C.P.T.
Präzisions Werkzeuge

FMTZ & FT

Thread mills for
High Cutting Stability

English

FMTZ & FT thread mills for high cutting stability

CPT has developed new solid carbide thread mills: right hand cutting with left hand helix FMTZ and FT.

The tool enters the material at the upper point of the cutting edge, close to the shank.

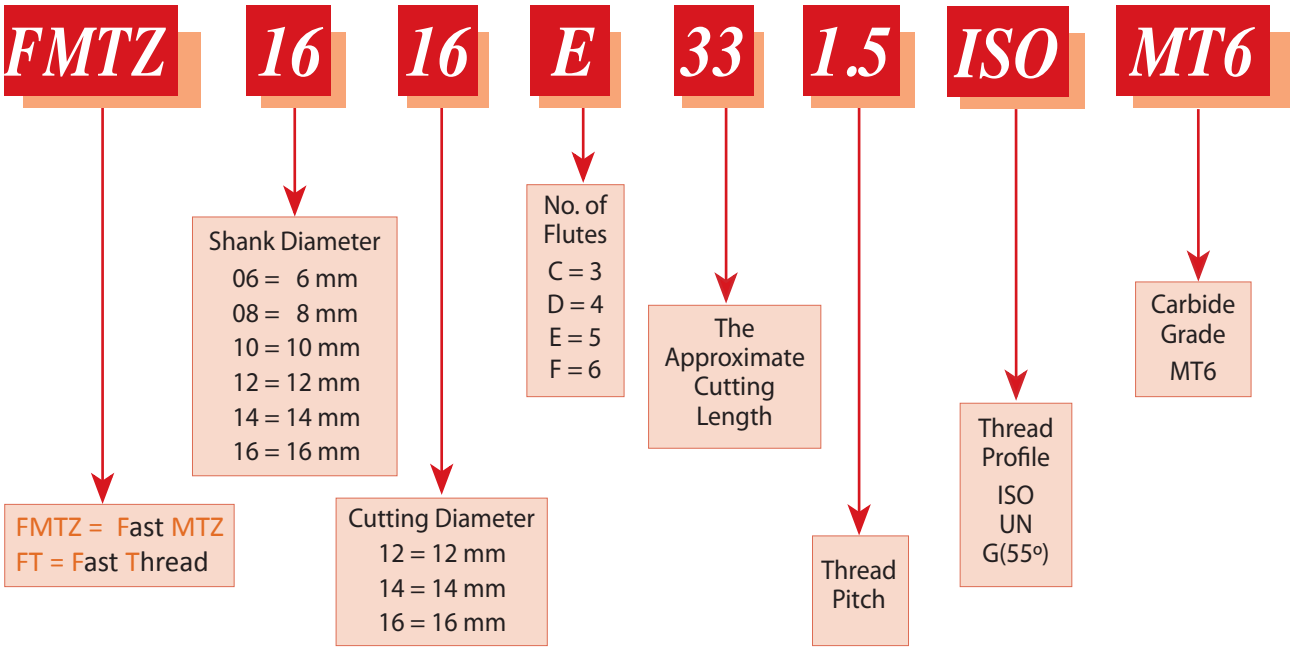
The FMTZ is equipped with radial coolant holes.
The FT thread mill offers more flutes for increased productivity

Features

- Smooth cutting and reduced cutting forces during process
- Lower tool vibrations and High Surface Finish
- High Productivity through significant shorter cycle time
- Coolant holes directed to the cutting edge (FMTZ tools type only)
- For both right-hand and left-hand threads
- Optimized Carbide Grade for High Performance Cutting and Edge Stability
- Cylindrical shank

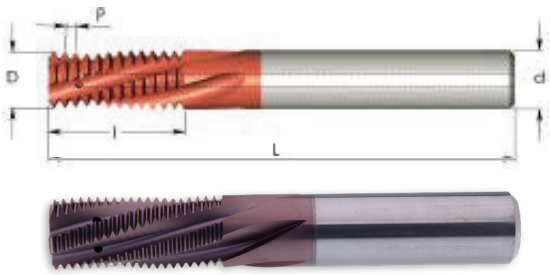
Carbide Grade: MT6
Ultra-Fine Carbide Grade with high hardness and toughness provides an excellent solution for machining steels, stainless steels, cast materials and super alloys.
The universal PVD multi-layer coating provides high heat and wear resistance.

