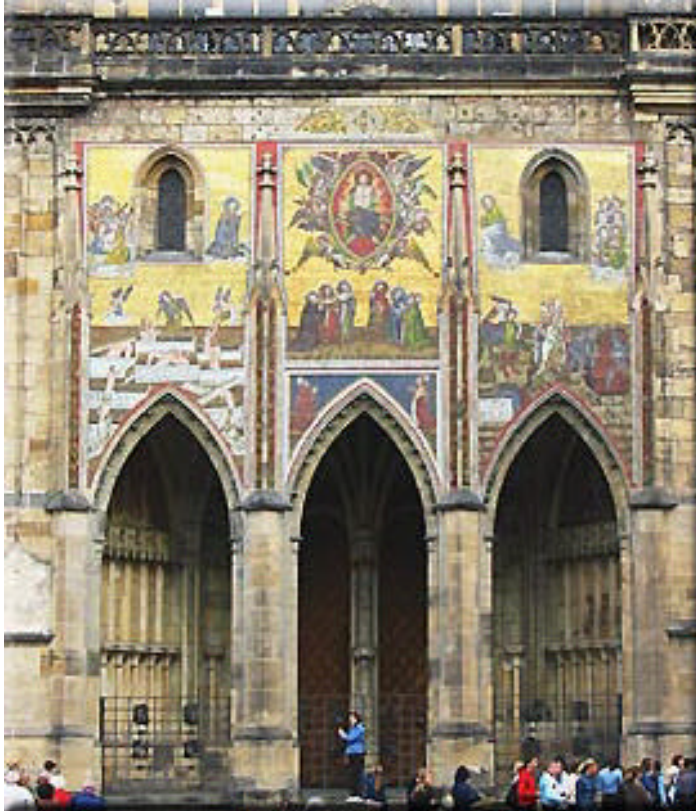


*Precision Makes Perfect*



## Micro Abrasive Equipment and Job Shop Services

**CRYSTAL MARK, INC.**

A SWAN TECHNOLOGIES CORPORATION  
613 Justin Avenue • Glendale, CA 91201

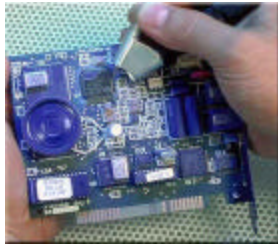
818.240.7520 • 800.659.7926

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sales@crystalmarkinc.com

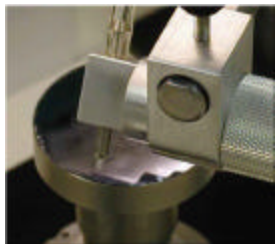
*[www.crystalmarkinc.com](http://www.crystalmarkinc.com)*

# Consider the Possibilities



## with Micro Abrasive Processing

- coring and contouring of semiconductor wafers
- demarking of electronic devices
- conformal coating removal
- precise deburring of medical components
- glass beading of machined parts
- decorative glass engraving
- preparation of delicate fossils, gems, minerals and artifacts
- surface finishing for light diffusion
- surface texturing for increased adhesion
- selective material removal
- micro hole drilling in thin brittle materials



## Precision Manual and Automated Micro Abrasive Equipment

The ECO-BLAST® and SWAM BLAST® lines of Micro Abrasive Blasting Systems are designed to achieve refined precision, ranging from the simplest of tasks to the most challenging.

For decades, CRYSTAL MARK, INC. has specialized in the field of micro abrasion technology. We are involved in all aspects of micro abrasive processing as automaters, manufacturers and end users. We offer manual, automated and custom systems as well as Job Shop Services to accommodate a number of diverse applications.

Working together with our customers as both manufacturers and end users, we have developed a full product line that enhances micro abrasion technology in more than one industry. As a result, we are the recognized leader and innovator in micro abrasive processing.

[www.crystalmarkinc.com](http://www.crystalmarkinc.com)

# Automated Systems

*Precise, Accurate and Complete for Total Process Control*



**SWAM® Belt Abrader**  
precisely abrades uniform finishes to surfaces requiring exact repeatability.



**SWAM® C-5100 Wafer Coring and Contouring System**  
cores and edge rounds silicon, silicon carbide, sapphire, Germanium, NaG, GaAs, and other III-V materials as well as removes Epi Crown.



