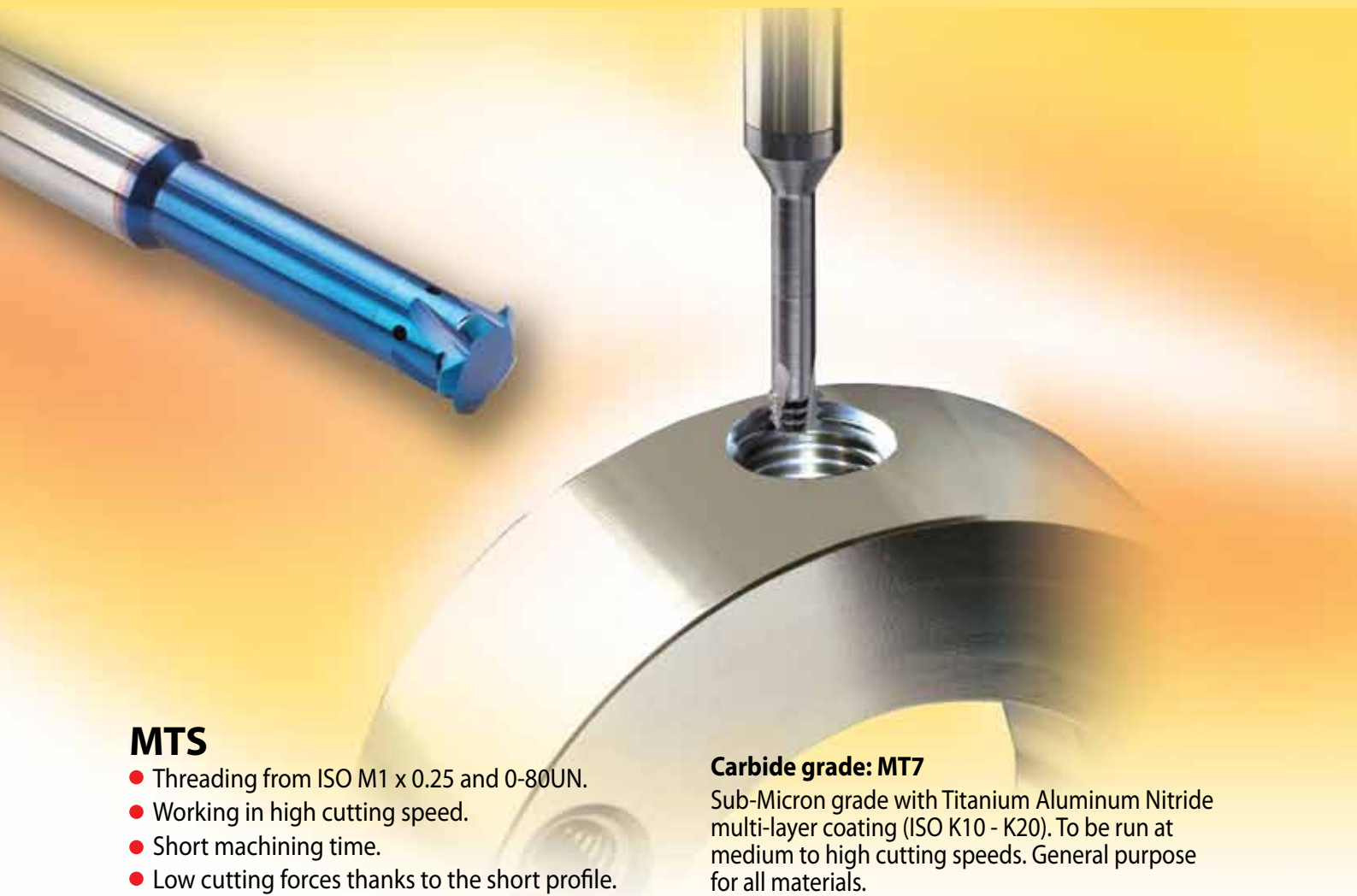
UN



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

Mini Mill-Thread



MTS

- Threading from ISO M1 x 0.25 and 0-80UN.
- Working in high cutting speed.
- Short machining time.
- Low cutting forces thanks to the short profile.
- No broken taps.
- Machining of hardened materials up to 45 HRc.

Advantages

- Enables machining in deep holes.
- Same tool can produce a wide range of threads and pitches.
- Same tool can produce both External and Internal threads.

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.

- 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 triple coating.

MTI - For threading deep parts

Carbide grade: MT8 Sub-micron grade with advanced PVD triple coating (ISO K10-K20). Extremely high heat resistant and smooth cutting operation, for high performance, and normal machining conditions. General purpose for all materials.

MT11 Ultra-fine Sub-micron grade with advanced PVD triple blue coating.

Contents:

Page: Contents:

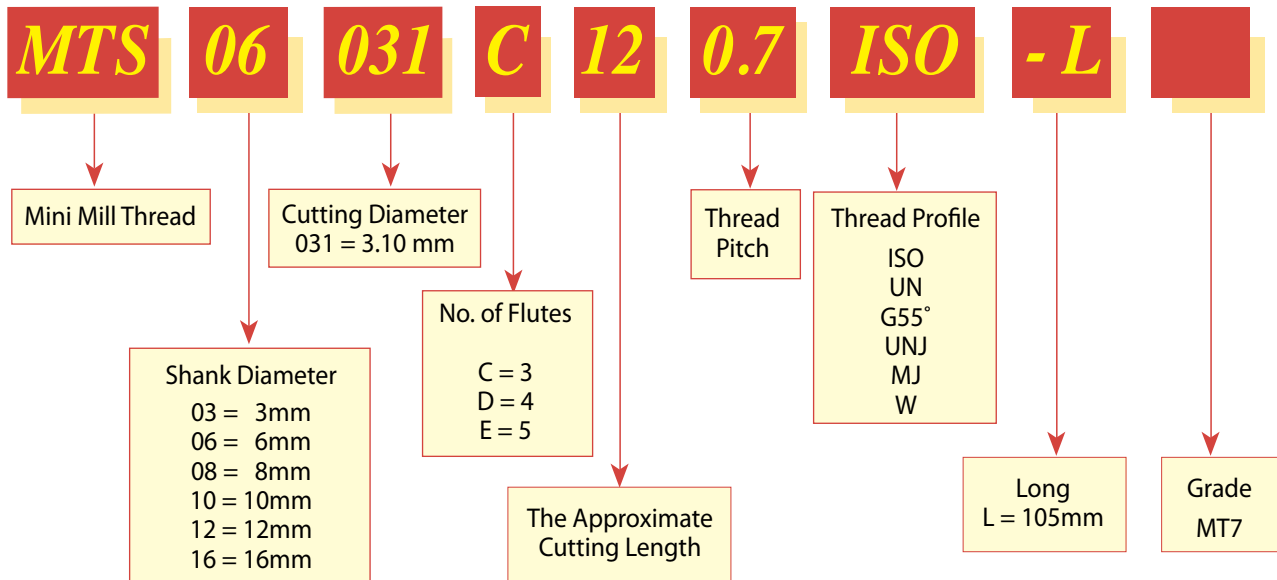
Page:

Product Identification	226
MTS	
ISO	227-228
UN	229-230
G55°	231
UNJ - with Internal Coolant through the flutes	232
MJ - with Internal Coolant through the flutes	232