Product Identification



ISO With internal coolant through the flutes

Tools for Internal Thread



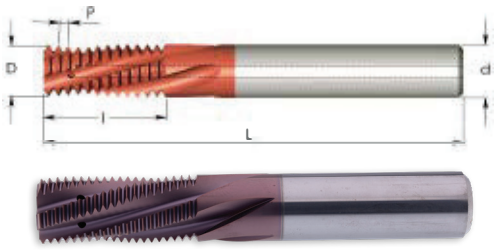
Grade	P	M	K	N	S	H
MT6	●	●	●	○	●	≤55 HRc

Pitch mm	M coarse	M fine	Ordering Code	d	D	No. of Flutes	l	L
1.0	M6	M8	**FMTZ 06048 C10 1.0ISO**	6	4.8	3	10.5	58
1.0		M8, M9	**FMTZ 0606 C12 1.0ISO**	6	6.0	3	12.5	58
1.0		M10	**FMTZ 0808 D16 1.0ISO**	8	8.0	4	16.5	64
1.0		M12, M14	**FMTZ 12107 E24 1.0ISO**	12	10.7	5	24.5	84
1.25	M8	M10	**FMTZ 08064 D14 1.25ISO**	8	6.4	4	14.4	64
1.5	M10	M12	**FMTZ 08078 C17 1.5ISO**	8	7.8	3	17.0	64
1.5		M14	**FMTZ 1010 D21 1.5ISO**	10	10.0	4	21.8	73
1.5		M14, M16	**FMTZ 1212 D26 1.5ISO**	12	12.0	4	26.3	84
1.5		M16, M18	**FMTZ 1414 E32 1.5ISO**	14	14.0	5	32.3	101
1.5		M20	**FMTZ 1616 E33 1.5ISO**	16	16.0	5	33.8	101
1.75	M12		**FMTZ 10095 E20 1.75ISO**	10	9.5	5	20.1	73

Order example: FMTZ 08078 C17 1.5ISO MT6

UN With internal coolant through the flutes

Tools for Internal Thread

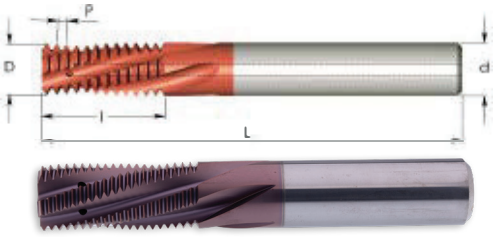


Grade	P	M	K	N	S	H
MT6	●	●	●	○	●	≤55 HRc

Pitch TPI	UNC	UNF	UNEF	Ordering Code	d	D	No. of Flutes	l	L
28		1/4		**FMTZ 06052 D11 28UN**	6	5.2	4	11.3	58
24		5/16		**FMTZ 08066 D14 24UN**	8	6.6	4	14.3	64
24		3/8	9/16-5/8	**FMTZ 0808 D21 24UN**	8	8.0	4	20.6	64
20		7/16-1/2		**FMTZ 0808 C21 20UN**	8	8.0	3	21.0	64
20			3/4-1	**FMTZ 1212 E27 20UN**	12	12.0	5	27.3	84
18	5/16			**FMTZ 0606 D14 18UN**	6	6.0	4	14.8	58
18		9/16-5/8	1 1/8-1 5/8	**FMTZ 12113 D26 18UN**	12	11.3	4	26.1	84
16	3/8			**FMTZ 08074 D16 16UN**	8	7.4	4	16.7	64
16		3/4		**FMTZ 1212 D31 16UN**	12	12.0	4	31.0	84
14	7/16			**FMTZ 10085 D20 14UN**	10	8.5	4	20.9	73
14		7/8		**FMTZ 1616 E37 14UN**	16	16.0	5	37.2	101
13	1/2			**FMTZ 10098 E22 13UN**	10	9.8	5	22.5	73
12	9/16			**FMTZ 12116 E26 12UN**	12	11.6	5	26.5	84
12		1-1 1/2		**FMTZ 1616 E41 12UN**	16	16.0	5	41.3	101
11	5/8			**FMTZ 1212 E28 11UN**	12	12.0	5	28.9	84
10	3/4			**FMTZ 16147 E34 10UN**	16	14.7	5	34.3	101
8	1			**FMTZ 20195 E42 8UN**	20	19.5	5	42.9	105

