



- 알루미늄, 구리, 비철합금, A.B.S수지, 레진 가공 드릴
- 버를 최소화하기 위한 특별한 드릴 헤드 형상을 설계하였습니다.
- 드릴링 작업시 피삭재 센터의 드릴링 워킹 현상을 방지하여 정확한 드릴링 위치와 홀 크기를 제공합니다.
- Drill for aluminium, copper, non-ferrous alloys, A.B.S and resin.
- Special drill head geometry designed to minimize burrs.
- The drill location and hole size are provided to prevent drill walking in the center of the workpiece during drilling.



379P

D Size	D Tolerance
∅ 0.15 ~ 0.2	+0 ~ -0.005mm
∅ 0.21 ~ 3	+0 ~ -0.01mm
∅ 3.5 ~ 6	+0 ~ -0.015mm

단위: mm

Order Number	날경 Diameter D	날장 Length of cut L1	전장 Overall Length L	샙크 Shank Dia d	비고	Order Number	날경 Diameter D	날장 Length of cut L1	전장 Overall Length L	샙크 Shank Dia d	비고
2DED 0015 009 S03	0.15	0.9	40	3		2DED 008 040 S03	0.8	4	40	3	
2DED 0015 018 S03	0.15	1.8	40	3		2DED 008 080 S03	0.8	8	40	3	
2DED 0016 009 S03	0.16	0.9	40	3		2DED 0085 040 S03	0.85	4	40	3	
2DED 0016 018 S03	0.16	1.8	40	3		2DED 0085 080 S03	0.85	8	40	3	
2DED 0017 009 S03	0.17	0.9	40	3		2DED 009 040 S03	0.9	4	40	3	
2DED 0017 018 S03	0.17	1.8	40	3		2DED 009 080 S03	0.9	8	40	3	
2DED 0018 0105 S03	0.18	1.05	40	3		2DED 0095 040 S03	0.95	4	40	3	
2DED 0018 021 S03	0.18	2.1	40	3		2DED 0095 080 S03	0.95	8	40	3	
2DED 0019 0105 S03	0.19	1.05	40	3		2DED 010 050 S03	1	5	40	3	
2DED 0019 021 S03	0.19	2.1	40	3		2DED 010 100 S03	1	10	40	3	
2DED 002 012 S03	0.2	1.2	40	3		2DED 011 050 S03	1.1	5	40	3	
2DED 002 024 S03	0.2	2.4	40	3		2DED 011 100 S03	1.1	10	40	3	
2DED 0021 012 S03	0.21	1.2	40	3		2DED 012 050 S03	1.2	5	40	3	
2DED 0021 024 S03	0.21	2.4	40	3		2DED 012 100 S03	1.2	10	40	3	
2DED 0022 013 S03	0.22	1.3	40	3		2DED 013 050 S03	1.3	5	40	3	
2DED 0022 026 S03	0.22	2.6	40	3		2DED 013 100 S03	1.3	10	40	3	
2DED 0023 013 S03	0.23	1.3	40	3		2DED 014 050 S03	1.4	5	40	3	
2DED 0023 026 S03	0.23	2.6	40	3		2DED 014 100 S03	1.4	10	40	3	
2DED 0024 013 S03	0.24	1.3	40	3		2DED 015 075 S03	1.5	7.5	45	3	
2DED 0024 026 S03	0.24	2.6	40	3		2DED 015 150 S03	1.5	15	45	3	
2DED 0025 015 S03	0.25	1.5	40	3		2DED 016 075 S03	1.6	7.5	45	3	
2DED 0025 030 S03	0.25	3	40	3		2DED 016 150 S03	1.6	15	45	3	
2DED 0026 015 S03	0.26	1.5	40	3		2DED 017 075 S03	1.7	7.5	45	3	
2DED 0026 030 S03	0.26	3	40	3		2DED 017 150 S03	1.7	15	45	3	
2DED 0027 015 S03	0.27	1.5	40	3		2DED 018 075 S03	1.8	7.5	45	3	
2DED 0027 030 S03	0.27	3	40	3		2DED 018 150 S03	1.8	15	45	3	
2DED 0028 0165 S03	0.28	1.65	40	3		2DED 019 075 S03	1.9	7.5	45	3	
2DED 0028 033 S03	0.28	3.3	40	3		2DED 019 150 S03	1.9	15	45	3	
2DED 0029 0165 S03	0.29	1.65	40	3		2DED 020 110 S03	2	11	50	3	
2DED 0029 033 S03	0.29	3.3	40	3		2DED 020 220 S03	2	22	50	3	
2DED 003 025 S03	0.3	2.5	40	3		2DED 021 110 S03	2.1	11	50	3	
2DED 003 050 S03	0.3	5	40	3		2DED 021 220 S03	2.1	22	50	3	
2DED 0035 025 S03	0.35	2.5	40	3		2DED 022 110 S03	2.2	11	50	3	
2DED 0035 050 S03	0.35	5	40	3		2DED 022 220 S03	2.2	22	50	3	
2DED 004 030 S03	0.4	3	40	3		2DED 023 110 S03	2.3	11	50	3	
2DED 004 060 S03	0.4	6	40	3		2DED 023 220 S03	2.3	22	50	3	
2DED 0045 030 S03	0.45	3	40	3		2DED 024 110 S03	2.4	11	50	3	
2DED 0045 060 S03	0.45	6	40	3		2DED 024 220 S03	2.4	22	50	3	
2DED 005 030 S03	0.5	3	40	3		2DED 025 110 S03	2.5	11	50	3	
2DED 005 060 S03	0.5	6	40	3		2DED 025 220 S03	2.5	22	50	3	
2DED 0055 030 S03	0.55	3	40	3		2DED 026 110 S03	2.6	11	50	3	
2DED 0055 060 S03	0.55	6	40	3		2DED 026 220 S03	2.6	22	50	3	
2DED 006 035 S03	0.6	3.5	40	3		2DED 027 125 S03	2.7	12.5	50	3	
2DED 006 070 S03	0.6	7	40	3		2DED 027 250 S03	2.7	25	50	3	
2DED 0065 035 S03	0.65	3.5	40	3		2DED 028 125 S03	2.8	12.5	50	3	
2DED 0065 070 S03	0.65	7	40	3		2DED 028 250 S03	2.8	25	50	3	
2DED 007 040 S03	0.7	4	40	3		2DED 029 125 S03	2.9	12.5	50	3	
2DED 007 080 S03	0.7	8	40	3		2DED 029 250 S03	2.9	25	50	3	
2DED 0075 040 S03	0.75	4	40	3		2DED 030 125 S03	3	12.5	50	3	
2DED 0075 080 S03	0.75	8	40	3		2DED 030 250 S03	3	25	50	3	

