

HANSONG M&T

MADE IN KOREA

High-performance End mills for HRC 52~70



R-Pro Series



 (주)한승 M&T

R-pro 엔드밀은 HRC 52~70의 경도에서 가공 가능하도록 만든 엔드밀 시리즈입니다.

기존 H-PRO(HRC)보다 더욱 고경도에서 절삭이 가능하도록 강력한 코팅을 입히고, 날부 형상을 개선하고, 프리미엄 소재를 접목하였습니다. 경쟁사와의 수차례 테스트를 통해 제작한 R-pro시리즈로 귀사의 경쟁력을 향상시켜 드리겠습니다.

R-pro series is an End mill series to cut hardness of HRC 52~70.

By strong coating(Tyson), improved cutting edge and using premium material, the performance of R-Pro is optimized to cut high hardness steel.

R-pro series is developed through numerous tests against competitors and it will enhance your competitiveness.











HANSONG

한송 M&T는 1999년 창사 이래, 끊임 없는 기술 개발로 최고의 공구를 만들기 위해 최선을 다해 노력하고 있습니다. 품질에 강력한 확신을 가지고 저희 제품을 추천해드립니다.

Since established in 1999, Hansong M&T have done endless efforts to do technological development to make the best quality tools. With strong assurance in quality, we recommend our End mills.



Meaning of ICONS

	Tool Material Super Micro Grain
	Coating TYSON Coating
	No. of Flutes 2 Flutes
	No. of Flutes 3 Flutes
	No. of Flutes 4 Flutes
	Radius/Diameter Tolerance Diameter Tolerance
	Corner Form Corner Protect
	Shank Shank Diameter Tolerance

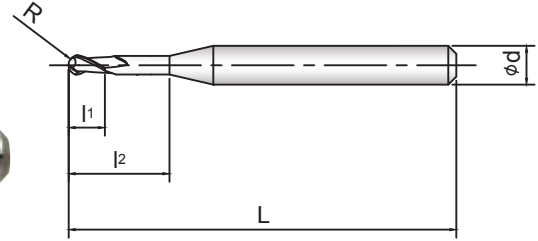
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2날 리브 볼 엔드밀

2 FLUTES RIB BALL END MILLS

- ◆ HRc 52~70 소재의 고속가공용으로 설계
- ◆ Si 함유 코팅으로 내마모성 극대화
- ◆ 고정밀 공차적용으로 초정밀 가공에 적합
- ◆ Designed for high speed cutting of hardened steels(HRc52~70).
- ◆ Maximize the wear-resistance due to Tyson coating.
- ◆ Excellent workpiece finish.



모델번호	날 수	볼반경	유효장	날 장	생크경	전 장
Model.No	Flutes	Radius of Ball Nose	Effective Length	Length of Cut	Shank Diameter	Overall Length
	F	R	l ₂	l ₁	d	L
2RRB 001 002 445	2	R0.05	0.2	0.1	4	45
2RRB 001 003 445	2	R0.05	0.3	0.1	4	45
2RRB 001 005 445	2	R0.05	0.5	0.1	4	45
2RRB 002 006 445	2	R0.1	0.6	0.2	4	45
2RRB 002 010 445	2	R0.1	1	0.2	4	45
2RRB 002 015 445	2	R0.1	1.5	0.2	4	45
2RRB 003 010 445	2	R0.15	1	0.3	4	45
2RRB 003 015 445	2	R0.15	1.5	0.3	4	45
2RRB 003 020 445	2	R0.15	2	0.3	4	45
2RRB 003 025 445	2	R0.15	2.5	0.3	4	45
2RRB 003 030 445	2	R0.15	3	0.3	4	45
2RRB 004 010 445	2	R0.2	1	0.4	4	45
2RRB 004 015 445	2	R0.2	1.5	0.4	4	45
2RRB 004 020 445	2	R0.2	2	0.4	4	45
2RRB 004 025 445	2	R0.2	2.5	0.4	4	45
2RRB 004 030 445	2	R0.2	3	0.4	4	45
2RRB 004 040 445	2	R0.2	4	0.4	4	45
2RRB 004 050 445	2	R0.2	5	0.4	4	45
2RRB 005 010 445	2	R0.25	1	0.5	4	45
2RRB 005 015 445	2	R0.25	1.5	0.5	4	45
2RRB 005 020 445	2	R0.25	2	0.5	4	45
2RRB 005 025 445	2	R0.25	2.5	0.5	4	45
2RRB 005 030 445	2	R0.25	3	0.5	4	45
2RRB 005 040 445	2	R0.25	4	0.5	4	45
2RRB 005 050 445	2	R0.25	5	0.5	4	45
2RRB 005 060 445	2	R0.25	6	0.5	4	45
2RRB 005 080 445	2	R0.25	8	0.5	4	45
2RRB 006 020 445	2	R0.3	2	0.6	4	45
2RRB 006 030 445	2	R0.3	3	0.6	4	45
2RRB 006 040 445	2	R0.3	4	0.6	4	45

