

DEBURRING REMOVING MACHINING MARKS POLISHING

鑽石研磨刷系列

No. 250328006

- | 去除切削刀痕
- | 去除毛刺
- | 表面拋光



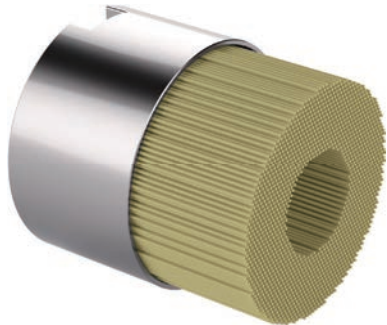
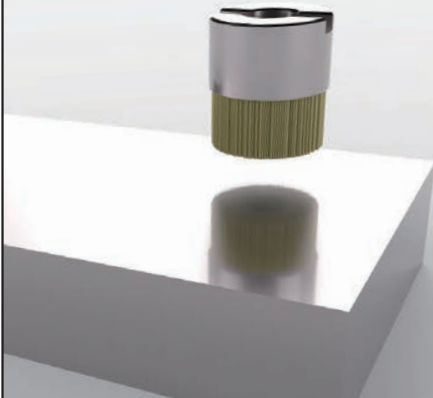
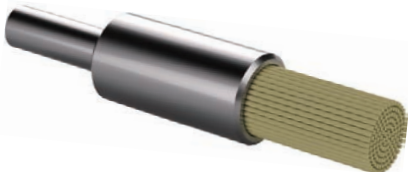
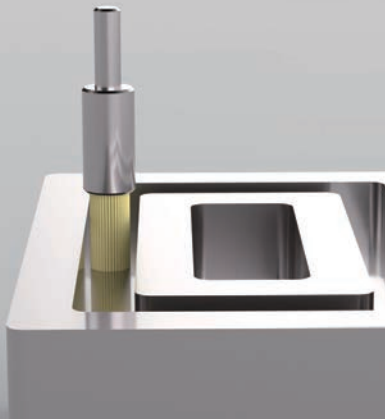
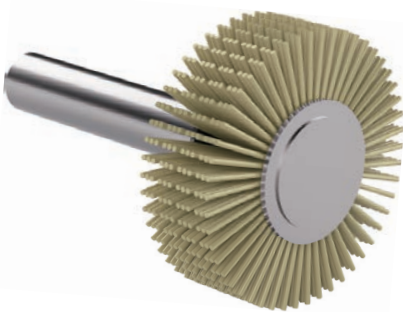
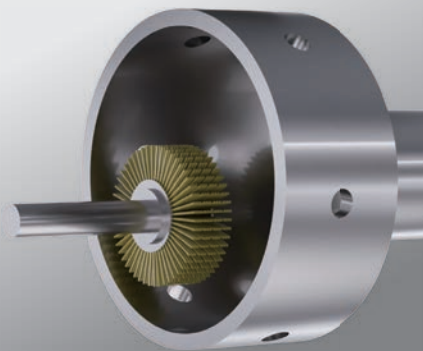
影片
Video



