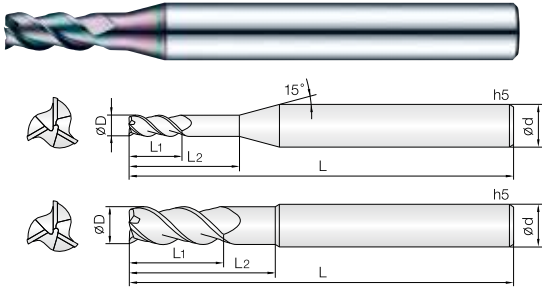
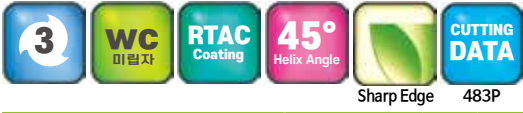


3날 45° 헬릭스 비철 가공용 R-TAC코팅 리브 엔드밀



- 알루미늄 및 알루미늄 합금, 동 및 동합금, 강화플라스틱 (CFRP), 유리/탄소섬유 등 비철 비금속 계열의 다양한 피삭재 전용 엔드밀
- 코팅 피막에 경도가 높고 마찰계수가 낮은 Tetrabond TAC코팅을 적용하여 내마모성이 우수하며, 피삭재의 표면조도가 월등히 우수합니다.
- 3날45° 헬릭스 형상과 깊은 포켓으로 설계하여 칩배출이 원활하며, 고속, 고이송 작업에 적합합니다.
- Endmills for Aluminum, Aluminum alloys, copper, copper alloys, CFRP, glass/carbon fiber, non-ferrous and non-metallic materials
- Tetrabond TAC coating provides excellent work surface finish by high hardness and low friction.
- High speed, feed applicable by 3 flute 45° degree helix and deep chip pocket design.



Sharp Edge 483P

Condition	D Size	D Tolerance	Condition	D Size	D Tolerance
ØD ≠ Ød	Ø1 ~ 6	+0 ~ -0.01mm	ØD = Ød	Ø6	-0.005 ~ -0.015mm
	Ø8 ~ 12	+0 ~ -0.015mm		Ø8 ~ 12	-0.01 ~ -0.025mm

단위 : mm

Order Number	날경 Diameter D	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	생크 Shank Dia d	비고
3DRE 010 030 S04	1	2	3	50	4	
3DRE 015 045 S04	1.5	3	4.5	50	4	
3DRE 020 060 S04	2	4	6	50	4	
3DRE 025 075 S04	2.5	5	7.5	50	4	
3DRE 030 090 S06	3	6	9	60	6	
3DRE 040 120 S06	4	9	12	60	6	
3DRE 050 150 S06	5	10	15	70	6	
3DRE 060 180 S06	6	12	18	70	6	
3DRE 080 240 S08	8	16	24	80	8	
3DRE 100 300 S10	10	20	30	90	10	
3DRE 120 360 S12	12	24	36	100	12	

Order Number	날경 Diameter D	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	생크 Shank Dia d	비고

2DRE/3DRE Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material	알루미늄 합금 Aluminum Alloy Expanding Material AL7075				알루미늄 합금 주물 / 다이캐스팅 Aluminum Alloys Casting / Die Casting AC4B / Si13%				탄소섬유 / 동합금 Magnesium Alloy / Copper Alloy / CFRP AZ91 / AZ80A / C1100		동합금 Copper Alloy C1100	
	일반가공 Regular Milling		고속가공 High Speed Milling		일반가공 Regular Milling		고속가공 High Speed Milling		일반가공 Regular Milling		고속가공 High Speed Milling	
외경 Outside Diameter	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
ø 0.5	28,800	160	45,000	500	28,800	160	45,000	450	28,800	140	45,000	410
ø 0.6	28,800	180	45,000	590	28,800	180	45,000	540	28,800	160	45,000	500
ø 0.8	28,800	200	45,000	770	28,800	200	45,000	720	26,100	180	45,000	590
ø 1	28,800	200	45,000	900	28,800	200	45,000	960	20,700	200	37,800	630
ø 1.2	28,800	210	45,000	1,100	28,800	210	45,000	1,000	17,100	200	32,400	630
ø 1.5	28,800	250	45,000	1,400	28,800	250	45,000	1,100	14,000	200	26,600	630
ø 2	28,800	400	45,000	1,800	28,800	380	45,000	1,100	13,000	200	25,200	680
ø 2.5	22,500	540	43,200	1,900	22,500	540	27,900	1,100	8,600	230	18,000	680
ø 3	18,900	630	36,000	1,900	18,900	630	23,400	1,100	7,200	230	15,300	680
ø 4	14,000	650	29,700	2,000	14,000	650	18,000	1,200	5,400	250	12,600	720
ø 5	11,300	680	27,900	2,500	11,300	680	17,280	1,500	4,300	270	11,300	860
ø 6	9,500	750	23,400	2,500	9,500	750	14,310	1,500	3,600	280	9,500	900
ø 8	7,200	800	17,550	2,600	7,200	800	10,800	1,600	2,600	270	7,100	900
ø 10	5,700	900	13,950	2,900	5,700	900	8,640	1,700	2,100	330	5,700	1,000
ø 12	4,800	950	11,700	2,900	4,800	950	7,200	1,700	1,800	350	4,800	1,000
측면절삭 Side Cutting	Ap	Ae	Ap	Ae	Ap	Ae	Ap	Ae	Ap	Ae	Ap	Ae
	1.5D	0.1D	1D	0.1D	1.5D	0.1D	1D	0.1D	1.5D	0.1D	1D	0.05D
홈절삭 Slotting	Ap	Ae	Ap	Ae	Ap	Ae	Ap	Ae	Ap	Ae	Ap	Ae
	0.5D	0.8D	0.15D	0.8D	0.5D	0.8D	0.15D	0.8D	0.5D	0.8D	0.1D	0.8D
절입량 Depth of Cut												

