

- 고정도강(HRc52~70), 프리하든강 계열의 고정밀 가공 엔드밀
- 고품질 실리콘계 코팅(Si) 처리하여 내마모성이 우수합니다.
- 유효장을 테이퍼 설계하여 깊은 홈 작업시 목부 파손 및 떨림을 최소화 하였습니다.
- 고정밀 공차 적용으로 초정밀 가공에 적합합니다.
- 초미립자 초경합금 (0.2 μ m)을 채택, 고속절삭시 뛰어난 성능을 발휘합니다.
- Endmills for pre-hardened and hardened steel(HRc52~70)
- Good wear resistance by high quality Si-based PVD coating.
- Minimize chattering and fracturing by taper designed flute.
- High precise edge tolerance.
- Outstanding performance at high speed machining by ultra fine (0.2 μ m) WC grade.



0.1 ~ 2.5R

3 ~ 6R

285P

D Size	D Tolerance
Ø 0.2 ~ 5	+0 ~ -0.01mm
Ø 6 ~ 12	-0.005 ~ -0.015mm

단위: mm

Order Number	날경 Diameter R × D	각도 Angle θ	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	샤프트 Shank Dia d	비고
2JJTB 002 003 015	0.1R X 0.2	0° 30'	0.2	1.5	40	4	
2JJTB 002 003 020	0.1R X 0.2	0° 30'	0.2	2	40	4	
2JJTB 002 010 015	0.1R X 0.2	1°	0.2	1.5	40	4	
2JJTB 002 010 020	0.1R X 0.2	1°	0.2	2	40	4	
2JJTB 002 010 025	0.1R X 0.2	1°	0.2	2.5	40	4	
2JJTB 002 013 015	0.1R X 0.2	1° 30'	0.2	1.5	40	4	
2JJTB 002 013 020	0.1R X 0.2	1° 30'	0.2	2	40	4	
2JJTB 002 013 025	0.1R X 0.2	1° 30'	0.2	2.5	40	4	
2JJTB 002 020 015	0.1R X 0.2	2°	0.2	1.5	40	4	
2JJTB 002 020 020	0.1R X 0.2	2°	0.2	2	40	4	
2JJTB 002 020 025	0.1R X 0.2	2°	0.2	2.5	40	4	
2JJTB 002 030 015	0.1R X 0.2	3°	0.2	1.5	40	4	
2JJTB 002 030 020	0.1R X 0.2	3°	0.2	2	40	4	
2JJTB 002 030 025	0.1R X 0.2	3°	0.2	2.5	40	4	
New 2JJTB 002 030 030	0.1R X 0.2	3°	0.2	3	45	4	
2JJTB 002 050 020	0.1R X 0.2	5°	0.2	2	40	4	
New 2JJTB 002 050 030	0.1R X 0.2	5°	0.2	3	45	4	
2JJTB 003 003 030	0.15R X 0.3	0° 30'	0.3	3	40	4	
2JJTB 003 010 020	0.15R X 0.3	1°	0.3	2	40	4	
2JJTB 003 010 030	0.15R X 0.3	1°	0.3	3	40	4	
2JJTB 003 010 040	0.15R X 0.3	1°	0.3	4	40	4	
2JJTB 003 010 050	0.15R X 0.3	1°	0.3	5	40	4	
2JJTB 003 013 020	0.15R X 0.3	1° 30'	0.3	2	40	4	
2JJTB 003 013 030	0.15R X 0.3	1° 30'	0.3	3	40	4	
2JJTB 003 013 040	0.15R X 0.3	1° 30'	0.3	4	40	4	
2JJTB 003 013 050	0.15R X 0.3	1° 30'	0.3	5	40	4	
2JJTB 003 020 020	0.15R X 0.3	2°	0.3	2	40	4	
2JJTB 003 020 030	0.15R X 0.3	2°	0.3	3	40	4	
2JJTB 003 020 040	0.15R X 0.3	2°	0.3	4	40	4	
2JJTB 003 020 050	0.15R X 0.3	2°	0.3	5	40	4	
New 2JJTB 003 020 060	0.15R X 0.3	2°	0.3	6	45	4	
2JJTB 003 030 020	0.15R X 0.3	3°	0.3	2	40	4	
2JJTB 003 030 030	0.15R X 0.3	3°	0.3	3	40	4	
2JJTB 003 030 040	0.15R X 0.3	3°	0.3	4	40	4	
2JJTB 003 030 050	0.15R X 0.3	3°	0.3	5	40	4	
New 2JJTB 003 030 060	0.15R X 0.3	3°	0.3	6	45	4	
2JJTB 003 050 050	0.15R X 0.3	5°	0.3	5	40	4	
New 2JJTB 003 050 080	0.15R X 0.3	5°	0.3	8	45	4	
2JJTB 004 003 020	0.2R X 0.4	0° 30'	0.4	2	40	4	
2JJTB 004 003 030	0.2R X 0.4	0° 30'	0.4	3	40	4	
2JJTB 004 003 040	0.2R X 0.4	0° 30'	0.4	4	40	4	
2JJTB 004 003 050	0.2R X 0.4	0° 30'	0.4	5	40	4	
2JJTB 004 003 060	0.2R X 0.4	0° 30'	0.4	6	40	4	
2JJTB 004 010 020	0.2R X 0.4	1°	0.4	2	40	4	
2JJTB 004 010 030	0.2R X 0.4	1°	0.4	3	40	4	
2JJTB 004 010 040	0.2R X 0.4	1°	0.4	4	40	4	
2JJTB 004 010 050	0.2R X 0.4	1°	0.4	5	40	4	
2JJTB 004 010 060	0.2R X 0.4	1°	0.4	6	40	4	
New 2JJTB 004 010 080	0.2R X 0.4	1°	0.4	8	45	4	
2JJTB 004 013 020	0.2R X 0.4	1° 30'	0.4	2	40	4	

