



MESB

極細 鎢鋼強力型球刀

ULTRA CARBIDE END MILLS- Ball Nose- Power Cutting

強力切削，效率突破極限！

優異的切削效能

High Cutting Performance

持久的刀具壽命

Extended Tool Life

卓越的加工品質

Superior Workpiece Quality

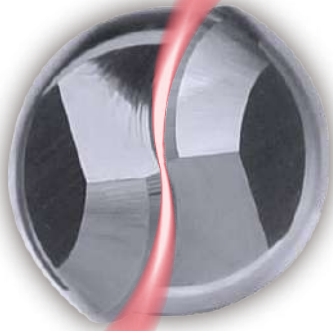
特殊S擺線設計

S-shaped Cutting Edge

更強的刀口剛性

Stronger Edges





S 擺線設計

特殊高剛性切削刃，有效降低切削阻力！

S-shaped Cutting Edge

Stronger cutting edge design effectively reduces cutting resistance !



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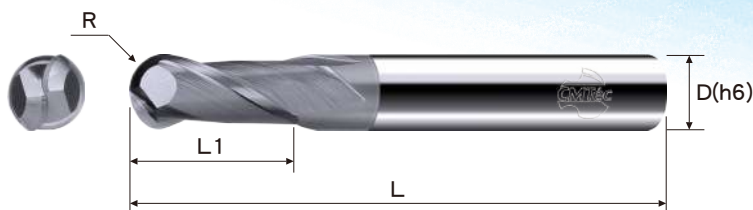
S擺線球刀特色 Features :

- ① 可減少切削刃與工件的接觸面積，降低切削阻力，大幅提升加工效率。
Cutting edges and workpiece reduce contact area, lower cutting resistance and boost efficiency.
- ② 可將切削力均勻分散到切削刃上，避免單點過度磨損，延長刀具使用壽命。
Cutting edges distribute cutting forces evenly, reducing wear and extending tool life.
- ③ 可有效抑制加工過程的震動，改善加工表面的粗糙度，並提升加工精度。
Minimizes vibration during machining, improving surface finish and precision.
- ④ 應用於合金鋼、調質鋼($\leq 60^{\circ}$ HRC)、不銹鋼、鑄鐵仿形加工。
For copy milling alloy steel, hardened steel ($\leq 60^{\circ}$ HRC), stainless steel and cast iron.



MESB 極細鎢鋼強力型球刀- 尺寸規格表

ULTRA CARBIDE END MILLS- Ball Nose- Power Cutting



半徑 R	公差 Tolerance
$R \leq 3$	± 0.01
$R > 3$	± 0.015

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



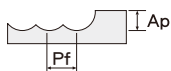
半徑 R	刃長 L1 Cutting Length	全長 L O.A.L.	柄徑 D Shank Dia.	刃數 Flutes	鍍膜訂購編號 Coated Order No.
0.5R	2	50	4	2	MESBM20050A
0.75R	3	50	4	2	MESBM20075A
1.0R	4	50	4	2	MESBM20100A
1.25R	5	50	4	2	MESBM20125A
1.5R	6	50	4	2	MESBM20150A
1.75R	7	50	4	2	MESBM20175A
2.0R	8	50	4	2	MESBM20200A
1.0R	4	50	6	2	MESB20100A
1.25R	5	50	6	2	MESB20125A
1.5R	6	50	6	2	MESB20150A
2.0R	8	50	6	2	MESB20200A
2.5R	10	50	6	2	MESB20250A
3.0R	12	50	6	2	MESB20300A
3.5R	14	60	8	2	MESB20350A
4.0R	16	60	8	2	MESB20400A
5.0R	20	75	10	2	MESB20500A
6.0R	24	75	12	2	MESB20600A



切削條件表

CUTTING CONDITION TABLE

加工材質 Material	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	SCM,SKT,SKD		SKT,SKD		SKT,SKD		SUS410,SUS440		FC,FCD	
硬度 Hardness	HRC<45		HRC45~55		HRC55~60		HRC<45		HRC<45	
切削速度 Vc	200m/min		150m/min		100m/min		100m/min		150m/min	
半徑 R	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)
0.5R	32,000	1,920	32,000	1,920	32,000	1,920	32,000	1,920	32,000	1,920
1.0R	32,000	2,560	32,000	2,560	16,000	1,280	16,000	1,280	32,000	2,560
2.0R	16,000	2,560	11,940	1,910	8,000	1,280	8,000	1,280	11,940	1,910
3.0R	10,500	2,520	8,000	1,920	5,300	1,270	5,300	1,270	8,000	1,920
4.0R	8,000	1,920	6,000	1,440	4,000	960	4,000	960	6,000	1,440
5.0R	6,350	1,530	4,800	1,150	3,200	770	3,200	770	4,800	1,150
6.0R	5,300	1,270	4,000	960	2,650	640	2,650	640	4,000	960
8.0R	4,000	1,040	3,000	780	2,000	520	2,000	520	3,000	780
10.0R	3,200	830	2,400	620	1,600	420	1,600	420	2,400	620
切削量 Cutting Amount (mm)	Ap=0.05D Ap(Max)=0.6mm ↓ Pf=0.1D		Ap=0.03D Ap(Max)=0.5mm ↓ Pf=0.1D		Ap=0.05D Ap(Max)=0.6mm ↓ Pf=0.1D		Ap=0.05D Ap(Max)=0.6mm ↓ Pf=0.1D		Ap=0.05D Ap(Max)=0.6mm ↓ Pf=0.1D	



※ 切削公式 Cutting Formula : $S(\text{主軸轉速}) = Vc(\text{切削速度}) \times 1000 / D(\text{外徑}) / \pi (3.14)$

$F(\text{進給速度}) = fz(\text{每刃進給量}) \times Z(\text{刃數}) \times S(\text{主軸轉速})$



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