

# V530 Varix Carbide Endmills

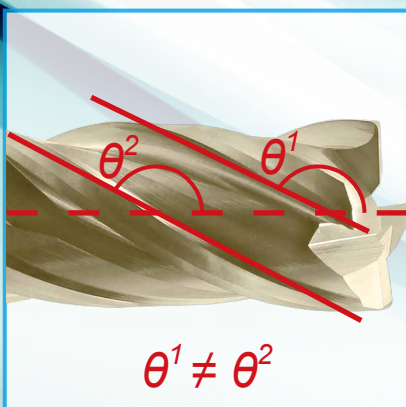
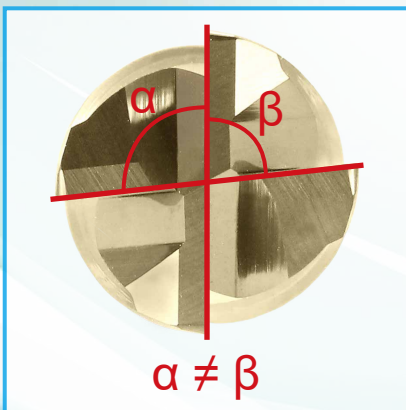
## High efficiency machining

### 高效益變導抗震銑刀





NEW

- **High removal rate for Difficult-to-cut materials and Stainless steel.**  
難切削材及不鏽鋼高去除率加工
- **Unequal Flute Spacing and variable lead design.**  
不等分割與變導設計，大幅降低加工時產生的震動
- **Outstanding Anti-vibrations design.**  
更佳的排屑性能，增加加工效率
- **Low cutting force and burr prevention.**  
低切削阻力和抑制毛刺

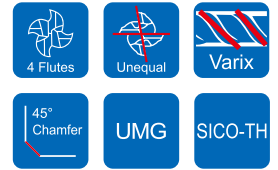
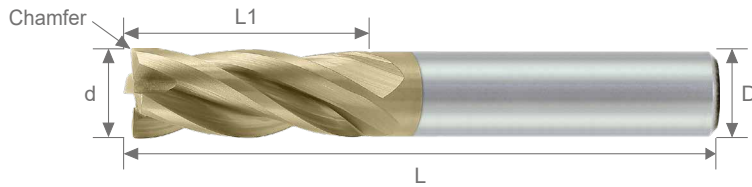
Excellent chip evacuation  
易排屑設計



**Select V530 tools recommended** V530 刀具選擇建議

V530 Series 刀具系列		Cutting Recommendation 加工形態			
		Slot Milling 溝銑	Side roughing 粗側銑	Side finishing 精側銑	Trochoidal 擺線加工
ESSSVA (30° ~ 32°)	 	●	●	○	○
ESSSVB (35° ~ 38°)	 	●	●	○	○
ESSSVC (38° ~ 41°)	 	○	●	●	○
ESSSVC (38° ~ 42°)	 		○	●	●
ESSSVD (43° ~ 46°)	 	○	○	●	●

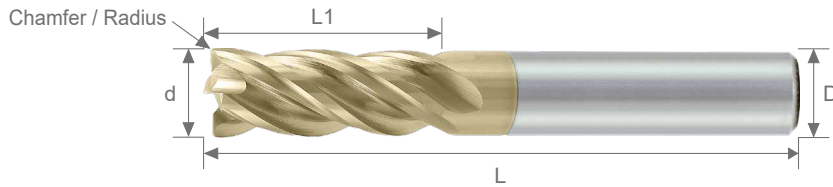
### ■ ESSVA Series (Helix angle : 30° ~ 32°) 產品項目



Work Material 加工材料							
Carbon Steel 碳素鋼 (S45C, S55C)	Alloy Steel 合金鋼 (SK, SCM)	Pre-Hardened / Hardened Steel 預硬鋼 / 硬度鋼		Stainless Steel 不鏽鋼 (SUS304, 316)	Cast Iron 鑄鐵	Ti. Alloy 鈦合金	Ni. Alloy 鎳基合金
		~ HRC 40	~ HRC 55				
◎	◎	◎	○	◎	◎	○	○

Order No. 訂購編碼	Dia (d) 刃徑	Flute Length (L1) 刃長	OAL (L) 全長	Shank (D) 柄徑	Chamfer	Flutes (F) 刃數
ESSVA4060011S	6	15	50	6	0.10C	4
ESSVA4080011S	8	20	60	8	0.15C	4
ESSVA4100021S	10	25	75	10	0.20C	4
ESSVA4120021S	12	30	75	12	0.20C	4
ESSVA4160031S	16	35	100	16	0.32C	4

