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LOW Price HIGH Performance

SUE-SERIES

LOW Price
HIGH Performance

JCRO coating

SUE-SERIES

End Mills for *Exotic Materials*

SERIES 4SUB 3SUE 4SUE 4SUC 4LSUC 4SURE 4SUCR 3&4&5SUR

- *Strong design for protection against chattering.*
- *Excellent work surface finish by deep chip pocket.*
- *42 °degree helix design for high speed, feed condition.*
- *Minimize fracturing at high feed by high TRS fine WC grade.*

End Mills for alloy steel, SUS, Ti/Ni base alloy, Inconel and hard to cut materials.

In 2015 Smart Tools UK Ltd and JJ Tools undertook a strategic alliance, resulting in Smart Tools securing sole distribution rights for the UK.

Joint collaboration with customers is key to our success, by gaining a clear understanding of your needs; we ensure you are kept informed of the latest developments in tooling technology that are critical to staying ahead of the curve.

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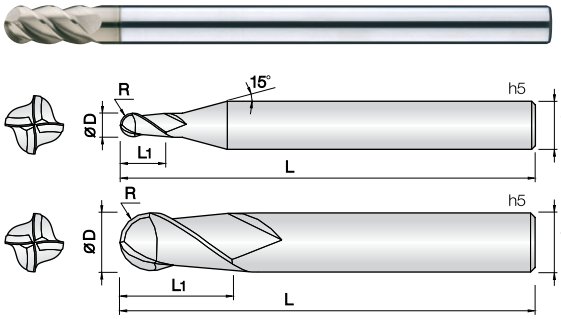
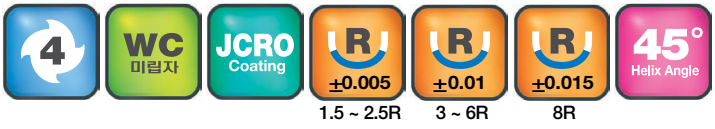
4SUB

4 Flutes 45° Helix Ball End Mills for SUS



Endmills for alloy steel, SUS, Ti/Ni base alloy, Inconel and hard to cut materials.

JCRO coating provides wear resistance improvement as well as avoid edge stress in various applications.
Excellent work surface finish by 4 flute and deep chip pocket.
Minimize fracturing at high feed by high TRS fine WC grade.



D Size	D Tolerance
ø3 ~ 5	+0 ~ −0.01mm
ø6 ~ 12	−0.005 ~ −0.015mm
ø16	−0.01 ~ −0.02mm

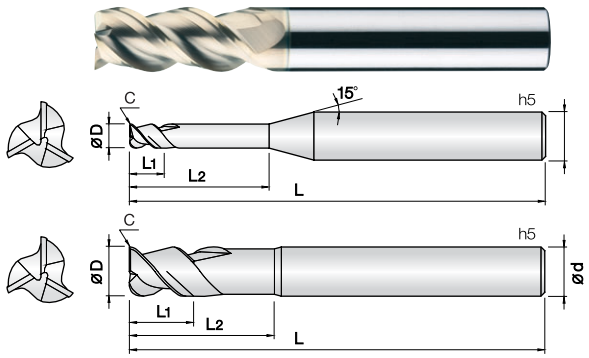
: mm

	Order Number	Diameter R ×D	Length of cut L1	Overall Length L	Shank Dia d
New	4SUB 010 025 S06	0.5R X 1	2.5	50	6
New	4SUB 015 040 S06	0.75R X 1.5	4	50	6
New	4SUB 020 060 S06	1R X 2	6	50	6
	4SUB 030 080 S06	1.5R X 3	8	60	6
	4SUB 040 080 S06	2R X 4	8	70	6
	4SUB 050 100 S06	2.5R X 5	10	80	6
	4SUB 060 120 S06	3R X 6	12	90	6
	4SUB 080 140 S08	4R X 8	14	100	8
	4SUB 100 180 S10	5R X 10	18	100	10
	4SUB 120 220 S12	6R X 12	22	110	12
	4SUB 160 300 S16	8R X 16	30	130	16

Order Number	Diameter R ×D	Length of cut L1	Overall Length L	Shank Dia d

3SUE

3 Flutes 45° Helix End Mills for SUS



Endmills for alloy steel, SUS, Ti/Ni base alloy, Inconel and hard to cut materials.

JCRO coating provides wear resistance improvement as well as avoid edge stress in various applications.
Excellent work surface finish by 3 flute and deep chip pocket.
45°degree helix design for high speed, feed condition.
Minimize fracturing at high feed by high TRS fine WC grade.

Ø0.5 ~ 5 Ø6 ~ 12 Ø16 ~ 20 Shield Edge

D Size	D Tolerance
Ø0.5 ~ 5	+0 ~ −0.01mm
Ø6 ~ 12	−0.01 ~ −0.025mm
Ø16 ~ 20	−0.015 ~ −0.03mm

