



DEBURRING  
TECHNOLOGIES

# XEBEC STONE™ FLEXIBLE SHAFT

## FEATURES

- For deburring crossholes and detailed finishing of parts
- Self-sharpening Ceramic Fiber Stone, cuts on all surfaces of the Stone.
- Flexible Shaft allows soft contact with the work piece.

## PROPER SELECTION

- Select a head size about 25% larger than the crosshole, but smaller than the bore.
- Ball and Cylinder style heads available in multiple sizes and grits.

## SPECIFICATIONS

Stone Color: **Blue, Orange, Gray**

Grit: **#800, #400, #220**

Styles Available: **Ball, Cylinder**

Material Hardness: **up to 57HRC**

Recommended Burr Size: **Base thickness up to 0.2 mm**

MAXIMUM Cutting Load: **3.7 ft/lbs (5Nm)**

## FOR USE WITH THE FOLLOWING TOOLS:

*Follow manufacturers instructions for proper mounting*



Electric  
Rotary



Machining  
Center



Combined  
Lathe



Special  
Machine



Robot



Lathe with  
Milling



Always operate within the recommended range of maximum speed of rotation, depth of cut and feed rate.

## PRECAUTIONS FOR USE

Do not exceed the maximum rotation speed for use.

Operating above the maximum rotation speed may result in tool breakage.

Ensure any dust or debris generated during processing is collected, and work area is kept clean.

Even if there is no abnormal condition observed in the test run, stop use immediately if an abnormality is observed.

Do not use the tool at an unreasonable angle or under excessive pressure.

Do not use the tool in any place with risk of fire or explosion.

Do not grind with, alter or fabricate the shaft.

## CONDUCT A TEST

Conduct a test run for 1 minute or more before starting the operation and 3 minutes or more after changing a tool.

Check for any abnormality including excessive vibration or looseness in the mounting place of the tool.

## OPERATOR SAFETY MEASURES

**Use Protective Gear** Always wear protective goggles, gloves and masks when operating the tool or entering the work area. Wear long sleeves, tight cuffs, and clothing to minimize skin exposure.

**Take Caution** Be cautious in surrounding area. Use of machines at high speed can cause flying debris within the work area. Dust or debris generated by operating process could be hazardous.



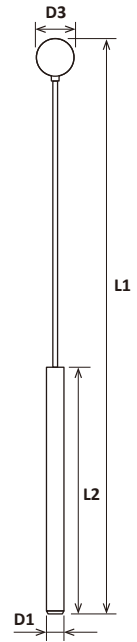
## WARNING!

Use caution and follow all safety measures at all times. Failure to do so could result in injury. A tool or a part of a tool may crack, drop off, distort or break. Broken pieces of a tool or grinding dust may stick into skin or eyes and cause injury.

Stone Color	Blue	Orange	Gray
Grit	#800	#400	#220

## Ball Type

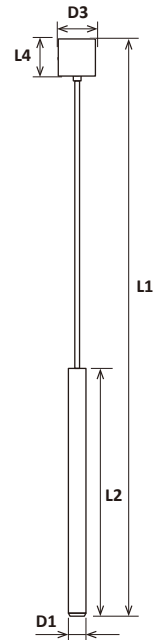
Ball Size (D3)		L1 Overall Length		D1 Shank Diameter		L2 Shank Length		Aggressiveness			Max RPM
MM	INCHES	MM	INCHES	MM	INCHES			Less ←	→ More		
3mm	0.118	71.5	2.815	3	0.118	30	1.181	Blue - #800	Orange - #400	Gray - #220	15,000
								10001 CH-PB-3B	10008 CH-PO-3B	10015 CH-PM-3B	
4mm	0.157	73	2.874					10002 CH-PB-4B	10009 CH-PO-4B	10016 CH-PM-4B	13,000
5mm	0.197	72	2.835					10003 CH-PB-5B	10010 CH-PO-5B	10017 CH-PM-5B	12,000
6mm	0.236	75	2.953					10004 CH-PB-6B	10011 CH-PO-6B	10018 CH-PM-6B	10,000
10mm	0.393	72.5	2.854					-	-	10027 CH-PM-10B	7,000
3mm	0.118	152.5	6.004					-	-	10080 CH-PM-3B-L	1,000
4mm	0.157	151.5	5.965	2.3	0.091	-	-	-	-	10081 CH-PM-4B-L	3,000
5mm	0.197	153	6.024					-	-	10082 CH-PM-5B-L	3,000
6mm	0.236	152	5.984					-	-	10083 CH-PM-6B-L	3,000