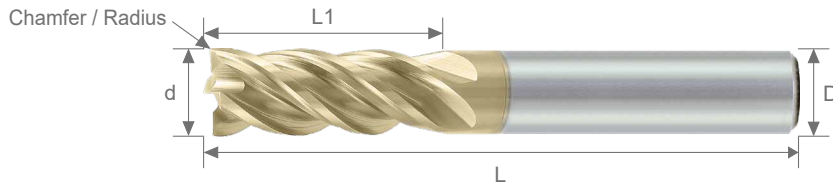
### ESSSVB Series (Helix angle : 35° ~ 38°) 產品項目



Work Material 加工材料							
Carbon Steel 碳素鋼 (S45C, S55C)	Alloy Steel 合金鋼 (SK, SCM)	Pre-Hardened / Hardened Steel 預硬鋼 / 硬度鋼		Stainless Steel 不鏽鋼 (SUS304, 316)	Cast Iron 鑄鐵	Ti. Alloy 鈦合金	Ni. Alloy 鎳基合金
		~ HRC 40	~ HRC 55				
◎	◎	◎	○	◎	◎	○	○

Order No. 訂購編碼	Dia (d) 刃徑	Flute Length (L1) 刃長	OAL (L) 全長	Shank (D) 柄徑	Chamfer / Radius	Flutes (F) 刃數
ESSSVB4040000S	4	10	50	6	-	4
ESSSVB4040011S	4	10	50	6	0.10C	4
ESSSVB4040022S	4	8	50	6	0.20R	4
ESSSVB4040032S	4	8	50	6	0.30R	4
ESSSVB4060000S	6	13	50	6	-	4
ESSSVB4060011S	6	13	50	6	0.15C	4
ESSSVB4060022S	6	12	50	6	0.20R	4
ESSSVB4060052S	6	12	50	6	0.50R	4
ESSSVB4080000S	8	20	60	8	-	4
ESSSVB4080011S	8	20	60	8	0.15C	4
ESSSVB4080022S	8	16	60	8	0.20R	4
ESSSVB4080052S	8	16	60	8	0.50R	4
ESSSVB4100000S	10	25	75	10	-	4
ESSSVB4100021S	10	25	75	10	0.20C	4
ESSSVB4100032S	10	20	75	10	0.30R	4
ESSSVB4100052S	10	20	75	10	0.50R	4
ESSSVB4120000S	12	30	75	12	-	4
ESSSVB4120021S	12	30	75	12	0.20C	4
ESSSVB4120032S	12	24	75	12	0.30R	4
ESSSVB4120052S	12	24	75	12	0.50R	4
ESSSVB4160000S	16	35	100	16	-	4
ESSSVB4160031S	16	35	100	16	0.32C	4
ESSSVB4200000S	20	45	100	20	-	4

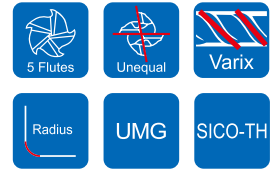
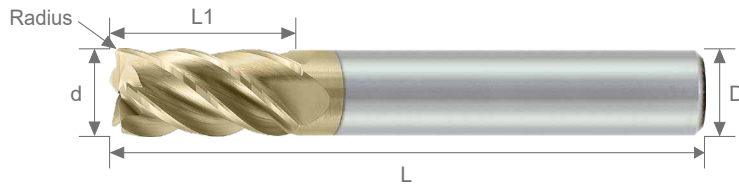
### ESSSVC Series (Helix angle : 38° ~ 41°) 產品項目



Work Material 加工材料							
Carbon Steel 碳素鋼 (S45C, S55C)	Alloy Steel 合金鋼 (SK, SCM)	Pre-Hardened / Hardened Steel 預硬鋼 / 硬度鋼		Stainless Steel 不鏽鋼 (SUS304, 316)	Cast Iron 鑄鐵	Ti. Alloy 鈦合金	Ni. Alloy 鎳基合金
		~ HRC 40	~ HRC 55				
◎	◎	◎	○	◎	◎	○	○

Order No. 訂購編碼	Dia (d) 刃徑	Flute Length (L1) 刃長	OAL (L) 全長	Shank (D) 柄徑	Chamfer / Radius	Flutes (F) 刃數
ESSSVC4040011S	4	10	50	6	0.10C	4
ESSSVC4040012S	4	10	50	6	0.10R	4
ESSSVC4060011S	6	15	50	6	0.15C	4
ESSSVC4060012S	6	15	50	6	0.15R	4
ESSSVC4080011S	8	20	60	8	0.15C	4
ESSSVC4080012S	8	20	60	8	0.15R	4
ESSSVC4100021S	10	25	75	10	0.20C	4
ESSSVC4100022S	10	25	75	10	0.20R	4
ESSSVC4120021S	12	30	75	12	0.20C	4
ESSSVC4120022S	12	30	75	12	0.20R	4
ESSSVC4120052S	12	30	75	12	0.50R	4

