

Dolphin Drill **NEW**

범용 돌핀 드릴

제품설명

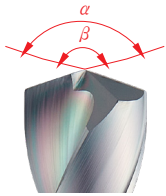
- 범용성 확보를 위한 설계 탄소강, 합금강, 스테인리스강 등
- 절삭성 향상, 안정적인 칩 배출로 선단 절삭부하 감소 및 가공 면조도 향상
- 3D, 4D, 7D의 표준 제원으로 다양한 고객 요구 충족

제품특징

- 인선거리 개선을 통한 가공 초기부하 감소
- 개선된 씨닝 형상으로 절삭부하 감소
- 강성과 칩 배출을 고려한 플루트 설계
- AlCrN Base 박막을 적용하여 내마모성-윤활성 향상
- 다양한 표준 제원으로 고객 맞춤 대응

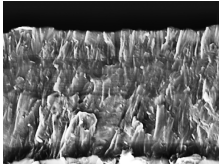
Multi Point angle

- Point angle의 최적 match-up으로 절삭력 분산
- 유선형 1차 Multi Point angle로 선단부 강성 증대
: 초기 진입시 파손 감소



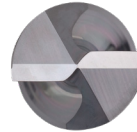
AlCrN Base New Coating

- Flute 윤활성 향상에 따른 칩 배출력 향상
- Multi layer 박막으로 내마모성과 내산화성 향상



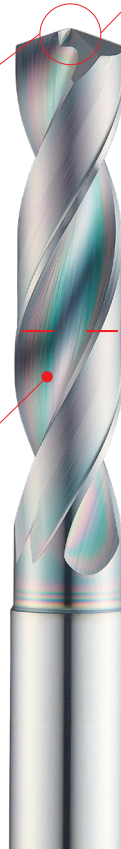
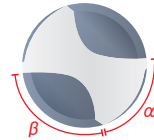
선단형상

- 외주부 내치핑성 증대로 고능률 가공 실현
- 스트레이트 인선 적용으로 절삭력 분산



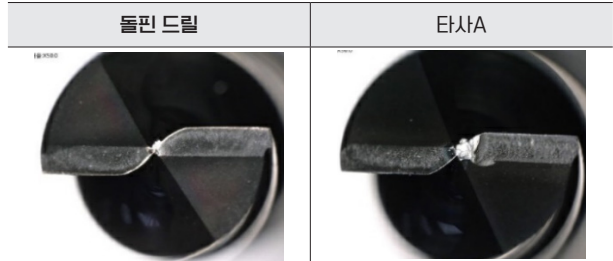
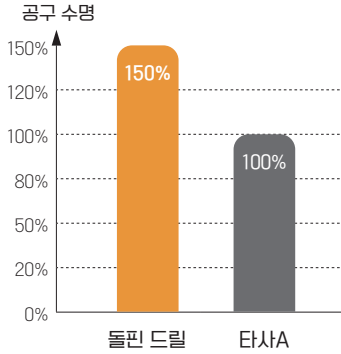
NEW 플루트 디자인

- 제품의 강성 증대와 칩 배출성을 고려한 Flute 홈 설계 : (β 각 증대)
- Flute 조도 향상으로 가공시 칩 배출성 개선 및 마찰열 감소



성능 평가 결과

▶ 탄소강(SM45C)

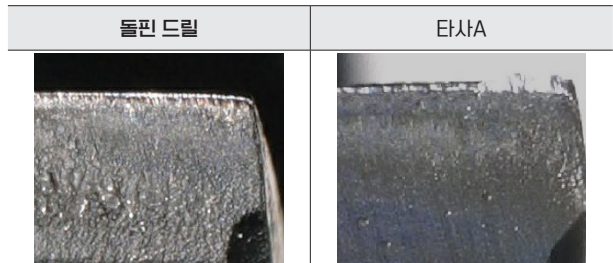
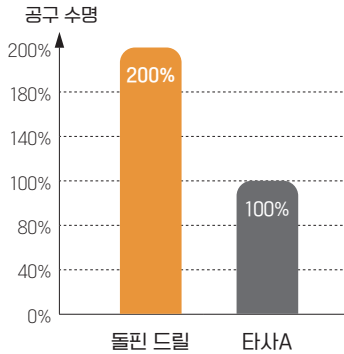


· 테스트 품번 : NDPG507060 (D6.0-50/83-6)

· 가공조건

Vc	rpm	fn	Feed	Ap	Coolant
120	6,364	0.12	764	30	External

▶ 합금강 (SCM440)

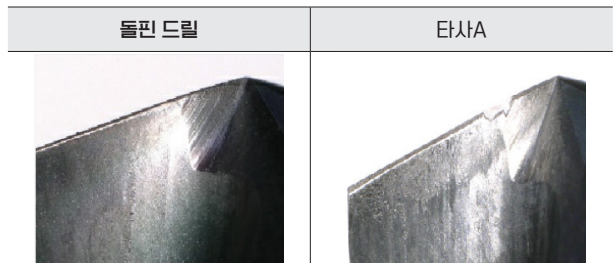
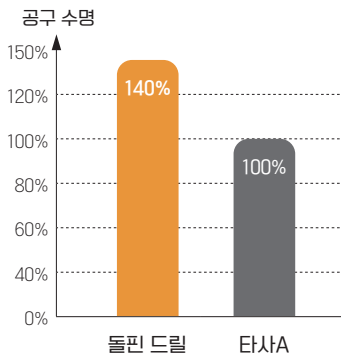


· 테스트 품번 : NDPG507060 (D6.0-50/83-6)

· 가공조건

Vc	rpm	fn	Feed	Ap	Coolant
100	5,303	0.12	636	30	External

▶ 스테인레스강(SUS304)



· 테스트 품번 : NDPG507060 (D6.0-50/83-6)

· 가공조건

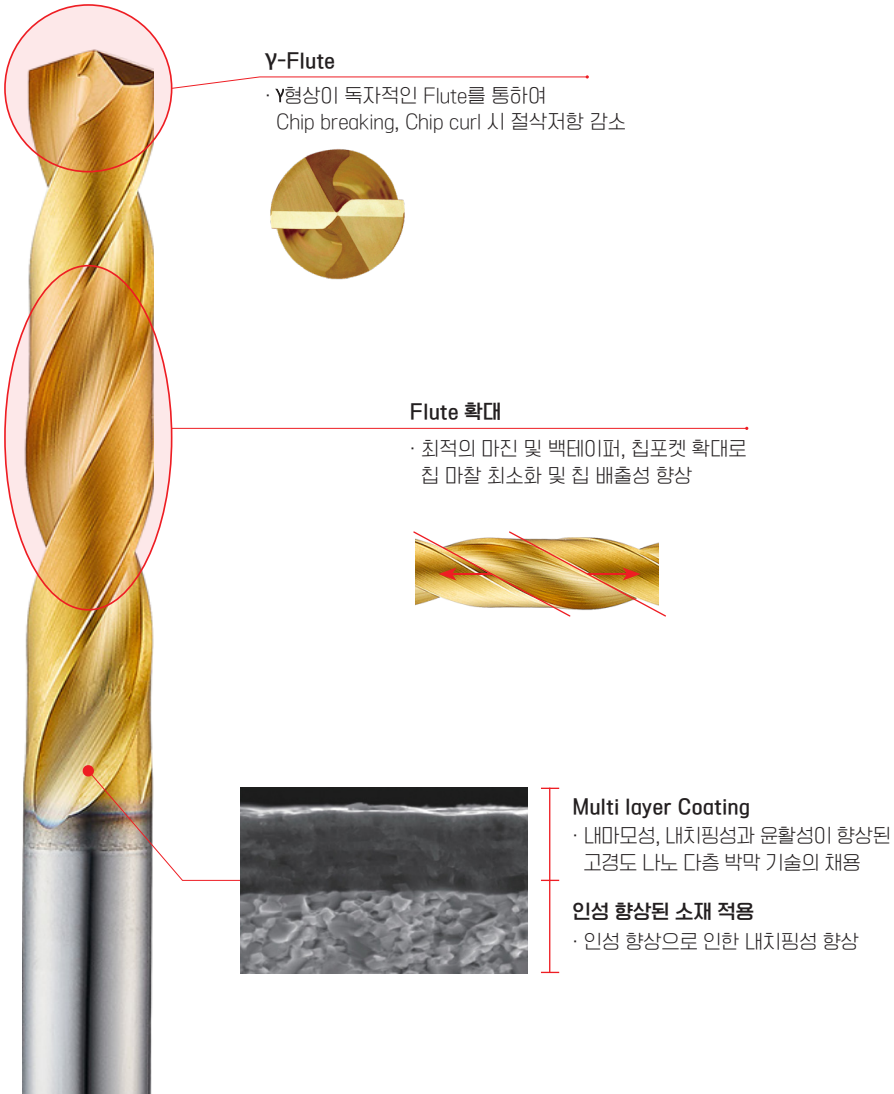
Vc	rpm	fn	Feed	Ap	Coolant
30	1,591	0.04	64	5	External