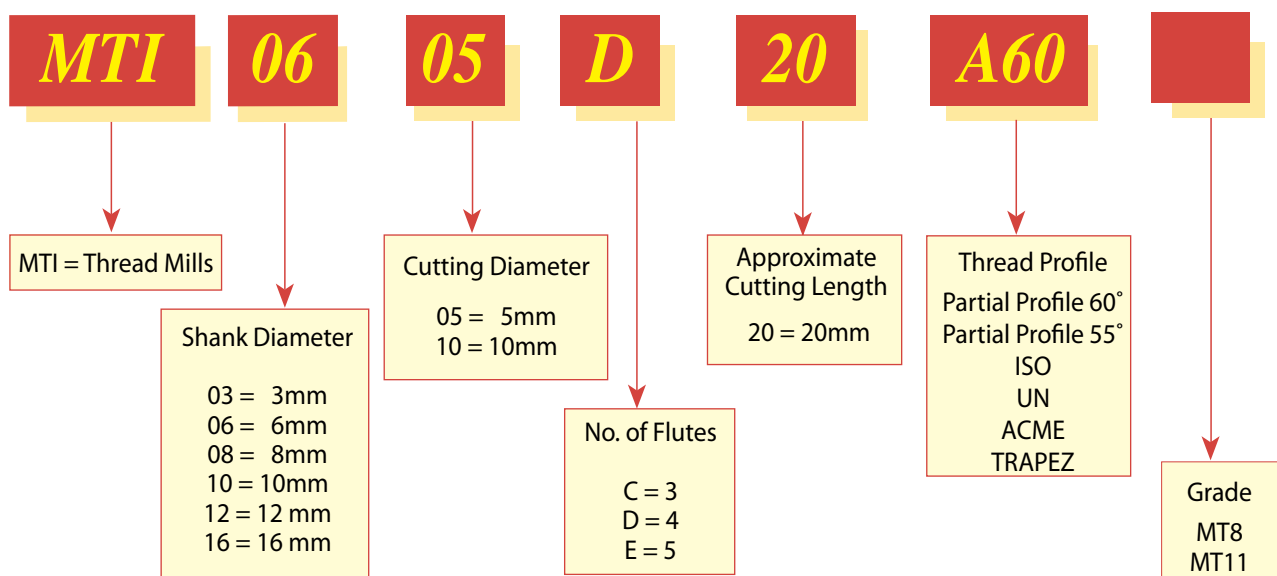
MTI	
Partial Profile 60°	233
Partial Profile 60° - with Internal Coolant through the flutes	233
Partial Profile 55°	234
ISO	235
UN	235
Trapez	236
Acme	236

Product Identification

Mini Mill-Thread MTS Ordering Codes

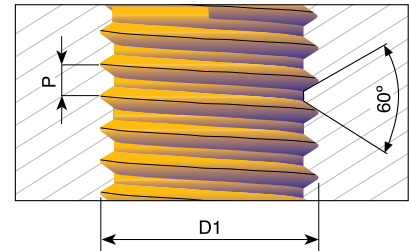


Mini Mill-Thread MTI Ordering Codes



ISO

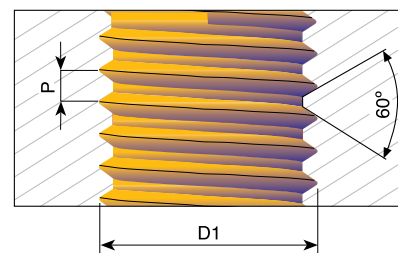
Tools for Internal Thread



Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L	Thread depth
0.25	M1	MTS03007C2 0.25 ISO	3	0.72	3	2.5	39	2.5xD1
0.25	M1.2	MTS03009C3 0.25 ISO	3	0.90	3	3.0	39	2xD1
0.3	M1.4	MTS03011C4 0.3 ISO	3	1.05	3	4.0	39	3xD1
0.35	M1.6	MTS03012C5 0.35 ISO	3	1.20	3	4.8	39	3xD1
	M1.6	MTS06012C5 0.35 ISO-L	6	1.20	3	4.8	105	3xD1
0.35	M5	MTS06045D14 0.35 ISO	6	4.50	4	14.5	58	3xD1
0.4	M2	MTS06016C4 0.4 ISO	6	1.53	3	4.5	58	2xD1
	M2	MTS06016C4 0.4 ISO-L	6	1.53	3	4.5	105	2xD1
	M2	MTS03016C6 0.4 ISO	3	1.53	3	6.0	39	3xD1
	M2	MTS03016C10 0.4 ISO	3	1.53	3	10.4	39	5xD1
0.45	M2.2	MTS06017C5 0.45 ISO	6	1.65	3	5.0	58	2xD1
	M2.2	MTS03017C7 0.45 ISO	3	1.65	3	7.0	39	3xD1
0.45	M2.5	MTS0602C5 0.45 ISO	6	1.95	3	5.5	58	2xD1
	M2.5	MTS0602C5 0.45 ISO-L	6	1.95	3	5.5	105	2xD1
	M2.5	MTS0602C7 0.45 ISO	6	1.95	3	7.5	58	3xD1
	M2.5	MTS0602C8 0.45 ISO-L	6	1.95	3	8.0	105	3xD1
	M2.5	MTS0302C10 0.45 ISO	3	1.95	3	10.5	39	4xD1
0.5	M3	MTS06024C6 0.5 ISO	6	2.37	3	6.5	58	2xD1
	M3	MTS06024C6 0.5 ISO-L	6	2.37	3	6.5	105	2xD1
	M3	MTS06024C9 0.5 ISO	6	2.37	3	9.5	58	3xD1
	M3	MTS06024C9 0.5 ISO-L	6	2.37	3	9.5	105	3xD1
	M3	MTS03024C12 0.5 ISO	3	2.40	3	12.5	39	4xD1
	M3	MTS03024C15 0.5 ISO	3	2.40	3	15.5	39	5xD1
0.5	M6, M7	MTS06054D20 0.5 ISO	6	5.35	4	20.0	58	3xD1
0.6	M3.5	MTS06028C7 0.6 ISO	6	2.75	3	7.5	58	2xD1
	M3.5	MTS06028C10 0.6 ISO	6	2.75	3	10.5	58	3xD1
0.7	M4	MTS06031C9 0.7 ISO	6	3.10	3	9.0	58	2xD1
	M4	MTS06031C12 0.7 ISO	6	3.10	3	12.5	58	3xD1
	M4	MTS06031C12 0.7 ISO-L	6	3.10	3	12.5	105	3xD1
	M4	MTS06031C16 0.7 ISO	6	3.10	3	16.7	58	4xD1
0.75	M10	MTS0808D25 0.75 ISO	8	8.00	4	25.0	64	2.5xD1
0.8	M5	MTS06038C12 0.8 ISO	6	3.80	3	12.5	58	2xD1
	M5	MTS06038C16 0.8 ISO	6	3.80	3	16.0	58	3xD1
	M5	MTS06038C16 0.8 ISO-L	6	3.80	3	16.0	105	3xD1
	M5	MTS0604C20 0.8 ISO	6	4.00	3	20.8	58	4xD1