Order Number	날경 Diameter R × D	각도 Angle θ	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	샤프트 Shank Dia d	비고
2JJTB 004 013 030	0.2R X 0.4	1° 30'	0.4	3	40	4	
2JJTB 004 013 040	0.2R X 0.4	1° 30'	0.4	4	40	4	
2JJTB 004 013 050	0.2R X 0.4	1° 30'	0.4	5	40	4	
2JJTB 004 013 060	0.2R X 0.4	1° 30'	0.4	6	40	4	
New 2JJTB 004 013 080	0.2R X 0.4	1° 30'	0.4	8	45	4	
2JJTB 004 020 020	0.2R X 0.4	2°	0.4	2	40	4	
2JJTB 004 020 030	0.2R X 0.4	2°	0.4	3	40	4	
2JJTB 004 020 040	0.2R X 0.4	2°	0.4	4	40	4	
2JJTB 004 020 050	0.2R X 0.4	2°	0.4	5	40	4	
2JJTB 004 020 060	0.2R X 0.4	2°	0.4	6	40	4	
New 2JJTB 004 020 080	0.2R X 0.4	2°	0.4	8	45	4	
New 2JJTB 004 020 100	0.2R X 0.4	2°	0.4	10	45	4	
New 2JJTB 004 030 040	0.2R X 0.4	3°	0.4	4	45	4	
New 2JJTB 004 030 060	0.2R X 0.4	3°	0.4	6	45	4	
New 2JJTB 004 030 080	0.2R X 0.4	3°	0.4	8	45	4	
New 2JJTB 004 030 100	0.2R X 0.4	3°	0.4	10	45	4	
New 2JJTB 004 050 060	0.2R X 0.4	5°	0.4	6	45	4	
New 2JJTB 004 050 080	0.2R X 0.4	5°	0.4	8	45	4	
New 2JJTB 004 050 100	0.2R X 0.4	5°	0.4	10	45	4	
2JJTB 005 003 040	0.25R X 0.5	0° 30'	0.5	4	45	4	
2JJTB 005 003 060	0.25R X 0.5	0° 30'	0.5	6	45	4	
2JJTB 005 010 040	0.25R X 0.5	1°	0.5	4	45	4	
2JJTB 005 010 060	0.25R X 0.5	1°	0.5	6	45	4	
2JJTB 005 010 080	0.25R X 0.5	1°	0.5	8	45	4	
2JJTB 005 010 100	0.25R X 0.5	1°	0.5	10	45	4	
2JJTB 005 013 040	0.25R X 0.5	1° 30'	0.5	4	45	4	
2JJTB 005 013 060	0.25R X 0.5	1° 30'	0.5	6	45	4	
2JJTB 005 013 080	0.25R X 0.5	1° 30'	0.5	8	45	4	
2JJTB 005 013 100	0.25R X 0.5	1° 30'	0.5	10	45	4	
2JJTB 005 020 040	0.25R X 0.5	2°	0.5	4	45	4	
2JJTB 005 020 060	0.25R X 0.5	2°	0.5	6	45	4	
2JJTB 005 020 080	0.25R X 0.5	2°	0.5	8	45	4	
2JJTB 005 020 100	0.25R X 0.5	2°	0.5	10	45	4	
2JJTB 005 030 080	0.25R X 0.5	3°	0.5	8	45	4	
2JJTB 005 030 120	0.25R X 0.5	3°	0.5	12	50	4	
New 2JJTB 005 030 160	0.25R X 0.5	3°	0.5	16	60	4	
2JJTB 005 030 200	0.25R X 0.5	3°	0.5	20	60	4	
New 2JJTB 005 050 100	0.25R X 0.5	5°	0.5	10	50	4	
New 2JJTB 005 050 150	0.25R X 0.5	5°	0.5	15	60	4	
New 2JJTB 005 050 200	0.25R X 0.5	5°	0.5	20	60	4	
2JJTB 006 003 040	0.3R X 0.6	0° 30'	0.6	4	45	4	
2JJTB 006 003 060	0.3R X 0.6	0° 30'	0.6	6	45	4	
2JJTB 006 003 080	0.3R X 0.6	0° 30'	0.6	8	45	4	
2JJTB 006 010 040	0.3R X 0.6	1°	0.6	4	45	4	
2JJTB 006 010 060	0.3R X 0.6	1°	0.6	6	45	4	
2JJTB 006 010 080	0.3R X 0.6	1°	0.6	8	45	4	
2JJTB 006 010 100	0.3R X 0.6	1°	0.6	10	45	4	
2JJTB 006 010 120	0.3R X 0.6	1°	0.6	12	50	4	
2JJTB 006 010 150	0.3R X 0.6	1°	0.6	15	50	4	
2JJTB 006 010 200	0.3R X 0.6	1°	0.6	20	60	4	



