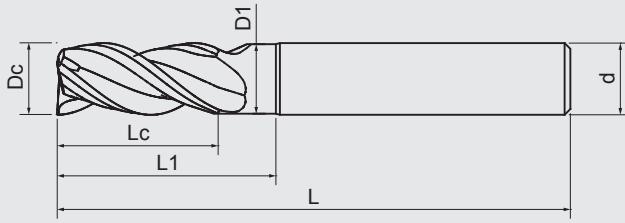


F513SX 超微粒鎢鋼塗層多用途立銑刀

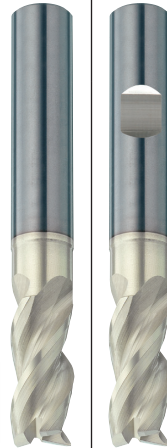
Multipurpose End Mills

Designed with two variable helix geometry, three unequal flutes, sharp cutting edge, and high removal cutting geometry. Good wear resistance and lubricating effect with Nano multilayer coating.

二個不等螺旋角設計。  
三個不等分切劃。  
刃徑的離隙角有小刃帶設計，具有耐衝擊特性。  
刀口鋒利且高移除率刀形幾何設計。  
採用奈米多層膜塗層具有優異的潤滑及耐磨性。



**VHM Carbide**    **AlTiXN+ZrN SX**          **N**       **Steel <48HRC**



Sharp cutting edge recommended for stainless steel, as well for cutting different steels below 48HRC, such as cast iron. Application for roughing and finishing cutting, drilling, and ramping. Work on any cutting direction with high speed condition.

刀口鋒利更適合用切削於48HRC以下的各種鋼材如鑄鐵。  
適用於粗精切削、鑽孔、斜插進給。  
可在任意方向上對進給的工件進行快速切削加工。

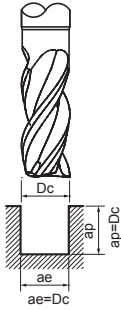
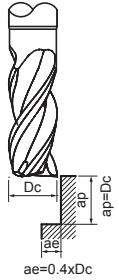
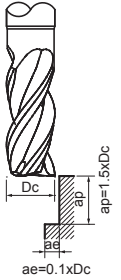
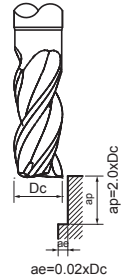
**P**    **P**  
**H**    **H**  
**M**    **M**  
**K**    **K**

DIN 6527 Standard Length

Dc 0 -0.02	Lc mm	L mm	d h5	L1 mm	D1 mm	45° mm	F513SX HA	F513SX HB				
3	8	57	6	14	2.8	0.10	●	●				
4	11	57	6	16	3.8	0.10	●	●				
5	13	57	6	18	4.8	0.15	●	●				
6	13	57	6	20	5.8	0.15	●	●				
8	19	63	8	26	7.7	0.15	●	●				
10	22	72	10	31	9.7	0.20	●	●				
12	26	83	12	37	11.6	0.20	●	●				
14	26	83	14	37	13.5	0.20	●	●				
16	32	92	16	43	15.5	0.20	●	●				
18	32	92	18	47	17.5	0.20	●	●				
20	38	104	20	53	19.5	0.20	●	●				

切削條件

Cutting Conditions

F513SX									
		cutting speed Vc (m/min)	feed per tooth fz(mm)	cutting speed Vc (m/min)	feed per tooth fz(mm)	cutting speed Vc (m/min)	feed per tooth fz(mm)	cutting speed Vc (m/min)	feed per tooth fz(mm)
<b>Carbon Steel Materials</b>									
P	GR1 Carbon Steel	120	0.006xDc	120	0.006xDc	130	0.006xDc	140	0.007xDc
	GR2 <24HRC Low-alloyed Steel	120	0.005xDc	120	0.005xDc	130	0.005xDc	140	0.006xDc
	GR3 <30HRC Hi-alloyed Steel	80	0.005xDc	80	0.005xDc	90	0.005xDc	100	0.006xDc
<b>Hardened Steel Materials</b>									
H	GR4 30-38HRC Hardened Steel	65	0.004xDc	90	0.003xDc	90	0.003xDc	100	0.003xDc
	GR5 38-48HRC Hardened Steel	60	0.003xDc	80	0.003xDc	80	0.003xDc	90	0.003xDc
<b>Stainless Steel Materials</b>									
M	GR8-1 Ferritic、Martensitic	80	0.003xDc	90	0.004xDc	110	0.003xDc	130	0.003xDc
	GR8-2 Austenitic	70	0.003xDc	80	0.003xDc	90	0.003xDc	100	0.003xDc
	GR8-3 Austenitic-ferritic	40	0.002xDc	50	0.003xDc	90	0.002xDc	60	0.002xDc
	GR8-4 Austenitic-ferritic Heat-resistant	30	0.002xDc	40	0.003xDc	40	0.002xDc	50	0.002xDc
<b>Cast Iron Materials</b>									
K	GR9-1 Grey cast iron	110	0.006xDc	110	0.006xDc	120	0.006xDc	130	0.007xDc
	GR9-2 Nodular cast iron	120	0.006xDc	120	0.006xDc	130	0.006xDc	140	0.007xDc

1. Please work with good rigidity / high precision facilities and collet chuck.
  2. Please choose proper cutting fluid.
  3. The cutting data is reference value only. Please adjust it according to your real working conditions.
  4. If RPM is lower the reference value, the Feed rate (fz) and RPM should be reduced by the same proportion.
  5. If vibration occurs during cutting, please reduce cutting parameter.
1. 請使用剛性好、精度高的設備和夾具。
  2. 請選擇適用於工件材料的切削液。
  3. 此切削條件表中的數值為切削條件的基準值，實際加工時，請考慮加工形狀、目的、使用機台等因素，對切削條件進行調整。
  4. 如果機台轉速低於表中所列數值，則進給速度應與轉速按同一比例降低。
  5. 切削加工時如果發生振顫，請降低切削條件。