

- HRC50이하 고경도강, 프리하든강, 공구강, 주철 등 피삭재 가공
- 실리콘계 코팅 (Si) 처리하여 내마모성이 우수합니다.
- 헬릭스 타입 2날을 적용하여 센터링 작업에 적합합니다.
- 코팅과 비코팅으로 구분하여 수지, 아크릴 등의 가공도 가능합니다.
- 미립자 초경합금을 채택하여 다양한 비철합금 및 목업의 피삭재 영역에 적용 가능합니다.

- Drills for various work materials, hardened steels (~HRC50), pre-hardened steels, tool steels and cast irons
- Good wear resistance by Si-based PVD coating.
- Optimum for centering with helix 2flutes.
- Resin, plastic machining applicable with coated or non coated endmill.
- Applied fine WC grade optimized for various non-ferrous and non-metallic work materials.



509P

D Size	D Tolerance
Ø 0.3 ~ 4	+0 ~ -0.012mm
Ø 6 ~ 12	-0.01 ~ -0.025mm
Ø 16	-0.015 ~ -0.03mm

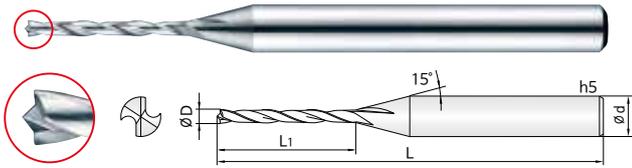
단위 : mm

Order Number		날경	각도	홈길이	전장	샹크	비고	
비코팅 Un coated	코팅 Coated	Diameter	Angle	Flute Length	Overall Length	Shank Dia	비코팅 Un coated	코팅 Coated
		D	θ	L1	L	d		
2SPO 003 090 040	2SPOC 003 090 040	0.3	90°	0.9	40	3		
2SPO 005 090 040	2SPOC 005 090 040	0.5	90°	1.5	40	3		
2SPO 008 090 040	2SPOC 008 090 040	0.8	90°	2.4	40	3		
2SPO 010 090 050	2SPOC 010 090 050	1	90°	3	50	3		
	2SPOC 010 090 080	1	90°	3	80	3		
2SPO 010 120 050	2SPOC 010 120 050	1	120°	3	50	3		
2SPO 015 090 050	2SPOC 015 090 050	1.5	90°	4.5	50	3		
2SPO 020 090 050	2SPOC 020 090 050	2	90°	6	50	3		
	2SPOC 020 090 080	2	90°	6	80	3		
2SPO 020 120 050	2SPOC 020 120 050	2	120°	6	50	3		
2SPO 030 090 050	2SPOC 030 090 050	3	90°	10	50	3		
2SPO 030 120 050	2SPOC 030 120 050	3	120°	10	50	3		
2SPO 030 090 100	2SPOC 030 090 100	3	90°	10	100	3		
2SPO 030 120 100	2SPOC 030 120 100	3	120°	10	100	3		
2SPO 040 090 050	2SPOC 040 090 050	4	90°	12	50	4		
2SPO 040 120 050	2SPOC 040 120 050	4	120°	12	50	4		
2SPO 040 090 100	2SPOC 040 090 100	4	90°	12	100	4		
2SPO 040 120 100	2SPOC 040 120 100	4	120°	12	100	4		
New 2SPO 050 090 060	2SPOC 050 090 060	5	90	13	60	5		
New 2SPO 050 120 060	2SPOC 050 120 060	5	120	13	60	5		
New 2SPO 050 090 110	2SPOC 050 090 110	5	90	13	110	5		
New 2SPO 050 120 110	2SPOC 050 120 110	5	120	13	110	5		
2SPO 060 090 070	2SPOC 060 090 070	6	90°	15	70	6		
2SPO 060 120 070	2SPOC 060 120 070	6	120°	15	70	6		
2SPO 060 090 110	2SPOC 060 090 110	6	90°	15	110	6		
	2SPOC 060 090 150	6	90°	15	150	6		
2SPO 060 120 110	2SPOC 060 120 110	6	120°	15	110	6		
2SPO 080 090 080	2SPOC 080 090 080	8	90°	25	80	8		
	2SPOC 080 090 150	8	90°	25	150	8		
2SPO 080 120 080	2SPOC 080 120 080	8	120°	25	80	8		
2SPO 100 090 090	2SPOC 100 090 090	10	90°	25	90	10		
2SPO 100 120 090	2SPOC 100 120 090	10	120°	25	90	10		
2SPO 100 090 150	2SPOC 100 090 150	10	90°	25	150	10		
2SPO 100 120 150	2SPOC 100 120 150	10	120°	25	150	10		
2SPO 120 090 090	2SPOC 120 090 090	12	90°	30	90	12		
2SPO 120 120 090	2SPOC 120 120 090	12	120°	30	90	12		
2SPO 120 090 150	2SPOC 120 090 150	12	90°	30	150	12		
2SPO 120 120 150	2SPOC 120 120 150	12	120°	30	150	12		
2SPO 160 090 110	2SPOC 160 090 110	16	90°	35	110	16		
2SPO 160 120 110	2SPOC 160 120 110	16	120°	35	110	16		





# 초경 2날 디버링 마이크로 드릴



- 알루미늄, 구리, 비철합금, A.B.S수지, 레진 가공 드릴
- 버를 최소화하기 위한 스페셜한 드릴 헤드 형상을 설계하였습니다.
- 드릴링 작업시 피삭재 센터의 드릴링 워킹 현상을 방지하여 정확한 드릴링 위치와 홀 크기를 제공합니다.
- 극소형 드릴링에 최적화 된 포인트 설계로 안정적인 드릴링을 구현 합니다.

- Drills 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.
- Implements stable drilling with a point design optimized for ultra-small drilling.



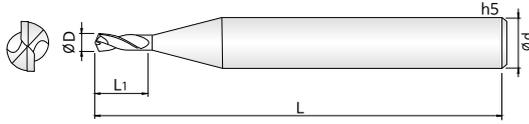
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D Size	D Tolerance
ø 0.15 ~ 0.2	+0 ~ -0.005mm
ø 0.21 ~ 3	+0 ~ -0.01mm
ø 3.5 ~ 6	+0 ~ -0.015mm

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	





- 중저 탄소강, 동합금, 알루미늄용 고정도 드릴
- 다양한 규격으로 정밀 기계부품, IT부품 분야에 극소경 작업이 가능합니다.
- 특수한 인선처리로 뛰어난 고정도, 고능률 작업이 가능합니다.
- 저마찰과 내소착 및 이형성이 우수한 T-CRO코팅을 적용하여 내마모성이 뛰어납니다.

**High-precision drills for low to medium carbon steels, non-ferrous alloys, and aluminum**

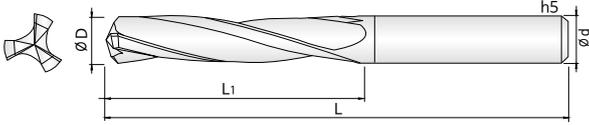
- Capable of ultra-precision work in the field of precision mechanical components and IT components with various specifications.
- Excellent precision and high-efficiency operations are possible with special edge treatment.
- Outstanding wear resistance with the application of T-CRO coating, which has low friction, superior adhesion resistance, and deformability.



510P

단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고
2MID 005 015 S03	0.5	1.5	40	3		2MID 025 075 S03	2.5	7.5	40	3	
2MID 005 025 S03	0.5	2.5	40	3		2MID 0255 078 S03	2.55	7.8	40	3	
2MID 0055 018 S03	0.55	1.8	40	3		2MID 026 078 S03	2.6	7.8	40	3	
2MID 0055 030 S03	0.55	3	40	3		2MID 0265 081 S03	2.65	8.1	40	3	
2MID 006 018 S03	0.6	1.8	40	3		2MID 027 081 S03	2.7	8.1	40	3	
2MID 006 030 S03	0.6	3	40	3		2MID 0275 084 S03	2.75	8.4	40	3	
2MID 0065 021 S03	0.65	2.1	40	3		2MID 028 084 S03	2.8	8.4	40	3	
2MID 0065 035 S03	0.65	3.5	40	3		2MID 0285 087 S03	2.85	8.7	40	3	
2MID 007 021 S03	0.7	2.1	40	3		2MID 029 087 S03	2.9	8.7	40	3	
2MID 007 035 S03	0.7	3.5	40	3		2MID 0295 090 S03	2.95	9	40	3	
2MID 0075 024 S03	0.75	2.4	40	3		2MID 030 090 S03	3	9	40	3	
2MID 0075 040 S03	0.75	4	40	3							
2MID 008 024 S03	0.8	2.4	40	3							
2MID 008 040 S03	0.8	4	40	3							
2MID 0085 027 S03	0.85	2.7	40	3							
2MID 0085 045 S03	0.85	4.5	40	3							
2MID 009 027 S03	0.9	2.7	40	3							
2MID 009 045 S03	0.9	4.5	40	3							
2MID 0095 030 S03	0.95	3	40	3							
2MID 0095 050 S03	0.95	5	40	3							
2MID 010 030 S03	1	3	40	3							
2MID 0105 033 S03	1.05	3.3	40	3							
2MID 011 033 S03	1.1	3.3	40	3							
2MID 0115 036 S03	1.15	3.6	40	3							
2MID 012 036 S03	1.2	3.6	40	3							
2MID 0125 039 S03	1.25	3.9	40	3							
2MID 013 039 S03	1.3	3.9	40	3							
2MID 0135 042 S03	1.35	4.2	40	3							
2MID 014 042 S03	1.4	4.2	40	3							
2MID 0145 045 S03	1.45	4.5	40	3							
2MID 015 045 S03	1.5	4.5	40	3							
2MID 0155 048 S03	1.55	4.8	40	3							
2MID 016 048 S03	1.6	4.8	40	3							
2MID 0165 051 S03	1.65	5.1	40	3							
2MID 017 051 S03	1.7	5.1	40	3							
2MID 0175 054 S03	1.75	5.4	40	3							
2MID 018 054 S03	1.8	5.4	40	3							
2MID 0185 057 S03	1.85	5.7	40	3							
2MID 019 057 S03	1.9	5.7	40	3							
2MID 0195 060 S03	1.95	6	40	3							
2MID 020 060 S03	2	6	40	3							
2MID 0205 063 S03	2.05	6.3	40	3							
2MID 021 063 S03	2.1	6.3	40	3							
2MID 0215 066 S03	2.15	6.6	40	3							
2MID 022 066 S03	2.2	6.6	40	3							
2MID 0225 069 S03	2.25	6.9	40	3							
2MID 023 069 S03	2.3	6.9	40	3							
2MID 0235 072 S03	2.35	7.2	40	3							
2MID 024 072 S03	2.4	7.2	40	3							
2MID 0245 075 S03	2.45	7.5	40	3							



- 고경도강(HRc52~65), 열처리강 계열의 강력 드릴
- HR코팅으로 내열성과 내마모성이 우수, 긴 공구수명을 실현 하였습니다.
- 칩핑을 최소화 하는 Point thinning을 적용 하였습니다.
- 140도와 90도의 선단각과 최적의 플루트 형상 설계로 공구의 성능을 극대화하였습니다.
- 칩 배출력과 드릴의 강성을 고려한 플루트 홈 설계로 안정적인 드릴링을 구현합니다.

### Powerful drills for hardened steels(HRc52~65) and heat-treated steels

- Longer tool life HR coating which provides excellent heat resistance and wear resistance.
- Point thinning was applied to minimize chipping.
- With an optimal flute design and 90 and 140-degree point angle, the tool's performance is maximized.
- Implements stable drilling with a flute groove design considering chip evacuation and drill rigidity.



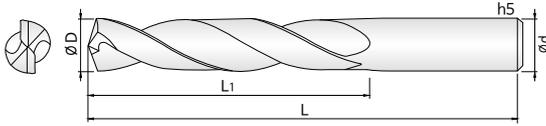
511P

단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고
3DUBEH 010 060 S03	1	6	40	3		3DUBEH 060 270 S06	6	27	65	6	
3DUBEH 011 060 S03	1.1	6	40	3		3DUBEH 061 310 S08	6.1	31	75	8	
3DUBEH 012 060 S03	1.2	6	40	3		3DUBEH 062 310 S08	6.2	31	75	8	
3DUBEH 013 080 S03	1.3	8	40	3		3DUBEH 063 310 S08	6.3	31	75	8	
3DUBEH 014 080 S03	1.4	8	40	3		3DUBEH 064 310 S08	6.4	31	75	8	
3DUBEH 015 080 S03	1.5	8	40	3		3DUBEH 065 310 S08	6.5	31	75	8	
3DUBEH 016 100 S03	1.6	10	40	3		3DUBEH 066 330 S08	6.6	33	75	8	
3DUBEH 017 100 S03	1.7	10	40	3		3DUBEH 067 330 S08	6.7	33	75	8	
3DUBEH 018 100 S03	1.8	10	40	3		3DUBEH 068 330 S08	6.8	33	75	8	
3DUBEH 019 100 S03	1.9	10	40	3		3DUBEH 069 330 S08	6.9	33	75	8	
3DUBEH 020 120 S03	2	12	45	3		3DUBEH 070 330 S08	7	33	75	8	
3DUBEH 021 120 S03	2.1	12	45	3		3DUBEH 071 330 S08	7.1	33	80	8	
3DUBEH 022 120 S03	2.2	12	45	3		3DUBEH 072 330 S08	7.2	33	80	8	
3DUBEH 023 120 S03	2.3	12	45	3		3DUBEH 073 330 S08	7.3	33	80	8	
3DUBEH 024 120 S03	2.4	12	45	3		3DUBEH 074 330 S08	7.4	33	80	8	
3DUBEH 025 130 S03	2.5	13	45	3		3DUBEH 075 330 S08	7.5	33	80	8	
3DUBEH 026 130 S03	2.6	13	45	3		3DUBEH 076 360 S08	7.6	36	80	8	
3DUBEH 027 130 S03	2.7	13	45	3		3DUBEH 077 360 S08	7.7	36	80	8	
3DUBEH 028 130 S03	2.8	13	45	3		3DUBEH 078 360 S08	7.8	36	80	8	
3DUBEH 029 130 S03	2.9	13	45	3		3DUBEH 079 360 S08	7.9	36	80	8	
3DUBEH 030 130 S03	3	13	45	3		3DUBEH 080 360 S08	8	36	80	8	
3DUBEH 031 190 S04	3.1	19	55	4		3DUBEH 081 360 S10	8.1	36	85	10	
3DUBEH 032 190 S04	3.2	19	55	4		3DUBEH 082 360 S10	8.2	36	85	10	
3DUBEH 033 190 S04	3.3	19	55	4		3DUBEH 083 360 S10	8.3	36	85	10	
3DUBEH 034 190 S04	3.4	19	55	4		3DUBEH 084 360 S10	8.4	36	85	10	
3DUBEH 035 190 S04	3.5	19	55	4		3DUBEH 085 360 S10	8.5	36	85	10	
3DUBEH 036 210 S04	3.6	21	55	4		3DUBEH 086 380 S10	8.6	38	85	10	
3DUBEH 037 210 S04	3.7	21	55	4		3DUBEH 087 380 S10	8.7	38	85	10	
3DUBEH 038 210 S04	3.8	21	55	4		3DUBEH 088 380 S10	8.8	38	85	10	
3DUBEH 039 210 S04	3.9	21	55	4		3DUBEH 089 380 S10	8.9	38	85	10	
3DUBEH 040 210 S04	4	21	55	4		3DUBEH 090 380 S10	9	38	85	10	
3DUBEH 041 230 S06	4.1	23	60	6		3DUBEH 091 380 S10	9.1	38	90	10	
3DUBEH 042 230 S06	4.2	23	60	6		3DUBEH 092 380 S10	9.2	38	90	10	
3DUBEH 043 230 S06	4.3	23	60	6		3DUBEH 093 380 S10	9.3	38	90	10	
3DUBEH 044 230 S06	4.4	23	60	6		3DUBEH 094 380 S10	9.4	38	90	10	
3DUBEH 045 230 S06	4.5	23	60	6		3DUBEH 095 380 S10	9.5	38	90	10	
3DUBEH 046 250 S06	4.6	25	60	6		3DUBEH 096 410 S10	9.6	41	90	10	
3DUBEH 047 250 S06	4.7	25	60	6		3DUBEH 097 410 S10	9.7	41	90	10	
3DUBEH 048 250 S06	4.8	25	60	6		3DUBEH 098 410 S10	9.8	41	90	10	
3DUBEH 049 250 S06	4.9	25	60	6		3DUBEH 099 410 S10	9.9	41	90	10	
3DUBEH 050 250 S06	5	25	60	6		3DUBEH 100 410 S10	10	41	90	10	
3DUBEH 051 250 S06	5.1	25	65	6		3DUBEH 101 410 S12	10.1	41	95	12	
3DUBEH 052 250 S06	5.2	25	65	6		3DUBEH 102 410 S12	10.2	41	95	12	
3DUBEH 053 250 S06	5.3	25	65	6		3DUBEH 103 410 S12	10.3	41	95	12	
3DUBEH 054 250 S06	5.4	25	65	6		3DUBEH 104 410 S12	10.4	41	95	12	
3DUBEH 055 250 S06	5.5	25	65	6		3DUBEH 105 410 S12	10.5	41	95	12	
3DUBEH 056 270 S06	5.6	27	65	6		3DUBEH 106 450 S12	10.6	45	95	12	
3DUBEH 057 270 S06	5.7	27	65	6		3DUBEH 107 450 S12	10.7	45	95	12	
3DUBEH 058 270 S06	5.8	27	65	6		3DUBEH 108 450 S12	10.8	45	95	12	
3DUBEH 059 270 S06	5.9	27	65	6		3DUBEH 109 450 S12	10.9	45	95	12	



## 초경 2날 두배 S 드릴 [3XD]



- HRC48이하, NAK, SCM, 열처리강용 강력 드릴
- 우수한 내마모성의 HR코팅을 적용하여 장시간 가공에 적합합니다.
- 절삭 저항을 최소화하는 Point thinning을 채택 하였습니다.
- 열 배출의 최적화 된 형상으로 안정적인 공구의 수명을 유지합니다.
- 칩 배출력과 드릴의 강성을 고려한 플루트 홈 설계를 적용하여 우수한 칩배출을 실현합니다.
- Powerful drills for materials up to HRC48, NAK, SCM, and heat-treated steels
- Suitable for long-term machining with excellent wear resistance HR coating.
- Adopted Point thinning to minimize cutting resistance.
- Maintains the stable lifespan of the tool with an optimized shape for heat dissipation.
- Achieves excellent chip evacuation with flute groove design considering chip evacuation and drill rigidity.

