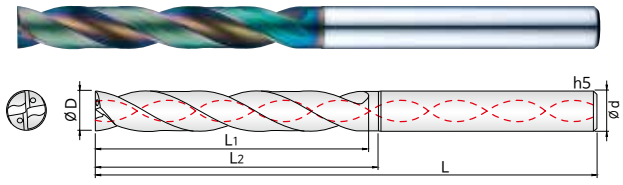
2FDRLW

2 Flutes, Long Length Multi-Processing Flat Drills with Coolant hole

초경 2날/긴 길이 다기능 플랫 드릴 (내부 쿨런트)



- **HRc50이하, 프리하든강, 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.
- 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 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.

2 | WC 미립자 | HR Coating | h7 Diameter Tolerence | 24° ~30° Helix Angle | CUTTING DATA

518P

단위 : mm

Order Number	날경 Diameter D	홈길이 Flute Length L1	유효장 Effective Length L2	전장 Overall Length L	생크 Shank Dia d	비고
2FDRLW 030 231 S04	3	20.1	23.1	70	4	
2FDRLW 031 238 S04	3.1	20.8	23.8	70	4	
2FDRLW 032 244 S04	3.2	21.4	24.4	70	4	
2FDRLW 033 251 S04	3.3	22.1	25.1	70	4	
2FDRLW 034 258 S04	3.4	22.8	25.8	70	4	
2FDRLW 035 265 S04	3.5	23.5	26.5	70	4	
2FDRLW 036 271 S04	3.6	24.1	27.1	70	4	
2FDRLW 037 278 S04	3.7	24.8	27.8	70	4	
2FDRLW 038 285 S04	3.8	25.5	28.5	70	4	
2FDRLW 039 291 S04	3.9	26.1	29.1	70	4	
2FDRLW 040 298 S06	4	26.8	29.8	70	6	
2FDRLW 041 305 S06	4.1	27.5	30.5	85	6	
2FDRLW 042 311 S06	4.2	28.1	31.1	85	6	
2FDRLW 043 318 S06	4.3	28.8	31.8	85	6	
2FDRLW 044 325 S06	4.4	29.5	32.5	85	6	
2FDRLW 045 332 S06	4.5	30.2	33.2	85	6	
2FDRLW 046 338 S06	4.6	30.8	33.8	85	6	
2FDRLW 047 345 S06	4.7	31.5	34.5	85	6	
2FDRLW 048 352 S06	4.8	32.2	35.2	85	6	
2FDRLW 049 358 S06	4.9	32.8	35.8	85	6	
2FDRLW 050 365 S06	5	33.5	36.5	85	6	
2FDRLW 051 372 S06	5.1	34.2	37.2	85	6	
2FDRLW 052 378 S06	5.2	34.8	37.8	85	6	
2FDRLW 053 385 S06	5.3	35.5	38.5	85	6	
2FDRLW 054 392 S06	5.4	36.2	39.2	85	6	
2FDRLW 055 399 S06	5.5	36.9	39.9	85	6	
2FDRLW 056 405 S06	5.6	37.5	40.5	85	6	
2FDRLW 057 412 S06	5.7	38.2	41.2	85	6	
2FDRLW 058 419 S06	5.8	38.9	41.9	85	6	
2FDRLW 059 425 S06	5.9	39.5	42.5	85	6	
2FDRLW 060 432 S06	6	40.2	43.2	85	6	
2FDRLW 061 439 S08	6.1	40.9	43.9	100	8	
2FDRLW 062 445 S08	6.2	41.5	44.5	100	8	
2FDRLW 063 452 S08	6.3	42.2	45.2	100	8	
2FDRLW 064 459 S08	6.4	42.9	45.9	100	8	
2FDRLW 065 466 S08	6.5	43.6	46.6	100	8	
2FDRLW 066 472 S08	6.6	44.2	47.2	100	8	
2FDRLW 067 479 S08	6.7	44.9	47.9	100	8	
2FDRLW 068 486 S08	6.8	45.6	48.6	100	8	
2FDRLW 069 492 S08	6.9	46.2	49.2	100	8	
2FDRLW 070 499 S08	7	46.9	49.9	100	8	
2FDRLW 071 506 S08	7.1	47.6	50.6	100	8	
2FDRLW 072 512 S08	7.2	48.2	51.2	100	8	
2FDRLW 073 519 S08	7.3	48.9	51.9	100	8	
2FDRLW 074 526 S08	7.4	49.6	52.6	100	8	
2FDRLW 075 533 S08	7.5	50.3	53.3	100	8	
2FDRLW 076 539 S08	7.6	50.9	53.9	100	8	
2FDRLW 077 546 S08	7.7	51.6	54.6	100	8	
2FDRLW 078 553 S08	7.8	52.3	55.3	100	8	
2FDRLW 079 559 S08	7.9	52.9	55.9	100	8	