ISO

Tools for Internal Thread



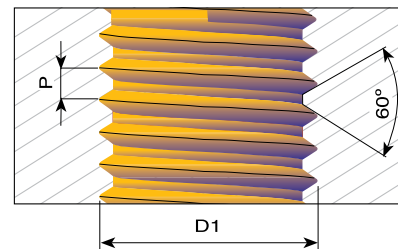
Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L	Thread depth
1.0	M6	MTS06047C14 1.0 ISO	6	4.65	3	14.0	58	2xD1
	M6	MTS06047C20 1.0 ISO	6	4.65	3	20.0	58	3xD1
	M6	MTS06047C20 1.0 ISO-L	6	4.65	3	20.0	105	3xD1
	M6	MTS06048C25 1.0 ISO	6	4.80	3	25.0	58	4xD1
1.0	M10	MTS0808D31 1.0 ISO	8	8.00	4	31.0	64	3xD1
1.25	M8	MTS0606C18 1.25 ISO	6	6.0	3	18.0	58	2xD1
	M8	MTS0606C24 1.25 ISO	6	6.0	3	24.0	58	3xD1
	M8	MTS0606C24 1.25 ISO-L	6	6.0	3	24.0	105	3xD1
1.5	M10	MTS08078C23 1.5 ISO	8	7.80	3	23.0	64	2xD1
	M10	MTS08078C31 1.5 ISO	8	7.80	3	31.5	64	3xD1
	M10	MTS08078C31 1.5 ISO-L	8	7.80	3	31.5	105	3xD1
1.75	M12	MTS1009C26 1.75 ISO	10	9.00	3	26.0	73	2xD1
	M12	MTS1009C37 1.75 ISO	10	9.00	3	37.8	73	3xD1
2.0	M16	MTS12118D35 2.0 ISO	12	11.80	4	35.0	84	2xD1
	M16	MTS12118D50 2.0 ISO	12	11.80	4	50.0	105	3xD1
2.5	M20	MTS1615E43 2.5 ISO	16	15.00	5	43.0	105	2xD1

- Machining Titanium, surgical stainless steels and hardened materials up to 45 HRC.
- 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.

Order example: MTS 03024C12 0.5 ISO MT7

UN

Tools for Internal Thread

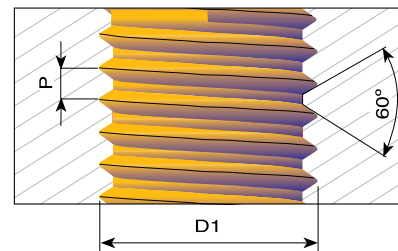


Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	I	L	Thread depth
80		0	MTS06012C4 80 UN	6	1.15	3	4.0	58	3xD1
		0	MTS03012C8 80 UN	3	1.15	3	8.0	39	5xD1
72		1	MTS06014C3 72 UN	6	1.45	3	3.7	58	2xD1
		1	MTS03015C6 72 UN	3	1.45	3	6.0	39	3xD1
64	1	2	MTS06014C3 64 UN	6	1.40	3	3.8	58	2xD1
56	2	3	MTS03016C4 56 UN	3	1.65	3	4.4	39	2xD1
	2	3	MTS06016C4 56 UN	6	1.65	3	4.4	58	2xD1
	2	3	MTS03016C6 56 UN	3	1.65	3	6.6	39	3xD1
	2	3	MTS06016C6 56 UN	6	1.65	3	6.6	58	3xD1
	2	3	MTS06016C6 56 UN-L	6	1.65	3	6.6	105	3xD1
	2	3	MTS03016C9 56 UN	3	1.65	3	9.2	39	4xD1
	2	3	MTS03016C11 56 UN	3	1.65	3	11.4	39	5xD1
48	3	4	MTS06019C5 48 UN	6	1.90	3	5.2	58	2xD1
40	4		MTS06021C6 40 UN	6	2.10	3	6.3	58	2xD1
	4		MTS06021C6 40 UN-L	6	2.10	3	6.3	105	2xD1
	4		MTS03021C8 40 UN	3	2.10	3	8.0	39	3xD1
	4		MTS06021C8 40 UN	6	2.10	3	8.0	58	3xD1
	4		MTS06021C8 40 UN-L	6	2.10	3	8.0	105	3xD1
	4		MTS03021C12 40 UN	3	2.10	3	12.0	39	4xD1
40	5	6	MTS06024C7 40 UN	6	2.45	3	7.0	58	2xD1
	5	6	MTS06024C9 40 UN	6	2.45	3	9.6	58	3xD1
36		8	MTS06033C9 36 UN	6	3.30	3	9.0	58	2xD1
32	6		MTS06025C7 32 UN	6	2.55	3	7.1	58	2xD1
	6		MTS06025C7 32 UN-L	6	2.55	3	7.1	105	2xD1
	6		MTS03025C10 32 UN	3	2.55	3	10.5	39	3xD1
	6		MTS06025C10 32 UN	6	2.55	3	10.5	58	3xD1
	6		MTS06025C10 32 UN-L	6	2.55	3	10.5	105	3xD1
	6		MTS03025C14 32 UN	3	2.55	3	14.8	39	4xD1
32	8		MTS06032C9 32 UN	6	3.20	3	9.5	58	2xD1
	8		MTS06032C9 32 UN-L	6	3.20	3	9.5	105	2xD1
	8		MTS06032C12 32 UN	6	3.20	3	12.5	58	3xD1
	8		MTS06032C12 32 UN-L	6	3.20	3	12.5	105	3xD1
	8		MTS06032C17 32 UN	6	3.20	3	17.5	58	4xD1
32		10	MTS06037C10 32 UN	6	3.70	3	10.5	58	2xD1
		10	MTS06037C15 32 UN	6	3.70	3	15.0	58	3xD1
		10	MTS06037C15 32 UN-L	6	3.70	3	15.0	105	3xD1
		10	MTS06037C20 32 UN	6	3.70	3	20.0	58	4xD1

Order example: MTS 06021C6 40 UN MT7

UN

Tools for Internal Thread

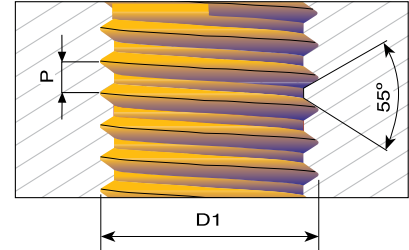


Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	I	L	Thread depth
28		12	MTS06042C11 28 UN	6	4.20	3	11.0	58	2xD1
28		1/4	MTS0605C14 28 UN	6	5.00	3	14.5	58	2xD1
		1/4	MTS0605C19 28 UN	6	5.00	3	19.0	58	3xD1
		1/4	MTS0605C19 28 UN-L	6	5.00	3	19.0	105	3xD1
		1/4	MTS0605C19 28 UN-L	6	5.00	3	19.0	105	3xD1
24	10, 12		MTS06035C10 24 UN	6	3.50	3	10.6	58	2xD1
	10, 12		MTS06035C15 24 UN	6	3.50	3	15.5	58	3xD1
24		5/16, 3/8	MTS08066C17 24 UN	8	6.60	3	17.0	64	2xD1
		5/16, 3/8	MTS08066C24 24 UN	8	6.60	3	24.0	64	3xD1
20	1/4		MTS06047C14 20 UN	6	4.75	3	14.0	58	2xD1
	1/4		MTS06047C14 20 UN-L	6	4.75	3	14.0	105	2xD1
	1/4		MTS06047C19 20 UN	6	4.75	3	19.0	58	3xD1
	1/4		MTS06047C19 20 UN-L	6	4.75	3	19.0	105	3xD1
20		7/16	MTS0808C25 20 UN	8	8.00	3	25.0	64	2xD1
		7/16	MTS0808C34 20 UN	8	8.00	3	34.6	64	3xD1
18	5/16		MTS0606C17 18 UN	6	6.00	3	17.0	58	2xD1
	5/16		MTS0606C23 18 UN	6	6.00	3	23.0	58	3xD1
18		5/8	MTS1212D35 18 UN	12	12.00	4	35.0	84	2xD1
		5/8	MTS1212D49 18 UN	12	12.00	4	49.0	105	3xD1
16	3/8		MTS08067C22 16 UN	8	6.70	3	22.0	64	2xD1
	3/8		MTS08067C30 16 UN	8	6.70	3	30.2	64	3xD1
14	7/16		MTS08077C25 14 UN	8	7.70	3	25.0	64	2xD1
	7/16		MTS08077C35 14 UN	8	7.70	3	35.2	64	3xD1
13	1/2		MTS10092C27 13 UN	10	9.20	3	27.5	73	2xD1
	1/2		MTS10092C40 13 UN	10	9.20	3	40.1	73	3xD1
12	9/16		MTS12105C31 12 UN	12	10.50	3	31.5	84	2xD1
	9/16		MTS12105C45 12 UN	12	10.50	3	45.0	105	3xD1
11	5/8		MTS12114C34 11 UN	12	11.40	3	34.5	84	2xD1
	5/8		MTS12114C50 11 UN	12	11.40	3	50.0	105	3xD1
10	3/4		MTS16144D41 10 UN	16	14.40	4	41.5	105	2xD1
	3/4		MTS16144D59 10 UN	16	14.40	4	59.7	105	3xD1

