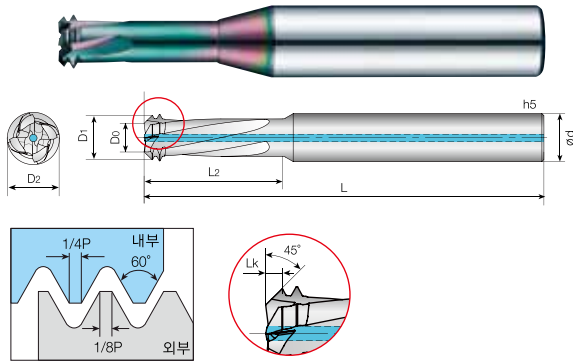


4날 알루미늄 전용 다기능 쓰레드밀 (역회전)



ISO 측정항목

519P

단위 Unit: mm

Order Number	피치규격		날수 Flutes Z	산수 Teeth Zt	날경 Diameter			유효장 Effective Length L2	길이 Lk	전장 Overall Length L	샙크 Shank Dia d
	Thread	Pitch			D0	D1	D2				

외부 급유형 (Without coolant)

4ETMA 0105 033 S04 M014	M1.4	0.3	4	2	0.61	0.95	1.05	3.3	0.17	45	4
4ETMA 0105 040 S04 M014	M1.4	0.3	4	2	0.61	0.95	1.05	4	0.17	45	4
4ETMA 012 037 S04 M016	M1.6~M1.8	0.35	4	2	0.65	1.04	1.2	3.7	0.195	45	4
4ETMA 012 045 S04 M016	M1.6~M1.8	0.35	4	2	0.65	1.04	1.2	4.5	0.195	45	4
4ETMA 0155 045 S04 M2	M2	0.4	4	2	0.94	1.4	1.55	4.5	0.23	45	4
4ETMA 0155 055 S04 M2	M2	0.4	4	2	0.94	1.4	1.55	5.5	0.23	45	4
4ETMA 020 055 S04 M025	M2.5~M2.6	0.45	4	2	1.16	1.85	2	5.5	0.345	45	4
4ETMA 020 0675 S04 M025	M2.5~M2.6	0.45	4	2	1.16	1.85	2	6.75	0.345	45	4
4ETMA 024 070 S06 M3	M3	0.5	4	2	1.37	2.17	2.4	7	0.4	60	6
4ETMA 024 085 S06 M3	M3	0.5	4	2	1.37	2.17	2.4	8.5	0.4	60	6
4ETMA 032 092 S06 M4	M4	0.7	4	2	1.74	2.88	3.2	9.2	0.57	60	6
4ETMA 032 112 S06 M4	M4	0.7	4	2	1.74	2.88	3.2	11.2	0.57	60	6
4ETMA 039 115 S06 M5	M5	0.8	4	2	2.21	3.61	3.9	11.5	0.7	60	6
4ETMA 039 144 S06 M5	M5	0.8	4	2	2.21	3.61	3.9	14.4	0.7	60	6
4ETMA 047 140 S06 M6	M6~M9	1	4	2	2.82	4.4	4.7	14	0.79	60	6
4ETMA 047 170 S06 M6	M6~M9	1	4	2	2.82	4.4	4.7	17	0.79	60	6
4ETMA 061 180 S08 M8	M8~M12	1.25	4	2	4	5.8	6.1	18	0.9	65	8
4ETMA 061 220 S08 M8	M8~M12	1.25	4	2	4	5.8	6.1	22	0.9	65	8
4ETMA 078 230 S08 M10	M10~M15	1.5	4	2	5.16	7.4	7.8	23	1.12	65	8
4ETMA 078 280 S08 M10	M10~M15	1.5	4	2	5.16	7.4	7.8	28	1.12	65	8
4ETMA 090 260 S10 M12	M12	1.75	4	2	6.2	8.6	9	26	1.2	80	10
4ETMA 090 330 S10 M12	M12	1.75	4	2	6.2	8.6	9	33	1.2	80	10
4ETMA 118 350 S12 M16	M16~M23	2	4	2	7.4	11.4	11.8	35	2	100	12
4ETMA 118 430 S12 M16	M16~M23	2	4	2	7.4	11.4	11.8	43	2	100	12

내부 급유형 (With coolant)