단위: mm

Order Number	날경 Diameter R × D	각도 Angle θ	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	샤프크 Shank Dia d	비고	Order Number	날경 Diameter R × D	각도 Angle θ	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	샤프크 Shank Dia d	비고
2JJTB 006 013 040	0.3R X 0.6	1° 30'	0.6	4	45	4		2JJTB 010 010 150	0.5R X 1	1°	1	15	50	4	
2JJTB 006 013 060	0.3R X 0.6	1° 30'	0.6	6	45	4		2JJTB 010 010 200	0.5R X 1	1°	1	20	50	4	
2JJTB 006 013 080	0.3R X 0.6	1° 30'	0.6	8	45	4		2JJTB 010 010 250	0.5R X 1	1°	1	25	60	4	
2JJTB 006 013 100	0.3R X 0.6	1° 30'	0.6	10	45	4		2JJTB 010 010 300	0.5R X 1	1°	1	30	70	4	
2JJTB 006 013 120	0.3R X 0.6	1° 30'	0.6	12	50	4		2JJTB 010 010 350	0.5R X 1	1°	1	35	75	4	
2JJTB 006 013 150	0.3R X 0.6	1° 30'	0.6	15	50	4		2JJTB 010 013 060	0.5R X 1	1° 30'	1	6	50	4	
2JJTB 006 013 200	0.3R X 0.6	1° 30'	0.6	20	60	4		2JJTB 010 013 080	0.5R X 1	1° 30'	1	8	50	4	
2JJTB 006 020 060	0.3R X 0.6	2°	0.6	6	45	4		2JJTB 010 013 100	0.5R X 1	1° 30'	1	10	50	4	
2JJTB 006 020 080	0.3R X 0.6	2°	0.6	8	45	4		2JJTB 010 013 150	0.5R X 1	1° 30'	1	15	50	4	
2JJTB 006 020 100	0.3R X 0.6	2°	0.6	10	45	4		2JJTB 010 013 200	0.5R X 1	1° 30'	1	20	50	4	
2JJTB 006 020 150	0.3R X 0.6	2°	0.6	15	50	4		2JJTB 010 013 250	0.5R X 1	1° 30'	1	25	60	4	
2JJTB 006 020 200	0.3R X 0.6	2°	0.6	20	60	4		2JJTB 010 013 300	0.5R X 1	1° 30'	1	30	70	4	
2JJTB 006 030 130	0.3R X 0.6	3°	0.6	13	50	4		2JJTB 010 013 350	0.5R X 1	1° 30'	1	35	80	4	
New 2JJTB 006 030 160	0.3R X 0.6	3°	0.6	16	60	4		2JJTB 010 013 400	0.5R X 1	1° 30'	1	40	80	4	
2JJTB 006 030 200	0.3R X 0.6	3°	0.6	20	60	4		2JJTB 010 020 150	0.5R X 1	2°	1	15	50	4	
New 2JJTB 006 050 100	0.3R X 0.6	5°	0.6	10	50	4		2JJTB 010 020 200	0.5R X 1	2°	1	20	50	4	
New 2JJTB 006 050 150	0.3R X 0.6	5°	0.6	15	60	4		2JJTB 010 020 250	0.5R X 1	2°	1	25	60	4	
New 2JJTB 006 050 200	0.3R X 0.6	5°	0.6	20	60	4		2JJTB 010 020 300	0.5R X 1	2°	1	30	70	4	
2JJTB 008 003 040	0.4R X 0.8	0° 30'	0.8	4	45	4		2JJTB 010 020 400	0.5R X 1	2°	1	40	80	4	
2JJTB 008 003 060	0.4R X 0.8	0° 30'	0.8	6	45	4		2JJTB 010 030 200	0.5R X 1	3°	1	20	50	4	
2JJTB 008 003 080	0.4R X 0.8	0° 30'	0.8	8	45	4		2JJTB 010 030 300	0.5R X 1	3°	1	30	70	6	
2JJTB 008 003 100	0.4R X 0.8	0° 30'	0.8	10	45	4		2JJTB 010 030 400	0.5R X 1	3°	1	40	80	6	
2JJTB 008 003 120	0.4R X 0.8	0° 30'	0.8	12	50	4		2JJTB 010 030 500	0.5R X 1	3°	1	50	90	6	
2JJTB 008 003 150	0.4R X 0.8	0° 30'	0.8	15	50	4		2JJTB 010 050 230	0.5R X 1	5°	1	23	60	6	
2JJTB 008 003 200	0.4R X 0.8	0° 30'	0.8	20	60	4		2JJTB 012 003 080	0.6R X 1.2	0° 30'	1.2	8	50	4	
New 2JJTB 008 003 250	0.4R X 0.8	0° 30'	0.8	25	70	4		2JJTB 012 003 120	0.6R X 1.2	0° 30'	1.2	12	50	4	
2JJTB 008 010 040	0.4R X 0.8	1°	0.8	4	45	4		2JJTB 012 003 180	0.6R X 1.2	0° 30'	1.2	18	50	4	
2JJTB 008 010 060	0.4R X 0.8	1°	0.8	6	45	4		2JJTB 012 003 240	0.6R X 1.2	0° 30'	1.2	24	60	4	
2JJTB 008 010 080	0.4R X 0.8	1°	0.8	8	45	4		2JJTB 012 010 080	0.6R X 1.2	1°	1.2	8	50	4	
2JJTB 008 010 100	0.4R X 0.8	1°	0.8	10	45	4		2JJTB 012 010 120	0.6R X 1.2	1°	1.2	12	50	4	
2JJTB 008 010 120	0.4R X 0.8	1°	0.8	12	50	4		2JJTB 012 010 180	0.6R X 1.2	1°	1.2	18	50	4	
2JJTB 008 010 160	0.4R X 0.8	1°	0.8	16	50	4		2JJTB 012 010 240	0.6R X 1.2	1°	1.2	24	60	4	
2JJTB 008 010 200	0.4R X 0.8	1°	0.8	20	60	4		2JJTB 012 013 080	0.6R X 1.2	1° 30'	1.2	8	50	4	
New 2JJTB 008 010 250	0.4R X 0.8	1°	0.8	25	70	4		2JJTB 012 013 120	0.6R X 1.2	1° 30'	1.2	12	50	4	
2JJTB 008 013 040	0.4R X 0.8	1° 30'	0.8	4	45	4		2JJTB 012 013 180	0.6R X 1.2	1° 30'	1.2	18	50	4	
2JJTB 008 013 060	0.4R X 0.8	1° 30'	0.8	6	45	4		2JJTB 012 013 240	0.6R X 1.2	1° 30'	1.2	24	60	4	
2JJTB 008 013 080	0.4R X 0.8	1° 30'	0.8	8	45	4		2JJTB 012 020 080	0.6R X 1.2	2°	1.2	8	50	4	
2JJTB 008 013 100	0.4R X 0.8	1° 30'	0.8	10	45	4		2JJTB 012 020 120	0.6R X 1.2	2°	1.2	12	50	4	
2JJTB 008 013 120	0.4R X 0.8	1° 30'	0.8	12	50	4		2JJTB 012 020 180	0.6R X 1.2	2°	1.2	18	50	4	
2JJTB 008 013 160	0.4R X 0.8	1° 30'	0.8	16	50	4		2JJTB 012 020 240	0.6R X 1.2	2°	1.2	24	60	4	
2JJTB 008 013 200	0.4R X 0.8	1° 30'	0.8	20	60	4		2JJTB 015 003 080	0.75R X 1.5	0° 30'	1.5	8	50	4	
New 2JJTB 008 013 250	0.4R X 0.8	1° 30'	0.8	25	70	4		2JJTB 015 003 100	0.75R X 1.5	0° 30'	1.5	10	50	4	
2JJTB 008 020 080	0.4R X 0.8	2°	0.8	8	50	4		2JJTB 015 003 120	0.75R X 1.5	0° 30'	1.5	12	50	4	
2JJTB 008 020 100	0.4R X 0.8	2°	0.8	10	50	4		2JJTB 015 003 150	0.75R X 1.5	0° 30'	1.5	15	50	4	
2JJTB 008 020 120	0.4R X 0.8	2°	0.8	12	50	4		2JJTB 015 003 200	0.75R X 1.5	0° 30'	1.5	20	60	4	
2JJTB 008 020 160	0.4R X 0.8	2°	0.8	16	50	4		2JJTB 015 003 300	0.75R X 1.5	0° 30'	1.5	30	70	4	
2JJTB 008 020 200	0.4R X 0.8	2°	0.8	20	60	4		2JJTB 015 003 400	0.75R X 1.5	0° 30'	1.5	40	80	4	
New 2JJTB 008 020 250	0.4R X 0.8	2°	0.8	25	70	4		2JJTB 015 010 080	0.75R X 1.5	1°	1.5	8	50	4	
2JJTB 008 030 080	0.4R X 0.8	3°	0.8	8	50	4		2JJTB 015 010 100	0.75R X 1.5	1°	1.5	10	50	4	
2JJTB 008 030 120	0.4R X 0.8	3°	0.8	12	50	4		2JJTB 015 010 120	0.75R X 1.5	1°	1.5	12	50	4	
2JJTB 008 030 160	0.4R X 0.8	3°	0.8	16	50	4		2JJTB 015 010 150	0.75R X 1.5	1°	1.5	15	50	4	
2JJTB 008 030 200	0.4R X 0.8	3°	0.8	20	60	4		2JJTB 015 010 200	0.75R X 1.5	1°	1.5	20	60	4	
New 2JJTB 008 030 250	0.4R X 0.8	3°	0.8	25	70	4		2JJTB 015 010 250	0.75R X 1.5	1°	1.5	25	60	4	
New 2JJTB 008 050 240	0.4R X 0.8	5°	0.8	24	60	6		2JJTB 015 010 300	0.75R X 1.5	1°	1.5	30	70	4	
2JJTB 010 003 060	0.5R X 1	0° 30'	1	6	50	4		2JJTB 015 010 400	0.75R X 1.5	1°	1.5	40	80	4	
2JJTB 010 003 080	0.5R X 1	0° 30'	1	8	50	4		2JJTB 015 010 500	0.75R X 1.5	1°	1.5	50	90	4	
2JJTB 010 003 100	0.5R X 1	0° 30'	1	10	50	4		2JJTB 015 013 080	0.75R X 1.5	1° 30'	1.5	8	50	4	
2JJTB 010 003 150	0.5R X 1	0° 30'	1	15	50	4		2JJTB 015 013 100	0.75R X 1.5	1° 30'	1.5	10	50	4	
2JJTB 010 003 200	0.5R X 1	0° 30'	1	20	60	4		2JJTB 015 013 120	0.75R X 1.5	1° 30'	1.5	12	50	4	
2JJTB 010 003 250	0.5R X 1	0° 30'	1	25	60	4		2JJTB 015 013 150	0.75R X 1.5	1° 30'	1.5	15	50	4	
2JJTB 010 003 300	0.5R X 1	0° 30'	1	30	70	4		2JJTB 015 013 200	0.75R X 1.5	1° 30'	1.5	20	60	4	
2JJTB 010 010 060	0.5R X 1	1°	1	6	50	4		2JJTB 015 013 250	0.75R X 1.5	1° 30'	1.5	25	60	4	
2JJTB 010 010 080	0.5R X 1	1°	1	8	50	4		2JJTB 015 013 300	0.75R X 1.5	1° 30'	1.5	30	70	4	
2JJTB 010 010 100	0.5R X 1	1°	1	10	50	4		2JJTB 015 013 400	0.75R X 1.5	1° 30'	1.5	40	80	4	