Order Number	날경 Diameter D	홈길이 Flute Length L1	유효장 Effective Length L2	전장 Overall Length L	생크 Shank Dia d	비고
2FDRLW 080 566 S08	8	53.6	56.6	100	8	
2FDRLW 081 573 S10	8.1	54.3	57.3	110	10	
2FDRLW 082 579 S10	8.2	54.9	57.9	110	10	
2FDRLW 083 586 S10	8.3	55.6	58.6	110	10	
2FDRLW 084 593 S10	8.4	56.3	59.3	110	10	
2FDRLW 085 600 S10	8.5	57	60	110	10	
2FDRLW 086 606 S10	8.6	57.6	60.6	110	10	
2FDRLW 087 613 S10	8.7	58.3	61.3	110	10	
2FDRLW 088 620 S10	8.8	59	62	110	10	
2FDRLW 089 626 S10	8.9	59.6	62.6	110	10	
2FDRLW 090 633 S10	9	60.3	63.3	110	10	
2FDRLW 091 640 S10	9.1	61	64	110	10	
2FDRLW 092 646 S10	9.2	61.6	64.6	110	10	
2FDRLW 093 653 S10	9.3	62.3	65.3	110	10	
2FDRLW 094 660 S10	9.4	63	66	110	10	
2FDRLW 095 667 S10	9.5	63.7	66.7	110	10	
2FDRLW 096 673 S10	9.6	64.3	67.3	110	10	
2FDRLW 097 680 S10	9.7	65	68	110	10	
2FDRLW 098 687 S10	9.8	65.7	68.7	110	10	
2FDRLW 099 693 S10	9.9	66.3	69.3	110	10	
2FDRLW 100 700 S10	10	67	70	110	10	
2FDRLW 101 707 S12	10.1	67.7	70.7	125	12	
2FDRLW 102 713 S12	10.2	68.3	71.3	125	12	
2FDRLW 103 720 S12	10.3	69	72	125	12	
2FDRLW 104 727 S12	10.4	69.7	72.7	125	12	
2FDRLW 105 734 S12	10.5	70.4	73.4	125	12	
2FDRLW 106 740 S12	10.6	71	74	125	12	
2FDRLW 107 747 S12	10.7	71.7	74.7	125	12	
2FDRLW 108 754 S12	10.8	72.4	75.4	125	12	
2FDRLW 109 760 S12	10.9	73	76	125	12	
2FDRLW 110 767 S12	11	73.7	76.7	125	12	
2FDRLW 111 774 S12	11.1	74.4	77.4	135	12	
2FDRLW 112 780 S12	11.2	75	78	135	12	
2FDRLW 113 787 S12	11.3	75.7	78.7	135	12	
2FDRLW 114 794 S12	11.4	76.4	79.4	135	12	
2FDRLW 115 801 S12	11.5	77.1	80.1	135	12	
2FDRLW 116 807 S12	11.6	77.7	80.7	135	12	
2FDRLW 117 814 S12	11.7	78.4	81.4	135	12	
2FDRLW 118 821 S12	11.8	79.1	82.1	135	12	
2FDRLW 119 827 S12	11.9	79.7	82.7	135	12	
2FDRLW 120 834 S12	12	80.4	83.4	135	12	
2FDRLW 125 868 S14	12.5	83.8	86.8	140	14	
2FDRLW 130 901 S14	13	87.1	90.1	140	14	
2FDRLW 135 935 S14	13.5	90.5	93.5	140	14	
2FDRLW 140 968 S14	14	93.8	96.8	140	14	
2FDRLW 145 1002 S16	14.5	97.2	100.2	160	16	
2FDRLW 150 1035 S16	15	100.5	103.5	160	16	
2FDRLW 155 1069 S16	15.5	103.9	106.9	160	16	
2FDRLW 160 1102 S16	16	107.2	110.2	160	16	