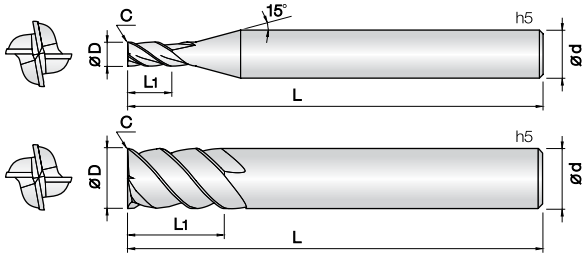
단위 : mm

	Order Number	Diameter D	Length of cut L1	Effective Length L2	Overall Length L	Shank Dia d
New	3SUE 005 010 S04	0.5	1	-	45	4
New	3SUE 005 020 S04	0.5	1	2	45	4
New	3SUE 005 030 S04	0.5	1	3	45	4
New	3SUE 005 040 S04	0.5	1	4	45	4
New	3SUE 006 012 S04	0.6	1.2	-	45	4
New	3SUE 006 030 S04	0.6	1.2	3	45	4
New	3SUE 006 050 S04	0.6	1.2	5	45	4
New	3SUE 007 014 S04	0.7	1.4	-	45	4
New	3SUE 007 030 S04	0.7	1.4	3	45	4
	3SUE 008 020 S04	0.8	2	-	45	4
	3SUE 008 040 S06	0.8	2	4	45	6
New	3SUE 008 060 S06	0.8	2	6	45	6
	3SUE 010 025 S04	1	2.5	-	45	4
	3SUE 010 025 S06	1	2.5	-	45	6
	3SUE 010 040 S06	1	2.5	4	45	6
New	3SUE 010 060 S06	1	2.5	6	45	6
New	3SUE 010 080 S06	1	2.5	8	45	6
	3SUE 012 030 S04	1.2	3	-	45	4
	3SUE 012 030 S06	1.2	3	-	45	6
	3SUE 012 060 S06	1.2	3	6	45	6
New	3SUE 012 080 S06	1.2	3	8	45	6
	3SUE 015 040 S04	1.5	4	-	45	4
	3SUE 015 040 S06	1.5	4	-	45	6
	3SUE 015 060 S06	1.5	4	6	45	6
New	3SUE 015 080 S06	1.5	4	8	45	6
New	3SUE 015 100 S06	1.5	4	10	45	6
	3SUE 020 050 S04	2	5	-	45	4
	3SUE 020 050 S06	2	5	-	45	6
	3SUE 020 080 S06	2	5	8	45	6
New	3SUE 020 100 S06	2	5	10	50	6
New	3SUE 020 120 S06	2	5	12	50	6
	3SUE 030 080 S04	3	8	-	45	4
	3SUE 030 080 S06	3	8	-	45	6
	3SUE 030 150 S06	3	8	15	45	6
New	3SUE 030 200 S06	3	8	20	60	6
	3SUE 040 100 S04	4	10	-	50	4
	3SUE 040 100 S06	4	10	-	50	6
	3SUE 040 150 S06	4	10	15	50	6
New	3SUE 040 200 S06	4	10	20	60	6
	3SUE 050 120 S06	5	12	-	50	6
	3SUE 060 120 S06	6	12	-	60	6
	3SUE 060 200 S06	6	12	20	60	6
	3SUE 080 190 S08	8	19	-	60	8
	3SUE 080 260 S08	8	19	26	60	8
	3SUE 100 220 S10	10	22	-	70	10
	3SUE 100 320 S10	10	22	32	70	10
	3SUE 120 260 S12	12	26	-	80	12
	3SUE 120 380 S12	12	26	38	80	12

Order Number	Diameter D	Length of cut L1	Effective Length L2	Overall Length L	Shank Dia d
3SUE 160 360 S16	16	36	-	100	16
3SUE 160 450 S16	16	36	45	100	16
3SUE 200 550 S20	20	38	55	110	20

4SUE

4 Flutes Non Symmetry End Mills for SUS



Endmills for alloy steel, SUS, Ti/Ni base alloy, Inconel and hard to cut materials.

JCRO coating provides wear resistance improvement as well as avoid edge stress in various applications.
Minimize chattering by unequal flute spacing design.
Excellent work surface finish by 4 flute and deep chip pocket.
Minimize fracturing at high feed by high TRS fine WC grade.

Ø1 ~ 5 | Ø6 ~ 12 | Ø16 ~ 20 | C Cutting

D Size	D Tolerance
Ø1 ~ 5	+0 ~ −0.01mm
Ø6 ~ 12	−0.01 ~ −0.025mm
Ø16 ~ 20	−0.015 ~ −0.03mm

: mm

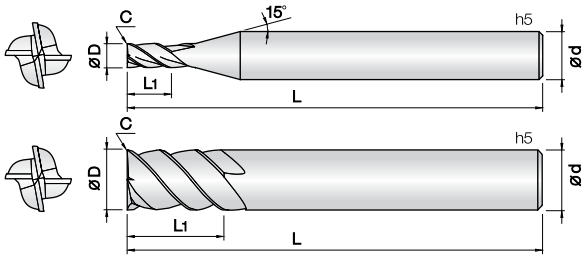
	Order Number	Diameter D	Length of cut L1	Overall Length L	Shank Dia d
	4SUE 010 015 S04	1	1.5	50	4
	4SUE 010 025 S04	1	2.5	50	4
	4SUE 010 035 S04	1	3.5	50	4
New	4SUE 010 050 S04	1	5	50	4
	4SUE 015 025 S04	1.5	2.5	50	4
	4SUE 015 040 S04	1.5	4	50	4
	4SUE 015 055 S04	1.5	5.5	50	4
New	4SUE 015 070 S04	1.5	7	50	4
	4SUE 020 030 S04	2	3	50	4
	4SUE 020 060 S04	2	6	50	4
	4SUE 020 080 S04	2	8	50	4
New	4SUE 020 100 S04	2	10	50	4
New	4SUE 020 120 S04	2	12	50	4
	4SUE 025 035 S04	2.5	3.5	50	4
	4SUE 025 080 S04	2.5	8	50	4
New	4SUE 025 100 S04	2.5	10	50	4
New	4SUE 025 120 S04	2.5	12	50	4
	4SUE 030 045 S06	3	4.5	60	6
	4SUE 030 100 S06	3	10	60	6
	4SUE 030 120 S06	3	12	60	6
New	4SUE 030 150 S06	3	15	60	6
New	4SUE 030 200 S06	3	20	70	6
New	4SUE 035 055 S06	3.5	5.5	60	6
New	4SUE 035 100 S06	3.5	10	60	6
New	4SUE 035 150 S06	3.5	15	60	6
	4SUE 040 060 S06	4	6	60	6
	4SUE 040 120 S06	4	12	60	6
	4SUE 040 160 S06	4	16	60	6
New	4SUE 040 200 S06	4	20	70	6
New	4SUE 040 250 S06	4	25	70	6
New	4SUE 045 070 S06	4.5	7	60	6
New	4SUE 045 130 S06	4.5	13	60	6
New	4SUE 045 180 S06	4.5	18	60	6
	4SUE 050 075 S06	5	7.5	60	6
	4SUE 050 150 S06	5	15	60	6
	4SUE 050 200 S06	5	20	70	6
New	4SUE 050 250 S06	5	25	70	6
	4SUE 060 090 S06	6	9	60	6
	4SUE 060 150 S06	6	15	60	6
	4SUE 060 180 S06	6	18	65	6
	4SUE 060 250 S06	6	25	70	6
New	4SUE 060 300 S06	6	30	70	6
New	4SUE 060 400 S06	6	40	80	6
	4SUE 070 110 S08	7	11	70	8
	4SUE 070 180 S08	7	18	70	8
	4SUE 070 210 S08	7	21	70	8
	4SUE 080 120 S08	8	12	70	8
	4SUE 080 200 S08	8	20	70	8

	Order Number	Diameter D	Length of cut L1	Overall Length L	Shank Dia d
	4SUE 080 240 S08	8	24	70	8
	4SUE 080 300 S08	8	30	80	8
New	4SUE 080 400 S08	8	40	90	8
New	4SUE 080 500 S08	8	50	100	8
	4SUE 090 140 S10	9	14	80	10
	4SUE 090 220 S10	9	22	80	10
	4SUE 090 270 S10	9	27	80	10
	4SUE 100 150 S10	10	15	80	10
	4SUE 100 250 S10	10	25	80	10
	4SUE 100 300 S10	10	30	80	10
	4SUE 100 400 S10	10	40	90	10
	4SUE 100 500 S10	10	50	100	10
New	4SUE 100 600 S10	10	60	110	10
	4SUE 110 170 S12	11	17	90	12
	4SUE 110 220 S12	11	22	90	12
	4SUE 110 330 S12	11	33	90	12
	4SUE 120 180 S12	12	18	90	12
	4SUE 120 300 S12	12	30	90	12
	4SUE 120 360 S12	12	36	90	12
	4SUE 120 500 S12	12	50	100	12
	4SUE 120 600 S12	12	60	110	12
New	4SUE 120 700 S12	12	70	120	12
	4SUE 160 240 S16	16	24	100	16
	4SUE 160 350 S16	16	35	100	16
	4SUE 160 500 S16	16	50	110	16
New	4SUE 160 700 S16	16	70	130	16
New	4SUE 160 900 S16	16	90	150	16
	4SUE 200 300 S20	20	30	100	20
	4SUE 200 400 S20	20	40	100	20
	4SUE 200 600 S20	20	60	120	20
New	4SUE 200 800 S20	20	80	150	20
New	4SUE 200 1000 S20	20	100	160	20

4SUV

4 Flutes Variable Helix End Mills for SUS

New



Endmills for alloy steel, SUS, Ti/Ni base alloy, Inconel and hard to cut materials.

