NS TOOL

For Crafting Tomorrow

Thread Mill Series for Metric and Miniature Internal Threads

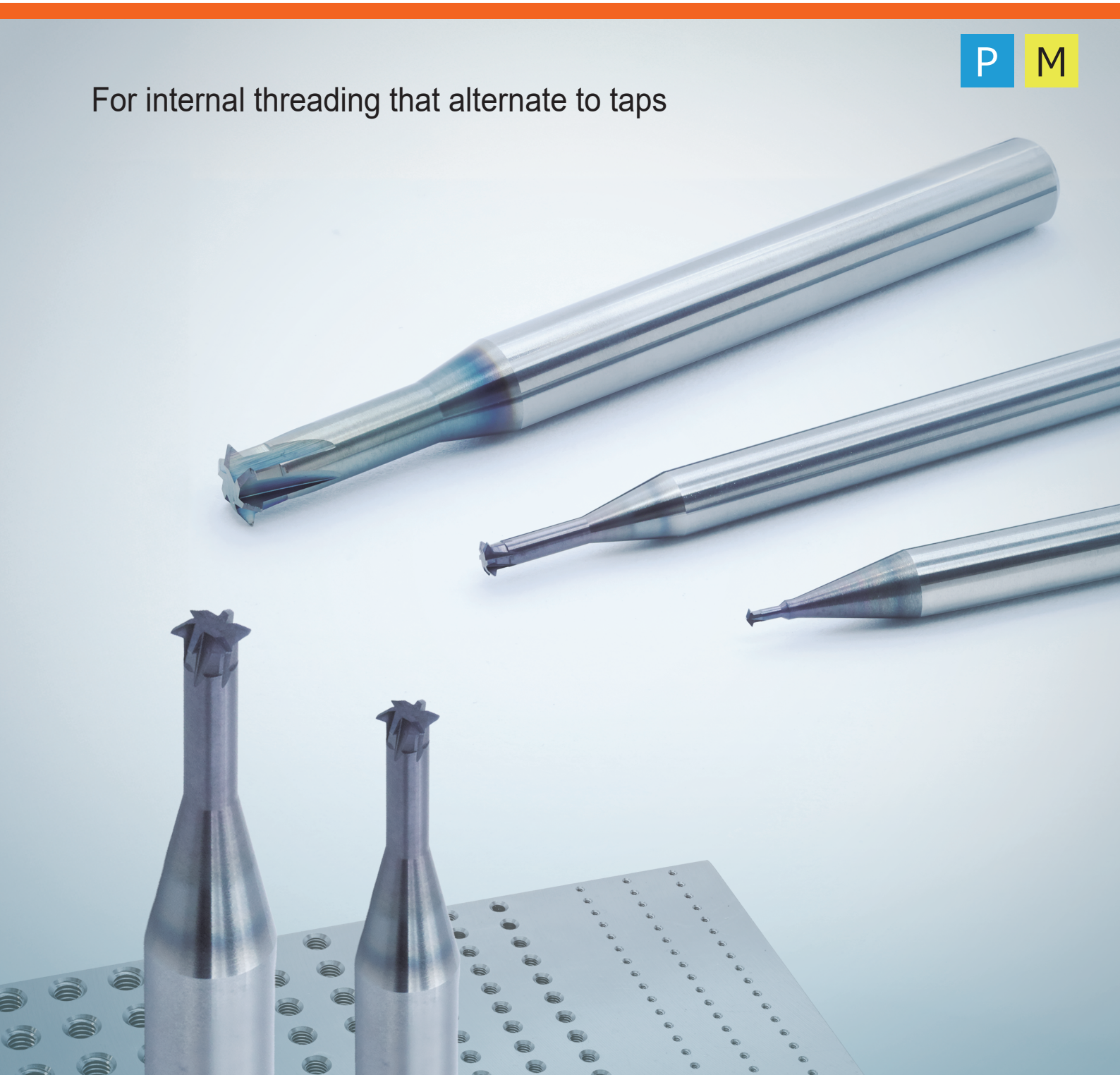
MMTM
MMTS

Lineup Expansion

Lineup expansion in Mar, 2026.

P M

For internal threading that alternate to taps



For internal threading that alternate to taps
Reliable internal threading through cutting eliminates common tapping troubles

Lineup

A full lineup of 3 series and 67 sizes meets diverse internal threading requirements.

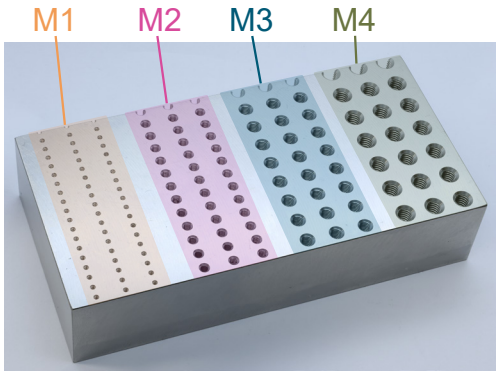
Model	Photo	Cutting edge shape	Threading Size
Specialized for metric internal thread			
MMTM Lineup Expansion			M1 ～ M6 Total 33 sizes
Specialized for metric internal threads (New added recommended milling Conditions for Swiss-type CNC automatic lathe)			
Specialized for miniature internal thread			
MMTS			S0.1 ～ S1.4 Total 13 sizes
Specialized for miniature internal threads			

Features of the Thread Mill

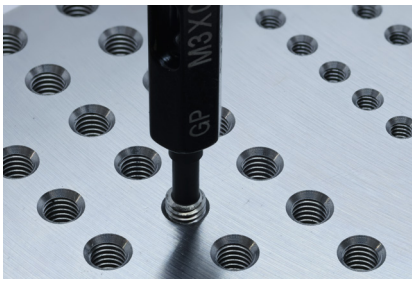
A thread mill cuts internal threads by circular motion using helical interpolation. Compared with tapping, it offers advantages such as easy re-machining in the event of tool breakage.

	Advantages	Disadvantages
Thread Mill	● Easy tool removal and re-machining even in the event of breakage, due to the smaller tool diameter than the pilot hole ● Low cutting resistance allows high accuracy machining ● Smooth and easy chip evacuation ● Good machining surface with no tearing	● Lower machining efficiency compared with tapping ● Program creation is difficult ⬇ Recommend to use NS original NC Program to save time and effort
Tap	● High machining efficiency ● Simplified program creation	● When breakage occurs, the tool can become jammed, increasing process steps due to the need for special tools or EDM ● Incomplete threads may occur at the bottom of the hole

