

PRECISION Valve & Automation

PVA2000™

SELECTIVE CONFORMAL COATING SYSTEMS



The PVA2000™

A Cleaner Process With No Masking

That's right. Now a cleaner, safer, and much more efficient conformal coating process is available with the PVA2000™. This unit selectively applies conformal coatings, avoiding keep-out areas by way of a controlled atomized spray.

Utilizing the PVA2000™ in a selective conformal coating process eliminates the worries of masking, demasking, and rework, while significantly reducing inspection time.

Three Axis Systems

All standard PVA2000™ conformal coating workcells offer a minimum of three axes of programmable motion plus a pneumatic tilt axis and dual valve configuration. Three axis systems permit work in the x, y, and z-axis and increase flexibility over traditional two axis robots.

Z-axis motion is essential if you need to spray coating up one side of a component and down the other. It is also advantageous in controlling and adjusting the pattern width of the coating on the fly while working around board components. This results in a continuous path and flow of material and consequently, a reduction in cycle time.

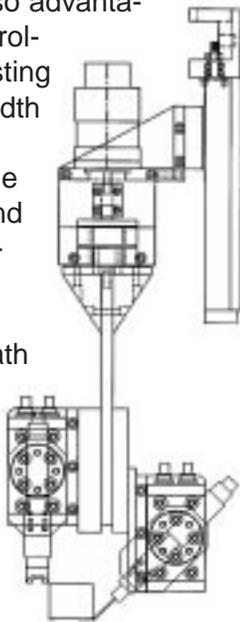
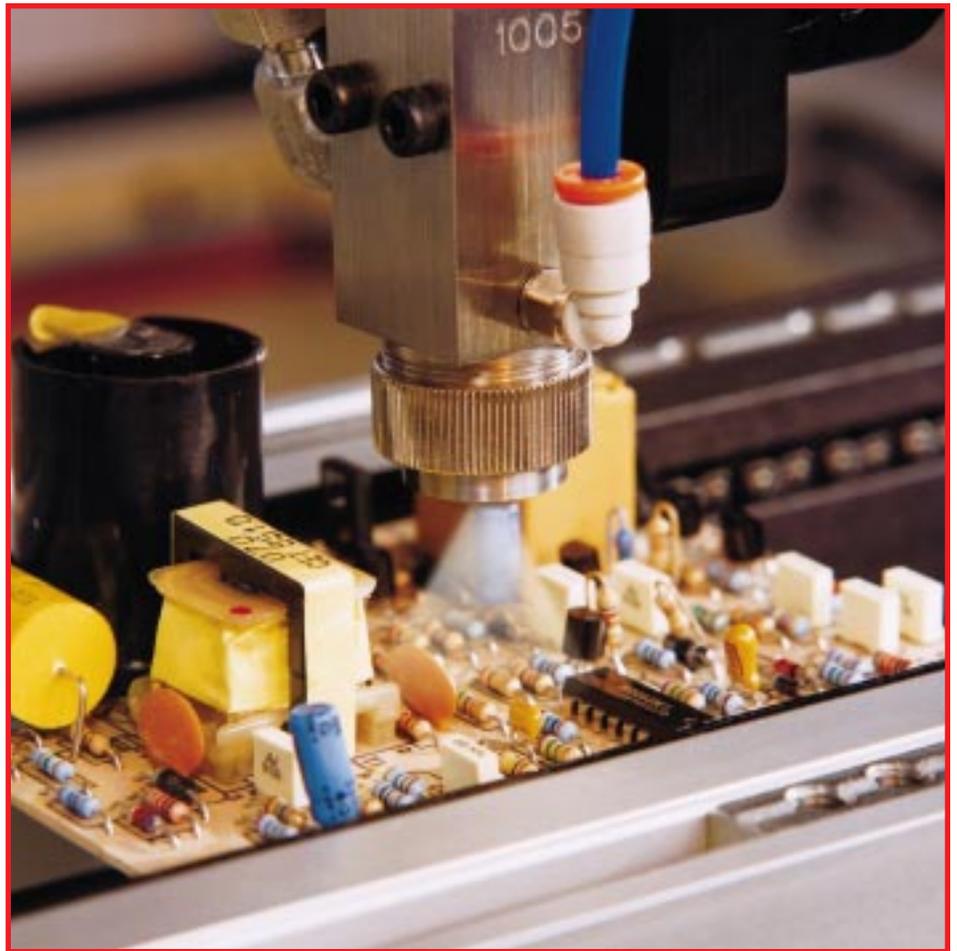


Figure 1. Four axis conformal coating head.