Dolphin Cast Iron Drill **NEW**

주철 가공용 돌핀 드릴

제품특징

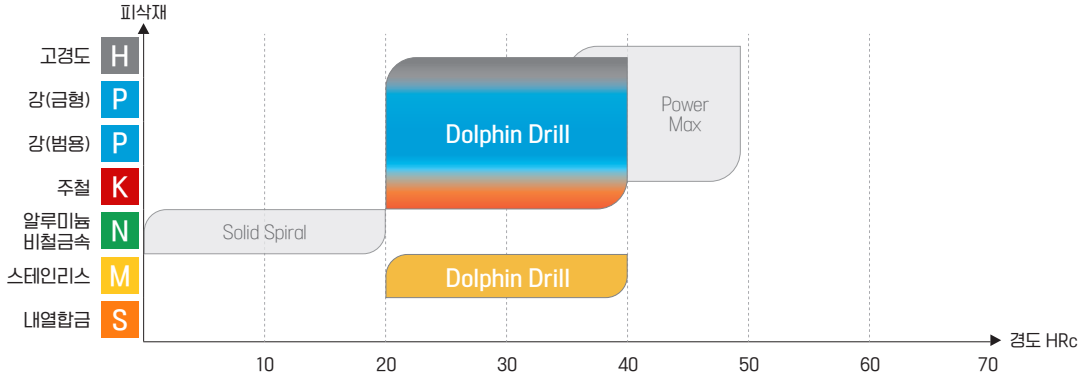
- 경제적이며 넓은 피삭재 적용 범위에 최적화된 드릴 공구
- 최적화된 소재와 코팅으로 내마모성 증대, 다양한 피삭재에 적용 가능
 - 주철 가공에 탁월함
- 향상된 표면 처리로 칩 배출 향상과 공구 수명 증대
- 새로운 감마 플루트 형상 적용으로 칩 컬링 향상
- 별도 센터링, 리머 작업 없이 고정밀 작업 가능



Dolphin Drill & Cast Iron Drill NEW

범용 & 주철 가공용 돌핀 드릴

적용영역



목차

품목코드 단위 (INCH : ■ / METRIC : □)	날수	사진	길이			내부 급유	마진	날부 공차	날경		페이지
			3D	4D	7D				최소	최대	
NDPG503	■ □		○			-	Single	h7	1	13	415
NDPG504	■ □			○		-	Single	h7	1	20	418
NDPG507	■ □				○	-	Single	h7	3	20	421
NDPK504	■ □			○		-	Single	h7	1	20	424
NDPK507	■ □				○	-	Single	h7	3	20	427

품번체계

*정수로 표현되는 경우 소수점 이하는 생략합니다.



① 시리즈명	② 용도 (가공영역)	③ 쿨런트 유무	④ 등급	⑤ 가공길이	⑥ 날경 (Ø)	⑦ 규격
NDP : 돌핀	G (General) : 범용 K (ISO K : Cast Iron) : 주철용	- : Non Coolant H : Oil-Hole Coolant	5 : Grade	03 : 3D 04 : 4D 07 : 7D	030 : Ø3.0 060 : Ø6.0 103 : Ø10.3	- : JIS D : DIN



회전공구, 특히 구멍 가공용 공구의 원통형 회전가공 패턴을 돌고래의 꼬이면서도 역동적인 이미지로 표현한 워딩 제품의 브랜드 이름입니다.

[상표권 출원완료]

NDPG503 범용 돌핀 드릴



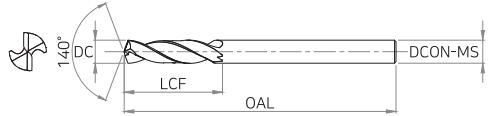
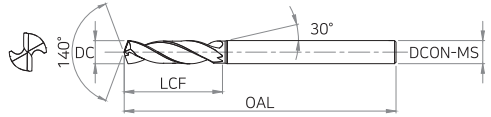
up to 1.5mm



D1.6~D1.9



over 1.9mm



▶ 제품허용공차

날경(DC)		자루경
Ø1 ~ Ø3	0 ~ -0.010	h6
Ø3.1 ~ Ø6	0 ~ -0.012	
Ø6.1 ~ Ø10	0 ~ -0.015	
Ø10.1 ~ Ø13	0 ~ -0.018	



품목코드	DC	LCF	OAL	DCONMS	적용가능 탭	
	날경	날장	전장	자루경	Size	Limit
NDPG503 010	1	5	38	3	-	-
NDPG503 011	1.1	6	42	3	-	-
NDPG503 012	1.2	6	42	3	-	-
NDPG503 013	1.3	6	42	3	-	-
NDPG503 014	1.4	7	42	3	-	-
NDPG503 015	1.5	7	42	3	-	-
NDPG503 016	1.6	8	42	3	-	-
NDPG503 017	1.7	8	42	3	-	-
NDPG503 018	1.8	9	42	3	-	-
NDPG503 019	1.9	9	42	3	-	-
NDPG503 020	2	10	50	3	-	-
NDPG503 021	2.1	10	50	3	-	-
NDPG503 022	2.2	11	50	3	-	-
NDPG503 023	2.3	11	50	3	-	-
NDPG503 024	2.4	12	50	3	-	-
NDPG503 025	2.5	12	50	3	M3x0.5	WH1~4
NDPG503 026	2.6	12	50	3	M3x0.5	WH5~6
NDPG503 027	2.7	14	50	3	-	-
NDPG503 028	2.8	14	50	3	-	-
NDPG503 029	2.9	14	50	3	-	-

품목코드	DC	LCF	OAL	DCONMS	적용가능 탭	
	날경	날장	전장	자루경	Size	Limit
NDPG503 030	3	14	55	3	-	-
NDPG503 031	3.1	16	55	4	-	-
NDPG503 03175	3.175	16	55	4	-	-
NDPG503 032	3.2	16	55	4	-	-
NDPG503 03264	3.264	16	55	4	-	-
NDPG503 033	3.3	16	55	4	M4x0.7	WH1~4
NDPG503 034	3.4	16	55	4	M4x0.7	WH5~6
NDPG503 035	3.5	16	55	4	-	-
NDPG503 03572	3.572	18	55	4	-	-
NDPG503 036	3.6	18	55	4	-	-
NDPG503 037	3.7	18	55	4	-	-
NDPG503 038	3.8	20	55	4	-	-
NDPG503 039	3.9	20	55	4	-	-
NDPG503 040	4	20	55	4	-	-
NDPG503 04039	4.039	20	55	5	-	-
NDPG503 041	4.1	20	55	5	-	-
NDPG503 042	4.2	20	62	5	M5x0.8	WH1~4
NDPG503 043	4.3	22	62	5	M5x0.8	WH5~6
NDPG503 044	4.4	22	62	5	-	-
NDPG503 045	4.5	22	62	5	-	-

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500	○	○	○	○	○
		◎	◎	○	○	○		○	○	

NDPG503 범용 돌핀 드릴

Drill

품목코드	DC	LCF	OAL	DCONMS	적용가능 탭		품목코드	DC	LCF	OAL	DCONMS	적용가능 탭	
	날경	날장	전장	자루경	Size	Limit		날경	날장	전장	자루경	Size	Limit
NDPG503 046	4.6	22	62	5	-	-	NDPG503 073	7.3	40	79	8	-	-
NDPG503 047	4.7	22	62	5	-	-	NDPG503 074	7.4	40	79	8	-	-
NDPG503 04763	4.763	24	62	5	-	-	NDPG503 075	7.5	40	79	8	-	-
NDPG503 048	4.8	24	62	5	-	-	NDPG503 07541	7.541	40	79	8	-	-
NDPG503 049	4.9	24	62	5	-	-	NDPG503 076	7.6	40	79	8	-	-
NDPG503 050	5	24	62	5	M6x1.0	WH1~4	NDPG503 077	7.7	40	79	8	-	-
NDPG503 051	5.1	24	62	6	M6x1.0	WH5~6	NDPG503 078	7.8	40	79	8	-	-
NDPG503 05159	5.159	28	66	6	-	-	NDPG503 079	7.9	40	79	8	-	-
NDPG503 052	5.2	28	66	6	-	-	NDPG503 07938	7.938	40	79	8	-	-
NDPG503 053	5.3	28	66	6	-	-	NDPG503 080	8	40	79	8	-	-
NDPG503 054	5.4	28	66	6	-	-	NDPG503 081	8.1	40	79	9	-	-
NDPG503 055	5.5	28	66	6	-	-	NDPG503 082	8.2	43	84	9	-	-
NDPG503 05556	5.556	28	66	6	-	-	NDPG503 083	8.3	43	84	9	-	-
NDPG503 056	5.6	28	66	6	-	-	NDPG503 084	8.4	43	84	9	-	-
NDPG503 057	5.7	28	66	6	-	-	NDPG503 085	8.5	43	84	9	M10x1.5	WH1~4
NDPG503 058	5.8	28	66	6	-	-	NDPG503 086	8.6	43	84	9	M10x1.5	WH5~6
NDPG503 059	5.9	28	66	6	-	-	NDPG503 087	8.7	43	84	9	-	-
NDPG503 05953	5.953	28	66	6	-	-	NDPG503 08731	8.731	43	84	9	-	-
NDPG503 060	6	28	66	6	-	-	NDPG503 088	8.8	43	84	9	M10x1.25	WH1~4
NDPG503 061	6.1	30	66	7	-	-	NDPG503 089	8.9	43	84	9	M10x1.25	WH5~6
NDPG503 062	6.2	34	74	7	-	-	NDPG503 090	9	43	84	9	M10x1.0	WH1~4
NDPG503 063	6.3	34	74	7	-	-	NDPG503 091	9.1	43	84	10	M10x1.0	WH5~6
NDPG503 0635	6.35	34	74	7	-	-	NDPG503 092	9.2	47	89	10	-	-
NDPG503 064	6.4	34	74	7	-	-	NDPG503 093	9.3	47	89	10	-	-
NDPG503 065	6.5	34	74	7	-	-	NDPG503 094	9.4	47	89	10	-	-
NDPG503 066	6.6	34	74	7	-	-	NDPG503 095	9.5	47	89	10	-	-
NDPG503 067	6.7	37	74	7	-	-	NDPG503 09525	9.525	47	89	10	-	-
NDPG503 06747	6.747	37	74	7	-	-	NDPG503 096	9.6	47	89	10	-	-
NDPG503 068	6.8	37	74	7	M8x1.25	WH1~4	NDPG503 097	9.7	47	89	10	-	-
NDPG503 069	6.9	37	74	7	M8x1.25	WH5~6	NDPG503 098	9.8	47	89	10	-	-
NDPG503 070	7	37	74	7	M8x1.0	WH1~4	NDPG503 099	9.9	47	89	10	-	-
NDPG503 071	7.1	37	74	8	M8x1.0	WH5~6	NDPG503 100	10	47	89	10	-	-
NDPG503 07144	7.144	40	79	8	-	-	NDPG503 101	10.1	47	89	11	-	-
NDPG503 072	7.2	40	79	8	-	-	NDPG503 102	10.2	51	95	11	-	-

