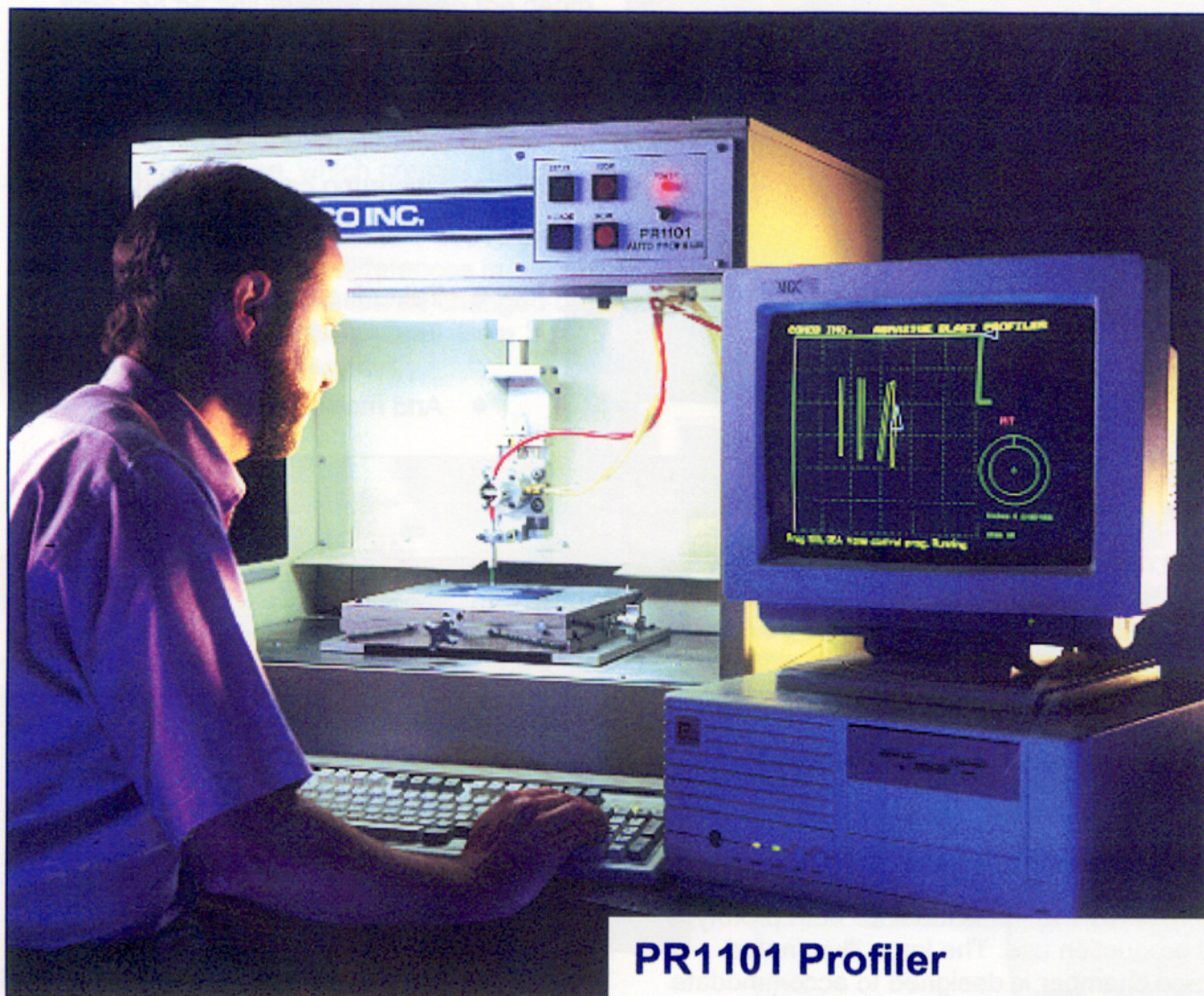


COMCO INC.

PR1101 Series

Micro-Abrasive Profiler



Micro-abrasive Blasting

Micro-abrasive blasting is a process that uses fine abrasive particles mixed with an airstream and blasted through small nozzle tips for focused cutting, selective cleaning, precision deburring, surface preparation, and material removal on a wide range of parts.

PR1101 Profiler

The PR1101 Profiler is a flexible work station that gives automatic nozzle positioning to micro-abrasive blasting. By combining a computer-controlled X-Y table with the small carbide nozzles, it is possible to make very precise lines, circles, patterns or holes on the top surface of parts held in a nest. Nozzle position repeatability of up to ± 0.0005 in./inch provides the necessary control to work on a small pad or a large array of repetitive holes.