鑽石材質
DIAMOND BRUSH

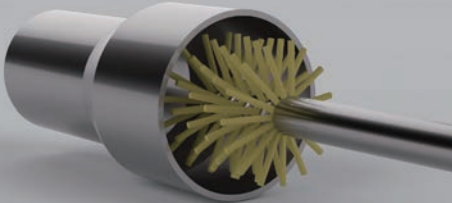
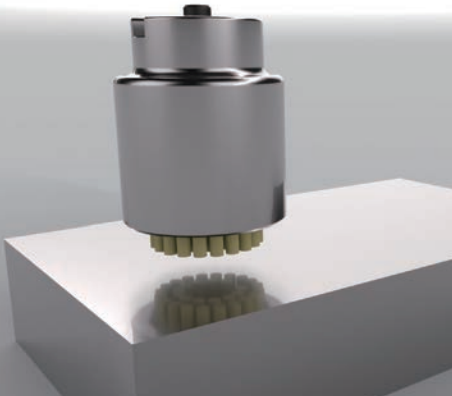
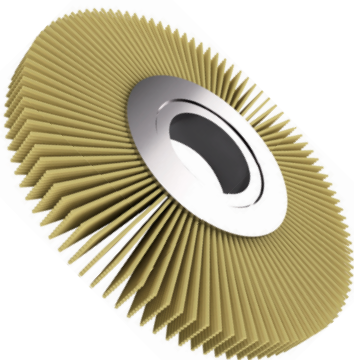
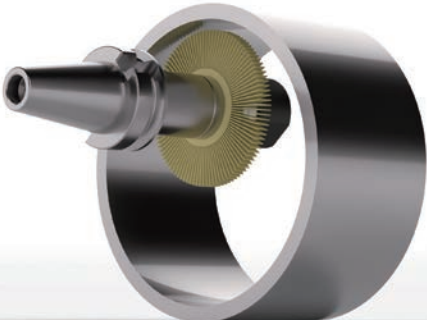
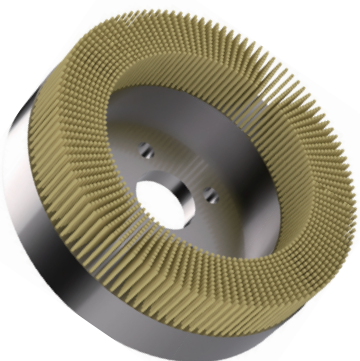
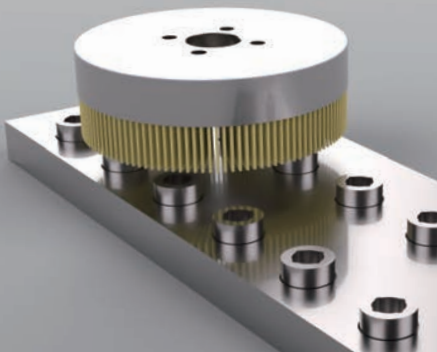
鑽石研磨刷 八大金剛

DIAMOND BRUSH - THE EIGHT TITANS

樣式 Type	圖示 Image	尺寸 Size	加工方式 Processing Method
殼型 Shell-shaped		Ø50~Ø100 mm	
直柄型 Straight Shank		Ø10~Ø25 mm	
T型 T-shaped		Ø25~Ø63 mm	
球型 Ball-shaped		Ø26 mm	

鑽石研磨刷 八大金剛

DIAMOND BRUSH - THE EIGHT TITANS

樣式 Type	圖示 Image	尺寸 Size	加工方式 Processing Method
棒型 Rod-shaped		Ø13~Ø22 mm MIN : Ø5 mm	
可調式 Adjustable		Ø50~Ø100 mm	
碟型 Disc-shaped		Ø75~Ø160 mm MAX : Ø400 mm	
盤型 Plate-shaped		接單生產 Make to Order : MAX: Ø380 mm	

針對不同材質鑽石研磨刷效果呈現

The performance of DMB diamond brush on different materials.

粒 度 Granularity	功 能 Function	工 件 材 質 Material	中 碳 鋼 Steel	不 銹 鋼 Stainless	鋁 合 金 Aluminum	銅 Copper	鈦 合 金 Titanium
#200	去 毛 刺 Deburring		★★★★	★★★★	★	★	★★★

☆ 效果不佳
☆ Poor

★ 尚可
★ Fair

★★ 效果佳
★★ Good

★★★★ 效果絕佳
★★★★ Excellent

★★★★★ 輕而易舉
★★★★★ Ultimate

粒 度 Granularity	功 能 Function	工 件 材 質 Material	中 碳 鋼 Steel		不 銹 鋼 Stainless		鋁 合 金 Aluminum	
			工 件 原 始 Ra:1.083μm Initial Workpiece Ra Value:1.083μm		工 件 原 始 Ra:0.343μm Initial Workpiece Ra Value:0.343μm		工 件 原 始 Ra:0.643μm Initial Workpiece Ra Value:0.643μm	
		需 求 表 粗 值 Required Surface Roughness	Surface Roughness	亮 度 Brightness	Surface Roughness	亮 度 Brightness	Surface Roughness	亮 度 Brightness
#600	中 精 拋 Semi-Finish Polishing	Ra=0.1~0.2μm	Ra: 0.596μm	☆	Ra: 0.290μm	☆	Ra: 0.275μm	★
#1000	精 拋 光 亮 Fine Polishing	Ra=0.045-0.06μm	Ra: 0.530μm	★	Ra: 0.118μm	★	Ra: 0.242μm	★★

粒 度 Granularity	功 能 Function	工 件 材 質 Material	銅 Copper		鈦 合 金 Titanium	
			工 件 原 始 Ra:0.343μm Initial Workpiece Ra Value:0.343μm		工 件 原 始 Ra:0.741μm Initial Workpiece Ra Value:0.741μm	
		需 求 表 粗 值 Required Surface Roughness	Surface Roughness	亮 度 Brightness	Surface Roughness	亮 度 Brightness
#600	中 精 拋 Semi-Finish Polishing	Ra=0.1~0.2μm	Ra:0.126μm	★	Ra:0.696μm	無 差 異 No Difference
#1000	精 拋 光 亮 Fine Polishing	Ra=0.045-0.06μm	Ra:0.194μm	★★	Ra:0.373μm	