단위: mm

Order Number	날경 Diameter R × D	각도 Angle θ	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	샙크 Shank Dia d	비고	Order Number	날경 Diameter R × D	각도 Angle θ	날장 Length of cut L1	유효장 Effective Length L2	전장 Overall Length L	샙크 Shank Dia d	비고
2JJTB 015 013 500	0.75R X 1.5	1°30'	1.5	50	90	4		2JJTB 030 020 160	1.5R X 3	2°	3	16	60	6	
2JJTB 015 020 100	0.75R X 1.5	2°	1.5	10	50	4		2JJTB 030 020 200	1.5R X 3	2°	3	20	65	6	
2JJTB 015 020 150	0.75R X 1.5	2°	1.5	15	50	4		2JJTB 030 020 300	1.5R X 3	2°	3	30	70	6	
2JJTB 015 020 200	0.75R X 1.5	2°	1.5	20	60	4		2JJTB 030 020 480	1.5R X 3	2°	3	48	90	6	
2JJTB 015 020 300	0.75R X 1.5	2°	1.5	30	70	4		2JJTB 030 020 600	1.5R X 3	2°	3	60	110	8	
2JJTB 015 020 400	0.75R X 1.5	2°	1.5	40	80	6		2JJTB 030 020 700	1.5R X 3	2°	3	70	120	8	
2JJTB 015 020 500	0.75R X 1.5	2°	1.5	50	90	6		2JJTB 030 030 300	1.5R X 3	3°	3	30	70	6	
2JJTB 015 030 420	0.75R X 1.5	3°	1.5	42	80	6		2JJTB 030 030 500	1.5R X 3	3°	3	50	90	8	
2JJTB 015 050 250	0.75R X 1.5	5°	1.5	25	70	6		2JJTB 030 030 700	1.5R X 3	3°	3	70	120	10	
2JJTB 020 003 080	1R X 2	0°30'	2	8	50	4		2JJTB 030 050 330	1.5R X 3	5°	3	33	90	8	
2JJTB 020 003 120	1R X 2	0°30'	2	12	50	4		2JJTB 040 003 600	2R X 4	0°30'	4	60	100	6	
2JJTB 020 003 160	1R X 2	0°30'	2	16	50	4		2JJTB 040 003 700	2R X 4	0°30'	4	70	110	6	
2JJTB 020 003 200	1R X 2	0°30'	2	20	60	4		2JJTB 040 003 900	2R X 4	0°30'	4	90	130	6	
2JJTB 020 003 300	1R X 2	0°30'	2	30	70	4		2JJTB 040 010 500	2R X 4	1°	4	50	90	6	
2JJTB 020 003 400	1R X 2	0°30'	2	40	80	4		2JJTB 040 010 600	2R X 4	1°	4	60	100	6	
2JJTB 020 003 500	1R X 2	0°30'	2	50	90	4		2JJTB 040 010 700	2R X 4	1°	4	70	120	8	
2JJTB 020 010 080	1R X 2	1°	2	8	50	4		2JJTB 040 010 900	2R X 4	1°	4	90	150	8	
2JJTB 020 010 120	1R X 2	1°	2	12	50	4		2JJTB 040 013 450	2R X 4	1°30'	4	45	90	6	
2JJTB 020 010 160	1R X 2	1°	2	16	50	4		2JJTB 040 013 600	2R X 4	1°30'	4	60	110	8	
2JJTB 020 010 200	1R X 2	1°	2	20	60	4		2JJTB 040 013 700	2R X 4	1°30'	4	70	120	8	
2JJTB 020 010 250	1R X 2	1°	2	25	60	4		2JJTB 040 030 250	2R X 4	3°	4	25	70	6	
2JJTB 020 010 300	1R X 2	1°	2	30	70	4		2JJTB 040 030 420	2R X 4	3°	4	42	100	8	
2JJTB 020 010 350	1R X 2	1°	2	35	75	4		2JJTB 040 050 290	2R X 4	5°	4	29	90	8	
2JJTB 020 010 400	1R X 2	1°	2	40	80	4		2JJTB 050 010 400	2.5R X 5	1°	5	40	90	8	
2JJTB 020 010 500	1R X 2	1°	2	50	90	4		2JJTB 050 010 600	2.5R X 5	1°	5	60	110	8	
2JJTB 020 010 600	1R X 2	1°	2	60	100	6		2JJTB 050 010 900	2.5R X 5	1°	5	90	150	8	
2JJTB 020 013 080	1R X 2	1°30'	2	8	50	4		2JJTB 050 013 400	2.5R X 5	1°30'	5	40	90	8	
2JJTB 020 013 120	1R X 2	1°30'	2	12	50	4		2JJTB 050 013 600	2.5R X 5	1°30'	5	60	110	8	
2JJTB 020 013 160	1R X 2	1°30'	2	16	50	4		2JJTB 050 013 900	2.5R X 5	1°30'	5	90	150	10	
2JJTB 020 013 200	1R X 2	1°30'	2	20	60	4		2JJTB 050 030 400	2.5R X 5	3°	5	40	90	8	
2JJTB 020 013 250	1R X 2	1°30'	2	25	60	4		2JJTB 060 010 400	3R X 6	1°	9	40	90	8	
2JJTB 020 013 300	1R X 2	1°30'	2	30	70	4		2JJTB 060 010 500	3R X 6	1°	9	50	100	8	
2JJTB 020 013 350	1R X 2	1°30'	2	35	75	6		2JJTB 060 010 600	3R X 6	1°	9	60	110	8	
2JJTB 020 013 400	1R X 2	1°30'	2	40	80	6		2JJTB 060 010 700	3R X 6	1°	9	70	120	10	
2JJTB 020 013 500	1R X 2	1°30'	2	50	90	6		2JJTB 060 010 800	3R X 6	1°	9	80	130	10	
2JJTB 020 013 600	1R X 2	1°30'	2	60	100	6		2JJTB 060 010 1000	3R X 6	1°	9	100	150	10	
2JJTB 020 020 300	1R X 2	2°	2	30	70	6		2JJTB 060 013 490	3R X 6	1°30'	9	49	110	8	
2JJTB 020 020 400	1R X 2	2°	2	40	80	6		2JJTB 060 013 850	3R X 6	1°30'	9	85	150	10	
2JJTB 020 020 500	1R X 2	2°	2	50	90	6		2JJTB 060 020 600	3R X 6	2°	9	60	110	10	
2JJTB 020 030 300	1R X 2	3°	2	30	70	6		2JJTB 060 020 900	3R X 6	2°	9	90	150	12	
2JJTB 020 030 400	1R X 2	3°	2	40	80	6		2JJTB 060 030 290	3R X 6	3°	9	29	90	8	
2JJTB 020 030 500	1R X 2	3°	2	50	90	8		2JJTB 060 050 320	3R X 6	5°	9	32	110	10	
2JJTB 020 050 250	1R X 2	5°	2	25	60	6		2JJTB 080 010 500	4R X 8	1°	12	50	100	10	
2JJTB 020 050 380	1R X 2	5°	2	38	80	8		2JJTB 080 010 600	4R X 8	1°	12	60	110	10	
2JJTB 030 003 160	1.5R X 3	0°30'	3	16	60	6		2JJTB 080 010 800	4R X 8	1°	12	80	130	12	
2JJTB 030 003 200	1.5R X 3	0°30'	3	20	65	6		2JJTB 080 010 1000	4R X 8	1°	12	100	150	12	
2JJTB 030 003 300	1.5R X 3	0°30'	3	30	70	6		2JJTB 080 013 520	4R X 8	1°30'	12	52	110	10	
2JJTB 030 003 400	1.5R X 3	0°30'	3	40	80	6		2JJTB 080 013 890	4R X 8	1°30'	12	89	150	12	
2JJTB 030 003 500	1.5R X 3	0°30'	3	50	90	6		2JJTB 080 030 330	4R X 8	3°	12	33	100	10	
2JJTB 030 003 600	1.5R X 3	0°30'	3	60	100	6		2JJTB 100 010 600	5R X 10	1°	18	60	110	12	
2JJTB 030 010 160	1.5R X 3	1°	3	16	60	6		2JJTB 100 010 750	5R X 10	1°	18	75	130	12	
2JJTB 030 010 200	1.5R X 3	1°	3	20	65	6		2JJTB 100 013 540	5R X 10	1°30'	18	54	130	12	
2JJTB 030 010 300	1.5R X 3	1°	3	30	70	6		2JJTB 100 030 370	5R X 10	3°	18	37	110	12	
2JJTB 030 010 400	1.5R X 3	1°	3	40	80	6		2JJTB 120 013 850	6R X 12	1°30'	22	85	160	16	
2JJTB 030 010 500	1.5R X 3	1°	3	50	90	6		2JJTB 120 030 630	6R X 12	3°	22	63	130	16	
2JJTB 030 010 600	1.5R X 3	1°	3	60	100	6									
2JJTB 030 010 700	1.5R X 3	1°	3	70	110	6									
2JJTB 030 013 160	1.5R X 3	1°30'	3	16	60	6									
2JJTB 030 013 200	1.5R X 3	1°30'	3	20	65	6									
2JJTB 030 013 300	1.5R X 3	1°30'	3	30	70	6									
2JJTB 030 013 400	1.5R X 3	1°30'	3	40	80	6									
2JJTB 030 013 500	1.5R X 3	1°30'	3	50	90	6									
2JJTB 030 013 600	1.5R X 3	1°30'	3	60	100	6									
2JJTB 030 013 700	1.5R X 3	1°30'	3	70	120	8									