2

WC  
미립자

HR  
COATING

h7  
Diameter  
Tolerance

30°  
Helix Angle

140°

CUTTING  
DATA

512P

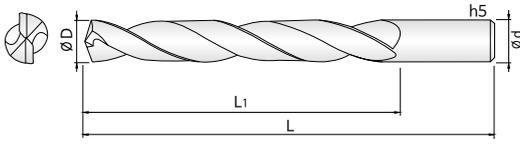
단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고
2DUBES 010 080 S03	1	8	40	3		2DUBES 060 280 S06	6	28	65	6	
2DUBES 011 080 S03	1.1	8	40	3		2DUBES 061 340 S08	6.1	34	80	8	
2DUBES 012 080 S03	1.2	8	40	3		2DUBES 062 340 S08	6.2	34	80	8	
2DUBES 013 080 S03	1.3	8	40	3		2DUBES 063 340 S08	6.3	34	80	8	
2DUBES 014 080 S03	1.4	8	40	3		2DUBES 064 340 S08	6.4	34	80	8	
2DUBES 015 080 S03	1.5	8	50	3		2DUBES 065 340 S08	6.5	34	80	8	
2DUBES 016 080 S03	1.6	8	50	3		2DUBES 066 340 S08	6.6	34	80	8	
2DUBES 017 100 S03	1.7	10	50	3		2DUBES 067 340 S08	6.7	34	80	8	
2DUBES 018 100 S03	1.8	10	50	3		2DUBES 068 340 S08	6.8	34	80	8	
2DUBES 019 100 S03	1.9	10	50	3		2DUBES 069 340 S08	6.9	34	80	8	
2DUBES 020 160 S04	2	16	50	4		2DUBES 070 340 S08	7	34	80	8	
2DUBES 021 160 S04	2.1	16	50	4		2DUBES 071 410 S08	7.1	41	80	8	
2DUBES 022 160 S04	2.2	16	50	4		2DUBES 072 410 S08	7.2	41	80	8	
2DUBES 023 160 S04	2.3	16	50	4		2DUBES 073 410 S08	7.3	41	80	8	
2DUBES 024 160 S04	2.4	16	50	4		2DUBES 074 410 S08	7.4	41	80	8	
2DUBES 025 200 S04	2.5	20	50	4		2DUBES 075 410 S08	7.5	41	80	8	
2DUBES 026 200 S04	2.6	20	50	4		2DUBES 076 410 S08	7.6	41	80	8	
2DUBES 027 200 S04	2.7	20	50	4		2DUBES 077 410 S08	7.7	41	80	8	
2DUBES 028 200 S04	2.8	20	50	4		2DUBES 078 410 S08	7.8	41	80	8	
2DUBES 029 200 S04	2.9	20	50	4		2DUBES 079 410 S08	7.9	41	80	8	
2DUBES 030 200 S06	3	20	60	6		2DUBES 080 410 S08	8	41	80	8	
2DUBES 031 200 S06	3.1	20	60	6		2DUBES 081 470 S10	8.1	47	90	10	
2DUBES 032 200 S06	3.2	20	60	6		2DUBES 082 470 S10	8.2	47	90	10	
2DUBES 033 200 S06	3.3	20	60	6		2DUBES 083 470 S10	8.3	47	90	10	
2DUBES 034 200 S06	3.4	20	60	6		2DUBES 084 470 S10	8.4	47	90	10	
2DUBES 035 200 S06	3.5	20	60	6		2DUBES 085 470 S10	8.5	47	90	10	
2DUBES 036 200 S06	3.6	20	60	6		2DUBES 086 470 S10	8.6	47	90	10	
2DUBES 037 200 S06	3.7	20	60	6		2DUBES 087 470 S10	8.7	47	90	10	
2DUBES 038 240 S06	3.8	24	65	6		2DUBES 088 470 S10	8.8	47	90	10	
2DUBES 039 240 S06	3.9	24	65	6		2DUBES 089 470 S10	8.9	47	90	10	
2DUBES 040 240 S06	4	24	65	6		2DUBES 090 470 S10	9	47	90	10	
2DUBES 041 240 S06	4.1	24	65	6		2DUBES 091 470 S10	9.1	47	90	10	
2DUBES 042 240 S06	4.2	24	65	6		2DUBES 092 470 S10	9.2	47	90	10	
2DUBES 043 240 S06	4.3	24	65	6		2DUBES 093 470 S10	9.3	47	90	10	
2DUBES 044 240 S06	4.4	24	65	6		2DUBES 094 470 S10	9.4	47	90	10	
2DUBES 045 240 S06	4.5	24	65	6		2DUBES 095 470 S10	9.5	47	90	10	
2DUBES 046 240 S06	4.6	24	65	6		2DUBES 096 470 S10	9.6	47	90	10	
2DUBES 047 240 S06	4.7	24	65	6		2DUBES 097 470 S10	9.7	47	90	10	
2DUBES 048 280 S06	4.8	28	65	6		2DUBES 098 470 S10	9.8	47	90	10	
2DUBES 049 280 S06	4.9	28	65	6		2DUBES 099 470 S10	9.9	47	90	10	
2DUBES 050 280 S06	5	28	65	6		2DUBES 100 470 S10	10	47	90	10	
2DUBES 051 280 S06	5.1	28	65	6		2DUBES 101 550 S12	10.1	55	100	12	
2DUBES 052 280 S06	5.2	28	65	6		2DUBES 102 550 S12	10.2	55	100	12	
2DUBES 053 280 S06	5.3	28	65	6		2DUBES 103 550 S12	10.3	55	100	12	
2DUBES 054 280 S06	5.4	28	65	6		2DUBES 104 550 S12	10.4	55	100	12	
2DUBES 055 280 S06	5.5	28	65	6		2DUBES 105 550 S12	10.5	55	100	12	
2DUBES 056 280 S06	5.6	28	65	6		2DUBES 106 550 S12	10.6	55	100	12	
2DUBES 057 280 S06	5.7	28	65	6		2DUBES 107 550 S12	10.7	55	100	12	
2DUBES 058 280 S06	5.8	28	65	6		2DUBES 108 550 S12	10.8	55	100	12	
2DUBES 059 280 S06	5.9	28	65	6		2DUBES 109 550 S12	10.9	55	100	12	

단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고
2DUBES 110 550 S12	11	55	100	12		2DUBES 160 650 S16	16	65	115	16	
2DUBES 111 550 S12	11.1	55	100	12		2DUBES 161 730 S18	16.1	73	125	18	
2DUBES 112 550 S12	11.2	55	100	12		2DUBES 162 730 S18	16.2	73	125	18	
2DUBES 113 550 S12	11.3	55	100	12		2DUBES 163 730 S18	16.3	73	125	18	
2DUBES 114 550 S12	11.4	55	100	12		2DUBES 164 730 S18	16.4	73	125	18	
2DUBES 115 550 S12	11.5	55	100	12		2DUBES 165 730 S18	16.5	73	125	18	
2DUBES 116 550 S12	11.6	55	100	12		2DUBES 166 730 S18	16.6	73	125	18	
2DUBES 117 550 S12	11.7	55	100	12		2DUBES 167 730 S18	16.7	73	125	18	
2DUBES 118 550 S12	11.8	55	100	12		2DUBES 168 730 S18	16.8	73	125	18	
2DUBES 119 550 S12	11.9	55	100	12		2DUBES 169 730 S18	16.9	73	125	18	
2DUBES 120 550 S12	12	55	100	12		2DUBES 170 730 S18	17	73	125	18	
2DUBES 121 600 S14	12.1	60	100	14		2DUBES 171 730 S18	17.1	73	125	18	
2DUBES 122 600 S14	12.2	60	100	14		2DUBES 172 730 S18	17.2	73	125	18	
2DUBES 123 600 S14	12.3	60	100	14		2DUBES 173 730 S18	17.3	73	125	18	
2DUBES 124 600 S14	12.4	60	100	14		2DUBES 174 730 S18	17.4	73	125	18	
2DUBES 125 600 S14	12.5	60	100	14		2DUBES 175 730 S18	17.5	73	125	18	
2DUBES 126 600 S14	12.6	60	100	14		2DUBES 176 730 S18	17.6	73	125	18	
2DUBES 127 600 S14	12.7	60	100	14		2DUBES 177 730 S18	17.7	73	125	18	
2DUBES 128 600 S14	12.8	60	100	14		2DUBES 178 730 S18	17.8	73	125	18	
2DUBES 129 600 S14	12.9	60	100	14		2DUBES 179 730 S18	17.9	73	125	18	
2DUBES 130 600 S14	13	60	100	14		2DUBES 180 730 S18	18	73	125	18	
2DUBES 131 600 S14	13.1	60	100	14		2DUBES 181 790 S20	18.1	79	130	20	
2DUBES 132 600 S14	13.2	60	105	14		2DUBES 182 790 S20	18.2	79	130	20	
2DUBES 133 600 S14	13.3	60	105	14		2DUBES 183 790 S20	18.3	79	130	20	
2DUBES 134 600 S14	13.4	60	105	14		2DUBES 184 790 S20	18.4	79	130	20	
2DUBES 135 600 S14	13.5	60	105	14		2DUBES 185 790 S20	18.5	79	130	20	
2DUBES 136 600 S14	13.6	60	105	14		2DUBES 186 790 S20	18.6	79	130	20	
2DUBES 137 600 S14	13.7	60	105	14		2DUBES 187 790 S20	18.7	79	130	20	
2DUBES 138 600 S14	13.8	60	105	14		2DUBES 188 790 S20	18.8	79	130	20	
2DUBES 139 600 S14	13.9	60	105	14		2DUBES 189 790 S20	18.9	79	130	20	
2DUBES 140 600 S14	14	60	105	14		2DUBES 190 790 S20	19	79	130	20	
2DUBES 141 650 S16	14.1	65	110	16		2DUBES 191 790 S20	19.1	79	130	20	
2DUBES 142 650 S16	14.2	65	110	16		2DUBES 192 790 S20	19.2	79	130	20	
2DUBES 143 650 S16	14.3	65	110	16		2DUBES 193 790 S20	19.3	79	130	20	
2DUBES 144 650 S16	14.4	65	110	16		2DUBES 194 790 S20	19.4	79	130	20	
2DUBES 145 650 S16	14.5	65	110	16		2DUBES 195 790 S20	19.5	79	130	20	
2DUBES 146 650 S16	14.6	65	110	16		2DUBES 196 790 S20	19.6	79	130	20	
2DUBES 147 650 S16	14.7	65	110	16		2DUBES 197 790 S20	19.7	79	130	20	
2DUBES 148 650 S16	14.8	65	110	16		2DUBES 198 790 S20	19.8	79	130	20	
2DUBES 149 650 S16	14.9	65	110	16		2DUBES 199 790 S20	19.9	79	130	20	
2DUBES 150 650 S16	15	65	110	16		2DUBES 200 790 S20	20	79	130	20	
2DUBES 151 650 S16	15.1	65	110	16							
2DUBES 152 650 S16	15.2	65	115	16							
2DUBES 153 650 S16	15.3	65	115	16							
2DUBES 154 650 S16	15.4	65	115	16							
2DUBES 155 650 S16	15.5	65	115	16							
2DUBES 156 650 S16	15.6	65	115	16							
2DUBES 157 650 S16	15.7	65	115	16							
2DUBES 158 650 S16	15.8	65	115	16							
2DUBES 159 650 S16	15.9	65	115	16							

## 초경 2날 두배 S 드릴 [5XD]



- HRC48이하, NAK, SCM, 열처리강용 강력 드릴
- 우수한 내마모성의 HR코팅을 적용하여 장시간 가공에 적합합니다.
- 절삭 저항을 최소화하는 Point thinning을 채택 하였습니다.
- 열 배출의 최적화 된 형상으로 안정적인 공구의 수명을 유지합니다.
- 칩 배출력과 드릴의 강성을 고려한 플루트 홈 설계를 적용하여 우수한 칩배출을 실현합니다.
- Powerful drills for materials up to HRC48, NAK, SCM, and heat-treated steels
- Suitable for long-term machining with excellent wear resistance HR coating.
- Adopted Point thinning to minimize cutting resistance.
- Maintains the stable lifespan of the tool with an optimized shape for heat dissipation.
- Achieves excellent chip evacuation with flute groove design considering chip evacuation and drill rigidity.



512P

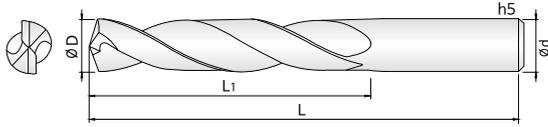
단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고
2DUBES 010 100 S03	1	10	55	3		2DUBES 060 440 S06	6	44	80	6	
2DUBES 011 120 S03	1.1	12	55	3		2DUBES 061 530 S08	6.1	53	90	8	
2DUBES 012 120 S03	1.2	12	55	3		2DUBES 062 530 S08	6.2	53	90	8	
2DUBES 013 120 S03	1.3	12	55	3		2DUBES 063 530 S08	6.3	53	90	8	
2DUBES 014 120 S03	1.4	12	55	3		2DUBES 064 530 S08	6.4	53	90	8	
2DUBES 015 120 S03	1.5	12	55	3		2DUBES 065 530 S08	6.5	53	90	8	
2DUBES 016 160 S03	1.6	16	55	3		2DUBES 066 530 S08	6.6	53	90	8	
2DUBES 017 160 S03	1.7	16	55	3		2DUBES 067 530 S08	6.7	53	90	8	
2DUBES 018 160 S03	1.8	16	55	3		2DUBES 068 530 S08	6.8	53	90	8	
2DUBES 019 160 S03	1.9	16	55	3		2DUBES 069 530 S08	6.9	53	90	8	
2DUBES 020 210 S04	2	21	55	4		2DUBES 070 530 S08	7	53	90	8	
2DUBES 021 210 S04	2.1	21	55	4		2DUBES 071 530 S08	7.1	53	90	8	
2DUBES 022 210 S04	2.2	21	55	4		2DUBES 072 530 S08	7.2	53	90	8	
2DUBES 023 210 S04	2.3	21	55	4		2DUBES 073 530 S08	7.3	53	90	8	
2DUBES 024 210 S04	2.4	21	55	4		2DUBES 074 530 S08	7.4	53	90	8	
2DUBES 025 210 S04	2.5	21	55	4		2DUBES 075 530 S08	7.5	53	90	8	
2DUBES 026 210 S04	2.6	21	55	4		2DUBES 076 530 S08	7.6	53	90	8	
2DUBES 027 210 S04	2.7	21	55	4		2DUBES 077 530 S08	7.7	53	90	8	
2DUBES 028 210 S04	2.8	21	55	4		2DUBES 078 530 S08	7.8	53	90	8	
2DUBES 029 210 S04	2.9	21	55	4		2DUBES 079 530 S08	7.9	53	90	8	
2DUBES 030 280 S06	3	28	65	6		2DUBES 080 530 S08	8	53	90	8	
2DUBES 031 280 S06	3.1	28	65	6		2DUBES 081 610 S10	8.1	61	105	10	
2DUBES 032 280 S06	3.2	28	65	6		2DUBES 082 610 S10	8.2	61	105	10	
2DUBES 033 280 S06	3.3	28	65	6		2DUBES 083 610 S10	8.3	61	105	10	
2DUBES 034 280 S06	3.4	28	65	6		2DUBES 084 610 S10	8.4	61	105	10	
2DUBES 035 280 S06	3.5	28	65	6		2DUBES 085 610 S10	8.5	61	105	10	
2DUBES 036 280 S06	3.6	28	65	6		2DUBES 086 610 S10	8.6	61	105	10	
2DUBES 037 280 S06	3.7	28	65	6		2DUBES 087 610 S10	8.7	61	105	10	
2DUBES 038 360 S06	3.8	36	75	6		2DUBES 088 610 S10	8.8	61	105	10	
2DUBES 039 360 S06	3.9	36	75	6		2DUBES 089 610 S10	8.9	61	105	10	
2DUBES 040 360 S06	4	36	75	6		2DUBES 090 610 S10	9	61	105	10	
2DUBES 041 360 S06	4.1	36	75	6		2DUBES 091 610 S10	9.1	61	105	10	
2DUBES 042 360 S06	4.2	36	75	6		2DUBES 092 610 S10	9.2	61	105	10	
2DUBES 043 360 S06	4.3	36	75	6		2DUBES 093 610 S10	9.3	61	105	10	
2DUBES 044 360 S06	4.4	36	75	6		2DUBES 094 610 S10	9.4	61	105	10	
2DUBES 045 360 S06	4.5	36	75	6		2DUBES 095 610 S10	9.5	61	105	10	
2DUBES 046 360 S06	4.6	36	75	6		2DUBES 096 610 S10	9.6	61	105	10	
2DUBES 047 360 S06	4.7	36	75	6		2DUBES 097 610 S10	9.7	61	105	10	
2DUBES 048 440 S06	4.8	44	80	6		2DUBES 098 610 S10	9.8	61	105	10	
2DUBES 049 440 S06	4.9	44	80	6		2DUBES 099 610 S10	9.9	61	105	10	
2DUBES 050 440 S06	5	44	80	6		2DUBES 100 610 S10	10	61	105	10	
2DUBES 051 440 S06	5.1	44	80	6		2DUBES 101 710 S12	10.1	71	120	12	
2DUBES 052 440 S06	5.2	44	80	6		2DUBES 102 710 S12	10.2	71	120	12	
2DUBES 053 440 S06	5.3	44	80	6		2DUBES 103 710 S12	10.3	71	120	12	
2DUBES 054 440 S06	5.4	44	80	6		2DUBES 104 710 S12	10.4	71	120	12	
2DUBES 055 440 S06	5.5	44	80	6		2DUBES 105 710 S12	10.5	71	120	12	
2DUBES 056 440 S06	5.6	44	80	6		2DUBES 106 710 S12	10.6	71	120	12	
2DUBES 057 440 S06	5.7	44	80	6		2DUBES 107 710 S12	10.7	71	120	12	
2DUBES 058 440 S06	5.8	44	80	6		2DUBES 108 710 S12	10.8	71	120	12	
2DUBES 059 440 S06	5.9	44	80	6		2DUBES 109 710 S12	10.9	71	120	12	

단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Dia d	비고
2DUBES 110 710 S12	11	71	120	12		2DUBES 160 830 S16	16	83	135	16	
2DUBES 111 710 S12	11.1	71	120	12		2DUBES 161 930 S18	16.1	93	145	18	
2DUBES 112 710 S12	11.2	71	120	12		2DUBES 162 930 S18	16.2	93	145	18	
2DUBES 113 710 S12	11.3	71	120	12		2DUBES 163 930 S18	16.3	93	145	18	
2DUBES 114 710 S12	11.4	71	120	12		2DUBES 164 930 S18	16.4	93	145	18	
2DUBES 115 710 S12	11.5	71	120	12		2DUBES 165 930 S18	16.5	93	145	18	
2DUBES 116 710 S12	11.6	71	120	12		2DUBES 166 930 S18	16.6	93	145	18	
2DUBES 117 710 S12	11.7	71	120	12		2DUBES 167 930 S18	16.7	93	145	18	
2DUBES 118 710 S12	11.8	71	120	12		2DUBES 168 930 S18	16.8	93	145	18	
2DUBES 119 710 S12	11.9	71	120	12		2DUBES 169 930 S18	16.9	93	145	18	
2DUBES 120 710 S12	12	71	120	12		2DUBES 170 930 S18	17	93	145	18	
2DUBES 121 770 S14	12.1	77	125	14		2DUBES 171 930 S18	17.1	93	145	18	
2DUBES 122 770 S14	12.2	77	125	14		2DUBES 172 930 S18	17.2	93	145	18	
2DUBES 123 770 S14	12.3	77	125	14		2DUBES 173 930 S18	17.3	93	145	18	
2DUBES 124 770 S14	12.4	77	125	14		2DUBES 174 930 S18	17.4	93	145	18	
2DUBES 125 770 S14	12.5	77	125	14		2DUBES 175 930 S18	17.5	93	145	18	
2DUBES 126 770 S14	12.6	77	125	14		2DUBES 176 930 S18	17.6	93	145	18	
2DUBES 127 770 S14	12.7	77	125	14		2DUBES 177 930 S18	17.7	93	145	18	
2DUBES 128 770 S14	12.8	77	125	14		2DUBES 178 930 S18	17.8	93	145	18	
2DUBES 129 770 S14	12.9	77	125	14		2DUBES 179 930 S18	17.9	93	145	18	
2DUBES 130 770 S14	13	77	125	14		2DUBES 180 930 S18	18	93	145	18	
2DUBES 131 770 S14	13.1	77	125	14		2DUBES 181 1010 S20	18.1	101	155	20	
2DUBES 132 770 S14	13.2	77	125	14		2DUBES 182 1010 S20	18.2	101	155	20	
2DUBES 133 770 S14	13.3	77	125	14		2DUBES 183 1010 S20	18.3	101	155	20	
2DUBES 134 770 S14	13.4	77	125	14		2DUBES 184 1010 S20	18.4	101	155	20	
2DUBES 135 770 S14	13.5	77	125	14		2DUBES 185 1010 S20	18.5	101	155	20	
2DUBES 136 770 S14	13.6	77	125	14		2DUBES 186 1010 S20	18.6	101	155	20	
2DUBES 137 770 S14	13.7	77	125	14		2DUBES 187 1010 S20	18.7	101	155	20	
2DUBES 138 770 S14	13.8	77	125	14		2DUBES 188 1010 S20	18.8	101	155	20	
2DUBES 139 770 S14	13.9	77	125	14		2DUBES 189 1010 S20	18.9	101	155	20	
2DUBES 140 770 S14	14	77	125	14		2DUBES 190 1010 S20	19	101	155	20	
2DUBES 141 830 S16	14.1	83	135	16		2DUBES 191 1010 S20	19.1	101	155	20	
2DUBES 142 830 S16	14.2	83	135	16		2DUBES 192 1010 S20	19.2	101	155	20	
2DUBES 143 830 S16	14.3	83	135	16		2DUBES 193 1010 S20	19.3	101	155	20	
2DUBES 144 830 S16	14.4	83	135	16		2DUBES 194 1010 S20	19.4	101	155	20	
2DUBES 145 830 S16	14.5	83	135	16		2DUBES 195 1010 S20	19.5	101	155	20	
2DUBES 146 830 S16	14.6	83	135	16		2DUBES 196 1010 S20	19.6	101	155	20	
2DUBES 147 830 S16	14.7	83	135	16		2DUBES 197 1010 S20	19.7	101	155	20	
2DUBES 148 830 S16	14.8	83	135	16		2DUBES 198 1010 S20	19.8	101	155	20	
2DUBES 149 830 S16	14.9	83	135	16		2DUBES 199 1010 S20	19.9	101	155	20	
2DUBES 150 830 S16	15	83	135	16		2DUBES 200 1010 S20	20	101	155	20	
2DUBES 151 830 S16	15.1	83	135	16							
2DUBES 152 830 S16	15.2	83	135	16							
2DUBES 153 830 S16	15.3	83	135	16							
2DUBES 154 830 S16	15.4	83	135	16							
2DUBES 155 830 S16	15.5	83	135	16							
2DUBES 156 830 S16	15.6	83	135	16							
2DUBES 157 830 S16	15.7	83	135	16							
2DUBES 158 830 S16	15.8	83	135	16							
2DUBES 159 830 S16	15.9	83	135	16							

### 초경 2날 짧은 길이 두배 드릴



- HRC28이하, S45C, SCM, 주강, 주철용 고정밀 드릴
  - T-CRO 코팅을 적용하여 드릴 가공 시 발생하는 윤착 현상을 최소화 하였습니다.
  - 절삭 저항을 최소화하는 Point thinning을 채택 하였습니다.
  - 특수 인선처리와 최적의 형상으로 치핑 및 돌발파손을 방지합니다.
  - 우수한 공구의 강성과 칩 배출의 설계를 적용하여 칩 배출성을 향상시켰습니다.
- High-speed drills for materials up to HRC28, S45C, SCM, cast steels, and cast irons
  - Minimized adhesion during drilling operations by applying T-CRO coating.
  - Adopted point thinning to minimize cutting resistance.
  - Prevents chipping and unexpected fractures with special edge treatment and optimal shape.
  - Enhanced chip evacuation with the application of a design for superior tool rigidity and chip evacuation.