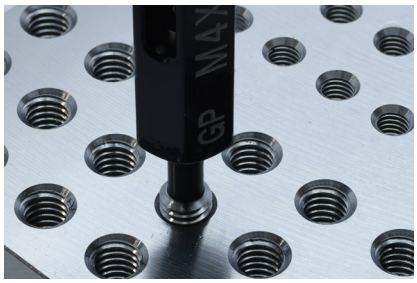
M1,M2,M3,M4 SUS304 Internal threading



Measurement with a limit plug gauge for internal threads



M3×0.5-6H



M4×0.7-6H

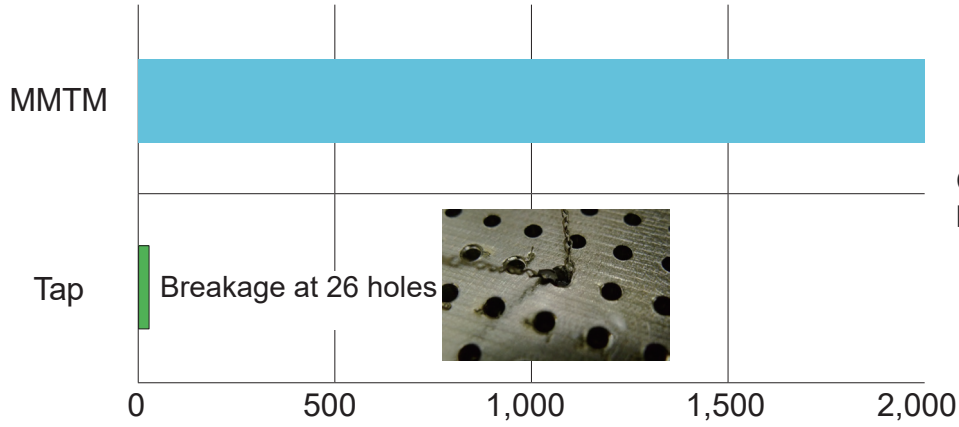
Realize high precision internal threading

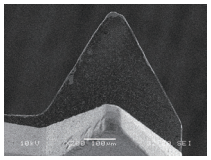
Comparison of tool life and machining surface with taps（M2 SUS304）

MMTM n:12,000min^{-1}, vf:600mm/min, Pitch 0.4mm, Effective thread length 4.8mm

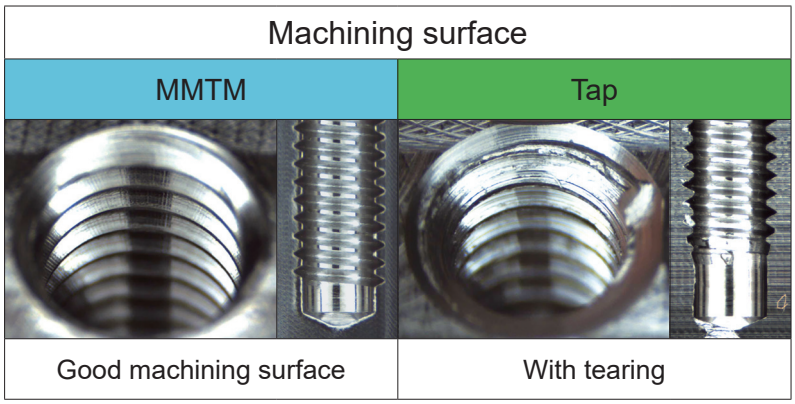
Helical R R0.3(ae 0.12mm × 2), Down-cut

Tap n:500min^{-1}, vf:200mm/min, Pitch 0.4mm, Effective thread length 5mm





Continuous internal threading is possible even after 2000 holes



MMTM

Lineup Expansion

Threading Size M1 ～ M6

≦40 HRC

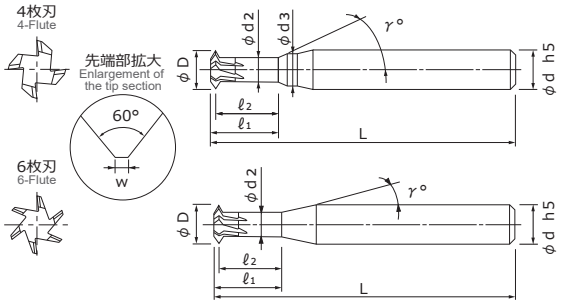
MUGEN COATING M-Thread Mill (for Internal Thread)

Total 33 sizes

Specialized for metric internal threads
Reliable internal threading through cutting eliminates common tapping troubles

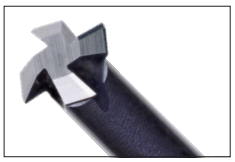
MG | 4 | 6 | φd h5 | Thread





- Improvement of cutting accuracy by adoption of tool design focusing on sharpness.
- MUGEN COATING realized long tool life.
- When the tool is broken during thread milling, the wreckages can be easily removed as the tool diameter is smaller than the pilot hole.

※ This product should be used in the forward rotation.



Cutting edge shape 4-Flute
M1 ～ M1.7



Cutting edge shape 6-Flute
M2 ～ M6

Work Material

Carbon Steel P	Alloy Steel P	Prehardened Steel P	Stainless Steel M	Aluminium Alloy N	Copper N	Resin O
◎	◎	◎	○	○	○	○

◆ Release in Mar, 2026.

Unit [Size : mm]

Code No.	Thread Size	Under Neck Length (ℓ_1)	Effective Thread Length (ℓ_2)	Pitch	w	Dia. (D)	Neck Dia. (d_2)	Neck Dia. (d_3)	Neck Taper Angle (γ)	Shank Dia. (d)	Overall Length (L)	Number of Flute
06-00002-00100	M1	**2.64**	2.5	0.25	0.032	0.72	0.36	0.75	30°	4	45	4
◆ 06-00002-00101		**3.14**	3									
◆ 06-00002-00102		**3.64**	3.5									
06-00002-00120	M1.2	**2.67**	2.5	0.25	0.032	0.92	0.56	0.95	30°	4	45	4
◆ 06-00002-00121		**3.17**	3									
◆ 06-00002-00122		**3.67**	3.5									
06-00002-00140	M1.4	**3.18**	3	0.3	0.032	1.05	0.62	1.08	30°	4	45	4
◆ 06-00002-00141		**3.78**	3.6									
◆ 06-00002-00142		**4.38**	4.2									
06-00002-00160	M1.6	**3.71**	3.5	0.35	0.041	1.2	0.68	1.23	30°	4	45	4
◆ 06-00002-00161		**4.41**	4.2									
◆ 06-00002-00162		**5.11**	4.9									
06-00002-00170	M1.7	**3.71**	3.5	0.35	0.041	1.3	0.78	1.33	30°	4	45	4
◆ 06-00002-00171		**4.41**	4.2									
◆ 06-00002-00172		**5.11**	4.9									
06-00002-00200	M2	**5.02**	4.8	0.4	0.036	1.5	0.89	-	12°	4	45	6
◆ 06-00002-00201		**6.62**	6.4									
◆ 06-00002-00202		**8.22**	8									
06-00002-00250	M2.5	**5.7**	5.4	0.45	0.044	1.95	1.28	-	12°	4	45	6
◆ 06-00002-00251		**7.5**	7.2									
◆ 06-00002-00252		**9.3**	9									
06-00002-00300	M3	**6.3**	6	0.5	0.057	2.36	1.63	-	12°	4	45	6
◆ 06-00002-00301		**9.3**	9									
◆ 06-00002-00302		**12.3**	12									
06-00002-00400	M4	**8.8**	8.4	0.7	0.075	3.08	2.08	-	12°	6	60	6
◆ 06-00002-00401		**13**	12.6									
◆ 06-00002-00402		**17.2**	16.8									
06-00002-00500	M5	**10.1**	9.6	0.8	0.09	3.97	2.86	-	12°	6	60	6
◆ 06-00002-00501		**14.9**	14.4									
◆ 06-00002-00502		**19.7**	19.2									
06-00002-00600	M6	**12.6**	12	1	0.12	4.72	3.35	-	12°	6	60	6
◆ 06-00002-00601		**18.6**	18									
◆ 06-00002-00602		**24.6**	24									

How to Order When you order, indicate MMTM Thread Size×ℓ_1.

