



Various Symmetry End Mills

SERIES



**FOR POWERFUL
HIGH-SPEED MILLING**

- Unequal pitch design
- Multiple Helix
- New HR coating applied



Where Variety Meets Precision.

**NEW INCH SIZE
AMERICA**



NEW FACTORY / 2027

BUILT FOR PRECISION. DESIGNED FOR GROWTH.

JJTOOLS is creating a future-ready headquarters and manufacturing hub designed to connect operations, strengthen production capabilities and deliver greater precision, consistency and value to customers worldwide.

ONE INTEGRATED HUB

Production and operations

SMARTER SYSTEMS

Efficiency and consistency

GLOBAL OUTLOOK

Europe / Americas / Asia

PROJECT SITE

266 Angok-ro, Wonmi-gu, Bucheon-si, Gyeonggi-do, Republic of Korea

TARGET COMPLETION

JUNE 2027



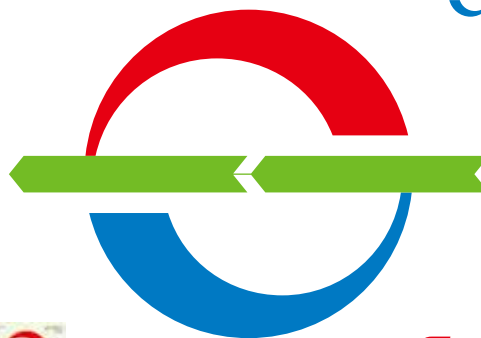
Architectural rendering for illustrative purposes only.

271 Categories

18,619 Products

www.jjtools.co.kr
Made in Korea

제이제이툴스(주)
JJ TOOLS Co., Ltd.
(주) 정진용



**Carbide
EndMills**

High Precision & High Speed Cutting
Wide range of products

18,619

The driving force behind JJTOOLS' growth lies in our technological capability to manufacture a wide variety of products. Depending on product families and sizes, cutting tools can be subdivided into thousands, even tens of thousands of types - requiring both precision and breadth of expertise.

When JJTOOLS first introduced its catalog, it contained only about 20 products. Today, however, the catalog includes approximately 18,000 different products, a testament to our remarkable growth and advancement.

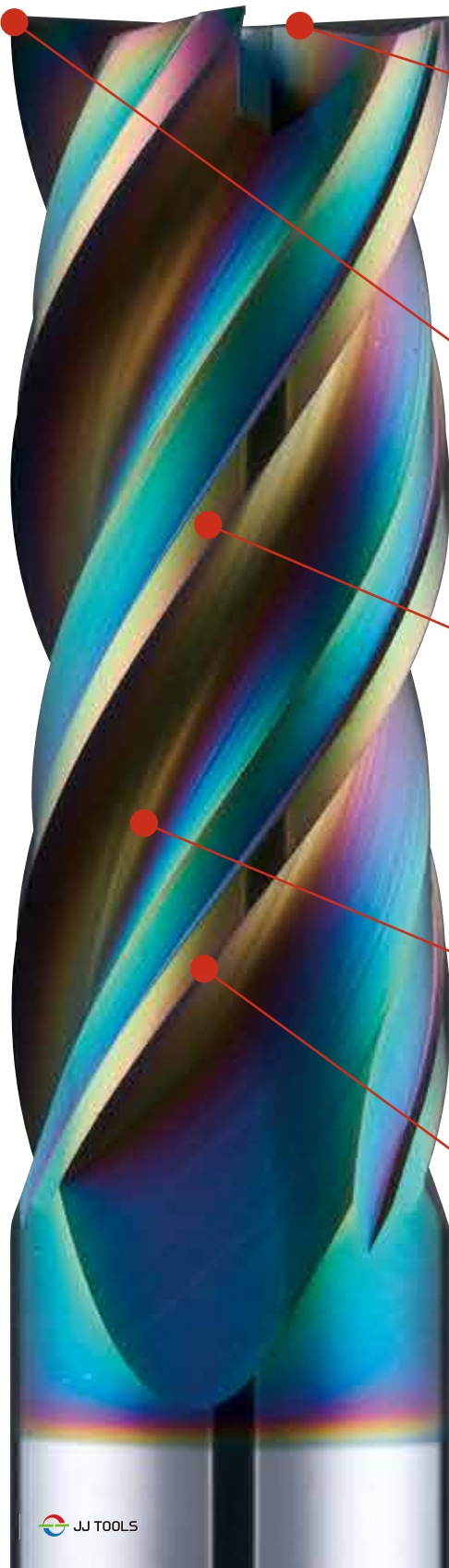
Where Variety Meets Precision. 다양성과 정밀함이 만나는 기술



V **SERIES**

MINIMIZED VIBRATION **MAXIMUM CHATTER CONTROL**

Strong design for protection against chattering !



Unequal-pitch design!

Minimizes noise and vibration during cutting through an unequal-pitch bottom-flute geometry.

Improved flute design for better tool life!

With shield edge design, breakage of flute end is avoided.

Multiple Helix

The unequal-lead design enables efficient chip evacuation for faster, more powerful cutting.

Wide chip pocket for improved chip evacuation

A wide chip pocket provides smooth, reliable chip evacuation.

New HR coating applied!

The HR coating suppresses built-up edge formation and improves the wear resistance of the V Series.

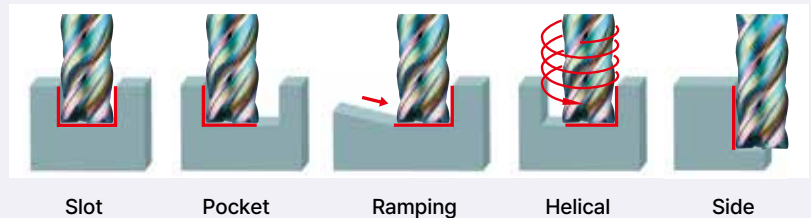


FOR DYNAMIC ROUGHING HIGH-SPEED SLOTTING END MILL

High Speed Slotting End Mill

4SLE

- Endmills for finishing and roughing of alloy steel, sus, inconel, mild steels and various hard-to-cut materials.
- Excellent chip evacuation during slotting and a thick, double-core design enable stable machining with reduced chatter.
- The HR coating improves wear resistance and helps reduce cutting-edge stress in various applications



HIGH-SPEED ROUGHING TROCHOIDAL MILLING END MILL

Trochoidal Milling End Mill

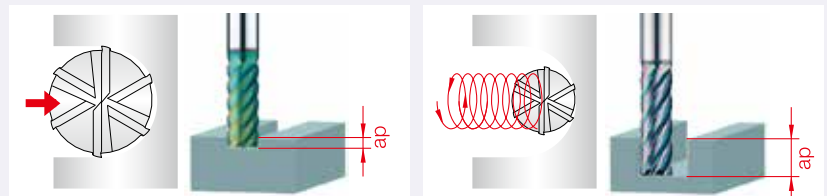
5&6TROE

5-7TROEA

Trochoidal milling is a high-speed machining method using low radial depth of cut and high axial depth of cut as a high-efficiency milling method. It is characterized by keeping the chip thickness constant while appropriately controlling the contact area in the radial direction during machining. The tool follows a repeating trochoidal/looping path.

Conventional milling

Trochoidal slotting



Arc contact surface



Arc contact surface

**Optimized chip breaker
for deep milling**

Carbide End Mills INDEX

SERIES	UNIT	IMAGE	MODEL NO.	SIZE Ø (mm / Inch)	PAGE	TYPE	P	
							Carbon Steel	Alloy Steel Tool Steel
V series	Inch (in)		4VSBA	1/16 ~ 1	08	4 Flutes Various Symmetry Ball End Mills	★	◎
			4VSEA	1/16 ~ 1	10	4 Flutes Various Symmetry End Mills	★	◎
			5VSEA	1/8 ~ 1	12	5 Flutes Various Symmetry End Mills	★	◎
			6VSEA	1/4 ~ 1	13	6 Flutes Various Symmetry End Mills for Steels	★	◎
			7VSEA	1/4 ~ 1	14	7 Flutes Various Symmetry End Mills for Steels	★	◎
			4VSREA	1/8 ~ 1	15	4 Flutes Various Symmetry End Mills	★	◎
			4VCCA	1/8 ~ 1	16	4 Flutes Various Symmetry C End Mills	★	◎
			4VSCA	1/8 ~ 1	17	4 Flutes Various Symmetry Corner R End Mills	★	◎
			5VSCA	1/8 ~ 1	22	5 Flutes Various Symmetry Corner R End Mills	★	◎
			6VSCA	1/4 ~ 1	27	6 Flutes Various Symmetry Corner R End Mills	★	◎
			7VSCA	1/4 ~ 1	31	7 Flutes Various Symmetry Corner R End Mills	★	◎
			4VSRCA	1/8 ~ 1	32	4 Flutes Various Symmetry Corner R End Mills	★	◎
			5TROEA	1/4 ~ 1	35	5 Flutes Trochoidal Milling End Mills	★	◎
			6TROEA	1/4 ~ 1	36	6 Flutes Trochoidal Milling End Mills	★	◎
			7TROEA	1/4 ~ 1	37	7 Flutes Trochoidal Milling End Mills	★	◎
	Metric (mm)		4VSB	1 ~ 25	38	4 Flutes Various Symmetry Ball End Mills	★	◎
			4VSE	1 ~ 20	39	4 Flutes Various Symmetry End Mills	★	◎
			6VSE	3 ~ 20	40	6 Flutes Various Symmetry End Mills	★	◎
			4SLE	1 ~ 20	41	4 Flutes High Speed Slotting End Mills	★	◎
			4VCC	1 ~ 20	42	4 Flutes Various Symmetry C End Mills	★	◎
			5VCC	6 ~ 20	43	5 Flutes Various Symmetry Corner C End Mills	★	◎
			4VSC	1 ~ 20	44	4 Flutes Various Symmetry Corner R End Mills	★	◎
			6VSC	6 ~ 20	45	6 Flutes Various Symmetry Corner R End Mills	★	◎
			7SUC	6 ~ 20	46	7 Flutes Non-Symmetry Corner Radius End Mills	★	◎
			5TROE	6 ~ 20	47	5 Flutes Trochoidal Milling End Mills	★	◎
			6TROE	6 ~ 20	48	6 Flutes Trochoidal Milling End Mills	★	◎

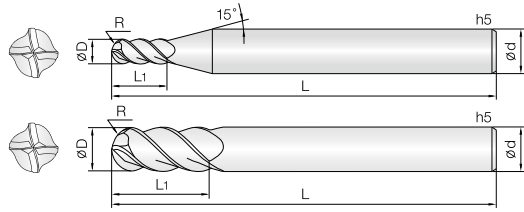
■ EDP numbers and specifications are subject to change without notice for quality improvement.

P	M	K	N					S		H		
Pre-hardened Steel	Stainless Steel	Cast Iron	Aluminum	Copper	Graphite	CFRP GFRP	ABS	Heat-Resistant Alloy	Titanium	≤ HRc 55	HRc 55-65	≥ HRc 65
	★	★		○				○	◎	○		
	★	★		○				○	◎	○		
	★	★		○				○	◎	○		
	★	★		○				○	◎	○		
○	★	★		○				○	★	○		
	★	★		○				○	◎	○		
	★	★		○				○	◎	○		
	★	★		○				○	◎	○		
	★	★		○				○	◎	○		
○	★	★		○				○	★	○		
	★	★		○				○	◎	○		
◎	★	★		○				○	★	○		
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◎	★	★		○				○	★	○		
	★	★		○				○	◎	○		
	★	★		○				○	◎	○		
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	★	★		○				○	◎	○		
	★	★		○				○	◎	○		
	★	★		○				○	◎	○		
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◎	★	★		○				○	★	○		
◎	★	★		○				○	★	○		

4VSBA America (Inch)

4 Flutes Various Symmetry Ball End Mills for Steels, Cast Irons & Stainless Steels

New



- Mid-low hardened steels (~HRC42), Mild steels, Cast irons, SUS
- HR coating reduces stress of flute and enhances wear resistance.
- The variable-pitch and variable-helix geometry reduces chatter.
- 4 flutes and deep pocket enable chip evacuation and reduce surface roughness.



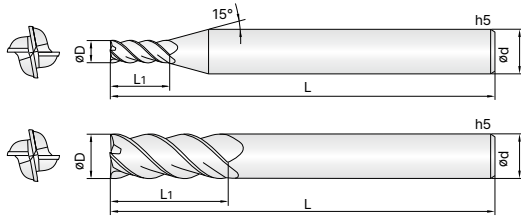
D Size	D Tolerance
Ø0.0625 ~ 0.125	+0 ~ -0.0005
Ø0.1562 ~ 0.5	+0 ~ -0.001
Ø0.625 ~ 1	+0 ~ -0.002

● Stocked ○ Non-stock standard item Unit : Inch

Order Number		Diameter D	Ball Radius R	Length of cut L1	Overall Length L	Shank Diameter d	Stock Availability
PLAIN	FLAT						
4VSBA 0062 012 S012	-	1/16	1/32R	1/8	1-1/2	1/8	○
4VSBA 0062 025 S012	-	1/16	1/32R	1/4	1-1/2	1/8	●
4VSBA 0093 018 S012	-	3/32	3/64R	3/16	1-1/2	1/8	○
4VSBA 0093 037 S012	-	3/32	3/64R	3/8	1-1/2	1/8	●
4VSBA 0125 012 S012	-	1/8	1/16R	1/8	1-1/2	1/8	●
4VSBA 0125 037 S012	-	1/8	1/16R	3/8	1-1/2	1/8	○
4VSBA 0125 050 S012	-	1/8	1/16R	1/2	2-1/2	1/8	●
4VSBA 0156 018 S018	-	5/32	5/64R	3/16	2	3/16	○
4VSBA 0156 043 S018	-	5/32	5/64R	7/16	2	3/16	●
4VSBA 0187 018 S018	-	3/16	3/32R	3/16	2	3/16	●
4VSBA 0187 031 S018	-	3/16	3/32R	5/16	2	3/16	○
4VSBA 0187 043 S018	-	3/16	3/32R	7/16	2	3/16	○
4VSBA 0187 062 S018	-	3/16	3/32R	5/8	2-1/2	3/16	●
4VSBA 0218 025 S021	-	7/32	7/64R	1/4	2	1/4	○
4VSBA 0218 043 S021	-	7/32	7/64R	7/16	2-1/2	1/4	●
4VSBA 0250 037 S025	-	1/4	1/8R	3/8	2	1/4	●
4VSBA 0250 050 S025	-	1/4	1/8R	1/2	2-1/2	1/4	○
4VSBA 0250 075 S025	-	1/4	1/8R	3/4	2-1/2	1/4	○
4VSBA 0250 100 S025	-	1/4	1/8R	1	3	1/4	●
4VSBA 0281 062 S031	-	9/32	9/64R	5/8	2-1/2	5/16	○
4VSBA 0281 100 S031	-	9/32	9/64R	1	3	5/16	●
4VSBA 0312 043 S031	-	5/16	5/32R	7/16	2	5/16	●
4VSBA 0312 081 S031	-	5/16	5/32R	13/16	2-1/2	5/16	○
4VSBA 0312 125 S031	-	5/16	5/32R	1-1/4	3	5/16	●
4VSBA 0343 050 S037	-	11/32	11/64R	1/2	2-1/2	3/8	○
4VSBA 0343 081 S037	4VSBA 0343 081 SF037	11/32	11/64R	13/16	2-1/2	3/8	● ○
4VSBA 0375 050 S037	-	3/8	3/16R	1/2	2-1/2	3/8	●
4VSBA 0375 087 S037	4VSBA 0375 087 SF037	3/8	3/16R	7/8	2-1/2	3/8	○
4VSBA 0375 100 S037	-	3/8	3/16R	1	3	3/8	○
4VSBA 0375 125 S037	-	3/8	3/16R	1-1/4	3	3/8	●
4VSBA 0406 050 S043	-	13/32	13/64R	1/2	2-3/4	7/16	○
4VSBA 0406 093 S043	-	13/32	13/64R	15/16	2-3/4	7/16	●
4VSBA 0437 062 S043	-	7/16	7/32R	5/8	2-1/2	7/16	●
4VSBA 0437 100 S043	4VSBA 0437 100 SF043	7/16	7/32R	1	2-3/4	7/16	● ○
4VSBA 0468 062 S050	-	15/32	15/64R	5/8	2-1/2	1/2	●
4VSBA 0468 100 S050	-	15/32	15/64R	1	3	1/2	○
4VSBA 0468 125 S050	-	15/32	15/64R	1-1/4	3-1/2	1/2	●
4VSBA 0500 062 S050	-	1/2	1/4R	5/8	2-1/2	1/2	●
4VSBA 0500 100 S050	4VSBA 0500 100 SF050	1/2	1/4R	1	3	1/2	○
4VSBA 0500 125 S050	4VSBA 0500 125 SF050	1/2	1/4R	1-1/4	3	1/2	○
4VSBA 0500 125 350	-	1/2	1/4R	1-1/4	3-1/2	1/2	○
4VSBA 0500 162 S050	-	1/2	1/4R	1-5/8	4	1/2	●
4VSBA 0500 200 S050	4VSBA 0500 200 SF050	1/2	1/4R	2	4	1/2	○
4VSBA 0500 250 S050	4VSBA 0500 250 SF050	1/2	1/4R	2-1/2	4-1/2	1/2	● ○
4VSBA 0625 075 S062	-	5/8	5/16R	3/4	3	5/8	●
4VSBA 0625 125 S062	4VSBA 0625 125 SF062	5/8	5/16R	1-1/4	3-1/2	5/8	○
4VSBA 0625 162 S062	-	5/8	5/16R	1-5/8	4	5/8	●
4VSBA 0625 200 S062	-	5/8	5/16R	2	4	5/8	○
4VSBA 0625 325 S062	-	5/8	5/16R	3-1/4	6	5/8	●
4VSBA 0750 075 S075	-	3/4	3/8R	3/4	3	3/4	●

● Stocked ○ Non-stock standard item Unit : Inch

[illegible]



• **Mid-low hardened steels (~HRC42), Mild steels, Cast irons, SUS**

- HR coating reduces stress of flute and enhances wear resistance.
- The variable-pitch and variable-helix geometry reduces chatter.
- 4 flutes and deep pocket enable chip evacuation and reduce surface roughness.