2

WC  
미립자

TCRO  
COATING

h7  
Diameter  
Tolerance

30°  
Helix Angle

140°

CUTTING  
DATA

513P

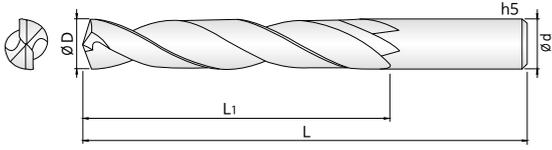
단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고
2DUBE 010 050 S03	1	5	40	3		2DUBE 035 160 S04	3.5	16	55	4	
2DUBE 0105 050 S03	1.05	5	40	3		2DUBE 0355 160 S04	3.55	16	55	4	
2DUBE 011 060 S03	1.1	6	40	3		2DUBE 036 180 S04	3.6	18	55	4	
2DUBE 0115 060 S03	1.15	6	40	3		2DUBE 0365 180 S04	3.65	18	55	4	
2DUBE 012 060 S03	1.2	6	40	3		2DUBE 037 180 S04	3.7	18	55	4	
2DUBE 0125 060 S03	1.25	6	40	3		2DUBE 0375 180 S04	3.75	18	55	4	
2DUBE 013 060 S03	1.3	6	40	3		2DUBE 038 200 S04	3.8	20	55	4	
2DUBE 0135 070 S03	1.35	7	40	3		2DUBE 0385 200 S04	3.85	20	55	4	
2DUBE 014 070 S03	1.4	7	40	3		2DUBE 039 200 S04	3.9	20	55	4	
2DUBE 0145 070 S03	1.45	7	40	3		2DUBE 0395 200 S04	3.95	20	55	4	
2DUBE 015 070 S03	1.5	7	40	3		2DUBE 040 200 S04	4	20	55	4	
2DUBE 0155 080 S03	1.55	8	40	3		2DUBE 0405 200 S05	4.05	20	60	5	
2DUBE 016 080 S03	1.6	8	40	3		2DUBE 041 200 S05	4.1	20	60	5	
2DUBE 0165 080 S03	1.65	8	40	3		2DUBE 0415 200 S05	4.15	20	60	5	
2DUBE 017 080 S03	1.7	8	40	3		2DUBE 042 200 S05	4.2	20	60	5	
2DUBE 0175 090 S03	1.75	9	40	3		2DUBE 0425 200 S05	4.25	20	60	5	
2DUBE 018 090 S03	1.8	9	40	3		2DUBE 043 220 S05	4.3	22	60	5	
2DUBE 0185 090 S03	1.85	9	40	3		2DUBE 0435 220 S05	4.35	22	60	5	
2DUBE 019 090 S03	1.9	9	40	3		2DUBE 044 220 S05	4.4	22	60	5	
2DUBE 0195 100 S03	1.95	10	50	3		2DUBE 0445 220 S05	4.45	22	60	5	
2DUBE 020 100 S03	2	10	50	3		2DUBE 045 220 S05	4.5	22	60	5	
2DUBE 0205 100 S03	2.05	10	50	3		2DUBE 0455 220 S05	4.55	22	60	5	
2DUBE 021 100 S03	2.1	10	50	3		2DUBE 046 220 S05	4.6	22	60	5	
2DUBE 0215 110 S03	2.15	11	50	3		2DUBE 0465 220 S05	4.65	22	60	5	
2DUBE 022 110 S03	2.2	11	50	3		2DUBE 047 220 S05	4.7	22	60	5	
2DUBE 0225 110 S03	2.25	11	50	3		2DUBE 0475 220 S05	4.75	22	60	5	
2DUBE 023 110 S03	2.3	11	50	3		2DUBE 048 240 S05	4.8	24	60	5	
2DUBE 0235 110 S03	2.35	11	50	3		2DUBE 0485 240 S05	4.85	24	60	5	
2DUBE 024 120 S03	2.4	12	50	3		2DUBE 049 240 S05	4.9	24	60	5	
2DUBE 0245 120 S03	2.45	12	50	3		2DUBE 0495 240 S05	4.95	24	60	5	
2DUBE 025 120 S03	2.5	12	50	3		2DUBE 050 240 S05	5	24	60	5	
2DUBE 0255 120 S03	2.55	12	50	3		2DUBE 051 240 S06	5.1	24	60	6	
2DUBE 026 120 S03	2.6	12	50	3		2DUBE 052 240 S06	5.2	24	60	6	
2DUBE 0265 120 S03	2.65	12	50	3		2DUBE 053 240 S06	5.3	24	60	6	
2DUBE 027 140 S03	2.7	14	50	3		2DUBE 054 240 S06	5.4	24	60	6	
2DUBE 0275 140 S03	2.75	14	50	3		2DUBE 055 280 S06	5.5	28	65	6	
2DUBE 028 140 S03	2.8	14	50	3		2DUBE 056 280 S06	5.6	28	65	6	
2DUBE 0285 140 S03	2.85	14	50	3		2DUBE 057 280 S06	5.7	28	65	6	
2DUBE 029 140 S03	2.9	14	50	3		2DUBE 058 280 S06	5.8	28	65	6	
2DUBE 0295 140 S03	2.95	14	50	3		2DUBE 059 280 S06	5.9	28	65	6	
2DUBE 030 140 S03	3	14	50	3		2DUBE 060 280 S06	6	28	65	6	
2DUBE 0305 160 S04	3.05	16	55	4		2DUBE 061 280 S06	6.1	28	65	6	
2DUBE 031 160 S04	3.1	16	55	4		2DUBE 062 320 S07	6.2	32	65	7	
2DUBE 0315 160 S04	3.15	16	55	4		2DUBE 063 320 S07	6.3	32	65	7	
2DUBE 032 160 S04	3.2	16	55	4		2DUBE 064 320 S07	6.4	32	65	7	
2DUBE 0325 160 S04	3.25	16	55	4		2DUBE 065 320 S07	6.5	32	65	7	
2DUBE 033 160 S04	3.3	16	55	4		2DUBE 066 320 S07	6.6	32	65	7	
2DUBE 0335 160 S04	3.35	16	55	4		2DUBE 067 320 S07	6.7	32	65	7	
2DUBE 034 160 S04	3.4	16	55	4		2DUBE 068 320 S07	6.8	32	65	7	
2DUBE 0345 160 S04	3.45	16	55	4		2DUBE 069 320 S07	6.9	32	65	7	

단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Dia d	비고
2DUBE 070 320 S07	7	32	65	7		2DUBE 120 520 S12	12	52	90	12	
2DUBE 071 320 S07	7.1	32	65	7							
2DUBE 072 360 S08	7.2	36	70	8							
2DUBE 073 360 S08	7.3	36	70	8							
2DUBE 074 360 S08	7.4	36	70	8							
2DUBE 075 360 S08	7.5	36	70	8							
2DUBE 076 360 S08	7.6	36	70	8							
2DUBE 077 360 S08	7.7	36	70	8							
2DUBE 078 360 S08	7.8	36	70	8							
2DUBE 079 360 S08	7.9	36	70	8							
2DUBE 080 360 S08	8	36	70	8							
2DUBE 081 360 S08	8.1	36	70	8							
2DUBE 082 400 S09	8.2	40	75	9							
2DUBE 083 400 S09	8.3	40	75	9							
2DUBE 084 400 S09	8.4	40	75	9							
2DUBE 085 400 S09	8.5	40	75	9							
2DUBE 086 400 S09	8.6	40	75	9							
2DUBE 087 400 S09	8.7	40	75	9							
2DUBE 088 400 S09	8.8	40	75	9							
2DUBE 089 400 S09	8.9	40	75	9							
2DUBE 090 400 S09	9	40	75	9							
2DUBE 091 400 S09	9.1	40	75	9							
2DUBE 092 430 S10	9.2	43	80	10							
2DUBE 093 430 S10	9.3	43	80	10							
2DUBE 094 430 S10	9.4	43	80	10							
2DUBE 095 430 S10	9.5	43	80	10							
2DUBE 096 430 S10	9.6	43	80	10							
2DUBE 097 430 S10	9.7	43	80	10							
2DUBE 098 430 S10	9.8	43	80	10							
2DUBE 099 430 S10	9.9	43	80	10							
2DUBE 100 430 S10	10	43	80	10							
2DUBE 101 430 S10	10.1	43	80	10							
2DUBE 102 450 S11	10.2	45	85	11							
2DUBE 103 450 S11	10.3	45	85	11							
2DUBE 104 450 S11	10.4	45	85	11							
2DUBE 105 450 S11	10.5	45	85	11							
2DUBE 106 450 S11	10.6	45	85	11							
2DUBE 107 450 S11	10.7	45	85	11							
2DUBE 108 450 S11	10.8	45	85	11							
2DUBE 109 450 S11	10.9	45	85	11							
2DUBE 110 450 S11	11	45	85	11							
2DUBE 111 450 S11	11.1	45	85	11							
2DUBE 112 520 S12	11.2	52	90	12							
2DUBE 113 520 S12	11.3	52	90	12							
2DUBE 114 520 S12	11.4	52	90	12							
2DUBE 115 520 S12	11.5	52	90	12							
2DUBE 116 520 S12	11.6	52	90	12							
2DUBE 117 520 S12	11.7	52	90	12							
2DUBE 118 520 S12	11.8	52	90	12							
2DUBE 119 520 S12	11.9	52	90	12							

## 초경 2날 두베 드릴



- HRC28이하, S45C, SCM, 주강, 주철용 고정밀 드릴
- T-CRO 코팅을 적용하여 드릴 가공 시 발생하는 윤착 현상을 최소화 하였습니다.
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- Prevents chipping and unexpected fractures with special edge treatment and optimal shape.
- Enhanced chip evacuation with the application of a design for superior tool rigidity and chip evacuation.

2

WC  
미립자

TCRO  
COATING

h7  
Diameter  
Tolerance

30°  
Helix Angle

140°

CUTTING  
DATA

513P

단위 : mm

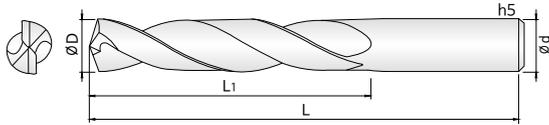
Order Number	날경 Diameter D	홀길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고	Order Number	날경 Diameter D	홀길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고
2DUBE 010 080 S03	1	8	40	3		2DUBE 060 360 S06	6	36	65	6	
2DUBE 011 090 S03	1.1	9	40	3		2DUBE 061 360 S06	6.1	36	65	6	
2DUBE 012 100 S03	1.2	10	40	3		2DUBE 062 420 S07	6.2	42	75	7	
2DUBE 013 100 S03	1.3	10	40	3		2DUBE 063 420 S07	6.3	42	75	7	
2DUBE 014 110 S03	1.4	11	40	3		2DUBE 064 420 S07	6.4	42	75	7	
2DUBE 015 110 S03	1.5	11	40	3		2DUBE 065 420 S07	6.5	42	75	7	
2DUBE 016 120 S03	1.6	12	40	3		2DUBE 066 420 S07	6.6	42	75	7	
2DUBE 017 120 S03	1.7	12	40	3		2DUBE 067 420 S07	6.7	42	75	7	
2DUBE 018 130 S03	1.8	13	40	3		2DUBE 068 420 S07	6.8	42	75	7	
2DUBE 019 130 S03	1.9	13	40	3		2DUBE 069 420 S07	6.9	42	75	7	
2DUBE 020 170 S03	2	17	50	3		2DUBE 070 420 S07	7	42	75	7	
2DUBE 021 170 S03	2.1	17	50	3		2DUBE 071 420 S07	7.1	42	75	7	
2DUBE 022 170 S03	2.2	17	50	3		2DUBE 072 460 S08	7.2	46	80	8	
2DUBE 023 170 S03	2.3	17	50	3		2DUBE 073 460 S08	7.3	46	80	8	
2DUBE 024 170 S03	2.4	17	50	3		2DUBE 074 460 S08	7.4	46	80	8	
2DUBE 025 170 S03	2.5	17	50	3		2DUBE 075 460 S08	7.5	46	80	8	
2DUBE 026 170 S03	2.6	17	50	3		2DUBE 076 460 S08	7.6	46	80	8	
2DUBE 027 170 S03	2.7	17	50	3		2DUBE 077 460 S08	7.7	46	80	8	
2DUBE 028 170 S03	2.8	17	50	3		2DUBE 078 460 S08	7.8	46	80	8	
2DUBE 029 170 S03	2.9	17	50	3		2DUBE 079 460 S08	7.9	46	80	8	
2DUBE 030 200 S04	3	20	55	4		2DUBE 080 460 S08	8	46	80	8	
2DUBE 031 200 S04	3.1	20	55	4		2DUBE 081 460 S08	8.1	46	80	8	
2DUBE 032 200 S04	3.2	20	55	4		2DUBE 082 500 S09	8.2	50	85	9	
2DUBE 033 200 S04	3.3	20	55	4		2DUBE 083 500 S09	8.3	50	85	9	
2DUBE 034 200 S04	3.4	20	55	4		2DUBE 084 500 S09	8.4	50	85	9	
2DUBE 035 200 S04	3.5	20	55	4		2DUBE 085 500 S09	8.5	50	85	9	
2DUBE 036 250 S04	3.6	25	55	4		2DUBE 086 500 S09	8.6	50	85	9	
2DUBE 037 250 S04	3.7	25	55	4		2DUBE 087 500 S09	8.7	50	85	9	
2DUBE 038 250 S04	3.8	25	55	4		2DUBE 088 500 S09	8.8	50	85	9	
2DUBE 039 250 S04	3.9	25	55	4		2DUBE 089 500 S09	8.9	50	85	9	
2DUBE 040 250 S04	4	25	55	4		2DUBE 090 500 S09	9	50	85	9	
2DUBE 041 250 S04	4.1	25	55	4		2DUBE 091 500 S09	9.1	50	85	9	
2DUBE 042 320 S05	4.2	32	60	5		2DUBE 092 530 S10	9.2	53	90	10	
2DUBE 043 320 S05	4.3	32	60	5		2DUBE 093 530 S10	9.3	53	90	10	
2DUBE 044 320 S05	4.4	32	60	5		2DUBE 094 530 S10	9.4	53	90	10	
2DUBE 045 320 S05	4.5	32	60	5		2DUBE 095 530 S10	9.5	53	90	10	
2DUBE 046 320 S05	4.6	32	60	5		2DUBE 096 530 S10	9.6	53	90	10	
2DUBE 047 320 S05	4.7	32	60	5		2DUBE 097 530 S10	9.7	53	90	10	
2DUBE 048 320 S05	4.8	32	60	5		2DUBE 098 530 S10	9.8	53	90	10	
2DUBE 049 320 S05	4.9	32	60	5		2DUBE 099 530 S10	9.9	53	90	10	
2DUBE 050 320 S05	5	32	60	5		2DUBE 100 530 S10	10	53	90	10	
2DUBE 051 320 S05	5.1	32	60	5		2DUBE 101 530 S10	10.1	53	90	10	
2DUBE 052 360 S06	5.2	36	65	6		2DUBE 102 550 S11	10.2	55	95	11	
2DUBE 053 360 S06	5.3	36	65	6		2DUBE 103 550 S11	10.3	55	95	11	
2DUBE 054 360 S06	5.4	36	65	6		2DUBE 104 550 S11	10.4	55	95	11	
2DUBE 055 360 S06	5.5	36	65	6		2DUBE 105 550 S11	10.5	55	95	11	
2DUBE 056 360 S06	5.6	36	65	6		2DUBE 106 550 S11	10.6	55	95	11	
2DUBE 057 360 S06	5.7	36	65	6		2DUBE 107 550 S11	10.7	55	95	11	
2DUBE 058 360 S06	5.8	36	65	6		2DUBE 108 550 S11	10.8	55	95	11	
2DUBE 059 360 S06	5.9	36	65	6		2DUBE 109 550 S11	10.9	55	95	11	

단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Dia d	비고
2DUBE 110 550 S11	11	55	100	11		2DUBE 160 690 S16	16	69	115	16	
2DUBE 111 550 S11	11.1	55	100	11		2DUBE 161 690 S16	16.1	69	115	16	
2DUBE 112 620 S12	11.2	62	100	12		2DUBE 162 710 S17	16.2	71	120	17	
2DUBE 113 620 S12	11.3	62	100	12		2DUBE 163 710 S17	16.3	71	120	17	
2DUBE 114 620 S12	11.4	62	100	12		2DUBE 164 710 S17	16.4	71	120	17	
2DUBE 115 620 S12	11.5	62	100	12		2DUBE 165 710 S17	16.5	71	120	17	
2DUBE 116 620 S12	11.6	62	100	12		2DUBE 166 710 S17	16.6	71	120	17	
2DUBE 117 620 S12	11.7	62	100	12		2DUBE 167 710 S17	16.7	71	120	17	
2DUBE 118 620 S12	11.8	62	100	12		2DUBE 168 710 S17	16.8	71	120	17	
2DUBE 119 620 S12	11.9	62	100	12		2DUBE 169 710 S17	16.9	71	120	17	
2DUBE 120 620 S12	12	62	100	12		2DUBE 170 710 S17	17	71	120	17	
2DUBE 121 620 S12	12.1	62	100	12		2DUBE 171 710 S17	17.1	71	120	17	
2DUBE 122 620 S13	12.2	62	100	13		2DUBE 172 740 S18	17.2	74	125	18	
2DUBE 123 620 S13	12.3	62	100	13		2DUBE 173 740 S18	17.3	74	125	18	
2DUBE 124 620 S13	12.4	62	100	13		2DUBE 174 740 S18	17.4	74	125	18	
2DUBE 125 620 S13	12.5	62	100	13		2DUBE 175 740 S18	17.5	74	125	18	
2DUBE 126 620 S13	12.6	62	100	13		2DUBE 176 740 S18	17.6	74	125	18	
2DUBE 127 620 S13	12.7	62	100	13		2DUBE 177 740 S18	17.7	74	125	18	
2DUBE 128 620 S13	12.8	62	100	13		2DUBE 178 740 S18	17.8	74	125	18	
2DUBE 129 620 S13	12.9	62	100	13		2DUBE 179 740 S18	17.9	74	125	18	
2DUBE 130 620 S13	13	62	100	13		2DUBE 180 740 S18	18	74	125	18	
2DUBE 131 620 S13	13.1	62	100	13		2DUBE 181 740 S18	18.1	74	125	18	
2DUBE 132 640 S14	13.2	64	105	14		2DUBE 182 760 S19	18.2	76	130	19	
2DUBE 133 640 S14	13.3	64	105	14		2DUBE 183 760 S19	18.3	76	130	19	
2DUBE 134 640 S14	13.4	64	105	14		2DUBE 184 760 S19	18.4	76	130	19	
2DUBE 135 640 S14	13.5	64	105	14		2DUBE 185 760 S19	18.5	76	130	19	
2DUBE 136 640 S14	13.6	64	105	14		2DUBE 186 760 S19	18.6	76	130	19	
2DUBE 137 640 S14	13.7	64	105	14		2DUBE 187 760 S19	18.7	76	130	19	
2DUBE 138 640 S14	13.8	64	105	14		2DUBE 188 760 S19	18.8	76	130	19	
2DUBE 139 640 S14	13.9	64	105	14		2DUBE 189 760 S19	18.9	76	130	19	
2DUBE 140 640 S14	14	64	105	14		2DUBE 190 760 S19	19	76	130	19	
2DUBE 141 640 S14	14.1	64	105	14		2DUBE 191 760 S19	19.1	76	130	19	
2DUBE 142 670 S15	14.2	67	110	15		2DUBE 192 800 S20	19.2	80	130	20	
2DUBE 143 670 S15	14.3	67	110	15		2DUBE 193 800 S20	19.3	80	130	20	
2DUBE 144 670 S15	14.4	67	110	15		2DUBE 194 800 S20	19.4	80	130	20	
2DUBE 145 670 S15	14.5	67	110	15		2DUBE 195 800 S20	19.5	80	130	20	
2DUBE 146 670 S15	14.6	67	110	15		2DUBE 196 800 S20	19.6	80	130	20	
2DUBE 147 670 S15	14.7	67	110	15		2DUBE 197 800 S20	19.7	80	130	20	
2DUBE 148 670 S15	14.8	67	110	15		2DUBE 198 800 S20	19.8	80	130	20	
2DUBE 149 670 S15	14.9	67	110	15		2DUBE 199 800 S20	19.9	80	130	20	
2DUBE 150 670 S15	15	67	110	15		2DUBE 200 800 S20	20	80	130	20	
2DUBE 151 670 S15	15.1	67	110	15							
2DUBE 152 690 S16	15.2	69	115	16							
2DUBE 153 690 S16	15.3	69	115	16							
2DUBE 154 690 S16	15.4	69	115	16							
2DUBE 155 690 S16	15.5	69	115	16							
2DUBE 156 690 S16	15.6	69	115	16							
2DUBE 157 690 S16	15.7	69	115	16							
2DUBE 158 690 S16	15.8	69	115	16							
2DUBE 159 690 S16	15.9	69	115	16							



## 초경 2날 두배 V 드릴 [3XD]



- HRc28이하, S45C, SCM, 주강, 주철용 고정밀 드릴
- T-CRO 코팅을 적용하여 드릴 가공 시 발생하는 윤착 현상을 최소화 하였습니다.
- 절삭 저항을 최소화하는 Point thinning을 채택 하였습니다.
- 특수 인선처리와 최적의 형상으로 치핑 및 돌발파손을 방지합니다.
- 우수한 공구의 강성과 칩 배출의 설계를 적용하여 칩 배출성을 향상시켰습니다.