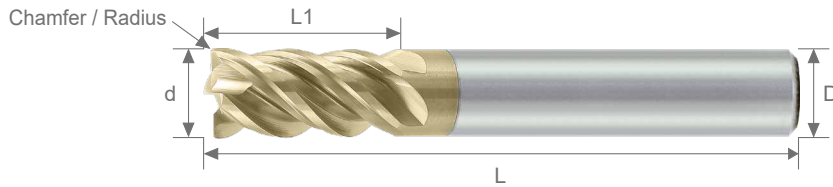
### ■ ESSVC Series (Helix angle : 38° ~ 42°) 產品項目



Work Material 加工材料							
Carbon Steel 碳素鋼 (S45C, S55C)	Alloy Steel 合金鋼 (SK, SCM)	Pre-Hardened / Hardened Steel 預硬鋼 / 硬度鋼		Stainless Steel 不鏽鋼 (SUS304, 316)	Cast Iron 鑄鐵	Ti. Alloy 鈦合金	Ni. Alloy 鎳基合金
		~ HRC 40	~ HRC 55				
◎	◎	◎	◎	◎	◎	◎	◎

Order No. 訂購編碼	Dia (d) 刃徑	Flute Length (L1) 刃長	OAL (L) 全長	Shank (D) 柄徑	Radius	Flutes (F) 刃數
ESSVC5040022S	4	8	50	6	0.25R	5
ESSVC5060000S	6	15	50	6	-	5
ESSVC5060042S	6	12	50	6	0.40R	5
ESSVC5080000S	8	20	60	8	-	5
ESSVC5080012S	8	16	60	8	0.15R	5
ESSVC5080052S	8	16	60	8	0.50R	5
ESSVC5100000S	10	25	75	10	-	5
ESSVC5100052S	10	20	75	10	0.50R	5
ESSVC5100102S	10	20	75	10	1.00R	5
ESSVC5120000S	12	30	75	12	-	5
ESSVC5120052S	12	24	75	12	0.50R	5
ESSVC5120072S	12	24	75	12	0.75R	5
ESSVC5120102S	12	24	75	12	1.00R	5
ESSVC5120202S	12	24	75	12	2.00R	5
ESSVC5160072S	16	32	100	16	0.75R	5
ESSVC5160102S	16	32	100	16	1.00R	5
ESSVC5160202S	16	32	100	16	2.00R	5
ESSVC5160302S	16	32	100	16	3.00R	5
ESSVC5160402S	16	32	100	16	4.00R	5

### ■ ESSSVD Series (Helix angle : 43° ~ 46°) 產品項目



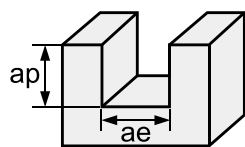
Work Material 加工材料							
Carbon Steel 碳素鋼 (S45C, S55C)	Alloy Steel 合金鋼 (SK, SCM)	Pre-Hardened / Hardened Steel 預硬鋼 / 硬度鋼		Stainless Steel 不鏽鋼 (SUS304, 316)	Cast Iron 鑄鐵	Ti. Alloy 鈦合金	Ni. Alloy 鎳基合金
		~ HRC 40	~ HRC 55				
◎	◎	◎	○	◎	◎	○	○

Order No. 訂購編碼	Dia (d) 刃徑	Flute Length (L1) 刃長	OAL (L) 全長	Shank (D) 柄徑	Chamfer / Radius	Flutes (F) 刃數
ESSSVD4040000S	4	8	50	6	-	4
ESSSVD4040011S	4	8	50	6	0.10C	4
ESSSVD4040032S	4	8	50	6	0.30R	4
ESSSVD4060000S	6	12	50	6	-	4
ESSSVD4060011S	6	12	50	6	0.15C	4
ESSSVD4060052S	6	12	50	6	0.50R	4
ESSSVD4080000S	8	16	60	8	-	4
ESSSVD4080011S	8	16	60	8	0.15C	4
ESSSVD4080052S	8	16	60	8	0.50R	4
ESSSVD4100000S	10	20	75	10	-	4
ESSSVD4100021S	10	20	75	10	0.20C	4
ESSSVD4100052S	10	20	75	10	0.50R	4
ESSSVD4120000S	12	24	75	12	-	4
ESSSVD4120021S	12	24	75	12	0.20C	4
ESSSVD4120052S	12	24	75	12	0.50R	4