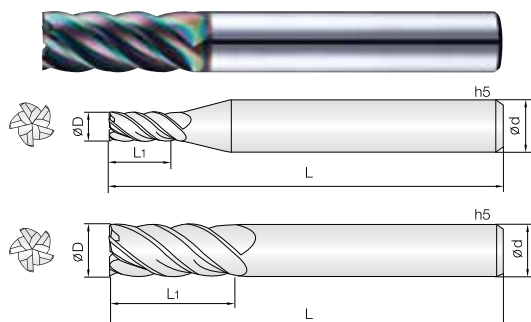
D Size	D Tolerance
Ø0.0625 ~ 0.125	+0 ~ -0.0005
Ø0.1562 ~ 0.5	+0 ~ -0.001
Ø0.625 ~ 1	+0 ~ -0.002

● Stocked ○ Non-stock standard item Unit : Inch

Order Number		Diameter D	Length of cut L1	Overall Length L	Shank Diameter d	Stock Availability
PLAIN	FLAT					
4VSEA 0062 012 S012	-	1/16	1/8	1-1/2	1/8	●
4VSEA 0078 015 S012	-	5/64	5/32	1-1/2	1/8	●
4VSEA 0093 018 S012	-	3/32	3/16	1-1/2	1/8	●
4VSEA 0109 025 S012	-	7/64	1/4	1-1/2	1/8	●
4VSEA 0125 012 S012	-	1/8	1/8	1-1/2	1/8	●
4VSEA 0125 037 S012	-	1/8	3/8	1-1/2	1/8	●
4VSEA 0125 050 S012	-	1/8	1/2	2-1/2	1/8	●
4VSEA 0156 018 S018	-	5/32	3/16	2	3/16	●
4VSEA 0156 043 S018	-	5/32	7/16	2	3/16	●
4VSEA 0187 018 S018	-	3/16	3/16	2	3/16	●
4VSEA 0187 031 S018	-	3/16	5/16	2	3/16	○
4VSEA 0187 043 S018	-	3/16	7/16	2	3/16	●
4VSEA 0187 062 S018	-	3/16	5/8	2-1/2	3/16	●
4VSEA 0218 025 S021	-	7/32	1/4	2	1/4	●
4VSEA 0218 043 S021	-	7/32	7/16	2-1/2	1/4	●
4VSEA 0250 037 S025	-	1/4	3/8	2	1/4	●
4VSEA 0250 050 S025	-	1/4	1/2	2-1/2	1/4	○
4VSEA 0250 075 S025	-	1/4	3/4	2-1/2	1/4	●
4VSEA 0250 100 S025	-	1/4	1	3	1/4	●
4VSEA 0281 062 S031	-	9/32	5/8	2-1/2	5/16	○
4VSEA 0281 100 S031	-	9/32	1	3	5/16	●
4VSEA 0312 043 S031	-	5/16	7/16	2	5/16	●
4VSEA 0312 081 S031	-	5/16	13/16	2-1/2	5/16	○
4VSEA 0312 125 S031	-	5/16	1-1/4	3	5/16	●
4VSEA 0343 050 S037	4VSEA 0343 050 SF037	11/32	1/2	2-1/2	3/8	○
4VSEA 0343 081 S037	4VSEA 0343 081 SF037	11/32	13/16	2-1/2	3/8	● ○
4VSEA 0375 050 S037	4VSEA 0375 050 SF037	3/8	1/2	2-1/2	3/8	● ○
4VSEA 0375 087 S037	4VSEA 0375 087 SF037	3/8	7/8	2-1/2	3/8	● ○
4VSEA 0375 100 S037	-	3/8	1	3	3/8	○
4VSEA 0375 125 S037	-	3/8	1-1/4	3	3/8	●
4VSEA 0406 050 S043	-	13/32	1/2	2-3/4	7/16	○
4VSEA 0406 093 S043	-	13/32	15/16	2-3/4	7/16	●
4VSEA 0437 062 S043	4VSEA 0437 062 SF043	7/16	5/8	2-1/2	7/16	● ○
4VSEA 0437 100 S043	4VSEA 0437 100 SF043	7/16	1	2-3/4	7/16	● ○
4VSEA 0468 062 S050	-	15/32	5/8	2-1/2	1/2	●
4VSEA 0468 100 S050	-	15/32	1	3	1/2	○
4VSEA 0468 125 S050	-	15/32	1-1/4	3-1/2	1/2	●
4VSEA 0500 062 S050	4VSEA 0500 062 SF050	1/2	5/8	2-1/2	1/2	● ○
4VSEA 0500 100 S050	4VSEA 0500 100 SF050	1/2	1	3	1/2	○
4VSEA 0500 125 S050	4VSEA 0500 125 SF050	1/2	1-1/4	3	1/2	○
4VSEA 0500 125 350	4VSEA 0500 125 F350	1/2	1-1/4	3-1/2	1/2	● ○
4VSEA 0500 162 S050	-	1/2	1-5/8	4	1/2	○
4VSEA 0500 200 S050	4VSEA 0500 200 SF050	1/2	2	4	1/2	○
4VSEA 0500 250 S050	4VSEA 0500 250 SF050	1/2	2-1/2	4-1/2	1/2	● ○
4VSEA 0625 075 S062	4VSEA 0625 075 SF062	5/8	3/4	3	5/8	● ○
4VSEA 0625 125 S062	4VSEA 0625 125 SF062	5/8	1-1/4	3-1/2	5/8	○
4VSEA 0625 162 S062	-	5/8	1-5/8	4	5/8	●
4VSEA 0625 200 S062	-	5/8	2	4	5/8	●
4VSEA 0625 325 S062	-	5/8	3-1/4	6	5/8	●
4VSEA 0750 075 S075	4VSEA 0750 075 SF075	3/4	3/4	3	3/4	● ○

● Stocked ○ Non-stock standard item Unit : Inch

[illegible]



• **Mid-low hardened steels (~HRC42), Mild steels, Cast irons, SUS**

- HR coating reduces stress of flute and enhances wear resistance.
- The variable-pitch and variable-helix geometry reduces chatter.
- 5 flutes and deep pocket enable chip evacuation and reduce surface roughness.

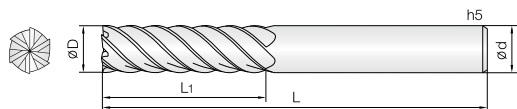


Shield Edge PLAIN Shank FLAT Shank 49P

D Size	D Tolerance
Ø0.125	+0 ~ -0.0005
Ø0.1562 ~ 0.5	+0 ~ -0.001
Ø0.625 ~ 1	+0 ~ -0.002

● Stocked ○ Non-stock standard item Unit : Inch

Order Number		Diameter D	Length of cut L1	Overall Length L	Shank Diameter d	Stock Availability
PLAIN	FLAT					
5VSEA 0125 025 S012	-	1/8	1/4	1-1/2	1/8	●
5VSEA 0125 037 S012	-	1/8	3/8	1-1/2	1/8	○
5VSEA 0125 037 200	-	1/8	3/8	2	1/8	●
5VSEA 0156 037 S025	-	5/32	5/16	2	1/4	●
5VSEA 0156 043 S025	-	5/32	7/16	2	1/4	○
5VSEA 0156 056 S025	-	5/32	9/16	2-1/2	1/4	●
5VSEA 0187 031 S025	-	3/16	5/16	2	1/4	●
5VSEA 0187 043 S025	-	3/16	7/16	2	1/4	○
5VSEA 0187 056 S025	-	3/16	9/16	2-1/2	1/4	●
5VSEA 0218 037 S025	-	7/32	3/8	2	1/4	○
5VSEA 0218 075 S025	-	7/32	3/4	2-1/2	1/4	●
5VSEA 0250 050 S025	-	1/4	1/2	2-1/2	1/4	●
5VSEA 0250 075 S025	-	1/4	3/4	2-1/2	1/4	○
5VSEA 0250 112 S025	-	1/4	1-1/8	3	1/4	●
5VSEA 0250 150 S025	-	1/4	1-1/2	4	1/4	●
5VSEA 0312 075 S031	-	5/16	3/4	2-1/2	5/16	●
5VSEA 0312 125 S031	-	5/16	1-1/4	3	5/16	○
5VSEA 0312 162 S031	-	5/16	1-5/8	4	5/16	●
5VSEA 0375 062 S037	-	3/8	5/8	2-1/2	3/8	○
5VSEA 0375 100 S037	5VSEA 0375 100 SF037	3/8	1	3	3/8	● ○
5VSEA 0375 150 S037	5VSEA 0375 150 SF037	3/8	1-1/2	4	3/8	○
5VSEA 0375 200 S037	5VSEA 0375 200 SF037	3/8	2	4	3/8	● ○
5VSEA 0500 062 S050	-	1/2	5/8	3	1/2	●
5VSEA 0500 100 S050	5VSEA 0500 100 SF050	1/2	1	3-1/4	1/2	● ○
5VSEA 0500 100 300	5VSEA 0500 100 F300	1/2	1	3	1/2	○
5VSEA 0500 125 S050	5VSEA 0500 125 SF050	1/2	1-1/4	3	1/2	○
5VSEA 0500 125 350	5VSEA 0500 125 F350	1/2	1-1/4	3-1/2	1/2	● ○
5VSEA 0500 162 S050	-	1/2	1-5/8	4	1/2	○
5VSEA 0500 200 S050	5VSEA 0500 200 SF050	1/2	2	4	1/2	● ○
5VSEA 0500 262 S050	-	1/2	2-5/8	5	1/2	○
5VSEA 0500 300 S050	5VSEA 0500 300 SF050	1/2	3	5	1/2	● ○
5VSEA 0625 075 S062	-	5/8	3/4	3	5/8	●
5VSEA 0625 125 S062	5VSEA 0625 125 SF062	5/8	1-1/4	3-1/2	5/8	○
5VSEA 0625 200 S062	5VSEA 0625 200 SF062	5/8	2	4	5/8	● ○
5VSEA 0625 262 S062	-	5/8	2-5/8	5	5/8	○
5VSEA 0625 300 S062	5VSEA 0625 300 SF062	5/8	3	5	5/8	● ○
5VSEA 0750 100 S075	-	3/4	1	3-1/2	3/4	●
5VSEA 0750 150 S075	5VSEA 0750 150 SF075	3/4	1-1/2	4	3/4	○
5VSEA 0750 187 S075	-	3/4	1-7/8	5	3/4	○
5VSEA 0750 225 S075	-	3/4	2-1/4	5	3/4	●
5VSEA 0750 275 S075	-	3/4	2-3/4	5	3/4	○
5VSEA 0750 300 S075	5VSEA 0750 300 SF075	3/4	3	5-1/2	3/4	● ○
5VSEA 1000 150 S100	5VSEA 1000 150 SF100	1	1-1/2	4	1	● ○
5VSEA 1000 200 S100	-	1	2	5	1	○
5VSEA 1000 262 S100	-	1	2-5/8	5	1	●
5VSEA 1000 325 S100	-	1	3-1/4	6	1	○
5VSEA 1000 400 S100	5VSEA 1000 400 SF100	1	4	7	1	● ○



- **Mid-low hardened steels(~HRC42), Mild steels, Cast irons, SUS**
- HR coating reduces stress of flute and enhances wear resistance.
- Deep hole helix design enables chip evacuation and reduce surface roughness.



Shield Edge

PLAIN Shank

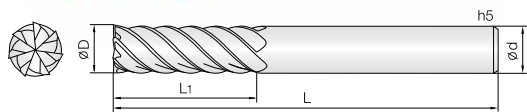
FLAT Shank

50P

D Size	D Tolerance
Ø0.25 ~ 0.5	+0 ~ -0.001
Ø0.625 ~ 1	+0 ~ -0.002

● Stocked ○ Non-stock standard item Unit : Inch

[illegible]



- **Mid-low hardened steels (~HRC42), Mild steels, Cast irons, SUS**
- HR coating reduces stress of flute and enhances wear resistance.
- Deep hole helix design enables chip evacuation and reduce surface roughness.



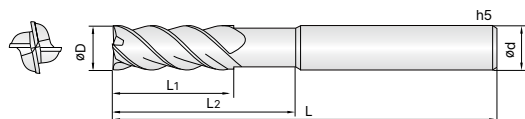
Shield Edge PLAIN Shank FLAT Shank 51P

D Size	D Tolerance
Ø0.25 ~ 0.5	+0 ~ -0.001
Ø0.625 ~ 1	+0 ~ -0.002

● Stocked ○ Non-stock standard item Unit : Inch

[illegible]

New

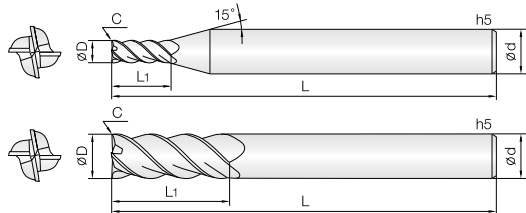


-

● Stocked ○ Non-stock standard item Unit : Inch

D Size	D Tolerance
Ø0.125	+0 ~ -0.0005
Ø0.1875 ~ 0.5	+0 ~ -0.001
Ø0.625 ~ 1	+0 ~ -0.002

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- **Mid-low hardened steels (~HRC42), Mild steels, Cast irons, SUS**
- HR coating reduces stress of flute and enhances wear resistance.
- The variable-pitch and variable-helix geometry reduces chatter.
- 4flutes and deep pocket enables chip evacuation and reduce surface roughness.



C Cutting PLAIN Shank FLAT Shank

50P

D Size	D Tolerance
Ø0.125	+0 ~ -0.0005
Ø0.1562 ~ 0.5	+0 ~ -0.001
Ø0.625 ~ 1	+0 ~ -0.002

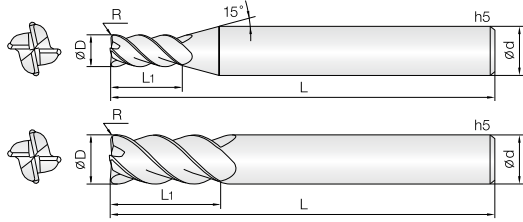
● Stocked ○ Non-stock standard item Unit : Inch

[illegible]

4VSCA America (Inch)

4 Flutes Various Symmetry Corner R End Mills for Steels, Cast Irons & Stainless Steels

New



• Mid-low hardened steels (~HRC42), Mild steels, Cast irons, SUS

- HR coating reduces stress of flute and enhances wear resistance.
- The variable-pitch and variable-helix geometry reduces chatter.
- 4flutes and deep pocket enables chip evacuation and reduce surface roughness.



D Size	D Tolerance
Ø0.125	+0 ~ -0.0005
Ø0.1562 ~ 0.5	+0 ~ -0.001
Ø0.625 ~ 1	+0 ~ -0.002

● Stocked ○ Non-stock standard item Unit : Inch

Order Number		Diameter D	Corner radius R	Length of cut L1	Overall Length L	Shank Diameter d	Stock
PLAIN	FLAT						
4VSCA 0125 001 012	-	1/8	R0.01	1/8	1-1/2	1/8	●
4VSCA 0125 001 037	-	1/8	R0.01	3/8	1-1/2	1/8	○
4VSCA 0125 001 050	-	1/8	R0.01	1/2	2-1/2	1/8	●
4VSCA 0125 003 012	-	1/8	R0.03	1/8	1-1/2	1/8	●
4VSCA 0125 003 037	-	1/8	R0.03	3/8	1-1/2	1/8	○
4VSCA 0125 003 050	-	1/8	R0.03	1/2	2-1/2	1/8	●
4VSCA 0156 001 018	-	5/32	R0.01	3/16	2	3/16	○
4VSCA 0156 001 043	-	5/32	R0.01	7/16	2	3/16	●
4VSCA 0187 001 018	-	3/16	R0.01	3/16	2	3/16	●
4VSCA 0187 001 031	-	3/16	R0.01	5/16	2	3/16	○
4VSCA 0187 001 043	-	3/16	R0.01	7/16	2	3/16	○
4VSCA 0187 001 062	-	3/16	R0.01	5/8	2-1/2	3/16	●
4VSCA 0187 003 031	-	3/16	R0.03	5/16	2	3/16	●
4VSCA 0187 003 043	-	3/16	R0.03	7/16	2	3/16	○
4VSCA 0187 003 062	-	3/16	R0.03	5/8	2-1/2	3/16	●
4VSCA 0218 001 025	-	7/32	R0.01	1/4	2	1/4	○
4VSCA 0218 001 043	-	7/32	R0.01	7/16	2-1/2	1/4	●
4VSCA 0250 001 037	-	1/4	R0.01	3/8	2	1/4	○
4VSCA 0250 001 075	-	1/4	R0.01	3/4	2-1/2	1/4	●
4VSCA 0250 0015 050	-	1/4	R0.015	1/2	2-1/2	1/4	●
4VSCA 0250 0015 075	-	1/4	R0.015	3/4	2-1/2	1/4	○
4VSCA 0250 0015 100	-	1/4	R0.015	1	3	1/4	●
4VSCA 0250 003 037	-	1/4	R0.03	3/8	2	1/4	●
4VSCA 0250 003 050	-	1/4	R0.03	1/2	2-1/2	1/4	○
4VSCA 0250 003 075	-	1/4	R0.03	3/4	2-1/2	1/4	○
4VSCA 0250 003 100	-	1/4	R0.03	1	3	1/4	●
4VSCA 0250 006 037	-	1/4	R0.06	3/8	2	1/4	●
4VSCA 0250 006 050	-	1/4	R0.06	1/2	2-1/2	1/4	○
4VSCA 0250 006 075	-	1/4	R0.06	3/4	2-1/2	1/4	○
4VSCA 0250 006 100	-	1/4	R0.06	1	3	1/4	●
4VSCA 0281 0015 062	-	9/32	R0.015	5/8	2-1/2	5/16	○
4VSCA 0281 0015 100	-	9/32	R0.015	1	3	5/16	●
4VSCA 0281 003 062	-	9/32	R0.03	5/8	2-1/2	5/16	○
4VSCA 0281 003 100	-	9/32	R0.03	1	3	5/16	●
4VSCA 0281 006 062	-	9/32	R0.06	5/8	2-1/2	5/16	●
4VSCA 0312 001 081	-	5/16	R0.01	13/16	2-1/2	5/16	●
4VSCA 0312 0015 125	-	5/16	R0.015	1-1/4	3	5/16	○
4VSCA 0312 003 043	-	5/16	R0.03	7/16	2	5/16	●
4VSCA 0312 003 081	-	5/16	R0.03	13/16	2-1/2	5/16	○
4VSCA 0312 003 125	-	5/16	R0.03	1-1/4	3	5/16	●
4VSCA 0312 006 081	-	5/16	R0.06	13/16	2-1/2	5/16	○
4VSCA 0312 006 125	-	5/16	R0.06	1-1/4	3	5/16	●
4VSCA 0343 003 050	-	11/32	R0.03	1/2	2-1/2	3/8	○
4VSCA 0343 003 081	-	11/32	R0.03	13/16	2-1/2	3/8	●
4VSCA 0375 001 050	4VSCA 0375 001 F050	3/8	R0.01	1/2	2-1/2	3/8	● ○
4VSCA 0375 001 087	4VSCA 0375 001 F087	3/8	R0.01	7/8	2-1/2	3/8	○
4VSCA 0375 001 100	-	3/8	R0.01	1	3	3/8	○
4VSCA 0375 001 125	-	3/8	R0.01	1-1/4	3	3/8	●
4VSCA 0375 003 050	4VSCA 0375 003 F050	3/8	R0.03	1/2	2-1/2	3/8	● ○
4VSCA 0375 003 087	4VSCA 0375 003 F087	3/8	R0.03	7/8	2-1/2	3/8	○

● Stocked ○ Non-stock standard item Unit : Inch

Order Number		Diameter D	Corner radius R	Length of cut L1	Overall Length L	Shank Diameter d	Stock
PLAIN	FLAT						
4VSCA 0375 003 100	-	3/8	R0.03	1	3	3/8	○
4VSCA 0375 003 125	-	3/8	R0.03	1-1/4	3	3/8	●
4VSCA 0375 006 050	-	3/8	R0.06	1/2	2-1/2	3/8	●
4VSCA 0375 006 087	-	3/8	R0.06	7/8	2-1/2	3/8	○
4VSCA 0375 006 100	-	3/8	R0.06	1	3	3/8	○
4VSCA 0375 006 125	-	3/8	R0.06	1-1/4	3	3/8	●
4VSCA 0375 009 050	-	3/8	R0.09	1/2	2-1/2	3/8	●
4VSCA 0375 009 087	-	3/8	R0.09	7/8	2-1/2	3/8	○
4VSCA 0375 009 100	-	3/8	R0.09	1	3	3/8	○
4VSCA 0375 009 125	-	3/8	R0.09	1-1/4	3	3/8	●
4VSCA 0406 003 050	-	13/32	R0.03	1/2	2-3/4	7/16	●
4VSCA 0406 003 093	-	13/32	R0.03	15/16	2-3/4	7/16	●
4VSCA 0437 001 100	4VSCA 0437 001 F100	7/16	R0.01	1	2-3/4	7/16	● ○
4VSCA 0437 0015 062	4VSCA 0437 0015 F062	7/16	R0.015	5/8	2-1/2	7/16	○
4VSCA 0437 0015 087	-	7/16	R0.015	7/8	2-3/4	7/16	●
4VSCA 0437 003 062	4VSCA 0437 003 F062	7/16	R0.03	5/8	2-1/2	7/16	● ○
4VSCA 0437 003 087	-	7/16	R0.03	7/8	2-3/4	7/16	○
4VSCA 0437 003 100	4VSCA 0437 003 F100	7/16	R0.03	1	2-3/4	7/16	● ○
4VSCA 0437 006 062	-	7/16	R0.06	5/8	2-1/2	7/16	●
4VSCA 0437 006 087	-	7/16	R0.06	7/8	2-3/4	7/16	○
4VSCA 0437 006 100	4VSCA 0437 006 F100	7/16	R0.06	1	2-3/4	7/16	● ○
4VSCA 0437 009 062	-	7/16	R0.09	5/8	2-1/2	7/16	○
4VSCA 0437 009 087	-	7/16	R0.09	7/8	2-3/4	7/16	●
4VSCA 0468 003 062	-	15/32	R0.03	5/8	2-1/2	1/2	●
4VSCA 0468 003 100	-	15/32	R0.03	1	3	1/2	○
4VSCA 0468 003 125	-	15/32	R0.03	1-1/4	3-1/2	1/2	●
4VSCA 0500 001 062	4VSCA 0500 001 F062	1/2	R0.01	5/8	2-1/2	1/2	● ○
4VSCA 0500 001 100	4VSCA 0500 001 F100	1/2	R0.01	1	3	1/2	○
4VSCA 0500 001 125	4VSCA 0500 001 F125	1/2	R0.01	1-1/4	3	1/2	○
4VSCA 0500 001 350	4VSCA 0500 001 F350	1/2	R0.01	1-1/4	3-1/2	1/2	● ○
4VSCA 0500 0015 062	4VSCA 0500 0015 F062	1/2	R0.015	5/8	2-1/2	1/2	● ○
4VSCA 0500 0015 100	-	1/2	R0.015	1	3	1/2	○
4VSCA 0500 0015 125	4VSCA 0500 0015 F125	1/2	R0.015	1-1/4	3	1/2	● ○
4VSCA 0500 0015 350	4VSCA 0500 0015 F350	1/2	R0.015	1-1/4	3-1/2	1/2	○
4VSCA 0500 0015 162	-	1/2	R0.015	1-5/8	4	1/2	●
4VSCA 0500 0015 200	4VSCA 0500 0015 F200	1/2	R0.015	2	4	1/2	○
4VSCA 0500 0015 250	4VSCA 0500 0015 F250	1/2	R0.015	2-1/2	4-1/2	1/2	● ○
4VSCA 0500 003 062	4VSCA 0500 003 F062	1/2	R0.03	5/8	2-1/2	1/2	● ○
4VSCA 0500 003 100	4VSCA 0500 003 F100	1/2	R0.03	1	3	1/2	○
4VSCA 0500 003 125	4VSCA 0500 003 F125	1/2	R0.03	1-1/4	3	1/2	● ○
4VSCA 0500 003 350	4VSCA 0500 003 F350	1/2	R0.03	1-1/4	3-1/2	1/2	○
4VSCA 0500 003 162	-	1/2	R0.03	1-5/8	4	1/2	●
4VSCA 0500 003 200	4VSCA 0500 003 F200	1/2	R0.03	2	4	1/2	○
4VSCA 0500 003 250	4VSCA 0500 003 F250	1/2	R0.03	2-1/2	4-1/2	1/2	● ○
4VSCA 0500 006 062	4VSCA 0500 006 F062	1/2	R0.06	5/8	2-1/2	1/2	● ○
4VSCA 0500 006 100	4VSCA 0500 006 F100	1/2	R0.06	1	3	1/2	○
4VSCA 0500 006 125	4VSCA 0500 006 F125	1/2	R0.06	1-1/4	3	1/2	● ○
4VSCA 0500 006 350	4VSCA 0500 006 F350	1/2	R0.06	1-1/4	3-1/2	1/2	○
4VSCA 0500 006 162	-	1/2	R0.06	1-5/8	4	1/2	●
4VSCA 0500 006 200	4VSCA 0500 006 F200	1/2	R0.06	2	4	1/2	○