### High-speed drills for materials up to HRc28, S45C, SCM, cast steels, and cast irons

- Minimized adhesion during drilling operations by applying T-CRO coating.
- Adopted point thinning to minimize cutting resistance.
- Prevents chipping and unexpected fractures with special edge treatment and optimal shape.
- Enhanced chip evacuation with the application of a design for superior tool rigidity and chip evacuation.



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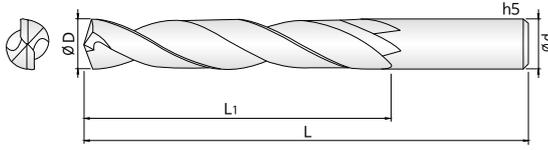
단위 : mm

Order Number	날경 Diameter D	홀길이 Flute Length L1	전장 Overall Length L	샹크 Shank Dia d	비고	Order Number	날경 Diameter D	홀길이 Flute Length L1	전장 Overall Length L	샹크 Shank Dia d	비고
2DUBEV 010 080 S03	1	8	40	3		2DUBEV 060 280 S06	6	28	65	6	
2DUBEV 011 080 S03	1.1	8	40	3		2DUBEV 061 340 S08	6.1	34	80	8	
2DUBEV 012 080 S03	1.2	8	40	3		2DUBEV 062 340 S08	6.2	34	80	8	
2DUBEV 013 080 S03	1.3	8	40	3		2DUBEV 063 340 S08	6.3	34	80	8	
2DUBEV 014 080 S03	1.4	8	40	3		2DUBEV 064 340 S08	6.4	34	80	8	
2DUBEV 015 080 S03	1.5	8	50	3		2DUBEV 065 340 S08	6.5	34	80	8	
2DUBEV 016 080 S03	1.6	8	50	3		2DUBEV 066 340 S08	6.6	34	80	8	
2DUBEV 017 100 S03	1.7	10	50	3		2DUBEV 067 340 S08	6.7	34	80	8	
2DUBEV 018 100 S03	1.8	10	50	3		2DUBEV 068 340 S08	6.8	34	80	8	
2DUBEV 019 100 S03	1.9	10	50	3		2DUBEV 069 340 S08	6.9	34	80	8	
2DUBEV 020 160 S04	2	16	50	4		2DUBEV 070 340 S08	7	34	80	8	
2DUBEV 021 160 S04	2.1	16	50	4		2DUBEV 071 410 S08	7.1	41	80	8	
2DUBEV 022 160 S04	2.2	16	50	4		2DUBEV 072 410 S08	7.2	41	80	8	
2DUBEV 023 160 S04	2.3	16	50	4		2DUBEV 073 410 S08	7.3	41	80	8	
2DUBEV 024 160 S04	2.4	16	50	4		2DUBEV 074 410 S08	7.4	41	80	8	
2DUBEV 025 200 S04	2.5	20	50	4		2DUBEV 075 410 S08	7.5	41	80	8	
2DUBEV 026 200 S04	2.6	20	50	4		2DUBEV 076 410 S08	7.6	41	80	8	
2DUBEV 027 200 S04	2.7	20	50	4		2DUBEV 077 410 S08	7.7	41	80	8	
2DUBEV 028 200 S04	2.8	20	50	4		2DUBEV 078 410 S08	7.8	41	80	8	
2DUBEV 029 200 S04	2.9	20	50	4		2DUBEV 079 410 S08	7.9	41	80	8	
2DUBEV 030 200 S06	3	20	60	6		2DUBEV 080 410 S08	8	41	80	8	
2DUBEV 031 200 S06	3.1	20	60	6		2DUBEV 081 470 S10	8.1	47	90	10	
2DUBEV 032 200 S06	3.2	20	60	6		2DUBEV 082 470 S10	8.2	47	90	10	
2DUBEV 033 200 S06	3.3	20	60	6		2DUBEV 083 470 S10	8.3	47	90	10	
2DUBEV 034 200 S06	3.4	20	60	6		2DUBEV 084 470 S10	8.4	47	90	10	
2DUBEV 035 200 S06	3.5	20	60	6		2DUBEV 085 470 S10	8.5	47	90	10	
2DUBEV 036 200 S06	3.6	20	60	6		2DUBEV 086 470 S10	8.6	47	90	10	
2DUBEV 037 200 S06	3.7	20	60	6		2DUBEV 087 470 S10	8.7	47	90	10	
2DUBEV 038 240 S06	3.8	24	65	6		2DUBEV 088 470 S10	8.8	47	90	10	
2DUBEV 039 240 S06	3.9	24	65	6		2DUBEV 089 470 S10	8.9	47	90	10	
2DUBEV 040 240 S06	4	24	65	6		2DUBEV 090 470 S10	9	47	90	10	
2DUBEV 041 240 S06	4.1	24	65	6		2DUBEV 091 470 S10	9.1	47	90	10	
2DUBEV 042 240 S06	4.2	24	65	6		2DUBEV 092 470 S10	9.2	47	90	10	
2DUBEV 043 240 S06	4.3	24	65	6		2DUBEV 093 470 S10	9.3	47	90	10	
2DUBEV 044 240 S06	4.4	24	65	6		2DUBEV 094 470 S10	9.4	47	90	10	
2DUBEV 045 240 S06	4.5	24	65	6		2DUBEV 095 470 S10	9.5	47	90	10	
2DUBEV 046 240 S06	4.6	24	65	6		2DUBEV 096 470 S10	9.6	47	90	10	
2DUBEV 047 240 S06	4.7	24	65	6		2DUBEV 097 470 S10	9.7	47	90	10	
2DUBEV 048 280 S06	4.8	28	65	6		2DUBEV 098 470 S10	9.8	47	90	10	
2DUBEV 049 280 S06	4.9	28	65	6		2DUBEV 099 470 S10	9.9	47	90	10	
2DUBEV 050 280 S06	5	28	65	6		2DUBEV 100 470 S10	10	47	90	10	
2DUBEV 051 280 S06	5.1	28	65	6		2DUBEV 101 550 S12	10.1	55	100	12	
2DUBEV 052 280 S06	5.2	28	65	6		2DUBEV 102 550 S12	10.2	55	100	12	
2DUBEV 053 280 S06	5.3	28	65	6		2DUBEV 103 550 S12	10.3	55	100	12	
2DUBEV 054 280 S06	5.4	28	65	6		2DUBEV 104 550 S12	10.4	55	100	12	
2DUBEV 055 280 S06	5.5	28	65	6		2DUBEV 105 550 S12	10.5	55	100	12	
2DUBEV 056 280 S06	5.6	28	65	6		2DUBEV 106 550 S12	10.6	55	100	12	
2DUBEV 057 280 S06	5.7	28	65	6		2DUBEV 107 550 S12	10.7	55	100	12	
2DUBEV 058 280 S06	5.8	28	65	6		2DUBEV 108 550 S12	10.8	55	100	12	
2DUBEV 059 280 S06	5.9	28	65	6		2DUBEV 109 550 S12	10.9	55	100	12	

단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Dia d	비고
2DUBEV 110 550 S12	11	55	100	12		2DUBEV 160 650 S16	16	65	115	16	
2DUBEV 111 550 S12	11.1	55	100	12		2DUBEV 161 730 S18	16.1	73	125	18	
2DUBEV 112 550 S12	11.2	55	100	12		2DUBEV 162 730 S18	16.2	73	125	18	
2DUBEV 113 550 S12	11.3	55	100	12		2DUBEV 163 730 S18	16.3	73	125	18	
2DUBEV 114 550 S12	11.4	55	100	12		2DUBEV 164 730 S18	16.4	73	125	18	
2DUBEV 115 550 S12	11.5	55	100	12		2DUBEV 165 730 S18	16.5	73	125	18	
2DUBEV 116 550 S12	11.6	55	100	12		2DUBEV 166 730 S18	16.6	73	125	18	
2DUBEV 117 550 S12	11.7	55	100	12		2DUBEV 167 730 S18	16.7	73	125	18	
2DUBEV 118 550 S12	11.8	55	100	12		2DUBEV 168 730 S18	16.8	73	125	18	
2DUBEV 119 550 S12	11.9	55	100	12		2DUBEV 169 730 S18	16.9	73	125	18	
2DUBEV 120 550 S12	12	55	100	12		2DUBEV 170 730 S18	17	73	125	18	
2DUBEV 121 600 S14	12.1	60	100	14		2DUBEV 171 730 S18	17.1	73	125	18	
2DUBEV 122 600 S14	12.2	60	100	14		2DUBEV 172 730 S18	17.2	73	125	18	
2DUBEV 123 600 S14	12.3	60	100	14		2DUBEV 173 730 S18	17.3	73	125	18	
2DUBEV 124 600 S14	12.4	60	100	14		2DUBEV 174 730 S18	17.4	73	125	18	
2DUBEV 125 600 S14	12.5	60	100	14		2DUBEV 175 730 S18	17.5	73	125	18	
2DUBEV 126 600 S14	12.6	60	100	14		2DUBEV 176 730 S18	17.6	73	125	18	
2DUBEV 127 600 S14	12.7	60	100	14		2DUBEV 177 730 S18	17.7	73	125	18	
2DUBEV 128 600 S14	12.8	60	100	14		2DUBEV 178 730 S18	17.8	73	125	18	
2DUBEV 129 600 S14	12.9	60	100	14		2DUBEV 179 730 S18	17.9	73	125	18	
2DUBEV 130 600 S14	13	60	100	14		2DUBEV 180 730 S18	18	73	125	18	
2DUBEV 131 600 S14	13.1	60	100	14		2DUBEV 181 790 S20	18.1	79	130	20	
2DUBEV 132 600 S14	13.2	60	105	14		2DUBEV 182 790 S20	18.2	79	130	20	
2DUBEV 133 600 S14	13.3	60	105	14		2DUBEV 183 790 S20	18.3	79	130	20	
2DUBEV 134 600 S14	13.4	60	105	14		2DUBEV 184 790 S20	18.4	79	130	20	
2DUBEV 135 600 S14	13.5	60	105	14		2DUBEV 185 790 S20	18.5	79	130	20	
2DUBEV 136 600 S14	13.6	60	105	14		2DUBEV 186 790 S20	18.6	79	130	20	
2DUBEV 137 600 S14	13.7	60	105	14		2DUBEV 187 790 S20	18.7	79	130	20	
2DUBEV 138 600 S14	13.8	60	105	14		2DUBEV 188 790 S20	18.8	79	130	20	
2DUBEV 139 600 S14	13.9	60	105	14		2DUBEV 189 790 S20	18.9	79	130	20	
2DUBEV 140 600 S14	14	60	105	14		2DUBEV 190 790 S20	19	79	130	20	
2DUBEV 141 650 S16	14.1	65	110	16		2DUBEV 191 790 S20	19.1	79	130	20	
2DUBEV 142 650 S16	14.2	65	110	16		2DUBEV 192 790 S20	19.2	79	130	20	
2DUBEV 143 650 S16	14.3	65	110	16		2DUBEV 193 790 S20	19.3	79	130	20	
2DUBEV 144 650 S16	14.4	65	110	16		2DUBEV 194 790 S20	19.4	79	130	20	
2DUBEV 145 650 S16	14.5	65	110	16		2DUBEV 195 790 S20	19.5	79	130	20	
2DUBEV 146 650 S16	14.6	65	110	16		2DUBEV 196 790 S20	19.6	79	130	20	
2DUBEV 147 650 S16	14.7	65	110	16		2DUBEV 197 790 S20	19.7	79	130	20	
2DUBEV 148 650 S16	14.8	65	110	16		2DUBEV 198 790 S20	19.8	79	130	20	
2DUBEV 149 650 S16	14.9	65	110	16		2DUBEV 199 790 S20	19.9	79	130	20	
2DUBEV 150 650 S16	15	65	110	16		2DUBEV 200 790 S20	20	79	130	20	
2DUBEV 151 650 S16	15.1	65	110	16							
2DUBEV 152 650 S16	15.2	65	115	16							
2DUBEV 153 650 S16	15.3	65	115	16							
2DUBEV 154 650 S16	15.4	65	115	16							
2DUBEV 155 650 S16	15.5	65	115	16							
2DUBEV 156 650 S16	15.6	65	115	16							
2DUBEV 157 650 S16	15.7	65	115	16							
2DUBEV 158 650 S16	15.8	65	115	16							
2DUBEV 159 650 S16	15.9	65	115	16							

## 초경 2날 두배 V 드릴 [5XD]



- HRc28이하, S45C, SCM, 주강, 주철용 고정밀 드릴
- T-CRO 코팅을 적용하여 드릴 가공 시 발생하는 용착 현상을 최소화 하였습니다.
- 절삭 저항을 최소화하는 Point thinning을 채택 하였습니다.
- 특수 인선처리와 최적의 형상으로 치핑 및 돌발파손을 방지합니다.
- 우수한 공구의 강성과 칩 배출의 설계를 적용하여 칩 배출성을 향상시켰습니다.

- High-speed drills for materials up to HRc28, S45C, SCM, cast steels, and cast irons
- Minimized adhesion during drilling operations by applying T-CRO coating.
- Adopted point thinning to minimize cutting resistance.
- Prevents chipping and unexpected fractures with special edge treatment and optimal shape.
- Enhanced chip evacuation with the application of a design for superior tool rigidity and chip evacuation.



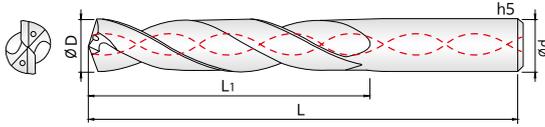
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단위 : mm

Order Number	날경 Diameter D	홀길이 Flute Length L1	전장 Overall Length L	샹크 Shank Dia d	비고	Order Number	날경 Diameter D	홀길이 Flute Length L1	전장 Overall Length L	샹크 Shank Dia d	비고
2DUBEV 010 100 S03	1	10	55	3		2DUBEV 060 440 S06	6	44	80	6	
2DUBEV 011 120 S03	1.1	12	55	3		2DUBEV 061 530 S08	6.1	53	90	8	
2DUBEV 012 120 S03	1.2	12	55	3		2DUBEV 062 530 S08	6.2	53	90	8	
2DUBEV 013 120 S03	1.3	12	55	3		2DUBEV 063 530 S08	6.3	53	90	8	
2DUBEV 014 120 S03	1.4	12	55	3		2DUBEV 064 530 S08	6.4	53	90	8	
2DUBEV 015 120 S03	1.5	12	55	3		2DUBEV 065 530 S08	6.5	53	90	8	
2DUBEV 016 160 S03	1.6	16	55	3		2DUBEV 066 530 S08	6.6	53	90	8	
2DUBEV 017 160 S03	1.7	16	55	3		2DUBEV 067 530 S08	6.7	53	90	8	
2DUBEV 018 160 S03	1.8	16	55	3		2DUBEV 068 530 S08	6.8	53	90	8	
2DUBEV 019 160 S03	1.9	16	55	3		2DUBEV 069 530 S08	6.9	53	90	8	
2DUBEV 020 210 S04	2	21	55	4		2DUBEV 070 530 S08	7	53	90	8	
2DUBEV 021 210 S04	2.1	21	55	4		2DUBEV 071 530 S08	7.1	53	90	8	
2DUBEV 022 210 S04	2.2	21	55	4		2DUBEV 072 530 S08	7.2	53	90	8	
2DUBEV 023 210 S04	2.3	21	55	4		2DUBEV 073 530 S08	7.3	53	90	8	
2DUBEV 024 210 S04	2.4	21	55	4		2DUBEV 074 530 S08	7.4	53	90	8	
2DUBEV 025 210 S04	2.5	21	55	4		2DUBEV 075 530 S08	7.5	53	90	8	
2DUBEV 026 210 S04	2.6	21	55	4		2DUBEV 076 530 S08	7.6	53	90	8	
2DUBEV 027 210 S04	2.7	21	55	4		2DUBEV 077 530 S08	7.7	53	90	8	
2DUBEV 028 210 S04	2.8	21	55	4		2DUBEV 078 530 S08	7.8	53	90	8	
2DUBEV 029 210 S04	2.9	21	55	4		2DUBEV 079 530 S08	7.9	53	90	8	
2DUBEV 030 280 S06	3	28	65	6		2DUBEV 080 530 S08	8	53	90	8	
2DUBEV 031 280 S06	3.1	28	65	6		2DUBEV 081 610 S10	8.1	61	105	10	
2DUBEV 032 280 S06	3.2	28	65	6		2DUBEV 082 610 S10	8.2	61	105	10	
2DUBEV 033 280 S06	3.3	28	65	6		2DUBEV 083 610 S10	8.3	61	105	10	
2DUBEV 034 280 S06	3.4	28	65	6		2DUBEV 084 610 S10	8.4	61	105	10	
2DUBEV 035 280 S06	3.5	28	65	6		2DUBEV 085 610 S10	8.5	61	105	10	
2DUBEV 036 280 S06	3.6	28	65	6		2DUBEV 086 610 S10	8.6	61	105	10	
2DUBEV 037 280 S06	3.7	28	65	6		2DUBEV 087 610 S10	8.7	61	105	10	
2DUBEV 038 360 S06	3.8	36	75	6		2DUBEV 088 610 S10	8.8	61	105	10	
2DUBEV 039 360 S06	3.9	36	75	6		2DUBEV 089 610 S10	8.9	61	105	10	
2DUBEV 040 360 S06	4	36	75	6		2DUBEV 090 610 S10	9	61	105	10	
2DUBEV 041 360 S06	4.1	36	75	6		2DUBEV 091 610 S10	9.1	61	105	10	
2DUBEV 042 360 S06	4.2	36	75	6		2DUBEV 092 610 S10	9.2	61	105	10	
2DUBEV 043 360 S06	4.3	36	75	6		2DUBEV 093 610 S10	9.3	61	105	10	
2DUBEV 044 360 S06	4.4	36	75	6		2DUBEV 094 610 S10	9.4	61	105	10	
2DUBEV 045 360 S06	4.5	36	75	6		2DUBEV 095 610 S10	9.5	61	105	10	
2DUBEV 046 360 S06	4.6	36	75	6		2DUBEV 096 610 S10	9.6	61	105	10	
2DUBEV 047 360 S06	4.7	36	75	6		2DUBEV 097 610 S10	9.7	61	105	10	
2DUBEV 048 440 S06	4.8	44	80	6		2DUBEV 098 610 S10	9.8	61	105	10	
2DUBEV 049 440 S06	4.9	44	80	6		2DUBEV 099 610 S10	9.9	61	105	10	
2DUBEV 050 440 S06	5	44	80	6		2DUBEV 100 610 S10	10	61	105	10	
2DUBEV 051 440 S06	5.1	44	80	6		2DUBEV 101 710 S12	10.1	71	120	12	
2DUBEV 052 440 S06	5.2	44	80	6		2DUBEV 102 710 S12	10.2	71	120	12	
2DUBEV 053 440 S06	5.3	44	80	6		2DUBEV 103 710 S12	10.3	71	120	12	
2DUBEV 054 440 S06	5.4	44	80	6		2DUBEV 104 710 S12	10.4	71	120	12	
2DUBEV 055 440 S06	5.5	44	80	6		2DUBEV 105 710 S12	10.5	71	120	12	
2DUBEV 056 440 S06	5.6	44	80	6		2DUBEV 106 710 S12	10.6	71	120	12	
2DUBEV 057 440 S06	5.7	44	80	6		2DUBEV 107 710 S12	10.7	71	120	12	
2DUBEV 058 440 S06	5.8	44	80	6		2DUBEV 108 710 S12	10.8	71	120	12	
2DUBEV 059 440 S06	5.9	44	80	6		2DUBEV 109 710 S12	10.9	71	120	12	