4ETMA 047 140 S06 M6C	M6~M9	1	4	2	2.82	4.4	4.7	14	0.79	60	6
4ETMA 047 170 S06 M6C	M6~M9	1	4	2	2.82	4.4	4.7	17	0.79	60	6
4ETMA 061 180 S08 M8C	M8~M12	1.25	4	2	4	5.8	6.1	18	0.9	65	8
4ETMA 061 220 S08 M8C	M8~M12	1.25	4	2	4	5.8	6.1	22	0.9	65	8
4ETMA 078 230 S08 M10C	M10~M15	1.5	4	2	5.16	7.4	7.8	23	1.12	65	8
4ETMA 078 280 S08 M10C	M10~M15	1.5	4	2	5.16	7.4	7.8	28	1.12	65	8
4ETMA 090 260 S10 M12C	M12	1.75	4	2	6.2	8.6	9	26	1.2	80	10
4ETMA 090 330 S10 M12C	M12	1.75	4	2	6.2	8.6	9	33	1.2	80	10
4ETMA 118 350 S12 M16C	M16~M23	2	4	2	7.4	11.4	11.8	35	2	100	12
4ETMA 118 430 S12 M16C	M16~M23	2	4	2	7.4	11.4	11.8	43	2	100	12

THREAD MILL

American UN

단위 Unit: mm

Order Number	피치규격 Thread			날수 Flutes Z	산수 Teeth Zt	날경 Diameter			유효장 Effective Length L2	길이 Lk	전장 Overall Length L	생크 Shank Dia d
	UNC	UNF	Pitch (TPI)			D0	D1	D2				
외부급유형 (Without coolant)												
4ETMA 021 072 S06	No.4, No.5		40	4	2	1	1.76	2.1	7.2	0.38	60	6
4ETMA 021 088 S06	No.4, No.5		40	4	2	1	1.76	2.1	8.8	0.38	60	6
4ETMA 026 086 S06	No.6, No.8		32	4	2	1.32	2.21	2.6	8.6	0.45	60	6
4ETMA 026 105 S06	No.6, No.8		32	4	2	1.32	2.21	2.6	10.5	0.45	60	6
4ETMA 030 100 S06	No.8	No.10	32	4	2	1.42	2.62	3	10	0.6	60	6
4ETMA 030 122 S06	No.8	No.10	32	4	2	1.42	2.62	3	12.2	0.6	60	6
4ETMA 035 114 S06	No.10, No.12		24	4	2	1.58	3.18	3.5	11.4	0.8	60	6
4ETMA 048 145 S06	1/4"		20	4	2	2.69	4.29	4.8	14.5	0.8	60	6
4ETMA 048 180 S06	1/4"		20	4	2	2.69	4.29	4.8	18	0.8	60	6
4ETMA 050 144 S06		1/4"	28	4	2	3.2	4.58	5	14.4	0.69	60	6
4ETMA 050 178 S06		1/4"	28	4	2	3.2	4.58	5	17.8	0.69	60	6

내부급유형 (With coolant)

4ETMA 048 145 S08C	1/4"		20	4	2	2.69	4.29	4.8	14.5	0.8	65	6
4ETMA 048 180 S08C	1/4"		20	4	2	2.69	4.29	4.8	18	0.8	65	6
4ETMA 050 144 S08C		1/4"	28	4	2	3.2	4.58	5	14.4	0.69	65	8
4ETMA 050 178 S08C		1/4"	28	4	2	3.2	4.58	5	17.8	0.69	65	8
4ETMA 065 176 S08C		5/16", 3/8"	24	4	2	4.34	6.02	6.5	17.6	0.85	65	8
4ETMA 065 218 S08C		5/16", 3/8"	24	4	2	4.34	6.02	6.5	21.8	0.85	65	8
4ETMA 067 260 S08C	3/8"		16	4	2	3.98	6.18	6.7	26	1.1	65	8

추천 절삭조건표

Recommended Cutting Conditions

4ETM(R)