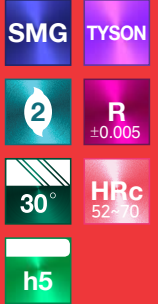
SMG TYSON
2 R ±0.005
30° HRc 52~70
h5

R-PRO

2날 리브 볼 엔드밀

2 FLUTES RIB BALL END MILLS

모델번호	날 수	볼반경	유효장	날 장	생크경	전 장
Model.No	Flutes	Radius of Ball Nose	Effective Length	Length of Cut	Shank Diameter	Overall Length
	F	R	l ₂	l ₁	d	L
2RRB 006 050 445	2	R0.3	5	0.6	4	45
2RRB 006 060 445	2	R0.3	6	0.6	4	45
2RRB 006 080 445	2	R0.3	8	0.6	4	45
2RRB 006 100 445	2	R0.3	10	0.6	4	45
2RRB 008 020 445	2	R0.4	2	0.8	4	45
2RRB 008 030 445	2	R0.4	3	0.8	4	45
2RRB 008 040 445	2	R0.4	4	0.8	4	45
2RRB 008 050 445	2	R0.4	5	0.8	4	45
2RRB 008 060 445	2	R0.4	6	0.8	4	45
2RRB 008 080 445	2	R0.4	8	0.8	4	45
2RRB 008 100 445	2	R0.4	10	0.8	4	45
2RRB 008 120 445	2	R0.4	12	0.8	4	45
2RRB 010 030 445	2	R0.5	3	1	4	45
2RRB 010 040 445	2	R0.5	4	1	4	45
2RRB 010 050 445	2	R0.5	5	1	4	45
2RRB 010 060 445	2	R0.5	6	1	4	45
2RRB 010 070 445	2	R0.5	7	1	4	45
2RRB 010 080 445	2	R0.5	8	1	4	45
2RRB 010 090 445	2	R0.5	9	1	4	45
2RRB 010 100 445	2	R0.5	10	1	4	45
2RRB 010 120 445	2	R0.5	12	1	4	45
2RRB 010 140 450	2	R0.5	14	1	4	50
2RRB 010 160 450	2	R0.5	16	1	4	50
2RRB 010 180 450	2	R0.5	18	1	4	50
2RRB 010 200 450	2	R0.5	20	1	4	50
2RRB 012 040 445	2	R0.6	4	1.2	4	45
2RRB 012 060 445	2	R0.6	6	1.2	4	45
2RRB 012 080 445	2	R0.6	8	1.2	4	45
2RRB 012 100 445	2	R0.6	10	1.2	4	45
2RRB 012 120 445	2	R0.6	12	1.2	4	45
2RRB 015 040 445	2	R0.75	4	1.5	4	45
2RRB 015 060 445	2	R0.75	6	1.5	4	45
2RRB 015 080 445	2	R0.75	8	1.5	4	45
2RRB 015 100 445	2	R0.75	10	1.5	4	45
2RRB 015 120 445	2	R0.75	12	1.5	4	45
2RRB 015 140 450	2	R0.75	14	1.5	4	50
2RRB 015 160 450	2	R0.75	16	1.5	4	50
2RRB 015 180 450	2	R0.75	18	1.5	4	50

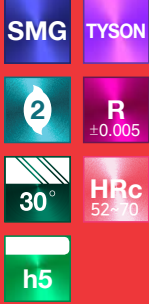


R-PRO

2날 리브 볼 엔드밀

2 FLUTES RIB BALL END MILLS

모델번호	날 수	볼반경	유효장	날 장	생크경	전 장
Model.No	Flutes	Radius of Ball Nose	Effective Length	Length of Cut	Shank Diameter	Overall Length
	F	R	l ₂	l ₁	d	L
2RRB 015 200 450	2	R0.75	20	1.5	4	50
2RRB 020 060 445	2	R1.0	6	2	4	45
2RRB 020 080 445	2	R1.0	8	2	4	45
2RRB 020 100 445	2	R1.0	10	2	4	45
2RRB 020 120 445	2	R1.0	12	2	4	45
2RRB 020 140 450	2	R1.0	14	2	4	50
2RRB 020 160 450	2	R1.0	16	2	4	50
2RRB 020 180 450	2	R1.0	18	2	4	50
2RRB 020 200 450	2	R1.0	20	2	4	50
2RRB 020 250 460	2	R1.0	25	2	4	60
2RRB 020 300 470	2	R1.0	30	2	4	70
2RRB 025 080 445	2	R1.25	8	2.5	4	45
2RRB 025 100 445	2	R1.25	10	2.5	4	45
2RRB 025 120 445	2	R1.25	12	2.5	4	45
2RRB 025 160 450	2	R1.25	16	2.5	4	50
2RRB 025 200 450	2	R1.25	20	2.5	4	50
2RRB 030 080 650	2	R1.5	8	3	6	50
2RRB 030 100 650	2	R1.5	10	3	6	50
2RRB 030 120 650	2	R1.5	12	3	6	50
2RRB 030 140 660	2	R1.5	14	3	6	60
2RRB 030 160 660	2	R1.5	16	3	6	60
2RRB 030 180 660	2	R1.5	18	3	6	60
2RRB 030 200 660	2	R1.5	20	3	6	60
2RRB 030 250 665	2	R1.5	25	3	6	65
2RRB 030 300 670	2	R1.5	30	3	6	70
2RRB 030 350 680	2	R1.5	35	3	6	80
2RRB 040 100 650	2	R2.0	10	4	6	50
2RRB 040 120 650	2	R2.0	12	4	6	50
2RRB 040 160 660	2	R2.0	16	4	6	60
2RRB 040 200 660	2	R2.0	20	4	6	60
2RRB 040 250 665	2	R2.0	25	4	6	65
2RRB 040 300 670	2	R2.0	30	4	6	70
2RRB 040 350 680	2	R2.0	35	4	6	80
2RRB 040 400 680	2	R2.0	40	4	6	80
2RRB 050 120 650	2	R2.5	12	5	6	50
2RRB 050 300 670	2	R2.5	30	5	6	70
2RRB 060 150 660	2	R3.0	15	7	6	60
2RRB 060 200 660	2	R3.0	20	6	6	60
2RRB 060 300 670	2	R3.0	30	6	6	70
2RRB 080 150 865	2	R4.0	15	8	8	65