단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Dia d	비고
2DUBEV 110 710 S12	11	71	120	12		2DUBEV 160 830 S16	16	83	135	16	
2DUBEV 111 710 S12	11.1	71	120	12		2DUBEV 161 930 S18	16.1	93	145	18	
2DUBEV 112 710 S12	11.2	71	120	12		2DUBEV 162 930 S18	16.2	93	145	18	
2DUBEV 113 710 S12	11.3	71	120	12		2DUBEV 163 930 S18	16.3	93	145	18	
2DUBEV 114 710 S12	11.4	71	120	12		2DUBEV 164 930 S18	16.4	93	145	18	
2DUBEV 115 710 S12	11.5	71	120	12		2DUBEV 165 930 S18	16.5	93	145	18	
2DUBEV 116 710 S12	11.6	71	120	12		2DUBEV 166 930 S18	16.6	93	145	18	
2DUBEV 117 710 S12	11.7	71	120	12		2DUBEV 167 930 S18	16.7	93	145	18	
2DUBEV 118 710 S12	11.8	71	120	12		2DUBEV 168 930 S18	16.8	93	145	18	
2DUBEV 119 710 S12	11.9	71	120	12		2DUBEV 169 930 S18	16.9	93	145	18	
2DUBEV 120 710 S12	12	71	120	12		2DUBEV 170 930 S18	17	93	145	18	
2DUBEV 121 770 S14	12.1	77	125	14		2DUBEV 171 930 S18	17.1	93	145	18	
2DUBEV 122 770 S14	12.2	77	125	14		2DUBEV 172 930 S18	17.2	93	145	18	
2DUBEV 123 770 S14	12.3	77	125	14		2DUBEV 173 930 S18	17.3	93	145	18	
2DUBEV 124 770 S14	12.4	77	125	14		2DUBEV 174 930 S18	17.4	93	145	18	
2DUBEV 125 770 S14	12.5	77	125	14		2DUBEV 175 930 S18	17.5	93	145	18	
2DUBEV 126 770 S14	12.6	77	125	14		2DUBEV 176 930 S18	17.6	93	145	18	
2DUBEV 127 770 S14	12.7	77	125	14		2DUBEV 177 930 S18	17.7	93	145	18	
2DUBEV 128 770 S14	12.8	77	125	14		2DUBEV 178 930 S18	17.8	93	145	18	
2DUBEV 129 770 S14	12.9	77	125	14		2DUBEV 179 930 S18	17.9	93	145	18	
2DUBEV 130 770 S14	13	77	125	14		2DUBEV 180 930 S18	18	93	145	18	
2DUBEV 131 770 S14	13.1	77	125	14		2DUBEV 181 1010 S20	18.1	101	155	20	
2DUBEV 132 770 S14	13.2	77	125	14		2DUBEV 182 1010 S20	18.2	101	155	20	
2DUBEV 133 770 S14	13.3	77	125	14		2DUBEV 183 1010 S20	18.3	101	155	20	
2DUBEV 134 770 S14	13.4	77	125	14		2DUBEV 184 1010 S20	18.4	101	155	20	
2DUBEV 135 770 S14	13.5	77	125	14		2DUBEV 185 1010 S20	18.5	101	155	20	
2DUBEV 136 770 S14	13.6	77	125	14		2DUBEV 186 1010 S20	18.6	101	155	20	
2DUBEV 137 770 S14	13.7	77	125	14		2DUBEV 187 1010 S20	18.7	101	155	20	
2DUBEV 138 770 S14	13.8	77	125	14		2DUBEV 188 1010 S20	18.8	101	155	20	
2DUBEV 139 770 S14	13.9	77	125	14		2DUBEV 189 1010 S20	18.9	101	155	20	
2DUBEV 140 770 S14	14	77	125	14		2DUBEV 190 1010 S20	19	101	155	20	
2DUBEV 141 830 S16	14.1	83	135	16		2DUBEV 191 1010 S20	19.1	101	155	20	
2DUBEV 142 830 S16	14.2	83	135	16		2DUBEV 192 1010 S20	19.2	101	155	20	
2DUBEV 143 830 S16	14.3	83	135	16		2DUBEV 193 1010 S20	19.3	101	155	20	
2DUBEV 144 830 S16	14.4	83	135	16		2DUBEV 194 1010 S20	19.4	101	155	20	
2DUBEV 145 830 S16	14.5	83	135	16		2DUBEV 195 1010 S20	19.5	101	155	20	
2DUBEV 146 830 S16	14.6	83	135	16		2DUBEV 196 1010 S20	19.6	101	155	20	
2DUBEV 147 830 S16	14.7	83	135	16		2DUBEV 197 1010 S20	19.7	101	155	20	
2DUBEV 148 830 S16	14.8	83	135	16		2DUBEV 198 1010 S20	19.8	101	155	20	
2DUBEV 149 830 S16	14.9	83	135	16		2DUBEV 199 1010 S20	19.9	101	155	20	
2DUBEV 150 830 S16	15	83	135	16		2DUBEV 200 1010 S20	20	101	155	20	
2DUBEV 151 830 S16	15.1	83	135	16							
2DUBEV 152 830 S16	15.2	83	135	16							
2DUBEV 153 830 S16	15.3	83	135	16							
2DUBEV 154 830 S16	15.4	83	135	16							
2DUBEV 155 830 S16	15.5	83	135	16							
2DUBEV 156 830 S16	15.6	83	135	16							
2DUBEV 157 830 S16	15.7	83	135	16							
2DUBEV 158 830 S16	15.8	83	135	16							
2DUBEV 159 830 S16	15.9	83	135	16							



- SUS, Titanium, HRC28이하 SCM등의 합금용 난삭재 가공 드릴
- Cross cut 코팅을 적용하여 우수한 내열성과 내마모성으로 절삭영역을 확대하였습니다.
- 절삭 저항을 최소화하는 Point thinning을 채택 하였습니다.
- 최적에 플루트 형상 설계와 내부급유 방식을 적용하여 칩배출 성능이 매우 우수합니다.
- 140도 선단각 설계하여 높은 고정밀, 고속 드릴링 작업에 탁월한 성능을 발휘합니다.

**High-speed drills for SUS, alloy materials up to HRC28, SCM and Titanium**

- Minimized adhesion during drilling operations by applying cross-cut coating.
- Adopted point thinning to minimize cutting resistance.
- Excellent chip evacuation performance achieved by applying an optimal flute design and internal coolant system.
- Design with a 140-degree point angle for outstanding performance in high highprecision, high-speed drilling operations.



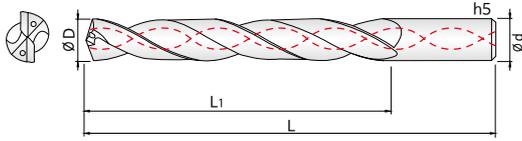
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단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고
2DUBEW 010 080 S03	1	8	40	3		2DUBEW 060 280 S06	6	28	65	6	
2DUBEW 011 080 S03	1.1	8	40	3		2DUBEW 061 340 S08	6.1	34	80	8	
2DUBEW 012 080 S03	1.2	8	40	3		2DUBEW 062 340 S08	6.2	34	80	8	
2DUBEW 013 080 S03	1.3	8	40	3		2DUBEW 063 340 S08	6.3	34	80	8	
2DUBEW 014 080 S03	1.4	8	40	3		2DUBEW 064 340 S08	6.4	34	80	8	
2DUBEW 015 080 S03	1.5	8	50	3		2DUBEW 065 340 S08	6.5	34	80	8	
2DUBEW 016 080 S03	1.6	8	50	3		2DUBEW 066 340 S08	6.6	34	80	8	
2DUBEW 017 100 S03	1.7	10	50	3		2DUBEW 067 340 S08	6.7	34	80	8	
2DUBEW 018 100 S03	1.8	10	50	3		2DUBEW 068 340 S08	6.8	34	80	8	
2DUBEW 019 100 S03	1.9	10	50	3		2DUBEW 069 340 S08	6.9	34	80	8	
2DUBEW 020 160 S04	2	16	50	4		2DUBEW 070 340 S08	7	34	80	8	
2DUBEW 021 160 S04	2.1	16	50	4		2DUBEW 071 410 S08	7.1	41	80	8	
2DUBEW 022 160 S04	2.2	16	50	4		2DUBEW 072 410 S08	7.2	41	80	8	
2DUBEW 023 160 S04	2.3	16	50	4		2DUBEW 073 410 S08	7.3	41	80	8	
2DUBEW 024 160 S04	2.4	16	50	4		2DUBEW 074 410 S08	7.4	41	80	8	
2DUBEW 025 200 S04	2.5	20	50	4		2DUBEW 075 410 S08	7.5	41	80	8	
2DUBEW 026 200 S04	2.6	20	50	4		2DUBEW 076 410 S08	7.6	41	80	8	
2DUBEW 027 200 S04	2.7	20	50	4		2DUBEW 077 410 S08	7.7	41	80	8	
2DUBEW 028 200 S04	2.8	20	50	4		2DUBEW 078 410 S08	7.8	41	80	8	
2DUBEW 029 200 S04	2.9	20	50	4		2DUBEW 079 410 S08	7.9	41	80	8	
2DUBEW 030 200 S06	3	20	60	6		2DUBEW 080 410 S08	8	41	80	8	
2DUBEW 031 200 S06	3.1	20	60	6		2DUBEW 081 470 S10	8.1	47	90	10	
2DUBEW 032 200 S06	3.2	20	60	6		2DUBEW 082 470 S10	8.2	47	90	10	
2DUBEW 033 200 S06	3.3	20	60	6		2DUBEW 083 470 S10	8.3	47	90	10	
2DUBEW 034 200 S06	3.4	20	60	6		2DUBEW 084 470 S10	8.4	47	90	10	
2DUBEW 035 200 S06	3.5	20	60	6		2DUBEW 085 470 S10	8.5	47	90	10	
2DUBEW 036 200 S06	3.6	20	60	6		2DUBEW 086 470 S10	8.6	47	90	10	
2DUBEW 037 200 S06	3.7	20	60	6		2DUBEW 087 470 S10	8.7	47	90	10	
2DUBEW 038 240 S06	3.8	24	65	6		2DUBEW 088 470 S10	8.8	47	90	10	
2DUBEW 039 240 S06	3.9	24	65	6		2DUBEW 089 470 S10	8.9	47	90	10	
2DUBEW 040 240 S06	4	24	65	6		2DUBEW 090 470 S10	9	47	90	10	
2DUBEW 041 240 S06	4.1	24	65	6		2DUBEW 091 470 S10	9.1	47	90	10	
2DUBEW 042 240 S06	4.2	24	65	6		2DUBEW 092 470 S10	9.2	47	90	10	
2DUBEW 043 240 S06	4.3	24	65	6		2DUBEW 093 470 S10	9.3	47	90	10	
2DUBEW 044 240 S06	4.4	24	65	6		2DUBEW 094 470 S10	9.4	47	90	10	
2DUBEW 045 240 S06	4.5	24	65	6		2DUBEW 095 470 S10	9.5	47	90	10	
2DUBEW 046 240 S06	4.6	24	65	6		2DUBEW 096 470 S10	9.6	47	90	10	
2DUBEW 047 240 S06	4.7	24	65	6		2DUBEW 097 470 S10	9.7	47	90	10	
2DUBEW 048 280 S06	4.8	28	65	6		2DUBEW 098 470 S10	9.8	47	90	10	
2DUBEW 049 280 S06	4.9	28	65	6		2DUBEW 099 470 S10	9.9	47	90	10	
2DUBEW 050 280 S06	5	28	65	6		2DUBEW 100 470 S10	10	47	90	10	
2DUBEW 051 280 S06	5.1	28	65	6		2DUBEW 101 550 S12	10.1	55	100	12	
2DUBEW 052 280 S06	5.2	28	65	6		2DUBEW 102 550 S12	10.2	55	100	12	
2DUBEW 053 280 S06	5.3	28	65	6		2DUBEW 103 550 S12	10.3	55	100	12	
2DUBEW 054 280 S06	5.4	28	65	6		2DUBEW 104 550 S12	10.4	55	100	12	
2DUBEW 055 280 S06	5.5	28	65	6		2DUBEW 105 550 S12	10.5	55	100	12	
2DUBEW 056 280 S06	5.6	28	65	6		2DUBEW 106 550 S12	10.6	55	100	12	
2DUBEW 057 280 S06	5.7	28	65	6		2DUBEW 107 550 S12	10.7	55	100	12	
2DUBEW 058 280 S06	5.8	28	65	6		2DUBEW 108 550 S12	10.8	55	100	12	
2DUBEW 059 280 S06	5.9	28	65	6		2DUBEW 109 550 S12	10.9	55	100	12	

단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Dia d	비고
2DUBEW 110 550 S12	11	55	100	12		2DUBEW 160 650 S16	16	65	115	16	
2DUBEW 111 550 S12	11.1	55	100	12		2DUBEW 161 730 S18	16.1	73	125	18	
2DUBEW 112 550 S12	11.2	55	100	12		2DUBEW 162 730 S18	16.2	73	125	18	
2DUBEW 113 550 S12	11.3	55	100	12		2DUBEW 163 730 S18	16.3	73	125	18	
2DUBEW 114 550 S12	11.4	55	100	12		2DUBEW 164 730 S18	16.4	73	125	18	
2DUBEW 115 550 S12	11.5	55	100	12		2DUBEW 165 730 S18	16.5	73	125	18	
2DUBEW 116 550 S12	11.6	55	100	12		2DUBEW 166 730 S18	16.6	73	125	18	
2DUBEW 117 550 S12	11.7	55	100	12		2DUBEW 167 730 S18	16.7	73	125	18	
2DUBEW 118 550 S12	11.8	55	100	12		2DUBEW 168 730 S18	16.8	73	125	18	
2DUBEW 119 550 S12	11.9	55	100	12		2DUBEW 169 730 S18	16.9	73	125	18	
2DUBEW 120 550 S12	12	55	100	12		2DUBEW 170 730 S18	17	73	125	18	
2DUBEW 121 600 S14	12.1	60	100	14		2DUBEW 171 730 S18	17.1	73	125	18	
2DUBEW 122 600 S14	12.2	60	100	14		2DUBEW 172 730 S18	17.2	73	125	18	
2DUBEW 123 600 S14	12.3	60	100	14		2DUBEW 173 730 S18	17.3	73	125	18	
2DUBEW 124 600 S14	12.4	60	100	14		2DUBEW 174 730 S18	17.4	73	125	18	
2DUBEW 125 600 S14	12.5	60	100	14		2DUBEW 175 730 S18	17.5	73	125	18	
2DUBEW 126 600 S14	12.6	60	100	14		2DUBEW 176 730 S18	17.6	73	125	18	
2DUBEW 127 600 S14	12.7	60	100	14		2DUBEW 177 730 S18	17.7	73	125	18	
2DUBEW 128 600 S14	12.8	60	100	14		2DUBEW 178 730 S18	17.8	73	125	18	
2DUBEW 129 600 S14	12.9	60	100	14		2DUBEW 179 730 S18	17.9	73	125	18	
2DUBEW 130 600 S14	13	60	100	14		2DUBEW 180 730 S18	18	73	125	18	
2DUBEW 131 600 S14	13.1	60	100	14		2DUBEW 181 790 S20	18.1	79	130	20	
2DUBEW 132 600 S14	13.2	60	105	14		2DUBEW 182 790 S20	18.2	79	130	20	
2DUBEW 133 600 S14	13.3	60	105	14		2DUBEW 183 790 S20	18.3	79	130	20	
2DUBEW 134 600 S14	13.4	60	105	14		2DUBEW 184 790 S20	18.4	79	130	20	
2DUBEW 135 600 S14	13.5	60	105	14		2DUBEW 185 790 S20	18.5	79	130	20	
2DUBEW 136 600 S14	13.6	60	105	14		2DUBEW 186 790 S20	18.6	79	130	20	
2DUBEW 137 600 S14	13.7	60	105	14		2DUBEW 187 790 S20	18.7	79	130	20	
2DUBEW 138 600 S14	13.8	60	105	14		2DUBEW 188 790 S20	18.8	79	130	20	
2DUBEW 139 600 S14	13.9	60	105	14		2DUBEW 189 790 S20	18.9	79	130	20	
2DUBEW 140 600 S14	14	60	105	14		2DUBEW 190 790 S20	19	79	130	20	
2DUBEW 141 650 S16	14.1	65	110	16		2DUBEW 191 790 S20	19.1	79	130	20	
2DUBEW 142 650 S16	14.2	65	110	16		2DUBEW 192 790 S20	19.2	79	130	20	
2DUBEW 143 650 S16	14.3	65	110	16		2DUBEW 193 790 S20	19.3	79	130	20	
2DUBEW 144 650 S16	14.4	65	110	16		2DUBEW 194 790 S20	19.4	79	130	20	
2DUBEW 145 650 S16	14.5	65	110	16		2DUBEW 195 790 S20	19.5	79	130	20	
2DUBEW 146 650 S16	14.6	65	110	16		2DUBEW 196 790 S20	19.6	79	130	20	
2DUBEW 147 650 S16	14.7	65	110	16		2DUBEW 197 790 S20	19.7	79	130	20	
2DUBEW 148 650 S16	14.8	65	110	16		2DUBEW 198 790 S20	19.8	79	130	20	
2DUBEW 149 650 S16	14.9	65	110	16		2DUBEW 199 790 S20	19.9	79	130	20	
2DUBEW 150 650 S16	15	65	110	16		2DUBEW 200 790 S20	20	79	130	20	
2DUBEW 151 650 S16	15.1	65	110	16							
2DUBEW 152 650 S16	15.2	65	115	16							
2DUBEW 153 650 S16	15.3	65	115	16							
2DUBEW 154 650 S16	15.4	65	115	16							
2DUBEW 155 650 S16	15.5	65	115	16							
2DUBEW 156 650 S16	15.6	65	115	16							
2DUBEW 157 650 S16	15.7	65	115	16							
2DUBEW 158 650 S16	15.8	65	115	16							
2DUBEW 159 650 S16	15.9	65	115	16							



- SUS, Titanium, HRc28이하 SCM등의 합금용 난삭재 가공 드릴
- Cross cut 코팅을 적용하여 우수한 내열성과 내마모성으로 절삭영역을 확대하였습니다.
- 절삭 저항을 최소화하는 Point thinning을 채택 하였습니다.
- 최적에 플루트 형상 설계와 내부급유 방식을 적용하여 칩배출 성능이 매우 우수합니다.
- 140도 선단각 설계하여 높은 고정밀, 고속 드릴링 작업에 탁월한 성능을 발휘합니다.

**High-speed drills for SUS, alloy materials up to HRc28, SCM and Titanium**

- Minimized adhesion during drilling operations by applying cross-cut coating.
- Adopted point thinning to minimize cutting resistance.
- Excellent chip evacuation performance achieved by applying an optimal flute design and internal coolant system.
- Design with a 140-degree point angle for outstanding performance in high highprecision, high-speed drilling operations.