※ (γ) is reference value.

Recommended milling Conditions for machining center

Thread Size	Under Neck Length	Pitch	Dia.	Thread milling size	Helical R	Recommended Process	Carbon Steels S50C			Stainless Steels SUS304			Titanium Alloy Ti-6Al-4V			Aluminium Alloy A5052		
							Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth
					mm		min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth
M1	2.64	0.25	0.72	M1	R0.155	Up-cut	20,000	340	0.004	20,000	340	0.004	18,000	150	0.002	20,000	440	0.006
				M1.1	R0.205	Up-cut	20,000	340	0.004	20,000	340	0.004	18,000	150	0.002	20,000	440	0.006
				M1.2	R0.255	Up-cut	20,000	340	0.004	20,000	340	0.004	18,000	150	0.002	20,000	440	0.006
				M2	R0.655	Up-cut	20,000	340	0.004	20,000	340	0.004	18,000	150	0.002	20,000	440	0.006
				M2.2	R0.755	Up-cut	20,000	340	0.004	20,000	340	0.004	18,000	150	0.002	20,000	440	0.006
	3.14	0.25	0.72	M1	R0.155	Up-cut	20,000	200	0.003	20,000	200	0.003	16,000	75	0.001	20,000	255	0.003
				M1.1	R0.205	Up-cut	20,000	200	0.003	20,000	200	0.003	16,000	75	0.001	20,000	255	0.003
				M1.2	R0.255	Up-cut	20,000	200	0.003	20,000	200	0.003	16,000	75	0.001	20,000	255	0.003
				M2	R0.655	Up-cut	20,000	200	0.003	20,000	200	0.003	16,000	75	0.001	20,000	255	0.003
				M2.2	R0.755	Up-cut	20,000	200	0.003	20,000	200	0.003	16,000	75	0.001	20,000	255	0.003
	3.64	0.25	0.72	M1	R0.155	Up-cut	20,000	125	0.002	20,000	125	0.002	15,000	45	0.001	20,000	160	0.002
				M1.1	R0.205	Up-cut	20,000	125	0.002	20,000	125	0.002	15,000	45	0.001	20,000	160	0.002
				M1.2	R0.255	Up-cut	20,000	125	0.002	20,000	125	0.002	15,000	45	0.001	20,000	160	0.002
				M2	R0.655	Up-cut	20,000	125	0.002	20,000	125	0.002	15,000	45	0.001	20,000	160	0.002
				M2.2	R0.755	Up-cut	20,000	125	0.002	20,000	125	0.002	15,000	45	0.001	20,000	160	0.002
M1.2	2.67	0.25	0.92	M1.2	R0.155	Up-cut	20,000	440	0.006	20,000	440	0.006	14,000	160	0.003	20,000	570	0.007
				M2	R0.555	Up-cut	20,000	440	0.006	20,000	440	0.006	14,000	160	0.003	20,000	570	0.007
				M2.2	R0.655	Up-cut	20,000	440	0.006	20,000	440	0.006	14,000	160	0.003	20,000	570	0.007
	3.17	0.25	0.92	M1.2	R0.155	Up-cut	20,000	260	0.003	20,000	260	0.003	12,400	80	0.002	20,000	330	0.004
				M2	R0.555	Up-cut	20,000	260	0.003	20,000	260	0.003	12,400	80	0.002	20,000	330	0.004
				M2.2	R0.655	Up-cut	20,000	260	0.003	20,000	260	0.003	12,400	80	0.002	20,000	330	0.004
	3.67	0.25	0.92	M1.2	R0.155	Up-cut	20,000	165	0.002	20,000	165	0.002	11,700	50	0.001	20,000	210	0.003
				M2	R0.555	Up-cut	20,000	165	0.002	20,000	165	0.002	11,700	50	0.001	20,000	210	0.003
				M2.2	R0.655	Up-cut	20,000	165	0.002	20,000	165	0.002	11,700	50	0.001	20,000	210	0.003
M1.4	3.18	0.3	1.05	M1.4	R0.195	Up-cut	20,000	500	0.006	20,000	500	0.006	12,000	180	0.004	20,000	665	0.008
	3.78	0.3	1.05	M1.4	R0.195	Up-cut	20,000	300	0.004	20,000	300	0.004	10,700	95	0.002	20,000	400	0.005
	4.38	0.3	1.05	M1.4	R0.195	Up-cut	20,000	200	0.003	20,000	200	0.003	10,000	60	0.002	20,000	265	0.003
M1.6	3.71	0.35	1.2	M1.6	R0.22	Up-cut	20,000	570	0.007	20,000	570	0.007	10,000	220	0.006	20,000	765	0.01
				M1.7	R0.27	Up-cut	20,000	570	0.007	20,000	570	0.007	10,000	220	0.006	20,000	765	0.01
				M1.8	R0.32	Up-cut	20,000	570	0.007	20,000	570	0.007	10,000	220	0.006	20,000	765	0.01
				M2.5	R0.67	Up-cut	20,000	570	0.007	20,000	570	0.007	10,000	220	0.006	20,000	765	0.01
				M3	R0.92	Up-cut	20,000	570	0.007	20,000	570	0.007	10,000	220	0.006	20,000	765	0.01
				M3.5	R1.17	Up-cut	20,000	570	0.007	20,000	570	0.007	10,000	220	0.006	20,000	765	0.01
	4.41	0.35	1.2	M1.6	R0.22	Up-cut	18,700	330	0.004	18,700	330	0.004	8,900	120	0.003	20,000	440	0.006
				M1.7	R0.27	Up-cut	18,700	330	0.004	18,700	330	0.004	8,900	120	0.003	20,000	440	0.006
				M1.8	R0.32	Up-cut	18,700	330	0.004	18,700	330	0.004	8,900	120	0.003	20,000	440	0.006
				M2.5	R0.67	Up-cut	18,700	330	0.004	18,700	330	0.004	8,900	120	0.003	20,000	440	0.006
				M3	R0.92	Up-cut	18,700	330	0.004	18,700	330	0.004	8,900	120	0.003	20,000	440	0.006
				M3.5	R1.17	Up-cut	18,700	330	0.004	18,700	330	0.004	8,900	120	0.003	20,000	440	0.006
	5.11	0.35	1.2	M1.6	R0.22	Up-cut	17,500	215	0.003	17,500	215	0.003	8,300	75	0.002	19,000	280	0.004
				M1.7	R0.27	Up-cut	17,500	215	0.003	17,500	215	0.003	8,300	75	0.002	19,000	280	0.004
				M1.8	R0.32	Up-cut	17,500	215	0.003	17,500	215	0.003	8,300	75	0.002	19,000	280	0.004
				M2.5	R0.67	Up-cut	17,500	215	0.003	17,500	215	0.003	8,300	75	0.002	19,000	280	0.004
				M3	R0.92	Up-cut	17,500	215	0.003	17,500	215	0.003	8,300	75	0.002	19,000	280	0.004
				M3.5	R1.17	Up-cut	17,500	215	0.003	17,500	215	0.003	8,300	75	0.002	19,000	280	0.004