PCD End Mill Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material	VC m/min	FEED RATE (fz)			
		2 ~ 3mm	4 ~ 6mm	7 ~ 11mm	12 ~ 20mm
AL-alloy Si <1%	150 ~ 6,000	0.007 ~ 0.05	0.02 ~ 0.150	0.02 ~ 0.20	0.04 ~ 0.3
AL-alloy Si <12%	150 ~ 4,000	0.007 ~ 0.05	0.02 ~ 0.150	0.02 ~ 0.20	0.04 ~ 0.3
AL-alloy Si >12%	150 ~ 2,000	0.007 ~ 0.05	0.02 ~ 0.150	0.02 ~ 0.20	0.04 ~ 0.3
Magnesium alloy	150 ~ 6,000	0.007 ~ 0.05	0.02 ~ 0.150	0.02 ~ 0.20	0.04 ~ 0.3
Cooper alloy	150 ~ 5,000	0.007 ~ 0.05	0.02 ~ 0.150	0.02 ~ 0.20	0.04 ~ 0.3
Brass ally	150 ~ 5,001	0.007 ~ 0.05	0.02 ~ 0.150	0.02 ~ 0.20	0.04 ~ 0.3
GFRP	150 ~ 3,000	0.007 ~ 0.05	0.02 ~ 0.150	0.02 ~ 0.20	0.04 ~ 0.3
CFRP	150 ~ 4,000	0.007 ~ 0.05	0.02 ~ 0.150	0.02 ~ 0.20	0.04 ~ 0.3
Graphite	150 ~ 3,000	0.007 ~ 0.05	0.02 ~ 0.150	0.02 ~ 0.20	0.04 ~ 0.3

2SPO Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material	구조용강/탄소강/회주철 SS / SC / FC	합금강/프리하든강 SCM / NAK / HPM	금형강/열처리강 SKD			
경도 Hardness	~ 200 HB	20~ 30HRC	30~ 40HRC			
외경 Outside Diameter	절삭속도 (V/C)	이송량 (f)	절삭속도 (V/C)	이송량 (f)	절삭속도 (V/C)	이송량 (f)
Ø 1	23,800	500	2,000	400	19,100	380
Ø 2	12,000	700	10,350	400	9,550	380
Ø 3	8,000	800	6,900	550	6,400	510
Ø 4	5,900	800	5,200	620	4,800	570
Ø 6	3,980	700	3,450	550	3,180	510
Ø 8	3,000	600	2,600	520	2,400	480
Ø 10	2,400	580	2,070	500	2,000	460
Ø 12	2,000	560	1,720	480	1,600	450
Ø 16	1,500	500	1,300	400	1,200	380