515P

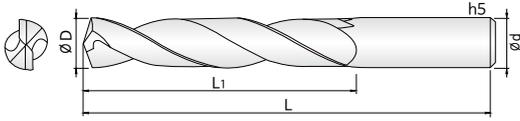
단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고
2DUBEW 010 100 S03	1	10	55	3		2DUBEW 060 440 S06	6	44	80	6	
2DUBEW 011 120 S03	1.1	12	55	3		2DUBEW 061 530 S08	6.1	53	90	8	
2DUBEW 012 120 S03	1.2	12	55	3		2DUBEW 062 530 S08	6.2	53	90	8	
2DUBEW 013 120 S03	1.3	12	55	3		2DUBEW 063 530 S08	6.3	53	90	8	
2DUBEW 014 120 S03	1.4	12	55	3		2DUBEW 064 530 S08	6.4	53	90	8	
2DUBEW 015 120 S03	1.5	12	55	3		2DUBEW 065 530 S08	6.5	53	90	8	
2DUBEW 016 160 S03	1.6	16	55	3		2DUBEW 066 530 S08	6.6	53	90	8	
2DUBEW 017 160 S03	1.7	16	55	3		2DUBEW 067 530 S08	6.7	53	90	8	
2DUBEW 018 160 S03	1.8	16	55	3		2DUBEW 068 530 S08	6.8	53	90	8	
2DUBEW 019 160 S03	1.9	16	55	3		2DUBEW 069 530 S08	6.9	53	90	8	
2DUBEW 020 210 S04	2	21	55	4		2DUBEW 070 530 S08	7	53	90	8	
2DUBEW 021 210 S04	2.1	21	55	4		2DUBEW 071 530 S08	7.1	53	90	8	
2DUBEW 022 210 S04	2.2	21	55	4		2DUBEW 072 530 S08	7.2	53	90	8	
2DUBEW 023 210 S04	2.3	21	55	4		2DUBEW 073 530 S08	7.3	53	90	8	
2DUBEW 024 210 S04	2.4	21	55	4		2DUBEW 074 530 S08	7.4	53	90	8	
2DUBEW 025 210 S04	2.5	21	55	4		2DUBEW 075 530 S08	7.5	53	90	8	
2DUBEW 026 210 S04	2.6	21	55	4		2DUBEW 076 530 S08	7.6	53	90	8	
2DUBEW 027 210 S04	2.7	21	55	4		2DUBEW 077 530 S08	7.7	53	90	8	
2DUBEW 028 210 S04	2.8	21	55	4		2DUBEW 078 530 S08	7.8	53	90	8	
2DUBEW 029 210 S04	2.9	21	55	4		2DUBEW 079 530 S08	7.9	53	90	8	
2DUBEW 030 280 S06	3	28	65	6		2DUBEW 080 530 S08	8	53	90	8	
2DUBEW 031 280 S06	3.1	28	65	6		2DUBEW 081 610 S10	8.1	61	105	10	
2DUBEW 032 280 S06	3.2	28	65	6		2DUBEW 082 610 S10	8.2	61	105	10	
2DUBEW 033 280 S06	3.3	28	65	6		2DUBEW 083 610 S10	8.3	61	105	10	
2DUBEW 034 280 S06	3.4	28	65	6		2DUBEW 084 610 S10	8.4	61	105	10	
2DUBEW 035 280 S06	3.5	28	65	6		2DUBEW 085 610 S10	8.5	61	105	10	
2DUBEW 036 280 S06	3.6	28	65	6		2DUBEW 086 610 S10	8.6	61	105	10	
2DUBEW 037 280 S06	3.7	28	65	6		2DUBEW 087 610 S10	8.7	61	105	10	
2DUBEW 038 360 S06	3.8	36	75	6		2DUBEW 088 610 S10	8.8	61	105	10	
2DUBEW 039 360 S06	3.9	36	75	6		2DUBEW 089 610 S10	8.9	61	105	10	
2DUBEW 040 360 S06	4	36	75	6		2DUBEW 090 610 S10	9	61	105	10	
2DUBEW 041 360 S06	4.1	36	75	6		2DUBEW 091 610 S10	9.1	61	105	10	
2DUBEW 042 360 S06	4.2	36	75	6		2DUBEW 092 610 S10	9.2	61	105	10	
2DUBEW 043 360 S06	4.3	36	75	6		2DUBEW 093 610 S10	9.3	61	105	10	
2DUBEW 044 360 S06	4.4	36	75	6		2DUBEW 094 610 S10	9.4	61	105	10	
2DUBEW 045 360 S06	4.5	36	75	6		2DUBEW 095 610 S10	9.5	61	105	10	
2DUBEW 046 360 S06	4.6	36	75	6		2DUBEW 096 610 S10	9.6	61	105	10	
2DUBEW 047 360 S06	4.7	36	75	6		2DUBEW 097 610 S10	9.7	61	105	10	
2DUBEW 048 440 S06	4.8	44	80	6		2DUBEW 098 610 S10	9.8	61	105	10	
2DUBEW 049 440 S06	4.9	44	80	6		2DUBEW 099 610 S10	9.9	61	105	10	
2DUBEW 050 440 S06	5	44	80	6		2DUBEW 100 610 S10	10	61	105	10	
2DUBEW 051 440 S06	5.1	44	80	6		2DUBEW 101 710 S12	10.1	71	120	12	
2DUBEW 052 440 S06	5.2	44	80	6		2DUBEW 102 710 S12	10.2	71	120	12	
2DUBEW 053 440 S06	5.3	44	80	6		2DUBEW 103 710 S12	10.3	71	120	12	
2DUBEW 054 440 S06	5.4	44	80	6		2DUBEW 104 710 S12	10.4	71	120	12	
2DUBEW 055 440 S06	5.5	44	80	6		2DUBEW 105 710 S12	10.5	71	120	12	
2DUBEW 056 440 S06	5.6	44	80	6		2DUBEW 106 710 S12	10.6	71	120	12	
2DUBEW 057 440 S06	5.7	44	80	6		2DUBEW 107 710 S12	10.7	71	120	12	
2DUBEW 058 440 S06	5.8	44	80	6		2DUBEW 108 710 S12	10.8	71	120	12	
2DUBEW 059 440 S06	5.9	44	80	6		2DUBEW 109 710 S12	10.9	71	120	12	

단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Dia d	비고
2DUBEW 110 710 S12	11	71	120	12		2DUBEW 160 830 S16	16	83	135	16	
2DUBEW 111 710 S12	11.1	71	120	12		2DUBEW 161 930 S18	16.1	93	145	18	
2DUBEW 112 710 S12	11.2	71	120	12		2DUBEW 162 930 S18	16.2	93	145	18	
2DUBEW 113 710 S12	11.3	71	120	12		2DUBEW 163 930 S18	16.3	93	145	18	
2DUBEW 114 710 S12	11.4	71	120	12		2DUBEW 164 930 S18	16.4	93	145	18	
2DUBEW 115 710 S12	11.5	71	120	12		2DUBEW 165 930 S18	16.5	93	145	18	
2DUBEW 116 710 S12	11.6	71	120	12		2DUBEW 166 930 S18	16.6	93	145	18	
2DUBEW 117 710 S12	11.7	71	120	12		2DUBEW 167 930 S18	16.7	93	145	18	
2DUBEW 118 710 S12	11.8	71	120	12		2DUBEW 168 930 S18	16.8	93	145	18	
2DUBEW 119 710 S12	11.9	71	120	12		2DUBEW 169 930 S18	16.9	93	145	18	
2DUBEW 120 710 S12	12	71	120	12		2DUBEW 170 930 S18	17	93	145	18	
2DUBEW 121 770 S14	12.1	77	125	14		2DUBEW 171 930 S18	17.1	93	145	18	
2DUBEW 122 770 S14	12.2	77	125	14		2DUBEW 172 930 S18	17.2	93	145	18	
2DUBEW 123 770 S14	12.3	77	125	14		2DUBEW 173 930 S18	17.3	93	145	18	
2DUBEW 124 770 S14	12.4	77	125	14		2DUBEW 174 930 S18	17.4	93	145	18	
2DUBEW 125 770 S14	12.5	77	125	14		2DUBEW 175 930 S18	17.5	93	145	18	
2DUBEW 126 770 S14	12.6	77	125	14		2DUBEW 176 930 S18	17.6	93	145	18	
2DUBEW 127 770 S14	12.7	77	125	14		2DUBEW 177 930 S18	17.7	93	145	18	
2DUBEW 128 770 S14	12.8	77	125	14		2DUBEW 178 930 S18	17.8	93	145	18	
2DUBEW 129 770 S14	12.9	77	125	14		2DUBEW 179 930 S18	17.9	93	145	18	
2DUBEW 130 770 S14	13	77	125	14		2DUBEW 180 930 S18	18	93	145	18	
2DUBEW 131 770 S14	13.1	77	125	14		2DUBEW 181 1010 S20	18.1	101	155	20	
2DUBEW 132 770 S14	13.2	77	125	14		2DUBEW 182 1010 S20	18.2	101	155	20	
2DUBEW 133 770 S14	13.3	77	125	14		2DUBEW 183 1010 S20	18.3	101	155	20	
2DUBEW 134 770 S14	13.4	77	125	14		2DUBEW 184 1010 S20	18.4	101	155	20	
2DUBEW 135 770 S14	13.5	77	125	14		2DUBEW 185 1010 S20	18.5	101	155	20	
2DUBEW 136 770 S14	13.6	77	125	14		2DUBEW 186 1010 S20	18.6	101	155	20	
2DUBEW 137 770 S14	13.7	77	125	14		2DUBEW 187 1010 S20	18.7	101	155	20	
2DUBEW 138 770 S14	13.8	77	125	14		2DUBEW 188 1010 S20	18.8	101	155	20	
2DUBEW 139 770 S14	13.9	77	125	14		2DUBEW 189 1010 S20	18.9	101	155	20	
2DUBEW 140 770 S14	14	77	125	14		2DUBEW 190 1010 S20	19	101	155	20	
2DUBEW 141 830 S16	14.1	83	135	16		2DUBEW 191 1010 S20	19.1	101	155	20	
2DUBEW 142 830 S16	14.2	83	135	16		2DUBEW 192 1010 S20	19.2	101	155	20	
2DUBEW 143 830 S16	14.3	83	135	16		2DUBEW 193 1010 S20	19.3	101	155	20	
2DUBEW 144 830 S16	14.4	83	135	16		2DUBEW 194 1010 S20	19.4	101	155	20	
2DUBEW 145 830 S16	14.5	83	135	16		2DUBEW 195 1010 S20	19.5	101	155	20	
2DUBEW 146 830 S16	14.6	83	135	16		2DUBEW 196 1010 S20	19.6	101	155	20	
2DUBEW 147 830 S16	14.7	83	135	16		2DUBEW 197 1010 S20	19.7	101	155	20	
2DUBEW 148 830 S16	14.8	83	135	16		2DUBEW 198 1010 S20	19.8	101	155	20	
2DUBEW 149 830 S16	14.9	83	135	16		2DUBEW 199 1010 S20	19.9	101	155	20	
2DUBEW 150 830 S16	15	83	135	16		2DUBEW 200 1010 S20	20	101	155	20	
2DUBEW 151 830 S16	15.1	83	135	16							
2DUBEW 152 830 S16	15.2	83	135	16							
2DUBEW 153 830 S16	15.3	83	135	16							
2DUBEW 154 830 S16	15.4	83	135	16							
2DUBEW 155 830 S16	15.5	83	135	16							
2DUBEW 156 830 S16	15.6	83	135	16							
2DUBEW 157 830 S16	15.7	83	135	16							
2DUBEW 158 830 S16	15.8	83	135	16							
2DUBEW 159 830 S16	15.9	83	135	16							

## 초경 2날 두배 N 드릴 [3XD]



- 알루미늄 주물, 알루미늄 다이캐스팅, 비철금속, 플라스틱 등 비철 비금속 계열 전용 드릴
- 비철금속 드릴링의 최적화 된 설계로 칩 응착을 최소화 하였습니다.
- 최적인 플루트 형상을 적용하여 안정적인 칩 배출과 절삭성이 우수합니다.
- 폭넓은 비철금속 피삭재에 적용 가능합니다.
- 우수한 제품의 강성과 칩 배출을 고려한 플루트 홈 설계를 적용하였습니다.

**Drills for aluminum casting, aluminum die casting, non-ferrous metal, plastic and etc.**

- Chip fusion is minimized with an optimized design for non-ferrous metal drilling.
- Provides stable chip evacuation and excellent cutting performance by optimized flute design.
- Applicable for various kinds of non-ferrous metals.
- Applied flute groove design considering the excellent rigidity of the product and chip evacuation.



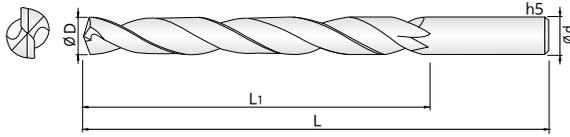
516P

단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고
2DUBEN 010 060 S03	1	6	26	3		2DUBEN 060 280 S06	6	28	65	6	
2DUBEN 011 070 S03	1.1	7	28	3		2DUBEN 061 310 S07	6.1	31	70	7	
2DUBEN 012 080 S03	1.2	8	30	3		2DUBEN 062 310 S07	6.2	31	70	7	
2DUBEN 013 080 S03	1.3	8	30	3		2DUBEN 063 310 S07	6.3	31	70	7	
2DUBEN 014 090 S03	1.4	9	32	3		2DUBEN 064 310 S07	6.4	31	70	7	
2DUBEN 015 090 S03	1.5	9	32	3		2DUBEN 065 310 S07	6.5	31	70	7	
2DUBEN 016 100 S03	1.6	10	34	3		2DUBEN 066 310 S07	6.6	31	70	7	
2DUBEN 017 100 S03	1.7	10	34	3		2DUBEN 067 310 S07	6.7	31	70	7	
2DUBEN 018 110 S03	1.8	11	36	3		2DUBEN 068 340 S07	6.8	34	75	7	
2DUBEN 019 110 S03	1.9	11	36	3		2DUBEN 069 340 S07	6.9	34	75	7	
2DUBEN 020 120 S03	2	12	38	3		2DUBEN 070 340 S07	7	34	75	7	
2DUBEN 021 120 S03	2.1	12	40	3		2DUBEN 071 340 S08	7.1	34	75	8	
2DUBEN 022 130 S03	2.2	13	40	3		2DUBEN 072 340 S08	7.2	34	75	8	
2DUBEN 023 130 S03	2.3	13	40	3		2DUBEN 073 340 S08	7.3	34	75	8	
2DUBEN 024 140 S03	2.4	14	45	3		2DUBEN 074 340 S08	7.4	34	75	8	
2DUBEN 025 140 S03	2.5	14	45	3		2DUBEN 075 340 S08	7.5	34	75	8	
2DUBEN 026 140 S03	2.6	14	45	3		2DUBEN 076 370 S08	7.6	37	80	8	
2DUBEN 027 160 S03	2.7	16	45	3		2DUBEN 077 370 S08	7.7	37	80	8	
2DUBEN 028 160 S03	2.8	16	45	3		2DUBEN 078 370 S08	7.8	37	80	8	
2DUBEN 029 160 S03	2.9	16	45	3		2DUBEN 079 370 S08	7.9	37	80	8	
2DUBEN 030 160 S03	3	16	45	3		2DUBEN 080 370 S08	8	37	80	8	
2DUBEN 031 180 S04	3.1	18	50	4		2DUBEN 081 370 S09	8.1	37	80	9	
2DUBEN 032 180 S04	3.2	18	50	4		2DUBEN 082 370 S09	8.2	37	80	9	
2DUBEN 033 180 S04	3.3	18	50	4		2DUBEN 083 370 S09	8.3	37	80	9	
2DUBEN 034 200 S04	3.4	20	55	4		2DUBEN 084 370 S09	8.4	37	80	9	
2DUBEN 035 200 S04	3.5	20	55	4		2DUBEN 085 370 S09	8.5	37	80	9	
2DUBEN 036 200 S04	3.6	20	55	4		2DUBEN 086 400 S09	8.6	40	85	9	
2DUBEN 037 200 S04	3.7	20	55	4		2DUBEN 087 400 S09	8.7	40	85	9	
2DUBEN 038 220 S04	3.8	22	55	4		2DUBEN 088 400 S09	8.8	40	85	9	
2DUBEN 039 220 S04	3.9	22	55	4		2DUBEN 089 400 S09	8.9	40	85	9	
2DUBEN 040 220 S04	4	22	55	4		2DUBEN 090 400 S09	9	40	85	9	
2DUBEN 041 220 S05	4.1	22	55	5		2DUBEN 091 400 S10	9.1	40	85	10	
2DUBEN 042 220 S05	4.2	22	55	5		2DUBEN 092 400 S10	9.2	40	85	10	
2DUBEN 043 240 S05	4.3	24	60	5		2DUBEN 093 400 S10	9.3	40	85	10	
2DUBEN 044 240 S05	4.4	24	60	5		2DUBEN 094 400 S10	9.4	40	85	10	
2DUBEN 045 240 S05	4.5	24	60	5		2DUBEN 095 400 S10	9.5	40	85	10	
2DUBEN 046 240 S05	4.6	24	60	5		2DUBEN 096 400 S10	9.6	40	90	10	
2DUBEN 047 240 S05	4.7	24	60	5		2DUBEN 097 430 S10	9.7	43	90	10	
2DUBEN 048 260 S05	4.8	26	65	5		2DUBEN 098 430 S10	9.8	43	90	10	
2DUBEN 049 260 S05	4.9	26	65	5		2DUBEN 099 430 S10	9.9	43	90	10	
2DUBEN 050 260 S05	5	26	65	5		2DUBEN 100 430 S10	10	43	90	10	
2DUBEN 051 260 S06	5.1	26	65	6		2DUBEN 101 430 S11	10.1	43	90	11	
2DUBEN 052 260 S06	5.2	26	65	6		2DUBEN 102 430 S11	10.2	43	90	11	
2DUBEN 053 260 S06	5.3	26	65	6		2DUBEN 103 430 S11	10.3	43	90	11	
2DUBEN 054 280 S06	5.4	28	65	6		2DUBEN 104 430 S11	10.4	43	90	11	
2DUBEN 055 280 S06	5.5	28	65	6		2DUBEN 105 430 S11	10.5	43	90	11	
2DUBEN 056 280 S06	5.6	28	65	6		2DUBEN 106 430 S11	10.6	43	90	11	
2DUBEN 057 280 S06	5.7	28	65	6		2DUBEN 107 470 S11	10.7	47	95	11	
2DUBEN 058 280 S06	5.8	28	65	6		2DUBEN 108 470 S11	10.8	47	95	11	
2DUBEN 059 280 S06	5.9	28	65	6		2DUBEN 109 470 S11	10.9	47	95	11	



## 초경 2날 두배 N 드릴 [5XD]



- 알루미늄 주물, 알루미늄 다이캐스팅, 비철금속, 플라스틱 등 비철 비금속 계열 전용 드릴
- 비철금속 드릴링의 최적화 된 설계로 칩 융착을 최소화 하였습니다.
- 최적의 플루트 형상을 적용하여 안정적인 칩 배출과 절삭성이 우수합니다.
- 폭넓은 비철금속 피삭재에 적용 가능합니다.
- 우수한 제품의 강성과 칩 배출을 고려한 플루트 홈 설계를 적용하였습니다.

**Drills for aluminum casting, aluminum die casting, non-ferrous metal, plastics and etc.**

- Chip fusion is minimized with an optimized design for non-ferrous metal drilling.
- Provides stable chip evacuation and excellent cutting performance by optimized flute design.
- Applicable for various kinds of non-ferrous metals.
- Applied flute groove design considering the excellent rigidity of the product and chip evacuation.