JCRO coating provides wear resistance improvement as well as avoid edge stress in various applications.
Minimize chattering during cutting application by unequal index of flute and helix angle to the endmill edge.
Type A minimizes chipping, Type B maximizes chip emmissins.
Minimize fracturing at high feed by high TRS fine WC grade.

4 | WC 미립자 | JCRO Coating | D +0 −0.01 Ø1 ~ 5 | D −0.01 −0.025 Ø6 ~ 12 | D −0.015 −0.03 Ø16 ~ 20 | 35° Helix Angle | 38° Helix Angle | A Shield Edge | B Shield Edge

D Size	D Tolerance
ø1 ~ 5	+0 ~ −0.01mm
ø6 ~ 12	−0.01 ~ −0.025mm
ø16 ~ 20	−0.015 ~ −0.03mm

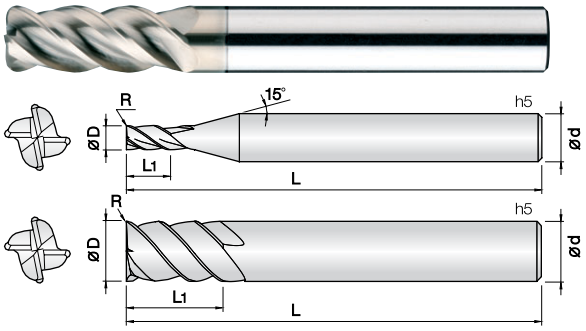
: mm

Order Number	Diameter D	of cut L1	Length L2	type Type	Length L	Dia d
4SUVA 010 025 S04	1	2.5	-	A	50	4
4SUVB 010 025 S04	1	2.5	-	B	50	4
4SUVA 010 060 S04	1	2.5	6	A	50	4
4SUVA 015 040 S04	1.5	4	-	A	50	4
4SUVB 015 040 S04	1.5	4	-	B	50	4
4SUVA 015 100 S04	1.5	4	10	A	50	4
4SUVA 020 050 S04	2	5	-	A	50	4
4SUVB 020 050 S04	2	5	-	B	50	4
4SUVA 020 120 S04	2	5	12	A	50	4
4SUVA 030 080 S06	3	8	-	A	60	6
4SUVB 030 080 S06	3	8	-	B	60	6
4SUVA 030 180 S06	3	8	18	A	60	6
4SUVA 040 110 S06	4	11	-	A	60	6
4SUVB 040 110 S06	4	11	-	B	60	6
4SUVA 040 210 S06	4	11	21	A	60	6
4SUVA 050 130 S06	5	13	-	A	60	6
4SUVB 050 130 S06	5	13	-	B	60	6
4SUVA 050 210 S06	5	13	21	A	60	6
4SUVA 060 130 S06	6	13	-	A	60	6
4SUVB 060 130 S06	6	13	-	B	60	6
4SUVA 060 210 S06	6	13	21	A	60	6
4SUVA 080 190 S08	8	19	-	A	60	8
4SUVB 080 190 S08	8	19	-	B	60	8
4SUVA 080 270 S08	8	19	27	A	60	8
4SUVA 100 220 S10	10	22	-	A	70	10
4SUVB 100 220 S10	10	22	-	B	70	10
4SUVA 100 320 S10	10	22	32	A	70	10
4SUVA 120 260 S12	12	26	-	A	80	12
4SUVB 120 260 S12	12	26	-	B	80	12
4SUVA 120 380 S12	12	26	38	A	80	12
4SUVA 160 320 S16	16	32	-	A	90	16
4SUVB 160 320 S16	16	32	-	B	90	16
4SUVA 160 450 S16	16	32	45	A	90	16
4SUVA 200 380 S20	20	38	-	A	100	20
4SUVB 200 380 S20	20	38	-	B	100	20
4SUVA 200 550 S20	20	38	55	A	110	20

Order Number	Diameter D	of cut L1	Length L2	type Type	Length L	Dia d

4SUC

4 Flutes Non Symmetry Corner Radius End Mills for SUS



Endmills for alloy steel, SUS, Ti/Ni base alloy, Inconel and hard to cut materials.

JCRO coating provides wear resistance improvement as well as avoid edge stress in various applications.
Strong design for protection against chattering..
Preventing bottom edge chipping by corner R.
Minimize fracturing at high feed by high TRS fine WC grade.

4 | WC 미립자 | JCRO Coating | R ±0.005 (R0.1 ~ 0.5) | R ±0.01 (R1 ~ 1.5) | R ±0.015 (R2 ~ 3) | 42° Helix Angle

D Size	D Tolerance
ø1 ~ 5.5	+0 ~ −0.01mm
ø6 ~ 12	−0.005 ~ −0.015mm
ø16 ~ 20	−0.01 ~ −0.02mm