Recommended milling Conditions for machining center

Thread Size	Under Neck Length	Pitch	Dia.	Thread milling size	Helical R	Recom-mended Process	Carbon Steels S50C			Stainless Steels SUS304			Titanium Alloy Ti-6Al-4V			Aluminium Alloy A5052		
							Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth
					mm		min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth
M1.7	3.71	0.35	1.3	M1.7	R0.22	Up-cut	20,000	600	0.008	20,000	600	0.008	10,000	250	0.006	20,000	830	0.01
				M1.8	R0.27	Up-cut	20,000	600	0.008	20,000	600	0.008	10,000	250	0.006	20,000	830	0.01
				M2.5	R0.62	Up-cut	20,000	600	0.008	20,000	600	0.008	10,000	250	0.006	20,000	830	0.01
				M3	R0.87	Up-cut	20,000	600	0.008	20,000	600	0.008	10,000	250	0.006	20,000	830	0.01
				M3.5	R1.12	Up-cut	20,000	600	0.008	20,000	600	0.008	10,000	250	0.006	20,000	830	0.01
	4.41	0.35	1.3	M1.7	R0.22	Up-cut	17,800	330	0.005	17,800	330	0.005	8,900	135	0.004	19,000	450	0.006
				M1.8	R0.27	Up-cut	17,800	330	0.005	17,800	330	0.005	8,900	135	0.004	19,000	450	0.006
				M2.5	R0.62	Up-cut	17,800	330	0.005	17,800	330	0.005	8,900	135	0.004	19,000	450	0.006
				M3	R0.87	Up-cut	17,800	330	0.005	17,800	330	0.005	8,900	135	0.004	19,000	450	0.006
				M3.5	R1.12	Up-cut	17,800	330	0.005	17,800	330	0.005	8,900	135	0.004	19,000	450	0.006
	5.11	0.35	1.3	M1.7	R0.22	Up-cut	16,700	215	0.003	16,700	215	0.003	8,300	90	0.003	18,000	290	0.004
				M1.8	R0.27	Up-cut	16,700	215	0.003	16,700	215	0.003	8,300	90	0.003	18,000	290	0.004
				M2.5	R0.62	Up-cut	16,700	215	0.003	16,700	215	0.003	8,300	90	0.003	18,000	290	0.004
				M3	R0.87	Up-cut	16,700	215	0.003	16,700	215	0.003	8,300	90	0.003	18,000	290	0.004
				M3.5	R1.12	Up-cut	16,700	215	0.003	16,700	215	0.003	8,300	90	0.003	18,000	290	0.004
M2	5.02	0.4	1.5	M2	R0.28	Down-cut	12,000	600	0.008	12,000	600	0.008	10,000	500	0.008	20,000	1,200	0.01
				M2.3	R0.43	Down-cut	12,000	600	0.008	12,000	600	0.008	10,000	500	0.008	20,000	1,200	0.01
	6.62	0.4	1.5	M2	R0.28	Down-cut	10,200	260	0.004	10,200	260	0.004	8,500	215	0.004	17,000	520	0.005
				M2.3	R0.43	Down-cut	10,200	260	0.004	10,200	260	0.004	8,500	215	0.004	17,000	520	0.005
	8.22	0.4	1.5	M2	R0.28	Down-cut	9,600	160	0.003	9,600	160	0.003	8,000	130	0.003	16,000	320	0.003
				M2.3	R0.43	Down-cut	9,600	160	0.003	9,600	160	0.003	8,000	130	0.003	16,000	320	0.003
M2.5	5.7	0.45	1.95	M2.5	R0.305	Down-cut	12,000	600	0.008	12,000	600	0.008	10,000	500	0.008	16,000	1,200	0.013
				M2.6	R0.355	Down-cut	12,000	600	0.008	12,000	600	0.008	10,000	500	0.008	16,000	1,200	0.013
	7.5	0.45	1.95	M2.5	R0.305	Down-cut	10,100	255	0.004	10,100	255	0.004	8,400	210	0.004	13,500	510	0.006
				M2.6	R0.355	Down-cut	10,100	255	0.004	10,100	255	0.004	8,400	210	0.004	13,500	510	0.006
	9.3	0.45	1.95	M2.5	R0.305	Down-cut	9,500	160	0.003	9,500	160	0.003	7,900	135	0.003	12,700	320	0.004
				M2.6	R0.355	Down-cut	9,500	160	0.003	9,500	160	0.003	7,900	135	0.003	12,700	320	0.004
M3	6.3	0.5	2.36	M3	R0.36	Down-cut	8,000	600	0.013	8,000	600	0.013	8,000	500	0.01	10,000	1,200	0.02
				M4	R0.86	Down-cut	8,000	600	0.013	8,000	600	0.013	8,000	500	0.01	10,000	1,200	0.02
				M4.5	R1.11	Down-cut	8,000	600	0.013	8,000	600	0.013	8,000	500	0.01	10,000	1,200	0.02
	9.3	0.5	2.36	M3	R0.36	Down-cut	5,200	320	0.01	5,200	320	0.010	5,200	270	0.009	6,500	645	0.017
				M4	R0.86	Down-cut	5,200	320	0.01	5,200	320	0.010	5,200	270	0.009	6,500	645	0.017
				M4.5	R1.11	Down-cut	5,200	320	0.01	5,200	320	0.010	5,200	270	0.009	6,500	645	0.017
	12.3	0.5	2.36	M3	R0.36	Down-cut	4,500	160	0.006	4,500	160	0.006	4,500	130	0.005	5,600	315	0.009
				M4	R0.86	Down-cut	4,500	160	0.006	4,500	160	0.006	4,500	130	0.005	5,600	315	0.009
				M4.5	R1.11	Down-cut	4,500	160	0.006	4,500	160	0.006	4,500	130	0.005	5,600	315	0.009
M4	8.8	0.7	3.08	M4	R0.5	Down-cut	5,700	400	0.012	5,700	400	0.012	4,600	350	0.013	7,000	800	0.019
	13	0.7	3.08	M4	R0.5	Down-cut	3,700	215	0.01	3,700	215	0.010	2,900	165	0.009	4,500	420	0.016
	17.2	0.7	3.08	M4	R0.5	Down-cut	3,200	105	0.005	3,200	105	0.005	2,500	80	0.005	3,900	210	0.009
M5	10.1	0.8	3.97	M5	R0.555	Down-cut	4,000	400	0.017	4,000	400	0.017	3,200	350	0.018	5,500	800	0.024
	14.9	0.8	3.97	M5	R0.555	Down-cut	2,600	215	0.014	2,600	215	0.014	2,000	165	0.014	3,500	420	0.02
	19.7	0.8	3.97	M5	R0.555	Down-cut	2,200	105	0.008	2,200	105	0.008	1,700	80	0.008	3,000	210	0.012

