

S220 鎢鋼圓鼻銑刀- 小柄/標準型- 4刃

S220 MICRO GRAIN CARBIDE END MILLS- Corner Radius- 4F

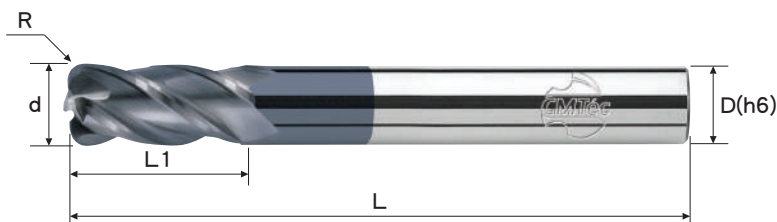
· CECRM4000000A

· CECR4000000A

刃徑 d	公差 Tolerance
$\phi < 3$	0 ~ -0.02
$3 \leq \phi \leq 10$	-0.01 ~ -0.03
$10 < \phi$	-0.01 ~ -0.04

半徑 R	公差 Tolerance
R	±0.02

超精銑 Bright Finishing	○
精銑 Finishing	◎
中銑 Semi Finishing	◎
粗銑 Roughing	○



NEW
SIZE

08

刃徑 d	R角 R	刃長 L1	全長 L	柄徑 D	刃數 F	白刀訂購編號 Uncoated Order No.	鍍膜訂購編號 Coated Order No.
1.0	0.2R	2	50	4	4	CECRM4010002	CECRM4010002A
1.0	0.3R	2	50	4	4	CECRM4010003	CECRM4010003A
1.5	0.2R	3	50	4	4	CECRM4015002	CECRM4015002A
1.5	0.3R	3	50	4	4	CECRM4015003	CECRM4015003A
2.0	0.2R	4	50	4	4	CECRM4020002	CECRM4020002A
2.0	0.3R	4	50	4	4	CECRM4020003	CECRM4020003A
2.5	0.2R	5	50	4	4	CECRM4025002	CECRM4025002A
2.5	0.3R	5	50	4	4	CECRM4025003	CECRM4025003A
2.5	0.5R	5	50	4	4	CECRM4025005	CECRM4025005A
3.0	0.2R	6	50	4	4	CECRM4030002	CECRM4030002A
3.0	0.3R	6	50	4	4	CECRM4030003	CECRM4030003A
3.0	0.5R	6	50	4	4	CECRM4030005	CECRM4030005A
3.0	1.0R	6	50	4	4	CECRM4030010	CECRM4030010A
4.0	0.2R	8	50	4	4	CECRM4040002	CECRM4040002A
4.0	0.3R	8	50	4	4	CECRM4040003	CECRM4040003A
4.0	0.5R	8	50	4	4	CECRM4040005	CECRM4040005A
4.0	1.0R	8	50	4	4	CECRM4040010	CECRM4040010A
3.0	0.5R	6	50	6	4	CECR4030005	CECR4030005A
3.0	1.0R	6	50	6	4	CECR4030010	CECR4030010A
4.0	0.5R	8	50	6	4	CECR4040005	CECR4040005A
4.0	1.0R	8	50	6	4	CECR4040010	CECR4040010A
5.0	0.5R	10	50	6	4	CECR4050005	CECR4050005A
5.0	1.0R	10	50	6	4	CECR4050010	CECR4050010A
6.0	0.5R	12	50	6	4	CECR4060005	CECR4060005A
6.0	1.0R	12	50	6	4	CECR4060010	CECR4060010A
8.0	0.5R	16	60	8	4	CECR4080005	CECR4080005A
8.0	1.0R	16	60	8	4	CECR4080010	CECR4080010A
8.0	1.5R	16	60	8	4	CECR4080015	CECR4080015A
8.0	0.5R	16	75	8	4	CECR4080005075L	CECR4080005075LA
8.0	1.0R	16	75	8	4	CECR4080010075L	CECR4080010075LA
8.0	1.5R	16	75	8	4	CECR4080015075L	CECR4080015075LA
10.0	0.5R	20	75	10	4	CECR4100005	CECR4100005A
10.0	1.0R	20	75	10	4	CECR4100010	CECR4100010A
10.0	1.5R	20	75	10	4	CECR4100015	CECR4100015A
10.0	2.0R	20	75	10	4	CECR4100020	CECR4100020A
12.0	0.5R	24	75	12	4	CECR4120005	CECR4120005A
12.0	1.0R	24	75	12	4	CECR4120010	CECR4120010A
12.0	1.5R	24	75	12	4	CECR4120015	CECR4120015A
12.0	2.0R	24	75	12	4	CECR4120020	CECR4120020A
12.0	3.0R	24	75	12	4	CECR4120030	CECR4120030A