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		◎	◎	○	○	○		○	○	

NDPG503 범용 돌핀 드릴

Drill

품목코드	DC	LCF	OAL	DCONMS	적용가능 랩	
	날경	날장	전장	자루경	Size	Limit
NDPG503 103	10.3	51	95	11	M12x1.75	WH1~2
NDPG503 10319	10.319	51	95	11	M12x1.75	WH3~4
NDPG503 104	10.4	51	95	11	M12x1.75	WH5~6
NDPG503 105	10.5	51	95	11	M12x1.5	WH1~4
NDPG503 106	10.6	51	95	11	M12x1.5	WH5~6
NDPG503 107	10.7	51	95	11	-	-
NDPG503 10716	10.716	51	95	11	-	-
NDPG503 108	10.8	51	95	11	M12x1.25	WH1~4
NDPG503 109	10.9	51	95	11	M12x1.25	WH5~6
NDPG503 110	11	51	95	11	M12x1.0	WH1~4
NDPG503 111	11.1	51	95	12	M12x1.0	WH5~6
NDPG503 11113	11.113	54	102	12	-	-
NDPG503 112	11.2	54	102	12	-	-
NDPG503 113	11.3	54	102	12	-	-
NDPG503 114	11.4	54	102	12	-	-
NDPG503 115	11.5	54	102	12	-	-

품목코드	DC	LCF	OAL	DCONMS	적용가능 랩	
	날경	날장	전장	자루경	Size	Limit
NDPG503 116	11.6	54	102	12	-	-
NDPG503 117	11.7	54	102	12	-	-
NDPG503 118	11.8	54	102	12	-	-
NDPG503 119	11.9	54	102	12	-	-
NDPG503 120	12	54	102	12	M14x2.0	WH1~4
NDPG503 121	12.1	54	102	13	M14x2.0	WH5~6
NDPG503 122	12.2	57	102	13	-	-
NDPG503 123	12.3	57	102	13	-	-
NDPG503 124	12.4	57	102	13	-	-
NDPG503 125	12.5	57	102	13	M14x1.5	WH1~4
NDPG503 126	12.6	57	102	13	M14x1.5	WH5~6
NDPG503 127	12.7	57	102	13	-	-
NDPG503 128	12.8	57	102	13	-	-
NDPG503 129	12.9	57	102	13	-	-
NDPG503 130	13	57	102	13	-	-

Dolphin Drill

Dolphin Oil-Hole Drill

Power Max

Solid Spiral

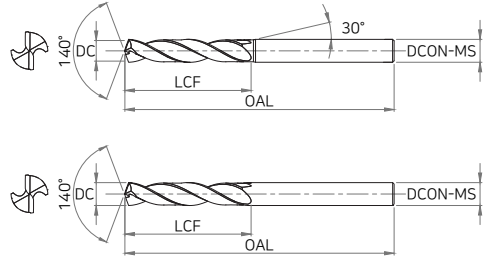
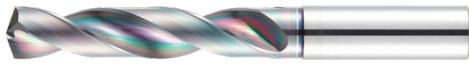
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		◎	◎	○	○	○		○	○	

NDPG504 면용 돌핀 드릴

Drill



▶ 제품허용공차

날경(DC)		자루경
Ø1 ~ Ø3	0 ~ -0.010	h6
Ø3.1 ~ Ø6	0 ~ -0.012	
Ø6.1 ~ Ø10	0 ~ -0.015	
Ø10.1 ~ Ø18	0 ~ -0.018	
Ø18.1 ~	0 ~ -0.021	



품목코드	DC	LCF	OAL	DCONMS	적용가능 탭	
	날경	날장	전장	자루경	Size	Limit
NDPG504 010	1	8	38	3	-	-
NDPG504 011	1.1	9	42	3	-	-
NDPG504 012	1.2	10	42	3	-	-
NDPG504 013	1.3	10	42	3	-	-
NDPG504 014	1.4	11	42	3	-	-
NDPG504 015	1.5	11	42	3	-	-
NDPG504 016	1.6	12	42	3	-	-
NDPG504 017	1.7	12	42	3	-	-
NDPG504 018	1.8	13	42	3	-	-
NDPG504 019	1.9	13	42	3	-	-
NDPG504 020	2	18	50	3	-	-
NDPG504 021	2.1	18	50	3	-	-
NDPG504 022	2.2	18	50	3	-	-
NDPG504 023	2.3	18	50	3	-	-
NDPG504 024	2.4	18	50	3	-	-
NDPG504 025	2.5	18	50	3	M3x0.5	WH1~4
NDPG504 026	2.6	18	50	3	M3x0.5	WH5~6
NDPG504 027	2.7	18	50	3	-	-
NDPG504 028	2.8	18	50	3	-	-
NDPG504 029	2.9	18	50	3	-	-
NDPG504 030	3	20	55	3	-	-
NDPG504 031	3.1	20	55	4	-	-

품목코드	DC	LCF	OAL	DCONMS	적용가능 탭	
	날경	날장	전장	자루경	Size	Limit
NDPG504 03175	3.175	20	55	4	-	-
NDPG504 032	3.2	20	55	4	-	-
NDPG504 03264	3.264	20	55	4	-	-
NDPG504 033	3.3	20	55	4	M4x0.7	WH1~4
NDPG504 034	3.4	20	55	4	M4x0.7	WH5~6
NDPG504 035	3.5	20	55	4	-	-
NDPG504 03572	3.572	25	55	4	-	-
NDPG504 036	3.6	25	55	4	-	-
NDPG504 037	3.7	25	55	4	-	-
NDPG504 038	3.8	25	55	4	-	-
NDPG504 039	3.9	25	55	4	-	-
NDPG504 040	4	25	55	4	-	-
NDPG504 04039	4.039	25	55	5	-	-
NDPG504 041	4.1	25	55	5	-	-
NDPG504 042	4.2	33	63	5	M5x0.8	WH1~4
NDPG504 043	4.3	33	63	5	M5x0.8	WH5~6
NDPG504 044	4.4	33	63	5	-	-
NDPG504 045	4.5	33	63	5	-	-
NDPG504 046	4.6	33	63	5	-	-
NDPG504 047	4.7	33	63	5	-	-
NDPG504 04763	4.763	33	63	5	-	-
NDPG504 048	4.8	33	63	5	-	-

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500	○	○	○	○	○

NDPG504 범용 돌핀 드릴

Drill

품목코드	DC	LCF	OAL	DCONMS	적용가능 범위	
	날경	날장	전장	자루경	Size	Limit
NDPG504 049	4.9	33	63	5	-	-
NDPG504 050	5	33	63	5	M6x1.0	WH1~4
NDPG504 051	5.1	33	63	6	M6x1.0	WH5~6
NDPG504 05159	5.159	36	66	6	-	-
NDPG504 052	5.2	36	66	6	-	-
NDPG504 053	5.3	36	66	6	-	-
NDPG504 054	5.4	36	66	6	-	-
NDPG504 055	5.5	36	66	6	-	-
NDPG504 05556	5.556	36	66	6	-	-
NDPG504 056	5.6	36	66	6	-	-
NDPG504 057	5.7	36	66	6	-	-
NDPG504 058	5.8	36	66	6	-	-
NDPG504 059	5.9	36	66	6	-	-
NDPG504 05953	5.953	36	66	6	-	-
NDPG504 060	6	36	66	6	-	-
NDPG504 061	6.1	36	66	7	-	-
NDPG504 062	6.2	42	75	7	-	-
NDPG504 063	6.3	42	75	7	-	-
NDPG504 0635	6.35	42	75	7	-	-
NDPG504 064	6.4	42	75	7	-	-
NDPG504 065	6.5	42	75	7	-	-
NDPG504 066	6.6	42	75	7	-	-
NDPG504 067	6.7	42	75	7	-	-
NDPG504 06747	6.747	42	75	7	-	-
NDPG504 068	6.8	42	75	7	M8x1.25	WH1~4
NDPG504 069	6.9	42	75	7	M8x1.25	WH5~6
NDPG504 070	7	42	75	7	M8x1.0	WH1~4
NDPG504 071	7.1	42	75	8	M8x1.0	WH5~6
NDPG504 07144	7.144	46	80	8	-	-
NDPG504 072	7.2	46	80	8	-	-
NDPG504 073	7.3	46	80	8	-	-
NDPG504 074	7.4	46	80	8	-	-
NDPG504 075	7.5	46	80	8	-	-
NDPG504 07541	7.541	46	80	8	-	-
NDPG504 076	7.6	46	80	8	-	-
NDPG504 077	7.7	46	80	8	-	-