516P

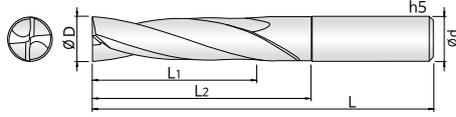
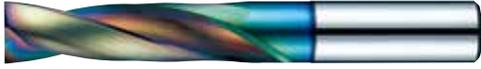
단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank Dia d	비고
2DUBEN 010 120 S03	1	12	34	3		2DUBEN 060 570 S06	6	57	95	6	
2DUBEN 011 140 S03	1.1	14	36	3		2DUBEN 061 630 S07	6.1	63	100	7	
2DUBEN 012 160 S03	1.2	16	38	3		2DUBEN 062 630 S07	6.2	63	100	7	
2DUBEN 013 160 S03	1.3	16	38	3		2DUBEN 063 630 S07	6.3	63	100	7	
2DUBEN 014 180 S03	1.4	18	40	3		2DUBEN 064 630 S07	6.4	63	100	7	
2DUBEN 015 180 S03	1.5	18	40	3		2DUBEN 065 630 S07	6.5	63	100	7	
2DUBEN 016 200 S03	1.6	20	43	3		2DUBEN 066 630 S07	6.6	63	100	7	
2DUBEN 017 200 S03	1.7	20	46	3		2DUBEN 067 630 S07	6.7	63	100	7	
2DUBEN 018 220 S03	1.8	22	46	3		2DUBEN 068 690 S07	6.8	69	110	7	
2DUBEN 019 220 S03	1.9	22	49	3		2DUBEN 069 690 S07	6.9	69	110	7	
2DUBEN 020 240 S03	2	24	55	3		2DUBEN 070 690 S07	7	69	110	7	
2DUBEN 021 240 S03	2.1	24	55	3		2DUBEN 071 690 S08	7.1	69	110	8	
2DUBEN 022 270 S03	2.2	27	60	3		2DUBEN 072 690 S08	7.2	69	110	8	
2DUBEN 023 270 S03	2.3	27	60	3		2DUBEN 073 690 S08	7.3	69	110	8	
2DUBEN 024 300 S03	2.4	30	60	3		2DUBEN 074 690 S08	7.4	69	110	8	
2DUBEN 025 300 S03	2.5	30	60	3		2DUBEN 075 690 S08	7.5	69	110	8	
2DUBEN 026 300 S03	2.6	30	60	3		2DUBEN 076 750 S08	7.6	75	120	8	
2DUBEN 027 330 S03	2.7	33	65	3		2DUBEN 077 750 S08	7.7	75	120	8	
2DUBEN 028 330 S03	2.8	33	65	3		2DUBEN 078 750 S08	7.8	75	120	8	
2DUBEN 029 330 S03	2.9	33	65	3		2DUBEN 079 750 S08	7.9	75	120	8	
2DUBEN 030 330 S03	3	33	65	3		2DUBEN 080 750 S08	8	75	120	8	
2DUBEN 031 360 S04	3.1	36	65	4		2DUBEN 081 750 S09	8.1	75	120	9	
2DUBEN 032 360 S04	3.2	36	65	4		2DUBEN 082 750 S09	8.2	75	120	9	
2DUBEN 033 360 S04	3.3	36	65	4		2DUBEN 083 750 S09	8.3	75	120	9	
2DUBEN 034 390 S04	3.4	39	70	4		2DUBEN 084 750 S09	8.4	75	120	9	
2DUBEN 035 390 S04	3.5	39	70	4		2DUBEN 085 750 S09	8.5	75	120	9	
2DUBEN 036 390 S04	3.6	39	70	4		2DUBEN 086 810 S09	8.6	81	125	9	
2DUBEN 037 390 S04	3.7	39	70	4		2DUBEN 087 810 S09	8.7	81	125	9	
2DUBEN 038 430 S04	3.8	43	70	4		2DUBEN 088 810 S09	8.8	81	125	9	
2DUBEN 039 430 S04	3.9	43	75	4		2DUBEN 089 810 S09	8.9	81	125	9	
2DUBEN 040 430 S04	4	43	75	4		2DUBEN 090 810 S09	9	81	125	9	
2DUBEN 041 430 S05	4.1	43	75	5		2DUBEN 091 810 S10	9.1	81	125	10	
2DUBEN 042 430 S05	4.2	43	75	5		2DUBEN 092 810 S10	9.2	81	125	10	
2DUBEN 043 470 S05	4.3	47	80	5		2DUBEN 093 810 S10	9.3	81	125	10	
2DUBEN 044 470 S05	4.4	47	80	5		2DUBEN 094 810 S10	9.4	81	125	10	
2DUBEN 045 470 S05	4.5	47	80	5		2DUBEN 095 810 S10	9.5	81	125	10	
2DUBEN 046 470 S05	4.6	47	80	5		2DUBEN 096 870 S10	9.6	87	135	10	
2DUBEN 047 470 S05	4.7	47	80	5		2DUBEN 097 870 S10	9.7	87	135	10	
2DUBEN 048 520 S05	4.8	52	85	5		2DUBEN 098 870 S10	9.8	87	135	10	
2DUBEN 049 520 S05	4.9	52	85	5		2DUBEN 099 870 S10	9.9	87	135	10	
2DUBEN 050 520 S05	5	52	85	5		2DUBEN 100 870 S10	10	87	135	10	
2DUBEN 051 520 S06	5.1	52	85	6		2DUBEN 101 870 S11	10.1	87	135	11	
2DUBEN 052 520 S06	5.2	52	85	6		2DUBEN 102 870 S11	10.2	87	135	11	
2DUBEN 053 520 S06	5.3	52	85	6		2DUBEN 103 870 S11	10.3	87	135	11	
2DUBEN 054 570 S06	5.4	57	95	6		2DUBEN 104 870 S11	10.4	87	135	11	
2DUBEN 055 570 S06	5.5	57	95	6		2DUBEN 105 870 S11	10.5	87	135	11	
2DUBEN 056 570 S06	5.6	57	95	6		2DUBEN 106 870 S11	10.6	87	135	11	
2DUBEN 057 570 S06	5.7	57	95	6		2DUBEN 107 940 S11	10.7	94	145	11	
2DUBEN 058 570 S06	5.8	57	95	6		2DUBEN 108 940 S11	10.8	94	145	11	
2DUBEN 059 570 S06	5.9	57	95	6		2DUBEN 109 940 S11	10.9	94	145	11	





초경 2날/ 다기능 플랫 드릴



- HRc50이하, 프리하드강, 합금강, 주철 가공용 플랫 드릴
- 밑날 플랫타입으로 다양한 경사면과 곡면 드릴가공에 탁월한 성능을 발휘합니다.
- 20도 헬릭스를 채택하여 칩배출 성능이 매우 우수합니다.
- 관통 드릴 작업시 버 발생을 최소화 합니다.
- HR 코팅으로 내열성과 내마모성이 우수, 긴 공구수명을 실현 하였습니다.

Flat drills for materials up to HRc50, pre-hardened steels, alloy steels, cast irons

- With flat type of end face, excellent performance drilling is available to a variety of inclined and curved surfaces.
- Chip emission is great and stable drilling is available with 20 degree helix design.
- Minimize burrs during penetration drilling.
- Increased tool life by applying HR coating with great heat and wear resistance.



517P

단위 : mm

Order Number	날경 Diameter D	홀길이 Flute Length L1	유효장 Effective Length L2	전장 Overall Length L	샙크 Dia d	비고	Order Number	날경 Diameter D	홀길이 Flute Length L1	유효장 Effective Length L2	전장 Overall Length L	샙크 Dia d	비고
2FDR 002 009 S03	0.2	0.8	0.9	50	3		2FDR 044 189 S06	4.4	17.6	18.9	60	6	
2FDR 0025 011 S03	0.25	1	1.1	50	3		2FDR 045 194 S06	4.5	18	19.4	60	6	
2FDR 003 013 S03	0.3	1.2	1.3	50	3		2FDR 046 198 S06	4.6	18.4	19.8	60	6	
2FDR 0035 015 S03	0.35	1.4	1.5	50	3		2FDR 047 202 S06	4.7	18.8	20.2	60	6	
2FDR 004 017 S03	0.4	1.6	1.7	50	3		2FDR 048 206 S06	4.8	19.2	20.6	60	6	
2FDR 0045 019 S03	0.45	1.8	1.9	50	3		2FDR 049 211 S06	4.9	19.6	21.1	60	6	
2FDR 005 022 S03	0.5	2	2.2	50	3		2FDR 050 215 S06	5	20	21.5	60	6	
2FDR 0055 024 S03	0.55	2.2	2.4	50	3		2FDR 051 219 S06	5.1	20.4	21.9	60	6	
2FDR 006 026 S03	0.6	2.4	2.6	50	3		2FDR 052 224 S06	5.2	20.8	22.4	60	6	
2FDR 0065 028 S03	0.65	2.6	2.8	50	3		2FDR 053 228 S06	5.3	21.2	22.8	60	6	
2FDR 007 030 S03	0.7	2.8	3	50	3		2FDR 054 232 S06	5.4	21.6	23.2	60	6	
2FDR 0075 032 S03	0.75	3	3.2	50	3		2FDR 055 237 S06	5.5	22	23.7	60	6	
2FDR 008 034 S03	0.8	3.2	3.4	50	3		2FDR 056 241 S06	5.6	22.4	24.1	60	6	
2FDR 0085 037 S03	0.85	3.4	3.7	50	3		2FDR 057 245 S06	5.7	22.8	24.5	60	6	
2FDR 009 039 S03	0.9	3.6	3.9	50	3		2FDR 058 249 S06	5.8	23.2	24.9	60	6	
2FDR 0095 041 S03	0.95	3.8	4.1	50	3		2FDR 059 254 S06	5.9	23.6	25.4	60	6	
2FDR 010 043 S03	1	4	4.3	50	3		2FDR 060 258 S06	6	24	25.8	60	6	
2FDR 011 047 S03	1.1	4.4	4.7	50	3		2FDR 061 262 S08	6.1	24.4	26.2	70	8	
2FDR 012 052 S03	1.2	4.8	5.2	50	3		2FDR 062 267 S08	6.2	24.8	26.7	70	8	
2FDR 013 056 S03	1.3	5.2	5.6	50	3		2FDR 063 271 S08	6.3	25.2	27.1	70	8	
2FDR 014 060 S03	1.4	5.6	6	50	3		2FDR 064 275 S08	6.4	25.6	27.5	70	8	
2FDR 015 065 S03	1.5	6	6.5	50	3		2FDR 065 280 S08	6.5	26	28	70	8	
2FDR 016 069 S03	1.6	6.4	6.9	50	3		2FDR 066 284 S08	6.6	26.4	28.4	70	8	
2FDR 017 073 S03	1.7	6.8	7.3	50	3		2FDR 067 288 S08	6.7	26.8	28.8	70	8	
2FDR 018 077 S03	1.8	7.2	7.7	50	3		2FDR 068 292 S08	6.8	27.2	29.2	70	8	
2FDR 019 082 S03	1.9	7.6	8.2	50	3		2FDR 069 297 S08	6.9	27.6	29.7	70	8	
2FDR 020 086 S04	2	8	8.6	50	4		2FDR 070 301 S08	7	28	30.1	70	8	
2FDR 021 090 S04	2.1	8.4	9	50	4		2FDR 071 305 S08	7.1	28.4	30.5	70	8	
2FDR 022 095 S04	2.2	8.8	9.5	50	4		2FDR 072 310 S08	7.2	28.8	31	70	8	
2FDR 023 099 S04	2.3	9.2	9.9	50	4		2FDR 073 314 S08	7.3	29.2	31.4	70	8	
2FDR 024 103 S04	2.4	9.6	10.3	50	4		2FDR 074 318 S08	7.4	29.6	31.8	70	8	
2FDR 025 108 S04	2.5	10	10.8	50	4		2FDR 075 323 S08	7.5	30	32.3	70	8	
2FDR 026 112 S04	2.6	10.4	11.2	50	4		2FDR 076 327 S08	7.6	30.4	32.7	70	8	
2FDR 027 116 S04	2.7	10.8	11.6	50	4		2FDR 077 331 S08	7.7	30.8	33.1	70	8	
2FDR 028 120 S04	2.8	11.2	12	50	4		2FDR 078 335 S08	7.8	31.2	33.5	70	8	
2FDR 029 125 S04	2.9	11.6	12.5	50	4		2FDR 079 340 S08	7.9	31.6	34	70	8	
2FDR 030 129 S06	3	12	12.9	50	6		2FDR 080 344 S08	8	32	34.4	70	8	
2FDR 031 133 S06	3.1	12.4	13.3	50	6		2FDR 081 348 S10	8.1	32.4	34.8	80	10	
2FDR 032 138 S06	3.2	12.8	13.8	50	6		2FDR 082 353 S10	8.2	32.8	35.3	80	10	
2FDR 033 142 S06	3.3	13.2	14.2	50	6		2FDR 083 357 S10	8.3	33.2	35.7	80	10	
2FDR 034 146 S06	3.4	13.6	14.6	50	6		2FDR 084 361 S10	8.4	33.6	36.1	80	10	
2FDR 035 151 S06	3.5	14	15.1	50	6		2FDR 085 366 S10	8.5	34	36.6	80	10	
2FDR 036 155 S06	3.6	14.4	15.5	50	6		2FDR 086 370 S10	8.6	34.4	37	80	10	
2FDR 037 159 S06	3.7	14.8	15.9	50	6		2FDR 087 374 S10	8.7	34.8	37.4	80	10	
2FDR 038 163 S06	3.8	15.2	16.3	50	6		2FDR 088 378 S10	8.8	35.2	37.8	80	10	
2FDR 039 168 S06	3.9	15.6	16.8	50	6		2FDR 089 383 S10	8.9	35.6	38.3	80	10	
2FDR 040 172 S06	4	16	17.2	50	6		2FDR 090 387 S10	9	36	38.7	80	10	
2FDR 041 176 S06	4.1	16.4	17.6	60	6		2FDR 091 391 S10	9.1	36.4	39.1	80	10	
2FDR 042 181 S06	4.2	16.8	18.1	60	6		2FDR 092 396 S10	9.2	36.8	39.6	80	10	
2FDR 043 185 S06	4.3	17.2	18.5	60	6		2FDR 093 400 S10	9.3	37.2	40	80	10	

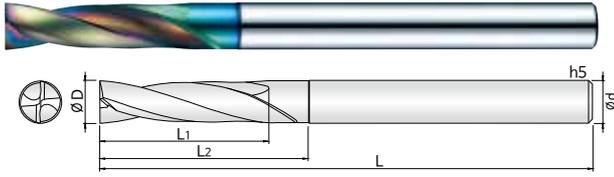
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단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	유효장 Effective Length L2	전장 Overall Length L	샙크 Shank Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	유효장 Effective Length L2	전장 Overall Length L	샙크 Shank Dia d	비고
2FDR 094 404 S10	9.4	37.6	40.4	80	10		2FDR 144 619 S16	14.4	57.6	61.9	105	16	
2FDR 095 409 S10	9.5	38	40.9	80	10		2FDR 145 624 S16	14.5	58	62.4	105	16	
2FDR 096 413 S10	9.6	38.4	41.3	80	10		2FDR 146 628 S16	14.6	58.4	62.8	105	16	
2FDR 097 417 S10	9.7	38.8	41.7	80	10		2FDR 147 632 S16	14.7	58.8	63.2	105	16	
2FDR 098 421 S10	9.8	39.2	42.1	80	10		2FDR 148 636 S16	14.8	59.2	63.6	105	16	
2FDR 099 426 S10	9.9	39.6	42.6	80	10		2FDR 149 641 S16	14.9	59.6	64.1	105	16	
2FDR 100 430 S10	10	40	43	80	10		2FDR 150 645 S16	15	60	64.5	105	16	
2FDR 101 434 S12	10.1	40.4	43.4	90	12		2FDR 151 649 S16	15.1	60.4	64.9	115	16	
2FDR 102 439 S12	10.2	40.8	43.9	90	12		2FDR 152 654 S16	15.2	60.8	65.4	115	16	
2FDR 103 443 S12	10.3	41.2	44.3	90	12		2FDR 153 658 S16	15.3	61.2	65.8	115	16	
2FDR 104 447 S12	10.4	41.6	44.7	90	12		2FDR 154 662 S16	15.4	61.6	66.2	115	16	
2FDR 105 452 S12	10.5	42	45.2	90	12		2FDR 155 667 S16	15.5	62	66.7	115	16	
2FDR 106 456 S12	10.6	42.4	45.6	90	12		2FDR 156 671 S16	15.6	62.4	67.1	115	16	
2FDR 107 460 S12	10.7	42.8	46	90	12		2FDR 157 675 S16	15.7	62.8	67.5	115	16	
2FDR 108 464 S12	10.8	43.2	46.4	90	12		2FDR 158 679 S16	15.8	63.2	67.9	115	16	
2FDR 109 469 S12	10.9	43.6	46.9	90	12		2FDR 159 684 S16	15.9	63.6	68.4	115	16	
2FDR 110 473 S12	11	44	47.3	90	12		2FDR 160 688 S16	16	64	68.8	115	16	
2FDR 111 477 S12	11.1	44.4	47.7	90	12		2FDR 165 710 S18	16.5	66	71	125	18	
2FDR 112 482 S12	11.2	44.8	48.2	90	12		2FDR 170 731 S18	17	68	73.1	125	18	
2FDR 113 486 S12	11.3	45.2	48.6	90	12		2FDR 175 753 S18	17.5	70	75.3	125	18	
2FDR 114 490 S12	11.4	45.6	49	90	12		2FDR 180 774 S18	18	72	77.4	125	18	
2FDR 115 495 S12	11.5	46	49.5	90	12		2FDR 185 796 S20	18.5	74	79.6	135	20	
2FDR 116 499 S12	11.6	46.4	49.9	90	12		2FDR 190 817 S20	19	76	81.7	135	20	
2FDR 117 503 S12	11.7	46.8	50.3	90	12		2FDR 195 839 S20	19.5	78	83.9	145	20	
2FDR 118 507 S12	11.8	47.2	50.7	90	12		2FDR 200 860 S20	20	80	86	145	20	
2FDR 119 512 S12	11.9	47.6	51.2	90	12								
2FDR 120 516 S12	12	48	51.6	90	12								
2FDR 121 520 S14	12.1	48.4	52	100	14								
2FDR 122 525 S14	12.2	48.8	52.5	100	14								
2FDR 123 529 S14	12.3	49.2	52.9	100	14								
2FDR 124 533 S14	12.4	49.6	53.3	100	14								
2FDR 125 538 S14	12.5	50	53.8	100	14								
2FDR 126 542 S14	12.6	50.4	54.2	100	14								
2FDR 127 546 S14	12.7	50.8	54.6	100	14								
2FDR 128 550 S14	12.8	51.2	55	100	14								
2FDR 129 555 S14	12.9	51.6	55.5	100	14								
2FDR 130 559 S14	13	52	55.9	100	14								
2FDR 131 563 S14	13.1	52.4	56.3	100	14								
2FDR 132 568 S14	13.2	52.8	56.8	100	14								
2FDR 133 572 S14	13.3	53.2	57.2	100	14								
2FDR 134 576 S14	13.4	53.6	57.6	100	14								
2FDR 135 581 S14	13.5	54	58.1	100	14								
2FDR 136 585 S14	13.6	54.4	58.5	100	14								
2FDR 137 589 S14	13.7	54.8	58.9	100	14								
2FDR 138 593 S14	13.8	55.2	59.3	100	14								
2FDR 139 598 S14	13.9	55.6	59.8	100	14								
2FDR 140 602 S14	14	56	60.2	100	14								
2FDR 141 606 S16	14.1	56.4	60.6	105	16								
2FDR 142 611 S16	14.2	56.8	61.1	105	16								
2FDR 143 615 S16	14.3	57.2	61.5	105	16								

## 초경 2날/ 롱샹크 다기능 플랫 드릴



- HRc50이하, 프리하드강, 합금강, 주철 가공용 플랫 드릴
- 밑날 플랫타입으로 다양한 경사면과 곡면 드릴가공에 탁월한 성능을 발휘합니다.
- 20도 헬릭스를 채택하여 칩배출 성능이 매우 우수합니다.
- 관통 드릴 작업시 버 발생을 최소화 합니다.
- HR 코팅으로 내열성과 내마모성이 우수, 긴 공구수명을 실현 하였습니다.

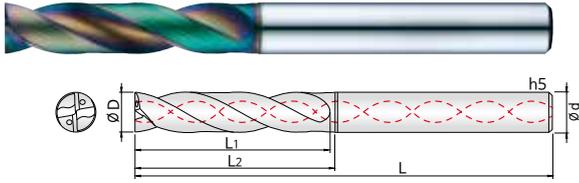
### Flat drills for materials up to HRc50, pre-hardened steels, alloy steels, cast irons

- With flat type of end face, excellent performance drilling is available to a variety of inclined and curved surfaces.
- Chip emission is great and stable drilling is available with 20 degree helix design.
- Minimize burrs during penetration drilling.
- Increased tool life by applying HR coating with great heat and wear resistance.