● Stocked ○ Non-stock standard item Unit : Inch

Order Number		Diameter D	Corner radius R	Length of cut L1	Overall Length L	Shank Diameter d	Stock
PLAIN	FLAT						
4VSCA 0500 006 250	4VSCA 0500 006 F250	1/2	R0.06	2-1/2	4-1/2	1/2	● ○
4VSCA 0500 009 062	-	1/2	R0.09	5/8	2-1/2	1/2	●
4VSCA 0500 009 100	-	1/2	R0.09	1	3	1/2	○
4VSCA 0500 009 125	4VSCA 0500 009 F125	1/2	R0.09	1-1/4	3	1/2	● ○
4VSCA 0500 009 350	-	1/2	R0.09	1-1/4	3-1/2	1/2	○
4VSCA 0500 009 162	-	1/2	R0.09	1-5/8	4	1/2	●
4VSCA 0500 009 200	4VSCA 0500 009 F200	1/2	R0.09	2	4	1/2	○
4VSCA 0500 009 250	4VSCA 0500 009 F250	1/2	R0.09	2-1/2	4-1/2	1/2	● ○
4VSCA 0500 0125 062	-	1/2	R0.125	5/8	2-1/2	1/2	●
4VSCA 0500 0125 100	-	1/2	R0.125	1	3	1/2	○
4VSCA 0500 0125 125	4VSCA 0500 0125 F125	1/2	R0.125	1-1/4	3	1/2	● ○
4VSCA 0500 0125 350	4VSCA 0500 0125 F350	1/2	R0.125	1-1/4	3-1/2	1/2	○
4VSCA 0500 0125 162	-	1/2	R0.125	1-5/8	4	1/2	●
4VSCA 0500 0125 200	4VSCA 0500 0125 F200	1/2	R0.125	2	4	1/2	○
4VSCA 0500 0125 250	4VSCA 0500 0125 F250	1/2	R0.125	2-1/2	4-1/2	1/2	● ○
4VSCA 0625 001 075	4VSCA 0625 001 F075	5/8	R0.01	3/4	3	5/8	● ○
4VSCA 0625 001 125	4VSCA 0625 001 F125	5/8	R0.01	1-1/4	3-1/2	5/8	○
4VSCA 0625 0015 075	-	5/8	R0.015	3/4	3	5/8	●
4VSCA 0625 0015 125	4VSCA 0625 0015 F125	5/8	R0.015	1-1/4	3-1/2	5/8	○
4VSCA 0625 0015 162	-	5/8	R0.015	1-5/8	4	5/8	●
4VSCA 0625 0015 200	-	5/8	R0.015	2	4	5/8	○
4VSCA 0625 0015 325	-	5/8	R0.015	3-1/4	6	5/8	●
4VSCA 0625 003 075	4VSCA 0625 003 F075	5/8	R0.03	3/4	3	5/8	● ○
4VSCA 0625 003 125	4VSCA 0625 003 F125	5/8	R0.03	1-1/4	3-1/2	5/8	○
4VSCA 0625 003 162	-	5/8	R0.03	1-5/8	4	5/8	○
4VSCA 0625 003 200	-	5/8	R0.03	2	4	5/8	●
4VSCA 0625 003 325	-	5/8	R0.03	3-1/4	6	5/8	●
4VSCA 0625 006 075	4VSCA 0625 006 F075	5/8	R0.06	3/4	3	5/8	● ○
4VSCA 0625 006 125	4VSCA 0625 006 F125	5/8	R0.06	1-1/4	3-1/2	5/8	○
4VSCA 0625 006 162	-	5/8	R0.06	1-5/8	4	5/8	●
4VSCA 0625 006 200	-	5/8	R0.06	2	4	5/8	○
4VSCA 0625 006 325	-	5/8	R0.06	3-1/4	6	5/8	●
4VSCA 0625 009 075	-	5/8	R0.09	3/4	3	5/8	●
4VSCA 0625 009 125	-	5/8	R0.09	1-1/4	3-1/2	5/8	○
4VSCA 0625 009 162	-	5/8	R0.09	1-5/8	4	5/8	●
4VSCA 0625 009 200	-	5/8	R0.09	2	4	5/8	○
4VSCA 0625 009 325	-	5/8	R0.09	3-1/4	6	5/8	●
4VSCA 0625 0125 075	-	5/8	R0.125	3/4	3	5/8	●
4VSCA 0625 0125 125	4VSCA 0625 0125 F125	5/8	R0.125	1-1/4	3-1/2	5/8	○
4VSCA 0625 0125 162	-	5/8	R0.125	1-5/8	4	5/8	●
4VSCA 0625 0125 200	-	5/8	R0.125	2	4	5/8	○
4VSCA 0625 0125 325	-	5/8	R0.125	3-1/4	6	5/8	●
4VSCA 0750 0015 075	-	3/4	R0.015	3/4	3	3/4	●
4VSCA 0750 0015 150	4VSCA 0750 0015 F150	3/4	R0.015	1-1/2	4	3/4	○
4VSCA 0750 0015 187	-	3/4	R0.015	1-7/8	4	3/4	●
4VSCA 0750 0015 225	-	3/4	R0.015	2-1/4	5	3/4	○
4VSCA 0750 0015 325	-	3/4	R0.015	3-1/4	6	3/4	●
4VSCA 0750 003 075	4VSCA 0750 003 F075	3/4	R0.03	3/4	3	3/4	● ○
4VSCA 0750 003 150	4VSCA 0750 003 F150	3/4	R0.03	1-1/2	4	3/4	○
4VSCA 0750 003 187	-	3/4	R0.03	1-7/8	4	3/4	●

● Stocked ○ Non-stock standard item Unit : Inch

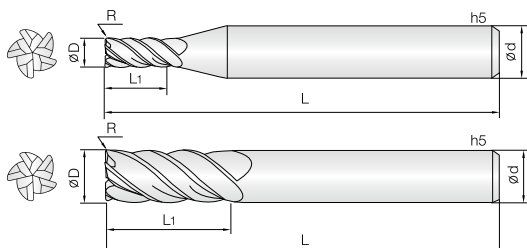
Order Number		Diameter D	Corner radius R	Length of cut L1	Overall Length L	Shank Diameter d	Stock
PLAIN	FLAT						
4VSCA 0750 003 225	-	3/4	R0.03	2-1/4	5	3/4	○
4VSCA 0750 003 325	-	3/4	R0.03	3-1/4	6	3/4	●
4VSCA 0750 006 075	4VSCA 0750 006 F075	3/4	R0.06	3/4	3	3/4	● ○
4VSCA 0750 006 150	4VSCA 0750 006 F150	3/4	R0.06	1-1/2	4	3/4	○
4VSCA 0750 006 187	-	3/4	R0.06	1-7/8	4	3/4	●
4VSCA 0750 006 225	-	3/4	R0.06	2-1/4	5	3/4	○
4VSCA 0750 006 325	-	3/4	R0.06	3-1/4	6	3/4	●
4VSCA 0750 009 075	-	3/4	R0.09	3/4	3	3/4	●
4VSCA 0750 009 150	-	3/4	R0.09	1-1/2	4	3/4	○
4VSCA 0750 009 187	-	3/4	R0.09	1-7/8	4	3/4	●
4VSCA 0750 009 225	-	3/4	R0.09	2-1/4	5	3/4	○
4VSCA 0750 009 325	-	3/4	R0.09	3-1/4	6	3/4	●
4VSCA 0750 0125 075	-	3/4	R0.125	3/4	3	3/4	●
4VSCA 0750 0125 150	4VSCA 0750 0125 F150	3/4	R0.125	1-1/2	4	3/4	○
4VSCA 0750 0125 187	-	3/4	R0.125	1-7/8	4	3/4	●
4VSCA 0750 0125 225	-	3/4	R0.125	2-1/4	5	3/4	○
4VSCA 0750 0125 325	-	3/4	R0.125	3-1/4	6	3/4	●
4VSCA 0750 019 075	-	3/4	R0.190	3/4	3	3/4	●
4VSCA 0750 019 150	-	3/4	R0.190	1-1/2	4	3/4	○
4VSCA 0750 019 187	-	3/4	R0.190	1-7/8	4	3/4	●
4VSCA 0750 019 225	-	3/4	R0.190	2-1/4	5	3/4	○
4VSCA 0750 019 325	-	3/4	R0.190	3-1/4	6	3/4	●
4VSCA 0750 025 075	-	3/4	R0.250	3/4	3	3/4	●
4VSCA 0750 025 150	-	3/4	R0.250	1-1/2	4	3/4	○
4VSCA 0750 025 187	-	3/4	R0.250	1-7/8	4	3/4	●
4VSCA 0750 025 225	-	3/4	R0.250	2-1/4	5	3/4	○
4VSCA 0750 025 325	-	3/4	R0.250	3-1/4	6	3/4	●
4VSCA 1000 0015 100	4VSCA 1000 0015 F100	1	R0.015	1	4	1	● ○
4VSCA 1000 0015 150	4VSCA 1000 0015 F150	1	R0.015	1-1/2	4	1	○
4VSCA 1000 0015 200	4VSCA 1000 0015 F200	1	R0.015	2	5	1	● ○
4VSCA 1000 0015 262	-	1	R0.015	2-5/8	5	1	●
4VSCA 1000 0015 300	-	1	R0.015	3	6	1	○
4VSCA 1000 0015 425	-	1	R0.015	4-1/4	7	1	●
4VSCA 1000 003 100	4VSCA 1000 003 F100	1	R0.03	1	4	1	● ○
4VSCA 1000 003 150	4VSCA 1000 003 F150	1	R0.03	1-1/2	4	1	○
4VSCA 1000 003 200	4VSCA 1000 003 F200	1	R0.03	2	5	1	○
4VSCA 1000 003 262	-	1	R0.03	2-5/8	5	1	●
4VSCA 1000 003 300	-	1	R0.03	3	6	1	○
4VSCA 1000 003 425	-	1	R0.03	4-1/4	7	1	●
4VSCA 1000 006 100	4VSCA 1000 006 F100	1	R0.06	1	4	1	● ○
4VSCA 1000 006 150	4VSCA 1000 006 F150	1	R0.06	1-1/2	4	1	○
4VSCA 1000 006 200	4VSCA 1000 006 F200	1	R0.06	2	5	1	○
4VSCA 1000 006 262	-	1	R0.06	2-5/8	5	1	●
4VSCA 1000 006 300	-	1	R0.06	3	6	1	○
4VSCA 1000 006 425	-	1	R0.06	4-1/4	7	1	●
4VSCA 1000 009 100	-	1	R0.09	1	4	1	●
4VSCA 1000 009 150	-	1	R0.09	1-1/2	4	1	○
4VSCA 1000 009 200	-	1	R0.09	2	5	1	○
4VSCA 1000 009 262	-	1	R0.09	2-5/8	5	1	●
4VSCA 1000 009 300	-	1	R0.09	3	6	1	○

● S.

○ Non-stock standard item

Unit : Inch

[illegible]



- Mid-low hardened steels (~HRC42), Mild steels, Cast irons, SUS
- HR coating reduces stress of flute and enhances wear resistance.
- The variable-pitch and variable-helix geometry reduces chatter.
- 5 flutes and deep pocket enable chip evacuation and reduce surface roughness.



D Size	D Tolerance
Ø0.125	+0 ~ -0.0005
Ø0.1562 ~ 0.5	+0 ~ -0.001
Ø0.625 ~ 1	+0 ~ -0.002

● Stocked ○ Non-stock standard item Unit : Inch

Order Number		Diameter D	Corner radius R	Length of cut L1	Overall Length L	Shank Diameter d	Stock
PLAIN	FLAT						
5VSCA 0125 001 025	-	1/8	R0.01	1/4	1-1/2	1/8	●
5VSCA 0125 001 037	-	1/8	R0.01	3/8	1-1/2	1/8	○
5VSCA 0125 001 200	-	1/8	R0.01	3/8	2	1/8	●
5VSCA 0156 001 031	-	5/32	R0.01	5/16	2	1/4	●
5VSCA 0156 001 043	-	5/32	R0.01	7/16	2	1/4	○
5VSCA 0156 001 056	-	5/32	R0.01	9/16	2-1/2	1/4	●
5VSCA 0187 001 031	-	3/16	R0.01	5/16	2	1/4	●
5VSCA 0187 001 043	-	3/16	R0.01	7/16	2	1/4	●
5VSCA 0187 001 056	-	3/16	R0.01	9/16	2-1/2	1/4	○
5VSCA 0187 0015 031	-	3/16	R0.015	5/16	2	1/4	○
5VSCA 0187 0015 043	-	3/16	R0.015	7/16	2	1/4	●
5VSCA 0187 0015 056	-	3/16	R0.015	9/16	2-1/2	1/4	●
5VSCA 0218 0015 037	-	7/32	R0.015	3/8	2	1/4	○
5VSCA 0218 0015 075	-	7/32	R0.015	3/4	2-1/2	1/4	●
5VSCA 0250 0015 050	-	1/4	R0.015	1/2	2-1/2	1/4	●
5VSCA 0250 0015 075	-	1/4	R0.015	3/4	2-1/2	1/4	○
5VSCA 0250 0015 112	-	1/4	R0.015	1-1/8	3	1/4	○
5VSCA 0250 0015 150	-	1/4	R0.015	1-1/2	4	1/4	●
5VSCA 0250 003 050	-	1/4	R0.03	1/2	2-1/2	1/4	●
5VSCA 0250 003 075	-	1/4	R0.03	3/4	2-1/2	1/4	○
5VSCA 0250 003 112	-	1/4	R0.03	1-1/8	3	1/4	○
5VSCA 0250 003 150	-	1/4	R0.03	1-1/2	4	1/4	●
5VSCA 0250 006 050	-	1/4	R0.06	1/2	2-1/2	1/4	●
5VSCA 0250 006 075	-	1/4	R0.06	3/4	2-1/2	1/4	○
5VSCA 0250 006 112	-	1/4	R0.06	1-1/8	3	1/4	○
5VSCA 0250 006 150	-	1/4	R0.06	1-1/2	4	1/4	●
5VSCA 0312 0015 075	-	5/16	R0.015	3/4	2-1/2	5/16	●
5VSCA 0312 0015 125	-	5/16	R0.015	1-1/4	3	5/16	○
5VSCA 0312 0015 162	-	5/16	R0.015	1-5/8	4	5/16	●
5VSCA 0312 003 125	-	5/16	R0.03	1-1/4	3	5/16	○
5VSCA 0312 003 162	-	5/16	R0.03	1-5/8	4	5/16	●
5VSCA 0375 0015 062	-	3/8	R0.015	5/8	2-1/2	3/8	●
5VSCA 0375 0015 100	5VSCA 0375 0015 F100	3/8	R0.015	1	3	3/8	○
5VSCA 0375 0015 150	5VSCA 0375 0015 F150	3/8	R0.015	1-1/2	4	3/8	○
5VSCA 0375 0015 200	5VSCA 0375 0015 F200	3/8	R0.015	2	4	3/8	● ○
5VSCA 0375 003 100	5VSCA 0375 003 F100	3/8	R0.03	1	3	3/8	● ○
5VSCA 0375 003 150	5VSCA 0375 003 F150	3/8	R0.03	1-1/2	4	3/8	○
5VSCA 0375 003 062	-	3/8	R0.03	5/8	2-1/2	3/8	○
5VSCA 0375 003 200	5VSCA 0375 003 F200	3/8	R0.03	2	4	3/8	● ○
5VSCA 0375 006 062	-	3/8	R0.06	5/8	2-1/2	3/8	●
5VSCA 0375 006 100	5VSCA 0375 006 F100	3/8	R0.06	1	3	3/8	○
5VSCA 0375 006 150	5VSCA 0375 006 F150	3/8	R0.06	1-1/2	4	3/8	○
5VSCA 0375 006 200	5VSCA 0375 006 F200	3/8	R0.06	2	4	3/8	● ○
5VSCA 0375 009 062	-	3/8	R0.09	5/8	2-1/2	3/8	●
5VSCA 0375 009 100	-	3/8	R0.09	1	3	3/8	○
5VSCA 0375 009 150	-	3/8	R0.09	1-1/2	4	3/8	○
5VSCA 0375 009 200	-	3/8	R0.09	2	4	3/8	●
5VSCA 0500 0015 062	-	1/2	R0.015	5/8	3	1/2	●
5VSCA 0500 0015 100	5VSCA 0500 0015 F100	1/2	R0.015	1	3	1/2	○
5VSCA 0500 0015 125	5VSCA 0500 0015 F125	1/2	R0.015	1-1/4	3	1/2	○