품목코드	DC	LCF	OAL	DCONMS	적용가능 범위	
	날경	날장	전장	자루경	Size	Limit
NDPG504 078	7.8	46	80	8	-	-
NDPG504 079	7.9	46	80	8	-	-
NDPG504 07938	7.938	46	80	8	-	-
NDPG504 080	8	46	80	8	-	-
NDPG504 081	8.1	46	80	9	-	-
NDPG504 082	8.2	50	85	9	-	-
NDPG504 083	8.3	50	85	9	-	-
NDPG504 084	8.4	50	85	9	-	-
NDPG504 085	8.5	50	85	9	M10x1.5	WH1~4
NDPG504 086	8.6	50	85	9	M10x1.5	WH5~6
NDPG504 087	8.7	50	85	9	-	-
NDPG504 08731	8.731	50	85	9	-	-
NDPG504 088	8.8	50	85	9	M10x1.25	WH1~4
NDPG504 089	8.9	50	85	9	M10x1.25	WH5~6
NDPG504 090	9	50	85	9	M10x1.0	WH1~4
NDPG504 091	9.1	50	85	10	M10x1.0	WH5~6
NDPG504 092	9.2	55	90	10	-	-
NDPG504 093	9.3	55	90	10	-	-
NDPG504 094	9.4	55	90	10	-	-
NDPG504 095	9.5	55	90	10	-	-
NDPG504 09525	9.525	55	90	10	-	-
NDPG504 096	9.6	55	90	10	-	-
NDPG504 097	9.7	55	90	10	-	-
NDPG504 098	9.8	55	90	10	-	-
NDPG504 099	9.9	55	90	10	-	-
NDPG504 100	10	55	90	10	-	-
NDPG504 101	10.1	55	90	11	-	-
NDPG504 102	10.2	57	95	11	-	-
NDPG504 103	10.3	57	95	11	M12x1.75	WH1~2
NDPG504 10319	10.319	57	95	11	M12x1.75	WH3~4
NDPG504 104	10.4	57	95	11	M12x1.75	WH5~6
NDPG504 105	10.5	57	95	11	M12x1.5	WH1~4
NDPG504 106	10.6	57	95	11	M12x1.5	WH5~6
NDPG504 107	10.7	57	95	11	-	-
NDPG504 10716	10.716	57	95	11	-	-
NDPG504 108	10.8	57	95	11	M12x1.25	WH1~4

Dolphin Drill

Dolphin Oil-Hole Drill

Power Max

Solid Spiral

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하트강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500	○	○	○	○	○
		◎	◎	○	○	○		○	○	

NDPG504 변용 돌핀 드릴

Drill

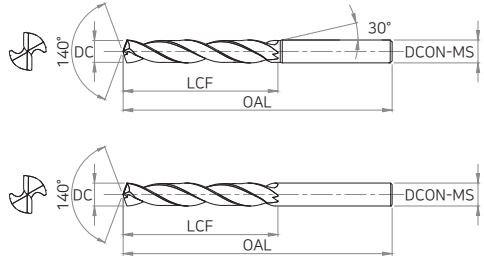
품목코드	DC	LCF	OAL	DCONMS		적용가능 탭		품목코드	DC	LCF	OAL	DCONMS		적용가능 탭	
	날경	날장	전장	자루경	Size	Limit	날경		날장	전장	자루경	Size	Limit		
NDPG504 109	10.9	57	95	11	M12x1.25	WH5~6	NDPG504 143	14.3	67	111	15	-	-		
NDPG504 110	11	57	95	11	M12x1.0	WH1~4	NDPG504 144	14.4	67	111	15	-	-		
NDPG504 111	11.1	57	95	12	M12x1.0	WH5~6	NDPG504 145	14.5	67	111	15	M16x1.5	WH1~4		
NDPG504 11113	11.113	63	102	12	-	-	NDPG504 146	14.6	67	111	15	M16x1.5	WH5~6		
NDPG504 112	11.2	63	102	12	-	-	NDPG504 147	14.7	67	111	15	-	-		
NDPG504 113	11.3	63	102	12	-	-	NDPG504 148	14.8	67	111	15	-	-		
NDPG504 114	11.4	63	102	12	-	-	NDPG504 149	14.9	67	111	15	-	-		
NDPG504 115	11.5	63	102	12	-	-	NDPG504 150	15	67	111	15	-	-		
NDPG504 116	11.6	63	102	12	-	-	NDPG504 151	15.1	67	111	16	-	-		
NDPG504 117	11.7	63	102	12	-	-	NDPG504 152	15.2	69	115	16	-	-		
NDPG504 118	11.8	63	102	12	-	-	NDPG504 154	15.4	69	115	16	-	-		
NDPG504 119	11.9	63	102	12	-	-	NDPG504 155	15.5	69	115	16	M18x2.5	WH1~4		
NDPG504 120	12	63	102	12	M14x2.0	WH1~4	NDPG504 156	15.6	69	115	16	M18x2.5	WH5~6		
NDPG504 121	12.1	63	102	13	M14x2.0	WH5~6	NDPG504 157	15.7	69	115	16	-	-		
NDPG504 122	12.2	63	102	13	-	-	NDPG504 158	15.8	69	115	16	-	-		
NDPG504 123	12.3	63	102	13	-	-	NDPG504 15875	15.875	69	115	16	-	-		
NDPG504 124	12.4	63	102	13	-	-	NDPG504 160	16	69	115	16	-	-		
NDPG504 125	12.5	63	102	13	M14x1.5	WH1~4	NDPG504 161	16.1	69	115	17	-	-		
NDPG504 126	12.6	63	102	13	M14x1.5	WH5~6	NDPG504 163	16.3	71	119	17	-	-		
NDPG504 127	12.7	63	102	13	-	-	NDPG504 165	16.5	71	119	17	M18x1.5	WH1~6		
NDPG504 128	12.8	63	102	13	-	-	NDPG504 16669	16.669	71	119	17	-	-		
NDPG504 129	12.9	63	102	13	-	-	NDPG504 170	17	71	119	17	-	-		
NDPG504 130	13	63	102	13	-	-	NDPG504 171	17.1	71	119	18	-	-		
NDPG504 131	13.1	63	102	14	-	-	NDPG504 172	17.2	74	123	18	-	-		
NDPG504 132	13.2	65	107	14	-	-	NDPG504 175	17.5	74	123	18	M20x2.5	WH1~6		
NDPG504 133	13.3	65	107	14	-	-	NDPG504 177	17.7	74	123	18	-	-		
NDPG504 134	13.4	65	107	14	-	-	NDPG504 178	17.8	74	123	18	-	-		
NDPG504 13494	13.494	65	107	14	-	-	NDPG504 180	18	74	123	18	-	-		
NDPG504 135	13.5	65	107	14	-	-	NDPG504 181	18.1	74	123	19	-	-		
NDPG504 136	13.6	65	107	14	-	-	NDPG504 182	18.2	76	127	19	-	-		
NDPG504 137	13.7	65	107	14	-	-	NDPG504 185	18.5	76	127	19	M20x1.5	WH1~6		
NDPG504 138	13.8	65	107	14	-	-	NDPG504 190	19	76	127	19	-	-		
NDPG504 139	13.9	65	107	14	-	-	NDPG504 191	19.1	76	127	20	-	-		
NDPG504 140	14	65	107	14	M16x2.0	WH1~4	NDPG504 195	19.5	80	131	20	M22x2.5	WH1~6		
NDPG504 141	14.1	65	107	15	M16x2.0	WH5~6	NDPG504 197	19.7	80	131	20	-	-		
NDPG504 142	14.2	67	111	15	-	-	NDPG504 200	20	80	131	20	-	-		

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

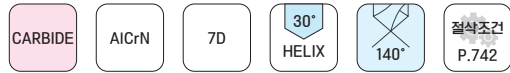
H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					

NDPG507 범용 돌핀 드릴



▶ 제품허용공차

날경(DC)		자루경
Ø1 ~ Ø3	0 ~ -0.010	h6
Ø3.1 ~ Ø6	0 ~ -0.012	
Ø6.1 ~ Ø10	0 ~ -0.015	
Ø10.1 ~ Ø18	0 ~ -0.018	
Ø18.1 ~	0 ~ -0.021	