→ 切削條件表
Cutting Condition

P.538

→ 技術資料
Technical Data

P.622

S220

S220 Carbide End Mills

S220 鎢鋼銑刀系列

Table 07

S220 鎢鋼圓鼻銑刀- 2刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron	
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30	
切削速度 Vc	95m/min		75m/min		63m/min		38m/min		28m/min		75m/min		110m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
1mm	22,400	140	19,150	110	16,130	70	8,960	60	6,720	40	19,150	110	28,220	300
2mm	12,100	180	9,680	140	8,060	100	4,840	70	3,630	50	9,680	140	14,110	330
3mm	8,460	180	6,450	150	5,240	100	3,360	70	2,500	50	6,450	150	9,680	330
4mm	6,050	180	4,840	150	4,030	110	2,420	70	1,820	60	4,840	150	7,260	330
5mm	5,040	200	3,830	150	3,220	110	2,020	80	1,510	60	3,830	150	5,650	360
6mm	4,030	200	3,220	150	2,620	110	1,620	80	1,210	60	3,220	150	4,840	400
8mm	3,020	200	2,420	180	2,020	120	1,210	80	900	60	2,420	180	3,630	400
10mm	2,420	200	1,910	180	1,620	140	980	80	730	60	1,910	180	2,820	420
12mm	2,020	200	1,620	180	1,340	140	810	80	610	60	1,620	180	2,420	450
14mm	2,020	220	1,520	190	1,280	140	810	90	610	60	1,520	190	2,240	500
16mm	1,740	250	1,340	200	1,120	160	700	100	530	70	1,340	200	2,020	540
18mm	1,740	250	1,180	200	980	160	700	100	530	70	1,180	200	1,790	540
20mm	1,340	250	1,070	200	900	160	540	100	400	70	1,070	200	1,570	540
切削量 Cutting Amount (mm)	Ap=0.5D (D<3, Ap≦0.25D)													
														
切削量 Cutting Amount (mm)	Ap=0.1D (D<3, Ap≦0.05D)													
														
切削量 Cutting Amount (mm)	Ap=0.5D (D<3, Ap≦0.25D)													
														

Table 08

S220 鎢鋼圓鼻銑刀 / S220 鎢鋼長柄型圓鼻銑刀- 4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		調質鋼 Hardened Steels		調質鋼 Hardened Steels		不銹鋼 Stainless Steels		鑄鐵 Cast Iron							
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS304		FC,FCD							
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		HRC45~55		HRC55~63		—		HRC<30							
切削速度 Vc	94m/min		75m/min		63m/min		37m/min		28m/min		75m/min		110m/min							
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)						
3mm	5,040	550	6,450	380	5,240	180	3,380	220	2,580	170	6,450	380	9,680	1,010						
4mm	6,050	550	4,840	380	4,030	180	2,420	220	1,820	170	4,840	380	7,260	1,210						
5mm	5,040	550	3,830	380	3,220	180	2,020	220	1,510	170	3,830	380	5,650	1,210						
6mm	4,030	550	3,220	380	2,620	180	1,620	220	1,210	170	3,220	380	4,840	1,210						
8mm	3,020	550	2,420	380	2,020	200	1,210	220	900	170	2,420	380	3,630	1,210						
10mm	2,420	570	1,910	400	1,620	200	960	230	730	180	1,910	400	2,820	1,310						
12mm	2,020	570	1,920	400	1,340	200	810	230	610	180	1,620	400	2,420	1,410						
14mm	2,020	620	1,520	450	1,280	220	810	260	610	190	1,520	450	2,240	1,570						
16mm	1,740	670	1,340	470	1,120	220	700	270	530	200	1,340	470	2,020	1,680						
18mm	1,570	670	1,180	470	980	220	620	270	470	200	1,180	470	1,790	1,680						
20mm	1,340	670	1,070	470	900	220	540	270	400	200	1,070	470	1,570	1,790						
切削量 Cutting Amount (mm)	Ap=1.5D Ap≤0.1D						Ap=1D Ae≤0.05D								Ap=1.5D Ae≤0.1D					

※ 切削公式 Cutting Formula : S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π (3.14) F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

- 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。When the sound is piercing, please lower the spindle speed(S) (10~40%).
- 當機台震動太大時，請調降進給速度(F) (10~40%)。When the machine is vibrating, please decrease the feed rate(F) (10~40%).
- 當主軸負載太大時，請調降進給速度(F) (10~40%)。When the spindle load is high, please decrease the feed rate(F) (10~40%).
- 以上數據為建議值，適當的條件仍需視機台狀況，夾治具品質，潤滑冷卻系統...等而改變。

These are recommended values which depend on the condition of the machine, fixture, lubricating & cooling systems... etc. They may have to be adapted.