피삭재 Material			동/탄소강 Copper / Carbon Steels Cu / S45C / S50C			프리하드강 Prehardened Steels			고경도강 Hardened Steels			고경도강 Hardened Steels		
경도 Hardness			30 ~ 45HRC			30 ~ 45HRC			45 ~ 55HRC			55 ~ 68HRC		
반경 Radius	유효장 Effective Length	각도 Taper Angle	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth
R0.1	1.5	0° 30	42,000	630	0.007	28,350	431	0.005	27,300	326	0.005	27,300	252	0.004
"	2	0° 30	32,550	368	0.005	22,575	252	0.004	21,000	200	0.003	21,000	179	0.003
"	1.5	1°	42,000	630	0.007	28,350	431	0.005	27,300	326	0.005	27,300	252	0.004
"	2	1°	32,550	368	0.005	22,575	252	0.004	21,000	200	0.003	21,000	179	0.003
"	2.5	1°	28,000	230	0.002	19,500	180	0.001	17,000	155	0.001	17,000	155	0.001
"	1.5	1° 30	42,000	630	0.007	28,350	431	0.005	27,300	326	0.005	27,300	252	0.004
"	2	1° 30	32,550	368	0.005	22,575	252	0.004	21,000	200	0.003	21,000	179	0.003
"	2.5	1° 30	28,000	230	0.003	19,500	180	0.001	17,000	155	0.001	17,000	155	0.001
"	1.5	2°	42,000	630	0.007	28,350	431	0.005	27,300	326	0.005	27,300	252	0.004
"	2	2°	32,550	368	0.005	22,575	252	0.004	21,000	200	0.003	21,000	179	0.003
"	2.5	2°	28,000	230	0.004	19,500	180	0.002	17,000	155	0.001	17,000	155	0.001
"	1.5	3°	42,000	630	0.007	28,350	431	0.005	27,300	326	0.005	27,300	252	0.004
"	2	3°	32,550	368	0.005	22,575	252	0.004	21,000	200	0.003	21,000	179	0.003
"	2.5	3°	28,000	230	0.004	19,500	180	0.002	17,000	155	0.001	17,000	155	0.001
R0.15	3	0° 30	34,650	641	0.008	23,310	399	0.006	21,525	336	0.005	21,525	294	0.004
"	2	1°	34,650	641	0.008	23,310	399	0.006	21,525	336	0.005	21,525	294	0.004
"	3	1°	34,650	641	0.008	23,310	399	0.006	21,525	336	0.005	21,525	294	0.004
"	4	1°	32,550	494	0.005	22,050	326	0.004	19,950	242	0.003	19,950	189	0.001
"	5	1°	32,550	494	0.003	22,050	326	0.002	19,950	242	0.002	19,950	189	0.001
"	2	1° 30	34,650	641	0.008	23,310	399	0.006	21,525	336	0.005	21,525	294	0.004
"	3	1° 30	34,650	641	0.008	23,310	399	0.006	21,525	336	0.005	21,525	294	0.004
"	4	1° 30	32,550	494	0.003	22,050	326	0.002	19,950	242	0.002	19,950	189	0.002
"	5	1° 30	32,550	494	0.003	22,050	326	0.002	19,950	242	0.002	19,950	189	0.002
"	2	2°	34,650	641	0.008	23,310	399	0.006	21,525	336	0.005	21,525	294	0.004
"	3	2°	34,650	641	0.008	23,310	399	0.006	21,525	336	0.005	21,525	294	0.004
"	4	2°	32,550	494	0.003	22,050	326	0.002	19,950	242	0.002	19,950	189	0.002
"	5	2°	32,550	494	0.003	22,050	326	0.002	19,950	242	0.002	19,950	189	0.002
"	2	3°	34,650	641	0.008	23,310	399	0.006	21,525	336	0.005	21,525	294	0.004
"	3	3°	34,650	641	0.008	23,310	399	0.006	21,525	336	0.005	21,525	294	0.004
"	4	3°	32,550	494	0.004	22,050	326	0.003	19,950	242	0.002	19,950	189	0.003
"	5	3°	32,550	494	0.004	22,050	326	0.003	19,950	242	0.002	19,950	189	0.003
R0.2	2	0° 30	32,000	1,155	0.016	28,350	788	0.013	26,250	672	0.011	26,250	473	0.008
"	3	0° 30	30,000	950	0.016	26,300	650	0.013	23,800	580	0.011	23,800	395	0.008
"	4	0° 30	28,000	780	0.010	21,000	500	0.008	19,000	475	0.007	19,000	325	0.005
"	5	0° 30	25,200	525	0.004	17,850	326	0.003	16,800	294	0.003	16,800	252	0.002
"	6	0° 30	25,200	525	0.004	17,850	326	0.003	16,800	294	0.003	16,800	252	0.002
"	2	1°	32,000	1,155	0.016	28,350	788	0.013	26,250	672	0.011	26,250	473	0.008
"	3	1°	30,000	950	0.016	26,300	650	0.013	23,800	580	0.011	23,800	395	0.008
"	4	1°	28,000	780	0.010	21,000	500	0.008	19,000	475	0.007	19,000	325	0.005
"	5	1°	25,200	525	0.004	17,850	326	0.003	16,800	294	0.003	16,800	252	0.002
"	6	1°	25,200	525	0.004	17,850	326	0.003	16,800	294	0.003	16,800	252	0.002
"	2	2°	32,000	1,155	0.016	28,350	788	0.013	26,250	672	0.011	26,250	473	0.008
"	3	2°	30,000	950	0.016	26,300	650	0.013	23,800	580	0.011	23,800	395	0.008
"	4	2°	28,000	780	0.010	21,000	500	0.008	19,000	475	0.007	19,000	325	0.005
"	5	2°	25,200	525	0.004	17,850	326	0.003	16,800	294	0.003	16,800	252	0.002
"	6	2°	25,200	525	0.004	17,850	326	0.003	16,800	294	0.003	16,800	252	0.002
R0.25	4	0° 30	34,650	1,187	0.019	28,350	861	0.015	24,675	630	0.013	24,675	609	0.011
"	6	0° 30	21,525	609	0.006	17,850	431	0.005	15,750	368	0.004	15,750	326	0.003
"	4	1°	34,650	1,187	0.019	28,350	861	0.015	24,675	630	0.013	24,675	609	0.011
"	6	1°	21,525	609	0.006	17,850	431	0.005	15,750	368	0.004	15,750	326	0.003
"	8	1°	21,525	609	0.005	17,850	431	0.004	15,750	368	0.003	15,750	326	0.003
"	10	1°	21,525	609	0.004	17,850	431	0.003	15,750	368	0.003	15,750	326	0.003
"	4	1° 30	34,650	1,187	0.019	28,350	861	0.015	24,675	630	0.013	24,675	609	0.011
"	6	1° 30	21,525	609	0.008	17,850	431	0.005	15,750	368	0.006	15,750	326	0.005
"	8	1° 30	21,525	609	0.007	17,850	431	0.005	15,750	368	0.005	15,750	326	0.004
"	10	1° 30	21,525	609	0.006	17,850	431	0.005	15,750	368	0.004	15,750	326	0.003
"	4	2°	34,650	1,187	0.019	28,350	861	0.015	24,675	630	0.013	24,675	609	0.011
"	6	2°	21,525	609	0.006	17,850	431	0.005	15,750	368	0.004	15,750	326	0.003
"	8	2°	21,525	609	0.006	17,850	431	0.005	15,750	368	0.004	15,750	326	0.003
"	10	2°	21,525	609	0.006	17,850	431	0.005	15,750	368	0.004	15,750	326	0.003
R0.3	4	0° 30	43,050	2,142	0.032	31,500	1,418	0.022	23,625	788	0.021	23,625	704	0.016
"	8	0° 30	26,775	998	0.016	22,050	735	0.013	16,800	515	0.011	16,800	410	0.008
"	12	0° 30	26,250	893	0.008	22,575	714	0.006	14,700	399	0.005	13,650	336	0.004
"	4	1°	43,050	2,142	0.032	31,500	1,418	0.022	23,625	788	0.021	23,625	704	0.016
"	8	1°	26,775	998	0.020	22,050	735	0.015	16,800	515	0.013	16,800	410	0.009
"	12	1°	26,250	893	0.010	22,575	714	0.012	14,700	399	0.008	13,650	336	0.005