mm

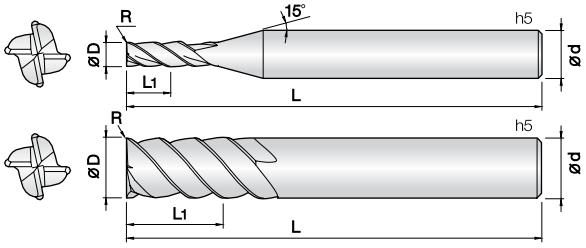
Order Number	Diameter D ×R	Length of cut L1	Overall Length L	Shank Dia d
4SUC 010 001 S04	1 X R0.1	2.5	50	4
4SUC 010 002 S04	1 X R0.2	2.5	50	4
4SUC 012 001 S04	1.2 X R0.1	3	50	4
4SUC 012 002 S04	1.2 X R0.2	3	50	4
4SUC 015 001 S04	1.5 X R0.1	4	50	4
4SUC 015 002 S04	1.5 X R0.2	4	50	4
4SUC 015 003 S04	1.5 X R0.3	4	50	4
4SUC 020 001 S04	2 X R0.1	6	50	4
4SUC 020 002 S04	2 X R0.2	6	50	4
4SUC 020 003 S04	2 X R0.3	6	50	4
4SUC 020 005 S04	2 X R0.5	6	50	4
4SUC 025 001 S04	2.5 X R0.1	7	50	4
4SUC 025 002 S04	2.5 X R0.2	7	50	4
4SUC 025 003 S04	2.5 X R0.3	7	50	4
4SUC 030 001 S06	3 X R0.1	10	60	6
4SUC 030 002 055	3 X R0.2	6	55	6
4SUC 030 002 S06	3 X R0.2	10	60	6
4SUC 030 003 S06	3 X R0.3	10	60	6
4SUC 030 005 055	3 X R0.5	6	55	6
4SUC 030 005 S06	3 X R0.5	10	60	6
4SUC 035 002 S06	3.5 X R0.2	10	60	6
4SUC 040 001 S06	4 X R0.1	12	60	6
4SUC 040 002 055	4 X R0.2	8	55	6
4SUC 040 002 S06	4 X R0.2	12	60	6
4SUC 040 003 S06	4 X R0.3	12	60	6
4SUC 040 005 055	4 X R0.5	8	55	6
4SUC 040 005 S06	4 X R0.5	12	60	6
4SUC 040 010 S06	4 X R1	12	60	6
4SUC 045 002 S06	4.5 X R0.2	14	60	6
4SUC 050 002 055	5 X R0.2	10	55	6
4SUC 050 002 S06	5 X R0.2	15	60	6
4SUC 050 003 S06	5 X R0.3	15	60	6
4SUC 050 005 055	5 X R0.5	10	55	6
4SUC 050 005 S06	5 X R0.5	15	60	6
4SUC 050 010 S06	5 X R1	15	60	6
4SUC 055 002 S06	5.5 X R0.2	15	60	6
4SUC 060 003 055	6 X R0.3	12	55	6
4SUC 060 003 S06	6 X R0.3	15	60	6
4SUC 060 005 055	6 X R0.5	12	55	6
4SUC 060 005 S06	6 X R0.5	15	60	6
4SUC 060 010 055	6 X R1	12	55	6
4SUC 060 010 S06	6 X R1	15	60	6
New 4SUC 060 015 S06	6 X R1.5	15	60	6
4SUC 065 003 S08	6.5 X R0.3	18	60	8
4SUC 070 003 S08	7 X R0.3	20	80	8
New 4SUC 070 005 S08	7 X R0.5	20	80	8
New 4SUC 007 010 S08	7 X R1	20	80	8
4SUC 080 003 070	8 X R0.3	16	70	8

Order Number	Diameter D ×R	Length of cut L1	Overall Length L	Shank Dia d
4SUC 080 003 S08	8 X R0.3	20	80	8
4SUC 080 005 070	8 X R0.5	16	70	8
4SUC 080 005 S08	8 X R0.5	20	80	8
4SUC 080 010 070	8 X R1	16	70	8
4SUC 080 010 S08	8 X R1	20	80	8
New 4SUC 080 015 S08	8 X R1.5	20	80	8
New 4SUC 080 020 S08	8 X R2	20	80	8
4SUC 085 003 S10	8.5 X R0.3	22	80	10
4SUC 090 003 S10	9 X R0.3	25	80	10
4SUC 100 003 070	10 X R0.3	20	70	10
4SUC 100 003 S10	10 X R0.3	25	80	10
4SUC 100 005 070	10 X R0.5	20	70	10
4SUC 100 005 S10	10 X R0.5	25	80	10
4SUC 100 010 070	10 X R1	20	70	10
4SUC 100 010 S10	10 X R1	25	80	10
4SUC 100 015 070	10 X R1.5	20	70	10
4SUC 100 015 S10	10 X R1.5	25	80	10
4SUC 100 020 070	10 X R2	20	70	10
4SUC 100 020 S10	10 X R2	25	80	10
4SUC 100 025 070	10 X R2.5	20	70	10
4SUC 100 025 S10	10 X R2.5	25	80	10
4SUC 100 030 070	10 X R3	20	70	10
4SUC 100 030 S10	10 X R3	25	80	10
New 4SUC 110 005 S12	11 X R0.5	27	90	12
New 4SUC 110 010 S12	11 X R1	27	90	12
4SUC 120 003 080	12 X R0.3	24	80	12
4SUC 120 003 S12	12 X R0.3	30	100	12
4SUC 120 005 080	12 X R0.5	24	80	12
4SUC 120 005 S12	12 X R0.5	30	100	12
4SUC 120 010 080	12 X R1	24	80	12
4SUC 120 010 S12	12 X R1	30	100	12
4SUC 120 015 080	12 X R1.5	24	80	12
4SUC 120 015 S12	12 X R1.5	30	100	12
4SUC 120 020 080	12 X R2	24	80	12
4SUC 120 020 S12	12 X R2	30	100	12
4SUC 120 025 S12	12 X R2.5	30	100	12
4SUC 120 030 080	12 X R3	24	80	12
4SUC 120 030 S12	12 X R3	30	100	12
New 4SUC 140 005 S14	14 X R0.5	35	100	14
New 4SUC 140 010 S14	14 X R1	35	100	14
4SUC 160 005 100	16 X R0.5	32	100	16
4SUC 160 005 S16	16 X R0.5	42	110	16
4SUC 160 010 100	16 X R1	32	100	16
4SUC 160 010 S16	16 X R1	42	110	16
New 4SUC180 005 S18	18 X R0.5	45	110	18
New 4SUC180 010 S18	18 X R1	45	110	18
4SUC 200 005 S20	20 X R0.5	48	110	20
4SUC 200 010 S20	20 X R1	48	110	20

4LSUC

4 Flutes Long Length Corner Radius End Mills for SUS

New



Endmills for alloy steel, SUS, Ti/Ni base alloy, Inconel and hard to cut materials.

JCRO coating provides wear resistance improvement as well as avoid edge stress in various applications.
Strong design for protection against chattering..
Preventing bottom edge chipping by corner R.
Minimize fracturing at high feed by high TRS fine WC grade.