품목코드	DC	LCF	OAL	DCONMS	적용가능 탭	
	날경	날장	전장	자루경	Size	Limit
NDPG507 010	1	12	60	3	-	-
NDPG507 011	1.1	12	60	3	-	-
NDPG507 012	1.2	12	60	3	-	-
NDPG507 013	1.3	15	60	3	-	-
NDPG507 014	1.4	15	60	3	-	-
NDPG507 015	1.5	15	60	3	-	-
NDPG507 016	1.6	20	60	3	-	-
NDPG507 017	1.7	20	60	3	-	-
NDPG507 018	1.8	20	60	3	-	-
NDPG507 019	1.9	20	60	3	-	-
NDPG507 020	2	25	66	3	-	-
NDPG507 021	2.1	25	66	3	-	-
NDPG507 022	2.2	25	66	3	-	-
NDPG507 023	2.3	25	66	3	-	-
NDPG507 024	2.4	30	66	3	-	-
NDPG507 025	2.5	30	66	3	M3x0.5	WH1~4
NDPG507 026	2.6	30	66	3	M3x0.5	WH5~6
NDPG507 027	2.7	30	66	3	-	-
NDPG507 028	2.8	30	66	3	-	-
NDPG507 029	2.9	30	66	3	-	-

품목코드	DC	LCF	OAL	DCONMS	적용가능 탭	
	날경	날장	전장	자루경	Size	Limit
NDPG507 030	3	45	80	3	-	-
NDPG507 031	3.1	45	80	4	-	-
NDPG507 03175	3.175	45	80	4	-	-
NDPG507 032	3.2	45	80	4	-	-
NDPG507 03264	3.264	45	80	4	-	-
NDPG507 033	3.3	45	80	4	M4x0.7	WH1~4
NDPG507 034	3.4	45	80	4	M4x0.7	WH5~6
NDPG507 035	3.5	45	80	4	-	-
NDPG507 03572	3.572	45	80	4	-	-
NDPG507 036	3.6	45	80	4	-	-
NDPG507 037	3.7	45	80	4	-	-
NDPG507 038	3.8	45	80	4	-	-
NDPG507 039	3.9	45	80	4	-	-
NDPG507 040	4	45	80	4	-	-
NDPG507 041	4.1	45	80	5	-	-
NDPG507 042	4.2	45	80	5	M5x0.8	WH1~4
NDPG507 043	4.3	45	80	5	M5x0.8	WH5~6
NDPG507 044	4.4	45	80	5	-	-
NDPG507 045	4.5	45	80	5	-	-
NDPG507 046	4.6	45	80	5	-	-

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하트강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500	○	○	○	○	○
		◎	◎	○	○	○		○	○	

NDPG507 변용 돌핀 드릴

Drill

품목코드	DC	LCF	OAL	DCONMS	적용가능 랩	
	날경	날장	전장	자루경	Size	Limit
NDPG507 047	4.7	45	80	5	-	-
NDPG507 04763	4.763	45	80	5	-	-
NDPG507 048	4.8	45	80	5	-	-
NDPG507 049	4.9	45	80	5	-	-
NDPG507 050	5	45	80	5	M6x1.0	WH1~4
NDPG507 051	5.1	45	80	6	M6x1.0	WH5~6
NDPG507 05159	5.159	50	83	6	-	-
NDPG507 052	5.2	50	83	6	-	-
NDPG507 053	5.3	50	83	6	-	-
NDPG507 054	5.4	50	83	6	-	-
NDPG507 055	5.5	50	83	6	-	-
NDPG507 05556	5.556	50	83	6	-	-
NDPG507 056	5.6	50	83	6	-	-
NDPG507 057	5.7	50	83	6	-	-
NDPG507 058	5.8	50	83	6	-	-
NDPG507 059	5.9	50	83	6	-	-
NDPG507 060	6	50	83	6	-	-
NDPG507 061	6.1	50	83	7	-	-
NDPG507 062	6.2	53	85	7	-	-
NDPG507 063	6.3	53	85	7	-	-
NDPG507 0635	6.35	53	85	7	-	-
NDPG507 064	6.4	53	85	7	-	-
NDPG507 065	6.5	53	85	7	-	-
NDPG507 066	6.6	53	85	7	-	-
NDPG507 067	6.7	53	85	7	-	-
NDPG507 06747	6.747	53	85	7	-	-
NDPG507 068	6.8	53	85	7	M8x1.25	WH1~4
NDPG507 069	6.9	53	85	7	M8x1.25	WH5~6
NDPG507 070	7	53	85	7	M8x1.0	WH1~4
NDPG507 071	7.1	53	85	8	M8x1.0	WH5~6
NDPG507 07144	7.144	58	90	8	-	-
NDPG507 072	7.2	58	90	8	-	-
NDPG507 073	7.3	58	90	8	-	-
NDPG507 074	7.4	58	90	8	-	-
NDPG507 075	7.5	58	90	8	-	-
NDPG507 076	7.6	58	90	8	-	-

품목코드	DC	LCF	OAL	DCONMS	적용가능 랩	
	날경	날장	전장	자루경	Size	Limit
NDPG507 077	7.7	58	90	8	-	-
NDPG507 078	7.8	58	90	8	-	-
NDPG507 079	7.9	58	90	8	-	-
NDPG507 07938	7.938	58	90	8	-	-
NDPG507 080	8	58	90	8	-	-
NDPG507 081	8.1	58	90	9	-	-
NDPG507 082	8.2	64	98	9	-	-
NDPG507 083	8.3	64	98	9	-	-
NDPG507 084	8.4	64	98	9	-	-
NDPG507 085	8.5	64	98	9	M10x1.5	WH1~4
NDPG507 086	8.6	64	98	9	M10x1.5	WH5~6
NDPG507 087	8.7	64	98	9	-	-
NDPG507 08731	8.731	64	98	9	-	-
NDPG507 088	8.8	64	98	9	M10x1.25	WH1~4
NDPG507 089	8.9	64	98	9	M10x1.25	WH5~6
NDPG507 090	9	64	98	9	M10x1.0	WH1~4
NDPG507 091	9.1	64	98	10	M10x1.0	WH5~6
NDPG507 092	9.2	68	105	10	-	-
NDPG507 093	9.3	68	105	10	-	-
NDPG507 094	9.4	68	105	10	-	-
NDPG507 095	9.5	68	105	10	-	-
NDPG507 09525	9.525	68	105	10	-	-
NDPG507 096	9.6	68	105	10	-	-
NDPG507 097	9.7	68	105	10	-	-
NDPG507 098	9.8	68	105	10	-	-
NDPG507 099	9.9	68	105	10	-	-
NDPG507 100	10	68	105	10	-	-
NDPG507 101	10.1	68	105	11	-	-
NDPG507 102	10.2	73	110	11	-	-
NDPG507 103	10.3	73	110	11	M12x1.75	WH1~2
NDPG507 10319	10.319	73	110	11	M12x1.75	WH3~4
NDPG507 104	10.4	73	110	11	M12x1.75	WH5~6
NDPG507 105	10.5	73	110	11	M12x1.5	WH1~4
NDPG507 106	10.6	73	110	11	M12x1.5	WH5~6
NDPG507 107	10.7	73	110	11	-	-
NDPG507 10716	10.716	73	110	11	-	-

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					

NDPG507 범용 돌핀 드릴

Drill

품목코드	DC	LCF	OAL	DCONMS	적용가능 랩	
	날경	날장	전장	자루경	Size	Limit
NDPG507 108	10.8	73	110	11	M12x1.25	WH1~4
NDPG507 109	10.9	73	110	11	M12x1.25	WH5~6
NDPG507 110	11	73	110	11	M12x1.0	WH1~4
NDPG507 111	11.1	73	110	12	M12x1.0	WH5~6
NDPG507 11113	11.113	80	120	12	-	-
NDPG507 112	11.2	80	120	12	-	-
NDPG507 113	11.3	80	120	12	-	-
NDPG507 114	11.4	80	120	12	-	-
NDPG507 115	11.5	80	120	12	-	-
NDPG507 116	11.6	80	120	12	-	-
NDPG507 117	11.7	80	120	12	-	-
NDPG507 118	11.8	80	120	12	-	-
NDPG507 119	11.9	80	120	12	-	-
NDPG507 120	12	80	120	12	M14x2.0	WH1~4
NDPG507 121	12.1	80	120	13	M14x2.0	WH5~6
NDPG507 122	12.2	90	137	13	-	-
NDPG507 123	12.3	90	137	13	-	-
NDPG507 124	12.4	90	137	13	-	-
NDPG507 125	12.5	90	137	13	M14x1.5	WH1~4
NDPG507 126	12.6	90	137	13	M14x1.5	WH5~6
NDPG507 127	12.7	90	137	13	-	-
NDPG507 128	12.8	90	137	13	-	-
NDPG507 129	12.9	90	137	13	-	-
NDPG507 130	13	90	137	13	-	-
NDPG507 131	13.1	90	137	14	-	-
NDPG507 133	13.3	96	147	14	-	-
NDPG507 134	13.4	96	147	14	-	-
NDPG507 13494	13.494	96	147	14	-	-
NDPG507 135	13.5	96	147	14	-	-
NDPG507 136	13.6	96	147	14	-	-
NDPG507 137	13.7	96	147	14	-	-
NDPG507 138	13.8	96	147	14	-	-
NDPG507 13891	13.891	96	147	14	-	-
NDPG507 139	13.9	96	147	14	-	-
NDPG507 140	14	96	147	14	M16x2.0	WH1~4
NDPG507 141	14.1	96	147	15	M16x2.0	WH5~6