2JJTB Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material			동/탄소강 Copper / Carbon Steels Cu / S45C / S50C			프리하든강 Prehardened Steels			고경도강 Hardened Steels			고경도강 Hardened Steels		
경도 Hardness			30 ~ 45HRC			30 ~ 45HRC			45 ~ 55HRC			55 ~ 68HRC		
반경 Radius	유효장 Effective Length	각도 Taper Angle	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth
R 0.3	4	1° 30	43,050	2,142	0.032	31,500	1,418	0.022	23,625	788	0.021	23,625	704	0.016
"	8	1° 30	26,775	998	0.020	22,050	735	0.015	16,800	515	0.015	16,800	410	0.010
"	12	1° 30	26,250	893	0.010	22,575	714	0.012	14,700	399	0.010	13,650	336	0.007
"	4	2°	43,050	2,142	0.032	31,500	1,418	0.022	23,625	788	0.021	23,625	704	0.016
"	8	2°	26,775	998	0.022	22,050	735	0.017	16,800	515	0.016	16,800	410	0.010
"	12	2°	26,250	893	0.012	22,575	714	0.014	14,700	399	0.012	13,650	336	0.007
R 0.4	4	0° 30	43,050	2,310	0.037	29,400	1,470	0.028	24,150	861	0.026	24,150	714	0.016
"	8	0° 30	26,775	1,365	0.021	18,900	945	0.016	15,750	630	0.016	15,750	578	0.011
"	12	0° 30	26,775	1,050	0.016	16,275	525	0.013	12,600	462	0.011	12,600	420	0.007
"	4	1°	43,050	2,310	0.037	29,400	1,470	0.028	24,150	861	0.026	24,150	714	0.016
"	8	1°	26,775	1,365	0.021	18,900	945	0.016	15,750	630	0.016	15,750	578	0.011
"	12	1°	26,775	1,050	0.016	16,275	525	0.013	12,600	462	0.011	12,600	420	0.007
"	4	1° 30	43,050	2,310	0.037	29,400	1,470	0.028	24,150	861	0.026	24,150	714	0.016
"	8	1° 30	26,775	1,365	0.021	18,900	945	0.016	15,750	630	0.016	15,750	578	0.011
"	12	1° 30	26,775	1,050	0.016	16,275	525	0.013	12,600	462	0.011	12,600	420	0.007
"	4	2°	43,050	2,310	0.037	29,400	1,470	0.028	24,150	861	0.026	24,150	714	0.016
"	8	2°	26,775	1,365	0.021	18,900	945	0.016	15,750	630	0.016	15,750	578	0.011
"	12	2°	26,775	1,050	0.016	16,275	525	0.013	12,600	462	0.011	12,600	420	0.007

2JJTB / 3JJTBS Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material			동/탄소강 Copper / Carbon Steels Cu / S45C / S50C			프리하든강 Prehardened Steels			고경도강 Hardened Steels			고경도강 Hardened Steels		
경도 Hardness			30 ~ 45HRC			30 ~ 45HRC			45 ~ 55HRC			55 ~ 68HRC		
반경 Radius	유효장 Effective Length	각도 Taper Angle	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth
R 0.5	6	0° 30	26,250	2,100	0.047	17,850	1,365	0.037	17,850	1,050	0.032	16,800	861	0.026
"	10	0° 30	17,850	1,103	0.023	12,600	767	0.019	11,550	683	0.017	11,550	525	0.013
"	20	0° 30	15,750	945	0.014	10,500	683	0.011	9,450	567	0.008	9,450	462	0.008
"	6	1°	26,250	2,100	0.047	17,850	1,365	0.037	17,850	1,050	0.032	16,800	861	0.026
"	10	1°	17,850	1,103	0.023	12,600	767	0.019	11,550	683	0.017	11,550	525	0.013
"	20	1°	15,750	945	0.014	10,500	683	0.011	9,450	567	0.008	9,450	462	0.008
"	30	1°	15,750	750	0.007	10,500	540	0.005	9,450	430	0.004	9,450	360	0.004
"	6	1° 30	26,250	2,100	0.047	17,850	1,365	0.037	17,850	1,050	0.032	16,800	861	0.026
"	10	1° 30	17,850	1,103	0.023	12,600	767	0.019	11,550	683	0.017	11,550	525	0.013
"	20	1° 30	15,750	945	0.014	10,500	683	0.011	9,450	567	0.008	9,450	462	0.008
"	30	1° 30	15,750	750	0.007	10,500	540	0.005	9,450	430	0.004	9,450	360	0.004
"	20	2°	15,750	945	0.014	10,500	683	0.011	9,450	567	0.008	9,450	462	0.008
"	30	2°	15,750	750	0.007	10,500	540	0.005	9,450	430	0.004	9,450	360	0.004
"	20	3°	15,750	945	0.014	10,500	683	0.011	9,450	567	0.008	9,450	462	0.008
"	30	3°	15,750	750	0.007	10,500	540	0.005	9,450	430	0.004	9,450	360	0.004
"	40	3°	12,250	550	0.004	8,550	420	0.002	7,800	365	0.002	7,800	285	0.002
R 0.75	10	0° 30	18,900	2,205	0.063	12,600	1,470	0.042	12,600	1,155	0.037	12,600	893	0.032
"	20	0° 30	13,650	1,260	0.032	9,450	945	0.021	9,450	735	0.016	9,450	630	0.014
"	30	0° 30	9,450	893	0.016	7,350	651	0.013	7,350	546	0.011	7,350	504	0.011
"	10	1°	18,900	2,205	0.063	12,600	1,470	0.042	12,600	1,155	0.037	12,600	893	0.032
"	20	1°	13,650	1,260	0.032	9,450	945	0.021	9,450	735	0.016	9,450	630	0.014
"	30	1°	9,450	893	0.016	7,350	651	0.013	7,350	546	0.011	7,350	504	0.011
"	10	1° 30	18,900	2,205	0.063	12,600	1,470	0.042	12,600	1,155	0.037	12,600	893	0.032
"	20	1° 30	13,650	1,260	0.036	9,450	945	0.024	9,450	735	0.018	9,450	630	0.016
"	30	1° 30	9,450	893	0.017	7,350	651	0.014	7,350	546	0.012	7,350	504	0.011
"	40	1° 30	8,400	675	0.010	6,300	510	0.008	6,300	420	0.007	6,300	400	0.006
"	10	2°	18,900	2,205	0.063	12,600	1,470	0.042	12,600	1,155	0.037	12,600	893	0.032
"	20	2°	13,650	1,260	0.036	9,450	945	0.024	9,450	735	0.018	9,450	630	0.016
"	30	2°	9,450	893	0.017	7,350	651	0.014	7,350	546	0.012	7,350	504	0.011
"	40	2°	8,400	675	0.010	6,300	510	0.008	6,300	420	0.007	6,300	400	0.006
R 1	12	0° 30	15,750	2,468	0.084	11,550	1,785	0.068	11,025	1,428	0.059	11,025	1,124	0.048
"	20	0° 30	10,500	1,470	0.063	8,400	1,050	0.053	9,450	1,050	0.047	9,450	924	0.037
"	30	0° 30	9,450	1,260	0.047	7,350	840	0.037	7,350	819	0.032	7,350	672	0.026
"	40	0° 30	9,450	1,260	0.037	7,035	819	0.032	6,300	735	0.026	6,300	609	0.021
"	12	1°	15,750	2,468	0.084	11,550	1,785	0.068	11,025	1,428	0.059	11,025	1,124	0.048
"	20	1°	10,500	1,470	0.063	8,400	1,050	0.053	9,450	1,050	0.047	9,450	924	0.037