Recommended milling Conditions for machining center

Thread Size	Under Neck Length	Pitch	Dia.	Thread milling size	Helical R	Recommended Process	Carbon Steels S50C			Stainless Steels SUS304			Titanium Alloy Ti-6Al-4V			Aluminium Alloy A5052		
							Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth
					mm		min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth
M6	12.6	1	4.72	M6	R0.68	Down-cut	3,200	400	0.021	3,200	400	0.021	3,000	350	0.019	4,500	800	0.03
				M7	R1.18	Down-cut	3,200	400	0.021	3,200	400	0.021	3,000	350	0.019	4,500	800	0.03
				M8	R1.68	Down-cut	3,200	400	0.021	3,200	400	0.021	3,000	350	0.019	4,500	800	0.03
				M9	R2.18	Down-cut	3,200	400	0.021	3,200	400	0.021	3,000	350	0.019	4,500	800	0.03
				M10	R2.68	Down-cut	3,200	400	0.021	3,200	400	0.021	3,000	350	0.019	4,500	800	0.03
	18.6	1	4.72	M6	R0.68	Down-cut	2,000	215	0.018	2,000	215	0.018	1,800	165	0.015	2,900	420	0.024
				M7	R1.18	Down-cut	2,000	215	0.018	2,000	215	0.018	1,800	165	0.015	2,900	420	0.024
				M8	R1.68	Down-cut	2,000	215	0.018	2,000	215	0.018	1,800	165	0.015	2,900	420	0.024
				M9	R2.18	Down-cut	2,000	215	0.018	2,000	215	0.018	1,800	165	0.015	2,900	420	0.024
				M10	R2.68	Down-cut	2,000	215	0.018	2,000	215	0.018	1,800	165	0.015	2,900	420	0.024
	24.6	1	4.72	M6	R0.68	Down-cut	1,800	105	0.01	1,800	105	0.01	1,600	80	0.008	2,500	210	0.014
				M7	R1.18	Down-cut	1,800	105	0.01	1,800	105	0.01	1,600	80	0.008	2,500	210	0.014
				M8	R1.68	Down-cut	1,800	105	0.01	1,800	105	0.01	1,600	80	0.008	2,500	210	0.014
				M9	R2.18	Down-cut	1,800	105	0.01	1,800	105	0.01	1,600	80	0.008	2,500	210	0.014
				M10	R2.68	Down-cut	1,800	105	0.01	1,800	105	0.01	1,600	80	0.008	2,500	210	0.014

Notes

※1 Recommend making pilot hole in advance by using drill, etc.
※2 This product should be used in the forward rotation.
※3 Software for generating NC program is provided on NS web site.
※4 These machining conditions use water-soluble fluid and depth of cut should be separated by two times.
※5 Adjust the spindle speed, feed rate (based on feed per tooth), number of passes, and machining direction according to the machining environment.
※6 The helical R value serves as a guideline for machining 5H threads for sizes up to M1.4 and 6H threads (equivalent to the conventional JIS Class 2) for sizes M1.6 and above, and represents the R value at the final finishing.
※7 When use helical R in the Recommended Milling Conditions, set pilot hole dia. for avoiding interference between the area of under neck and pilot hole.
※8 If the thread shape becomes tapered, perform a zero-cut regardless of the tool size (M1– M6) or the workpiece material.
※9 For achieving stable machining of carbon steels, stainless steels, and titanium alloys with M1 to M2 tools, the implementation of a zero-cut is recommended.
※10 Choose appropriate coolant for each working material.
※11 When machining deep areas, please exercise due care regarding coolant delivery and chip evacuation.

Recommended milling Conditions for Swiss-type CNC automatic lathe

Thread Size	Under Neck Length	Pitch	Dia.	Thread milling size	Helical R	Recommended Process	Carbon Steels S50C			Stainless Steels SUS304			Titanium Alloy Ti-6Al-4V			Aluminium Alloy A5052		
							Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth
					mm		min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth
M1	2.64	0.25	0.72	M1	R0.155	Up-cut	6,000	100	0.004	6,000	100	0.004	6,000	50	0.002	6,000	130	0.005
				M1.1	R0.205	Up-cut	6,000	100	0.004	6,000	100	0.004	6,000	50	0.002	6,000	130	0.005
				M1.2	R0.255	Up-cut	6,000	100	0.004	6,000	100	0.004	6,000	50	0.002	6,000	130	0.005
				M2	R0.655	Up-cut	6,000	100	0.004	6,000	100	0.004	6,000	50	0.002	6,000	130	0.005
				M2.2	R0.755	Up-cut	6,000	100	0.004	6,000	100	0.004	6,000	50	0.002	6,000	130	0.005
	3.14	0.25	0.72	M1	R0.155	Up-cut	6,000	60	0.003	6,000	60	0.003	6,000	25	0.001	6,000	75	0.003
				M1.1	R0.205	Up-cut	6,000	60	0.003	6,000	60	0.003	6,000	25	0.001	6,000	75	0.003
				M1.2	R0.255	Up-cut	6,000	60	0.003	6,000	60	0.003	6,000	25	0.001	6,000	75	0.003
				M2	R0.655	Up-cut	6,000	60	0.003	6,000	60	0.003	6,000	25	0.001	6,000	75	0.003
				M2.2	R0.755	Up-cut	6,000	60	0.003	6,000	60	0.003	6,000	25	0.001	6,000	75	0.003
	3.64	0.25	0.72	M1	R0.155	Up-cut	6,000	35	0.001	6,000	35	0.001	6,000	15	0.001	6,000	40	0.002
				M1.1	R0.205	Up-cut	6,000	35	0.001	6,000	35	0.001	6,000	15	0.001	6,000	40	0.002
				M1.2	R0.255	Up-cut	6,000	35	0.001	6,000	35	0.001	6,000	15	0.001	6,000	40	0.002
				M2	R0.655	Up-cut	6,000	35	0.001	6,000	35	0.001	6,000	15	0.001	6,000	40	0.002
				M2.2	R0.755	Up-cut	6,000	35	0.001	6,000	35	0.001	6,000	15	0.001	6,000	40	0.002
M1.2	2.67	0.25	0.92	M1.2	R0.155	Up-cut	6,000	130	0.005	6,000	130	0.005	6,000	65	0.003	6,000	170	0.007
				M2	R0.555	Up-cut	6,000	130	0.005	6,000	130	0.005	6,000	65	0.003	6,000	170	0.007
				M2.2	R0.655	Up-cut	6,000	130	0.005	6,000	130	0.005	6,000	65	0.003	6,000	170	0.007
	3.17	0.25	0.92	M1.2	R0.155	Up-cut	6,000	75	0.003	6,000	75	0.003	6,000	35	0.001	6,000	95	0.004
				M2	R0.555	Up-cut	6,000	75	0.003	6,000	75	0.003	6,000	35	0.001	6,000	95	0.004
				M2.2	R0.655	Up-cut	6,000	75	0.003	6,000	75	0.003	6,000	35	0.001	6,000	95	0.004
	3.67	0.25	0.92	M1.2	R0.155	Up-cut	6,000	50	0.002	6,000	50	0.002	6,000	25	0.001	6,000	60	0.003
				M2	R0.555	Up-cut	6,000	50	0.002	6,000	50	0.002	6,000	25	0.001	6,000	60	0.003
				M2.2	R0.655	Up-cut	6,000	50	0.002	6,000	50	0.002	6,000	25	0.001	6,000	60	0.003
M1.4	3.18	0.3	1.05	M1.4	R0.195	Up-cut	6,000	150	0.006	6,000	150	0.006	6,000	90	0.004	6,000	200	0.008
	3.78	0.3	1.05	M1.4	R0.195	Up-cut	6,000	90	0.004	6,000	90	0.004	6,000	50	0.002	6,000	120	0.005
	4.38	0.3	1.05	M1.4	R0.195	Up-cut	6,000	60	0.003	6,000	60	0.003	6,000	35	0.001	6,000	80	0.003
M1.6	3.71	0.35	1.2	M1.6	R0.22	Up-cut	6,000	170	0.007	6,000	170	0.007	6,000	130	0.005	6,000	230	0.01
				M1.7	R0.27	Up-cut	6,000	170	0.007	6,000	170	0.007	6,000	130	0.005	6,000	230	0.01
				M1.8	R0.32	Up-cut	6,000	170	0.007	6,000	170	0.007	6,000	130	0.005	6,000	230	0.01
				M2.5	R0.67	Up-cut	6,000	170	0.007	6,000	170	0.007	6,000	130	0.005	6,000	230	0.01
				M3	R0.92	Up-cut	6,000	170	0.007	6,000	170	0.007	6,000	130	0.005	6,000	230	0.01
				M3.5	R1.17	Up-cut	6,000	170	0.007	6,000	170	0.007	6,000	130	0.005	6,000	230	0.01
	4.41	0.35	1.2	M1.6	R0.22	Up-cut	6,000	105	0.004	6,000	105	0.004	6,000	80	0.003	6,000	130	0.005
				M1.7	R0.27	Up-cut	6,000	105	0.004	6,000	105	0.004	6,000	80	0.003	6,000	130	0.005
				M1.8	R0.32	Up-cut	6,000	105	0.004	6,000	105	0.004	6,000	80	0.003	6,000	130	0.005
				M2.5	R0.67	Up-cut	6,000	105	0.004	6,000	105	0.004	6,000	80	0.003	6,000	130	0.005
				M3	R0.92	Up-cut	6,000	105	0.004	6,000	105	0.004	6,000	80	0.003	6,000	130	0.005
				M3.5	R1.17	Up-cut	6,000	105	0.004	6,000	105	0.004	6,000	80	0.003	6,000	130	0.005
	5.11	0.35	1.2	M1.6	R0.22	Up-cut	6,000	70	0.003	6,000	70	0.003	6,000	50	0.002	6,000	85	0.004
				M1.7	R0.27	Up-cut	6,000	70	0.003	6,000	70	0.003	6,000	50	0.002	6,000	85	0.004
				M1.8	R0.32	Up-cut	6,000	70	0.003	6,000	70	0.003	6,000	50	0.002	6,000	85	0.004
				M2.5	R0.67	Up-cut	6,000	70	0.003	6,000	70	0.003	6,000	50	0.002	6,000	85	0.004
				M3	R0.92	Up-cut	6,000	70	0.003	6,000	70	0.003	6,000	50	0.002	6,000	85	0.004
				M3.5	R1.17	Up-cut	6,000	70	0.003	6,000	70	0.003	6,000	50	0.002	6,000	85	0.004