粒 度 Granularity	功 能 Function	工 件 材 質 Material	陶 瓷 Silicon Carbide/SiC		氧 化 鋯 Zirconia dioxide/ZrO2		鎢 鋼 Tungsten Carbide	
			工 件 原 始 Ra:1.671μm Initial Workpiece Ra Value:1.671μm		工 件 原 始 Ra:0.227μm Initial Workpiece Ra Value:0.227μm		-	
		需 求 表 粗 值 Required Surface Roughness	Surface Roughness	亮 度 Brightness	Surface Roughness	亮 度 Brightness	Surface Roughness	亮 度 Brightness
#600	中 精 拋 Semi-Finish Polishing	Ra=0.1~0.2μm	Ra: 0.446μm	無 差 異 No Difference	Ra: 0.097μm	無 差 異 No Difference	-	★★
#1000	精 拋 光 亮 Fine Polishing	Ra=0.045-0.06μm	Ra: 0.025μm		Ra: 0.061μm			★★★★

此表粗需求工件原始表粗值Ra<0.5μm。

如需表粗更低 粒度需選擇更大，無法達成完全鏡面。

原刀痕重的需精過粗拋-->中拋-->精拋三次攻序，依表粗需求增加。

Initial Workpiece Surface Roughness Requirement: Ra < 0.5μm.

If a lower surface roughness is required, a finer grit size must be selected. However, achieving a fully mirror-like finish will not be feasible.

For workpieces with heavy tool marks, a three-stage polishing process —rough polishing → medium polishing → fine polishing—is necessary. Additional polishing steps may be required based on specific surface roughness requirements.

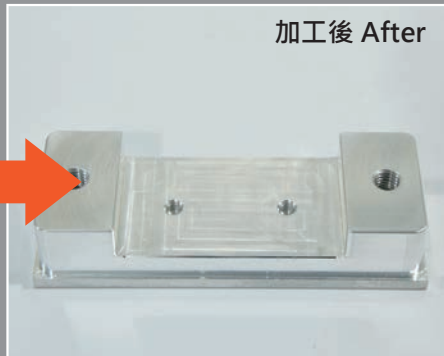
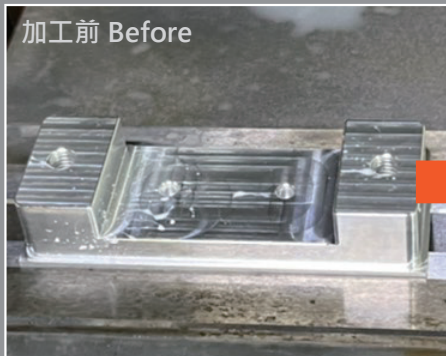
使用方法：

1. 因研磨路徑應完全大於工件，故選用研磨刷需大於工件加工徑。
2. 建議切削參數(依不同加工材質調整)
 - 去毛次：轉速S: 2000~2500 rpm，下壓深度Ap:0.5~1.5mm，研磨刷直徑大於250mm，轉速S: 450~600 rpm。
 - 拋光：轉速S: 2000~2500 rpm，下壓深度Ap:1.5~3mm。
 - 碟型與T型研磨刷，轉速可再提升10~15%使用。
 - 需搭配使用切削液冷卻使用。
3. 鑽石研磨刷的切削直徑在25%~45%，去毛次效果最佳。
4. 去除邊緣的毛刺，如切削刀具銑削時主軸正轉，研磨刷轉向建議主軸逆轉使用。

Notice：

1. The diamond brush diameter must be larger than the workpiece diameter.
2. Recommended Parameters (varies with different materials):
 - Deburring: Spindle Speed (S): 2000~2500 rpm / Depth of Cut (Ap): 0.5~1.5mm
For grinding brushes over 250mm in diameter: Spindle Speed (S): 450~600 rpm
 - Polishing: Spindle Speed (S): 2000~2500 rpm / Depth of Cut (Ap): 1.5~3mm
 - For disc-shaped and T-type grinding brushes: Spindle speed can be increased by an additional 10~15%
 - Coolant is required for optimal performance
3. While deburring, please control Ae within 25%~45% to show perfect result.
4. If the spindle rotation is clockwise side while machining, please let the spindle rotation turn to counterclockwise side while do deburring, and vice versa.