2JJTB / 3JJTBS Cutting Condition

• RPM : rev./min • Feed : mm/min

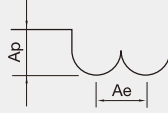
피삭재 Material			동/탄소강 Copper / Carbon Steels Cu / S45C / S50C			프리카하드강 Prehardened Steels			고경도강 Hardened Steels			고경도강 Hardened Steels		
경도 Hardness			30 ~ 45HRC			30 ~ 45HRC			45 ~ 55HRC			55 ~ 68HRC		
반경 Radius	유효장 Effective Length	각도 Taper Angle	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth
R 1	30	1°	9,450	1,260	0.047	7,350	840	0.037	7,350	819	0.032	7,350	672	0.026
"	40	1°	9,450	1,260	0.037	7,035	819	0.032	6,300	735	0.026	6,300	609	0.021
"	50	1°	7,900	990	0.027	6,650	770	0.025	5,600	655	0.022	5,600	525	0.015
"	12	1° 30'	15,750	2,468	0.090	11,550	1,785	0.068	11,025	1,428	0.065	11,025	1,124	0.052
"	20	1° 30'	10,500	1,470	0.074	8,400	1,050	0.060	9,450	1,050	0.054	9,450	924	0.042
"	30	1° 30'	9,450	1,260	0.055	7,350	840	0.043	7,350	819	0.038	7,350	672	0.031
"	40	1° 30'	9,450	1,260	0.043	7,035	819	0.037	6,300	735	0.033	6,300	609	0.026
"	50	1° 30'	7,900	990	0.030	6,650	770	0.028	5,600	655	0.029	5,600	525	0.021
"	30	2°	9,450	1,260	0.055	7,350	840	0.043	7,350	819	0.038	7,350	672	0.031
"	40	2°	9,450	1,260	0.043	7,035	819	0.037	6,300	735	0.033	6,300	609	0.026
"	50	2°	7,900	990	0.030	6,650	770	0.028	5,600	655	0.029	5,600	525	0.021
"	30	3°	9,450	1,260	0.055	7,350	840	0.043	7,350	819	0.038	7,350	672	0.031
"	40	3°	9,450	1,260	0.043	7,035	819	0.037	6,300	735	0.033	6,300	609	0.026
"	50	3°	7,900	990	0.030	6,650	770	0.028	5,600	655	0.029	5,600	525	0.021
R 1.5	20	0° 30'	10,500	2,310	0.095	8,400	1,365	0.074	7,350	1,260	0.063	7,350	1,155	0.053
"	30	0° 30'	9,450	1,890	0.079	7,350	1,103	0.063	6,300	1,050	0.053	6,300	924	0.044
"	40	0° 30'	7,875	1,470	0.063	5,250	924	0.053	5,355	840	0.042	5,355	735	0.037
"	50	0° 30'	7,875	1,365	0.042	5,250	840	0.032	5,355	788	0.026	5,355	683	0.024
"	20	1°	10,500	2,310	0.095	8,400	1,365	0.074	7,350	1,260	0.063	7,350	1,155	0.053
"	30	1°	9,450	1,890	0.079	7,350	1,103	0.063	6,300	1,050	0.053	6,300	924	0.044
"	40	1°	7,875	1,470	0.063	5,250	924	0.053	5,155	840	0.042	5,155	735	0.037
"	50	1°	7,875	1,365	0.042	5,250	840	0.032	5,155	788	0.026	5,155	683	0.024
"	60	1°	6,400	1,225	0.028	4,325	710	0.021	4,300	670	0.018	4,300	540	0.016
"	20	1° 30'	10,500	2,310	0.095	8,400	1,365	0.074	7,350	1,260	0.063	7,350	1,155	0.053
"	30	1° 30'	9,450	1,890	0.079	7,350	1,103	0.063	6,300	1,050	0.053	6,300	924	0.044
"	40	1° 30'	7,875	1,470	0.063	5,250	924	0.053	5,355	840	0.042	5,355	735	0.037
"	50	1° 30'	7,875	1,365	0.042	5,250	840	0.032	5,355	788	0.026	5,355	683	0.024
"	60	1° 30'	6,400	1,225	0.028	4,325	710	0.021	4,300	670	0.018	4,300	540	0.016
"	20	2°	10,500	2,310	0.095	8,400	1,365	0.074	7,350	1,260	0.063	7,350	1,155	0.053
"	30	2°	9,450	1,890	0.079	7,350	1,103	0.063	6,300	1,050	0.053	6,300	924	0.044
"	48	2°	7,875	1,365	0.042	5,250	840	0.032	5,355	788	0.026	5,355	683	0.024
"	60	2°	6,400	1,225	0.028	4,325	710	0.021	4,300	670	0.018	4,300	540	0.016
"	30	3°	9,450	1,890	0.079	7,350	1,103	0.063	6,300	1,050	0.053	6,300	924	0.044
"	50	3°	7,875	1,365	0.042	5,250	840	0.032	5,355	788	0.026	5,355	683	0.024
R 2	40	0° 30'	6,300	1,260	0.085	3,675	630	0.068	3,360	557	0.053	3,360	525	0.045
"	60	0° 30'	4,200	767	0.063	3,150	473	0.047	2,940	420	0.042	2,940	368	0.033
"	50	1°	5,250	1,010	0.074	3,450	550	0.058	3,120	480	0.048	3,110	445	0.038
"	60	1°	4,200	767	0.063	3,150	473	0.047	2,940	420	0.042	2,940	368	0.033
"	70	1°	3,200	540	0.048	2,760	320	0.036	2,770	360	0.036	2,770	300	0.028
"	45	1° 30'	5,250	1,010	0.074	3,450	550	0.058	3,120	480	0.048	3,110	445	0.038
"	60	1° 30'	4,200	767	0.063	3,150	473	0.047	2,940	420	0.042	2,940	368	0.033
"	70	1° 30'	3,200	540	0.048	2,760	320	0.036	2,770	360	0.036	2,770	300	0.028
"	25	3°	9,450	1,890	0.079	7,350	1,103	0.063	6,300	1,050	0.053	6,300	924	0.044
"	42	3°	7,875	1,365	0.042	5,250	840	0.032	5,355	788	0.026	5,355	683	0.024
R 2.5	40	1°	6,300	1,260	0.085	3,675	630	0.068	3,360	557	0.053	3,360	525	0.045
"	60	1°	4,200	767	0.063	3,150	473	0.047	2,940	420	0.042	2,940	368	0.033
"	90	1°	2,200	480	0.041	2,450	280	0.030	2,470	250	0.028	2,200	237	0.023
"	40	1° 30'	6,300	1,260	0.085	3,675	630	0.068	3,360	557	0.053	3,360	525	0.045
"	60	1° 30'	4,200	767	0.063	3,150	473	0.047	2,940	420	0.042	2,940	368	0.033
"	90	1° 30'	2,200	480	0.041	2,450	280	0.030	2,470	250	0.028	2,200	237	0.023
R 3	40	1°	9,450	2,205	0.147	7,350	1,103	0.105	6,300	998	0.084	6,300	893	0.061
"	50	1°	7,800	1,910	0.122	5,980	980	0.088	5,000	845	0.070	5,300	760	0.055
"	60	1°	6,100	1,670	0.105	5,285	820	0.070	4,180	760	0.062	4,300	620	0.048
"	70	1°	4,725	1,470	0.074	4,095	735	0.063	3,570	683	0.053	3,570	578	0.042
"	80	1°	3,540	1,320	0.061	3,400	640	0.046	2,100	510	0.040	2,100	468	0.033
"	49	1° 30'	7,800	1,910	0.122	5,980	980	0.088	5,000	845	0.070	5,300	760	0.055
"	85	1° 30'	3,360	1,220	0.055	3,100	580	0.040	1,880	460	0.035	1,880	448	0.028
"	60	2°	6,100	1,670	0.105	5,285	820	0.070	4,180	760	0.062	4,300	620	0.048
"	90	2°	3,000	1,050	0.055	2,870	520	0.040	1,720	410	0.035	1,720	400	0.028
R 4	50	1°	9,345	2,310	0.189	7,350	1,155	0.147	6,300	1,050	0.105	6,300	840	0.086
"	60	1°	7,150	1,846	0.138	5,330	916	0.114	4,550	820	0.080	4,550	655	0.064
"	80	1°	4,515	1,365	0.095	3,360	683	0.084	3,045	578	0.068	3,045	473	0.042
"	52	1° 30'	9,345	2,310	0.197	7,350	1,155	0.154	6,300	1,050	0.113	6,300	840	0.094
"	89	1° 30'	3,400	1,090	0.073	2,970	578	0.046	1,890	454	0.041	1,860	443	0.033