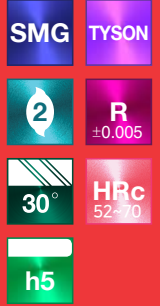


R-PRO

2날 리브 볼 엔드밀

2 FLUTES RIB BALL END MILLS

모델번호	날 수	볼반경	유효장	날 장	생크경	전 장
Model.No	Flutes	Radius of Ball Nose	Effective Length	Length of Cut	Shank Diameter	Overall Length
	F	R	l ₂	l ₁	d	L
2RRB 080 200 860	2	R4.0	20	8	8	60
2RRB 080 300 880	2	R4.0	30	8	8	80
2RRB 100 200 A60	2	R5.0	20	10	10	60
2RRB 100 250 A70	2	R5.0	25	10	10	70
2RRB 100 350 AA0	2	R5.0	35	10	10	100
2RRB 120 300 C80	2	R6.0	30	12	12	80
2RRB 120 400 CB0	2	R6.0	40	12	12	110



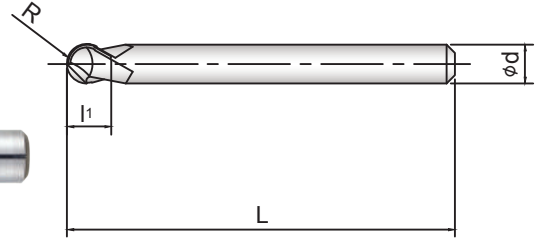
R-PRO

사이즈	인선직경공차(mm)	볼반경(mm)	R공차(mm)
D Size	D Tolerance	R Size	R Tolerance
0.1~0.5	0~ -0.005	R0.05~R2.5	±0.005
0.6~5	0~ -0.010	R3~R6	±0.010
6~12	0~ -0.015		

2날 볼 엔드밀

2 FLUTES BALL END MILLS

- ◆ HRc 52~70 소재의 고속가공용으로 설계
- ◆ Si 함유 코팅으로 내마모성 극대화
- ◆ 고정밀 공차적용으로 초정밀 가공에 적합
- ◆ Designed for high speed cutting of hardened steels(HRc52~70).
- ◆ Maximize the wear-resistance due to Tyson coating.
- ◆ Excellent workpiece finish.



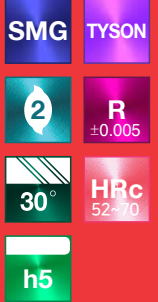
모델번호	날 수	볼반경	날 장	생크경	전 장
Model.No	Flutes	Radius of Ball Nose	Length of Cut	Shank Diameter	Overall Length
	F	R	l ₁	d	L
2RPB 001 002 445	2	R0.05	0.2	4	45
2RPB 002 004 445	2	R0.1	0.4	4	45
2RPB 003 006 445	2	R0.15	0.6	4	45
2RPB 004 008 445	2	R0.2	0.8	4	45
2RPB 005 010 445	2	R0.25	1	4	45
2RPB 006 012 445	2	R0.3	1.2	4	45
2RPB 007 015 445	2	R0.35	1.5	4	45
2RPB 008 015 445	2	R0.4	1.5	4	45
2RPB 010 020 450	2	R0.5	2	4	50
2RPB 010 020 650	2	R0.5	2	6	50
2RPB 012 025 450	2	R0.6	2.5	4	50
2RPB 015 040 450	2	R0.75	4	4	50
2RPB 015 040 650	2	R0.75	4	6	50
2RPB 020 050 450	2	R1.0	5	4	50
2RPB 020 050 660	2	R1.0	5	6	60
2RPB 025 060 660	2	R1.25	6	6	60
2RPB 030 080 360	2	R1.5	8	3	60
2RPB 030 080 460	2	R1.5	8	4	60
2RPB 030 080 680	2	R1.5	8	6	80
2RPB 035 080 660	2	R1.75	8	6	60
2RPB 040 080 480	2	R2.0	8	4	80
2RPB 040 080 670	2	R2.0	8	6	70
2RPB 045 100 670	2	R2.25	10	6	70
2RPB 050 100 680	2	R2.5	10	6	80
2RPB 055 120 680	2	R2.75	12	6	80
2RPB 060 120 690	2	R3.0	12	6	90
2RPB 070 140 8A0	2	R3.5	14	8	100
2RPB 080 140 8A0	2	R4.0	14	8	100