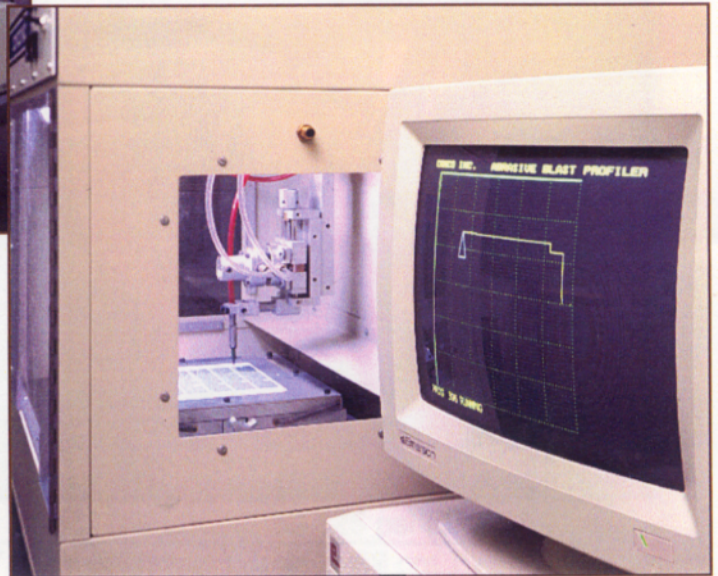
Comco Inc. 2151 North Lincoln Street / Burbank, California 91504-3344, USA / 818-841-5500
E-mail: sales@COMCOinc.com / 800-796-6626 / Fax: 818-955-8365 / www.COMCOinc.com

In the electronics industry, this has a wide variety of uses, including:

- Cleaning laser-drilled holes in ceramics
- Permanently etching serial numbers on precision optical lenses
- Cleaning mold release from extrusion dies for fiber optics cable



- Cutting circles or drilling holes in silicon wafers
- Cleaning resist or glass from hybrid circuits
- Deburring cavities in very small medical electronics parts
- Texturing pads for increased mechanical strength in bonding
- And more...



Features and Benefits

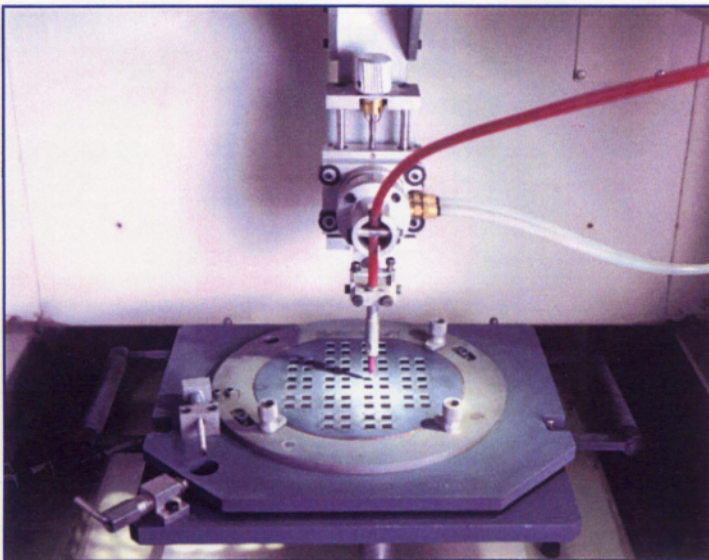
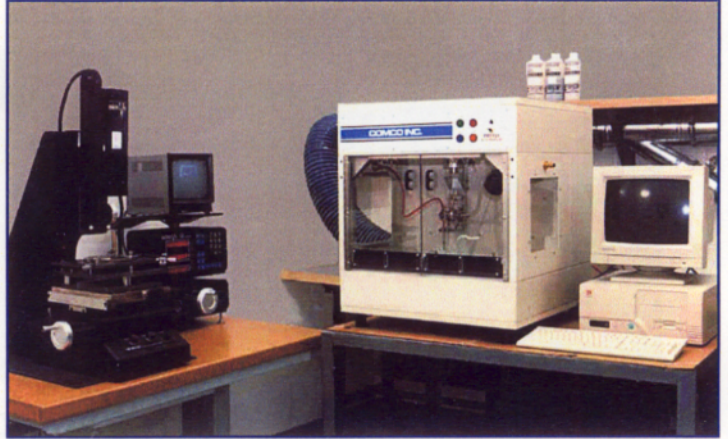
The PR1101 Profiler is ideal for both prototype and production use. The large illuminated abrade chamber is designed to accommodate oversized parts, with the part located so that the 6" working area is in the center. Strong dust collection through the rear extracts the spent abrasive, keeping a clean work area.

The X-Y table is mounted overhead, outside the abrade chamber. It moves the nozzle over the work surface while the part and fixturing remain stationary. This overhead design provides more effective sealing of the precision table from abrasive contamination.

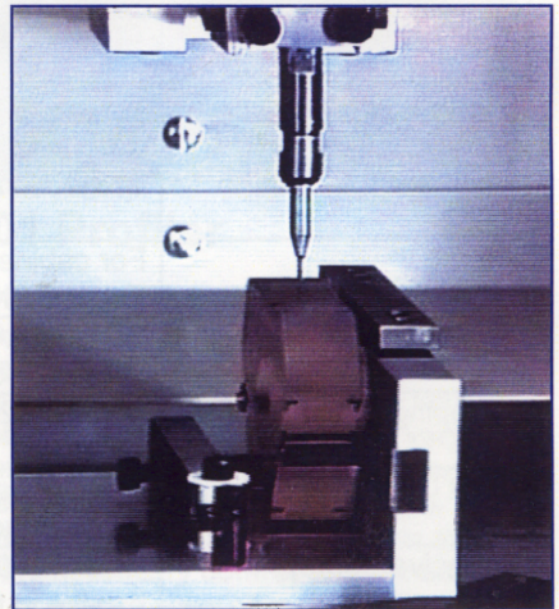
Control of the system is provided by a PC with a Comco bus link to the machine controls and VGA monitor. The menu-driven programming is in a convenient condensed format, with a full screen text editor and the graphics generator, to verify programming or monitor the progress of operating sequences. Programs in inch or metric units are stored for future recall.

