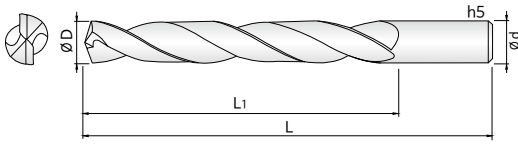


초경 2날 두배 S 드릴 [5XD]



- 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 Shank Dia d	비고	Order Number	날경 Diameter D	홈길이 Flute Length L1	전장 Overall Length L	샙크 Shank 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							

2DUBES(3XD) Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material	구조용강/탄소강/회주철 Structural steels / Carbon Steels / Gray cast irons SS / SC / FC		공구강/금형강 Tool Steels / Pre-hardened Steels SCM / HPM		합금강/프리하든강 Alloy Steels / Pre-hardened Steels NAK80 / KP4M		고경도강 Hardened Steels STAVX / SKD11	
경도 Hardness	~30HRc		30~40HRc		40~45HRc		45~55HRc	
외경 Outside Diameter	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED
Ø1	15,900	440	11,000	360	9,450	310	8,900	200
Ø2	7,900	520	6,000	390	5,000	220	4,500	200
Ø3	6,900	770	5,900	450	4,300	250	4,000	230
Ø4	5,170	850	4,500	450	3,200	280	3,000	250
Ø5	4,140	820	3,450	570	3,000	360	2,450	310
Ø6	3,450	840	3,000	570	3,000	330	2,010	310
Ø8	2,580	860	2,100	440	1,700	280	1,520	260
Ø10	2,070	680	1,700	400	1,300	220	1,210	220
Ø12	1,730	560	1,400	350	1,050	200	1,000	200
Ø16	1,300	440	1,150	340	800	170	750	170
Ø20	1,030	390	950	340	650	170	600	170

- 피삭재의 고정미 불안정 할 시 내구성이 떨어지므로, 확실한 클램핑을 하십시오.
- 원활한 칩 배출을 위해 절삭유 사용을 권장하며, 수용성 절삭유가 효과적입니다.
- 상기 절삭 조건은 참고 수치이므로, 실 가공 시 가공 형상, 가공 목적, 적용 기계에 따라 조건 변경 요망합니다.
- 조건표가 기계의 최대 스피들 속도를 초과하거나 버 및 적열 현상이 발생할 때 스피들 속도와 이송 속도를 비례하여 조정하십시오.
- Ensure a stable clamping when fixing the cutting tool, as durability may be compromised if the clamping is unstable.
- For smooth chip evacuation, we recommend using cutting oil, and a soluble cutting fluid is effective as well.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If the cutting conditions exceed the maximum spindle speed of the machine or if chattering and thermal phenomena occur, adjust the spindle speed and feed rate proportionally.

2DUBES(5XD) Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material	구조용강/탄소강/회주철 Structural steels / Carbon Steels / Gray cast irons SS / SC / FC		공구강/금형강 Tool Steels / Pre-hardened Steels SCM / HPM		합금강/프리하든강 Alloy Steels / Pre-hardened Steels NAK80 / KP4M		고경도강 Hardened Steels STAVX / SKD11	
경도 Hardness	~ 30HRc		30 ~ 40HRc		40 ~ 45HRc		45~55HRc	
외경 Outside Diameter	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED
1mm	15,900	400	11,000	330	9,450	280	8,900	180
2mm	7,900	470	6,000	350	5,000	200	4,500	180
3mm	6,900	700	5,900	410	4,300	230	4,000	210
4mm	5,170	770	4,500	410	3,200	250	3,000	230
5mm	4,140	745	3,450	520	3,000	330	2,450	280
6mm	3,450	760	3,000	520	3,000	300	2,010	280
8mm	2,580	780	2,100	400	1,700	250	1,520	240
10mm	2,070	620	1,700	360	1,300	200	1,210	200
12mm	1,730	510	1,400	320	1,050	180	1,000	180
16mm	1,300	400	1,150	310	800	150	750	150
20mm	1,030	350	950	310	650	150	600	150

- 피삭재의 고정미 불안정 할 시 내구성이 떨어지므로, 확실한 클램핑을 하십시오.
- 원활한 칩 배출을 위해 절삭유 사용을 권장하며, 수용성 절삭유가 효과적입니다.
- 상기 절삭 조건은 참고 수치이므로, 실 가공 시 가공 형상, 가공 목적, 적용 기계에 따라 조건 변경 요망합니다.
- 절삭하는 피삭재의 따라 구멍깊이 최대 5xDc 이상의 드릴링 시 peck(Q) 절입량을 변경하십시오.
- 조건표가 기계의 최대 스피들 속도를 초과하거나 버 및 적열 현상이 발생할 때 스피들 속도와 이송 속도를 비례하여 조정하십시오.
- Ensure a stable clamping when fixing the cutting tool, as durability may be compromised if the clamping is unstable.
- For smooth chip evacuation, we recommend using cutting oil, and a soluble cutting fluid is effective as well.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- Please adjust the peck (Q) feed rate when drilling with a cutting tool that has a depth of cut (Dc) exceeding 5 times the diameter.
- If the cutting conditions exceed the maximum spindle speed of the machine or if chattering and thermal phenomena occur, adjust the spindle speed and feed rate proportionally.