SMG TYSON
 2 R ±0.005
 30° HRc 52~70
 h5

R-PRO

2날 볼 엔드밀

2 FLUTES BALL END MILLS



모델번호 Model.No	날 수 Flutes F	볼반경 Radius of Ball Nose R	날 장 Length of Cut l ₁	생크경 Shank Diameter d	전 장 Overall Length L
2RPB 090 180 AAO	2	R4.5	18	10	100
2RPB 100 180 AAO	2	R5.0	18	10	100
2RPB 120 220 CBO	2	R6.0	22	12	110

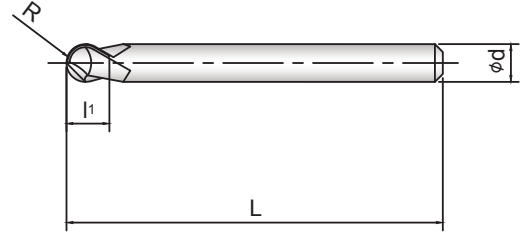
R-PRO

사이즈 D Size	인선직경공차(mm) D Tolerance	볼반경(mm) R Size	R공차(mm) R Tolerance
0.1~0.5	0~ -0.005	R0.05~R2.5	±0.005
0.6~5	0~ -0.010	R3~R6	±0.010
6~12	0~ -0.015		

2날 쇼트 볼 엔드밀

2 FLUTES SHORT BALL END MILLS

- ◆ HRc 52~70 소재의 고속가공용으로 설계
- ◆ Si 함유 코팅으로 내마모성 극대화
- ◆ 고정밀 공차적용으로 초정밀 가공에 적합
- ◆ Designed for high speed cutting of hardened steels(HRc52~70).
- ◆ Maximize the wear-resistance due to Tyson coating.
- ◆ Excellent workpiece finish.



SMG TYSON

2 R ±0.005

30° HRc 52~70

h5

R-PRO

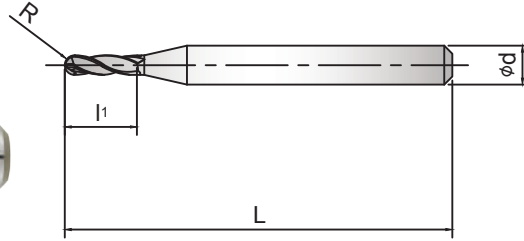
모델번호 Model.No	날 수 Flutes F	볼반경 Radius of Ball Nose R	날 장 Length of Cut l ₁	생크경 Shank Diameter d	전 장 Overall Length L
2RSB 001 001 440	2	R0.05	0.1	4	40
2RSB 002 002 440	2	R0.1	0.2	4	40
2RSB 003 003 440	2	R0.15	0.3	4	40
2RSB 004 004 440	2	R0.2	0.4	4	40
2RSB 005 005 440	2	R0.25	0.5	4	40
2RSB 006 006 440	2	R0.3	0.6	4	40
2RSB 007 007 440	2	R0.35	0.7	4	40
2RSB 008 008 440	2	R0.4	0.8	4	40
2RSB 009 009 440	2	R0.45	0.9	4	40
2RSB 010 015 640	2	R0.5	1.5	6	40
2RSB 015 023 640	2	R0.75	2.3	6	40
2RSB 020 030 645	2	R1.0	3	6	45
2RSB 030 045 645	2	R1.5	4.5	6	45
2RSB 040 060 645	2	R2.0	6	6	45
2RSB 050 075 650	2	R2.5	7.5	6	50
2RSB 060 080 660	2	R3.0	8	6	60
2RSB 080 110 860	2	R4.0	11	8	60
2RSB 100 130 A60	2	R5.0	13	10	60
2RSB 120 150 C60	2	R6.0	15	12	60

사이즈 D Size	인선직경공차(mm) D Tolerance	볼반경(mm) R Size	R공차(mm) R Tolerance
0.1~0.5	0~ -0.005	R0.05~R2.5	±0.005
0.6~5	0~ -0.010	R3~R6	±0.010
6~12	0~ -0.015		

3날 쇼트 볼 엔드밀

3 FLUTES SHORT BALL END MILLS

- ◆ HRC 52~70 소재의 고속가공용으로 설계
- ◆ Si 함유 코팅으로 내마모성 극대화
- ◆ 고정밀 공차적용으로 초정밀 가공에 적합
- ◆ Designed for high speed cutting of hardened steels(HRC52~70).
- ◆ Maximize the wear-resistance due to Tyson coating.
- ◆ Excellent workpiece finish.