Four Axis Systems

To offer your operation the highest degree of flexibility, a four-axis robot employing a pneumatic tilt is available. A four-axis system will still present you with x, y, and z-axes, however also includes a programmable theta axis. This provides motion in a 360° pattern. Coat at an angle in any direction, North, South, East, or West, and any increment in between.

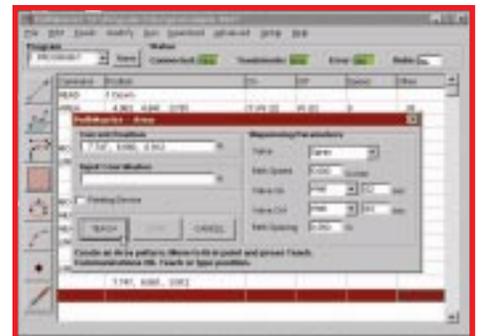
PathMaster™ 2.0

Programming paths of motion is easily achieved with our exclusive Windows®-based software.

Point and click on a selection of commands to quickly produce lines, arcs, dots, circles, and an array of other paths. PathMaster™ will prompt you as you create custom programs.

Select points either through a computer or a teach mode on the PVA2000™ front panel display.

A completed path can be downloaded into the nonvolatile memory of the PVA2000™ for recall through the system's LCD screen. Up to 30 programs can be stored in the system at one time. The PVA2000™ is equipped with an RS232 communication port to allow for unlimited program availability when utilizing any computer.



PVA2000™ Series Standard Features & Specifications

Travel Speed:

0 to 700 mm/sec (0 to 27.6 in./sec)

Payload Capacity:

25 pounds

Standard Work Area:

500 mm x 500 mm x 100 mm
(19.68 in. x 19.68 in. x 3.94 in.)

Repeatability:

0.025 mm (0.001 in.)

Positional Resolution:

0.005 mm (0.0002 in.)

Power Requirements:

120 Vac +10%/-10%, 60 Hz

Air Supply Requirements:

80 psi dry, unlubricated air

Conveyor Speed:

Programmable up to 1.67 in./sec

Conveyor Compatibility:

SMEMA

Conveyor Process Flow:

Programmable right to left or left to right

Conveyor Edge Clearance:

SMEMA standard 0.185 in.

Conveyor Weight Limit:

5 pounds per section

Precision Ball Screw Slides / Brushless DC Servo Motor.

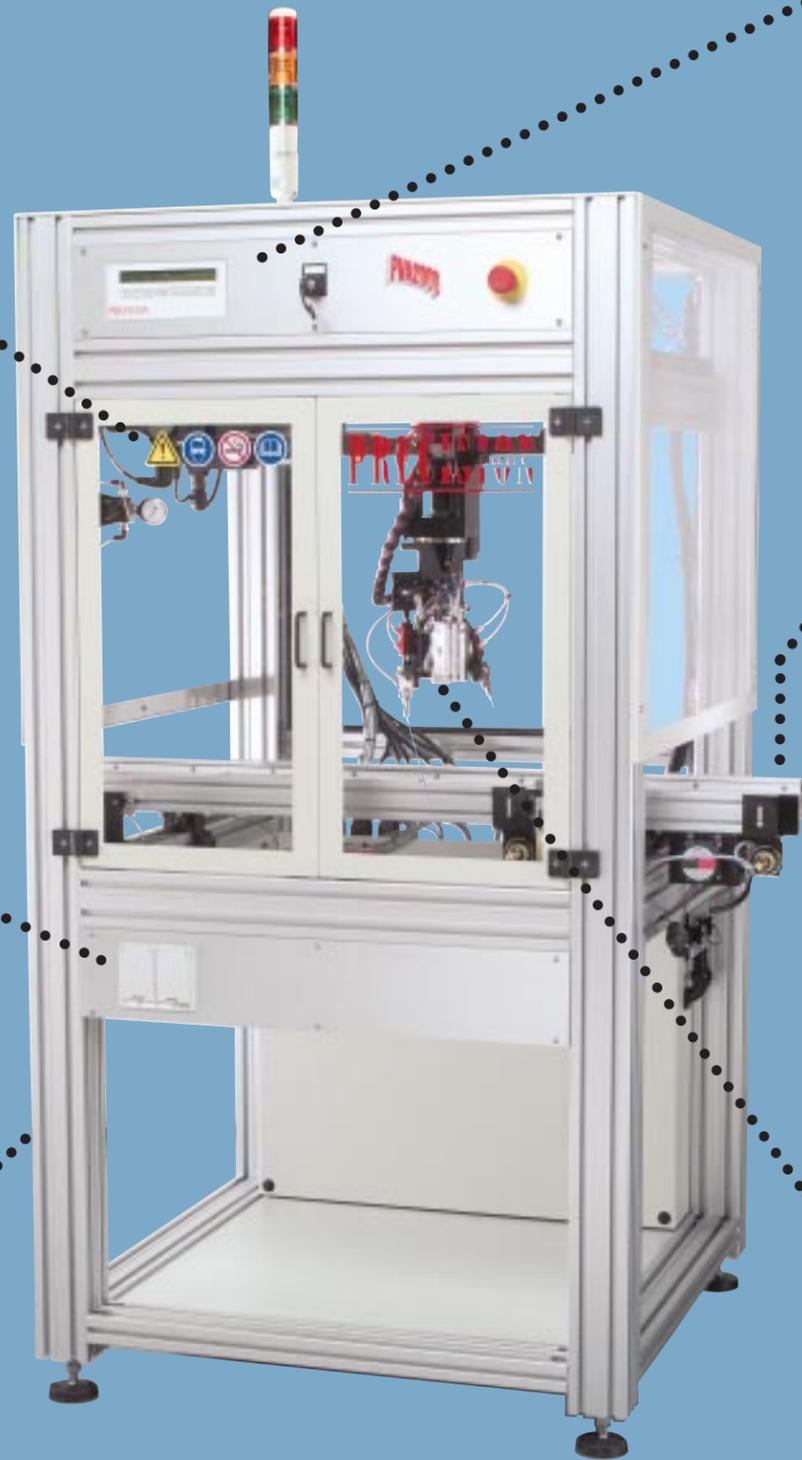
The most accurate, reliable motion platform in the industry. Low maintenance and repeatable to 0.001 inches.

