



SWAM[®] Model B Edge Beveling System

The SWAM[®] Model B Edge Beveling Systems perform a multitude of precision cutting and beveling processes with exceptional consistency as well as with excellent repeatability on silicon, silicon carbide, sapphire, NaG, GaAs, GaP, glass, ceramic, Germanium, III-V materials, and other hard brittle materials. Unique processes include double positive beveling, simultaneous positive and negative beveling, reworking, grooving, and contouring as well as removing the epitaxial edge crown, cutting discs (outside diameter), and holes (inside diameter).



The Model B Systems include the Model LV-1 Micro Sandblaster to deliver a consistent flow of abrasive powder through a sapphire nozzle. The nozzle is precisely positioned by a sealed slide assembly for pinpoint accuracy around the substrate which is secured in place by a rotary vacuum chuck. A timer is integrated to regulate the process period for split second accuracy. With the rotational concentricity of the chuck assembly and the accuracy of the abrading process, the cutting to a diameter tolerance of $\pm .001$ " is possible.

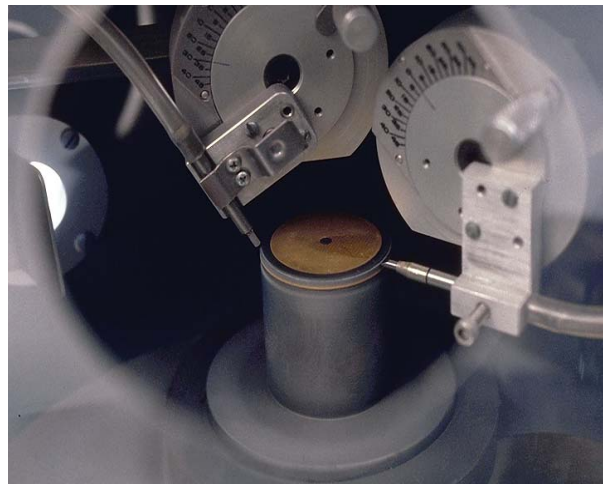
The SWAM Edge Beveling Systems are available in three different models with a variety of options that allow the user to meet production requirements and increase system capacity as the need arises.

The Model B1 is ideal for single-cut operations. Includes one Model LV-1 Micro Sandblaster, a single nozzle setup, a set of four sapphire nozzles, a rotary vacuum chuck (25mm diameter standard size), and the nozzle positioning dial indicators.

The Model B1 can be upgraded to a Model B2 by adding a second Model LV-1 Micro Sandblaster and another nozzle setup.

The Model B2 is designed for multi-angle wafer processing and by performing two operations simultaneously, precise concentricity is assured and operator productivity is significantly enhanced. The Model B2 includes two Model LV-1 Micro Sandblasters, dual nozzle setup, a set of four sapphire nozzles, a rotary vacuum chuck (25mm diameter standard size), and the nozzle positioning dial indicators.

The Model B2-TV is also for multi-angle wafer processing with the incorporation of video equipment for monitoring. In addition to the components included with the Model B2, the B2-TV has an enclosed work area as well as a video system with an adjustable crosshair generator that permits the establishment of visual guidelines for each operation and a zoom lens assembly with a scratch-resistant lens cover.



Additional Options:

- **Sapphire Nozzles** are available in four diameter sizes and lengths: .018", .026", .035", .045"
- **Rotary Vacuum Chuck** is 25mm diameter standard. The chuck can be ordered up to 100 mm diameter.
- **Dial Indicators** are available in inches or metric.

Required Components for Proper Operation:

- **Vacuum Pump** to provide vacuum to secure substrate onto the rotating vacuum chuck. Crystal Mark offers a **Vacuum Pump with Filter Assemblies** to prevent abrasive powder from reaching the pump.
- **Air Dryer** to supply clean dry air to the system. Crystal Mark offers the **Model 2B Air Dryer** that has a capacity of 9 SCFM at 100 psi (255 liters per minute at 7kg/cm²).
- **Dust Collector** for evacuating spent abrasive from the blasting/work area. Crystal Mark offers a selection of Dust Collectors to accommodate one system to several systems.

Specifications	Model B1	Model B2	Model B2-TV
Chuck Spindle Speed	Infinitely Adjustable: 5 to 400 RPM		
Timer Range	1 second to 999 seconds (In 1 second increments)		
Maximum Part Size	5" diameter		
Size (approximate)	22"L x 22"W x 17"H*		30"L x 29"W x 29"H*
Weight (approximate)	65 pounds*	75 pounds*	150 pounds*
Power Requirements	115VAC/60HZ/1PH/ 660 Watts		
	230VAC step down transformer provided for 220VAC/50HZ		
Vacuum Requirement	1.5 SCFM at 25.4 10in Hg		
Air Requirement	Clean, Dry air, Nitrogen or CO ² at 60 psi minimum		

*Does not include the Model LV-1 Micro Sandblaster

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