去除切削刀痕 REMOVING MACHINING MARKS



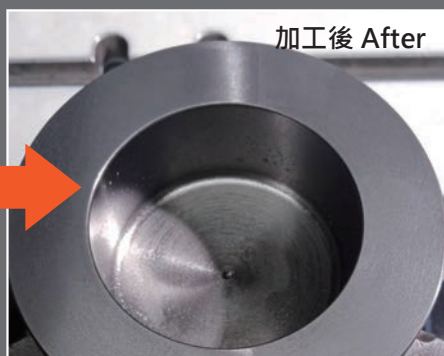
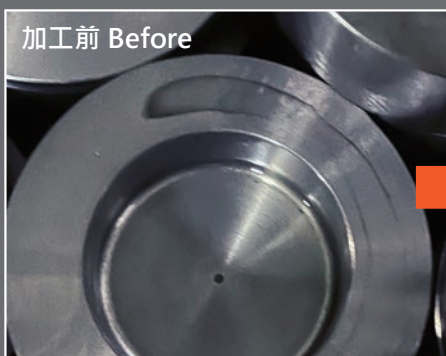
毛刷 Diamond Brush：
DMB100-32(#800/0.5D)
轉速 S：3000
切深 Ap：0.2mm
進給 F：100
材質 Machining Materials：
鋁合金 Aluminum & Al

去除毛刺 DEBURRING



毛刷 Diamond Brush：
DMB100-32-200
轉速 S：2000
切寬 Ae：100
進給 F：800
材質 Machining Materials：
中碳鋼 Medium Carbon Steel

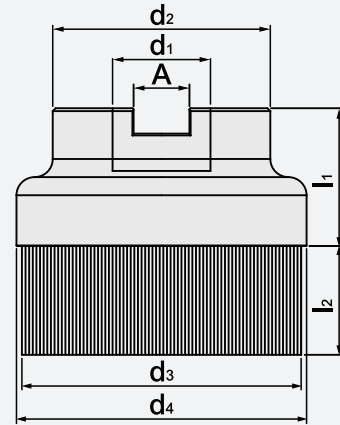
表面拋光 POLISHING



毛刷 Diamond Brush：
DMB80-27-200
轉速 S：1800
切深 Ap：0.2
進給 F：200
材質 Machining Materials：
鑄鋼 Cast Iron

DMB 殼型鑽石研磨刷

DMB SHELL-SHAPED DIAMOND BRUSH



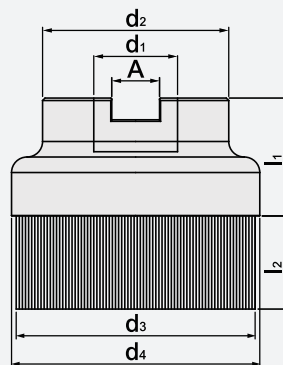
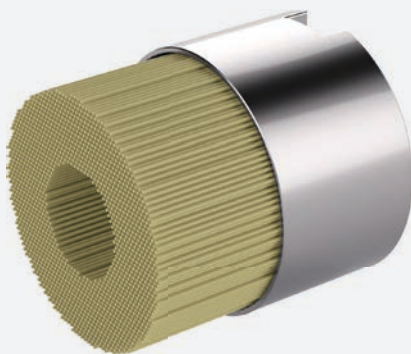
特點 Feature

- 去除毛邊及達到拋光效果、刷毛具有强度高、回彈性好、耐疲勞。
- 鑽石研磨刷可處理的最高硬度HRC 60°以內。
- 鑽石研磨刷最高耐熱溫度180°以內。
- Diamond brush has good wear resistance,bouncy, fatigue proof so it's perfect for deburring and polishing application.
- Able to deal with workpiece within HRC60°.
- Heat resistance within 180°

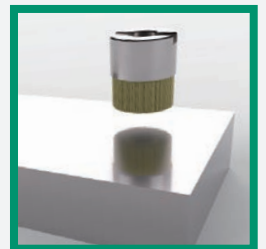
規格 Spec.	粒度 Granularity	d1	d2	d3	d4	l1	l2	A
DMB50-22-S	#200 #600 擇一 Choose one	FMB-22	50	47	50	30	25	10.4
DMB63-22-S		FMB-22	48	55	63	30	25	10.4
DMB80-27-S		FMB-27	60	75	80	40	25	12.4
DMB100-32-S		FMB-32	80	96	100	40	25	14.4

DMB 殼型鑽石研磨刷(拋光專用)

DMB SHELL-SHAPED DIAMOND BRUSH (FOR POLISHING)