**SWAM® SRT Deburring Station**  
specifically textures and deburrs a variety of components including medical and dental implants and screws.



**SWAM® Wire Abrader**  
consistently abrades the outside diameter of a wire ranging from .010" to .060" in diameter standard.



**SWAM® NozPoz Nozzle Positioning System**  
manipulates a nozzle over a work piece per the customers requirements.



**SWAM® D-MK Demarking System**  
demark components including DIP, SOJ, SOIC, PLCC, and other types of packages.

*Crystal Mark, Inc. can customize a system to meet your specific application.*

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# Manual Systems

The **SWAM-BLASTER®** line of **Micro Abrasive Blasters** are complete, accurate and precise. With independently adjustable powder flow control and air pressure regulation, Total Process Control can be achieved.

The SWAM BLASTERs™ introduce a defined amount of abrasive powder into a controlled stream of compressed air through the abrasive pathway and out of a selected nozzle tip. When detail is required, the powder flow can be turned down to reduce the amount of powder being introduced into the abrasive pathway thus, allowing the use of a very small nozzle tip. For more aggressive requirements, the air pressure, powder flow and the nozzle tip diameter can be increased.



EV-2, EV-2L, MV-2, MV-2L



MV-241



LV-1, XV-1

## Model EV-2 Micro Abrasive Blaster

- Brass fittings throughout the abrasive pathway
- A nozzle range from .007" up to .040"

## Model EV-2L Micro Abrasive Blaster

- Carbide lined fittings throughout the abrasive pathway
- A nozzle range from .018" up to .060"

## Model MV-2 Micro Abrasive Blaster

- Tilting powder tank to allow for rapid powder changes
- Carbide lined fittings throughout the abrasive pathway
- A nozzle range from .007" up to .040"

## Model MV-2L Micro Abrasive Blaster

- Tilting powder tank to allow for rapid powder changes
- Carbide lined fittings throughout the abrasive pathway
- A nozzle range from .018" up to .060"

## Model MV-241 Micro Abrasive Blaster

- Tilting powder tank to allow for rapid powder changes
- Carbide lined fittings throughout the abrasive pathway
- A nozzle range from .007" up to .060"

## Model LV-1 Micro Abrasive Blaster

- For production lines and in the SWAM® Automated Systems
- An hour meter for SPC monitoring
- A leak detection system for the pinch valve assemblies
- A separate mixing powder tank for a consistent powder feed rate from a full tank to an empty tank.
- Carbide lined fittings throughout the abrasive pathway
- A nozzle range from .018" up to .060"

## Model XV-1 Micro Abrasive Blaster

- Similar to the Model LV-1
- Equipped with larger hoses and fittings throughout the abrasive/air pathway.
- A nozzle range from .032" up to .090"

## The ECO-BLASTER® Micro Abrasive Blaster



is an innovative product that utilizes a unique pressure feed system to propel abrasive powder into a high pressure air stream and out through the hand piece and nozzle assembly. By accelerating the abrasive powder to high velocities with high pressure gas, a multitude of tasks are achieved.



# Accessories



**Abrasive Powders**  
from 12 microns to 165 microns.  
Aluminum Oxide, Soda Bicarbonate,  
Plastic Blast, Crushed Glass, Glass  
Beads, Dolomite, Carbo Blast



**Air Dryers and Filters**  
that address any moisture and  
contamination problems.



**Dust Collectors**  
to evacuate spent media from the  
work area.



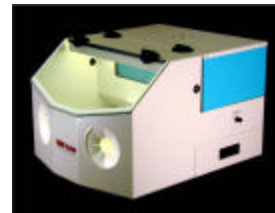
**Microscopes and Magnifying Lens**  
to accommodate magnification  
requirements.



**Carbide Nozzles** from .007" to .090"  
diameter and .006"x.020" to  
.013"x150" rectangular.  
**Sapphire Nozzles** from .014" to  
to .045"



**The Point Ionizer<sup>®</sup> for  
ESD Sensitive Applications**  
neutralizes static charges generated  
at the blasting point.



**Ergonomically Designed  
Work Chambers**  
available with ionization, in various  
sizes and configurations.



**Replacement Parts**  
for the abrasive pathway.

*To Complete Any System*

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