품목코드	DC	LCF	OAL	DCONMS	적용가능 랩	
	날경	날장	전장	자루경	Size	Limit
NDPG507 142	14.2	100	153	15	-	-
NDPG507 14288	14.288	100	153	15	-	-
NDPG507 143	14.3	100	153	15	-	-
NDPG507 145	14.5	100	153	15	M16x1.5	WH1~4
NDPG507 146	14.6	100	153	15	M16x1.5	WH5~6
NDPG507 147	14.7	100	153	15	-	-
NDPG507 148	14.8	100	153	15	-	-
NDPG507 149	14.9	100	153	15	-	-
NDPG507 150	15	100	153	15	-	-
NDPG507 151	15.1	100	153	16	-	-
NDPG507 154	15.4	112	160	16	-	-
NDPG507 155	15.5	112	160	16	M18x2.5	WH1~4
NDPG507 156	15.6	112	160	16	M18x2.5	WH5~6
NDPG507 157	15.7	112	160	16	-	-
NDPG507 158	15.8	112	160	16	-	-
NDPG507 15875	15.875	112	160	16	-	-
NDPG507 160	16	112	160	16	-	-
NDPG507 161	16.1	112	160	17	-	-
NDPG507 163	16.3	112	160	17	-	-
NDPG507 165	16.5	112	160	17	M18x1.5	WH1~6
NDPG507 16669	16.669	112	160	17	-	-
NDPG507 170	17	112	160	17	-	-
NDPG507 171	17.1	112	160	18	-	-
NDPG507 172	17.2	112	160	18	-	-
NDPG507 17463	17.463	112	160	18	-	-
NDPG507 175	17.5	112	160	18	M20x2.5	WH1~6
NDPG507 177	17.7	112	160	18	-	-
NDPG507 178	17.8	112	160	18	-	-
NDPG507 180	18	112	160	18	-	-
NDPG507 182	18.2	112	160	19	-	-
NDPG507 185	18.5	112	160	19	M20x1.5	WH1~6
NDPG507 190	19	112	160	19	-	-
NDPG507 195	19.5	112	160	20	M22x2.5	WH1~6
NDPG507 197	19.7	112	160	20	-	-
NDPG507 200	20	112	160	20	-	-

Dolphin Drill

Dolphin Oil-Hole Drill

Power Max

Solid Spiral

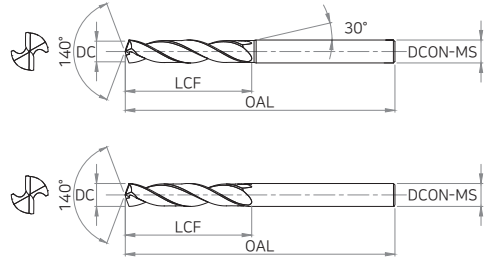
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하트강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500	○	○	○	○	○
		◎	◎	○	○	○	○	○	○	○

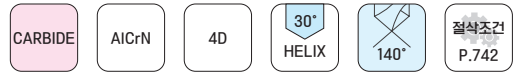
NDPK504 주철용 돌핀 드릴

Drill



▶ 제품허용공차

날경(DC)		자루경
~ Ø3	0 ~ -0.010	h6
Ø3.1 ~ Ø6	0 ~ -0.012	
Ø6.1 ~ Ø10	0 ~ -0.015	
Ø10.1 ~ Ø18	0 ~ -0.018	
Ø18.1 ~	0 ~ -0.021	



품목코드	DC	LCF	OAL	DCONMS	적용가능 탭	
	날경	날장	전장	자루경	Size	Limit
NDPK504 010	1	8	38	3	-	-
NDPK504 011	1.1	9	42	3	-	-
NDPK504 012	1.2	10	42	3	-	-
NDPK504 013	1.3	10	42	3	-	-
NDPK504 014	1.4	11	42	3	-	-
NDPK504 015	1.5	11	42	3	-	-
NDPK504 016	1.6	12	42	3	-	-
NDPK504 017	1.7	12	42	3	-	-
NDPK504 018	1.8	13	42	3	-	-
NDPK504 019	1.9	13	42	3	-	-
NDPK504 020	2	18	50	3	-	-
NDPK504 021	2.1	18	50	3	-	-
NDPK504 022	2.2	18	50	3	-	-
NDPK504 023	2.3	18	50	3	-	-
NDPK504 024	2.4	18	50	3	-	-
NDPK504 025	2.5	18	50	3	M3x0.5	WH1~4
NDPK504 026	2.6	18	50	3	M3x0.5	WH5~6
NDPK504 027	2.7	18	50	3	-	-
NDPK504 028	2.8	18	50	3	-	-
NDPK504 029	2.9	18	50	3	-	-
NDPK504 030	3	20	55	3	-	-
NDPK504 031	3.1	20	55	4	-	-

품목코드	DC	LCF	OAL	DCONMS	적용가능 탭	
	날경	날장	전장	자루경	Size	Limit
NDPK504 03175	3.175	20	55	4	-	-
NDPK504 032	3.2	20	55	4	-	-
NDPK504 03264	3.264	20	55	4	-	-
NDPK504 033	3.3	20	55	4	M4x0.7	WH1~4
NDPK504 034	3.4	20	55	4	M4x0.7	WH5~6
NDPK504 035	3.5	20	55	4	-	-
NDPK504 03572	3.572	25	55	4	-	-
NDPK504 036	3.6	25	55	4	-	-
NDPK504 037	3.7	25	55	4	-	-
NDPK504 038	3.8	25	55	4	-	-
NDPK504 039	3.9	25	55	4	-	-
NDPK504 040	4	25	55	4	-	-
NDPK504 04039	4.039	25	55	5	-	-
NDPK504 041	4.1	25	55	5	-	-
NDPK504 042	4.2	33	63	5	M5x0.8	WH1~4
NDPK504 043	4.3	33	63	5	M5x0.8	WH5~6
NDPK504 044	4.4	33	63	5	-	-
NDPK504 045	4.5	33	63	5	-	-
NDPK504 046	4.6	33	63	5	-	-
NDPK504 047	4.7	33	63	5	-	-
NDPK504 04763	4.763	33	63	5	-	-
NDPK504 048	4.8	33	63	5	-	-

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	◎	○	◎					

NDPK504 주철용 돌핀 드릴

Drill

품목코드	DC	LCF	OAL	DCONMS	적용가능 탭	
	날경	날장	전장	자루경	Size	Limit
NDPK504 049	4.9	33	63	5	-	-
NDPK504 050	5	33	63	5	M6x1.0	WH1~4
NDPK504 051	5.1	33	63	6	M6x1.0	WH5~6
NDPK504 05159	5.159	36	66	6	-	-
NDPK504 052	5.2	36	66	6	-	-
NDPK504 053	5.3	36	66	6	-	-
NDPK504 054	5.4	36	66	6	-	-
NDPK504 055	5.5	36	66	6	-	-
NDPK504 05556	5.556	36	66	6	-	-
NDPK504 056	5.6	36	66	6	-	-
NDPK504 057	5.7	36	66	6	-	-
NDPK504 058	5.8	36	66	6	-	-
NDPK504 059	5.9	36	66	6	-	-
NDPK504 05953	5.953	36	66	6	-	-
NDPK504 060	6	36	66	6	-	-
NDPK504 061	6.1	36	66	7	-	-
NDPK504 062	6.2	42	75	7	-	-
NDPK504 063	6.3	42	75	7	-	-
NDPK504 0635	6.35	42	75	7	-	-
NDPK504 064	6.4	42	75	7	-	-
NDPK504 065	6.5	42	75	7	-	-
NDPK504 066	6.6	42	75	7	-	-
NDPK504 067	6.7	42	75	7	-	-
NDPK504 06747	6.747	42	75	7	-	-
NDPK504 068	6.8	42	75	7	M8x1.25	WH1~4
NDPK504 069	6.9	42	75	7	M8x1.25	WH5~6
NDPK504 070	7	42	75	7	M8x1.0	WH1~4
NDPK504 071	7.1	42	75	8	M8x1.0	WH5~6
NDPK504 07144	7.144	46	80	8	-	-
NDPK504 072	7.2	46	80	8	-	-
NDPK504 073	7.3	46	80	8	-	-
NDPK504 074	7.4	46	80	8	-	-
NDPK504 075	7.5	46	80	8	-	-
NDPK504 07541	7.541	46	80	8	-	-
NDPK504 076	7.6	46	80	8	-	-
NDPK504 077	7.7	46	80	8	-	-