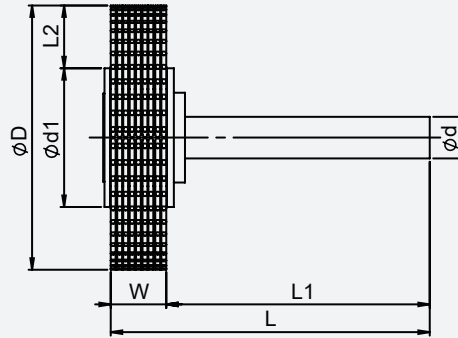
範例 Application



規格 Spec.	粒度 Granularity	d1	d2	d3	d4	l1	l2	A
DMB-50-22-PH-S	#600 #1000 擇一 Choose one	22	50	47	50	30	25	10.4
DMB-63-22-PH-S		22	48	55	63	30	25	10.4
DMB-80-27-PH-S		22	60	75	80	40	25	12.4
DMB-100-32-PH-S		22	80	96	100	40	25	12.4

DMB T型鑽石研磨刷

DMB FLAT SHANK DIAMOND BRUSH



範例 Application



特點 Feature

- 去除毛邊及達到拋光效果、刷毛具有強度高、回彈性好、耐疲勞。
- 鑽石研磨刷可處理的最高硬度HRC 60°以內。
- 鑽石研磨刷最高耐熱溫度180°以內。

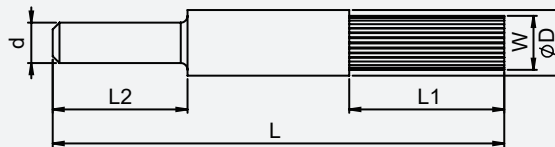
- Diamond brush has good wear resistance, bouncy, fatigue proof so it's perfect for deburring and polishing application.
- Able to deal with workpiece within HRC60°.
- Heat resistance within 180°

規格 Spec.	粒度 Granularity	d	d1	D	W	L1	L2	L
● DMB-25.4-06T	#200 #600 #1000 擇一 Choose one	6	14	25.4	8	32	6	40
● DMB-38.1-09T		6	20	38.1	10	32	9.6	42
DMB-38.1-12T		6	13	38.1	10	32	12	42
DMB-50.8-13T		6	24	50.8	13	32	13	46
DMB-63.5-11T		6	40	63.5	13	30	11.5	43

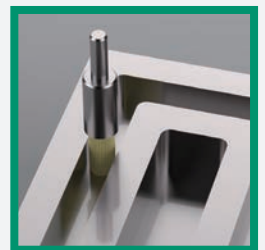
● 標準庫存 In Stock

DMB 直柄型鑽石研磨刷

DMB STRAIGHT SHANK DIAMOND BRUSH



範例 Application



特點 Feature

- 去除毛邊及達到拋光效果、刷毛具有強度高、回彈性好、耐疲勞。
- 鑽石研磨刷可處理的最高硬度HRC 60°以內。
- 鑽石研磨刷最高耐熱溫度180°以內。

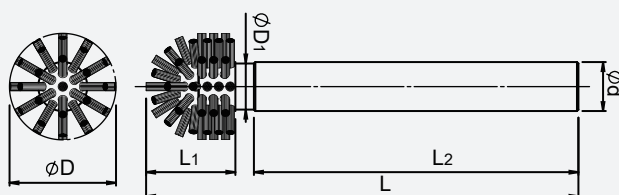
- Diamond brush has good wear resistance, bouncy, fatigue proof so it's perfect for deburring and polishing application.
- Able to deal with workpiece within HRC60°.
- Heat resistance within 180°

規格 Spec.	粒度 Granularity	D	d	W	L1	L2	L
● DMB-10-06	#200 #600 #1000 擇一 Choose one	10	6	8	25	20	64
DMB-12-06		12	6	10	25	20	63
● DMB-16-06		16	6	13	25	20	62
DMB-19-06		19	6	16	25	20	65
DMB-22-06		22	6	20	25	20	67
● DMB-25-06		25	6	22	25	20	67