Order example: MTS 0605C19 28 UN MT7

- Machining Titanium, surgical stainless steels and hardened materials up to 45 HRC.
- 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.

G 55° BSW, BSP Same Tool for Internal and External Thread



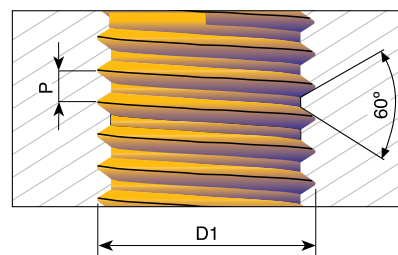
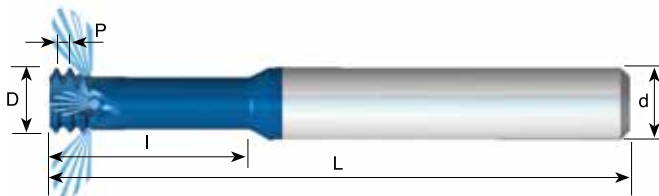
For thread depth up to 2 x D1

Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L	Thread depth
28	G 1/8	MTS08078C19 28 W	8	7.8	3	19.5	64	2xD1
19	G 1/4 - 3/8	MTS1010D30 19 W	10	10.0	4	30.0	73	2xD1
14	G 1/2 - 7/8	MTS1212D37 14 W	12	12.0	4	37.0	84	2xD1
11	G ≥ 1	MTS1616D44 11 W	16	16.0	4	44.0	105	2xD1

Order example: MTS 1212D37 14 W MT7

UNJ With internal coolant through the flutes

Tools for Internal Thread



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	9/16	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

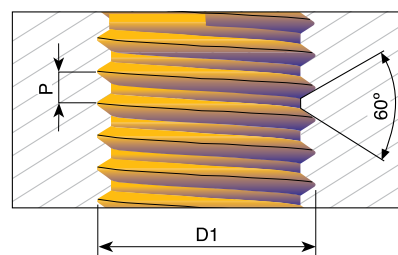
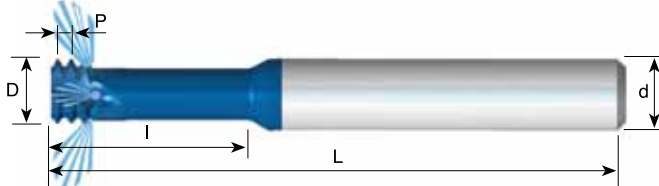
* Cutters without coolant

Order example: MTS 06049C16 20 UNJ MT8

Carbide grade MT8 Sub Micron grade with advanced PVD triple coating (ISO K 10-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

Tools for Internal Thread



For thread depth up to $2.5 \times D1$

Pitch TPI	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	25.5	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

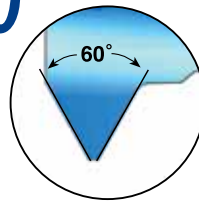
* Cutters without coolant

Order example: MTS 06048C15 1.0 MJ MT8

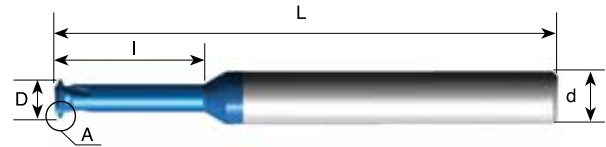
Carbide grade MT8 Sub Micron grade with advanced PVD triple coating (ISO K 10-K20). Extremely high heat resistant and smooth cutting operation, for high performance, and normal machining conditions. General purpose for all materials

Partial Profile 60°

Same Tool for Internal and External Thread



Detail A



Pitch mm	Pitch TPI	Ordering Code	M Coarse	M Fine	UN, UNC, UNS UNF, UNEF	d mm	D	No. of Flutes	I	L
0.25-0.35	100-72	MTI03012C3 A60	M1.6 x 0.35	M1.6 x 0.25 M1.8 x 0.25 M2.0 x 0.25	0-80 UNF	3	1.15	3	3.1	39
0.35-0.45	72-56	MTI03014C4 A60	M2 x 0.4 M2.2 x 0.45	M2 x 0.35 M2.2 x 0.35	1-64 UNC, 1-72 UNF, 2-56 UNC, 2-64 UNF	3	1.40	3	3.7	39
0.35-0.6	72-40	MTI03019C5 A60	M2.5 x 0.45	M2.5 x 0.35 M3 x 0.35	3-84 UNC, 3-56 UNF, 4-40 UNC, 4-48 UNF	3	1.90	3	5.2	39
0.5 -0.8	48-32	MTI03024C7 A60	M3 x 0.5 M3.5 x 0.6	M3.5 x 0.5	5-40 UNC, 5-44 UNF, 6-32 UNC, 6-40 UNF	3	2.45	3	7.0	39
0.5 -1.0	48-24	MTI06032C9 A60	M4 x 0.7 M4.5 x 0.75	M4 x 0.5	8-32 UNC, 8-36 UNF, 10-24 UNC, 10-28 UNS, 10-32 UNF	6	3.20	3	9.5	58
0.5 -1.0	48-24	MTI0604C12 A60	M5 x 0.8 M6 x 1.0	M5 x 0.5 M5.5 x 0.5 M5 x 0.75	10-36 UNS, 10-40 UNS, 10-48 UNS, 12-24 UNC, 12-28 UNF	6	4.00	3	12.5	58