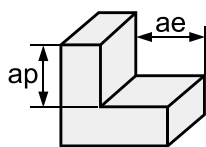
### Recommended Cutting Conditions 建議切削參數

※If the machine not stable, please reduce the feed about 20%. 若機床條件較不穩定，請將進給率調降 20%

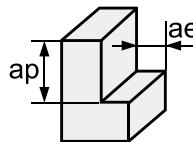
Working Material 被加工材料	Cutting Application 加工方式	ae (mm)	ap (mm)	Vc (m/min)	fz (mm/z)				
					6mm	8mm	10mm	12mm	16mm
Carbon Steel (S45C) 中碳鋼	Slot Milling 溝銑	1×d	0.5 ~ 1.0×d	100 ~ 180	0.035	0.045	0.060	0.070	0.090
	Side roughing 粗側銑	0.4 ~ 0.9×d	0.7 ~ 1.0×d	110 ~ 200	0.040	0.055	0.070	0.085	0.100
	Side finishing 精側銑	0.1 ~ 0.3×d	0.7 ~ 1.5×d	160 ~ 280	0.030	0.040	0.055	0.065	0.080
Carbon Steel (S50C) 中高碳鋼	Slot Milling 溝銑	1×d	0.5 ~ 1.0×d	90 ~ 160	0.035	0.045	0.060	0.070	0.090
	Side roughing 粗側銑	0.4 ~ 0.9×d	0.7 ~ 1.0×d	100 ~ 180	0.040	0.055	0.070	0.085	0.100
	Side finishing 精側銑	0.1 ~ 0.3×d	0.7 ~ 1.5×d	120 ~ 220	0.030	0.040	0.055	0.065	0.080
Tool Steel (SKD) 工具鋼	Slot Milling 溝銑	1×d	0.5 ~ 1.0×d	80 ~ 135	0.030	0.040	0.055	0.065	0.080
	Side roughing 粗側銑	0.4 ~ 0.9×d	0.7 ~ 1.0×d	90 ~ 160	0.040	0.050	0.065	0.080	0.095
	Side finishing 精側銑	0.1 ~ 0.3×d	0.7 ~ 1.5×d	110 ~ 200	0.030	0.040	0.050	0.060	0.070
Hardened Steel (HRC < 55) 熱處理高硬鋼	Slot Milling 溝銑	1×d	0.5 ~ 1.0×d	40 ~ 70	0.025	0.030	0.040	0.045	0.070
	Side roughing 粗側銑	0.4 ~ 0.9×d	0.7 ~ 1.0×d	65 ~ 110	0.025	0.035	0.045	0.050	0.080
	Side finishing 精側銑	0.1 ~ 0.3×d	0.7 ~ 1.5×d	80 ~ 150	0.030	0.040	0.050	0.060	0.090
Stainless Steel (SUS304, SUS316) 不鏽鋼	Slot Milling 溝銑	1×d	0.5 ~ 1.0×d	60 ~ 80	0.025	0.035	0.045	0.050	0.065
	Side roughing 粗側銑	0.4 ~ 0.9×d	0.7 ~ 1.0×d	80 ~ 120	0.030	0.040	0.055	0.065	0.080
	Side finishing 精側銑	0.1 ~ 0.3×d	0.7 ~ 1.5×d	100 ~ 140	0.030	0.040	0.050	0.060	0.070
Superalloy, Inconel 高溫合金、鎳基合金	Slot Milling 溝銑	1×d	0.5 ~ 1.0×d	20 ~ 30	0.015	0.020	0.025	0.030	0.040
	Side roughing 粗側銑	0.4 ~ 0.9×d	0.7 ~ 1.0×d	25 ~ 35	0.020	0.030	0.035	0.040	0.055
	Side finishing 精側銑	0.1 ~ 0.3×d	0.7 ~ 1.5×d	30 ~ 45	0.020	0.030	0.035	0.040	0.055
Titanium 鈦合金	Slot Milling 溝銑	1×d	0.5 ~ 1.0×d	40 ~ 60	0.025	0.035	0.045	0.050	0.065
	Side roughing 粗側銑	0.4 ~ 0.9×d	0.7 ~ 1.0×d	60 ~ 90	0.030	0.040	0.055	0.065	0.080
	Side finishing 精側銑	0.1 ~ 0.3×d	0.7 ~ 1.5×d	90 ~ 130	0.030	0.040	0.055	0.065	0.080



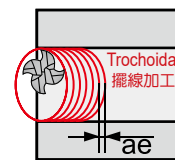
Slot Milling  
溝銑



Side roughing  
粗側銑



Side finishing  
精側銑



Trochoidal  
擺線加工

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