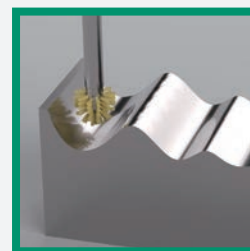
● 標準庫存 In Stock

DMB 球型鑽石研磨刷

DMB BALL-SHAPED DIAMOND BRUSH



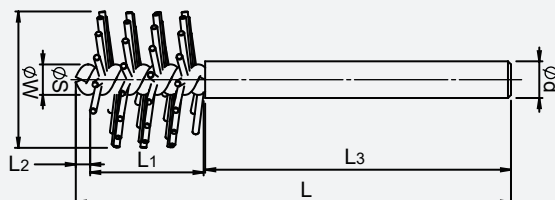
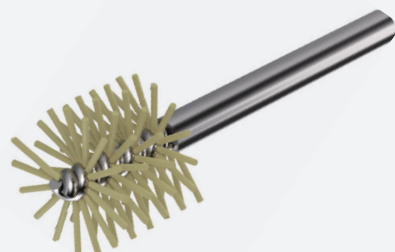
範例 Application



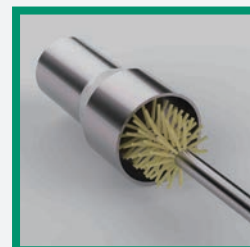
規格 Spec.	粒度 Granularity	D	d	D1	L	L1	L2
DMB-R13-12-100L	#200, #600, #1000 擇一 Choose one	26	12	11.3	105	22	80

DMB 棒型鑽石研磨刷

DMB ROD-SHAPED DIAMOND BRUSH



範例 Application



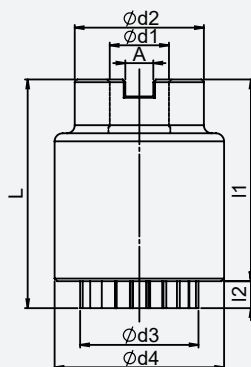
規格 Spec.	粒度 Granularity	W	d	S	L	L1	L2
DMB-5-06RS	#200, #600, #1000 擇一 Choose one	5	6	2.7	77	10	1.8
DMB-13-06RS		13	6	5.4	77	20	1.8
DMB-22-06RS		22	6	4.2	206	126	1.8

其他尺寸依據要求做設計，接單生產。

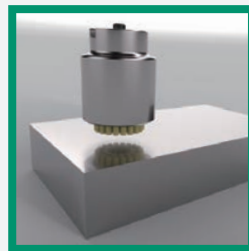
Other dimensions are designed according to requirements and manufactured upon order.

DMB 可調式鑽石研磨刷

DMB ADJUSTABLE DIAMOND BRUSH



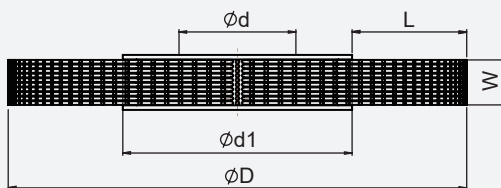
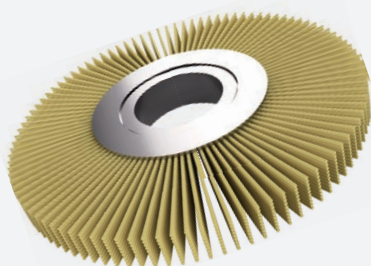
範例 Application



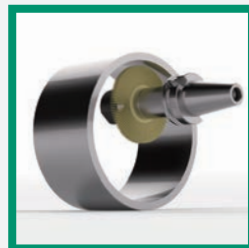
規格 Spec.	粒度 Granularity	d1	d2	d3	d4	L	l1	l2	A
DMB-AT-63-22	#200, #600, #1000 擇一 Choose one	FMB22	48	48	63	85	75	25	10.4

DMB 碟型鑽石研磨刷

DMB DISC-SHAPED DIAMOND BRUSH



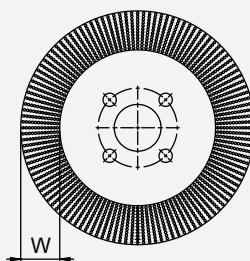
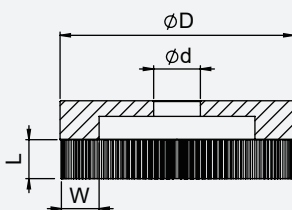
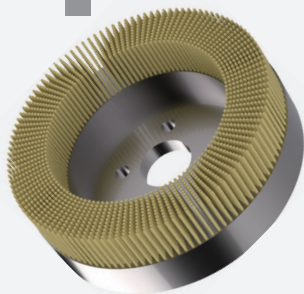
範例 Application