10mm Ball Available Upon Request

## Cylinder Type

Cylinder Size (D3 x L4)		L1 Overall Length		D1 Shank Diameter		L2 Shank Length		Aggressiveness			Max RPM
MM	INCHES	MM	INCHES	MM	INCHES	MM	INCHES	Less ←	→ More		
3 x 3	0.118 x 0.118	71.5	2.815	3	0.118	30	1.181	Blue - #800	Orange - #400	Gray - #220	15,000
								10005 CH-PB-3R	10012 CH-PO-3R	10019 CH-PM-3R	
4 x 4	0.157 x 0.157	72	2.835					10006 CH-PB-4R	10013 CH-PO-4R	10020 CH-PM-4R	13,000
5 x 5	0.197 x 0.197	72.5	2.854					10007 CH-PB-5R	10014 CH-PO-5R	10021 CH-PM-5R	12,000
5 x 10	0.197 x 0.393	75	2.953					-	-	10022 CH-PM-5R-C01	12,000



## Disc Type

Disc Stone Size (D3 x L4)		L1 Overall Length		D1 Shank Diameter		Stone Disc Type	Requires Shaft (Sold separately)	Collet Sleeve (Optional) For tools with 2.3mm shaft	Max RPM
MM	INCHES	MM	INCHES	MM	INCHES	Gray - #220	Shaft	Allows use in rotary tools	
14 x 2	0.551 x 0.079	78	3.071	2.3	0.091	10030 CH-PM-14D	10031 CH-D-SH	10032 RMP3024X	5,000

A trial set is available that includes a Disc Type Stone and a Shaft - EDP: 10033 (CHPM14D-SET)

**New 2.3 mm Collet Sleeve now available** EDP: 10032. Allows the use of 2.3mm diameter shank tools in the Xebec Micro Motor.

ADDITIONAL LEARNING RESOURCES AVAILABLE ON OUR WEBSITE



**3D Files (STEP, DXF), Dimensional Drawings and Safety Data Sheets (SDS)**

[deburringtechnologies.com/technical](http://deburringtechnologies.com/technical)



**Product Demonstration Videos**

[deburringtechnologies.com/video](http://deburringtechnologies.com/video)

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## Starting Operating Parameters

Speeds shown for standard (72 mm) length stones only. Do not exceed maximum RPM for longer (150 mm) length stones.

Material	Description	3mm Stone	4mm Stone	5mm Stone	6mm Stone
		RPM	RPM	RPM	RPM
Aluminum Castings	1000- 3000	● 12,000	● 9,100	● 7,000	● 6,100
Aluminum Castings	5052- 6061	● 13,000	● 9,900	● 7,600	● 6,600
Copper Brass	C93200- B- 148-52	● 12,000	● 9,100	● 7,000	● 6,100
Carbon Steel Alloys	1010- 1060	● 13,500	● 10,200	● 7,800	● 6,800
Low Alloy Steel	S1- O2- 4140- 5150	● 13,700	● 10,300	● 8,000	● 7,000
High Alloy Steel	H11- T15- M42	● 13,900	● 10,400	● 8,200	● 7,200
Stainless Steel/ Castings	403- 405- 17- 4 PH	● 13,500	● 10,200	● 8,000	● 7,000
300 Series Stainless	304- 316	● 12,200	● 9,300	● 7,200	● 6,200
Cast Iron - Gray & Nodular	All	● 13,200	● 9,900	● 7,600	● 6,600
White/Hardened Cast Iron	All	● 14,500	● 11,000	● 8,700	● 7,600
Titanium	TiAL6V4- 6V6AL2Sn	● 14,000	● 10,500	● 8,200	● 7,300
High Temp Alloys	Inconel- Hastelloy	● 14,500	● 11,000	● 8,700	● 7,600
<b>Maximum RPM</b>		<b>15,000</b>	<b>13,000</b>	<b>12,000</b>	<b>10,000</b>

## Depth of Cut

Place the head lightly on the workpiece with approximately 1N (100g, bending displacement of 0.5mm)

## Feed Rate

Start at 300mm/min (12 IPM) - adjust in 10% increments. There is no upper limit of use.