품목코드	DC	LCF	OAL	DCONMS	적용가능 탭	
	날경	날장	전장	자루경	Size	Limit
NDPK504 078	7.8	46	80	8	-	-
NDPK504 079	7.9	46	80	8	-	-
NDPK504 07938	7.938	46	80	8	-	-
NDPK504 080	8	46	80	8	-	-
NDPK504 081	8.1	46	80	9	-	-
NDPK504 082	8.2	50	85	9	-	-
NDPK504 083	8.3	50	85	9	-	-
NDPK504 084	8.4	50	85	9	-	-
NDPK504 085	8.5	50	85	9	M10x1.5	WH1~4
NDPK504 086	8.6	50	85	9	M10x1.5	WH5~6
NDPK504 087	8.7	50	85	9	-	-
NDPK504 08731	8.731	50	85	9	-	-
NDPK504 088	8.8	50	85	9	M10x1.25	WH1~4
NDPK504 089	8.9	50	85	9	M10x1.25	WH5~6
NDPK504 090	9	50	85	9	M10x1.0	WH1~4
NDPK504 091	9.1	50	85	10	M10x1.0	WH5~6
NDPK504 092	9.2	55	90	10	-	-
NDPK504 093	9.3	55	90	10	-	-
NDPK504 094	9.4	55	90	10	-	-
NDPK504 095	9.5	55	90	10	-	-
NDPK504 09525	9.525	55	90	10	-	-
NDPK504 096	9.6	55	90	10	-	-
NDPK504 097	9.7	55	90	10	-	-
NDPK504 098	9.8	55	90	10	-	-
NDPK504 099	9.9	55	90	10	-	-
NDPK504 100	10	55	90	10	-	-
NDPK504 101	10.1	55	90	11	-	-
NDPK504 102	10.2	57	95	11	-	-
NDPK504 103	10.3	57	95	11	M12x1.75	WH1~2
NDPK504 10319	10.319	57	95	11	M12x1.75	WH3~4
NDPK504 104	10.4	57	95	11	M12x1.75	WH5~6
NDPK504 105	10.5	57	95	11	M12x1.5	WH1~4
NDPK504 106	10.6	57	95	11	M12x1.5	WH5~6
NDPK504 107	10.7	57	95	11	-	-
NDPK504 10716	10.716	57	95	11	-	-
NDPK504 108	10.8	57	95	11	M12x1.25	WH1~4

Dolphin Drill

Dolphin Oil-Hole Drill

Power Max

Solid Spiral

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하트강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	◎	○	◎					

NDPK504 주철용 돌핀 드릴

Drill

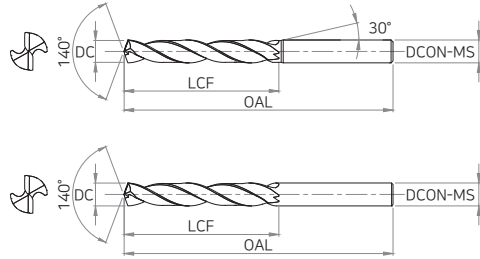
품목코드	DC	LCF	OAL	DCONMS		적용가능 랩		품목코드	DC	LCF	OAL	DCONMS		적용가능 랩	
	날경	날장	전장	자루경	Size	Limit	날경		날장	전장	자루경	Size	Limit		
NDPK504 109	10.9	57	95	11	M12x1.25	WH5~6		NDPK504 143	14.3	67	111	15	-	-	
NDPK504 110	11	57	95	11	M12x1.0	WH1~4		NDPK504 144	14.4	67	111	15	-	-	
NDPK504 111	11.1	57	95	12	M12x1.0	WH5~6		NDPK504 145	14.5	67	111	15	M16x1.5	WH1~4	
NDPK504 11113	11.113	63	102	12	-	-		NDPK504 146	14.6	67	111	15	M16x1.5	WH5~6	
NDPK504 112	11.2	63	102	12	-	-		NDPK504 147	14.7	67	111	15	-	-	
NDPK504 113	11.3	63	102	12	-	-		NDPK504 148	14.8	67	111	15	-	-	
NDPK504 114	11.4	63	102	12	-	-		NDPK504 149	14.9	67	111	15	-	-	
NDPK504 115	11.5	63	102	12	-	-		NDPK504 150	15	67	111	15	-	-	
NDPK504 116	11.6	63	102	12	-	-		NDPK504 151	15.1	67	111	16	-	-	
NDPK504 117	11.7	63	102	12	-	-		NDPK504 152	15.2	69	115	16	-	-	
NDPK504 118	11.8	63	102	12	-	-		NDPK504 154	15.4	69	115	16	-	-	
NDPK504 119	11.9	63	102	12	-	-		NDPK504 155	15.5	69	115	16	M18x2.5	WH1~4	
NDPK504 120	12	63	102	12	M14x2.0	WH1~4		NDPK504 156	15.6	69	115	16	M18x2.5	WH5~6	
NDPK504 121	12.1	63	102	13	M14x2.0	WH5~6		NDPK504 157	15.7	69	115	16	-	-	
NDPK504 122	12.2	63	102	13	-	-		NDPK504 158	15.8	69	115	16	-	-	
NDPK504 123	12.3	63	102	13	-	-		NDPK504 15875	15.875	69	115	16	-	-	
NDPK504 124	12.4	63	102	13	-	-		NDPK504 160	16	69	115	16	-	-	
NDPK504 125	12.5	63	102	13	M14x1.5	WH1~4		NDPK504 161	16.1	69	115	17	-	-	
NDPK504 126	12.6	63	102	13	M14x1.5	WH5~6		NDPK504 163	16.3	71	119	17	-	-	
NDPK504 127	12.7	63	102	13	-	-		NDPK504 165	16.5	71	119	17	M18x1.5	WH1~6	
NDPK504 128	12.8	63	102	13	-	-		NDPK504 16669	16.669	71	119	17	-	-	
NDPK504 129	12.9	63	102	13	-	-		NDPK504 170	17	71	119	17	-	-	
NDPK504 130	13	63	102	13	-	-		NDPK504 171	17.1	71	119	18	-	-	
NDPK504 131	13.1	63	102	14	-	-		NDPK504 172	17.2	74	123	18	-	-	
NDPK504 132	13.2	65	107	14	-	-		NDPK504 175	17.5	74	123	18	M20x2.5	WH1~6	
NDPK504 133	13.3	65	107	14	-	-		NDPK504 177	17.7	74	123	18	-	-	
NDPK504 134	13.4	65	107	14	-	-		NDPK504 178	17.8	74	123	18	-	-	
NDPK504 13494	13.494	65	107	14	-	-		NDPK504 180	18	74	123	18	-	-	
NDPK504 135	13.5	65	107	14	-	-		NDPK504 181	18.1	74	123	19	-	-	
NDPK504 136	13.6	65	107	14	-	-		NDPK504 182	18.2	76	127	19	-	-	
NDPK504 137	13.7	65	107	14	-	-		NDPK504 185	18.5	76	127	19	M20x1.5	WH1~6	
NDPK504 138	13.8	65	107	14	-	-		NDPK504 190	19	76	127	19	-	-	
NDPK504 139	13.9	65	107	14	-	-		NDPK504 191	19.1	76	127	20	-	-	
NDPK504 140	14	65	107	14	M16x2.0	WH1~4		NDPK504 195	19.5	80	131	20	M22x2.5	WH1~6	
NDPK504 141	14.1	65	107	15	M16x2.0	WH5~6		NDPK504 197	19.7	80	131	20	-	-	
NDPK504 142	14.2	67	111	15	-	-		NDPK504 200	20	80	131	20	-	-	

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	◎	○	◎					

NDPK507 주철용 돌핀 드릴



▶ 제품허용공차

날경(DC)		자루경
~ Ø3	0 ~ -0.010	
Ø3.1 ~ Ø6	0 ~ -0.012	
Ø6.1 ~ Ø10	0 ~ -0.015	
Ø10.1 ~ Ø18	0 ~ -0.018	
Ø18.1 ~	0 ~ -0.021	

h6

CARBIDE

AlCrN

7D

30°
HELIX

140°

절삭조건
P.742

품목코드	DC	LCF	OAL	DCONMS	적용가능 탭	
	날경	날장	전장	자루경	Size	Limit
NDPK507 030	3	45	80	3	-	-
NDPK507 031	3.1	45	80	4	-	-
NDPK507 03175	3.175	45	80	4	-	-
NDPK507 032	3.2	45	80	4	-	-
NDPK507 03264	3.264	45	80	4	-	-
NDPK507 033	3.3	45	80	4	M4x0.7	WH1~4
NDPK507 034	3.4	45	80	4	M4x0.7	WH5~6
NDPK507 035	3.5	45	80	4	-	-
NDPK507 03572	3.572	45	80	4	-	-
NDPK507 036	3.6	45	80	4	-	-
NDPK507 037	3.7	45	80	4	-	-
NDPK507 038	3.8	45	80	4	-	-
NDPK507 039	3.9	45	80	4	-	-
NDPK507 040	4	45	80	4	-	-
NDPK507 041	4.1	45	80	5	-	-
NDPK507 042	4.2	45	80	5	M5x0.8	WH1~4
NDPK507 043	4.3	45	80	5	M5x0.8	WH5~6
NDPK507 044	4.4	45	80	5	-	-
NDPK507 045	4.5	45	80	5	-	-
NDPK507 046	4.6	45	80	5	-	-