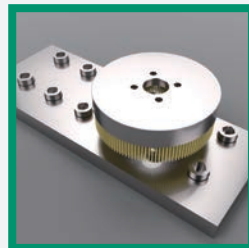
規格 Spec.	粒度 Granularity	D	W	d	d1	L
DMB-100-14T-A20	#200, #600, #1000 擇一 Choose one	100	14	SCA20	50	25
DMB-125-14T-A31.75		125	14	SCA31.75	77	25
DMB-150-14T-A31.75		150	14	SCA31.75	110	20

DMB 盤型鑽石研磨刷

DMB PLATE-SHAPED DIAMOND BRUSH



範例 Application



需求提出 Required Spec.	D	d	W	L	需求功能 Required Function
接單生產MAX:Φ 380 Make to Order MAX:Φ 380					☐ 拋光 Polishing ☐ 鈍化 Passivation



使用毛刷前
BEFORE

使用毛刷後
AFTER

使用研磨刷相比設備拋光，可節省50% 時間
DMB diamond brush saves 50% of the time compared to polishing equipment.

適合加工材質：

鋁、銅、金屬、鎳基合金、
鎢鋼（超硬合金）、硬脆材料。

例：刀具鈍化、玻璃陶瓷、石英、
鎳基合金和所有熱處理後之金屬的
表面拋光。

Suitable Workpiece Materials :
Aluminum, copper, metal,
nickel alloy, tungsten steel,
hard and brittle materials.

E.g., tool passivation, polishing of
glass ceramics, quartz,
nickel-based alloys,
and all heat-treated metal surfaces.

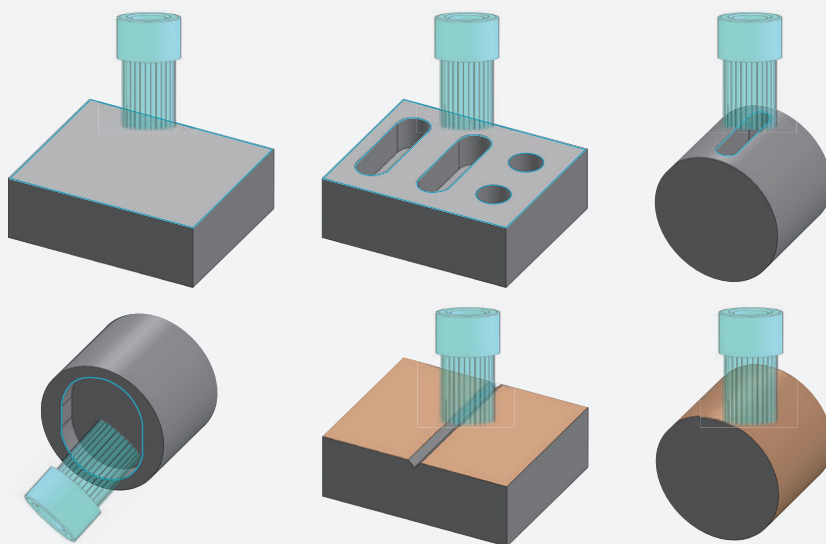
研磨拋光面粗糙度參考 Reference for Polishing Surface Roughness

應用 Applications	粒度 Granularity	表面粗糙度 Ra Value
一般亮度 General Polishing	#1000	$\div 0.045 \sim 0.06 \mu\text{m}$
粗拋 Rough Polishing	#600	$\div 0.1 \sim 0.2 \mu\text{m}$
	#200	$\div 0.4 \sim 0.5 \mu\text{m}$

去除切削刀痕
Tool Marks Removal

表面拋光 Polishing

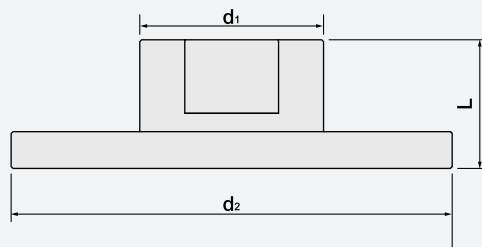
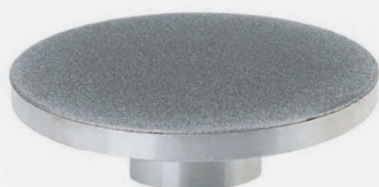
去除毛刺 Deburring