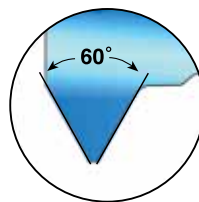
Order example: MTI 03024C7 A60 MT11

Carbide grade: MT11 Ultra-fine Sub-micron grade with PVD triple Blue coating

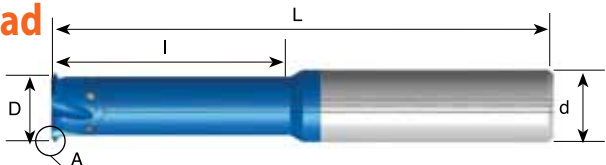
Partial Profile 60°

With internal coolant through the flutes

Same Tool for Internal and External Thread



Detail A



For threading deep parts

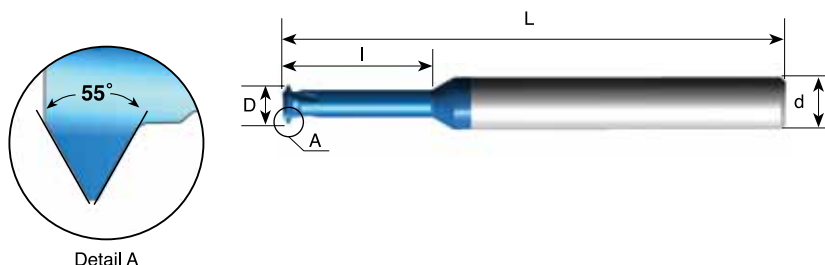
Pitch mm	Pitch TPI	Thread Dia. (mm)	Ordering Code	d	D	No. of Flutes	I	L
Int. 0.5 - 0.8	56-28	$\varnothing \geq 6$	MTI0605D20 A60	6	5.0	4	20	58
Ex. 0.4 - 0.8	64-32	$\varnothing \geq 9$	MTI0808D28 A60	8	8.0	4	28	64
		$\varnothing \geq 13$	MTI1212E38 A60	12	12.0	5	38	84
Int. 1.0 - 1.75	28-14	$\varnothing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

Order example: MTI 0808D28 A60 MT8

Carbide grade: MT8 With triple Blue coating

Partial Profile 55°

Same Tool for Internal and External Thread



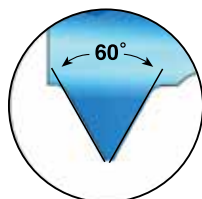
Pitch TPI	Ordering Code	d	D	No. of Flutes	I	L
40-32	MTI03023C7 A55	3	2.25	3	7.0	39
28-20	MTI06044C14 A55	6	4.35	3	14.0	58
28-18	MTI06059C20 A55	6	5.85	3	20.5	58
20-14	MTI0807C23 A55	8	7.00	3	23.0	64

Order example: MTI 06044C14A55 MT11

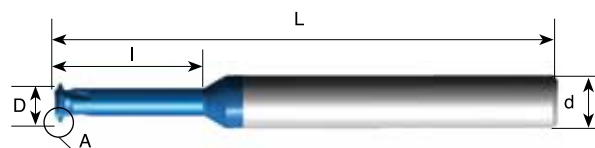
Carbide grade: MT11 Ultra-fine Sub-micron grade with PVD triple Blue coating

ISO

Tools for Internal Thread



Detail A



For thread depth up to $3.5 \times D1$

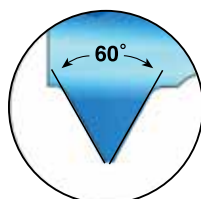
Pitch mm	M Coarse	M Fine	Ordering Code	d	D	No. of Flutes	I	L
0.25	M1 x 0.25		MTI03007C3 0.25 ISO	3	0.72	3	3.6	39
0.25	M1.2 x 0.25	M1.4 x 0.25 M1.6 x 0.25	MTI03009C4 0.25 ISO	3	0.90	3	4.3	39
0.3	M1.4 x 0.3		MTI03011C5 0.3 ISO	3	1.05	3	5.0	39
0.35	M1.6 x 0.35	M2 x 0.35 M2.2 x 0.35	MTI03012C6 0.35 ISO	3	1.20	3	5.7	39
0.4	M2 x 0.4		MTI03016C7 0.4 ISO	3	1.55	3	7.1	39
0.5	M3 x 0.5	M3.5 x 0.5 M4 x 0.5	MTI03024C10 0.5 ISO	3	2.37	3	10.6	39

Order example: MTI 03012C6 0.35 ISO MT11

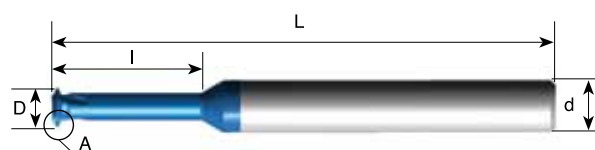
Carbide grade: MT11 Ultra-fine Sub-micron grade with PVD triple Blue coating

UN

Tools for Internal Thread



Detail A



For thread depth up to $3.5 \times D1$

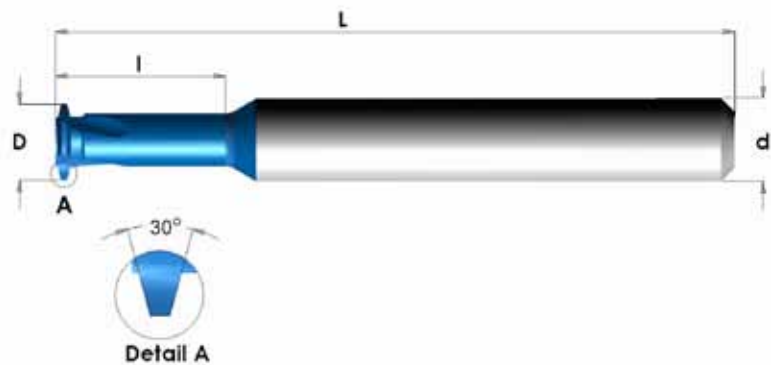
Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	I	L
80		0	MTI03012C5 80 UN	3	1.15	3	5.5	39
72		1	MTI03015C7 72 UN	3	1.45	3	6.6	39
56	2	3	MTI03016C9 56 UN	3	1.65	3	8.9	39
40	4		MTI03021C10 40 UN	3	2.10	3	10.1	39

Order example: MTI 03016C9 56 UN MT11

Carbide grade: MT11 Ultra-fine Sub-micron grade with PVD triple Blue coating

Trapez-DIN 103

Tools for Internal Thread



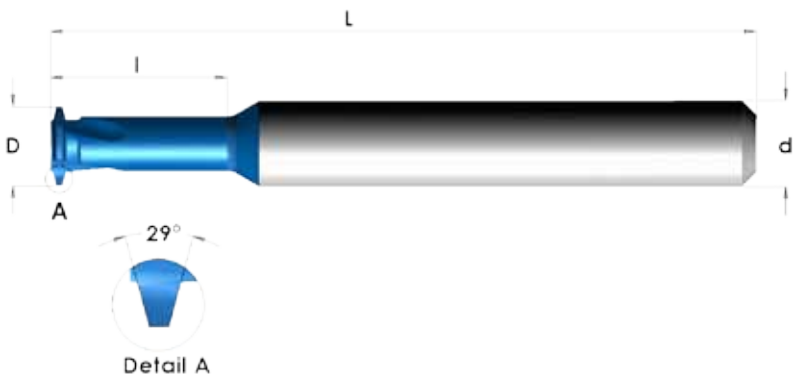
For thread depth up to 2 x D1

Pitch mm	Thread size	Ordering Code	d	D	No. of Flutes	I	L
1.5	Tr8x1.5 Tr9x1.5	MTI06055C13 1.5 TR	6	5.5	3	13.5	58
2	Tr10x2 Tr11x2	MTI08066C21 2 TR	8	6.6	3	21.0	64
2	Tr12x2 Tr14x2	MTI10086D25 2 TR	10	8.6	4	25.0	73
3	Tr12x3	MTI0807C25 3 TR	8	7.0	3	25.0	64
3	Tr14x3 Tr22x3	MTI10089D29 3 TR	10	8.9	4	29.0	73
4	Tr16x4 Tr18x4 Tr20x4	MTI10092C33 4 TR	10	9.2	3	33.0	73
5	Tr22x5 Tr24x5 Tr26x5	MTI14135D45 5 TR	14	13.5	4	45.0	105