4 | WC 미립자 | JCRO Coating | R ±0.005 R0.3 ~ 0.5 | R ±0.01 R1 ~ 1.5 | R ±0.015 R2 ~ 3 | 42° Helix Angle

D Size	D Tolerance
ø6 ~ 12	−0.005 ~ −0.015mm
ø16 ~ 20	−0.01 ~ −0.02mm

mm

Order Number	Diameter D ×R	Length of cut L1	Overall Length L	Shank Dia d
4LSUC 060 003 070	6 X R0.3	30	70	6
4LSUC 060 005 070	6 X R0.5	30	70	6
4LSUC 060 010 070	6 X R1	30	70	6
4LSUC 060 015 070	6 X R1.5	30	70	6
4LSUC 080 003 080	8 X R0.3	40	80	8
4LSUC 080 005 080	8 X R0.5	40	80	8
4LSUC 080 010 080	8 X R1	40	80	8
4LSUC 080 015 080	8 X R1.5	40	80	8
4LSUC 080 020 080	8 X R2	40	80	8
4LSUC 100 003 100	10 X R0.3	50	100	10
4LSUC 100 005 100	10 X R0.5	50	100	10
4LSUC 100 010 100	10 X R1	50	100	10
4LSUC 100 015 100	10 X R1.5	50	100	10
4LSUC 100 020 100	10 X R2	50	100	10
4LSUC 120 003 120	1 2 X R0.3	60	120	12
4LSUC 120 005 120	1 2 X R0.5	60	120	12
4LSUC 120 010 120	1 2 X R1	60	120	12
4LSUC 120 015 120	1 2 X R1.5	60	120	12
4LSUC 120 020 120	1 2 X R2	60	120	12
4LSUC 120 025 120	1 2 X R2.5	60	120	12
4LSUC 120 030 120	1 2 X R3	60	120	12
4LSUC 160 005 130	1 6 X R0.5	80	130	16
4LSUC 160 010 130	1 6 X R1	80	130	16
4LSUC 160 015 130	1 6 X R1.5	80	130	16
4LSUC 160 020130	1 6 X R2	80	130	16
4LSUC 160 030 130	1 6 X R3	80	130	16
4LSUC 200 005 160	20 X R0.5	100	160	20
4LSUC 200 010 160	20 X R1	100	160	20
4LSUC 200 015 160	20 X R1.5	100	160	20
4LSUC 200 020 160	20 X R2	100	160	20
4LSUC 200 030 160	20 X R3	100	160	20

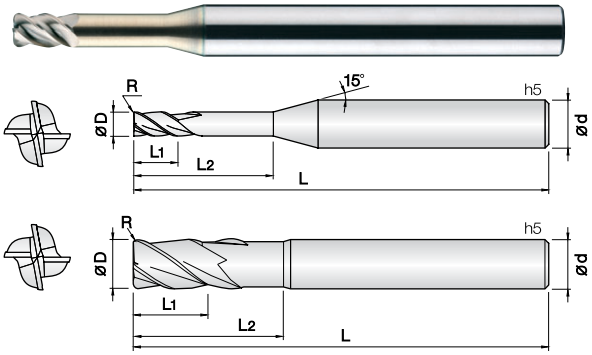
Order Number	Diameter D ×R	Length of cut L1	Overall Length L	Shank Dia d

01245 260414 - 250910 sales@smarttoolsuk.com www.smarttoolsuk.com

4SUCR

4 Flutes Rib Corner Radius End Mills for SUS

New



Endmills for alloy steel, SUS, Ti/Ni base alloy, Inconel and hard to cut materials.

JCRO coating provides wear resistance improvement as well as avoid edge stress in various applications.
Minimize chattering by unequal flute spacing design.
Excellent work surface finish by 4 flute and deep chip pocket.
Minimize fracturing at high feed by high TRS fine WC grade.

4 | WC 미립자 | JCRO Coating | ±0.005 (R0.1 ~ 0.5) | ±0.01 (R1 ~ 1.5) | ±0.015 (R2 ~ 5) | 42° Helix Angle | Shield Edge

D Size	D Tolerance
ø1 ~ 5	+0 ~ −0.01mm
ø6 ~ 12	−0.005 ~ −0.015mm
ø16 ~ 20	−0.01 ~ −0.02mm

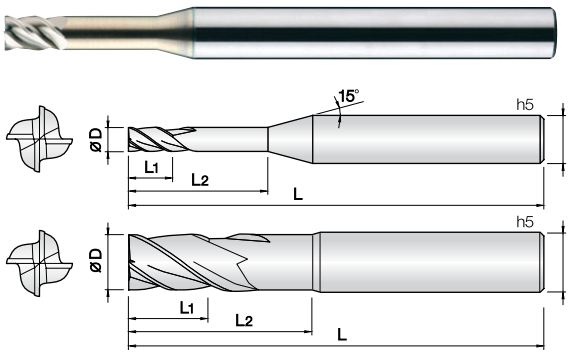
: mm

Order Number	Diameter D×R	Length of cut L1	Effective Length L2	Overall Length L	Shank Dia d
4SUCR 010 001 050	1 X R0.1	1.5	5	60	4
4SUCR 020 001 100	2 X R0.1	3	10	60	4
4SUCR 020 002 100	2 X R0.2	3	10	60	4
4SUCR 030 002 150	3 X R0.2	4.5	15	65	6
4SUCR 030 005 150	3 X R0.5	4.5	15	65	6
4SUCR 040 002 200	4 X R0.2	6	20	70	6
4SUCR 040 005 200	4 X R0.5	6	20	70	6
4SUCR 040 010 200	4 X R1	6	20	70	6
4SUCR 050 002 250	5 X R0.2	7.5	25	70	6
4SUCR 050 005 250	5 X R0.5	7.5	25	70	6
4SUCR 050 010 250	5 X R1	7.5	25	70	6
4SUCR 060 003 300	6 X R0.3	9	30	70	6
4SUCR 060 005 300	6 X R0.5	9	30	70	6
4SUCR 060 010 300	6 X R1	9	30	70	6
4SUCR 060 015 300	6 X R1.5	9	30	70	6
4SUCR 070 003 350	7 X R0.3	10	35	80	8
4SUCR 070 005 350	7 X R0.5	10	35	80	8
4SUCR 070 010 350	7 X R1	10	35	80	8
4SUCR 080 003 400	8 X R0.3	12	40	80	8
4SUCR 080 005 400	8 X R0.5	12	40	80	8
4SUCR 080 010 400	8 X R1	12	40	80	8
4SUCR 080 015 400	8 X R1.5	12	40	80	8
4SUCR 080 020 400	8 X R2	12	40	80	8
4SUCR 090 003 450	9 X R0.3	13	45	90	10
4SUCR 090 005 450	9 X R0.5	13	45	90	10
4SUCR 090 010 450	9 X R1	13	45	90	10
4SUCR 100 003 500	10 X R0.3	15	50	100	10
4SUCR 100 005 500	10 X R0.5	15	50	100	10
4SUCR 100 010 500	10 X R1	15	50	100	10
4SUCR 100 015 500	10 X R1.5	15	50	100	10
4SUCR 100 020 500	10 X R2	15	50	100	10
4SUCR 110 003 550	11 X R0.3	16	55	100	12
4SUCR 110 005 550	11 X R0.5	16	55	100	12
4SUCR 110 010 550	11 X R1	16	55	100	12
4SUCR 120 003 600	12 X R0.3	18	60	110	12
4SUCR 120 005 600	12 X R0.5	18	60	110	12
4SUCR 120 010 600	12 X R1	18	60	110	12
4SUCR 120 015 600	12 X R1.5	18	60	110	12
4SUCR 120 020 600	12 X R2	18	60	110	12
4SUCR 120 025 600	12 X R2.5	18	60	110	12
4SUCR 120 030 600	12 X R3	18	60	110	12
4SUCR 160 005 800	16 X R0.5	24	80	130	16
4SUCR 160 010 800	16 X R1	24	80	130	16
4SUCR 160 015 800	16 X R1.5	24	80	130	16
4SUCR 160 020 800	16 X R2	24	80	130	16
4SUCR 160 030 800	16 X R3	24	80	130	16
4SUCR 200 005 1000	20 X R0.5	30	100	150	20
4SUCR 200 010 1000	20 X R1	30	100	150	20
4SUCR 200 015 1000	20 X R1.5	30	100	150	20
4SUCR 200 020 1000	20 X R2	30	100	150	20
4SUCR 200 030 1000	20 X R3	30	100	150	20
4SUCR 200 050 1000	20 X R5	30	100	150	20