● Stocked ○ Non-stock standard item Unit : Inch

Order Number		Diameter D	Corner radius R	Length of cut L1	Overall Length L	Shank Diameter d	Stock
PLAIN	FLAT						
5VSCA 0500 0015 162	-	1/2	R0.015	1-5/8	4	1/2	○
5VSCA 0500 0015 200	-	1/2	R0.015	2	4	1/2	●
5VSCA 0500 0015 262	-	1/2	R0.015	2-5/8	5	1/2	●
5VSCA 0500 0015 300	-	1/2	R0.015	3	5	1/2	○
5VSCA 0500 0015 350	-	1/2	R0.015	1-1/4	3-1/2	1/2	●
5VSCA 0500 003 062	-	1/2	R0.03	5/8	3	1/2	●
5VSCA 0500 003 100	5VSCA 0500 003 F100	1/2	R0.03	1	3	1/2	○
5VSCA 0500 003 125	5VSCA 0500 003 F125	1/2	R0.03	1-1/4	3	1/2	● ○
5VSCA 0500 003 162	-	1/2	R0.03	1-5/8	4	1/2	○
5VSCA 0500 003 200	5VSCA 0500 003 F200	1/2	R0.03	2	4	1/2	● ○
5VSCA 0500 003 262	-	1/2	R0.03	2-5/8	5	1/2	○
5VSCA 0500 003 300	5VSCA 0500 003 F300	1/2	R0.03	3	5	1/2	○
5VSCA 0500 003 350	5VSCA 0500 003 F350	1/2	R0.03	1-1/4	3-1/2	1/2	● ○
5VSCA 0500 006 062	-	1/2	R0.06	5/8	3	1/2	●
5VSCA 0500 006 100	5VSCA 0500 006 F100	1/2	R0.06	1	3	1/2	○
5VSCA 0500 006 125	5VSCA 0500 006 F125	1/2	R0.06	1-1/4	3	1/2	○
5VSCA 0500 006 162	-	1/2	R0.06	1-5/8	4	1/2	○
5VSCA 0500 006 200	5VSCA 0500 006 F200	1/2	R0.06	2	4	1/2	● ○
5VSCA 0500 006 262	-	1/2	R0.06	2-5/8	5	1/2	○
5VSCA 0500 006 300	5VSCA 0500 006 F300	1/2	R0.06	3	5	1/2	○
5VSCA 0500 006 350	5VSCA 0500 006 F350	1/2	R0.06	1-1/4	3-1/2	1/2	● ○
5VSCA 0500 009 062	-	1/2	R0.09	5/8	3	1/2	●
5VSCA 0500 009 100	-	1/2	R0.09	1	4	1/2	○
5VSCA 0500 009 125	5VSCA 0500 009 F125	1/2	R0.09	1-1/4	3	1/2	○
5VSCA 0500 009 162	-	1/2	R0.09	1-5/8	4	1/2	○
5VSCA 0500 009 200	5VSCA 0500 009 F200	1/2	R0.09	2	4	1/2	● ○
5VSCA 0500 009 262	-	1/2	R0.09	2-5/8	5	1/2	○
5VSCA 0500 009 300	5VSCA 0500 009 F300	1/2	R0.09	3	5	1/2	● ○
5VSCA 0500 009 350	5VSCA 0500 009 F350	1/2	R0.09	1-1/4	3-1/2	1/2	● ○
5VSCA 0500 012 125	5VSCA 0500 012 F125	1/2	R0.12	1-1/4	3	1/2	● ○
5VSCA 0500 012 200	-	1/2	R0.12	2	4	1/2	○
5VSCA 0500 012 300	5VSCA 0500 012 F300	1/2	R0.12	3	5	1/2	○
5VSCA 0500 012 350	5VSCA 0500 012 F350	1/2	R0.12	1-1/4	3-1/2	1/2	● ○
5VSCA 0500 0125 062	-	1/2	R0.125	5/8	3	1/2	●
5VSCA 0500 0125 100	-	1/2	R0.125	1	3	1/2	○
5VSCA 0500 0125 125	-	1/2	R0.125	1-1/4	3	1/2	○
5VSCA 0500 0125 162	-	1/2	R0.125	1-5/8	4	1/2	●
5VSCA 0500 0125 200	-	1/2	R0.125	2	4	1/2	○
5VSCA 0500 0125 262	-	1/2	R0.125	2-5/8	5	1/2	●
5VSCA 0500 0125 300	-	1/2	R0.125	3	5	1/2	○
5VSCA 0500 0125 350	-	1/2	R0.125	1-1/4	3-1/2	1/2	●
5VSCA 0625 0015 075	-	5/8	R0.015	3/4	3	5/8	●
5VSCA 0625 0015 125	-	5/8	R0.015	1-1/4	3-1/2	5/8	○
5VSCA 0625 0015 200	-	5/8	R0.015	2	4	5/8	●
5VSCA 0625 0015 300	-	5/8	R0.015	3	5	5/8	●
5VSCA 0625 003 075	-	5/8	R0.03	3/4	3	5/8	●
5VSCA 0625 003 125	5VSCA 0625 003 F125	5/8	R0.03	1-1/4	3-1/2	5/8	○
5VSCA 0625 003 200	5VSCA 0625 003 F200	5/8	R0.03	2	4	5/8	● ○
5VSCA 0625 003 300	5VSCA 0625 003 F300	5/8	R0.03	3	5	5/8	● ○
5VSCA 0625 006 075	-	5/8	R0.06	3/4	3	5/8	●

● Stocked ○ Non-stock standard item Unit : Inch

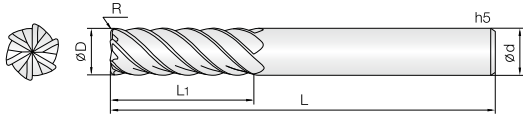
Order Number		Diameter D	Corner radius R	Length of cut L1	Overall Length L	Shank Diameter d	Stock
PLAIN	FLAT						
5VSCA 0625 006 125	5VSCA 0625 006 F125	5/8	R0.06	1-1/4	3-1/2	5/8	
5VSCA 0625 006 200	5VSCA 0625 006 F200	5/8	R0.06	2	4	5/8	
5VSCA 0625 006 300	5VSCA 0625 006 F300	5/8	R0.06	3	5	5/8	
5VSCA 0625 009 075	-	5/8	R0.09	3/4	3	5/8	
5VSCA 0625 009 125	5VSCA 0625 009 F125	5/8	R0.09	1-1/4	3-1/2	5/8	
5VSCA 0625 009 200	5VSCA 0625 009 F200	5/8	R0.09	2	4	5/8	
5VSCA 0625 009 300	5VSCA 0625 009 F300	5/8	R0.09	3	5	5/8	
5VSCA 0625 012 125	5VSCA 0625 012 F125	5/8	R0.12	1-1/4	3-1/2	5/8	
5VSCA 0625 012 200	5VSCA 0625 012 F200	5/8	R0.12	2	4	5/8	
5VSCA 0625 012 300	5VSCA 0625 012 F300	5/8	R0.12	3	5	5/8	
5VSCA 0625 0125 075	-	5/8	R0.125	3/4	3	5/8	
5VSCA 0625 0125 125	-	5/8	R0.125	1-1/4	3-1/2	5/8	
5VSCA 0625 0125 200	-	5/8	R0.125	2	4	5/8	
5VSCA 0625 0125 300	-	5/8	R0.125	3	5	5/8	
5VSCA 0750 0015 100	-	3/4	R0.015	1	3-1/2	3/4	
5VSCA 0750 0015 150	-	3/4	R0.015	1-1/2	4	3/4	
5VSCA 0750 0015 187	-	3/4	R0.015	1-7/8	5	3/4	
5VSCA 0750 0015 225	-	3/4	R0.015	2-1/4	5	3/4	
5VSCA 0750 0015 275	-	3/4	R0.015	2-3/4	5	3/4	
5VSCA 0750 0015 300	-	3/4	R0.015	3	5-1/2	3/4	
5VSCA 0750 003 100	-	3/4	R0.03	1	3-1/2	3/4	
5VSCA 0750 003 150	5VSCA 0750 003 F150	3/4	R0.03	1-1/2	4	3/4	
5VSCA 0750 003 187	-	3/4	R0.03	1-7/8	5	3/4	
5VSCA 0750 003 225	-	3/4	R0.03	2-1/4	5	3/4	
5VSCA 0750 003 275	-	3/4	R0.03	2-3/4	5	3/4	
5VSCA 0750 003 300	5VSCA 0750 003 F300	3/4	R0.03	3	5-1/2	3/4	
5VSCA 0750 006 100	-	3/4	R0.06	1	3-1/2	3/4	
5VSCA 0750 006 150	5VSCA 0750 006 F150	3/4	R0.06	1-1/2	4	3/4	
5VSCA 0750 006 187	-	3/4	R0.06	1-7/8	5	3/4	
5VSCA 0750 006 225	-	3/4	R0.06	2-1/4	5	3/4	
5VSCA 0750 006 275	-	3/4	R0.06	2-3/4	5	3/4	
5VSCA 0750 006 300	5VSCA 0750 006 F300	3/4	R0.06	3	5-1/2	3/4	
5VSCA 0750 009 100	-	3/4	R0.09	1	3-1/2	3/4	
5VSCA 0750 009 150	5VSCA 0750 009 F150	3/4	R0.09	1-1/2	4	3/4	
5VSCA 0750 009 187	-	3/4	R0.09	1-7/8	5	3/4	
5VSCA 0750 009 225	-	3/4	R0.09	2-1/4	5	3/4	
5VSCA 0750 009 275	-	3/4	R0.09	2-3/4	5	3/4	
5VSCA 0750 009 300	5VSCA 0750 009 F300	3/4	R0.09	3	5-1/2	3/4	
5VSCA 0750 012 150	5VSCA 0750 012 F150	3/4	R0.12	1-1/2	4	3/4	
5VSCA 0750 012 300	5VSCA 0750 012 F300	3/4	R0.12	3	5-1/2	3/4	

● Stocked ○ Non-stock standard item Unit : Inch

Order Number		Diameter D	Corner radius R	Length of cut L1	Overall Length L	Shank Diameter d	Stock
PLAIN	FLAT						
5VSCA 0750 0125 100	-	3/4	R0.125	1	3-1/2	3/4	●
5VSCA 0750 0125 150	-	3/4	R0.125	1-1/2	4	3/4	○
5VSCA 0750 0125 187	-	3/4	R0.125	1-7/8	5	3/4	○
5VSCA 0750 0125 225	-	3/4	R0.125	2-1/4	5	3/4	●
5VSCA 0750 0125 275	-	3/4	R0.125	2-3/4	5	3/4	○
5VSCA 0750 0125 300	-	3/4	R0.125	3	5-1/2	3/4	●
5VSCA 0750 019 100	-	3/4	R0.19	1	3-1/2	3/4	●
5VSCA 0750 019 150	-	3/4	R0.19	1-1/2	4	3/4	○
5VSCA 0750 019 187	-	3/4	R0.19	1-7/8	5	3/4	○
5VSCA 0750 019 225	-	3/4	R0.19	2-1/4	5	3/4	●
5VSCA 0750 019 275	-	3/4	R0.19	2-3/4	5	3/4	○
5VSCA 0750 019 300	-	3/4	R0.19	3	5-1/2	3/4	●
5VSCA 0750 025 100	-	3/4	R0.25	1	3-1/2	3/4	●
5VSCA 0750 025 150	-	3/4	R0.25	1-1/2	4	3/4	○
5VSCA 0750 025 187	-	3/4	R0.25	1-7/8	5	3/4	○
5VSCA 0750 025 225	-	3/4	R0.25	2-1/4	5	3/4	●
5VSCA 0750 025 275	-	3/4	R0.25	2-3/4	5	3/4	○
5VSCA 0750 025 300	-	3/4	R0.25	3	5-1/2	3/4	●
5VSCA 1000 0015 150	-	1	R0.015	1-1/2	4	1	●
5VSCA 1000 0015 200	-	1	R0.015	2	5	1	○
5VSCA 1000 0015 262	-	1	R0.015	2-5/8	5	1	●
5VSCA 1000 0015 325	-	1	R0.015	3-1/4	6	1	○
5VSCA 1000 0015 400	-	1	R0.015	4	7	1	●
5VSCA 1000 003 150	5VSCA 1000 003 F150	1	R0.03	1-1/2	4	1	● ○
5VSCA 1000 003 200	-	1	R0.03	2	5	1	○
5VSCA 1000 003 262	-	1	R0.03	2-5/8	5	1	●
5VSCA 1000 003 325	-	1	R0.03	3-1/4	6	1	○
5VSCA 1000 003 400	5VSCA 1000 003 F400	1	R0.03	4	7	1	● ○
5VSCA 1000 006 150	5VSCA 1000 006 F150	1	R0.06	1-1/2	4	1	● ○
5VSCA 1000 006 200	-	1	R0.06	2	5	1	○
5VSCA 1000 006 262	-	1	R0.06	2-5/8	5	1	●
5VSCA 1000 006 325	-	1	R0.06	3-1/4	6	1	○
5VSCA 1000 006 400	5VSCA 1000 006 F400	1	R0.06	4	7	1	● ○
5VSCA 1000 009 150	5VSCA 1000 009 F150	1	R0.09	1-1/2	4	1	● ○
5VSCA 1000 009 200	-	1	R0.09	2	5	1	○
5VSCA 1000 009 262	-	1	R0.09	2-5/8	5	1	●
5VSCA 1000 009 325	-	1	R0.09	3-1/4	6	1	○
5VSCA 1000 009 400	5VSCA 1000 009 F400	1	R0.09	4	7	1	● ○
5VSCA 1000 012 150	5VSCA 1000 012 F150	1	R0.12	1-1/2	4	1	● ○
5VSCA 1000 012 400	5VSCA 1000 012 F400	1	R0.12	4	7	1	● ○
5VSCA 1000 0125 150	-	1	R0.125	1-1/2	4	1	●
5VSCA 1000 0125 200	-	1	R0.125	2	5	1	○
5VSCA 1000 0125 262	-	1	R0.125	2-5/8	5	1	●
5VSCA 1000 0125 325	-	1	R0.125	3-1/4	6	1	○
5VSCA 1000 0125 400	-	1	R0.125	4	7	1	●
5VSCA 1000 019 150	-	1	R0.19	1-1/2	4	1	●
5VSCA 1000 019 200	-	1	R0.19	2	5	1	○
5VSCA 1000 019 262	-	1	R0.19	2-5/8	5	1	●
5VSCA 1000 019 325	-	1	R0.19	3-1/4	6	1	○
5VSCA 1000 019 400	-	1	R0.19	4	7	1	●

● Stocked ○ Non-stock standard item Unit : Inch

[illegible]



- Mid-low hardened steels(~HRC42), Mild steels, Cast irons, SUS
- HR coating reduces stress of flute and enhances wear resistance.
- Deep hole helix design enable chip evacuation and reduce surface roughness.



D Size	D Tolerance
Ø0.25 ~ 0.5	+0 ~ -0.001
Ø0.625 ~ 1	+0 ~ -0.002

● Stocked ○ Non-stock standard item Unit : Inch

Order Number		Diameter D	Corner radius R	Length of cut L1	Overall Length L	Shank Diameter d	Stock
PLAIN	FLAT						
6VSCA 0250 0015 050	-	1/4	R0.015	1/2	2-1/2	1/4	●
6VSCA 0250 0015 075	-	1/4	R0.015	3/4	2-1/2	1/4	○
6VSCA 0250 0015 112	-	1/4	R0.015	1-1/8	3	1/4	○
6VSCA 0250 0015 150	-	1/4	R0.015	1-1/2	4	1/4	●
6VSCA 0250 003 050	-	1/4	R0.03	1/2	2-1/2	1/4	●
6VSCA 0250 003 075	-	1/4	R0.03	3/4	2-1/2	1/4	○
6VSCA 0250 003 112	-	1/4	R0.03	1-1/8	3	1/4	○
6VSCA 0250 003 150	-	1/4	R0.03	1-1/2	4	1/4	●
6VSCA 0250 006 050	-	1/4	R0.06	1/2	2-1/2	1/4	●
6VSCA 0250 006 075	-	1/4	R0.06	3/4	2-1/2	1/4	○
6VSCA 0250 006 112	-	1/4	R0.06	1-1/8	3	1/4	○
6VSCA 0250 006 150	-	1/4	R0.06	1-1/2	4	1/4	●
6VSCA 0312 0015 075	-	5/16	R0.015	3/4	2-1/2	5/16	●
6VSCA 0312 0015 125	-	5/16	R0.015	1-1/4	3	5/16	○
6VSCA 0312 0015 162	-	5/16	R0.015	1-5/8	4	5/16	●
6VSCA 0312 003 125	-	5/16	R0.03	1-1/4	3	5/16	○
6VSCA 0312 003 162	-	5/16	R0.03	1-5/8	4	5/16	●
6VSCA 0375 0015 062	-	3/8	R0.015	5/8	2-1/2	3/8	●
6VSCA 0375 0015 100	6VSCA 0375 0015 F100	3/8	R0.015	1	3	3/8	○
6VSCA 0375 0015 150	6VSCA 0375 0015 F150	3/8	R0.015	1-1/2	4	3/8	○
6VSCA 0375 0015 200	6VSCA 0375 0015 F200	3/8	R0.015	2	4	3/8	● ○
6VSCA 0375 003 062	-	3/8	R0.03	5/8	2-1/2	3/8	●
6VSCA 0375 003 100	6VSCA 0375 003 F100	3/8	R0.03	1	3	3/8	○
6VSCA 0375 003 150	6VSCA 0375 003 F150	3/8	R0.03	1-1/2	4	3/8	○
6VSCA 0375 003 200	6VSCA 0375 003 F200	3/8	R0.03	2	4	3/8	● ○
6VSCA 0375 006 062	-	3/8	R0.06	5/8	2-1/2	3/8	●
6VSCA 0375 006 100	6VSCA 0375 006 F100	3/8	R0.06	1	3	3/8	○
6VSCA 0375 006 150	6VSCA 0375 006 F150	3/8	R0.06	1-1/2	4	3/8	○
6VSCA 0375 006 200	6VSCA 0375 006 F200	3/8	R0.06	2	4	3/8	● ○
6VSCA 0375 009 062	-	3/8	R0.09	5/8	2-1/2	3/8	●
6VSCA 0375 009 100	-	3/8	R0.09	1	3	3/8	○
6VSCA 0375 009 150	-	3/8	R0.09	1-1/2	4	3/8	○
6VSCA 0375 009 200	-	3/8	R0.09	2	4	3/8	●
6VSCA 0500 0015 062	-	1/2	R0.015	5/8	3	1/2	●
6VSCA 0500 0015 100	6VSCA 0500 0015 F100	1/2	R0.015	1	3	1/2	○
6VSCA 0500 0015 125	6VSCA 0500 0015 F125	1/2	R0.015	1-1/4	3	1/2	○
6VSCA 0500 0015 350	-	1/2	R0.015	1-1/4	3-1/2	1/2	○
6VSCA 0500 0015 162	-	1/2	R0.015	1-5/8	4	1/2	○
6VSCA 0500 0015 200	-	1/2	R0.015	2	4	1/2	●
6VSCA 0500 0015 262	-	1/2	R0.015	2-5/8	5	1/2	○
6VSCA 0500 0015 300	-	1/2	R0.015	3	5	1/2	●
6VSCA 0500 003 062	-	1/2	R0.03	5/8	3	1/2	●
6VSCA 0500 003 100	6VSCA 0500 003 F100	1/2	R0.03	1	3	1/2	○
6VSCA 0500 003 125	6VSCA 0500 003 F125	1/2	R0.03	1-1/4	3	1/2	○
6VSCA 0500 003 350	6VSCA 0500 003 F350	1/2	R0.03	1-1/4	3-1/2	1/2	○
6VSCA 0500 003 162	-	1/2	R0.03	1-5/8	4	1/2	○
6VSCA 0500 003 200	6VSCA 0500 003 F200	1/2	R0.03	2	4	1/2	● ○
6VSCA 0500 003 262	-	1/2	R0.03	2-5/8	5	1/2	○
6VSCA 0500 003 300	6VSCA 0500 003 F300	1/2	R0.03	3	5	1/2	● ○
6VSCA 0500 006 062	-	1/2	R0.06	5/8	3	1/2	●

● Stocked ○ Non-stock standard item Unit : Inch

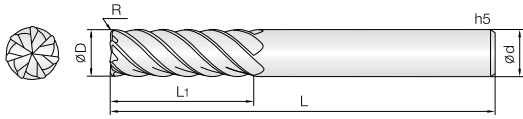
Order Number		Diameter D	Corner radius R	Length of cut L1	Overall Length L	Shank Diameter d	Stock
PLAIN	FLAT						
6VSCA 0500 006 100	6VSCA 0500 006 F100	1/2	R0.06	1	3	1/2	○
6VSCA 0500 006 125	6VSCA 0500 006 F125	1/2	R0.06	1-1/4	3	1/2	○
6VSCA 0500 006 350	6VSCA 0500 006 F350	1/2	R0.06	1-1/4	3-1/2	1/2	○
6VSCA 0500 006 162	-	1/2	R0.06	1-5/8	4	1/2	○
6VSCA 0500 006 200	6VSCA 0500 006 F200	1/2	R0.06	2	4	1/2	● ○
6VSCA 0500 006 262	-	1/2	R0.06	2-5/8	5	1/2	○
6VSCA 0500 006 300	6VSCA 0500 006 F300	1/2	R0.06	3	5	1/2	● ○
6VSCA 0500 009 062	-	1/2	R0.09	5/8	3	1/2	●
6VSCA 0500 009 100	-	1/2	R0.09	1	4	1/2	○
6VSCA 0500 009 125	6VSCA 0500 009 F125	1/2	R0.09	1-1/4	3	1/2	○
6VSCA 0500 009 350	6VSCA 0500 009 F350	1/2	R0.09	1-1/4	3-1/2	1/2	○
6VSCA 0500 009 162	-	1/2	R0.09	1-5/8	4	1/2	○
6VSCA 0500 009 200	6VSCA 0500 009 F200	1/2	R0.09	2	4	1/2	● ○
6VSCA 0500 009 262	-	1/2	R0.09	2-5/8	5	1/2	○
6VSCA 0500 009 300	6VSCA 0500 009 F300	1/2	R0.09	3	5	1/2	● ○
6VSCA 0500 012 125	6VSCA 0500 012 F125	1/2	R0.12	1-1/4	3	1/2	● ○
6VSCA 0500 012 350	6VSCA 0500 012 F350	1/2	R0.12	1-1/4	3-1/2	1/2	○
6VSCA 0500 012 200	-	1/2	R0.12	2	4	1/2	○
6VSCA 0500 012 300	6VSCA 0500 012 F300	1/2	R0.12	3	5	1/2	● ○
6VSCA 0500 0125 062	-	1/2	R0.125	5/8	3	1/2	●
6VSCA 0500 0125 100	-	1/2	R0.125	1	3	1/2	○
6VSCA 0500 0125 125	-	1/2	R0.125	1-1/4	3	1/2	○
6VSCA 0500 0125 350	-	1/2	R0.125	1-1/4	3-1/2	1/2	○
6VSCA 0500 0125 162	-	1/2	R0.125	1-5/8	4	1/2	○
6VSCA 0500 0125 200	-	1/2	R0.125	2	4	1/2	●
6VSCA 0500 0125 262	-	1/2	R0.125	2-5/8	5	1/2	○
6VSCA 0500 0125 300	-	1/2	R0.125	3	5	1/2	●
6VSCA 0625 0015 075	-	5/8	R0.015	3/4	3	5/8	●
6VSCA 0625 0015 125	-	5/8	R0.015	1-1/4	3-1/2	5/8	○
6VSCA 0625 0015 200	-	5/8	R0.015	2	4	5/8	●
6VSCA 0625 0015 300	-	5/8	R0.015	3	5	5/8	●
6VSCA 0625 003 075	-	5/8	R0.03	3/4	3	5/8	●
6VSCA 0625 003 125	6VSCA 0625 003 F125	5/8	R0.03	1-1/4	3-1/2	5/8	○
6VSCA 0625 003 200	6VSCA 0625 003 F200	5/8	R0.03	2	4	5/8	● ○
6VSCA 0625 003 300	6VSCA 0625 003 F300	5/8	R0.03	3	5	5/8	● ○
6VSCA 0625 006 075	-	5/8	R0.06	3/4	3	5/8	●
6VSCA 0625 006 125	6VSCA 0625 006 F125	5/8	R0.06	1-1/4	3-1/2	5/8	○
6VSCA 0625 006 200	6VSCA 0625 006 F200	5/8	R0.06	2	4	5/8	● ○
6VSCA 0625 006 300	6VSCA 0625 006 F300	5/8	R0.06	3	5	5/8	● ○
6VSCA 0625 009 075	-	5/8	R0.09	3/4	3	5/8	●
6VSCA 0625 009 125	6VSCA 0625 009 F125	5/8	R0.09	1-1/4	3-1/2	5/8	○
6VSCA 0625 009 200	6VSCA 0625 009 F200	5/8	R0.09	2	4	5/8	● ○