Order example: MTI 08066C21 2TR MT8

Acme

Tools for Internal Thread -
Inch Shank



Pitch TPI	Thread size	Ordering Code	d	D	No. of Flutes	I	L
16	1/4-16	MTI0250C04 16 ACME	1/4	4.3	3	9.7	64
14	5/16-14	MTI0250C06 14 ACME	1/4	5.2	3	15.2	64
12	3/8-12 7/16-12	MTI0250C08 12 ACME	1/4	6.1	3	19.1	64
10	1/2-10	MTI0375D10 10 ACME	3/8	8.3	4	25.4	76
8	5/8-8	MTI0500D11 8 ACME	1/2	10.4	4	27.9	89
6	3/4-6 7/8-6	MTI0500D12 6 ACME	1/2	12.0	4	30.5	89
5	1-5 1 1/8-5 1 1/4-5	MTI 0625E15 5 ACME	5/8	15.9	5	38.1	102

Order example: MTI 0375D10 10ACME MT8



MTSH Type

Carmex are pioneers in offering solid carbide thread mills designed specifically for the machining of hardened materials up to 62HRC. These tools provide high performance, improved cut and an excellent surface finish.

HARDCUT MTSH & MTH Types

Carbide grade: MT9 / MT11 - *Ultra fine sub-micron grade with Advanced PVD Triple Coating*

MTH Type

Carmex provide innovative mill thread solid carbide tools for machining:

- Hardened steels and cast iron up to 62 HRC.
- High temperature alloys.
- Titanium alloys.
- Super Alloys (Hastelloy, Inconel, Nickel Base Alloys).

- Threading from ISO M1.4 x 0.3 and 0-80UN
- Perfect solution for the Die and Mold industry
- Working at high cutting speeds
- Short machining time
- Low cutting forces thanks to the short profile

Advantages

- Same tool performs thread milling and chamfering - saves machining time.
- Increased cutting diameter - better rigidity and stability.
- Coating provides high wear and heat resistance.
- Ultra fine grade - dedicated for hardened materials.
- Short chips are produced, insure high process security.
- Short cycle time - increases productivity.
- Thread length up to 2xD.

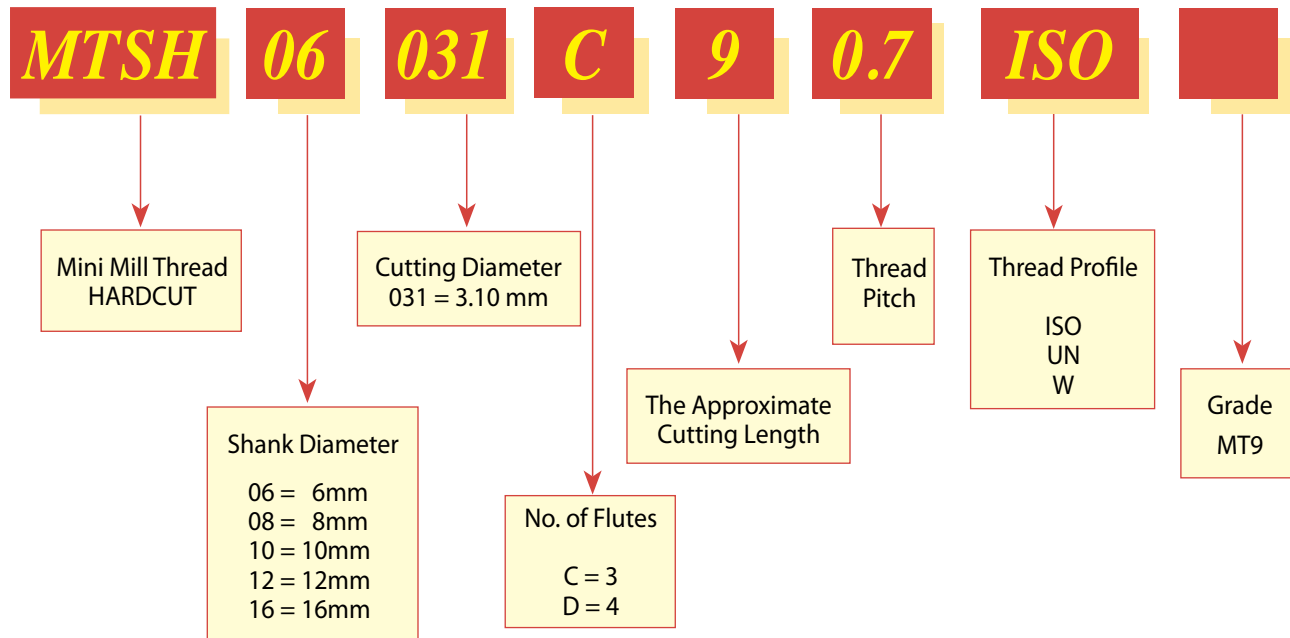
Contents:

Page:

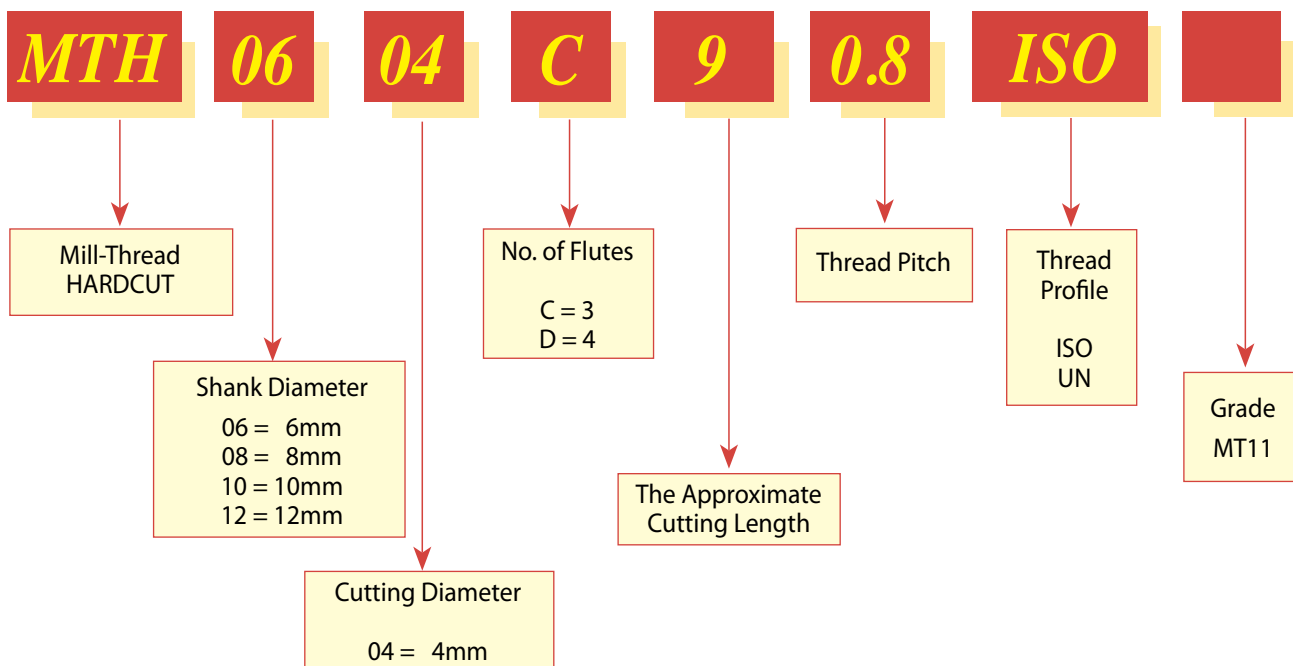
Product Identification	244
MTSH Type	
ISO	245
UN	246
G55° - BSW, BSP	247
MTH Type	
ISO	248
UN	248