2JJTB / 3JJTBS Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material			동/탄소강 Copper / Carbon Steels Cu / S45C / S50C			프리하든강 Prehardened Steels			고경도강 Hardened Steels			고경도강 Hardened Steels		
경도 Hardness			30 ~ 45HRC			30 ~ 45HRC			45 ~ 55HRC			55 ~ 68HRC		
반경 Radius	유효장 Effective Length	각도 Taper Angle	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth	RPM	FEED	Ap Axial Depth
R 5	60	1°	5,775	1,785	0.194	3,675	893	0.168	3,570	735	0.126	3,570	630	0.084
"	75	1°	4,200	998	0.093	3,150	504	0.068	2,940	420	0.053	2,940	336	0.034
"	54	1° 30'	6,175	1,850	0.220	3,935	923	0.185	3,760	768	0.146	3,760	678	0.097
R 6	85	1° 30'	2,940	336	0.063	1,995	168	0.032	1,575	158	0.016	1,575	105	0.011
"	63	3°	3,990	735	0.126	2,940	368	0.086	2,625	326	0.063	2,625	231	0.047

절입량 Depth of Cut



Ap : Axial Depth 축방향의절입깊이 (mm)
 Ae : Radial Depth 반경방향의절입깊이 (mm)
 D : Outside Diameter 외경 (mm)
 n : Speed 회전속도 (min⁻¹)
 Vf : Feed 이송속도 (mm/min)

- 절삭조건에없는각도는같은직경에이전각도와비례하여사용하십시오.
- 이송속도및축방향의절입깊이는리브창과테이퍼각에따라고려하시고, 절삭상황에맞추어조정하십시오.
- 에어브로혹은미스트쿨러를추천하며, 동가공시습식쿨러추천합니다.
- 이절삭조건표는절삭조건의참고수치입니다. 실가공시가공형상, 가공목적, 적용기계에따라조건변경요망합니다.
- 적용기계의회전속도가부족한경우에는회전속도와이송속도를같은비율로줄여서적용합니다.
- 칩제거주의및가공시발열, 발화에주의하십시오.

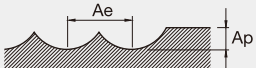
- If there is no same taper angle of your endmill on the table, refer to the previous taper angle of diameter and apply the same proportion.
- Adjust the value of the feed and Ap based on the effective length and taper angle, and adjust the milling condition.
- Air blow or mist coolant is recommended, and wet coolants are recommended for copper milling.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- Where the parameters exceed the machine's maximum spindle speed, the RPM and feedrate should be reduced proportionally.
- Note for chip emission, heat or ignition.

2JJSP Cutting Condition

• RPM : rev./min • Feed : mm/min

피삭재 Material	합금강 / 공구강 Alloy Steels / Tool Steels		프리하든강 Prehardened Steels		스테인레스강 Stainless Steels		고경도강 Hardened Steels		고경도강 Hardened Steels	
경도 Hardness	~ 30HRC		30 ~ 38HRC		38 ~ 45HRC		45 ~ 55HRC		55 ~ 70HRC	
반경 Radius	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R 0.5	25,600	680	25,600	680	25,600	680	25,600	680	25,600	610
R 0.75	22,000	850	22,000	850	22,000	850	22,000	850	22,000	750
R 1	19,200	1,080	19,200	1,080	19,200	1,080	19,200	1,080	17,600	960
R 2	12,400	1,440	11,200	1,240	10,800	1,160	10,000	1,080	8,800	920
R 3	8,400	1,480	7,600	1,360	7,200	1,280	6,800	1,200	5,900	1,040
R 4	6,400	1,120	5,700	1,000	5,500	960	5,100	880	4,400	790
R 5	5,100	880	4,600	800	4,400	784	4,000	720	3,600	640
R 6	4,800	840	3,800	670	3,640	640	3,400	600	3,000	540

절입량 Depth of Cut



Ap	Ae
0.05D	0.05D

- 절삭조건의 ap, ae 수치는 황색 및 황중색의 수치 이므로, 견고한 조도의 가공을 원하시면 황색 값의 50%를 적용 하십시오.
- 이 절삭 조건표는 절삭조건의 참고 수치 입니다. 실제 가공시에는 가공 형상, 가공 목적, 적용 기계 등에 따라 조건을 조정 하십시오.
- 조건 표가 기계의 최대스핀들 속도를 초과 하거나 버 및 적열 현상이 발생할때 스펀들 속도와 이송 속도를 비례적으로 조정 하십시오.

- The values of ap and ae on the table are for roughing or semi-roughing. If you need a great surface roughness, apply 50% of the value.
- 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.

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