4SURE

4 Flutes Rib End Mills for SUS

New



Endmills for alloy steel, SUS, Ti/Ni base alloy, Inconel and hard to cut materials.

JCRO coating provides wear resistance improvement as well as avoid edge stress in various applications.
Minimize chattering by unequal flute spacing design.
Excellent work surface finish by 4 flute and deep chip pocket.
Minimize fracturing at high feed by high TRS fine WC grade.

4 | WC 미립자 | JCRO Coating | D +0 −0.01 Ø1~ 5 | D −0.01 −0.025 Ø6 ~ 12 | D −0.015 −0.03 Ø16 ~ 20 | 42° Helix Angle | Shield Edge

D Size	D Tolerance
Ø1 ~ 5	+0 ~ −0.01mm
Ø6 ~ 12	−0.01 ~ −0.025mm
Ø16 ~ 20	−0.015 ~ −0.03mm

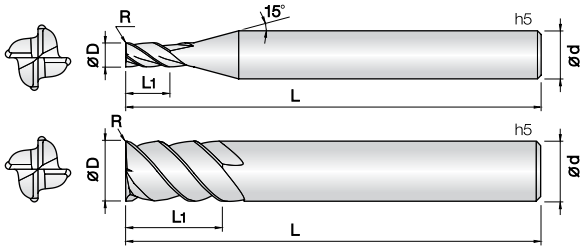
mm

Order Number	Diameter D	of cut L1	Length L2	Length L	Dia d
4SURE 010 030 S04	1	1.5	3	50	4
4SURE 010 050 S04	1	1.5	5	50	4
4SURE 015 045 S04	1.5	2.5	4.5	50	4
4SURE 015 060 S04	1.5	2.5	6	50	4
4SURE 015 080 S04	1.5	2.5	8	50	4
4SURE 020 065 S04	2	3	6	50	4
4SURE 020 080 S04	2	3	8	50	4
4SURE 020 100 S04	2	3	10	50	4
4SURE 020 120 S04	2	3	12	50	4
4SURE 025 075 S04	2.5	4	7.5	50	4
4SURE 025 100 S04	2.5	4	10	50	4
4SURE 025 120 S04	2.5	4	12	50	4
4SURE 030 090 S06	3	4.5	9	60	6
4SURE 030 120 S06	3	4.5	12	60	6
4SURE 030 160 S06	3	4.5	16	60	6
4SURE 030 200 S06	3	4.5	20	60	6
4SURE 040 120 S06	4	6	12	60	6
4SURE 040 160 S06	4	6	16	60	6
4SURE 040 200 S06	4	6	20	60	6
4SURE 040 250 S06	4	6	25	65	6
4SURE 050 150 S06	5	7.5	15	60	6
4SURE 050 180 100	5	7.5	18	100	6
4SURE 050 200 S06	5	7.5	20	60	6
4SURE 050 250 S06	5	7.5	25	65	6
4SURE 050 300 S06	5	7.5	30	70	6
4SURE 060 200 S06	6	9	20	60	6
4SURE 060 250 100	6	9	25	100	6
4SURE 060 300 S06	6	9	30	70	6
4SURE 080 250 S08	8	12	25	70	8
4SURE 080 350 110	8	12	35	110	8
4SURE 080 400 S08	8	12	40	80	8
4SURE 100 300 S10	10	15	30	80	10
4SURE 100 400 120	10	15	40	120	10
4SURE 100 500 S10	10	15	50	100	10
4SURE 120 360 S12	12	18	36	90	12
4SURE 120 500 130	12	18	50	130	12
4SURE 120 600 S12	12	18	60	110	12
4SURE 160 480 S16	16	24	48	110	16
4SURE 160 700 150	16	24	70	150	16
4SURE 160 800 S16	16	24	80	130	16
4SURE 200 600 130	20	30	60	130	20
4SURE 200 1000 160	20	30	100	160	20

Order Number	Diameter D	of cut L1	Length L2	Length L	Dia d

3&4&5SUR

3&4&5 Flutes 45° Helix Roughing Core R End Mills for SUS



Alloy steel, SUS, Inconel, Mild Steels and various hard-to-cut material for roughing

JCRO coating provides wear resistance improvement as well as avoid edge stress in various applications.
45 helix Design for minimizing cutting resistance and long time process.
High speed and roughing work applicable by fine pitch flute.

3 | 4 | 5 | WC 미립자 | JCRO Coating | DI −0.02 −0.04 Ø3~ Ø9 | DI −0.02 −0.05 Ø10~ Ø20 | 45° Helix Angle

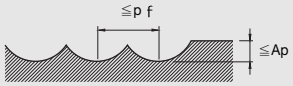
D Size	D Tolerance
ø3 ~ 9	−0.02 ~ −0.04mm
ø10 ~ 20	−0.02 ~ −0.05mm

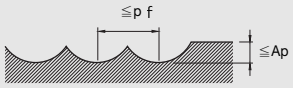
mm

Order Number	Diameter D ×R	Length of cut L1	Effective Length L2	Overall Length L	Shank Dia d
3SUR 030 002 S06	3 X R0.2	8	-	50	6
3SUR 040 002 S06	4 X R0.2	10	-	50	6
4SUR 050 002 S06	5 X R0.2	13	-	50	6
4SUR 060 002 200	6 X R0.2	10	20	60	6
4SUR 060 002 S06	6 X R0.2	13	-	60	6
4SUR 060 005 S06	6 X R0.5	13	-	60	6
4SUR 070 002 S08	7X R0.2	18	-	70	8
4SUR 080 002 250	8X R0.2	12	25	70	8
4SUR 080 002 S08	8X R0.2	19	-	70	8
4SUR 080 010 S08	8 X R1	19	-	70	8
4SUR 090 003 S10	9 X R0.3	20	-	70	10
4SUR 100 003 300	10 X R0.3	15	30	75	10
4SUR 100 003 S10	10 X R0.3	22	-	75	10
4SUR 100 010 S10	10 X R1	22	-	75	10
4SUR 110 003 S12	11 X R0.3	25	-	80	12
4SUR 120 003 350	12 X R0.3	20	35	80	12
4SUR 120 003 S12	12 X R0.3	26	-	80	12
4SUR 120 010 S12	12 X R1	26	-	80	12
5SUR 140 005 S16	14 X R0.5	28	-	90	16
5SUR 160 005 100	16 X R0.5	32	-	100	16
5SUR 160 005 110	16 X R0.5	42	-	110	16
5SUR 160 015 100	16 X R1.5	32	-	100	16
5SUR 160 015 110	16 X R1.5	42	-	110	16
5SUR 200 005 100	20 X R0.5	38	-	100	20
5SUR 200 005 110	20 X R0.5	45	-	110	20
5SUR 200 020 100	20 X R2	38	-	100	20
5SUR 200 020 110	20 X R2	45	-	110	20