功能 Function	去毛刺 Deburring				表面精修(拋光) Polishing		
毛刷材質 Bristles type	碳化矽 (SiC)	陶瓷 Ceramic Bristle (CE)	氧化鋁 (Al_2O_3)	鑽石 Diamond (ND)	陶瓷 Ceramic Bristle (CE)	氧化鋁 (Al_2O_3)	鑽石 Diamond (ND)
可加工材質 Machining Materials	鋼材、不鏽鋼 鋁、非鐵金屬 Steel Stainless Steel Aluminum Non-Ferrous Metal	鋼材、不鏽鋼 鑄鐵 Steel Stainless Steel Cast Iron	鋼材 非鐵金屬 Steel Non-Ferrous Metal	陶瓷、碳化鎢 有色金屬 Ceramic WC Non-Ferrous Metal	鋼材、不鏽鋼 鑄鐵 Steel Stainless Steel Cast Iron	鋼材 非鐵金屬 Steel Non-Ferrous Metal	陶瓷、碳化鎢 有色金屬 Ceramic WC Non-Ferrous Metal

DDB 鑽石整修板

DDB DIAMOND DRESSING BOARD

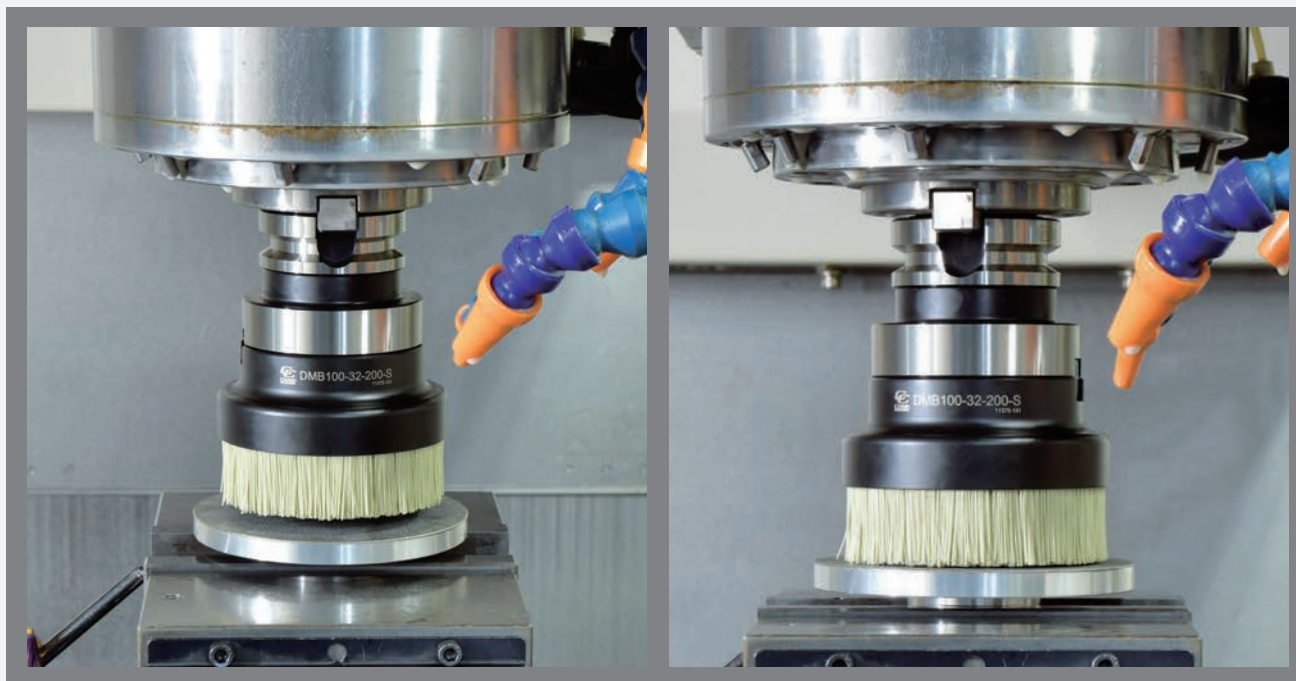


特點 Feature

- 加工後的毛刷若受損或磨耗，可用鑽石整修板，去除磨損毛刷，即可接續使用。
- A diamond dressing board is used to restore a brush after it becomes damaged or worn, allowing continued use.

規格 Spec.	L	d1	d2	重量 (KGS) Weight
DDB120	35	50	120	0.54

單位Unit: mm



- 修砂時建議將研磨刷設定轉速 $S=2000\text{rpm}$ ，切深 $AP=0.5\text{mm}$ 將研磨刷整平停留秒數 30 秒
- While repairing diamond brush, recommend setting: rotation speed $S=2000\text{rpm}$, depth of cut $AP=0.5\text{mm}$. Remember not to move the brush, finish setting the data and just hold on for 30 seconds.



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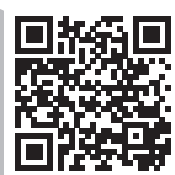
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