2DLE Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material	알루미늄합금재 Aluminum Alloy Expanding Material A7075				알루미늄합금주물 / 다이캐스팅 Aluminum Alloys Casting / Die Casting AC4B / Si13%				탄소섬유 / 동합금 Magnesium Alloy / Copper Alloy / CFRP AZ91 / AZ80A / C1100		동합금 Copper Alloy C1100	
	일반가공 Regular Milling		고속가공 High Speed Milling		일반가공 Regular Milling		고속가공 High Speed Milling		일반가공 Regular Milling		고속가공 High Speed Milling	
외경 Outside Diameter	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
ø 0.1	32,000	35	45,000	120	32,000	35	45,000	120	32,000	35	45,000	100
ø 0.3	32,000	60	45,000	300	32,000	60	45,000	300	32,000	60	45,000	210
ø 0.5	28,800	90	45,000	500	28,800	90	45,000	500	28,800	90	45,000	390
ø 0.8	28,800	120	45,000	700	28,800	130	45,000	700	23,000	110	45,000	500
ø 1	28,800	170	45,000	900	28,800	170	45,000	900	20,700	125	37,800	630
ø 1.5	28,800	230	40,500	1,100	28,800	230	40,500	1,100	14,000	130	26,700	630
ø 2	23,000	270	30,600	1,100	23,000	270	30,600	1,100	10,400	135	21,600	675
ø 3	15,300	460	20,700	1,100	15,300	460	20,700	1,100	7,200	200	15,300	675
ø 4	11,300	470	15,300	1,100	11,300	470	15,300	1,100	5,400	210	11,700	675
ø 5	9,000	490	12,200	1,100	9,000	490	12,200	1,100	4,300	225	9,000	675
ø 6	7,700	540	10,000	1,100	7,700	540	10,000	1,100	3,600	225	7,200	675
ø 8	6,000	600	8,200	1,200	6,000	600	8,200	1,200	2,600	300	5,900	720
ø 10	4,500	650	6,000	1,400	4,500	650	6,000	1,400	2,100	300	4,300	800
ø 12	3,100	690	4,500	1,500	3,100	690	4,500	1,500	1,600	320	3,200	850
측면절삭 Side Cutting	Ap	Ae	Ap	Ap	Ap	Ap	Ap	Ae	Ap	Ae	Ap	Ae
	1.2D	0.1D	1D	0.1D	1.2D	0.1D	1D	0.1D	1D	0.1D	1D	0.05D
홈절삭 Slotting	Ap	Ae	Ap	Ae	Ap	Ae	Ap	Ae	Ap	Ae	Ap	Ae
	0.3D	0.8D	0.15D	0.8D	0.3D	0.8D	0.15D	0.8D	0.3D	0.8D	0.1D	0.8D
절입량 Depth of Cut												

- 날 끝이 정밀하게 연삭되어 있습니다. 파손을 피하기 위해 가능하면 비접촉 방식으로 측정하십시오.
- 상기 절삭조건은 참고 수치이므로 실 가공시 가공 형상, 가공 목적, 적용 기계에 따라 조건변경 요망 합니다.
- 조건표가 기계의 최대 스피드 속도를 초과하거나 버 및 적열 현상이 발생할 때 스피드 속도와 이송 속도를 비례하여 조정 하십시오.
- 진동이 적고 강성이 좋은 공작기계 사용 요망 합니다 (ø1이하 사용시 진동 허용 관리 5µm 이내 일것.)
- 에어브로, 절삭유, 오일 미스트 콜러트를 추천하며, 칩을 잘 제거하고 가공시 발열과 발화에 주의 하십시오
- The edge of the flute precisely grinded. If you want to measure the tool, and to avoid damaging on the flutes, use non-contact measuring method.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If the table over the maximum RPM and feed of your machine, or found red heat on the material, adjust RPM and feed in the same proportion.
- Use a machine with low vibration and good rigidity (ø1 or less, the vibration tolerance management should be within 5µm).
- Air blow or mist coolant is recommended and note for chip emission, heat, or ignition.