Recommended milling Conditions for Swiss-type CNC automatic lathe

Thread Size	Under Neck Length	Pitch	Dia.	Thread milling size	Helical R	Recom-mended Process	Carbon Steels S50C			Stainless Steels SUS304			Titanium Alloy Ti-6Al-4V			Aluminium Alloy A5052		
							Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth
					mm		min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth
M1.7	3.71	0.35	1.3	M1.7	R0.22	Up-cut	6,000	180	0.008	6,000	180	0.008	6,000	150	0.006	6,000	245	0.01
				M1.8	R0.27	Up-cut	6,000	180	0.008	6,000	180	0.008	6,000	150	0.006	6,000	245	0.01
				M2.5	R0.62	Up-cut	6,000	180	0.008	6,000	180	0.008	6,000	150	0.006	6,000	245	0.01
				M3	R0.87	Up-cut	6,000	180	0.008	6,000	180	0.008	6,000	150	0.006	6,000	245	0.01
				M3.5	R1.12	Up-cut	6,000	180	0.008	6,000	180	0.008	6,000	150	0.006	6,000	245	0.01
	4.41	0.35	1.3	M1.7	R0.22	Up-cut	6,000	110	0.005	6,000	110	0.005	6,000	90	0.004	6,000	140	0.006
				M1.8	R0.27	Up-cut	6,000	110	0.005	6,000	110	0.005	6,000	90	0.004	6,000	140	0.006
				M2.5	R0.62	Up-cut	6,000	110	0.005	6,000	110	0.005	6,000	90	0.004	6,000	140	0.006
				M3	R0.87	Up-cut	6,000	110	0.005	6,000	110	0.005	6,000	90	0.004	6,000	140	0.006
				M3.5	R1.12	Up-cut	6,000	110	0.005	6,000	110	0.005	6,000	90	0.004	6,000	140	0.006
	5.11	0.35	1.3	M1.7	R0.22	Up-cut	6,000	75	0.003	6,000	75	0.003	6,000	60	0.003	6,000	95	0.004
				M1.8	R0.27	Up-cut	6,000	75	0.003	6,000	75	0.003	6,000	60	0.003	6,000	95	0.004
				M2.5	R0.62	Up-cut	6,000	75	0.003	6,000	75	0.003	6,000	60	0.003	6,000	95	0.004
				M3	R0.87	Up-cut	6,000	75	0.003	6,000	75	0.003	6,000	60	0.003	6,000	95	0.004
				M3.5	R1.12	Up-cut	6,000	75	0.003	6,000	75	0.003	6,000	60	0.003	6,000	95	0.004
M2	5.02	0.4	1.5	M2	R0.28	Down-cut	6,000	300	0.008	6,000	300	0.008	6,000	300	0.008	6,000	360	0.01
				M2.3	R0.43	Down-cut	6,000	300	0.008	6,000	300	0.008	6,000	300	0.008	6,000	360	0.01
	6.62	0.4	1.5	M2	R0.28	Down-cut	6,000	150	0.004	6,000	150	0.004	6,000	150	0.004	6,000	180	0.005
				M2.3	R0.43	Down-cut	6,000	150	0.004	6,000	150	0.004	6,000	150	0.004	6,000	180	0.005
	8.22	0.4	1.5	M2	R0.28	Down-cut	6,000	100	0.003	6,000	100	0.003	6,000	95	0.003	6,000	120	0.003
				M2.3	R0.43	Down-cut	6,000	100	0.003	6,000	100	0.003	6,000	95	0.003	6,000	120	0.003
M2.5	5.7	0.45	1.95	M2.5	R0.305	Down-cut	6,000	300	0.008	6,000	300	0.008	6,000	300	0.008	6,000	450	0.013
				M2.6	R0.355	Down-cut	6,000	300	0.008	6,000	300	0.008	6,000	300	0.008	6,000	450	0.013
	7.5	0.45	1.95	M2.5	R0.305	Down-cut	6,000	150	0.004	6,000	150	0.004	6,000	150	0.004	6,000	225	0.006
				M2.6	R0.355	Down-cut	6,000	150	0.004	6,000	150	0.004	6,000	150	0.004	6,000	225	0.006
	9.3	0.45	1.95	M2.5	R0.305	Down-cut	6,000	100	0.003	6,000	100	0.003	6,000	100	0.003	6,000	150	0.004
				M2.6	R0.355	Down-cut	6,000	100	0.003	6,000	100	0.003	6,000	100	0.003	6,000	150	0.004
M3	6.3	0.5	2.36	M3	R0.36	Down-cut	6,000	450	0.013	6,000	450	0.013	6,000	375	0.01	6,000	720	0.02
				M4	R0.86	Down-cut	6,000	450	0.013	6,000	450	0.013	6,000	375	0.01	6,000	720	0.02
				M4.5	R1.11	Down-cut	6,000	450	0.013	6,000	450	0.013	6,000	375	0.01	6,000	720	0.02
	9.3	0.5	2.36	M3	R0.36	Down-cut	5,200	285	0.009	5,200	285	0.009	5,200	235	0.008	6,000	450	0.013
				M4	R0.86	Down-cut	5,200	285	0.009	5,200	285	0.009	5,200	235	0.008	6,000	450	0.013
				M4.5	R1.11	Down-cut	5,200	285	0.009	5,200	285	0.009	5,200	235	0.008	6,000	450	0.013
	12.3	0.5	2.36	M3	R0.36	Down-cut	4,500	160	0.006	4,500	160	0.006	4,500	130	0.005	5,600	255	0.008
				M4	R0.86	Down-cut	4,500	160	0.006	4,500	160	0.006	4,500	130	0.005	5,600	255	0.008
				M4.5	R1.11	Down-cut	4,500	160	0.006	4,500	160	0.006	4,500	130	0.005	5,600	255	0.008
M4	8.8	0.7	3.08	M4	R0.5	Down-cut	5,700	400	0.012	5,700	400	0.012	4,600	350	0.013	6,000	685	0.019
	13	0.7	3.08	M4	R0.5	Down-cut	3,700	215	0.01	3,700	215	0.01	2,900	165	0.009	4,500	365	0.014
	17.2	0.7	3.08	M4	R0.5	Down-cut	3,200	105	0.005	3,200	105	0.005	2,500	80	0.005	3,900	175	0.007
M5	10.1	0.8	3.97	M5	R0.555	Down-cut	4,000	400	0.017	4,000	400	0.017	3,200	350	0.018	5,500	800	0.024
	14.9	0.8	3.97	M5	R0.555	Down-cut	2,600	215	0.014	2,600	215	0.014	2,000	165	0.014	3,500	420	0.02
	19.7	0.8	3.97	M5	R0.555	Down-cut	2,200	105	0.008	2,200	105	0.008	1,700	80	0.008	3,000	205	0.011