2STD Cutting Condition

• RPM : min⁻¹ • Feed : mm/min

피삭재 Material	구조용강/탄소강/회주철 SS / SC / FC ~200HB	합금강/프리하든강 SCM / NAK / HPM 20 ~ 30HRC	금형강/열처리강 SKD 30 ~ 40HRC	덕타일 주철 FCD	스테인레스강 SUS304	알루미늄 합금 A7075	인코넬 inconel							
직경 Diameter	절삭속도 V/C	이송량 f	절삭속도 V/C	이송량 f	절삭속도 V/C	이송량 f	절삭속도 V/C	이송량 f	절삭속도 V/C	이송량 f	절삭속도 V/C	이송량 f		
Ø 3.4	60 ~ 100	0.1 ~ 0.2	60 ~ 100	0.1 ~ 0.2	20 ~ 60	0.05 ~ 0.1	40 ~ 70	0.07 ~ 0.2	20 ~ 60	0.05 ~ 0.2	80 ~ 120	0.1 ~ 0.2	10 ~ 30	0.05 ~ 0.15
Ø 4.3	60 ~ 100	0.1 ~ 0.2	60 ~ 100	0.1 ~ 0.2	20 ~ 60	0.05 ~ 0.1	40 ~ 70	0.07 ~ 0.2	20 ~ 60	0.05 ~ 0.2	80 ~ 120	0.1 ~ 0.2	10 ~ 30	0.05 ~ 0.15
Ø 5.1	60 ~ 100	0.1 ~ 0.2	60 ~ 100	0.1 ~ 0.2	20 ~ 60	0.05 ~ 0.1	40 ~ 70	0.07 ~ 0.2	20 ~ 60	0.05 ~ 0.2	80 ~ 120	0.1 ~ 0.2	10 ~ 30	0.05 ~ 0.15
Ø 6.9	60 ~ 100	0.15 ~ 0.3	60 ~ 100	0.15 ~ 0.3	20 ~ 60	0.08 ~ 0.2	40 ~ 70	0.1 ~ 0.2	20 ~ 60	0.1 ~ 0.2	80 ~ 120	0.15 ~ 0.2	10 ~ 30	0.05 ~ 0.15
Ø 8.6	60 ~ 100	0.15 ~ 0.3	60 ~ 100	0.15 ~ 0.3	20 ~ 60	0.08 ~ 0.2	40 ~ 70	0.1 ~ 0.2	20 ~ 60	0.1 ~ 0.2	80 ~ 120	0.15 ~ 0.2	10 ~ 30	0.05 ~ 0.15
Ø 10.3	60 ~ 100	0.2 ~ 0.4	60 ~ 100	0.2 ~ 0.4	20 ~ 60	0.1 ~ 0.2	40 ~ 70	0.2 ~ 0.4	20 ~ 60	0.15 ~ 0.3	80 ~ 120	0.2 ~ 0.4	10 ~ 30	0.1 ~ 0.2

2DED Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material	알루미늄 합금 Aluminum Alloys	수지 Resin		
직경 Diameter	RPM	이송량 (f)	RPM	이송량 (f)
Ø 0.1 ~ 0.3	25,000	0.001 ~ 0.003	22,000	0.001 ~ 0.003
Ø 0.3 ~ 0.5	20,000	0.005 ~ 0.02	22,000	0.005 ~ 0.01
Ø 0.5 ~ 0.8	18,000	0.01 ~ 0.03	15,000	0.01 ~ 0.03
Ø 0.8 ~ 1	15,000	0.02 ~ 0.04	13,000	0.02 ~ 0.05
Ø 1 ~ 1.5	12,000	0.03 ~ 0.05	8,000	0.02 ~ 0.05
Ø 1.5 ~ 2	9,000	0.03 ~ 0.05	6,000	0.02 ~ 0.05
Ø 2 ~ 3	7,000	0.03 ~ 0.05	4,500	0.05
Ø 3 ~ 4	3,500	0.03 ~ 0.05	3,200	0.05
Ø 4 ~ 5	2,800	0.03 ~ 0.05	2,500	0.05
Ø 5 ~ 6	2,200	0.03 ~ 0.05	2,000	0.05

- 진동이 적고 강성이 좋은 공작기계 사용요망합니다 (Ø1 이하 사용자 진동 허용 관리 3µm 이내 일것.)
- 가급적 열박음 척을 추천합니다.
- 상기 절삭조건은 참고 수치이므로, 실 가공시 가공 형상, 가공 목적, 적용 기계에 따라 조건변경 요망 합니다.
- 조건표가 기계의 최대 스피드 속도를 초과하거나 버 및 적열 현상이 발생할때 스피드 속도와 이송 속도를 비례적으로 조정 하십시오.
- Use a machine with low vibration and good rigidity (Ø1 or less, the vibration tolerance management should be within 3µm).
- Using shrink-fit chuck is recommended.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If the table over the maximum RPM and feed of your machine, or found red heat on the material, adjust RPM and feed in the same proportion.

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