모델번호	날 수	볼반경	날 장	생크경	전 장
Model.No	Flutes	Radius of Ball Nose	Length of Cut	Shank Diameter	Overall Length
	F	R	l ₁	d	L
3RSB 010 020 640	3	R0.5	1.5	6	40
3RSB 020 050 645	3	R1.0	3	6	45
3RSB 030 080 645	3	R1.5	4.5	6	45
3RSB 040 080 645	3	R2.0	6	6	45
3RSB 050 100 650	3	R2.5	7.5	6	50
3RSB 060 120 660	3	R3.0	8	6	60
3RSB 080 140 860	3	R4.0	11	8	60
3RSB 100 180 A60	3	R5.0	13	10	60
3RSB 120 220 C60	3	R6.0	15	12	60

SMG **TYSON**
3 **R ±0.005**
30° **HRC 52~70**
h5

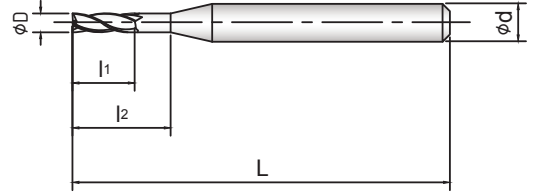
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사이즈	인선직경공차(mm)	볼반경(mm)	R공차(mm)
D Size	D Tolerance	R Size	R Tolerance
1~5	0~ -0.010	R0.05~R2.5	±0.005
6~12	0~ -0.015	R3~R6	±0.010

2날 리브 스퀘어(플랫) 엔드밀

2 FLUTES RIB SQUARE(FLAT) END MILLS

- ◆ HRc 52~70 소재의 고속가공용으로 설계
- ◆ Si 함유 코팅으로 내마모성 극대화
- ◆ 날부 파손 방지 및 절삭성 증대를 위한 형상설계
- ◆ Designed for high speed cutting of hardened steels(HRc52~70).
- ◆ Maximize the wear-resistance due to Tyson coating.
- ◆ Geometry design to protect the breakage of cutting edge and improve the cutting performance.



모델번호 Model.No	날 수 Flutes F	인선직경 Outside Diameter D	유효장 Effective Length l ₂	날 장 Length of Cut l ₁	생크경 Shank Diameter d	전 장 Overall Length L
2RRE 001 003 445	2	0.1	0.3	0.15	4	45
2RRE 001 005 445	2	0.1	0.5	0.15	4	45
2RRE 002 005 445	2	0.2	0.5	0.3	4	45
2RRE 002 010 445	2	0.2	1	0.3	4	45
2RRE 003 005 445	2	0.3	0.5	0.45	4	45
2RRE 003 010 445	2	0.3	1	0.45	4	45
2RRE 003 015 445	2	0.3	1.5	0.45	4	45
2RRE 003 020 445	2	0.3	2	0.45	4	45
2RRE 003 025 445	2	0.3	2.5	0.45	4	45
2RRE 003 030 445	2	0.3	3	0.45	4	45
2RRE 004 010 445	2	0.4	1	0.6	4	45
2RRE 004 015 445	2	0.4	1.5	0.6	4	45
2RRE 004 020 445	2	0.4	2	0.6	4	45
2RRE 004 025 445	2	0.4	2.5	0.6	4	45
2RRE 004 030 445	2	0.4	3	0.6	4	45
2RRE 004 035 445	2	0.4	3.5	0.6	4	45
2RRE 004 040 445	2	0.4	4	0.6	4	45
2RRE 005 010 445	2	0.5	1	0.7	4	45
2RRE 005 020 445	2	0.5	2	0.7	4	45
2RRE 005 030 445	2	0.5	3	0.7	4	45
2RRE 005 040 445	2	0.5	4	0.7	4	45
2RRE 005 050 445	2	0.5	5	0.7	4	45
2RRE 005 060 445	2	0.5	6	0.7	4	45
2RRE 005 080 445	2	0.5	8	0.7	4	45
2RRE 006 020 445	2	0.6	2	0.9	4	45
2RRE 006 030 445	2	0.6	3	0.9	4	45
2RRE 006 040 445	2	0.6	4	0.9	4	45
2RRE 006 050 445	2	0.6	5	0.9	4	45



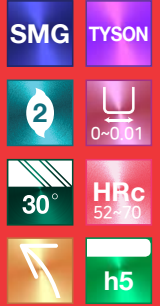
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2날 리브 스퀘어(플랫) 엔드밀

2 FLUTES RIB SQUARE(FLAT) END MILLS

모델번호	날 수	인선직경	유효장	날 장	생크경	전 장
Model.No	Flutes	Outside Diameter	Effective Length	Length of Cut	Shank Diameter	Overall Length
	F	D	l ₂	l ₁	d	L
2RRE 006 060 445	2	0.6	6	0.9	4	45
2RRE 006 080 445	2	0.6	8	0.9	4	45
2RRE 006 100 445	2	0.6	10	0.9	4	45
2RRE 007 020 445	2	0.7	2	1	4	45
2RRE 007 040 445	2	0.7	4	1	4	45
2RRE 007 060 445	2	0.7	6	1	4	45
2RRE 007 080 445	2	0.7	8	1	4	45
2RRE 007 100 445	2	0.7	10	1	4	45
2RRE 007 120 445	2	0.7	12	1	4	45
2RRE 008 020 445	2	0.8	2	1.2	4	45
2RRE 008 030 445	2	0.8	3	1.2	4	45
2RRE 008 040 445	2	0.8	4	1.2	4	45
2RRE 008 050 445	2	0.8	5	1.2	4	45
2RRE 008 060 445	2	0.8	6	1.2	4	45
2RRE 008 080 445	2	0.8	8	1.2	4	45
2RRE 008 100 445	2	0.8	10	1.2	4	45
2RRE 008 120 445	2	0.8	12	1.2	4	45
2RRE 009 060 445	2	0.9	6	1.3	4	45
2RRE 009 080 445	2	0.9	8	1.3	4	45
2RRE 009 100 445	2	0.9	10	1.3	4	45