Order example: FMTZ 1212 D31 16UN MT6

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

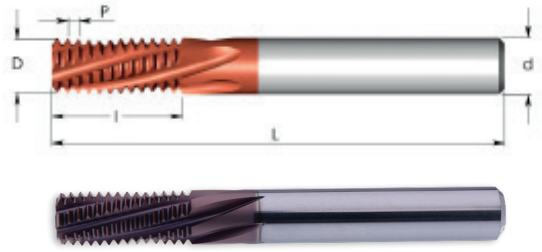


Grade	P	M	K	N	S	H
MT6	●	●	●	○	●	≤55 HRc

Pitch TPI	Standard	Ordering Code	d	D	No. of Flutes	l	L
28	G1/8	**FMTZ 08078 C14 28W**	8	7.8	3	14.1	64
19	G1/4-3/8	**FMTZ 1010 D16 19W**	10	10.0	4	16.7	73
19	G1/4-3/8	**FMTZ 1010 D26 19W**	10	10.0	4	26.1	73
14	G1/2-7/8	**FMTZ 1616 E26 14W**	16	16.0	5	26.3	101
11	G≥1	**FMTZ 1616 D38 11W**	16	16.0	4	38.1	101

Order example: FMTZ 1010 D26 19W MT6

ISO Tools for Internal Thread



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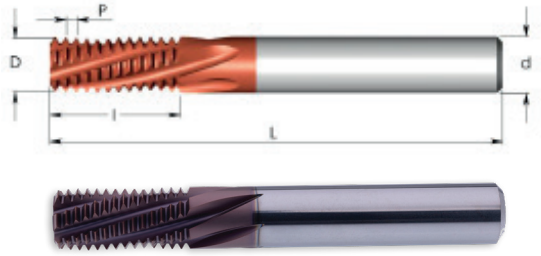
Pitch mm	M coarse	M fine	Ordering Code	d	D	No. of Flutes	l	L
1.0	M6	M8	**FT 06048 E10 1.0ISO**	6	4.8	5	10.5	57
1.0		M8, M9	**FT 0606 E12 1.0ISO**	6	6.0	5	12.5	57
1.0		M10	**FT 0808 F16 1.0ISO**	8	8.0	6	16.5	63
1.0		M12, M14	**FT 12107 F24 1.0ISO**	12	10.7	6	24.5	83
1.25	M8	M10	**FT 08064 E14 1.25ISO**	8	6.4	5	14.4	63
1.5	M10	M12	**FT 08078 E17 1.5ISO**	8	7.8	5	17.0	63
1.5		M14	**FT 1010 F21 1.5ISO**	10	10.0	6	21.8	72
1.5		M14, M16	**FT 1212 F26 1.5ISO**	12	12.0	6	26.3	83
1.5		M16, M18	**FT 1414 F32 1.5ISO**	14	14.0	6	32.3	100
1.5		M20	**FT 1616 F33 1.5ISO**	16	16.0	6	33.8	105
1.75	M12		**FT 10095 F20 1.75ISO**	10	9.5	6	20.1	72

Order example: FT 1212 F31 16UN MT6

UN

Tools for Internal Thread



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10	3/4			**FT 16147 E34 10UN**	16	14.7	5	34.3	105
8	1			**FT 20195 F42 8UN**	20	19.5	6	42.9	104

Order example: FT 1212 F31 16UN MT6

Cutting Data

ISO Standard	Material	Cutting Speed m/min	Cutting Diameter = D Feed mm/tooth		
			D ≤ 4	4 < D < 9	D ≥ 9
P	Low & Medium Carbon Steels < 0.55%C	100-250	0.03-0.04	0.03-0.08	0.08-0.12
	High Carbon Steels ≥ 0.55%C	110-180	0.02-0.03	0.02-0.07	0.07-0.10
	Alloy Steels, Treated Steels	90-160	0.02-0.03	0.03-0.06	0.05-0.08
M	Stainless Steel-Free Cutting	60-160	0.02-0.03	0.03-0.06	0.05-0.08
	Stainless Steel-Austenitic	60-120	0.02-0.03	0.03-0.05	0.04-0.07
	Cast Steels	130-170	0.02-0.03	0.03-0.05	0.04-0.07
K	Cast Iron	70-150	0.03-0.04	0.05-0.08	0.08-0.12
N	Aluminum ≤ 12%Si, Copper	150-350	0.03-0.04	0.05-0.08	0.08-0.12
	Aluminum > 12%Si	100-250	0.02-0.03	0.03-0.05	0.04-0.07
	Synthetics, Duroplastics, Thermoplastics	100-400	0.05-0.07	0.07-0.11	0.10-0.15
S	Nickel alloys, Titanium alloys.	20-80	0.02-0.03	0.02-0.03	0.02-0.04
H	Hardened Steel 45-50 HRc	60-70	0.02-0.03	0.02-0.03	0.02-0.04
	Hardened Steel 50-55 HRc	50-60	0.01-0.02	0.01-0.02	0.01-0.03

C.P.T.
Präzisions Werkzeuge

CPT GmbH FMTZ & FT thread mills – 09/2023

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