2FDRW Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material	일반구조강/쾌삭강 Mild Steels/Free cutting steels HP/SM		구조용강/탄소강/회주철 Structural steels / Carbon Steels /Gray cast irons SS/SC/FC		공구강/금형강 Tool Steels / Mold steels SCM/HPM		합금강/프리하든강 Alloy Steels / Pre-hardened Steels NAK80/KP4M		덕타일 주철 Ductile cast irons FCD		스테인레스강 Stainless Steels SUS304/SUS316	
경도 Hardness	~200HB		~30HRc		30 ~ 40HRc		40 ~ 45HRc		-		-	
외경 Diameter	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED
Ø3	12500	900	10000	600	7500	300	6500	270	10000	450	10000	600
Ø4	9500	930	8000	620	5500	300	4800	270	8000	450	8000	600
Ø5	7500	930	6500	620	4500	300	3800	270	6300	460	6300	620
Ø6	6500	950	5400	630	3700	330	3200	280	5400	470	5500	620
Ø8	4800	950	4000	630	2900	330	2500	280	4000	470	4000	620
Ø10	3800	950	3300	630	2450	330	2000	280	3200	470	3300	620
Ø12	3300	950	2800	630	2000	330	1600	280	2800	470	2900	620
Ø16	2500	950	2000	630	1500	330	1300	280	2000	470	2000	620

- 절삭 조건표 참조는 수용성 절삭유 사용이 전제입니다. 절삭유를 사용하지 않을 시, 회전과 속도를 20% 줄여 사용하십시오.
- 드릴 깊이는 3xDc를 넘기지 마십시오. 칩 배출 상태가 좋지 않을 경우, 펙드릴링 방식을 사용하십시오.
- 펙드릴 간격은 0.1Dc ~ 0.5Dc 사이를 권장합니다.
- 측면 가공용으로는 사용하지 마십시오.
- 절삭 조건을 기계 강성이나 클램프 상태에 따라 조절하십시오.

- Use the water soluble cutting oil. In case if you do not use water soluble cutting oil, reduce the RPM and the feed by 20%.
- Do not over the drilling depth of 3 x Dc. If the state of chip emission is not good enough, use peck drilling method.
- For the stainless material, use peck drilling method.
- Peck drill interval is recommended between 0.1 Dc to 0.5 Dc.
- Side milling is not possible.
- Change cutting conditions depending on work variables: rigidity of machine, work clamp or material shape.

2FDRLW Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material	일반구조강/쾌삭강 Mild Steels/Free cutting steels HP/SM		구조용강/탄소강/회주철 Structural steels / Carbon Steels /Gray cast irons SS/SC/FC		공구강/금형강 Tool Steels / Mold steels SCM/HPM		합금강/프리하든강 Alloy Steels / Pre-hardened Steels NAK80/KP4M		덕타일 주철 Ductile cast irons FCD		스테인레스강 Stainless Steels SUS304/SUS316	
경도 Hardness	~200HB		~30HRc		30 ~ 40HRc		40 ~ 45HRc		-		-	
외경 Diameter	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED	회전수 RPM	이송 속도 FEED
Ø3	15000	1250	10000	600	7300	300	6500	270	10000	460	10000	600
Ø4	11000	1300	8000	600	5500	300	4800	270	8000	460	8000	620
Ø5	9000	1300	6400	600	4500	300	3800	270	6500	460	6500	620
Ø6	7500	1350	5300	630	3700	320	3200	280	5300	480	5300	630
Ø8	5600	1350	4000	630	2800	320	2500	280	4000	480	4000	630
Ø10	4500	1350	3200	630	2300	320	2000	280	3200	480	3300	630
Ø12	3700	1350	2800	630	2000	320	1700	280	2900	480	2800	630
Ø16	2850	1350	2100	630	1500	320	1300	280	2100	480	2100	630

- 절삭 조건표 참조는 수용성 절삭유 사용이 전제입니다. 절삭유를 사용하지 않을 시, 회전과 속도를 20% 줄여 사용하십시오.
- 드릴 깊이는 5xDc를 넘기지 마십시오. 칩 배출 상태가 좋지 않을 경우, 펙드릴링 방식을 사용하십시오.
- 펙드릴 간격은 0.1Dc ~ 0.5Dc 사이를 권장합니다.
- 측면 가공용으로는 사용하지 마십시오.
- 절삭 조건을 기계 강성이나 클램프 상태에 따라 조절하십시오.

- Use the water soluble cutting oil. In case if you do not use water soluble cutting oil, reduce the RPM and the feed by 20%.
- Do not over the drilling depth of 5 x Dc. If the state of chip emission is not good enough, use peck drilling method.
- For the stainless material, use peck drilling method.
- Peck drill interval is recommended between 0.1 Dc to 0.5 Dc.
- Side milling is not possible.
- Change cutting conditions depending on work variables: rigidity of machine, work clamp or material shape.