피삭재 Work Material	알루미늄 합금 Aluminum alloys AL7075		스테인레스강 Stainless steels SUS304 / SUS316		구조용강/탄소강/회주철 Structural steels / Carbon Steels /Gray cast irons SS/SC/FC		합금강/프리하든강 Alloy Steels / Pre-hardened Steels NAK80/KP4M	
경도 Hardness					~30HRc		40 ~ 45HRc	
TAP	V/C	FZ	V/C	FZ	V/C	FZ	V/C	FZ
M3	120~250	0.02 ~ 0.03	70 ~ 80	0.01 ~ 0.015	60 ~ 70	0.01 ~ 0.015	45 ~ 55	0.005 ~ 0.01
M4		0.02 ~ 0.03		0.01 ~ 0.015		0.01 ~ 0.015		0.005 ~ 0.01
M5		0.02 ~ 0.03		0.01 ~ 0.015		0.01 ~ 0.015		0.005 ~ 0.01
M6		0.03 ~ 0.04		0.015 ~ 0.02		0.015 ~ 0.02		0.01 ~ 0.015
M8		0.03 ~ 0.04		0.015 ~ 0.02		0.015 ~ 0.02		0.01 ~ 0.015
M10		0.04 ~ 0.05		0.015 ~ 0.02		0.015 ~ 0.02		0.015 ~ 0.02
M12		0.04 ~ 0.05		0.015 ~ 0.02		0.015 ~ 0.02		0.015 ~ 0.02
M16~M23		0.05 ~ 0.07		0.025 ~ 0.03		0.025 ~ 0.03		0.015 ~ 0.02

2DTM

피삭재 Work Material	알루미늄 합금 Aluminum alloys AL7075		비철금속 Non-ferrous metal	
TAP	V/C	FZ	V/C	FZ
M3	200~250	0.03 ~ 0.04	250~300	0.03 ~ 0.04
M4		0.03 ~ 0.04		0.03 ~ 0.04
M5		0.03 ~ 0.04		0.03 ~ 0.04
M6		0.04 ~ 0.05		0.04 ~ 0.05
M8		0.04 ~ 0.05		0.04 ~ 0.05
M10		0.05 ~ 0.06		0.05 ~ 0.06
M12		0.06 ~ 0.07		0.06 ~ 0.07
M16		0.06 ~ 0.07		0.06 ~ 0.07

4IMTM

피삭재 Work Material	티타늄 합금 Titanium Alloys	
TAP	V/C	FZ
M0.8 ~ M1	20 ~ 60	0.005 ~ 0.01
M1 ~ M2		0.005 ~ 0.01
M 2.5		0.005 ~ 0.01
M 2.6		0.005 ~ 0.01

4TRTM(S)

피삭재 Work Material	스테인레스강 Stainless steels SUS304 / SUS316		일반구조강 / 쾌삭강 Mild Steels / Free cutting steels HP / SM		구조용강/탄소강/회주철 Structural steels / Carbon Steels /Gray cast irons SS/SC/FC		공구강 / 금형강 Tool steels / Mold steels SCM / HPM	
경도 Hardness			~200HB		~30HRc		30 ~ 40HRc	
TAP	V/C	FZ	V/C	FZ	V/C	FZ	V/C	FZ
Tr8, Tr9	70 ~ 80	0.02 ~ 0.03	60 ~ 70	0.02 ~ 0.03	50 ~ 60	0.01 ~ 0.02	40 ~ 50	0.01 ~ 0.02
Tr10, Tr11		0.02 ~ 0.03		0.02 ~ 0.03		0.01 ~ 0.02		0.01 ~ 0.02
Tr12, Tr14		0.03 ~ 0.04		0.03 ~ 0.04		0.02 ~ 0.03		0.02 ~ 0.03
Tr12		0.03 ~ 0.04		0.03 ~ 0.04		0.02 ~ 0.03		0.02 ~ 0.03
Tr14, Tr22		0.03 ~ 0.04		0.03 ~ 0.04		0.02 ~ 0.03		0.02 ~ 0.03
Tr16, Tr18, Tr20		0.03 ~ 0.04		0.03 ~ 0.04		0.02 ~ 0.03		0.02 ~ 0.03
Tr22, Tr24, Tr26		0.03 ~ 0.04		0.03 ~ 0.04		0.02 ~ 0.03		0.02 ~ 0.03

- 파지력이 좋은 열박음 척 사용을 추천 합니다.
- 떨림방지를 위한 부등분할 설계로, 공구 진입 시 f1 (mm/tooth) 기준으로 나사가공 이송대비 50% 수준으로 낮춰 주십시오.
- 상기 절삭조건은 참고 수치이므로 실 가공시 가공 형상, 가공 목적, 적용 기계에 따라 조건변경 요망 합니다.
- 절삭시 내,외부 급유형 쿨런트 사용을 추천합니다.
- Using shrink-fit chuck with great holding power is recommended.
- When the tool approaches the work material, reduce the feed by 50%.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- Internal and external coolants are recommended for milling.