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Order Number	Diameter D	Flute Length L1	Effective Length L2	Overall Length L	Shank Dia d	비고	Order Number	Diameter D	Flute Length L1	Effective Length L2	Overall Length L	Shank Dia d	비고
2FDRL 030 300 S06	3	12	30	100	6		2FDRL 084 672 S10	8.4	33.6	67.2	130	10	
2FDRL 031 310 S06	3.1	12.4	31	100	6		2FDRL 085 680 S10	8.5	34	68	130	10	
2FDRL 032 320 S06	3.2	12.8	32	100	6		2FDRL 086 688 S10	8.6	34.4	68.8	130	10	
2FDRL 033 330 S06	3.3	13.2	33	100	6		2FDRL 087 696 S10	8.7	34.8	69.6	130	10	
2FDRL 034 340 S06	3.4	13.6	34	100	6		2FDRL 088 704 S10	8.8	35.2	70.4	130	10	
2FDRL 035 350 S06	3.5	14	35	100	6		2FDRL 089 712 S10	8.9	35.6	71.2	130	10	
2FDRL 036 360 S06	3.6	14.4	36	100	6		2FDRL 090 720 S10	9	36	72	130	10	
2FDRL 037 370 S06	3.7	14.8	37	100	6		2FDRL 091 728 S10	9.1	36.4	72.8	130	10	
2FDRL 038 380 S06	3.8	15.2	38	100	6		2FDRL 092 736 S10	9.2	36.8	73.6	130	10	
2FDRL 039 390 S06	3.9	15.6	39	100	6		2FDRL 093 744 S10	9.3	37.2	74.4	130	10	
2FDRL 040 400 S06	4	16	40	100	6		2FDRL 094 752 S10	9.4	37.6	75.2	130	10	
2FDRL 041 410 S06	4.1	16.4	41	100	6		2FDRL 095 760 S10	9.5	38	76	130	10	
2FDRL 042 420 S06	4.2	16.8	42	100	6		2FDRL 096 768 S10	9.6	38.4	76.8	130	10	
2FDRL 043 430 S06	4.3	17.2	43	100	6		2FDRL 097 776 S10	9.7	38.8	77.6	130	10	
2FDRL 044 440 S06	4.4	17.6	44	100	6		2FDRL 098 784 S10	9.8	39.2	78.4	130	10	
2FDRL 045 450 S06	4.5	18	45	100	6		2FDRL 099 792 S10	9.9	39.6	79.2	130	10	
2FDRL 046 460 S06	4.6	18.4	46	100	6		2FDRL 100 800 S10	10	40	80	130	10	
2FDRL 047 470 S06	4.7	18.8	47	100	6		2FDRL 101 808 S12	10.1	40.4	80.8	150	12	
2FDRL 048 480 S06	4.8	19.2	48	100	6		2FDRL 102 816 S12	10.2	40.8	81.6	150	12	
2FDRL 049 490 S06	4.9	19.6	49	100	6		2FDRL 103 824 S12	10.3	41.2	82.4	150	12	
2FDRL 050 500 S06	5	20	50	100	6		2FDRL 104 832 S12	10.4	41.6	83.2	150	12	
2FDRL 051 510 S06	5.1	20.4	51	110	6		2FDRL 105 840 S12	10.5	42	84	150	12	
2FDRL 052 520 S06	5.2	20.8	52	110	6		2FDRL 106 848 S12	10.6	42.4	84.8	150	12	
2FDRL 053 530 S06	5.3	21.2	53	110	6		2FDRL 107 856 S12	10.7	42.8	85.6	150	12	
2FDRL 054 540 S06	5.4	21.6	54	110	6		2FDRL 108 864 S12	10.8	43.2	86.4	150	12	
2FDRL 055 550 S06	5.5	22	55	110	6		2FDRL 109 872 S12	10.9	43.6	87.2	150	12	
2FDRL 056 560 S06	5.6	22.4	56	110	6		2FDRL 110 880 S12	11	44	88	150	12	
2FDRL 057 570 S06	5.7	22.8	57	110	6		2FDRL 111 888 S12	11.1	44.4	88.8	150	12	
2FDRL 058 580 S06	5.8	23.2	58	110	6		2FDRL 112 896 S12	11.2	44.8	89.6	150	12	
2FDRL 059 590 S06	5.9	23.6	59	110	6		2FDRL 113 904 S12	11.3	45.2	90.4	150	12	
2FDRL 060 480 S06	6	24	48	110	6		2FDRL 114 912 S12	11.4	45.6	91.2	150	12	
2FDRL 061 488 S08	6.1	24.4	48.8	120	8		2FDRL 115 920 S12	11.5	46	92	150	12	
2FDRL 062 496 S08	6.2	24.8	49.6	120	8		2FDRL 116 928 S12	11.6	46.4	92.8	150	12	
2FDRL 063 504 S08	6.3	25.2	50.4	120	8		2FDRL 117 936 S12	11.7	46.8	93.6	150	12	
2FDRL 064 512 S08	6.4	25.6	51.2	120	8		2FDRL 118 944 S12	11.8	47.2	94.4	150	12	
2FDRL 065 520 S08	6.5	26	52	120	8		2FDRL 119 952 S12	11.9	47.6	95.2	150	12	
2FDRL 066 528 S08	6.6	26.4	52.8	120	8		2FDRL 120 960 S12	12	48	96	150	12	
2FDRL 067 536 S08	6.7	26.8	53.6	120	8		2FDRL 125 1000 S14	12.5	50	100	180	14	
2FDRL 068 544 S08	6.8	27.2	54.4	120	8		2FDRL 130 1040 S14	13	52	104	180	14	
2FDRL 069 552 S08	6.9	27.6	55.2	120	8		2FDRL 135 1080 S14	13.5	54	108	180	14	
2FDRL 070 560 S08	7	28	56	120	8		2FDRL 140 1120 S14	14	56	112	180	14	
2FDRL 071 568 S08	7.1	28.4	56.8	120	8		2FDRL 145 1160 S16	14.5	58	116	200	16	
2FDRL 072 576 S08	7.2	28.8	57.6	120	8		2FDRL 150 1200 S16	15	60	120	200	16	
2FDRL 073 584 S08	7.3	29.2	58.4	120	8		2FDRL 155 1240 S16	15.5	62	124	200	16	
2FDRL 074 592 S08	7.4	29.6	59.2	120	8		2FDRL 160 1280 S16	16	64	128	200	16	
2FDRL 075 600 S08	7.5	30	60	120	8		2FDRL 165 1320 S18	16.5	66	132	220	18	
2FDRL 076 608 S08	7.6	30.4	60.8	120	8		2FDRL 170 1360 S18	17	68	136	220	18	
2FDRL 077 616 S08	7.7	30.8	61.6	120	8		2FDRL 175 1400 S18	17.5	70	140	220	18	
2FDRL 078 624 S08	7.8	31.2	62.4	120	8		2FDRL 180 1440 S18	18	72	144	220	18	
2FDRL 079 632 S08	7.9	31.6	63.2	120	8		2FDRL 185 1480 S20	18.5	74	148	250	20	
2FDRL 080 640 S08	8	32	64	120	8		2FDRL 190 1520 S20	19	76	152	250	20	
2FDRL 081 648 S10	8.1	32.4	64.8	130	10		2FDRL 195 1560 S20	19.5	78	156	250	20	
2FDRL 082 656 S10	8.2	32.8	65.6	130	10		2FDRL 200 1600 S20	20	80	160	250	20	
2FDRL 083 664 S10	8.3	33.2	66.4	130	10								



- HRC50이하, 프리하드강, 합금강, 주철 가공용 플랫 드릴
- 더블 마진 옆날과 절삭유 홀을 적용하여, 다양한 경사면과 곡면 드릴가공에 빠른 가공 속도를 실현합니다.
- 24~30도 헬릭스를 채택하여 칩배출 성능이 매우 우수합니다.
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#### Flat drills for materials up to HRC50, pre-hardened steels, alloy steels, cast irons

- With double margin of side flute and coolant hole, high speed drilling is available to a variety of inclined and curved surfaces.
- Chip emission is great and stable drilling is available with between 24 to 30 degree helix design.
- Minimize burrs during penetration drilling.
- Increased tool life by applying HR coating with great heat and wear resistance.

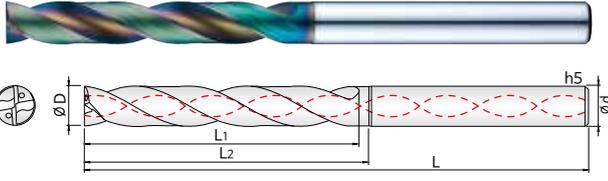


518P

단위 : mm

Order Number	날경 Diameter D	홀길이 Flute Length L1	유효장 Effective Length L2	전장 Overall Length L	샹크 Dia d	비고	Order Number	날경 Diameter D	홀길이 Flute Length L1	유효장 Effective Length L2	전장 Overall Length L	샹크 Dia d	비고
New 2FDRW 010 060 S03	1	4.5	6	40	3		2FDRW 060 300 S06	6	27	30	70	6	
New 2FDRW 011 061 S03	1.1	5	6.1	40	3		2FDRW 061 305 S08	6.1	27.5	30.5	80	8	
New 2FDRW 012 066 S03	1.2	5.4	6.6	40	3		2FDRW 062 309 S08	6.2	27.9	30.9	80	8	
New 2FDRW 013 072 S03	1.3	5.9	7.2	40	3		2FDRW 063 314 S08	6.3	28.4	31.4	80	8	
New 2FDRW 014 077 S03	1.4	6.3	7.7	40	3		2FDRW 064 318 S08	6.4	28.8	31.8	80	8	
New 2FDRW 015 081 S03	1.5	6.8	8.1	50	3		2FDRW 065 323 S08	6.5	29.3	32.3	80	8	
New 2FDRW 016 087 S03	1.6	7.2	8.7	50	3		2FDRW 066 327 S08	6.6	29.7	32.7	80	8	
New 2FDRW 017 092 S03	1.7	7.7	9.2	50	3		2FDRW 067 332 S08	6.7	30.2	33.2	80	8	
New 2FDRW 018 098 S03	1.8	8.1	9.8	50	3		2FDRW 068 336 S08	6.8	30.6	33.6	80	8	
New 2FDRW 019 103 S03	1.9	8.6	10.3	50	3		2FDRW 069 341 S08	6.9	31.1	34.1	80	8	
New 2FDRW 020 106 S04	2	9	10.6	50	4		2FDRW 070 345 S08	7	31.5	34.5	80	8	
New 2FDRW 021 112 S04	2.1	9.5	11.2	50	4		2FDRW 071 350 S08	7.1	32	35	80	8	
New 2FDRW 022 117 S04	2.2	10	11.7	50	4		2FDRW 072 354 S08	7.2	32.4	35.4	80	8	
New 2FDRW 023 122 S04	2.3	10.4	12.2	50	4		2FDRW 073 359 S08	7.3	32.9	35.9	80	8	
New 2FDRW 024 128 S04	2.4	10.8	12.8	50	4		2FDRW 074 363 S08	7.4	33.3	36.3	80	8	
New 2FDRW 025 130 S04	2.5	11.3	13	50	4		2FDRW 075 368 S08	7.5	33.8	36.8	80	8	
New 2FDRW 026 136 S04	2.6	11.7	13.6	50	4		2FDRW 076 372 S08	7.6	34.2	37.2	80	8	
New 2FDRW 027 141 S04	2.7	12.2	14.1	50	4		2FDRW 077 377 S08	7.7	34.7	37.7	80	8	
New 2FDRW 028 146 S04	2.8	12.6	14.6	50	4		2FDRW 078 381 S08	7.8	35.1	38.1	80	8	
New 2FDRW 029 151 S04	2.9	13.1	15.1	50	4		2FDRW 079 386 S08	7.9	35.6	38.6	80	8	
2FDRW 030 165 S04	3	13.5	16.5	60	4		2FDRW 080 390 S08	8	36	39	80	8	
2FDRW 031 170 S04	3.1	14	17	60	4		2FDRW 081 395 S10	8.1	36.5	39.5	90	10	
2FDRW 032 174 S04	3.2	14.4	17.4	60	4		2FDRW 082 399 S10	8.2	36.9	39.9	90	10	
2FDRW 033 179 S04	3.3	14.9	17.9	60	4		2FDRW 083 404 S10	8.3	37.4	40.4	90	10	
2FDRW 034 183 S04	3.4	15.3	18.3	60	4		2FDRW 084 408 S10	8.4	37.8	40.8	90	10	
2FDRW 035 188 S04	3.5	15.8	18.8	60	4		2FDRW 085 413 S10	8.5	38.3	41.3	90	10	
2FDRW 036 192 S04	3.6	16.2	19.2	60	4		2FDRW 086 417 S10	8.6	38.7	41.7	90	10	
2FDRW 037 197 S04	3.7	16.7	19.7	60	4		2FDRW 087 422 S10	8.7	39.2	42.2	90	10	
2FDRW 038 201 S04	3.8	17.1	20.1	60	4		2FDRW 088 426 S10	8.8	39.6	42.6	90	10	
2FDRW 039 206 S04	3.9	17.6	20.6	60	4		2FDRW 089 431 S10	8.9	40.1	43.1	90	10	
2FDRW 040 210 S06	4	18	21	60	6		2FDRW 090 435 S10	9	40.5	43.5	90	10	
2FDRW 041 215 S06	4.1	18.5	21.5	70	6		2FDRW 091 440 S10	9.1	41	44	90	10	
2FDRW 042 219 S06	4.2	18.9	21.9	70	6		2FDRW 092 444 S10	9.2	41.4	44.4	90	10	
2FDRW 043 224 S06	4.3	19.4	22.4	70	6		2FDRW 093 449 S10	9.3	41.9	44.9	90	10	
2FDRW 044 228 S06	4.4	19.8	22.8	70	6		2FDRW 094 453 S10	9.4	42.3	45.3	90	10	
2FDRW 045 233 S06	4.5	20.3	22.3	70	6		2FDRW 095 458 S10	9.5	42.8	45.8	90	10	
2FDRW 046 237 S06	4.6	20.7	23.7	70	6		2FDRW 096 462 S10	9.6	43.2	46.2	90	10	
2FDRW 047 242 S06	4.7	21.2	24.2	70	6		2FDRW 097 467 S10	9.7	43.7	46.7	90	10	
2FDRW 048 246 S06	4.8	21.6	24.6	70	6		2FDRW 098 471 S10	9.8	44.1	47.1	90	10	
2FDRW 049 251 S06	4.9	22.1	25.1	70	6		2FDRW 099 476 S10	9.9	44.6	47.6	90	10	
2FDRW 050 255 S06	5	22.5	25.5	70	6		2FDRW 100 480 S10	10	45	48	90	10	
2FDRW 051 260 S06	5.1	23	26	70	6		2FDRW 101 485 S12	10.1	45.5	48.5	100	12	
2FDRW 052 264 S06	5.2	23.4	26.4	70	6		2FDRW 102 489 S12	10.2	45.9	48.9	100	12	
2FDRW 053 269 S06	5.3	23.9	26.9	70	6		2FDRW 103 494 S12	10.3	46.4	49.4	100	12	
2FDRW 054 273 S06	5.4	24.3	27.3	70	6		2FDRW 104 498 S12	10.4	46.8	49.8	100	12	
2FDRW 055 278 S06	5.5	24.8	27.8	70	6		2FDRW 105 503 S12	10.5	47.3	50.3	100	12	
2FDRW 056 282 S06	5.6	25.2	28.2	70	6		2FDRW 106 507 S12	10.6	47.7	50.7	100	12	
2FDRW 057 287 S06	5.7	25.7	28.7	70	6		2FDRW 107 512 S12	10.7	48.2	51.2	100	12	
2FDRW 058 291 S06	5.8	26.1	29.1	70	6		2FDRW 108 516 S12	10.8	48.6	51.6	100	12	
2FDRW 059 296 S06	5.9	26.6	29.6	70	6		2FDRW 109 521 S12	10.9	49.1	52.1	100	12	





- HRC50이하, 프리하든강, 합금강, 주철 가공용 플랫 드릴
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- Flat drills for materials up to HRC50, pre-hardened steels, alloy steels, cast irons
- With double margin of side flute and coolant hole, high speed drilling is available to a variety of inclined and curved surfaces.
- Chip emission is great and stable drilling is available with between 24 to 30 degree helix design.
- Minimize burrs during penetration drilling.
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518P

단위 : mm

Order Number	날경 Diameter D	홀길이 Flute Length L1	유효장 Effective Length L2	전장 Overall Length L	샹크 Shank Dia d	비고	Order Number	날경 Diameter D	홀길이 Flute Length L1	유효장 Effective Length L2	전장 Overall Length L	샹크 Shank Dia d	비고
2FDRLW 030 231 S04	3	20.1	23.1	70	4		2FDRLW 080 566 S08	8	53.6	56.6	100	8	
2FDRLW 031 238 S04	3.1	20.8	23.8	70	4		2FDRLW 081 573 S10	8.1	54.3	57.3	110	10	
2FDRLW 032 244 S04	3.2	21.4	24.4	70	4		2FDRLW 082 579 S10	8.2	54.9	57.9	110	10	
2FDRLW 033 251 S04	3.3	22.1	25.1	70	4		2FDRLW 083 586 S10	8.3	55.6	58.6	110	10	
2FDRLW 034 258 S04	3.4	22.8	25.8	70	4		2FDRLW 084 593 S10	8.4	56.3	59.3	110	10	
2FDRLW 035 265 S04	3.5	23.5	26.5	70	4		2FDRLW 085 600 S10	8.5	57	60	110	10	
2FDRLW 036 271 S04	3.6	24.1	27.1	70	4		2FDRLW 086 606 S10	8.6	57.6	60.6	110	10	
2FDRLW 037 278 S04	3.7	24.8	27.8	70	4		2FDRLW 087 613 S10	8.7	58.3	61.3	110	10	
2FDRLW 038 285 S04	3.8	25.5	28.5	70	4		2FDRLW 088 620 S10	8.8	59	62	110	10	
2FDRLW 039 291 S04	3.9	26.1	29.1	70	4		2FDRLW 089 626 S10	8.9	59.6	62.6	110	10	
2FDRLW 040 298 S06	4	26.8	29.8	70	6		2FDRLW 090 633 S10	9	60.3	63.3	110	10	
2FDRLW 041 305 S06	4.1	27.5	30.5	85	6		2FDRLW 091 640 S10	9.1	61	64	110	10	
2FDRLW 042 311 S06	4.2	28.1	31.1	85	6		2FDRLW 092 646 S10	9.2	61.6	64.6	110	10	
2FDRLW 043 318 S06	4.3	28.8	31.8	85	6		2FDRLW 093 653 S10	9.3	62.3	65.3	110	10	
2FDRLW 044 325 S06	4.4	29.5	32.5	85	6		2FDRLW 094 660 S10	9.4	63	66	110	10	
2FDRLW 045 332 S06	4.5	30.2	33.2	85	6		2FDRLW 095 667 S10	9.5	63.7	66.7	110	10	
2FDRLW 046 338 S06	4.6	30.8	33.8	85	6		2FDRLW 096 673 S10	9.6	64.3	67.3	110	10	
2FDRLW 047 345 S06	4.7	31.5	34.5	85	6		2FDRLW 097 680 S10	9.7	65	68	110	10	
2FDRLW 048 352 S06	4.8	32.2	35.2	85	6		2FDRLW 098 687 S10	9.8	65.7	68.7	110	10	
2FDRLW 049 358 S06	4.9	32.8	35.8	85	6		2FDRLW 099 693 S10	9.9	66.3	69.3	110	10	
2FDRLW 050 365 S06	5	33.5	36.5	85	6		2FDRLW 100 700 S10	10	67	70	110	10	
2FDRLW 051 372 S06	5.1	34.2	37.2	85	6		2FDRLW 101 707 S12	10.1	67.7	70.7	125	12	
2FDRLW 052 378 S06	5.2	34.8	37.8	85	6		2FDRLW 102 713 S12	10.2	68.3	71.3	125	12	
2FDRLW 053 385 S06	5.3	35.5	38.5	85	6		2FDRLW 103 720 S12	10.3	69	72	125	12	
2FDRLW 054 392 S06	5.4	36.2	39.2	85	6		2FDRLW 104 727 S12	10.4	69.7	72.7	125	12	
2FDRLW 055 399 S06	5.5	36.9	39.9	85	6		2FDRLW 105 734 S12	10.5	70.4	73.4	125	12	
2FDRLW 056 405 S06	5.6	37.5	40.5	85	6		2FDRLW 106 740 S12	10.6	71	74	125	12	
2FDRLW 057 412 S06	5.7	38.2	41.2	85	6		2FDRLW 107 747 S12	10.7	71.7	74.7	125	12	
2FDRLW 058 419 S06	5.8	38.9	41.9	85	6		2FDRLW 108 754 S12	10.8	72.4	75.4	125	12	
2FDRLW 059 425 S06	5.9	39.5	42.5	85	6		2FDRLW 109 760 S12	10.9	73	76	125	12	
2FDRLW 060 432 S06	6	40.2	43.2	85	6		2FDRLW 110 767 S12	11	73.7	76.7	125	12	
2FDRLW 061 439 S08	6.1	40.9	43.9	100	8		2FDRLW 111 774 S12	11.1	74.4	77.4	135	12	
2FDRLW 062 445 S08	6.2	41.5	44.5	100	8		2FDRLW 112 780 S12	11.2	75	78	135	12	
2FDRLW 063 452 S08	6.3	42.2	45.2	100	8		2FDRLW 113 787 S12	11.3	75.7	78.7	135	12	
2FDRLW 064 459 S08	6.4	42.9	45.9	100	8		2FDRLW 114 794 S12	11.4	76.4	79.4	135	12	
2FDRLW 065 466 S08	6.5	43.6	46.6	100	8		2FDRLW 115 801 S12	11.5	77.1	80.1	135	12	
2FDRLW 066 472 S08	6.6	44.2	47.2	100	8		2FDRLW 116 807 S12	11.6	77.7	80.7	135	12	
2FDRLW 067 479 S08	6.7	44.9	47.9	100	8		2FDRLW 117 814 S12	11.7	78.4	81.4	135	12	
2FDRLW 068 486 S08	6.8	45.6	48.6	100	8		2FDRLW 118 821 S12	11.8	79.1	82.1	135	12	
2FDRLW 069 492 S08	6.9	46.2	49.2	100	8		2FDRLW 119 827 S12	11.9	79.7	82.7	135	12	
2FDRLW 070 499 S08	7	46.9	49.9	100	8		2FDRLW 120 834 S12	12	80.4	83.4	135	12	
2FDRLW 071 506 S08	7.1	47.6	50.6	100	8		2FDRLW 125 868 S14	12.5	83.8	86.8	140	14	
2FDRLW 072 512 S08	7.2	48.2	51.2	100	8		2FDRLW 130 901 S14	13	87.1	90.1	140	14	
2FDRLW 073 519 S08	7.3	48.9	51.9	100	8		2FDRLW 135 935 S14	13.5	90.5	93.5	140	14	
2FDRLW 074 526 S08	7.4	49.6	52.6	100	8		2FDRLW 140 968 S14	14	93.8	96.8	140	14	
2FDRLW 075 533 S08	7.5	50.3	53.3	100	8		2FDRLW 145 1002 S16	14.5	97.2	100.2	160	16	
2FDRLW 076 539 S08	7.6	50.9	53.9	100	8		2FDRLW 150 1035 S16	15	100.5	103.5	160	16	
2FDRLW 077 546 S08	7.7	51.6	54.6	100	8		2FDRLW 155 1069 S16	15.5	103.9	106.9	160	16	
2FDRLW 078 553 S08	7.8	52.3	55.3	100	8		2FDRLW 160 1102 S16	16	107.2	110.2	160	16	
2FDRLW 079 559 S08	7.9	52.9	55.9	100	8								