Recommended milling Conditions for Swiss-type CNC automatic lathe

Thread Size	Under Neck Length	Pitch	Dia.	Thread milling size	Helical R	Recommended Process	Carbon Steels S50C			Stainless Steels SUS304			Titanium Alloy Ti-6Al-4V			Aluminium Alloy A5052		
							Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth	Spindle Speed	Feed	Feed per Tooth
					mm		min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth	min^{-1}	mm/min	mm/tooth
M6	12.6	1	4.72	M6	R0.68	Down-cut	3,200	400	0.021	3,200	400	0.021	3,000	350	0.019	4,500	800	0.03
				M7	R1.18	Down-cut	3,200	400	0.021	3,200	400	0.021	3,000	350	0.019	4,500	800	0.03
				M8	R1.68	Down-cut	3,200	400	0.021	3,200	400	0.021	3,000	350	0.019	4,500	800	0.03
				M9	R2.18	Down-cut	3,200	400	0.021	3,200	400	0.021	3,000	350	0.019	4,500	800	0.03
				M10	R2.68	Down-cut	3,200	400	0.021	3,200	400	0.021	3,000	350	0.019	4,500	800	0.03
	18.6	1	4.72	M6	R0.68	Down-cut	2,000	215	0.018	2,000	215	0.018	1,800	165	0.015	2,900	420	0.024
				M7	R1.18	Down-cut	2,000	215	0.018	2,000	215	0.018	1,800	165	0.015	2,900	420	0.024
				M8	R1.68	Down-cut	2,000	215	0.018	2,000	215	0.018	1,800	165	0.015	2,900	420	0.024
				M9	R2.18	Down-cut	2,000	215	0.018	2,000	215	0.018	1,800	165	0.015	2,900	420	0.024
				M10	R2.68	Down-cut	2,000	215	0.018	2,000	215	0.018	1,800	165	0.015	2,900	420	0.024
	24.6	1	4.72	M6	R0.68	Down-cut	1,800	105	0.01	1,800	105	0.01	1,600	80	0.008	2,500	205	0.014
				M7	R1.18	Down-cut	1,800	105	0.01	1,800	105	0.01	1,600	80	0.008	2,500	205	0.014
				M8	R1.68	Down-cut	1,800	105	0.01	1,800	105	0.01	1,600	80	0.008	2,500	205	0.014
				M9	R2.18	Down-cut	1,800	105	0.01	1,800	105	0.01	1,600	80	0.008	2,500	205	0.014
				M10	R2.68	Down-cut	1,800	105	0.01	1,800	105	0.01	1,600	80	0.008	2,500	205	0.014

Notes

※1 Recommend making pilot hole in advance by using drill, etc.
※2 This product should be used in the forward rotation.
※3 These machining conditions use water-soluble fluid and depth of cut should be separated by two times.
※4 Adjust the spindle speed, feed rate (based on feed per tooth), number of passes, and machining direction according to the machining environment.
※5 The helical R value serves as a guideline for machining 5H threads for sizes up to M1.4 and 6H threads (equivalent to the conventional JIS Class 2)
※5 for sizes M1.6 and above, and represents the R value at the final finishing.
※6 When use helical R in the Recommended Milling Conditions, set pilot hole dia. for avoiding interference between the area of under neck and pilot hole.
※7 If the thread shape becomes tapered, perform a zero-cut regardless of the tool size (M1– M6) or the workpiece material.
※8 For achieving stable machining of carbon steels, stainless steels, and titanium alloys with M1 to M2 tools, the implementation of a zero-cut is recommended.
※9 Choose appropriate coolant for each working material.
※10 When machining deep areas, please exercise due care regarding coolant delivery and chip evacuation.

List of thread sizes

Thread Type			Thread Size										
Thread Size		Pitch	M1	M1.2	M1.4	M1.6	M1.7	M2	M2.5	M3	M4	M5	M6
M1	Coarse thread	0.25	○										
	Fine thread	0.2											
M1.1	Coarse thread	0.25	○										
	Fine thread	0.2											
M1.2	Coarse thread	0.25	○	○									
	Fine thread	0.2											
M1.4	Coarse thread	0.3			○								
	Fine thread	0.2											
M1.6	Coarse thread	0.35				○							
	Fine thread	0.2											
M1.7	Coarse thread	0.35				○	○						
M1.8	Coarse thread	0.35				○	○						
	Fine thread	0.2											
M2	Coarse thread	0.4						○					
	Fine thread	0.25	○	○									
M2.2	Coarse thread	0.45											
	Fine thread	0.25	○	○									
M2.3	Coarse thread	0.4						○					
M2.5	Coarse thread	0.45							○				
	Fine thread	0.35				○	○						
M2.6	Coarse thread	0.45							○				
M3	Coarse thread	0.5								○			
	Fine thread	0.35				○	○						
M3.5	Coarse thread	0.6											
	Fine thread	0.35				○	○						
M4	Coarse thread	0.7									○		
	Fine thread	0.5								○			
M4.5	Coarse thread	0.75											
	Fine thread	0.5								○			
M5	Coarse thread	0.8										○	
	Fine thread	0.5											
M6	Coarse thread	1											○
	Fine thread	0.75											
M7	Coarse thread	1											○
	Fine thread	0.75											
M8	Coarse thread	1.25											
	Fine thread	1											○
	Fine thread	0.75											
M9	Coarse thread	1.25											
	Fine thread	1											○
	Fine thread	0.75											
M10	Coarse thread	1.5											
	Fine thread	1.25											
	Fine thread	1											○
	Fine thread	0.75											

MMTS

Threading Size S0.1 ～ S1.4

≦40 HRC

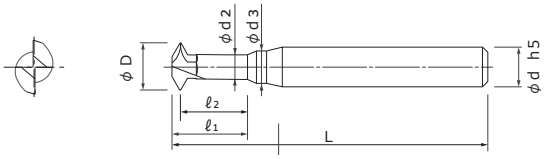
MUGEN COATING Micro Thread Cutting Tool (for Internal Thread)

Total 13 sizes

Specialized for miniature internal threads
Reliable internal threading through cutting eliminates common tapping troubles

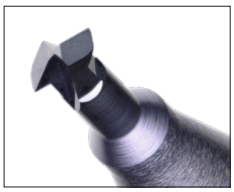
MG 2 φd h5 Thread





- World smallest threaded size 0.1mm is possible to cut.
- When the tool is broken during thread milling, the wreckages can be easily removed as the tool diameter is smaller than the pilot hole.
- MUGEN COATING realized long tool life.