4SUB

• RPM : rev./min • Feed : mm/min

Material	S45C, SCM440, SS400, S10C, NAK, PX5, SNCM439						4V, SUS630, SUS631, SUS431, SUS420J2					
Radius	α≦15°		α>15°		Ap Axial Depth	pf	α≦15°		α>15°		Ap Axial Depth	
	RPM	FEED	RPM	FEED			RPM	FEED	RPM	FEED		
R1.5	32,000	7,700	21,000	3,200	0.25	0.75	24,000	4,800	16,000	1,900	0.25	
R2	24,000	5,800	16,000	2,800	0.33	1	18,000	4,000	12,000	1,700	0.33	
R2.5	19,000	5,300	12,700	2,600	0.42	1.25	14,400	3,500	9,600	1,500	0.42	
R3	16,000	4,800	10,600	2,100	0.5	1.5	12,000	3,200	8,000	1,400	0.5	
R4	12,000	4,300	8,000	1,900	0.8	2	9,000	3,200	6,000	1,400	0.8	
R5	9,600	4,100	6,400	1,800	1	2.5	7,200	3,000	4,800	1,300	1	
R6	8,000	4,000	5,300	1,800	1.2	3	6,000	3,000	4,000	1,300	1.2	
Depth of Cut												

Material		Copper						inconel718					
Radius	pf	α≦15°		α>15°		Ap Axial Depth	pf	α≦15°		α>15°		Ap Axial Depth	pf
		RPM	FEED	RPM	FEED			RPM	FEED	RPM	FEED		
R1.5	0.75	38,000	9,100	25,000	3,800	0.25	0.75	6,400	640	4,200	340	0.13	0.3
R2	1	29,000	7,000	19,000	3,300	0.33	1	4,800	580	3,200	260	0.17	0.4
R2.5	1.25	23,000	6,400	15,000	3,100	0.42	1.25	3,800	530	2,500	250	0.21	0.5
R3	1.5	19,000	5,700	13,000	2,600	0.5	1.5	3,200	500	2,100	210	0.25	0.6
R4	2	14,000	5,000	9,600	2,300	0.8	2	2,400	430	1,600	190	0.4	0.8
R5	2.5	12,000	5,100	7,700	2,200	1	2.5	2,000	420	1,300	180	0.5	1
R6	3	9,600	4,800	6,400	2,200	1.2	3	1,700	350	1,100	150	0.6	1.2
Depth of Cut													

3SUE

• RPM : rev./min • Feed : mm/min

Material	Carbon Steels / Alloy Steels		Stainless Steels/ Titanium Alloy Steels SUS304 / SUS316 / Ti-6AL-4V		Hardened Steels		Superhit resistance / Inconel	
	SS400 / S50C / SCM				SKD61			
Hardness	~ 45HRc				45 ~ 55HRc			
Outside Diameter	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
0.8mm (3F)	7,200	80	6,400	60	3,900	30	2,000	10
1mm (3F)	6,400	100	5,600	70	3,500	30	1,700	15
2mm (3F)	5,600	110	4,800	80	2,900	34	1,400	20
3mm (3F)	4,800	200	4,000	90	2,200	45	1,400	25
4mm (3F)	4,000	200	3,300	140	1,800	70	1,200	35
5mm (3F)	3,200	230	2,700	170	1,500	90	1,000	45
6mm (3F)	2,900	250	2,400	180	1,400	90	900	45
8mm (3F)	2,200	270	1,800	190	1,000	100	720	40
10mm (3F)	1,700	260	1,400	190	900	110	600	40
12mm (3F)	1,400	230	1,200	150	700	90	500	35
16mm (3F)	1,000	160	900	120	550	60	360	30
Depth of Cut	≦0.2D, ≦1.5D		D, ≦0.5D (D≦Ø18), ≦0.3D (D>Ø18)		≦0.05D, ≦1D		D, ≦0.05D	

• In case of slotting, 80~100% of speed and 60~80% of feed on the talbe.

4SUE / 4SUC / 4SUV

• RPM : rev./min • Feed : mm/min

Side Cutting

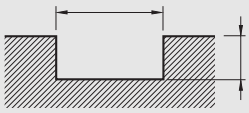
Material	Alloy Steels/ Tools steel		SUS304 / SUS316 / Ti6A		Hardened Steels	
	SKD61 / SK / NAK				Inconel 718	
Outside Diameter	RPM	FEED	RPM	FEED	RPM	FEED
2mm	21,000	1,100	14,000	560	4,800	130
3mm	15,000	1,250	10,600	850	4,200	200
4mm	11,000	1,400	8,000	960	3,200	220
5mm	9,600	1,900	6,400	1,000	2,500	250
6mm	8,000	2,200	5,300	1,000	2,100	250
7mm	6,800	1,900	4,500	1,000	1,800	260
8mm	6,000	1,600	4,000	960	1,600	260
9mm	5,300	1,480	3,500	840	1,400	220
10mm	4,800	1,440	3,200	770	1,300	210
11mm	4,400	1,350	2,900	760	1,200	190
12mm	4,000	1,250	2,700	760	1,100	180
16mm	3,000	1,140	2,000	560	800	130
20mm	2,400	860	1,600	510	600	100
절입량 Depth of Cut	≦0.2D, ≦1.5D		≦0.1D, ≦1.5D		≦0.05D, ≦1.5D	