Precision and Control

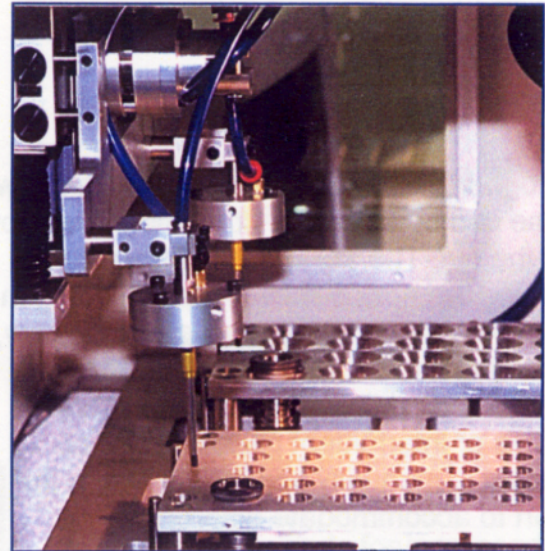
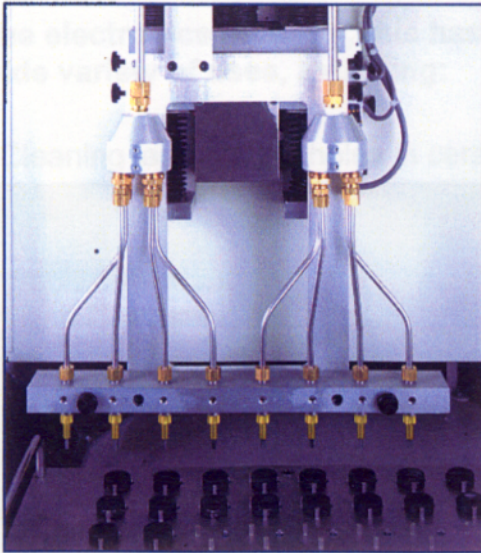
Programmed nozzle travel speed and dwell time can be adjusted, controlling the depth of the cut. The abrasive can flow either during the nozzle movement, resulting in a line pattern, or with the nozzle stationary, allowing it to be turned on and off for a programmed time, which creates drilled holes or intermittent patterns. Nozzle height is manually adjustable above the part to accommodate differences in thickness. Line widths can be changed by using different Comco nozzles (from .015" round to .150" rectangular).



Although the standard nest uses an edge mask to hold flat parts, custom fixturing can be conveniently installed in the abrade chamber.



Various media is available to change the abrasive effect. Aluminum oxide and silicon carbide perform cutting, texturing, or drilling on hard materials, while bicarbonate of soda or walnut shells are more effective in cleaning resists or conformal coatings from fragile parts.



Integrating splitters with a PowerFlo or DirectFlo blaster and the PR1101 Profiler allows multiple nozzle arrays with evenly metered powder flows.

Table	6 in. (150 mm.) X-Y precision stepping table with 200 step per revolution motor, 1/2 step or microstep drive, and five pitch lead screw. Software correction for table inaccuracies.
System Controller	PC computer with Comco bus and VGA monitor. Software operates under DOS.
Programming Format	Inch or metric (.001 in. or .01 mm. data units)
System Resolution	0.001 in. (.025 mm.) with 1/2 step drive 0.0001 in. (.0025 mm.) with microstep drive
Position Repeatability	Up to ± 0.0005 in./in. (± 0.013 mm./mm.)
Nozzle Programmability	Maximum range of 5.95 in. x 5.95 in. (150 mm. x 150 mm.) (Larger ranges up to 11 in. x 7.5 in. available by special order)
Electrical	115V/60Hz or 230V/50Hz, 500 watts
Air	For cabinet purge: 1.5 SCFM (40.5 L/min), 80 psi (5.4 atm) For abrasive blaster: 2 SCFM (54 L/min), 80-125 psi (5.4 – 8.5 atm)
Dimensions	26 in. W x 26 in. D x 27 in. H (66 cm. x 66 cm. x 68 cm.) (System controller separate)
Shipping Weight	550 lbs. (250 kg.)
Dust Collection	Requires at least 800 CFM connected through 6 in. collar on back. (The Comco DC3000 Dust Collector, 5 HP, is recommended.)
Abrasive Supply	One MB1001 MicroBlaster [®] abrasive unit is included. Its size is 16.5 in. x 10 in. x 9 in. (42 cm. x 25 cm. x 23 cm.)

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