사이즈	인선직경공차(mm)
D Size	D Tolerance
0.1~0.5	0~ -0.005
0.6~0.9	0~ -0.010

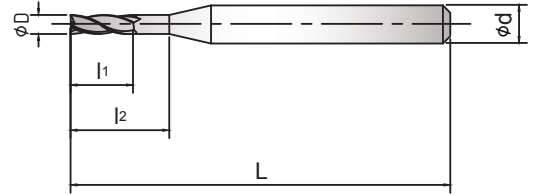


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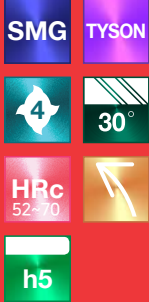
4날 리브 스퀘어(플랫) 엔드밀

4 FLUTES RIB SQUARE(FLAT) END MILLS

- ◆ HRc 52~70 소재의 고속가공용으로 설계
- ◆ Si 함유 코팅으로 내마모성 극대화
- ◆ 날부 파손 방지 및 절삭성 증대를 위한 형상설계
- ◆ Designed for high speed cutting of hardened steels(HRc52~70).
- ◆ Maximize the wear-resistance due to Tyson coating.
- ◆ Geometry design to protect the breakage of cutting edge and improve the cutting performance.



모델번호	날 수	인선직경	유효장	날 장	생크경	전 장
Model.No	Flutes	Outside Diameter	Effective Length	Length of Cut	Shank Diameter	Overall Length
	F	D	l ₂	l ₁	d	L
4RRE 010 030 445	4	1	3	1.5	4	45
4RRE 010 040 445	4	1	4	1.5	4	45
4RRE 010 060 445	4	1	6	1.5	4	45
4RRE 010 080 445	4	1	8	1.5	4	45
4RRE 010 100 445	4	1	10	1.5	4	45
4RRE 015 040 445	4	1.5	4	2.3	4	45
4RRE 015 060 445	4	1.5	6	2.3	4	45
4RRE 015 080 445	4	1.5	8	2.3	4	45
4RRE 015 100 445	4	1.5	10	2.3	4	45
4RRE 015 120 445	4	1.5	12	2.3	4	45
4RRE 015 160 450	4	1.5	16	2.3	4	50
4RRE 020 060 445	4	2	6	3	4	45
4RRE 020 080 445	4	2	8	3	4	45
4RRE 020 100 445	4	2	10	3	4	45
4RRE 020 120 445	4	2	12	3	4	45
4RRE 020 160 450	4	2	16	3	4	50
4RRE 020 200 450	4	2	20	3	4	50
4RRE 030 080 650	4	3	8	4.5	6	50
4RRE 030 100 650	4	3	10	4.5	6	50
4RRE 030 120 650	4	3	12	4.5	6	50
4RRE 030 160 660	4	3	16	4.5	6	60
4RRE 030 200 660	4	3	20	4.5	6	60
4RRE 040 100 650	4	4	10	6	6	50
4RRE 040 120 650	4	4	12	6	6	50
4RRE 040 160 660	4	4	16	6	6	60
4RRE 040 200 660	4	4	20	6	6	60
4RRE 040 250 665	4	4	25	6	6	65
4RRE 050 160 660	4	5	16	8	6	60
4RRE 050 300 670	4	5	30	8	6	70
4RRE 060 150 660	4	6	15	9	6	60
4RRE 060 200 660	4	6	20	9	6	60



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4날 리브 스퀘어(플랫) 엔드밀

4 FLUTES RIB SQUARE(FLAT) END MILLS

모델번호	날 수	인선직경	유효장	날 장	생크경	전 장
Model.No	Flutes	Outside Diameter	Effective Length	Length of Cut	Shank Diameter	Overall Length
	F	D	l ₂	l ₁	d	L
4RRE 060 300 670	4	6	30	9	6	70
4RRE 080 200 865	4	8	20	12	8	65
4RRE 080 300 880	4	8	30	12	8	80
4RRE 080 400 8A0	4	8	40	12	8	100
4RRE 100 250 A70	4	10	25	15	10	70
4RRE 100 350 AA0	4	10	35	15	10	100
4RRE 100 450 AA0	4	10	45	15	10	100
4RRE 120 300 C80	4	12	30	18	12	80
4RRE 120 400 CB0	4	12	40	18	12	110
4RRE 120 500 CB0	4	12	50	18	12	110



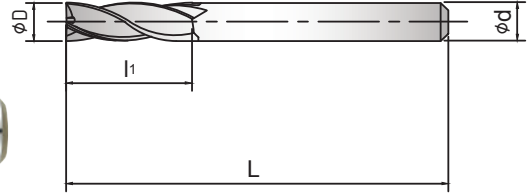
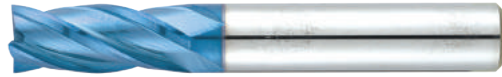
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사이즈	인선직경공차(mm)
D Size	D Tolerance
1~5	0~ -0.010
6~12	0~ -0.015

4날 스퀘어(플랫) 엔드밀

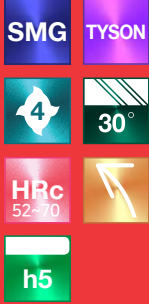
4 FLUTES SQUARE(FLAT) END MILLS

- ◆ HRc 52~70 소재의 고속가공용으로 설계
- ◆ Si 함유 코팅으로 내마모성 극대화
- ◆ 날부 파손 방지 및 절삭성 증대를 위한 형상설계
- ◆ Designed for high speed cutting of hardened steels(HRc52~70).
- ◆ Maximize the wear-resistance due to Tyson coating.
- ◆ Geometry design to protect the breakage of cutting edge and improve the cutting performance.



