



XEBEC Ceramic Stone™

“A friend with a dream worth realizing.”

XEBEC was founded from a belief in the invention of a childhood friend. A grindstone that can be molded, but does not bend, break, or chip. With the vision of the world's best ceramic grindstone firmly in their minds, two friends teamed up with a materials manufacturer and developed a unique ceramic fiber suited to grinding. They also received a patent for a grindstone with an original structure that maximizes strength and polishing performance. Known as XEBEC Ceramic Stone, this product now dominates the market for the polishing of intricate features in molds, such as ribs, bosses and corners, and has a reputation for making manual deburring safer and more efficient.

XEBEC Stone™ Flexible Shaft

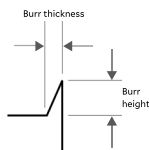
Patented

Deburring and polishing front and back of crossholes, grooves and areas deep inside the workpiece. The spring steel shaft absorbs vibrations for a soft surface contact.



Applicable burr size

Burr thickness ≤ 0.2 mm
(Burs this size can be bent by fingernails)



VIDEO

Applicable equipment

This tool is used on equipment with rotational speed control.



Machining
center



Lathe
(with live tools)



Dedicated
machine



Robot



Rotary tool
(electric)

Ball type

Equivalent grit (color)	Product code	Head size (mm)	Shaft dia. (mm)	Shank dia. (mm)	Overall length L (mm)	Standard rotational speed (min ⁻¹)	Maximum rotational speed (min ⁻¹)	Fig.
#800 (blue)	CH-PB-3B	φ3	φ1.5	φ3.0	71.5	5000 - 8000	15000	20
	CH-PB-4B	φ4	φ1.5	φ3.0	72.0	5000 - 8000	13000	20
	CH-PB-5B	φ5	φ1.5	φ3.0	72.5	5000 - 8000	12000	20
	CH-PB-6B	φ6	φ1.5	φ3.0	73.0	5000 - 8000	10000	20
#400 (orange)	CH-PO-3B	φ3	φ1.5	φ3.0	71.5	5000 - 8000	15000	20
	CH-PO-4B	φ4	φ1.5	φ3.0	72.0	5000 - 8000	13000	20
	CH-PO-5B	φ5	φ1.5	φ3.0	72.5	5000 - 8000	12000	20
	CH-PO-6B	φ6	φ1.5	φ3.0	73.0	5000 - 8000	10000	20
#220 (gray)	CH-PM-3B	φ3	φ1.5	φ3.0	71.5	5000 - 8000	15000	20
	CH-PM-4B	φ4	φ1.5	φ3.0	72.0	5000 - 8000	13000	20
	CH-PM-5B	φ5	φ1.5	φ3.0	72.5	5000 - 8000	12000	20
	CH-PM-6B	φ6	φ1.5	φ3.0	73.0	5000 - 8000	10000	20
	CH-PM-10B	φ10	φ1.5	φ3.0	75.0	4000 - 5000	6000	20
	CH-PM-3B-L	φ3	φ1.5	φ3.0	71.5	—	1000	20
	CH-PM-4B-L	φ4	φ2.3	φ2.3	72.0	—	3000	21
	CH-PM-5B-L	φ5	φ2.3	φ2.3	72.5	—	3000	21
	CH-PM-6B-L	φ6	φ2.3	φ2.3	73.0	—	3000	21
	CH-PM-10B-L	φ10	φ2.3	φ2.3	75.0	—	2000	21

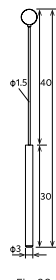


Fig. 20



Fig. 21

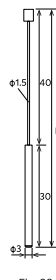


Fig. 22

CH-PM-4B-L
CH-PM-5B-L
CH-PM-6B-L
CH-PM-10B-L

Cylinder type

Equivalent grit (color)	Product code	Head size (mm)	Shaft dia. (mm)	Shank dia. (mm)	Overall length L (mm)	Standard rotational speed (min ⁻¹)	Maximum rotational speed (min ⁻¹)	Fig.
#800 (blue)	CH-PB-3R	φ3 × 3	φ1.5	φ3	71.5	5000 - 8000	15000	22
	CH-PB-4R	φ4 × 4	φ1.5	φ3	72.0	5000 - 8000	13000	22
	CH-PB-5R	φ5 × 5	φ1.5	φ3	72.5	5000 - 8000	12000	22
	CH-PO-3R	φ3 × 3	φ1.5	φ3	71.5	5000 - 8000	15000	22
#400 (orange)	CH-PO-4R	φ4 × 4	φ1.5	φ3	72.0	5000 - 8000	13000	22
	CH-PO-5R	φ5 × 5	φ1.5	φ3	72.5	5000 - 8000	12000	22
	CH-PM-3R	φ3 × 3	φ1.5	φ3	71.5	5000 - 8000	15000	22
	CH-PM-4R	φ4 × 4	φ1.5	φ3	72.0	5000 - 8000	13000	22
#220 (gray)	CH-PM-5R	φ5 × 5	φ1.5	φ3	72.5	5000 - 8000	12000	22
	CH-PM-5R-C01	φ5 × 10	φ1.5	φ3	72.5	5000 - 8000	12000	22



Fig. 23



Fig. 24

Disc type - stone

Equivalent grit (color)	Product code	Head dia. x thickness (mm)	Max. rotational speed (min ⁻¹)	Fig.
#220 (gray)	CH-PM-14D	φ14 × 2	5000	23

Disc type - shaft

Product code	Shaft dia. (mm)	Overall length (mm)	Mounting screw	Max. rotational speed (min ⁻¹)	Fig.
CH-D-SH	φ2.3	78	M2 × 6	5000	24

Applications

Deburring crosshole

Aircraft pipe part



Material: Stainless steel
Follows: Drilling
Tool: CH-PM-6B

Before

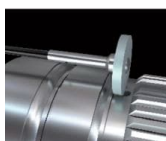
Deburring was carried out with a rubber grinding stone on a rotary tool. Finish quality varied depending on the workers' skill. 40 minutes was required to deburr 16 crossholes.