● Stocked ○ Non-stock standard item Unit : Inch

Order Number		Diameter D	Corner radius R	Length of cut L1	Overall Length L	Shank Diameter d	Stock
PLAIN	FLAT						
6VSCA 0625 009 300	6VSCA 0625 009 F300	5/8	R0.09	3	5	5/8	● ○
6VSCA 0625 012 125	6VSCA 0625 012 F125	5/8	R0.12	1-1/4	3-1/2	5/8	● ○
6VSCA 0625 012 200	6VSCA 0625 012 F200	5/8	R0.12	2	4	5/8	○
6VSCA 0625 012 300	6VSCA 0625 012 F300	5/8	R0.12	3	5	5/8	● ○
6VSCA 0625 0125 075	-	5/8	R0.125	3/4	3	5/8	●
6VSCA 0625 0125 125	-	5/8	R0.125	1-1/4	3-1/2	5/8	○
6VSCA 0625 0125 187	-	5/8	R0.125	1-7/8	4	5/8	○
6VSCA 0625 0125 200	-	5/8	R0.125	2	4	5/8	●
6VSCA 0625 0125 262	-	5/8	R0.125	2-5/8	5	5/8	○
6VSCA 0625 0125 300	-	5/8	R0.125	3	5	5/8	●
6VSCA 0750 0015 100	-	3/4	R0.015	1	3-1/2	3/4	●
6VSCA 0750 0015 150	-	3/4	R0.015	1-1/2	4	3/4	○
6VSCA 0750 0015 187	-	3/4	R0.015	1-7/8	5	3/4	○
6VSCA 0750 0015 225	-	3/4	R0.015	2-1/4	5	3/4	●
6VSCA 0750 0015 275	-	3/4	R0.015	2-3/4	5	3/4	○
6VSCA 0750 0015 300	-	3/4	R0.015	3	5-1/2	3/4	●
6VSCA 0750 003 100	-	3/4	R0.03	1	3-1/2	3/4	●
6VSCA 0750 003 150	6VSCA 0750 003 F150	3/4	R0.03	1-1/2	4	3/4	○
6VSCA 0750 003 187	-	3/4	R0.03	1-7/8	5	3/4	○
6VSCA 0750 003 225	-	3/4	R0.03	2-1/4	5	3/4	●
6VSCA 0750 003 275	-	3/4	R0.03	2-3/4	5	3/4	○
6VSCA 0750 003 300	6VSCA 0750 003 F300	3/4	R0.03	3	5-1/2	3/4	● ○
6VSCA 0750 006 100	-	3/4	R0.06	1	3-1/2	3/4	●
6VSCA 0750 006 150	6VSCA 0750 006 F150	3/4	R0.06	1-1/2	4	3/4	○
6VSCA 0750 006 187	-	3/4	R0.06	1-7/8	5	3/4	○
6VSCA 0750 006 225	-	3/4	R0.06	2-1/4	5	3/4	●
6VSCA 0750 006 275	-	3/4	R0.06	2-3/4	5	3/4	○
6VSCA 0750 006 300	6VSCA 0750 006 F300	3/4	R0.06	3	5-1/2	3/4	● ○
6VSCA 0750 009 100	-	3/4	R0.09	1	3-1/2	3/4	●
6VSCA 0750 009 150	6VSCA 0750 009 F150	3/4	R0.09	1-1/2	4	3/4	○
6VSCA 0750 009 187	-	3/4	R0.09	1-7/8	5	3/4	○
6VSCA 0750 009 225	-	3/4	R0.09	2-1/4	5	3/4	●
6VSCA 0750 009 275	-	3/4	R0.09	2-3/4	5	3/4	○
6VSCA 0750 009 300	6VSCA 0750 009 F300	3/4	R0.09	3	5-1/2	3/4	● ○
6VSCA 0750 012 150	6VSCA 0750 012 F150	3/4	R0.12	1-1/2	4	3/4	● ○
6VSCA 0750 012 300	6VSCA 0750 012 F300	3/4	R0.12	3	5-1/2	3/4	● ○
6VSCA 0750 0125 100	-	3/4	R0.125	1	3-1/2	3/4	●
6VSCA 0750 0125 150	-	3/4	R0.125	1-1/2	4	3/4	○
6VSCA 0750 0125 187	-	3/4	R0.125	1-7/8	5	3/4	○
6VSCA 0750 0125 225	-	3/4	R0.125	2-1/4	5	3/4	●
6VSCA 0750 0125 275	-	3/4	R0.125	2-3/4	5	3/4	○
6VSCA 0750 0125 300	-	3/4	R0.125	3	5-1/2	3/4	●
6VSCA 0750 019 100	-	3/4	R0.19	1	3-1/2	3/4	●
6VSCA 0750 019 150	-	3/4	R0.19	1-1/2	4	3/4	○
6VSCA 0750 019 187	-	3/4	R0.19	1-7/8	5	3/4	○
6VSCA 0750 019 225	-	3/4	R0.19	2-1/4	5	3/4	●
6VSCA 0750 019 275	-	3/4	R0.19	2-3/4	5	3/4	○
6VSCA 0750 019 300	-	3/4	R0.19	3	5-1/2	3/4	●
6VSCA 0750 025 100	-	3/4	R0.25	1	3-1/2	3/4	●
6VSCA 0750 025 150	-	3/4	R0.25	1-1/2	4	3/4	○

● Stocked ○ Non-stock standard item Unit : Inch

[illegible]



- Mid-low hardened steels(~HRC42), Mild steels, Cast irons, SUS
- HR coating reduces stress of flute and enhances wear resistance.
- Deep hole helix design enable chip evacuation and reduce surface roughness.



R0.015 - 0.03 R0.06 - 0.09 R0.12 - 0.25

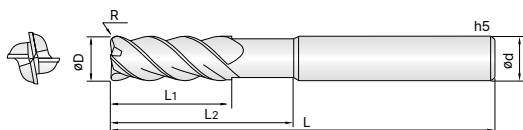
PLAIN Shank FLAT Shank

51P

● Stocked ○ Non-stock standard item Unit : Inch

D Size	D Tolerance
Ø0.25 ~ 0.5	+0 ~ -0.001
Ø0.625 ~ 1	+0 ~ -0.002

Order Number		Diameter D	Corner radius R	Length of cut L1	Overall Length L	Shank Diameter d	Stock
PLAIN	FLAT						
7VSCA 0250 0015 062	-	1/4	R0.015	5/8	2-1/2	1/4	●
7VSCA 0250 0015 075	-	1/4	R0.015	3/4	2-1/2	1/4	○
7VSCA 0250 0015 100	-	1/4	R0.015	1	3	1/4	●
7VSCA 0375 001 062	-	3/8	R0.01	5/8	2	3/8	●
7VSCA 0375 0015 062	-	3/8	R0.015	5/8	2	3/8	●
7VSCA 0375 002 062	-	3/8	R0.02	5/8	2	3/8	●
7VSCA 0375 003 062	-	3/8	R0.03	5/8	2	3/8	●
7VSCA 0375 002 100	-	3/8	R0.02	1	2	3/8	○
7VSCA 0375 003 100	-	3/8	R0.03	1	2	3/8	○
7VSCA 0375 0025 100	-	3/8	R0.025	1	3	3/8	●
7VSCA 0375 002 150	-	3/8	R0.02	1-1/2	3	3/8	●
7VSCA 0375 003 150	-	3/8	R0.03	1-1/2	3	3/8	●
7VSCA 0375 006 150	-	3/8	R0.06	1-1/2	3	3/8	●
7VSCA 0500 0015 062	-	1/2	R0.015	5/8	2-1/2	1/2	●
7VSCA 0500 003 062	-	1/2	R0.03	5/8	2-1/2	1/2	●
7VSCA 0500 006 062	-	1/2	R0.06	5/8	2-1/2	1/2	●
7VSCA 0500 0015 100	-	1/2	R0.015	1	3	1/2	○
7VSCA 0500 003 100	-	1/2	R0.03	1	3	1/2	○
7VSCA 0500 0015 125	-	1/2	R0.015	1-1/4	3	1/2	●
7VSCA 0500 002 125	-	1/2	R0.02	1-1/4	3	1/2	○
7VSCA 0500 003 125	-	1/2	R0.03	1-1/4	3	1/2	○
7VSCA 0500 006 125	-	1/2	R0.06	1-1/4	3	1/2	●
7VSCA 0500 0125 125	-	1/2	R0.125	1-1/4	3	1/2	○
7VSCA 0500 003 150	-	1/2	R0.03	1-1/2	3	1/2	○
7VSCA 0500 0015 162	-	1/2	R0.015	1-5/8	4	1/2	○
7VSCA 0500 0015 200	-	1/2	R0.015	2	4	1/2	●
7VSCA 0500 003 200	-	1/2	R0.03	2	4	1/2	●
7VSCA 0500 0125 200	-	1/2	R0.125	2	4	1/2	○
7VSCA 0625 003 125	-	5/8	R0.03	1-1/4	3	5/8	○
7VSCA 0625 006 125	-	5/8	R0.06	1-1/4	3	5/8	○
7VSCA 0625 012 125	-	5/8	R0.12	1-1/4	3	5/8	●
7VSCA 0625 003 175	-	5/8	R0.03	1-3/4	4	5/8	●
7VSCA 0625 006 175	-	5/8	R0.06	1-3/4	4	5/8	●
7VSCA 0625 012 175	-	5/8	R0.12	1-3/4	4	5/8	○
7VSCA 0625 012 200	-	5/8	R0.12	2	4	5/8	●
7VSCA 0750 003 100	-	3/4	R0.03	1	3	3/4	○
7VSCA 0750 003 150	-	3/4	R0.03	1-1/2	4	3/4	●
7VSCA 0750 006 150	-	3/4	R0.06	1-1/2	4	3/4	●
7VSCA 0750 012 150	-	3/4	R0.12	1-1/2	4	3/4	●
7VSCA 0750 003 175	-	3/4	R0.03	1-3/4	4	3/4	○
7VSCA 0750 003 225	-	3/4	R0.03	2-1/4	5	3/4	○
7VSCA 0750 006 225	-	3/4	R0.06	2-1/4	5	3/4	○
7VSCA 0750 012 225	-	3/4	R0.12	2-1/4	5	3/4	●
7VSCA 0750 006 250	-	3/4	R0.06	2-1/2	5	3/4	●
7VSCA 0750 003 325	-	3/4	R0.03	3-1/4	6	3/4	●
7VSCA 1000 003 150	-	1	R0.03	1-1/2	4	1	●
7VSCA 1000 0125 150	-	1	R0.125	1-1/2	4	1	●
7VSCA 1000 003 250	-	1	R0.03	2-1/2	5	1	○
7VSCA 1000 003 325	-	1	R0.03	3-1/4	6	1	●



- Mid-low hardened steels(~HRC42), Mild steels, Cast irons, SUS
- HR coating reduces stress of flute and enhances wear resistance.
- The variable-pitch and variable-helix geometry reduces chatter.
- 4 flutes and deep pocket enable chip evacuation and reduce surface roughness.



D Size	D Tolerance
Ø0.125	+0 ~ -0.0005
Ø0.1562 ~ 0.5	+0 ~ -0.001
Ø0.625 ~ 1	+0 ~ -0.002

● Stocked ○ Non-stock standard item Unit : Inch

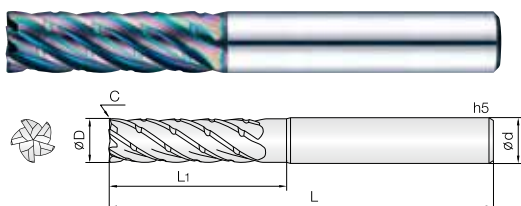
Order Number		Diameter D	Corner radius R	Length of cut L1	Effective Length L2	Overall Length L	Shank Diameter d	Stock
PLAIN	FLAT							
4VSRCA 0125 001 037	-	1/8	R0.01	5/32	3/8	3	1/8	●
4VSRCA 0125 001 050	-	1/8	R0.01	5/32	1/2	3	1/8	○
4VSRCA 0125 001 062	-	1/8	R0.01	5/32	5/8	3	1/8	●
4VSRCA 0125 003 037	-	1/8	R0.03	5/32	3/8	3	1/8	●
4VSRCA 0125 003 050	-	1/8	R0.03	5/32	1/2	3	1/8	○
4VSRCA 0125 003 062	-	1/8	R0.03	5/32	5/8	3	1/8	●
4VSRCA 0187 001 050	-	3/16	R0.01	7/32	1/2	3	3/16	●
4VSRCA 0187 001 075	-	3/16	R0.01	7/32	3/4	3	3/16	○
4VSRCA 0187 001 100	-	3/16	R0.01	7/32	1	3	3/16	●
4VSRCA 0187 003 050	-	3/16	R0.03	7/32	1/2	3	3/16	●
4VSRCA 0187 003 075	-	3/16	R0.03	7/32	3/4	3	3/16	○
4VSRCA 0187 003 100	-	3/16	R0.03	7/32	1	3	3/16	●
4VSRCA 0250 0015 075	-	1/4	R0.015	3/8	3/4	4	1/4	●
4VSRCA 0250 0015 112	-	1/4	R0.015	3/8	1-1/8	4	1/4	○
4VSRCA 0250 0015 212	-	1/4	R0.015	3/8	2-1/8	4	1/4	●
4VSRCA 0250 003 075	-	1/4	R0.03	3/8	3/4	4	1/4	●
4VSRCA 0250 003 112	-	1/4	R0.03	3/8	1-1/8	4	1/4	○
4VSRCA 0250 003 212	-	1/4	R0.03	3/8	2-1/8	4	1/4	●
4VSRCA 0250 006 075	-	1/4	R0.06	3/8	3/4	4	1/4	●
4VSRCA 0250 006 112	-	1/4	R0.06	3/8	1-1/8	4	1/4	○
4VSRCA 0250 006 212	-	1/4	R0.06	3/8	2-1/8	4	1/4	●
4VSRCA 0375 0015 112	-	3/8	R0.015	1/2	1-1/8	4	3/8	●
4VSRCA 0375 0015 212	-	3/8	R0.015	1/2	2-1/8	4	3/8	○
4VSRCA 0375 0015 312	-	3/8	R0.015	1/2	3-1/8	5	3/8	●
4VSRCA 0375 0015 412	-	3/8	R0.015	1/2	4-1/8	6	3/8	○
4VSRCA 0375 0015 600	-	3/8	R0.015	1/2	3-1/8	6	3/8	●
4VSRCA 0375 003 112	4VSRCA 0375 003 F112	3/8	R0.03	1/2	1-1/8	4	3/8	● ○
4VSRCA 0375 003 212	4VSRCA 0375 003 F212	3/8	R0.03	1/2	2-1/8	4	3/8	○
4VSRCA 0375 003 312	4VSRCA 0375 003 F312	3/8	R0.03	1/2	3-1/8	5	3/8	● ○
4VSRCA 0375 003 412	-	3/8	R0.03	1/2	4-1/8	6	3/8	○
4VSRCA 0375 003 600	4VSRCA 0375 003 F600	3/8	R0.03	1/2	3-1/8	6	3/8	● ○
4VSRCA 0375 006 112	-	3/8	R0.06	1/2	1-1/8	4	3/8	●
4VSRCA 0375 006 212	-	3/8	R0.06	1/2	2-1/8	4	3/8	○
4VSRCA 0375 006 312	-	3/8	R0.06	1/2	3-1/8	5	3/8	●
4VSRCA 0375 006 412	-	3/8	R0.06	1/2	4-1/8	6	3/8	○
4VSRCA 0375 006 600	-	3/8	R0.06	1/2	3-1/8	6	3/8	●
4VSRCA 0375 009 112	-	3/8	R0.09	1/2	1-1/8	4	3/8	●
4VSRCA 0375 009 212	-	3/8	R0.09	1/2	2-1/8	4	3/8	○
4VSRCA 0375 009 312	-	3/8	R0.09	1/2	3-1/8	5	3/8	●
4VSRCA 0375 009 412	-	3/8	R0.09	1/2	4-1/8	6	3/8	○
4VSRCA 0375 009 600	-	3/8	R0.09	1/2	3-1/8	6	3/8	●
4VSRCA 0500 0015 150	-	1/2	R0.015	5/8	1-1/2	4	1/2	●
4VSRCA 0500 0015 337	-	1/2	R0.015	5/8	3-3/8	5	1/2	●
4VSRCA 0500 0015 600	-	1/2	R0.015	5/8	3-3/8	6	1/2	●
4VSRCA 0500 003 150	4VSRCA 0500 003 F150	1/2	R0.03	5/8	1-1/2	4	1/2	● ○
4VSRCA 0500 003 337	4VSRCA 0500 003 F337	1/2	R0.03	5/8	3-3/8	5	1/2	● ○
4VSRCA 0500 003 412	-	1/2	R0.03	5/8	4-1/8	6	1/2	●
4VSRCA 0500 003 600	4VSRCA 0500 003 F600	1/2	R0.03	5/8	3-3/8	6	1/2	● ○
4VSRCA 0500 006 150	-	1/2	R0.06	5/8	1-1/2	4	1/2	●
4VSRCA 0500 006 337	-	1/2	R0.06	5/8	3-3/8	5	1/2	●