모델번호 Model.No	날 수 Flutes F	인선직경 Outside Diameter D	날 장 Length of Cut l ₁	생크경 Shank Diameter d	전 장 Overall Length L
4RPE 010 025 445	4	1	2.5	4	45
4RPE 012 040 445	4	1.2	4	4	45
4RPE 015 040 445	4	1.5	4	4	45
4RPE 020 060 445	4	2	6	4	45
4RPE 025 080 445	4	2.5	8	4	45
4RPE 030 100 450	4	3	10	4	50
4RPE 035 100 650	4	3.5	10	6	50
4RPE 040 120 650	4	4	12	6	50
4RPE 050 150 650	4	5	15	6	50
4RPE 060 150 650	4	6	15	6	50
4RPE 070 200 865	4	7	20	8	65
4RPE 080 200 865	4	8	20	8	65
4RPE 100 250 A70	4	10	25	10	70
4RPE 120 300 C80	4	12	30	12	80

사이즈 D Size	인선직경공차(mm) D Tolerance
1~5	0~ -0.010
6~12	0~ -0.020

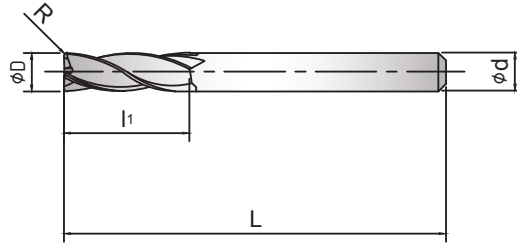


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4날 코너 라디우스 엔드밀

4 FLUTES CORNER RADIUS END MILLS

- ◆ HRC 52~70 소재의 고속가공용으로 설계
- ◆ Si 함유 코팅으로 내마모성 극대화
- ◆ 날부 파손 방지 및 절삭성 증대를 위한 형상설계
- ◆ Designed for high speed cutting of hardened steels(HRC52~70).
- ◆ Maximize the wear-resistance due to Tyson coating.
- ◆ Geometry design to protect the breakage of cutting edge and improve the cutting performance.



모델번호	날 수	인선직경	코너반경	날 장	생크경	전 장
Model.No	Flutes	Outside Diameter	Coner Radius	Length of Cut	Shank Diameter	Overall Length
	F	D	CR	l_1	d	L
4RCR 010 R01 025 445	4	1	R0.1	2.5	4	45
4RCR 010 R02 025 445	4	1	R0.2	2.5	4	45
4RCR 010 R03 025 445	4	1	R0.3	2.5	4	45
4RCR 015 R01 040 445	4	1.5	R0.1	4	4	45
4RCR 015 R02 040 445	4	1.5	R0.2	4	4	45
4RCR 015 R03 040 445	4	1.5	R0.3	4	4	45
4RCR 015 R05 040 445	4	1.5	R0.5	4	4	45
4RCR 020 R01 060 445	4	2	R0.1	6	4	45
4RCR 020 R02 060 445	4	2	R0.2	6	4	45
4RCR 020 R03 060 445	4	2	R0.3	6	4	45
4RCR 020 R05 060 445	4	2	R0.5	6	4	45
4RCR 025 R01 060 450	4	2.5	R0.1	6	4	50
4RCR 025 R02 060 450	4	2.5	R0.2	6	4	50
4RCR 025 R03 060 450	4	2.5	R0.3	6	4	50
4RCR 025 R05 060 450	4	2.5	R0.5	6	4	50
4RCR 030 R01 080 660	4	3	R0.1	8	6	60
4RCR 030 R02 080 660	4	3	R0.2	8	6	60
4RCR 030 R03 080 660	4	3	R0.3	8	6	60
4RCR 030 R05 080 660	4	3	R0.5	8	6	60
4RCR 040 R01 100 670	4	4	R0.1	10	6	70
4RCR 040 R02 100 670	4	4	R0.2	10	6	70
4RCR 040 R03 100 670	4	4	R0.3	10	6	70
4RCR 040 R05 100 670	4	4	R0.5	10	6	70
4RCR 040 R10 100 670	4	4	R1	10	6	70
4RCR 050 R01 130 675	4	5	R0.1	13	6	75
4RCR 050 R02 130 675	4	5	R0.2	13	6	75
4RCR 050 R03 130 675	4	5	R0.3	13	6	75
4RCR 050 R05 130 675	4	5	R0.5	13	6	75