Slotting

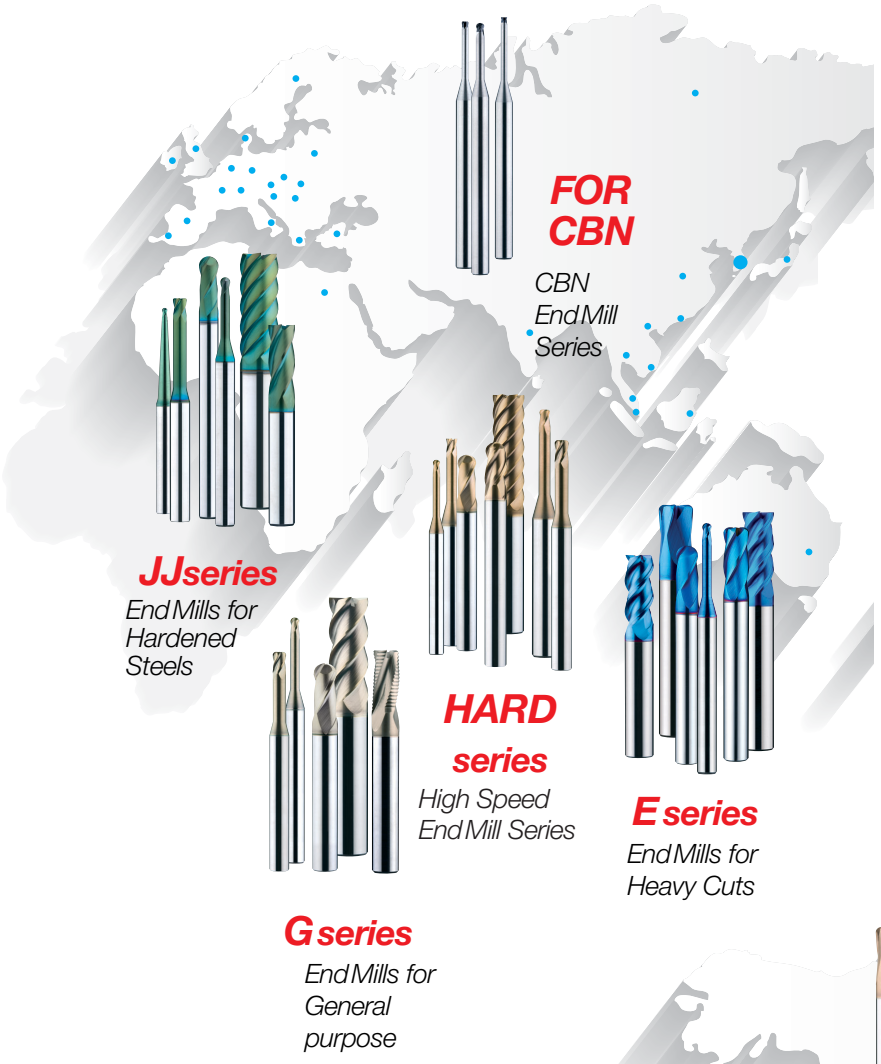
Material	Alloy Steels/ Tools steel		SUS304 / SUS316 / Ti6A		Hardened Steels	
	SKD61 / SK / NAK				Inconel 718	
Outside Diameter	RPM	FEED	RPM	FEED	RPM	FEED
2mm	10,000	400	9,600	310	3,200	80
3mm	6,900	410	7,400	380	2,700	110
4mm	5,600	490	5,600	400	2,000	120
5mm	4,500	630	4,500	410	1,600	130
6mm	3,700	740	3,700	440	1,300	160
7mm	3,200	700	3,200	410	1,100	140
8mm	2,800	670	2,800	390	1,000	130
9mm	2,500	600	2,500	350	900	130
10mm	2,200	530	2,200	350	800	130
11mm	2,000	530	2,000	320	720	120
12mm	1,900	530	1,900	300	660	110
16mm	1,400	390	1,400	280	500	80
20mm	1,100	350	1,100	260	400	60
Depth of Cut	D, ≦1D (Max. 12mm)		D, ≦0.5D		D, ≦0.2D	

3&4&5SUR

• RPM : rev./min • Feed : mm/min

Material		
Outside Diameter	RPM	FEED
3mm	4,400	380
4mm	3,800	350
5mm	3,300	350
6mm	3,000	340
7mm	2,700	340
8mm	2,200	340
9mm	2,000	340
10mm	1,750	330
12mm	1,300	330
14mm	5,000	310
16mm	4,800	300
20mm	4,700	210
Depth of Cut		Ap Ø6 ~ 10 = 0.25 x D Ø12 ~ 16 = 0.15 x D Ø18 ~ 20 = 0.1 x D

NOTES



FOR CBN

CBN End Mill Series

JJseries

End Mills for Hardened Steels

HARD series

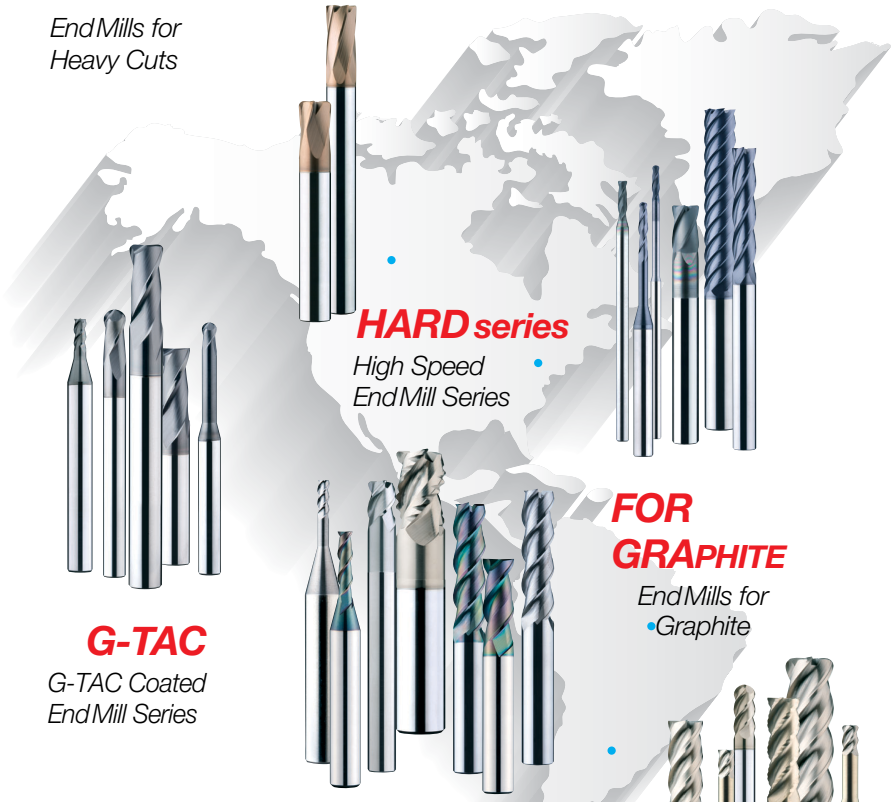
High Speed End Mill Series

E series

End Mills for Heavy Cuts

G series

End Mills for General purpose



HARD series

High Speed End Mill Series

FOR GRAPHITE

End Mills for •Graphite

G-TAC

G-TAC Coated End Mill Series

FOR ALUMINUM

End Mills for Aluminum

FOR SUS

End Mills for SUS

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