After

The tool is inserted in a crosshole and retracted gently while tracing around the hole edge. Quality of finish is uniform and less time is required for deburring.

Deburring groove hole

Shaft



Material: SCM
Follows: Drilling
Tool: CH-PM-14D

Before

An oil-impregnated grinding disc was used. The grinding stone shaft was short, making it difficult to access the deburring area. Tool life was poor.

After

The longer shaft of the disc type grinding stone makes it easy to access the groove. The ceramic fiber stone is replaced less often because it has a longer tool life. The shaft is reusable. Only the grinding stone is replaced.

How to use

The entire surface of the ceramic stone is abrasive and therefore can be used for deburring and polishing.

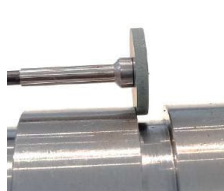
Ball type



Cylinder type

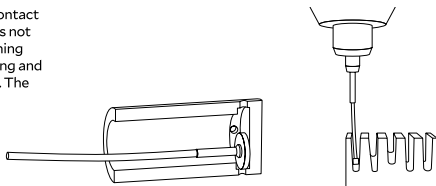


Disc type



Characteristics

The spring steel shaft absorbs vibrations for soft contact with the workpiece surface. The ceramic stone does not bounce around, thereby reducing the risk of scratching the workpiece. This makes this tool ideal for polishing and deburring areas that are deep inside the workpiece. The stone is safe to touch as it is not a cutting tool.



Trial set

This set includes a disc type stone and shaft.

Product code
CHPM14D-SET

φ2.3 to φ3 Collet Adapter

Adapts the φ2.3 shaft to fit on rotary tools with φ3 shanks.

Product code
RMP3024X

Precautions for use

A ceramic stone tool will be damaged when:

- used beyond the maximum rotation speed
- used with a pneumatic rotary tool

Users of the disc type should be careful to use only normal (clockwise) rotation. Reverse (counter-clockwise) rotation may cause the screw to loosen and the head to fly off.



MANUAL

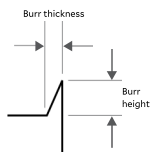
XEBEC Stone™ Mounted Point

Suitable for use with pneumatic rotary tools at high rotational speed



Applicable burr size

Burr thickness ≤ 0.2 mm
(Burs this size can be bent by fingernails)



VIDEO

Applicable equipment

This tool can be mounted on rotary tools.



Rotary tool
(electric)



Rotary tool
(pneumatic)

Equivalent grit (color)	Product code	Head size (mm)	Shank dia. (mm)	Head length (mm)	Overall length (mm)	Maximum rotational speed (min ⁻¹)	Fig.
#220 (gray)	AX-PM-3R	φ3	φ3	20	48	60000	25
	AX-PM-5RF	φ5	φ3	8	48	30000	26
	AX-PM-6T	φ6	φ3	20	48	60000	27

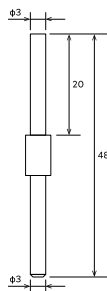


Fig. 25

AX-PM-3R

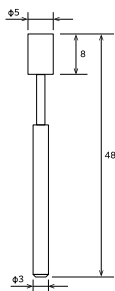


Fig. 26

AX-PM-5RF

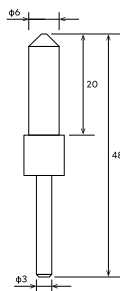


Fig. 27

AX-PM-6T

Applications

Deburring of edges



Material: Stainless steel
Tool: AX-PM-6T

Before

A file was used for deburring. However, it caused secondary burrs and a quality problem.

After

Secondary burrs are not formed and edge quality is improved.

Deburring of parting lines



Material: Aluminum
Tool: AX-PM-6T

Before

A rotary bar was used because the burrs were large. However, there was a safety problem.

After

The switch to abrasive stone makes the process safer to perform. The ceramic fiber stone's grinding power improves work efficiency.

How to use

All surfaces of the ceramic stone are abrasive and all of them can be used for deburring and polishing. These ceramic stones are capable of withstanding high speed. As such they can be used with pneumatic rotary tools in addition to electric rotary tools.



MANUAL

Mobile Micromotor System

Battery-powered rotary tool for use at workstations where power supply is unavailable. The handpiece is ultra-lightweight, ideal for manual operation without causing fatigue.



Product code	Matching shank diameter (mm)	Maximum rotational speed (min ⁻¹)	Standard components
M2P33STX	φ3 mm shank	30000	Handpiece with stand, controller, ON/OFF foot switch, power cable for charging

■ Capable of about 5 hours of continuous use on a single charge.