※This product should be used in the forward rotation.



Cutting edge shape 2-Flute

Work Material

Carbon Steel P	Alloy Steel P	Prehardened Steel P	Stainless Steel M	Aluminium Alloy N	Copper N	Resin O
◎	◎	◎	○	○	○	○

Unit [Size : mm]

Code No.	Thread Size	Under Neck Length (ℓ_1)	Effective Thread Length (ℓ_2)	Pitch	Dia. (D)	Neck Dia. (d_2)	Neck Dia. (d_3)	Shank Dia. (d)	Overall Length (L)
06-00001-01000	**S0.1**	**0.15**	0.14	0.025	0.066	0.032	0.185	4	45
06-00001-02000	**S0.2**	**0.31**	0.28	0.05	0.14	0.07	0.185	4	45
06-00001-03000	**S0.3**	**0.48**	0.44	0.08	0.2	0.085	0.235	4	45
06-00001-04000	**S0.4**	**0.61**	0.55	0.1	0.28	0.15	0.315	4	45
06-00001-05000	**S0.5**	**0.77**	0.69	0.125	0.35	0.17	0.39	4	45
06-00001-06000	**S0.6**	**0.93**	0.83	0.15	0.43	0.22	0.47	4	45
06-00001-08000	**S0.8**	**1.24**	1.1	0.2	0.58	0.31	0.62	4	45
06-00001-10000	**S1.0**	**1.55**	1.38	0.25	0.73	0.41	0.77	4	45
06-00001-10001		**3.17**	3	0.25	0.73	0.41	0.77	4	45
06-00001-12000	**S1.2**	**1.6**	1.38	0.25	0.93	0.61	0.97	4	45
06-00001-12001		**3.22**	3	0.25	0.93	0.61	0.97	4	45
06-00001-14000	**S1.4**	**1.9**	1.65	0.3	1.08	0.7	1.14	4	45
06-00001-14001		**3.86**	3.6	0.3	1.08	0.7	1.14	4	45

How to Order When you order, indicate MMTS Thread Size× ℓ_1.

● S0.1 and S0.2 are original standard by NS Tool Co., LTD. as a miniature thread standard of JIS is from S0.3.

Thread Size	Under Neck Length	Pitch	Dia.	Recommended pilot hole Dia.	Recommended procces Helical R ※1	Carbon Steels S50C		Stainless Steels SUS304		Titanium Ti		Aluminium Alloy A5052	
						Spindle Speed	Feed	Spindle Speed	Feed	Spindle Speed	Feed	Spindle Speed	Feed
				mm	mm	min^{-1}	mm/min	min^{-1}	mm/min	min^{-1}	mm/min	min^{-1}	mm/min
S0.1	**0.15**	**0.025**	**0.066**	0.075	R0.017 ※3	20,000	5	20,000	5	20,000	5	20,000	5
S0.2	**0.31**	**0.05**	**0.14**	0.15	R0.035 ※3	20,000	5	20,000	5	20,000	5	20,000	5
S0.3	**0.48**	**0.08**	**0.2**	0.23	R0.061 ※3	20,000	5	20,000	5	20,000	5	20,000	5
S0.4	**0.61**	**0.1**	**0.28**	0.32	R0.07	18,000	5	18,000	5	18,000	5	18,000	5
S0.5	**0.77**	**0.125**	**0.35**	0.4	R0.088	15,000	10	15,000	10	15,000	10	15,000	10
S0.6	**0.93**	**0.15**	**0.43**	0.48	R0.11	12,000	10	12,000	10	12,000	10	12,000	10
S0.8	**1.24**	**0.2**	**0.58**	0.64	R0.13	10,000	20	10,000	20	10,000	20	10,000	20
S1.0	**1.55**	**0.25**	**0.73**	0.8	R0.155	7,000	50	7,000	50	7,000	50	7,000	50
	3.17	**0.25**	**0.73**	0.8	R0.155	7,000	50	7,000	50	7,000	50	7,000	50
S1.2	**1.6**	**0.25**	**0.93**	1	R0.155	6,000	80	6,000	80	6,000	80	6,000	80
	3.22	**0.25**	**0.93**	1	R0.155	6,000	80	6,000	80	6,000	80	6,000	80
S1.4	**1.9**	**0.3**	**1.08**	1.15	R0.19	5,000	100	5,000	100	5,000	100	5,000	100
	3.86	**0.3**	**1.08**	1.15	R0.19	5,000	100	5,000	100	5,000	100	5,000	100

Notes

※1 This Product should be used in the forward rotation.
※2 Radial depth of cut may be divided into multiple cutting approaches by condition of spindle runout and machine.
※3 Radial depth of cut must be divided into multiple cutting approaches for the sizes, S0.1, S0.2, and S0.3.
※4 Adjust process helical final value based on measured actual Dia. of the tool if possible.
※5 Care differences of actual pilot hole Dia. caused by runout of a pilot drill and rotation.
※6 Process Helical is a circular radius value of actual tool movement when helical process by MMTS.
※7 Add zero-cut process in case completed thread left deflection angle.
※8 Tool overhang to be as short as possible.
※9 Extra care of handling when tool setting and measuring.
※10 Please choose appropriate coolant for each working material.
※11 Please ensure proper chip evacuation.

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CAUTION **Attention on Safety**

1) When removing tools from cases, be careful of getting-out of tools and don't touch directly the cutting edges.
2) Never touch the cutting edges directly with bare hand.
3) Use safety covers and eye protection, as tools may be broken.
4) Use holders, etc. that match the tools and nature of the processing operations. The tool should be firmly attached to the holder to prevent shaking.
5) The work materials clamp firmly.
6) Make sure of dimensions of tools and work pieces before starting operation.
7) It is necessary to adjust conditions according to the dimensions of work materials and the machine.
8) Select a cutting fluid appropriate to the particular usage. Using a non-water cutting fluid could lead to fires due to sparks generated during processing or heat caused by breakage. Ensure that you take proper fire-prevention measures.
9) If abnormal sound, etc. occurs during processing, stop the machine immediately.
10) Don't modify tools.

ISO 9001 JQA-QM6096 ISO 14001 JQA-EM3712

26'06

Thread Mill Series_A1_202606

■ Specifications may change without notice for improvement.
■ This print uses environmentally friendly inks.