Product Identification

Mini Mill-Thread MTSH Type Ordering Codes

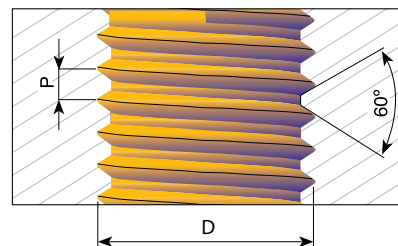
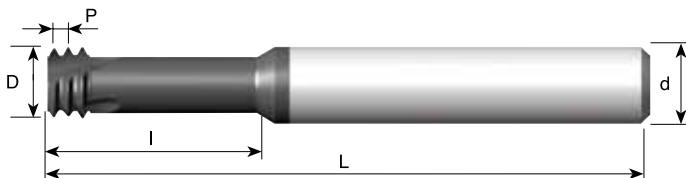


MTH Type Ordering Codes



ISO

Same Tool for Internal and External Thread



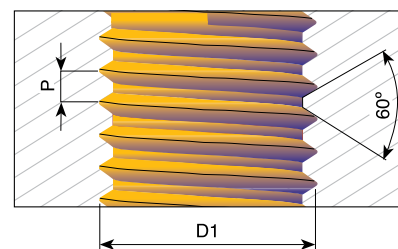
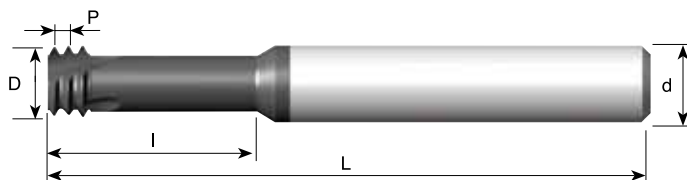
Left hand cutting
For CNC code use M04

Pitch mm	D1	Ordering Code	d	D	No. of Flutes	I	L	Thread depth
0.3	M1.4	MTSH03011C4 0.3 ISO	3	1.05	3	4.0	39	3xD
0.35	M1.6	MTSH03012C5 0.35 ISO	3	1.20	3	4.8	39	3xD
0.4	M2	MTSH06016C4 0.4 ISO	6	1.53	3	4.5	58	2xD
		MTSH03016C6 0.4 ISO	3			6.0	39	3xD
0.45	M2.2	MTSH06017C5 0.45 ISO	6	1.65	3	5.0	58	2xD
		MTSH06017C7 0.45 ISO				7.0	58	3xD
0.45	M2.5	MTSH0602C5 0.45 ISO	6	1.95	3	5.5	58	2xD
		MTSH0602C7 0.45 ISO				7.5	58	3xD
0.5	M3	MTSH06024C6 0.5 ISO	6	2.37	3	6.5	58	2xD
		MTSH06024C9 0.5 ISO				9.5	58	3xD
0.6	M3.5	MTSH06028C7 0.6 ISO	6	2.75	3	7.5	58	2xD
		MTSH06028C10 0.6 ISO				10.5	58	3xD
0.7	M4	MTSH06031C9 0.7 ISO	6	3.10	3	9.0	58	2xD
		MTSH06031C12 0.7 ISO				12.5	58	3xD
0.8	M5	MTSH06038C12 0.8 ISO	6	3.80	3	12.5	58	2xD
		MTSH06038C16 0.8 ISO				16.0	58	3xD
1.0	M6	MTSH06047C14 1.0 ISO	6	4.65	3	14.0	58	2xD
		MTSH06047C20 1.0 ISO				20.0	58	3xD
1.25	M8	MTSH0606C18 1.25 ISO	6	6.00	3	18.0	58	2xD
		MTSH0606C24 1.25 ISO				24.0	58	3xD
1.5	M10	MTSH08078C23 1.5 ISO	8	7.80	3	23.0	64	2xD
1.75	M12	MTSH1009C26 1.75 ISO	10	9.00	3	26.0	73	2xD
2.0	M16	MTSH12118D35 2.0 ISO	12	11.80	4	35.0	84	2xD

Order example: MTSH 06031C9 0.7 ISO MT9

UN

Tools for Internal Thread



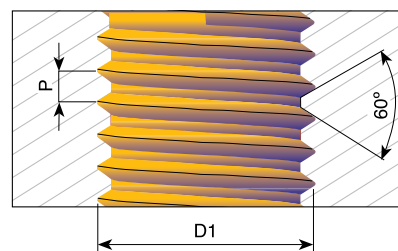
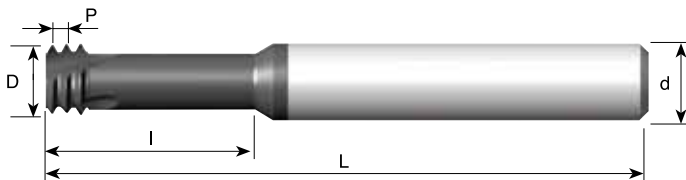
Left hand cutting
For CNC code use M04

Pitch TPI	UNC	UNF	Ordering Code	d	D	No. of Flutes	I	L	Thread depth
80		0	MTSH06012C4 80 UN	6	1.15	3	4.0	58	3xD1
72		1	MTSH06014C3 72 UN	6	1.45	3	3.7	58	2xD1
72		1	MTSH03015C6 72 UN	3	1.45	3	6.0	39	3xD1
64	1	2	MTSH06014C3 64 UN	6	1.40	3	3.8	58	2xD1
56	2	3	MTSH06016C4 56 UN	6	1.65	3	4.4	58	2xD1
56	2	3	MTSH06016C6 56 UN	6	1.65	3	6.6	58	3xD1
48	3	4	MTSH06019C5 48 UN	6	1.90	3	5.2	58	2xD1
40	4		MTSH06021C6 40 UN	6	2.10	3	6.3	58	2xD1
40	4		MTSH06021C8 40 UN	6	2.10	3	8.0	58	3xD1
40	5	6	MTSH06024C7 40 UN	6	2.45	3	7.0	58	2xD1
40	5	6	MTSH06024C9 40 UN	6	2.45	3	9.6	58	3xD1
36		8	MTSH06033C9 36 UN	6	3.30	3	9.0	58	2xD1
32	6		MTSH06025C7 32 UN	6	2.55	3	7.1	58	2xD1
32	6		MTSH06025C10 32 UN	6	2.55	3	10.5	58	3xD1
32	8		MTSH06032C9 32 UN	6	3.20	3	9.5	58	2xD1
32	8		MTSH06032C12 32 UN	6	3.20	3	12.5	58	3xD1
32		10	MTSH06037C10 32 UN	6	3.70	3	10.5	58	2xD1
32		10	MTSH06037C15 32 UN	6	3.70	3	15.0	58	3xD1
28		12	MTSH06042C11 28 UN	6	4.20	3	11.0	58	2xD1
28		1/4	MTSH0605C14 28 UN	6	5.00	3	14.5	58	2xD1
28		1/4	MTSH0605C19 28 UN	6	5.00	3	19.0	58	3xD1
24	10, 12		MTSH06035C10 24 UN	6	3.50	3	10.6	58	2xD1
24		5/16, 3/8	MTSH08066C17 24 UN	8	6.60	3	17.0	64	2xD1
24		5/16, 3/8	MTSH08066C24 24 UN	8	6.60	3	24.0	64	3xD1
20	1/4		MTSH06047C14 20 UN	6	4.75	3	14.0	58	2xD1
20	1/4		MTSH06047C19 20 UN	6	4.75	3	19.0	58	3xD1
20		7/16	MTSH0808C25 20 UN	8	8.00	3	25.0	64	2xD1
18	5/16		MTSH0606C17 18 UN	6	6.00	3	17.0	58	2xD1
18	5/16		MTSH0606C23 18 UN	6	6.00	3	23.0	58	3xD1
18		5/8	MTSH1212D35 18 UN	12	12.00	4	35.0	84	2xD1
16	3/8		MTSH08067C22 16 UN	8	6.70	3	22.0	64	2xD1
14	7/16		MTSH08077C25 14 UN	8	7.70	3	25.0	64	2xD1
13	1/2		MTSH10092C27 13 UN	10	9.20	3	27.5	73	2xD1
12	9/16		MTSH12105C31 12 UN	12	10.50	3	31.5	84	2xD1
11	5/8		MTSH12114C34 11 UN	12	11.40	3	34.5	84	2xD1
10	3/4		MTSH16144D41 10 UN	16	14.40	4	41.5	105	2xD1