품목코드	DC	LCF	OAL	DCONMS	적용가능 탭	
	날경	날장	전장	자루경	Size	Limit
NDPK507 047	4.7	45	80	5	-	-
NDPK507 04763	4.763	45	80	5	-	-
NDPK507 048	4.8	45	80	5	-	-
NDPK507 049	4.9	45	80	5	-	-
NDPK507 050	5	45	80	5	M6x1.0	WH1~4
NDPK507 051	5.1	45	80	6	M6x1.0	WH5~6
NDPK507 05159	5.159	50	83	6	-	-
NDPK507 052	5.2	50	83	6	-	-
NDPK507 053	5.3	50	83	6	-	-
NDPK507 054	5.4	50	83	6	-	-
NDPK507 055	5.5	50	83	6	-	-
NDPK507 05556	5.556	50	83	6	-	-
NDPK507 056	5.6	50	83	6	-	-
NDPK507 057	5.7	50	83	6	-	-
NDPK507 058	5.8	50	83	6	-	-
NDPK507 059	5.9	50	83	6	-	-
NDPK507 060	6	50	83	6	-	-
NDPK507 061	6.1	50	83	7	-	-
NDPK507 062	6.2	53	85	7	-	-
NDPK507 063	6.3	53	85	7	-	-

▶ 적용 피삭재

○ : 적합 ⊙ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하트강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	⊙	○	⊙					

NDPK507 주철용 돌핀 드릴

Drill

품목코드	DC	LCF	OAL	DCONMS	적용가능 범위		품목코드	DC	LCF	OAL	DCONMS	적용가능 범위	
	날경	날장	전장	자루경	Size	Limit		날경	날장	전장	자루경	Size	Limit
NDPK507 0635	6.35	53	85	7	-	-	NDPK507 093	9.3	68	105	10	-	-
NDPK507 064	6.4	53	85	7	-	-	NDPK507 094	9.4	68	105	10	-	-
NDPK507 065	6.5	53	85	7	-	-	NDPK507 095	9.5	68	105	10	-	-
NDPK507 066	6.6	53	85	7	-	-	NDPK507 09525	9.525	68	105	10	-	-
NDPK507 067	6.7	53	85	7	-	-	NDPK507 096	9.6	68	105	10	-	-
NDPK507 06747	6.747	53	85	7	-	-	NDPK507 097	9.7	68	105	10	-	-
NDPK507 068	6.8	53	85	7	M8x1.25	WH1~4	NDPK507 098	9.8	68	105	10	-	-
NDPK507 069	6.9	53	85	7	M8x1.25	WH5~6	NDPK507 099	9.9	68	105	10	-	-
NDPK507 070	7	53	85	7	M8x1.0	WH1~4	NDPK507 100	10	68	105	10	-	-
NDPK507 071	7.1	53	85	8	M8x1.0	WH5~6	NDPK507 101	10.1	68	105	11	-	-
NDPK507 07144	7.144	58	90	8	-	-	NDPK507 102	10.2	73	110	11	-	-
NDPK507 072	7.2	58	90	8	-	-	NDPK507 103	10.3	73	110	11	M12x1.75	WH1~2
NDPK507 073	7.3	58	90	8	-	-	NDPK507 10319	10.319	73	110	11	M12x1.75	WH3~4
NDPK507 074	7.4	58	90	8	-	-	NDPK507 104	10.4	73	110	11	M12x1.75	WH5~6
NDPK507 075	7.5	58	90	8	-	-	NDPK507 105	10.5	73	110	11	M12x1.5	WH1~4
NDPK507 076	7.6	58	90	8	-	-	NDPK507 106	10.6	73	110	11	M12x1.5	WH5~6
NDPK507 077	7.7	58	90	8	-	-	NDPK507 107	10.7	73	110	11	-	-
NDPK507 078	7.8	58	90	8	-	-	NDPK507 10716	10.716	73	110	11	-	-
NDPK507 079	7.9	58	90	8	-	-	NDPK507 108	10.8	73	110	11	M12x1.25	WH1~4
NDPK507 07938	7.938	58	90	8	-	-	NDPK507 109	10.9	73	110	11	M12x1.25	WH5~6
NDPK507 080	8	58	90	8	-	-	NDPK507 110	11	73	110	11	M12x1.0	WH1~4
NDPK507 081	8.1	58	90	9	-	-	NDPK507 111	11.1	73	110	12	M12x1.0	WH5~6
NDPK507 082	8.2	64	98	9	-	-	NDPK507 11113	11.113	80	120	12	-	-
NDPK507 083	8.3	64	98	9	-	-	NDPK507 112	11.2	80	120	12	-	-
NDPK507 084	8.4	64	98	9	-	-	NDPK507 113	11.3	80	120	12	-	-
NDPK507 085	8.5	64	98	9	M10x1.5	WH1~4	NDPK507 114	11.4	80	120	12	-	-
NDPK507 086	8.6	64	98	9	M10x1.5	WH5~6	NDPK507 115	11.5	80	120	12	-	-
NDPK507 087	8.7	64	98	9	-	-	NDPK507 116	11.6	80	120	12	-	-
NDPK507 08731	8.731	64	98	9	-	-	NDPK507 117	11.7	80	120	12	-	-
NDPK507 088	8.8	64	98	9	M10x1.25	WH1~4	NDPK507 118	11.8	80	120	12	-	-
NDPK507 089	8.9	64	98	9	M10x1.25	WH5~6	NDPK507 119	11.9	80	120	12	-	-
NDPK507 090	9	64	98	9	M10x1.0	WH1~4	NDPK507 120	12	80	120	12	M14x2.0	WH1~4
NDPK507 091	9.1	64	98	10	M10x1.0	WH5~6	NDPK507 121	12.1	80	120	13	M14x2.0	WH5~6
NDPK507 092	9.2	68	105	10	-	-	NDPK507 122	12.2	90	137	13	-	-

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	◎	○	◎					

NDPK507 주철용 돌핀 드릴

Drill

품목코드	DC	LCF	OAL	적용가능 탭	
	날경	날장	전장	자루경	Size Limit
NDPK507 123	12.3	90	137	13	-
NDPK507 124	12.4	90	137	13	-
NDPK507 125	12.5	90	137	13	M14x1.5 WH1~4
NDPK507 126	12.6	90	137	13	M14x1.5 WH5~6
NDPK507 127	12.7	90	137	13	-
NDPK507 128	12.8	90	137	13	-
NDPK507 129	12.9	90	137	13	-
NDPK507 130	13	90	137	13	-
NDPK507 131	13.1	90	137	14	-
NDPK507 133	13.3	96	147	14	-
NDPK507 134	13.4	96	147	14	-
NDPK507 13494	13.494	96	147	14	-
NDPK507 135	13.5	96	147	14	-
NDPK507 136	13.6	96	147	14	-
NDPK507 137	13.7	96	147	14	-
NDPK507 138	13.8	96	147	14	-
NDPK507 13891	13.891	96	147	14	-
NDPK507 139	13.9	96	147	14	-
NDPK507 140	14	96	147	14	M16x2.0 WH1~4
NDPK507 141	14.1	96	147	15	M16x2.0 WH5~6
NDPK507 142	14.2	100	153	15	-
NDPK507 14288	14.288	100	153	15	-
NDPK507 143	14.3	100	153	15	-
NDPK507 145	14.5	100	153	15	M16x1.5 WH1~4
NDPK507 146	14.6	100	153	15	M16x1.5 WH5~6
NDPK507 147	14.7	100	153	15	-
NDPK507 148	14.8	100	153	15	-
NDPK507 149	14.9	100	153	15	-

품목코드	DC	LCF	OAL	적용가능 탭	
	날경	날장	전장	자루경	Size Limit
NDPK507 150	15	100	153	15	-
NDPK507 151	15.1	100	153	16	-
NDPK507 154	15.4	112	160	16	-
NDPK507 155	15.5	112	160	16	M18x2.5 WH1~4
NDPK507 156	15.6	112	160	16	M18x2.5 WH5~6
NDPK507 157	15.7	112	160	16	-
NDPK507 158	15.8	112	160	16	-
NDPK507 15875	15.875	112	160	16	-
NDPK507 160	16	112	160	16	-
NDPK507 161	16.1	112	160	17	-
NDPK507 163	16.3	112	160	17	-
NDPK507 165	16.5	112	160	17	M18x1.5 WH1~6
NDPK507 16669	16.669	112	160	17	-
NDPK507 170	17	112	160	17	-
NDPK507 171	17.1	112	160	18	-
NDPK507 172	17.2	112	160	18	-
NDPK507 17463	17.463	112	160	18	-
NDPK507 175	17.5	112	160	18	M20x2.5 WH1~6
NDPK507 177	17.7	112	160	18	-
NDPK507 178	17.8	112	160	18	-
NDPK507 180	18	112	160	18	-
NDPK507 182	18.2	112	160	19	-
NDPK507 185	18.5	112	160	19	M20x1.5 WH1~6
NDPK507 190	19	112	160	19	-
NDPK507 195	19.5	112	160	20	M22x2.5 WH1~6
NDPK507 197	19.7	112	160	20	-
NDPK507 200	20	112	160	20	-

Dolphin Drill

Dolphin Oil-Hole Drill

Power Max

Solid Spiral

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
		○	◎	○	◎					