SMG TYSON

4 CR ±0.005

30° HRC 52~70

h5

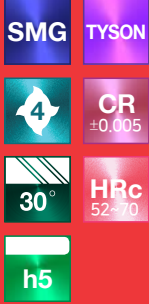
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4날 코너 레디우스 엔드밀

4 FLUTES CORNER RADIUS END MILLS

모델번호 Model.No	날 수 Flutes F	인선직경 Outside Diameter D	코너반경 Coner Radius CR	날 장 Length of Cut l ₁	생크경 Shank Diameter d	전 장 Overall Length L
4RCR 050 R10 130 675	4	5	R1	13	6	75
4RCR 060 R01 130 690	4	6	R0.1	13	6	90
4RCR 060 R02 130 690	4	6	R0.2	13	6	90
4RCR 060 R03 130 690	4	6	R0.3	13	6	90
4RCR 060 R05 130 690	4	6	R0.5	13	6	90
4RCR 060 R10 130 690	4	6	R1	13	6	90
4RCR 080 R01 190 8A0	4	8	R0.1	19	8	100
4RCR 080 R02 190 8A0	4	8	R0.2	19	8	100
4RCR 080 R03 190 8A0	4	8	R0.3	19	8	100
4RCR 080 R05 190 8A0	4	8	R0.5	19	8	100
4RCR 080 R10 190 8A0	4	8	R1	19	8	100
4RCR 080 R20 190 8A0	4	8	R2	19	8	100
4RCR 100 R02 220 AA0	4	10	R0.2	22	10	100
4RCR 100 R03 220 AA0	4	10	R0.3	22	10	100
4RCR 100 R05 220 AA0	4	10	R0.5	22	10	100
4RCR 100 R10 220 AA0	4	10	R1	22	10	100
4RCR 100 R20 220 AA0	4	10	R2	22	10	100
4RCR 120 R02 260 CB0	4	12	R0.2	26	12	110
4RCR 120 R03 260 CB0	4	12	R0.3	26	12	110
4RCR 120 R05 260 CB0	4	12	R0.5	26	12	110
4RCR 120 R10 260 CB0	4	12	R1	26	12	110
4RCR 120 R20 260 CB0	4	12	R2	26	12	110



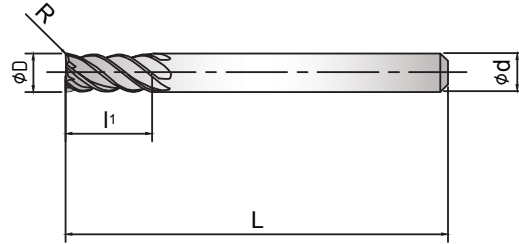
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사이즈 D Size	인선직경공차(mm) D Tolerance	코너 R(mm) R Size	R공차(mm) R Tolerance
1~5	0~ -0.010	R0.02~R0.5	±0.005
6~12	0~ -0.015	R1~R1.5	±0.010
		R2~R3	±0.015

6날 45코너 R 엔드밀

6 FLUTES 45CORNER RADIUS END MILLS

- ◆ HRC 52~70 소재의 고속가공용으로 설계
- ◆ Si 함유 코팅으로 내마모성 극대화
- ◆ 날부 파손 방지 및 절삭성 증대를 위한 형상설계
- ◆ Designed for high speed cutting of hardened steels(HRC52~70).
- ◆ Maximize the wear-resistance due to Tyson coating.
- ◆ Geometry design to protect the breakage of cutting edge and improve the cutting performance.



모델번호 Model.No	날 수 Flutes F	외선직경 Outside Diameter D	코너반경 Coner Radius CR	날 장 Length of Cut l ₁	생크경 Shank Diameter d	전 장 Overall Length L
6RCR 030 R05 080 650	6	3	R0.5	8	6	50
6RCR 040 R05 100 650	6	4	R0.5	10	6	50
6RCR 060 R05 130 650	6	6	R0.5	13	6	50
6RCR 080 R05 190 865	6	8	R0.5	19	8	65
6RCR 100 R05 220 A70	6	10	R0.5	22	10	70
6RCR 120 R05 260 C80	6	12	R0.5	26	12	80

사이즈 D Size	외선직경공차(mm) D Tolerance	코너 R(mm) R Size	R공차(mm) R Tolerance
3~4	0~ -0.01	R0.5	±0.005
6~12	0~ -0.020		

R-PRO



⚠ 엔드밀 사용시 주의사항

- 엔드밀 작동시 안전하게 사용해 주세요.
- 맨손으로 엔드밀 날부를 만지지 마세요.
- 가공후 칩이 뜨거우니, 맨손으로 만지지 마세요.
- 엔드밀 날부가 무뎠다면, 사용을 중지해주세요.
- 가공시 이상한 소리가 나면, 가공을 즉각 중지해주세요.
- 엔드밀을 수정하여 사용하지 마세요.

⚠ Safe use of End mills

- Please use safety during operation.
- Please don't touch cutting edges with bare hands.
- Please don't touch cutting chips with bare hands.
- Please stop cutting when the End mills becomes dull.
- Please stop cutting operation immediately if you hear strange cutting sounds.
- Please don't modify End mills.
- Please use correct End mills for the operation.
Check dimensions to ensure proper selections.

H HANSONG M&T

본사

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