● Stocked ○ Non-stock standard item Unit : Inch

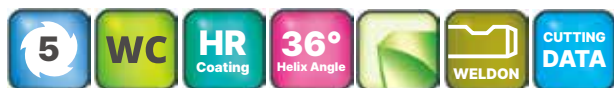
Order Number		Diameter D	Corner radius R	Length of cut L1	Effective Length L2	Overall Length L	Shank Diameter d	Stock
PLAIN	FLAT							
4VSRCA 0500 006 600	-	1/2	R0.06	5/8	3-3/8	6	1/2	●
4VSRCA 0500 009 150	-	1/2	R0.09	5/8	1-1/2	4	1/2	●
4VSRCA 0500 009 337	-	1/2	R0.09	5/8	3-3/8	5	1/2	●
4VSRCA 0500 009 600	-	1/2	R0.09	5/8	3-3/8	6	1/2	●
4VSRCA 0500 0125 150	-	1/2	R0.125	5/8	1-1/2	4	1/2	●
4VSRCA 0500 0125 337	-	1/2	R0.125	5/8	3-3/8	5	1/2	●
4VSRCA 0500 0125 600	-	1/2	R0.125	5/8	3-3/8	6	1/2	●
4VSRCA 0625 003 162	4VSRCA 0625 003 F162	5/8	R0.03	3/4	1-5/8	4	5/8	● ○
4VSRCA 0625 003 412	-	5/8	R0.03	3/4	4-1/8	6	5/8	●
4VSRCA 0625 003 601	4VSRCA 0625 003 F601	5/8	R0.03	3/4	3-3/8	6	5/8	● ○
4VSRCA 0625 006 162	-	5/8	R0.06	3/4	1-5/8	4	5/8	●
4VSRCA 0625 006 412	-	5/8	R0.06	3/4	4-1/8	6	5/8	●
4VSRCA 0625 006 601	-	5/8	R0.06	3/4	3-3/8	6	5/8	●
4VSRCA 0625 009 162	-	5/8	R0.09	3/4	1-5/8	4	5/8	●
4VSRCA 0625 009 412	-	5/8	R0.09	3/4	4-1/8	6	5/8	●
4VSRCA 0625 009 601	-	5/8	R0.09	3/4	3-3/8	6	5/8	●
4VSRCA 0625 0125 162	-	5/8	R0.125	3/4	1-5/8	4	5/8	●
4VSRCA 0625 0125 412	-	5/8	R0.125	3/4	4-1/8	6	3/4	●
4VSRCA 0625 0125 601	-	5/8	R0.125	3/4	3-3/8	6	3/4	●
4VSRCA 0750 003 200	-	3/4	R0.03	1	2	4	3/4	● ○
4VSRCA 0750 003 300	4VSRCA 0750 003 F300	3/4	R0.03	1	3	5	3/4	● ○
4VSRCA 0750 003 600	4VSRCA 0750 003 F600	3/4	R0.03	1	3	6	3/4	● ○
4VSRCA 0750 006 200	-	3/4	R0.06	1	2	4	3/4	●
4VSRCA 0750 006 300	-	3/4	R0.06	1	3	5	3/4	●
4VSRCA 0750 006 600	-	3/4	R0.06	1	3	6	3/4	●
4VSRCA 0750 009 200	-	3/4	R0.09	1	2	4	3/4	●
4VSRCA 0750 009 300	-	3/4	R0.09	1	3	5	3/4	●
4VSRCA 0750 009 600	-	3/4	R0.09	1	3	6	3/4	●
4VSRCA 0750 0125 200	-	3/4	R0.125	1	2	4	3/4	●
4VSRCA 0750 0125 300	-	3/4	R0.125	1	3	5	3/4	●
4VSRCA 0750 0125 600	-	3/4	R0.125	1	3	6	3/4	●
4VSRCA 0750 019 200	-	3/4	R0.19	1	2	4	3/4	●
4VSRCA 0750 019 300	-	3/4	R0.19	1	3	5	3/4	●
4VSRCA 0750 019 600	-	3/4	R0.19	1	3	6	3/4	●
4VSRCA 0750 025 200	-	3/4	R0.25	1	2	4	3/4	●
4VSRCA 0750 025 300	-	3/4	R0.25	1	3	5	3/4	●
4VSRCA 0750 025 600	-	3/4	R0.25	1	3	6	3/4	●
4VSRCA 1000 003 200	4VSRCA 1000 003 F200	1	R0.03	1-1/8	2	4	1	● ○
4VSRCA 1000 003 400	4VSRCA 1000 003 F400	1	R0.03	1-1/8	4	6	1	● ○
4VSRCA 1000 003 601	4VSRCA 1000 003 F601	1	R0.03	1-1/8	3	6	1	● ○
4VSRCA 1000 006 200	-	1	R0.06	1-1/8	2	4	1	●
4VSRCA 1000 006 400	-	1	R0.06	1-1/8	4	6	1	●
4VSRCA 1000 006 601	-	1	R0.06	1-1/8	3	6	1	●
4VSRCA 1000 009 200	-	1	R0.09	1-1/8	2	4	1	●
4VSRCA 1000 009 400	-	1	R0.09	1-1/8	4	6	1	●
4VSRCA 1000 009 601	-	1	R0.09	1-1/8	3	6	1	●
4VSRCA 1000 0125 200	-	1	R0.125	1-1/8	2	4	1	●
4VSRCA 1000 0125 400	-	1	R0.125	1-1/8	4	6	1	●
4VSRCA 1000 0125 601	-	1	R0.125	1-1/8	3	6	1	●
4VSRCA 1000 019 200	-	1	R0.19	1-1/8	2	4	1	●

● Stocked ○ Non-stock standard item Unit : Inch

[illegible]



- **Roughing Endmills for alloy steels, SUS, Inconel, Mild steels and various hard-to-cut materials.**
- Chip breaker designed for side flute and HR coating improves wear resistance and reduces stress on the cutting edges
- Chatter-resistant design minimizes end mill vibrations.
- A high-TRS, fine-grain (0.5 μm) WC grade helps minimize fracture.

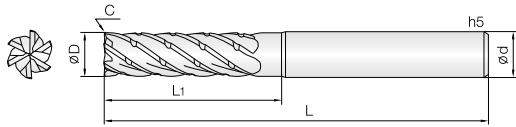


C Cutting Weldon Shank 51P

D Size	D Tolerance
Ø0.25 ~ 0.5	+0 ~ -0.001
Ø0.625 ~ 1	+0 ~ -0.002

● Stocked ○ Non-stock standard item Unit : Inch

[illegible]



- **Roughing Endmills for alloy steels, SUS, Inconel, Mild steels and various hard-to-cut materials.**

- Chip breaker designed for side flute and HR coating improves wear resistance and reduces stress on the cutting edges
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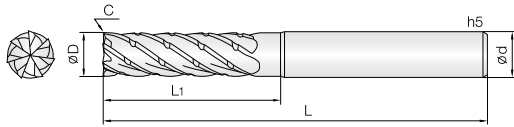


C Cutting	Weldon Shank	51P
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D Size	D Tolerance
Ø0.25 ~ 0.5	+0 ~ -0.001
Ø0.625 ~ 1	+0 ~ -0.002

● Stocked ○ Non-stock standard item Unit : Inch

[illegible]



- **Roughing Endmills for alloy steels, SUS, Inconel, Mild steels and various hard-to-cut materials.**
- Chip breaker designed for side flute and HR coating improves wear resistance and reduces stress on the cutting edges
- Chatter-resistant design minimizes end mill vibrations.
- A high-TRS, fine-grain (0.5 μm) WC grade helps minimize fracture.

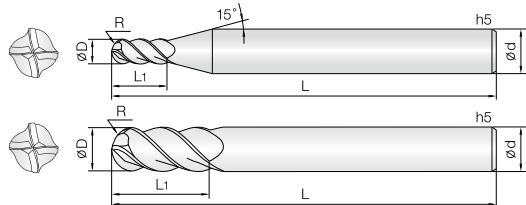


C Cutting Weldon Shank 51P

D Size	D Tolerance
Ø0.25 ~ 0.5	+0 ~ -0.001
Ø0.625 ~ 1	+0 ~ -0.002

● Stocked ○ Non-stock standard item Unit : Inch

[illegible]

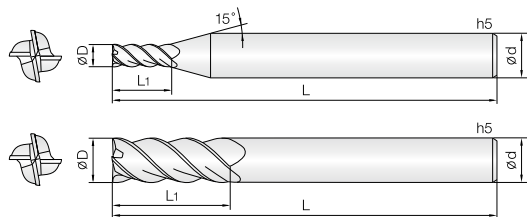


- Mid-low hardened steels (~HRc42), Mild steels, Cast irons, SUS



Condition	D Size	D Tolerance
ØD = Ød	Ø3 ~ 6	-0.005 ~ -0.015mm
	Ø8 ~ 12	-0.01 ~ -0.025mm
	Ø16 ~ 25	-0.015 ~ -0.03mm

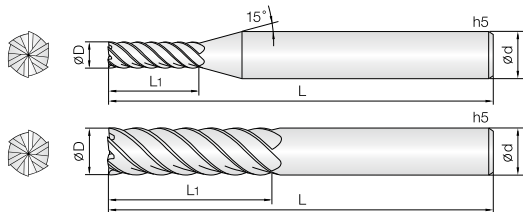
[illegible][illegible]



-

Unit : mm

New



Ø 3 ~20

Shield Edge

53P

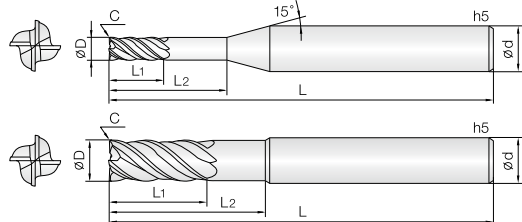
- **Mid-low hardened steels (~HRC42), Mild steels, Cast irons, SUS**
- HR coating reduces stress of flute and enhances wear resistance.
- Deep hole helix design enable chip evacuation and reduce surface roughness.

Condition	D Size	D Tolerance
ØD ≠ Ød	Ø3 ~ 6	+0 ~ -0.01mm
	Ø8 ~ 20	+0 ~ -0.015mm

Condition	D Size	D Tolerance
ØD = Ød	Ø6	-0.005 ~ -0.015mm
	Ø8 ~ 12	-0.01 ~ -0.025mm
	Ø14 ~ 20	-0.015 ~ -0.03mm

Unit : mm

[illegible][illegible]



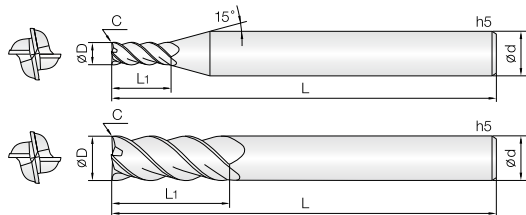
C Cutting

54P

- Chip evacuation is excellent for slotting, and thick double-core designed enables continuous machining without chattering.
- Minimize fracturing by high TRS fine(0.5μm) WC grade.
- HR coating improves wear resistance and helps reduce edge stress

Condition	D Size	D Tolerance
ØD = Ød	Ø6	-0.005 ~ -0.015mm
	Ø8 ~ 12	-0.01 ~ -0.025mm
	Ø14 ~ 20	-0.015 ~ -0.03mm

[illegible][illegible]



01~25

03-20

C. Cutting

52P

- Mid-low hardened steels (~HRC42), Mild steels, Cast irons, SUS

- HR coating reduces stress of flute and enhances wear resistance.
- The variable-pitch and variable-helix geometry reduces chatter.
- 4flutes and deep pocket enables chip evacuation and reduce surface roughness.

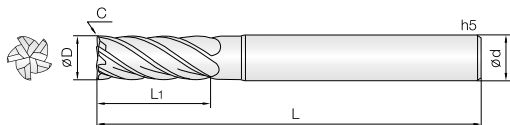
Condition	D Size	D Tolerance
ØD ≠ Ød	Ø1 ~ 6	+0 ~ -0.01mm
	Ø8 ~ 20	+0 ~ -0.015mm

Condition	D Size	D Tolerance
ØD = Ød	Ø4-6	-0.005 ~ -0.015mm
	Ø8 ~ 12	-0.01 ~ -0.025mm
	Ø14 ~ 20	-0.015 ~ -0.03mm

Unit : mm

Order Number	Diameter D	Length of cut L1	Chamfer C	Overall Length L	Shank Dia d
4VCC 010 020 S04	1	2	0.03	45	4
4VCC 010 025 S06	1	2.5	0.03	50	6
4VCC 010 035 S06	1	3.5	0.03	50	6
4VCC 012 020 S04	1.2	2	0.04	45	4
4VCC 012 030 S06	1.2	3	0.04	50	6
4VCC 012 050 S06	1.2	5	0.04	50	6
4VCC 015 030 S04	1.5	3	0.05	45	4
4VCC 015 040 S06	1.5	4	0.05	50	6
4VCC 015 060 S06	1.5	6	0.05	50	6
4VCC 020 040 S04	2	4	0.075	45	4
4VCC 020 060 S06	2	6	0.075	50	6
4VCC 020 090 S06	2	9	0.075	50	6
4VCC 025 050 S04	2.5	5	0.08	50	4
4VCC 025 070 S06	2.5	7	0.08	50	6
4VCC 025 100 S06	2.5	10	0.08	50	6
4VCC 030 060 S04	3	6	0.1	50	4
4VCC 030 060 S06	3	6	0.1	50	6
4VCC 030 080 S06	3	8	0.1	50	6
4VCC 030 120 S06	3	12	0.1	50	6
4VCC 040 080 S04	4	8	0.15	50	4
4VCC 040 080 S06	4	8	0.15	50	6
4VCC 040 100 S06	4	10	0.15	50	6
4VCC 040 150 S06	4	15	0.15	60	6
4VCC 050 100 S06	5	10	0.15	50	6
4VCC 050 150 S06	5	15	0.15	60	6
4VCC 050 200 S06	5	20	0.15	70	6
4VCC 060 120 S06	6	12	0.2	50	6
4VCC 060 150 S06	6	15	0.2	60	6
4VCC 060 200 S06	6	20	0.2	70	6
4VCC 080 160 S08	8	16	0.2	60	8
4VCC 080 200 S08	8	20	0.2	70	8
4VCC 080 300 S08	8	30	0.2	80	8
4VCC 100 200 S10	10	20	0.3	75	10
4VCC 100 250 S10	10	25	0.3	75	10
4VCC 100 350 S10	10	35	0.3	90	10
4VCC 120 240 S12	12	24	0.35	75	12
4VCC 120 300 S12	12	30	0.35	80	12
4VCC 120 450 S12	12	45	0.35	100	12
New 4VCC 140 360 S14	14	36	0.38	90	14
New 4VCC 140 500 S14	14	50	0.38	110	14
4VCC 160 400 S16	16	40	0.4	100	16
4VCC 160 600 S16	16	60	0.4	120	16
4VCC 200 450 S20	20	45	0.5	100	20
4VCC 200 650 S20	20	65	0.5	120	20

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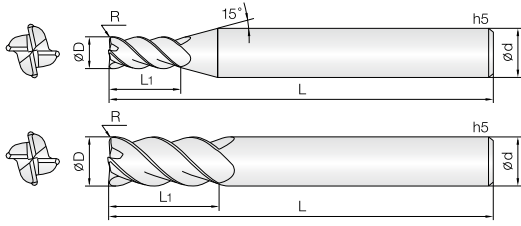


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Unit : mm[illegible]

4VSC America (Metric)

4 Flutes Various Symmetry Corner R End Mills for Steels, Cast Irons & Stainless Steels



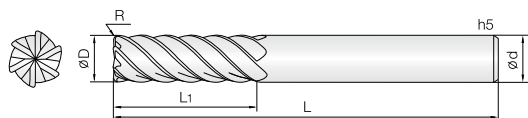
- Mid-low hardened steels (~HRC42), Mild steels, Cast irons, SUS
- HR coating reduces stress of flute and enhances wear resistance.
- The variable-pitch and variable-helix geometry reduces chatter.
- 4flutes and deep pocket enables chip evacuation and reduce surface roughness.



Condition	D Size	D Tolerance	Condition	D Size	D Tolerance
$\varnothing D \neq \varnothing d$	$\varnothing 1 - 20$	$+0 - -0.01\text{mm}$	$\varnothing D = \varnothing d$	$\varnothing 6 - 12$	$-0.005 - -0.015\text{mm}$
				$\varnothing 14 - 20$	$-0.01 - -0.02\text{mm}$

Unit : mm

Order Number	Diameter D x R	Length of cut L1	Overall Length L	Shank Dia d	Order Number	Diameter D x R	Length of cut L1	Overall Length L	Shank Dia d
4VSC 010 001 S06	1 X R0.1	2.5	50	6	New 4VSC 160 050 S16	16 X R5	40	100	16
4VSC 010 002 S06	1 X R0.2	2.5	50	6	4VSC 200 005 S20	20 X R0.5	45	100	20
4VSC 012 001 S06	1.2 X R0.1	3	50	6	4VSC 200 010 S20	20 X R1	45	100	20
4VSC 012 002 S06	1.2 X R0.2	3	50	6	4VSC 200 020 S20	20 X R2	45	100	20
4VSC 015 001 S06	1.5 X R0.1	4	50	6	4VSC 200 030 S20	20 X R3	45	100	20
4VSC 015 002 S06	1.5 X R0.2	4	50	6	New 4VSC 200 040 S20	20 X R4	45	100	20
4VSC 020 001 S06	2 X R0.1	6	50	6	New 4VSC 200 050 S20	20 X R5	45	100	20
4VSC 020 002 S06	2 X R0.2	6	50	6					
4VSC 025 001 S06	2.5 X R0.1	7	50	6					
4VSC 025 002 S06	2.5 X R0.2	7	50	6					
4VSC 030 002 S06	3 X R0.2	8	50	6					
4VSC 030 003 S06	3 X R0.3	8	50	6					
4VSC 030 005 S06	3 X R0.5	8	50	6					
4VSC 040 002 S06	4 X R0.2	10	50	6					
4VSC 040 003 S06	4 X R0.3	10	50	6					
4VSC 040 005 S06	4 X R0.5	10	50	6					
New 4VSC 040 010 S06	4 X R1	10	50	6					
4VSC 050 002 S06	5 X R0.2	15	60	6					
4VSC 050 003 S06	5 X R0.3	15	60	6					
4VSC 050 005 S06	5 X R0.5	15	60	6					
New 4VSC 050 010 S06	5 X R1	15	60	6					
4VSC 060 002 S06	6 X R0.2	15	60	6					
4VSC 060 003 S06	6 X R0.3	15	60	6					
4VSC 060 005 S06	6 X R0.5	15	60	6					
4VSC 060 010 S06	6 X R1	15	60	6					
New 4VSC 060 015 S06	6 X R1.5	15	60	6					
4VSC 080 003 S08	8 X R0.3	20	70	8					
4VSC 080 005 S08	8 X R0.5	20	70	8					
4VSC 080 010 S08	8 X R1	20	70	8					
New 4VSC 080 020 S08	8 X R2	20	70	8					
4VSC 100 003 S10	10 X R0.3	25	75	10					
4VSC 100 005 S10	10 X R0.5	25	75	10					
4VSC 100 010 S10	10 X R1	25	75	10					
4VSC 100 015 S10	10 X R1.5	25	75	10					
4VSC 100 020 S10	10 X R2	25	75	10					
New 4VSC 100 030 S10	10 X R3	25	75	10					
4VSC 120 005 S12	12 X R0.5	30	80	12					
4VSC 120 010 S12	12 X R1	30	80	12					
4VSC 120 020 S12	12 X R2	30	80	12					
New 4VSC 120 030 S12	12 X R3	30	80	12					
New 4VSC 140 005 S14	14 X R0.5	36	90	14					
New 4VSC 140 010 S14	14 X R1	36	90	14					
New 4VSC 140 020 S14	14 X R2	36	90	14					
New 4VSC 140 030 S14	14 X R3	36	90	14					
New 4VSC 140 040 S14	14 X R4	36	90	14					
4VSC 160 005 S16	16 X R0.5	40	100	16					
4VSC 160 010 S16	16 X R1	40	100	16					
4VSC 160 020 S16	16 X R2	40	100	16					
4VSC 160 030 S16	16 X R3	40	100	16					
New 4VSC 160 040 S16	16 X R4	40	100	16					



- **Mid-low hardened steels (~HRC42), Mild steels, Cast irons, SUS**
- HR coating reduces stress of flute and enhances wear resistance.
- 45° helix design is suitable for high speed machining.



Condition	D Size	D Tolerance
ØD ≠ Ød	Ø6 ~ 20	+0 ~ -0.01mm

Condition	D Size	D Tolerance
$\varnothing D = \varnothing d$	$\varnothing 6 \sim 12$	$-0.005 \sim -0.015\text{mm}$
	$\varnothing 14 \sim 20$	$-0.01 \sim -0.02\text{mm}$

Unit : mm

[illegible]



- HR coating improves wear resistance and helps reduce edge stress in various applications.
- Strong design for protection against chattering.
- The corner radius helps prevent bottom-edge chipping.
- Minimize fracturing at high feed by high TRS fine WC grade.



42°
Helix Angle



R0.5

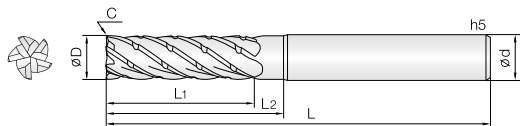
54P

Condition	D Size	D Tolerance
ØD ≠ Ød	Ø6 ~ 20	+0 ~ -0.01mm

Condition	D Size	D Tolerance
$\varnothing D = \varnothing d$	$\varnothing 6 \sim 12$	$-0.005 \sim -0.015\text{mm}$
	$\varnothing 14 \sim 20$	$-0.01 \sim -0.02\text{mm}$

Unit : mm

[illegible][illegible]



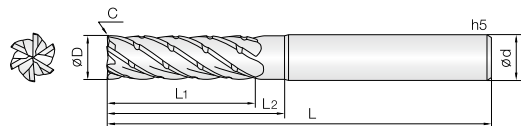
- Chip breaker designed for side flute and HR coating improves wear resistance and helps reduce edge stress in various applications.
- Chatter-resistant design minimizes end mill vibrations.
- A high-TRS, fine-grain (0.5 μm) WC grade helps minimize fracture.



