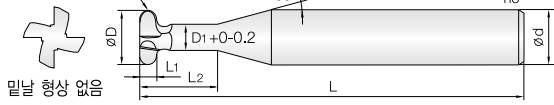


4TRS 4 Flutes T-R Slot Cutters

4날 T-R 커터



밑날 형상 없음
No flutes -
in the bottom

- HRC50이하의 고경도강, 프리하든강, 공구강, 주철 등 피삭재 가공
- JCRO코팅 처리하여 다양한 피삭재 가공시 인선부에 스트레스가 적으며, 내마모성 또한 향상됩니다.
- 직선날 타입 4날을 적용하여 인선부 칩핑을 최소화 하였습니다.
- 다양한 형상과 유효장으로 공작물 간섭을 최소화하여 작업효율이 향상됩니다.

- Endmills for various work materials, hardened steels(HRc~50), pre-hardened steels, tool steels and cast irons
- JCRO coating provides wear resistance improvement as well as avoid edge stress in various applications.
- Minimize edge chipping by applying straight 4flutes design.
- Various shapes and length provides optimum efficiency.

4

WC
미립자

JCRO
Coating

R
± 0.02

L1
± 0.03

L1
± 0.05

0°
Helix Angle

CUTTING
DATA

0.25R ~ 3R Ø4 ~ 5 Ø6 ~ 12 496P

D Size	D Tolerance
Ø 4	+0 ~ -0.02mm
Ø 5 ~ 12	-0.01 ~ -0.025mm

단위 : mm

Order Number	날경 Diameter D × R	날장 Length of cut L1	유효장 Effective Length L2	목부경 Neck Diameter D1	전장 Overall Length L	샤홅크 Shank Dia d	비고
New 4TRS 040 005 040	4 X 0.25R	0.5	4	2	50	6	
New 4TRS 040 010 040	4 X 0.5R	1	4	2	50	6	
4TRS 050 010 045	5 X 0.5R	1	4.5	2.5	50	6	
4TRS 050 010 070	5 X 0.5R	1	7	2.5	50	6	
4TRS 050 020 055	5 X 1R	2	5.5	2.5	50	6	
4TRS 060 010 050	6 X 0.5R	1	5	3	50	6	
4TRS 060 010 080	6 X 0.5R	1	8	3	50	6	
4TRS 060 015 055	6 X 0.75R	1.5	5.5	3	50	6	
4TRS 060 020 060	6 X 1R	2	6	3	50	6	
4TRS 060 020 100	6 X 1R	2	10	3	50	6	
New 4TRS 080 010 070	8 X 0.5R	1	7	4	60	8	
New 4TRS 080 010 130	8 X 0.5R	1	13	4	60	8	
4TRS 080 020 070	8 X 1R	2	7	4	60	8	
4TRS 080 020 130	8 X 1R	2	13	4	60	8	
4TRS 080 030 080	8 X 1.5R	3	8	4	60	8	
New 4TRS 100 030 100	10 X 1.5R	3	10	4.5	70	10	
New 4TRS 100 030 160	10 X 1.5R	3	16	4.5	70	10	
4TRS 100 040 100	10 X 2R	4	10	4.5	70	10	
4TRS 100 040 160	10 X 2R	4	16	4.5	70	10	
New 4TRS 120 030 150	12 X 1.5R	3	15	5	75	12	
New 4TRS 120 030 210	12 X 1.5R	3	21	5	75	12	
New 4TRS 120 040 150	12 X 2R	4	15	5	75	12	
New 4TRS 120 040 210	12 X 2R	4	21	5	75	12	
4TRS 120 060 150	12 X 3R	6	15	5	75	12	
4TRS 120 060 210	12 X 3R	6	21	5	75	12	

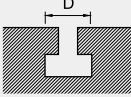
GENERAL PURPOSE

4TES/4TRS/3TRC/4&6TDA/3&4THC/4&6TAC

3TRC는 RPM 동일, FEED만 최대 30% Down 적용.
Use the same RPM and reduce the feed by 30% for 3TRC.

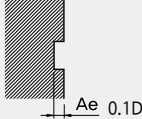
홈절삭 Slotting							
피삭재 Material	일반구조강 / 쾌삭강 Mild steels / Free cutting steel HP / SM		구조용강 / 탄소강 / 회주철 Structural steels / Carbon Steels / Gray cast irons SS / SC / FC		공구강 / 금형강 Tool steels / Mold steels SCM / HPM		
경도 Hardness	-200HB		~30HRC		30~ 40HRC		
외경 Outside Diameter	RPM	FEED	RPM	FEED	RPM	FEED	
∅ 1.5	3,050	117	1,890	77	1,530	59	
∅ 2	2,850	110	1,790	72	1,440	55	
∅ 2.5	2,680	99	1,700	66	1,350	50	
∅ 3	2,500	92	1,610	60	1,260	45	
∅ 4	2,150	81	1,430	54	1,080	41	
∅ 5	1,800	70	1,200	47	900	35	
∅ 6	1,430	59	950	39	720	30	
∅ 8	1,070	44	720	30	540	22	
∅ 10	860	35	580	23	430	17	
∅ 12	720	30	480	20	360	14	

절입량
Depth of Cut



측면절삭 Side Cutting							
피삭재 Material	일반구조강 / 쾌삭강 Mild steels / Free cutting steel HP / SM		구조용강 / 탄소강 / 회주철 Structural steels / Carbon Steels / Gray cast irons SS / SC / FC		공구강 / 금형강 Tool steels / Mold steels SCM / HPM		
경도 Hardness	-200HB		~30HRC		30~ 40HRC		
외경 Outside Diameter	RPM	FEED	RPM	FEED	RPM	FEED	
∅ 1.5	3,050	162	1,890	94	1,530	76	
∅ 2	2,850	149	1,790	88	1,440	70	
∅ 2.5	2,680	135	1,700	83	1,350	65	
∅ 3	2,500	122	1,610	79	1,260	59	
∅ 4	2,150	108	1,430	72	1,080	54	
∅ 5	1,800	95	1,200	65	900	49	
∅ 6	1,430	86	950	58	720	43	
∅ 8	1,070	64	720	43	540	32	
∅ 10	860	52	580	34	430	26	
∅ 12	720	43	480	29	360	22	

절입량
Depth of Cut



- 공구 진입시 피삭재 밖에서 진입하십시오. • 상기 절삭 조건은 4날 기준이며, 3TRC의 경우 회전수는 유지하고 Feed를 30% 줄여서 사용하십시오.
- 상기 절삭조건은 참고 수치이므로 실 가공시 가공 형상, 가공 목적, 적용 기계에 따라 조건변경 요망 합니다.
- 조건표가 기계의 최대 스피들 속도를 초과하거나 버 및 적열 현상이 발생할 때 스피들 속도와 이송 속도를 비례하여 조정하십시오.
- 측면절삭 시 떨림이 발생한 경우 절삭조건인 Feed를 줄여주십시오.
- When entering the tool to the workpiece, enter the tool from outside to the workpiece.
- The parameters on the table is based on 4 flutes. For using 3TRC , use the same RPM and reduce the feed by 30%.
- 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.
- If a vibration is occurred while side milling, reduce the feed.