Order example: MTSH 06047C14 20 UN MT9

G (55°) BSW, BSP

Same Tool for Internal and External Thread



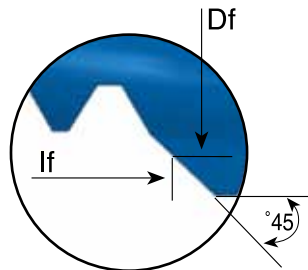
Left hand cutting
For CNC code use M04

Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	I	L	Thread depth
28	G1/8	MTSH08078 C19 28W	8	7.8	3	19.5	64	2xD1
19	G1/4-3/8	MTSH1010 D30 19W	10	10.0	4	30.0	73	
14	G1/2-7/8	MTSH1212 D37 14W	12	12.0	4	37.0	84	
11	G≥1	MTSH1616 D44 11W	16	16.0	4	44.0	105	

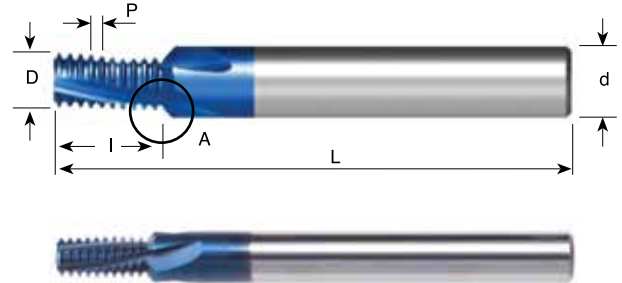
Order example: MTSH 1010D30 19 W MT9

ISO

Tools for Internal Thread



Detail A

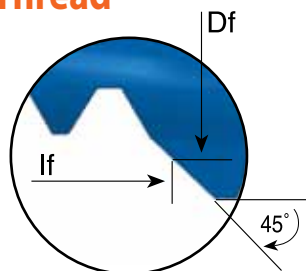


Pitch mm	M coarse	M fine	Ordering Code	d	D	Df	No. of Flutes	I	If	L
0.5	M3	$\emptyset \geq 4$	MTH06024C5 0.5 ISO	6	2.4	3.6	3	5.3	5.9	58
0.7	M4	$\emptyset \geq 5$	MTH06031C7 0.7 ISO	6	3.1	4.3	3	7.4	8.0	58
0.8	M5	$\emptyset \geq 6$	MTH0604C9 0.8 ISO	6	4.0	5.2	3	9.2	9.8	58
1.0	M6	$\emptyset \geq 7$	MTH08048D10 1.0 ISO	8	4.8	6.4	4	10.5	11.3	64
1.0		$\emptyset \geq 9$	MTH0806D13 1.0 ISO	8	6.0	7.6	4	13.5	14.3	64
1.0		$\emptyset \geq 10$	MTH1008D16 1.0 ISO	10	8.0	9.6	4	16.5	17.3	73
1.25	M8	$\emptyset \geq 10$	MTH0806D14 1.25 ISO	8	6.0	7.6	4	14.4	15.2	64
1.5	M10	$\emptyset \geq 12$	MTH1008D17 1.5 ISO	10	8.0	9.8	4	17.3	18.2	73
1.5		$\emptyset \geq 14$	MTH1210D21 1.5 ISO	12	10.0	11.8	4	21.8	22.7	84
1.75	M12	$\emptyset \geq 12$	MTH12095D20 1.75 ISO	12	9.5	11.5	4	20.1	21.1	84

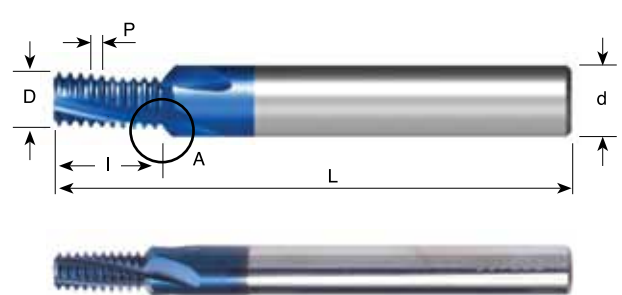
Order example: MTH08048D10 1.0 ISO MT11

UN

Tools for Internal Thread



Detail A



Pitch TPI	UNC	UNF	UNEF	Ordering Code	d	D	Df	No. of Flutes	I	If	L
40	5	6		MTH06025C6 40 UN	6	2.5	3.7	3	6.0	6.6	58
32	6			MTH06026C5 32 UN	6	2.6	3.8	3	5.9	6.5	58
32	8			MTH06032C7 32 UN	6	3.2	4.4	3	7.5	8.1	58
32		10	12	MTH06038C9 32 UN	6	3.8	5.0	3	9.1	9.7	58
28		1/4		MTH08052D11 28 UN	8	5.2	6.8	4	11.3	12.1	64
28			7/16, 1/2	MTH12096D20 28 UN	12	9.6	11.2	4	20.4	21.2	84
24		5/16, 3/8	9/16, 5/8, 11/16	MTH08066D14 24 UN	8	6.6	8.0	4	14.3	15.0	64
20	1/4			MTH06048C12 20 UN	6	4.8	6.0	3	12.1	12.7	58
20		7/16, 1/2	3/4, 1	MTH12092D21 20 UN	12	9.2	10.8	4	21.0	21.8	84
18	5/16	9/16, 5/8	11/16	MTH08057C14 18 UN	8	5.7	7.5	3	14.8	15.7	64
16	3/8	3/4		MTH10074C16 16 UN	10	7.4	9.2	3	16.7	17.6	73
14	7/16	7/8		MTH10085D20 14 UN	10	8.5	9.9	4	20.9	21.6	73
13	1/2			MTH12094D22 13 UN	12	9.4	11.4	4	22.5	23.5	84

Order example: MTH06048C12 20 UN MT11