Weldon Shank

Condition	D Size	D Tolerance
ØD = Ød	Ø6	-0.005 ~ -0.015mm
	Ø8 ~ 12	-0.01 ~ -0.025mm
	Ø14 ~ 20	-0.015 ~ -0.03mm

[illegible][illegible]



- Chip breaker designed for side flute and HR coating improves wear resistance and helps reduce edge stress in various applications.
- Chatter-resistant design minimizes end mill vibrations.
- A high-TRS, fine-grain (0.5 μm) WC grade helps minimize fracture.



55P

55P

Weldo

Weldo

Condition	D Size	D Tolerance
ØD ≠ Ød	Ø6	+0 ~ -0.01mm
	Ø8 ~ 20	+0 ~ -0.015mm

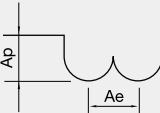
Condition	D Size	D Tolerance
ØD = Ød	Ø6	-0.005 ~ -0.015mm
	Ø8 ~ 12	-0.01 ~ -0.025mm
	Ø14 ~ 20	-0.015 ~ -0.03mm

Unit : mm

[illegible][illegible]

4VSBA Cutting Condition

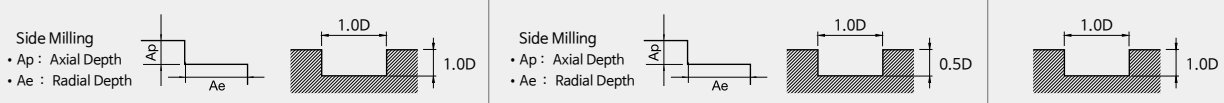
• SFM : ft./min • RPM : rev./min
• fz : in./tooth • Feed : inch/min

Material	Structural steel / Carbon Steels / Gray cast iron SS / SC / FC				Tool steels / Mold steels SCM / HPM				Titanium alloy steels Ti6Al				Heat Resistance Alloy				Stainless Steels SUS304 / SUS316			
	~30HRc				30 ~ 40HRc				-				-				-			
AP	1.5D				1.0D				0.3D				0.3D				1.0D			
AE	0.5D				0.5D				0.5D				0.2D				0.5D			
Outside Diameter	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED
1/8	400	.0011	12,229	51.36	220	.0007	6,726	19.10	150	.0008	4,586	13.94	65	.0006	1,987	5.09	270	.0008	8,255	27.41
5/32	400	.0011	9,783	44.22	220	.0008	5,381	16.14	150	.0008	3,669	11.59	65	.0007	1,590	4.39	270	.0009	6,604	22.98
3/16	400	.0012	8,153	40.44	220	.0008	4,484	14.71	150	.0008	3,057	10.27	65	.0007	1,325	3.66	270	.0010	5,503	21.13
7/32	400	.0016	6,988	44.17	220	.0010	3,843	15.99	150	.0014	2,621	14.15	65	.0010	1,136	4.68	270	.0013	4,717	25.28
1/4	400	.0017	6,115	42.31	220	.0013	3,363	16.82	150	.0015	2,293	13.57	65	.0011	994	4.29	270	.0015	4,127	24.10
9/32	400	.0019	5,435	42.18	220	.0013	2,989	15.90	150	.0016	2,038	12.80	65	.0011	883	3.85	270	.0015	3,669	21.87
5/16	400	.0021	4,892	40.11	220	.0014	2,690	14.85	150	.0015	1,834	11.23	65	.0012	795	3.69	270	.0015	3,302	20.34
11/32	400	.0025	4,447	45.18	220	.0016	2,446	15.36	150	.0015	1,668	10.14	65	.0013	723	3.70	270	.0016	3,002	18.85
3/8	400	.0026	4,076	41.58	220	.0017	2,242	15.32	150	.0018	1,529	10.76	65	.0014	662	3.60	270	.0019	2,752	20.36
13/32	400	.0026	3,763	39.59	220	.0019	2,070	15.40	150	.0018	1,411	10.10	65	.0015	611	3.62	270	.0019	2,540	19.61
7/16	400	.0029	3,501	39.91	220	.0021	1,926	15.79	150	.0019	1,313	9.77	65	.0016	569	3.55	270	.0021	2,363	19.66
15/32	400	.0029	3,494	41.09	220	.0021	1,922	16.07	150	.0020	1,310	10.43	65	.0016	568	3.61	270	.0022	2,359	21.13
1/2	400	.0031	3,057	37.42	220	.0021	1,682	14.06	150	.0021	1,146	9.40	65	.0017	497	3.34	270	.0024	2,064	19.65
5/8	400	.0031	2,446	30.23	220	.0022	1,345	11.86	150	.0022	917	8.22	65	.0017	397	2.75	270	.0025	1,651	16.18
3/4	400	.0035	2,038	28.86	220	.0025	1,121	11.39	150	.0025	764	7.49	65	.0019	331	2.45	270	.0026	1,376	14.09
1	400	.0041	1,529	24.76	220	.0030	841	9.95	150	.0026	573	5.89	65	.0019	248	1.88	270	.0026	1,032	10.90
Depth of Cut	 Ap : Axial Depth Ae : Radial Depth D : Outside Diameter n : Speed (min⁻¹) Vf : Feed																			

- When entering the tool to the workpiece, enter the tool from outside to the workpiece.
- If the diameter or effective length of your tool are not on the table, adjust it compared similarity value on the table
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If the table over the maximum RPM and feed of your machine, or found red heat on the material, adjust RPM and feed in the same proportion.
- Use a machine with low vibration and good rigidity ($\phi 1$ or less, the vibration tolerance management should be within 5 μ m)
- Air blow or mist coolants are recommended and note for chip emission, heat, or ignition.

5VSEA, 5VSCA Cutting Condition

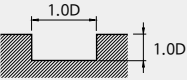
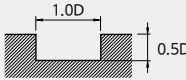
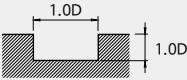
• SFM : ft./min • RPM : rev./min
• fz : in./tooth • Feed : inch/min

Material	Structural steel / Carbon Steels / Gray cast iron SS / SC / FC				Tool steels / Mold steels SCM / HPM				Titanium alloy steels Ti6Al				Heat Resistance Alloy				Stainless Steels SUS304 / SUS316			
	~30HRc				30 ~ 40HRc				-				-				-			
AP	1.5D				1.2D				1.0D				1.0D				1.5D			
AE	0.5D				0.5D				0.35D				0.25D				0.5D			
Outside Diameter	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED
1/8	650	.00120	19,873	119	330	.00080	10,089	40	335	.00080	10,242	41	120	.00070	3,669	13	550	.00120	16,815	101
5/32	650	.00130	15,898	103	330	.00090	8,071	36	335	.00080	8,194	33	120	.00080	2,935	12	550	.00120	13,452	81
3/16	650	.00140	13,248	93	330	.00090	6,726	30	335	.00090	6,828	31	120	.00090	2,446	11	550	.00130	11,210	73
7/32	650	.00150	11,356	85	330	.00110	5,765	32	335	.00090	5,853	26	120	.00090	2,096	9	550	.00130	9,609	62
1/4	650	.00191	9,936	95	330	.00113	5,045	29	335	.00101	5,121	26	120	.00099	1,834	9	550	.00143	8,408	60
5/16	650	.00311	7,949	123	330	.00209	4,036	42	335	.00168	4,097	35	120	.00152	1,468	11	550	.00231	6,726	78
3/8	650	.00401	6,624	133	330	.00252	3,363	42	335	.00219	3,414	37	120	.00201	1,223	12	550	.00298	5,605	84
1/2	650	.00492	4,968	122	330	.00306	2,522	39	335	.00301	2,561	39	120	.00271	917	12	550	.00373	4,204	78
5/8	650	.00569	3,975	113	330	.00346	2,018	35	335	.00339	2,048	35	120	.00311	734	11	550	.00449	3,363	75
3/4	650	.00632	3,312	105	330	.00390	1,682	33	335	.00393	1,707	34	120	.00359	611	11	550	.00509	2,803	71
1	650	.00666	2,484	83	330	.00432	1,261	27	335	.00400	1,280	26	120	.00367	459	8	550	.00536	2,102	56
Depth of Cut	 Side Milling • Ap : Axial Depth • Ae : Radial Depth																			

- When entering the tool to the workpiece, enter the tool from outside to the workpiece.
- If the diameter or effective length of your tool are not on the table, adjust it compared similarity value on the table
- The cutting edges are precision-ground. If you want to measure the tool, and to avoid damaging on the flutes, use non-contact measuring method.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If the table over the maximum RPM and feed of your machine, or found red heat on the material, adjust RPM and feed in the same proportion.
- Use a machine with low vibration and good rigidity ($\phi 1$ or less, the vibration tolerance management should be within 5 μ m)
- Air blow or mist coolants are recommended and note for chip emission, heat, or ignition.

4VSEA, 4VSREA, 4VCCA, 4VSCA, 4VSRCA Cutting Condition

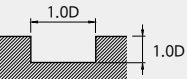
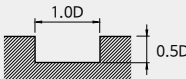
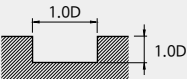
• SFM : ft./min • RPM : rev./min
• fz : in./tooth • Feed : inch/min

Material	Structural steel / Carbon Steels / Gray cast iron SS / SC / FC				Tool steels / Mold steels SCM / HPM				Titanium alloy steels Ti6Al				Heat Resistance Alloy				Stainless Steels SUS304 / SUS316			
	~30HRc				30 ~ 40HRc				-				-				-			
AP	1.5D				1.2D				1.0D				1.0D				1.5D			
AE	0.5D				0.5D				0.35D				0.25D				0.5D			
Outside Diameter	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED
1/8	400	.0003	12,229	16.63	220	.0001	6,723	3.76	195	.0002	5,959	5.72	90	.0002	2,752	2.64	400	.0004	12,229	17.12
5/32	400	.0004	9,783	15.26	220	.0002	5,378	4.09	195	.0002	4,767	4.39	90	.0003	2,201	2.91	400	.0004	9,783	15.26
3/16	400	.0004	8,153	14.35	220	.0002	4,482	4.30	195	.0003	3,973	5.40	90	.0004	1,834	3.23	400	.0005	8,153	17.61
7/32	400	.0006	6,988	15.65	220	.0004	3,842	5.38	195	.0004	3,405	5.72	90	.0005	1,572	3.08	400	.0006	6,988	17.33
1/4	400	.0007	6,115	15.90	220	.0004	3,361	5.65	195	.0005	2,979	6.08	90	.0005	1,376	2.92	400	.0008	6,115	19.08
9/32	400	.0009	5,435	18.91	220	.0006	2,988	6.81	195	.0007	2,648	7.20	90	.0006	1,223	2.84	400	.0008	5,435	18.26
5/16	400	.0011	4,892	20.55	220	.0007	2,689	7.31	195	.0008	2,384	7.91	90	.0006	1,101	2.82	400	.0009	4,892	17.81
11/32	400	.0012	4,447	22.06	220	.0007	2,445	7.24	195	.0010	2,167	9.01	90	.0007	1,001	2.92	400	.0013	4,447	22.24
3/8	400	.0014	4,076	23.32	220	.0009	2,241	7.98	195	.0013	1,986	9.93	90	.0010	917	3.82	400	.0015	4,076	25.00
13/32	400	.0016	3,763	23.78	220	.0009	2,069	7.78	195	.0015	1,833	11.29	90	.0013	847	4.30	400	.0016	3,763	24.68
7/16	400	.0017	3,501	23.11	220	.0011	1,925	8.08	195	.0016	1,706	10.99	90	.0013	788	4.19	400	.0018	3,501	25.35
15/32	400	.0017	3,494	24.18	220	.0011	1,921	8.76	195	.0019	1,703	12.73	90	.0016	786	4.91	400	.0020	3,494	27.67
1/2	400	.0018	3,057	22.14	220	.0012	1,681	8.27	195	.0021	1,490	12.39	90	.0016	688	4.43	400	.0020	3,057	24.95
5/8	400	.0021	2,446	20.06	220	.0015	1,345	7.91	195	.0021	1,192	10.20	90	.0017	550	3.74	400	.0025	2,446	23.97
3/4	400	.0023	2,038	19.08	220	.0016	1,120	7.08	195	.0025	993	10.09	90	.0020	459	3.74	400	.0030	2,038	24.54
1	400	.0025	1,529	15.16	220	.0018	840	6.18	195	.0026	745	7.63	90	.0021	344	2.88	400	.0031	1,529	18.83
Depth of Cut	Side Milling • Ap : Axial Depth • Ae : Radial Depth								Side Milling • Ap : Axial Depth • Ae : Radial Depth											

- When entering the tool to the workpiece, enter the tool from outside to the workpiece.
- If the diameter or effective length of your tool are not on the table, adjust it compared similarity value on the table
- The cutting edges are precision-ground. If you want to measure the tool, and to avoid damaging on the flutes, use non-contact measuring method.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If the table over the maximum RPM and feed of your machine, or found red heat on the material, adjust RPM and feed in the same proportion.
- Use a machine with low vibration and good rigidity ($\phi 1$ or less, the vibration tolerance management should be within $5\mu\text{m}$)
- Air blow or mist coolants are recommended and note for chip emission, heat, or ignition.

6VSEA, 6VSCA Cutting Condition

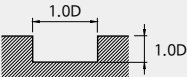
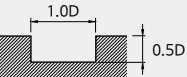
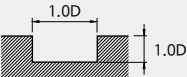
• SFM : ft./min • RPM : rev./min
• fz : in./tooth • Feed : inch/min

Material	Structural steel / Carbon Steels / Gray cast iron SS / SC / FC				Tool steels / Mold steels SCM / HPM				Titanium alloy steels Ti6Al				Heat Resistance Alloy				Stainless Steels SUS304 / SUS316			
	~30HRc				30 ~ 40HRc				-				-				-			
AP	1.5D				1.5D				1.5D				1.5D				1.5D			
AE	0.5D				0.5D				0.5D				0.5D				0.5D			
Outside Diameter	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED
1/4	750	.00268	11,465	184	350	.00155	5,350	50	385	.00125	5,885	44	140	.00120	2,140	15	600	.00170	9,172	94
5/16	750	.00435	9,172	239	350	.00295	4,280	76	385	.00210	4,708	59	140	.00200	1,712	21	600	.00310	7,338	136
3/8	750	.00555	7,643	255	350	.00350	3,567	75	385	.00255	3,924	60	140	.00245	1,427	21	600	.00365	6,115	134
1/2	750	.00675	5,732	232	350	.00410	2,675	66	385	.00315	2,943	56	140	.00310	1,070	20	600	.00446	4,586	123
5/8	750	.00785	4,586	216	350	.00455	2,140	58	385	.00375	2,354	53	140	.00370	856	19	600	.00535	3,669	118
3/4	750	.00865	3,822	198	350	.00520	1,783	56	385	.00430	1,962	51	140	.00420	713	18	600	.00585	3,057	107
1	750	.00910	2,866	104	330	.00567	1,261	43	385	.00440	1,471	39	140	.00430	535	14	600	.00625	2,293	86
Depth of Cut	Side Milling • Ap : Axial Depth • Ae : Radial Depth								Side Milling • Ap : Axial Depth • Ae : Radial Depth											

- If the effective length is long, reduce the RPM and feed in the same proportion.
- When entering the tool to the workpiece, enter the tool from outside to the workpiece.
- If the diameter or effective length of your tool are not on the table, adjust it compared similarity value on the table.
- 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.
- Air blow or mist coolants are recommended and note for chip emission, heat, or ignition.

7VSEA, 7VSCA Cutting Condition

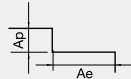
• SFM : ft./min • RPM : rev./min
• fz : in./tooth • Feed : inch/min

Material	Structural steel / Carbon Steels / Gray cast iron SS / SC / FC				Tool steels / Mold steels SCM / HPM				Titanium alloy steels Ti6A				Heat Resistance Alloy				Stainless Steels SUS304 / SUS316			
	~30HRC				30 ~ 40HRC				-				-				-			
AP	2.0D				2.0D				2.0D				2.0D				2.0D			
AE	0.05D				0.05D				0.05D				0.05D				0.05D			
Outside Diameter	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED
1/4	820	.00311	12,535	273	380	.00180	5,809	73	420	.00145	6,420	65	150	.00139	2,293	22	620	.00197	9,478	131
3/8	820	.00644	8,357	377	380	.00406	3,873	110	420	.00296	4,280	89	150	.00284	1,529	30	620	.00423	6,318	187
1/2	820	.00783	6,268	344	380	.00476	2,904	97	420	.00365	3,210	82	150	.00360	1,146	29	620	.00517	4,739	171
5/8	820	.00783	5,014	275	380	.00476	2,324	77	420	.00365	2,568	66	150	.00360	917	23	620	.00517	3,791	137
3/4	820	.01003	4,178	293	380	.00603	1,936	82	420	.00499	2,140	75	150	.00487	764	26	620	.00679	3,159	150
1	820	.01056	3,134	232	380	.00658	1,452	67	420	.00510	1,605	57	150	.00499	573	20	620	.00725	2,369	120
Depth of Cut	Side Milling • Ap : Axial Depth • Ae : Radial Depth  								Side Milling • Ap : Axial Depth • Ae : Radial Depth  											

- If the effective length is long, reduce the RPM and feed in the same proportion.
- When entering the tool to the workpiece, enter the tool from outside to the workpiece.
- If the diameter or effective length of your tool are not on the table, adjust it compared similarity value on the table.
- 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.
- Air blow or mist coolants are recommended and note for chip emission, heat, or ignition.

5~7 TROEA Cutting Condition

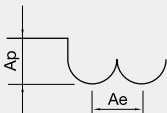
• SFM : ft./min • RPM : rev./min
• fz : in./tooth • Feed : inch/min

Material	Structural steel / Carbon Steels /Gray cast iron SS / SC / FC				Tool steels / Mold steels SCM / HPM				Titanium alloy steels Ti6A				Heat Resistance Alloy				Stainless Steels SUS304 / SUS316			
	~ 30HRc				30 ~ 40HRc				-				-				-			
	AP				3.0D				3.0D				3.0D				3.0D			
AE	0.05D				0.05D				0.05D				0.05D				0.05D			
Outside Diameter	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED
1/4	800	.00425	12,229	312	350	.00305	5,350	98	400	.00215	6,115	79	130	.00225	1,987	27	550	.00310	8,408	156
3/8	800	.00485	8,153	237	350	.00335	3,567	72	400	.00255	4,076	62	130	.00275	1,325	22	550	.00385	5,605	129
1/2	800	.00595	6,115	218	350	.00405	2,675	65	400	.00330	3,057	61	130	.00325	994	19	550	.00435	4,204	110
5/8	800	.00675	4,892	198	350	.00455	2,140	58	400	.00385	2,446	56	130	.00375	795	18	550	.00525	3,363	106
3/4	800	.00780	4,076	191	350	.00525	1,783	56	400	.00455	2,038	56	130	.00435	662	17	550	.00595	2,803	100
1	800	.00825	3,057	151	350	.00535	1,338	43	400	.00460	1,529	42	130	.00455	497	14	550	.00625	2,102	79
Depth of Cut	Side Milling • Ap : Axial Depth • Ae : Radial Depth 																			

- If the effective length is long, reduce the RPM and feed in the same proportion.
- When entering the tool to the workpiece, enter the tool from outside to the workpiece.
- If the diameter or effective length of your tool are not on the table, adjust it compared similarity value on the table.
- 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.
- Air blow or mist coolants are recommended and note for chip emission, heat, or ignition.

4VSB Cutting Condition

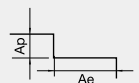
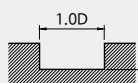
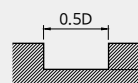
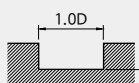
• SFM : ft./min • RPM : rev./min
• fz : in./tooth • Feed : inch/min

Material	Structural steel / Carbon Steels /Gray cast iron SS / SC / FC				Tool steels / Mold steels SCM / HPM				Titanium alloy steels Ti6A				Heat Resistance Alloy				Stainless Steels SUS304 / SUS316			
	~30HRc				30 ~ 40HRc				-				-				-			
	1.0D				1.0D				0.3D				0.3D				1.0D			
AP	0.5D				0.5D				0.5D				0.2D				0.5D			
AE																				
Radius	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED
0.5R	400	.0008	38,811	124.20	220	.0005	21,346	42.69	150	.0005	14,554	29.11	65	.0003	6,307	7.57	270	.0006	26,198	62.87
0.6R	400	.0008	32,343	103.50	220	.0005	17,788	35.58	150	.0006	12,129	29.11	65	.0003	5,256	6.31	270	.0007	21,831	61.13
0.75R	400	.0009	25,874	93.15	220	.0006	14,231	34.15	150	.0006	9,703	23.29	65	.0005	4,205	8.41	270	.0007	17,465	48.90
1R	400	.0009	19,406	69.86	220	.0006	10,673	25.62	150	.0007	7,277	20.38	65	.0005	3,153	6.31	270	.0007	13,099	36.68
1.25R	400	.0010	15,524	62.10	220	.0007	8,538	23.91	150	.0007	5,822	16.30	65	.0005	2,523	5.05	270	.0007	10,479	29.34
1.5R	400	.0011	12,937	54.34	220	.0007	7,115	20.21	150	.0008	4,851	14.75	65	.0006	2,102	5.38	270	.0008	8,733	28.99
2R	400	.0011	9,703	43.86	220	.0008	5,337	16.01	150	.0008	3,639	11.50	65	.0007	1,577	4.35	270	.0009	6,549	22.79
2.5R	400	.0012	7,762	38.50	220	.0008	4,269	14.00	150	.0008	2,911	9.78	65	.0007	1,261	3.48	270	.0010	5,240	20.12
3R	400	.0017	6,469	44.76	220	.0013	3,558	17.79	150	.0015	2,426	14.36	65	.0011	1,051	4.54	270	.0015	4,366	25.50
4R	400	.0021	4,851	39.78	220	.0014	2,668	14.73	150	.0015	1,819	11.13	65	.0012	788	3.66	270	.0015	3,275	20.17
5R	400	.0026	3,881	39.59	220	.0017	2,135	14.58	150	.0018	1,455	10.25	65	.0014	631	3.43	270	.0019	2,620	19.39
6R	400	.0029	3,234	36.87	220	.0021	1,779	14.59	150	.0019	1,213	9.02	65	.0016	526	3.28	270	.0021	2,183	18.16
8R	400	.0031	2,426	29.69	220	.0021	1,334	11.15	150	.0021	910	7.46	65	.0017	394	2.65	270	.0024	1,637	15.59
10R	400	.0035	1,941	27.48	220	.0025	1,067	10.84	150	.0025	728	7.13	65	.0019	315	2.33	270	.0026	1,310	13.41
12.5R	400	.0041	1,552	25.15	220	.0030	854	10.11	150	.0026	582	5.98	65	.0019	252	1.91	270	.0026	1,048	11.07
Depth of Cut					Ap : Axial Depth Ae : Radial Depth D : Outside Diameter n : Speed (min ⁻¹) Vf : Feed															

- When entering the tool to the workpiece, enter the tool from outside to the workpiece.
- If the diameter or effective length of your tool are not on the table, adjust it compared similarity value on the table.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If the table over the maximum RPM and feed of your machine, or found red heat on the material, adjust RPM and feed in the same proportion.
- Use a machine with low vibration and good rigidity (ø 1 or less, the vibration tolerance management should be within 5µm)
- Air blow or mist coolants are recommended and note for chip emission, heat, or ignition.

4VSE/4VCC/4VSC Cutting Condition

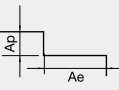
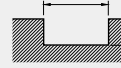
• SFM : ft./min • RPM : rev./min
• fz : in./tooth • Feed : inch/min

Material	Structural steel / Carbon Steels / Gray cast iron SS / SC / FC				Tool steels / Mold steels SCM / HPM				Titanium alloy steels Ti6A				Heat Resistance Alloy				Stainless Steels SUS304 / SUS316						
	~30HRc				30 ~ 40HRc				-				-				-						
	AP				AE				AP				AE				AP				AE		
Outside Diameter	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED			
ø1	400	.0002	38,811	31.05	220	.0001	21,346	8.54	195	.0001	18,920	7.57	90	.0001	8,733	3.49	400	.0001	38,811	15.52			
ø1.2	400	.0002	32,343	25.87	220	.0001	17,788	7.12	195	.0001	15,767	6.31	90	.0001	7,277	2.91	400	.0001	32,343	12.94			
ø1.5	400	.0002	25,874	20.70	220	.0001	14,231	5.69	195	.0001	12,614	5.05	90	.0001	5,822	2.33	400	.0002	25,874	20.70			
ø2	400	.0002	19,406	15.52	220	.0001	10,673	4.27	195	.0001	9,460	3.78	90	.0001	4,366	1.75	400	.0002	19,406	15.52			
ø2.5	400	.0003	15,524	18.63	220	.0001	8,538	3.42	195	.0002	7,568	6.05	90	.0002	3,493	2.79	400	.0002	15,524	12.42			
ø3	400	.0003	12,937	17.59	220	.0001	7,115	3.98	195	.0002	6,307	6.05	90	.0002	2,911	2.79	400	.0004	12,937	18.11			
ø4	400	.0004	9,703	15.14	220	.0002	5,337	4.06	195	.0002	4,730	4.35	90	.0003	2,183	2.88	400	.0004	9,703	15.14			
ø5	400	.0004	7,762	13.66	220	.0002	4,269	4.10	195	.0003	3,784	5.15	90	.0004	1,747	3.07	400	.0005	7,762	16.77			
ø6	400	.0007	6,469	16.82	220	.0004	3,558	5.98	195	.0005	3,153	6.43	90	.0005	1,455	3.09	400	.0008	6,469	20.18			
ø8	400	.0011	4,851	20.38	220	.0007	2,668	7.26	195	.0008	2,365	7.85	90	.0006	1,092	2.79	400	.0009	4,851	17.66			
ø10	400	.0014	3,881	22.20	220	.0009	2,135	7.60	195	.0013	1,892	9.46	90	.0010	873	3.63	400	.0015	3,881	23.80			
ø12	400	.0017	3,234	21.35	220	.0011	1,779	7.47	195	.0016	1,577	10.15	90	.0013	728	3.87	400	.0018	3,234	23.42			
ø16	400	.0018	2,426	17.56	220	.0012	1,334	6.56	195	.0021	1,183	9.84	90	.0016	546	3.51	400	.0020	2,426	19.79			
ø20	400	.0023	1,941	18.16	220	.0016	1,067	6.75	195	.0025	946	9.61	90	.0020	437	3.56	400	.0030	1,941	23.36			
Depth of Cut	Side Milling • Ap : Axial Depth • Ae : Radial Depth				Side Milling • Ap : Axial Depth • Ae : Radial Depth				Side Milling • Ap : Axial Depth • Ae : Radial Depth				Side Milling • Ap : Axial Depth • Ae : Radial Depth				Side Milling • Ap : Axial Depth • Ae : Radial Depth						
																							

- When entering the tool to the workpiece, enter the tool from outside to the workpiece.
- If the diameter or effective length of your tool are not on the table, adjust it compared similarity value on the table.
- The cutting edges are precision-ground. If you want to measure the tool, and to avoid damaging on the flutes, use non-contact measuring method.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If the table over the maximum RPM and feed of your machine, or found red heat on the material, adjust RPM and feed in the same proportion.
- Use a machine with low vibration and good rigidity (ø 1 or less, the vibration tolerance management should be within 5µm)
- Air blow or mist coolants are recommended and note for chip emission, heat, or ignition.

6VSE/6VSC Cutting Condition

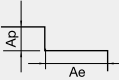
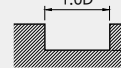
• SFM : ft./min • RPM : rev./min
• fz : in./tooth • Feed : inch/min

Material	Structural steel / Carbon Steels / Gray cast iron SS / SC / FC				Tool steels / Mold steels SCM / HPM				Titanium alloy steels Ti6Al				Heat Resistance Alloy				Stainless Steels SUS304 / SUS316			
	~30HRC				30 ~ 40HRC				-				-				-			
AP	2.0D				2.0D				2.0D				2.0D				2.0D			
AE	0.05D				0.05D				0.05D				0.05D				0.05D			
Outside Diameter	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED
Ø3	750	.00120	24,257	175	350	.00080	11,320	54	385	.00080	12,452	60	140	.00070	4,528	19	600	.00120	19,406	140
Ø4	750	.00130	18,193	142	350	.00090	8,490	46	385	.00080	9,339	45	140	.00080	3,396	16	600	.00120	14,554	105
Ø5	750	.00140	14,554	122	350	.00090	6,792	37	385	.00090	7,471	40	140	.00090	2,717	15	600	.00130	11,643	91
Ø6	750	.00173	12,129	126	350	.00113	5,660	38	385	.00101	6,226	38	140	.00099	2,264	14	600	.00143	9,703	83
Ø8	750	.00268	9,096	146	350	.00155	4,245	39	385	.00125	4,669	35	140	.00120	1,698	12	600	.00170	7,277	74
Ø10	750	.00435	7,277	190	350	.00295	3,396	60	385	.00210	3,736	47	140	.00200	1,358	16	600	.00310	5,822	108
Ø12	750	.00583	6,064	212	350	.00325	2,830	55	385	.00285	3,113	53	140	.00285	1,132	19	600	.00384	4,851	112
Ø16	750	.00675	4,548	184	350	.00410	2,122	52	385	.00315	2,335	44	140	.00310	849	16	600	.00446	3,639	97
Ø20	750	.00865	3,639	189	350	.00520	1,698	53	385	.00430	1,868	48	140	.00420	679	17	600	.00585	2,911	102
Depth of Cut	Side Milling • Ap : Axial Depth • Ae : Radial Depth 								Side Milling • Ap : Axial Depth • Ae : Radial Depth 											

- When entering the tool to the workpiece, enter the tool from outside to the workpiece.
- If the diameter or effective length of your tool are not on the table, adjust it compared similarity value on the table.
- The cutting edges are precision-ground. If you want to measure the tool, and to avoid damaging on the flutes, use non-contact measuring method.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If the table over the maximum RPM and feed of your machine, or found red heat on the material, adjust RPM and feed in the same proportion.
- Use a machine with low vibration and good rigidity (Ø 1 or less, the vibration tolerance management should be within 5µm)
- Air blow or mist coolants are recommended and note for chip emission, heat, or ignition.

5VCC Cutting Condition

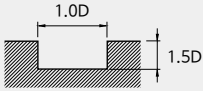
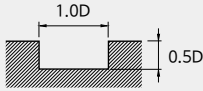
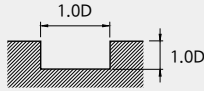
• SFM : ft./min • RPM : rev./min
• fz : in./tooth • Feed : inch/min

Material	Structural steel / Carbon Steels / Gray cast iron SS / SC / FC				Tool steels / Mold steels SCM / HPM				Titanium alloy steels Ti6Al				Heat Resistance Alloy				Stainless Steels SUS304 / SUS316			
	~30HRC				30 ~ 40HRC				-				-				-			
AP	1.5D				1.2D				1.0D				1.0D				1.5D			
AE	0.5D				0.5D				0.35D				0.25D				0.5D			
Outside Diameter	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED
Ø6	650	.00235	10,511	124	330	.00155	5,337	41	335	.00125	5,417	34	120	.00120	1,941	12	550	.00170	8,894	76
Ø8	650	.00435	7,884	171	330	.00255	4,002	51	335	.00210	4,063	43	120	.00200	1,455	15	550	.00310	6,671	103
Ø10	650	.00555	6,307	175	330	.00350	3,202	56	335	.00255	3,250	41	120	.00245	1,164	14	550	.00365	5,337	97
Ø12	650	.00590	5,256	155	330	.00370	2,668	49	335	.00280	2,709	38	120	.00270	970	13	550	.00390	4,447	87
Ø14	650	.00630	4,505	142	330	.00390	2,287	45	335	.00300	2,322	35	120	.00290	832	12	550	.00420	3,812	80
Ø16	650	.00675	3,942	133	330	.00410	2,001	41	335	.00315	2,032	32	120	.00310	728	11	550	.00446	3,335	74
Ø18	650	.00785	3,504	138	330	.00455	1,779	40	335	.00375	1,806	34	120	.00370	647	12	550	.00535	2,965	79
Ø20	650	.00865	3,153	136	330	.00520	1,601	42	335	.00430	1,625	35	120	.00420	582	12	550	.00585	2,668	78
Depth of Cut	Side Milling • Ap : Axial Depth • Ae : Radial Depth 								Side Milling • Ap : Axial Depth • Ae : Radial Depth 											

- When entering the tool to the workpiece, enter the tool from outside to the workpiece.
- If the diameter or effective length of your tool are not on the table, adjust it compared similarity value on the table.
- Set the Ae value according to the corner chamfer (C) and tool diameter.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If the table over the maximum RPM and feed of your machine, or found red heat on the material, adjust RPM and feed in the same proportion.
- Use a machine with low vibration and good rigidity (Ø 1 or less, the vibration tolerance management should be within 5µm)
- Air blow or mist coolants are recommended and note for chip emission, heat, or ignition.

4SLE Cutting Condition

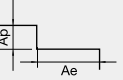
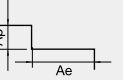
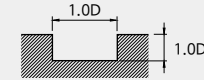
• SFM : ft./min • RPM : rev./min
• fz : in./tooth • Feed : inch/min

Material	Tool steels / Mold steels SCM / HPM				Alloy Steels / Pre-hardened Steels NAK80/KP4M				Titanium alloy steels Ti6A				Heat Resistance Alloy				SUS, Titanium Alloy SUS304 / SUS316 / Ti6A			
	30~40HRC				40 ~ 45HRC				-				-				-			
AP	1.5D				1.2D				1.0D				1.0D				1.5D			
AE	0.5D				0.5D				0.35D				0.25D				0.5D			
Outside Diameter	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED
Ø3	440	.0003	14,231	19.35	350	.0001	11,320	6.34	250	.0002	8,086	7.76	100	.0002	3,234	3.10	450	.0004	14,554	20.38
Ø4	440	.0004	10,673	16.65	350	.0002	8,490	6.45	250	.0002	6,064	5.58	100	.0003	2,426	3.20	450	.0004	10,916	17.03
Ø6	440	.0007	7,115	18.50	350	.0004	5,660	9.51	250	.0005	4,043	8.25	100	.0005	1,617	3.43	450	.0008	7,277	22.70
Ø8	440	.0011	5,337	22.41	350	.0007	4,245	11.55	250	.0008	3,032	10.07	100	.0006	1,213	3.10	450	.0009	5,458	19.87
Ø10	440	.0014	4,269	24.42	350	.0009	3,396	12.09	250	.0013	2,426	12.13	100	.0010	970	4.04	450	.0015	4,366	26.77
Ø12	440	.0017	3,558	23.48	350	.0011	2,830	11.89	250	.0016	2,021	13.02	100	.0013	809	4.30	450	.0018	3,639	26.34
Ø16	440	.0018	2,668	19.32	350	.0012	2,122	10.44	250	.0021	1,516	12.61	100	.0016	606	3.91	450	.0020	2,729	22.27
Ø20	440	.0023	2,135	19.98	350	.0016	1,698	10.73	250	.0025	1,213	12.32	100	.0020	485	3.96	450	.0030	2,183	26.28
Depth of Cut																				

- If the effective length is long, reduce the RPM and feed in the same proportion.
- When entering the tool to the workpiece, enter the tool from outside to the workpiece.
- If the diameter or effective length of your tool are not on the table, adjust it compared similarity value on the table.
- The cutting edges are precision-ground. If you want to measure the tool, and to avoid damaging on the flutes, use non-contact measuring method.
- Use this table for your reference. Adjust the parameters depending on your machining geometry, machining purpose and CNC.
- If the table over the maximum RPM and feed of your machine, or found red heat on the material, adjust RPM and feed in the same proportion.
- Air blow or mist coolants are recommended and note for chip emission, heat, or ignition.

7SUC Cutting Condition

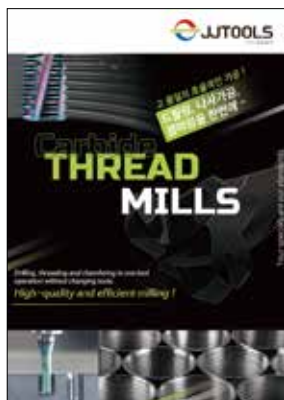
• SFM : ft./min • RPM : rev./min
• fz : in./tooth • Feed : inch/min

Material	Tool steels / Mold steels SCM / HPM				Alloy Steels / Pre-hardened Steels NAK80/KP4M				Titanium alloy steels Ti6A				Heat Resistance Alloy				Stainless Steels SUS304 / SUS316 / Ti6A			
	30~40HRC				40 ~ 45HRC				-				-				-			
AP	2.0D				2.0D				2.0D				2.0D				2.0D			
AE	0.05D				0.05D				0.05D				0.05D				0.05D			
Outside Diameter	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED
Ø6	820	.00273	13,260	253	380	.00180	6,145	77	420	.00145	6,792	69	150	.00139	2,426	24	620	.00197	10,026	138
Ø8	820	.00450	9,945	313	380	.00320	4,609	103	420	.00240	5,094	86	150	.00220	1,819	28	620	.00310	7,520	163
Ø10	820	.00644	7,956	359	380	.00406	3,687	105	420	.00296	4,075	84	150	.00284	1,455	29	620	.00423	6,016	178
Ø12	820	.00720	6,630	334	380	.00450	3,073	97	420	.00320	3,396	76	150	.00320	1,213	27	620	.00480	5,013	168
Ø16	820	.00783	4,973	273	380	.00476	2,304	77	420	.00365	2,547	65	150	.00360	910	23	620	.00517	3,760	136
Ø20	820	.01003	3,978	279	380	.00603	1,844	78	420	.00499	2,038	71	150	.00487	728	25	620	.00679	3,008	143
Depth of Cut	Side Milling • Ap : Axial Depth • Ae : Radial Depth 								Side Milling • Ap : Axial Depth • Ae : Radial Depth 											

- If the effective length is long, reduce the RPM and feed in the same proportion.
- When entering the tool to the workpiece, enter the tool from outside to the workpiece.
- If the diameter or effective length of your tool are not on the table, adjust it compared similarity value on the table.
- 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.
- Air blow or mist coolants are recommended and note for chip emission, heat, or ignition.

Material	Structural steel / Carbon Steels / Gray cast iron SS / SC / FC				Tool steels / Mold steels SCM / HPM				Titanium alloy steels Ti6A				Heat Resistance Alloy				Stainless Steels SUS304 / SUS316			
	~30HRC				30 ~ 40HRC				-				-				-			
AP	3.0D				3.0D				3.0D				3.0D				3.0D			
AE	0.03D				0.03D				0.03D				0.03D				0.03D			
Outside Diameter	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED	SFM (Vc)	fz	RPM	FEED
Ø6	800	.00425	12,937	275	350	.00305	5,660	86	400	.00215	6,469	70	130	.00225	2,102	23.7	550	.00310	8,894	138
Ø8	800	.00460	9,703	223	350	.00320	4,245	68	400	.00240	4,851	58	130	.00260	1,577	20.5	550	.00360	6,671	120
Ø10	800	.00485	7,762	188	350	.00335	3,396	57	400	.00255	3,881	49	130	.00275	1,261	17.3	550	.00385	5,337	103
Ø12	800	.00520	6,469	168	350	.00360	2,830	51	400	.00290	3,234	47	130	.00290	1,051	15.2	550	.00410	4,447	91
Ø14	800	.00570	5,544	158	350	.00380	2,426	46	400	.00310	2,772	43	130	.00310	901	14.0	550	.00430	3,812	82
Ø16	800	.00595	4,851	144	350	.00405	2,122	43	400	.00330	2,426	40	130	.00325	788	12.8	550	.00435	3,335	73
Ø20	800	.00780	3,881	151	350	.00525	1,698	45	400	.00455	1,941	44	130	.00435	631	13.7	550	.00595	2,668	79
Depth of Cut	Side Milling • Ap : Axial Depth • Ae : Radial Depth																			

- If the effective length is long, reduce the RPM and feed in the same proportion.
- When entering the tool to the workpiece, enter the tool from outside to the workpiece.
- If the diameter or effective length of your tool are not on the table, adjust it compared similarity value on the table.
- 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.
- Air blow or mist coolants are recommended and note for chip emission, heat, or ignition.



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Precautions When Using Tools

- Wear safety equipment such as protective eyewear to prevent the risk of injury in case the tool breaks during use.
- Do not use the tool for purposes other than its intended use, or install it on equipment that is not designed for it. Do not grind or modify it arbitrarily.
- To prevent damage to the cutting edge, it is recommended to use non-contact measurements whenever possible.
- Ensure proper attachment of the tool before use.
- Sparks may be generated due to high heat during use.
- Eliminate potential fire or explosion hazards before using.
- Before and after use, always check the dimensions of the tool and the workpiece.
- Discontinue use if the tool is worn or damaged.
- If abnormal vibration or noise occurs, stop the system and identify and eliminate the cause of the vibration or noise.



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