Remote Trackball Control

Plug into the standard trackball port and program points from a small control box that fits in the palm of your hand. Remove the trackball to limit access to program modifications.

Extruded Aluminum Frame.

Rugged and durable, this frame allows for easy modular integration and the ability to customize machine sizes to fit your application.



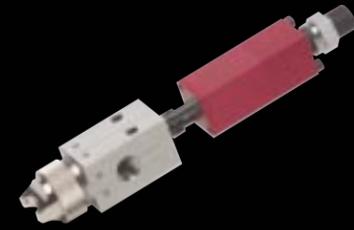
Operator Interface. Obtain and monitor all system functions through the LCD touch screen. Select one of up to 30 different programs of motion, receive feedback on flow properties, independently control a valve, and more.

Programmable Conveyor.

Easily integrate with your existing production line. Programmable conveyors provide total control over product flow direction and speed.

Dual Valve Configuration.

Employing both a spray and needle valve, the PVA2000™ offers the traditional capabilities of a spray system, while permitting the application of beads and dots to eliminate masking.



FCS100-F/R

This versatile valve is capable of spraying any conformal coating material on the market regardless of chemistry and viscosity. The FCS100 is constructed of lightweight aluminum with a stainless steel fluid section. Adjustable flow control allows you to vary coating thickness. Spray patterns from 1/4" to over 2" in width can easily be gained by altering the z-axis position.



FCS100-ES

For greater control around board components and for spray patterns down to 1/8" wide, the FCS100-ES is the most accurate spray valve in the industry. A concentrated atomized spray produces razor sharp edges for outlining and masking areas.



FC100-SS

This high pressure, stainless steel dispensing valve is used for dispensing beads and dots of conformal coating. Utilized for additional flexibility around keep out areas, the FC100-SS can apply beads down to 0.010" thick. The FC100-SS is mounted on a tilt axis for applying coating on the side and underneath components.

Curing Oven / Board Inverter Options

Configure the system you need with a selection of curing and board handling options. The PVA2000™ may have an infrared (IR), ultraviolet (UV), or humidity chamber curing oven, as well as a board inverting module installed in-line for hassle-free processing.

Equipped with full fault-recovery software, the curing process is monitored in its entirety. The operator, in the event of a malfunction, will be alerted to the precise problem by way of a message on the display panel.

IR ovens offer independently controlled heating zones for both top and bottom side curing. Temperature and conveyor speed can be programmed to meet your coating requirements.

Curing coatings with UV light is easy and economical with Precision Valve & Automation's ultraviolet curing system. Utilizing Fusion® UV lamps, a beam of light cures materials with standard oven widths of 6", 10", 12", 16", 18", and 20". Again, conveyor speed through the tunnel is completely programmable through the LCD screen. Board travel can be optimized to decrease cycle time.

Precision Valve & Automation offers single-sided and double-sided curing options.

In instances where coating must be applied on both the top and bottom side of a printed circuit board in an in-line process, an automated inverting device is necessary. Precision Valve & Automation's board inverter module can be integrated in-line to reduce handling and increase throughput.

All curing ovens and board inverters employ SMEMA protocol and can be integrated to fit your application.

Modular system design allows you to expand your conformal coating production line as your volume increases. Any of these modules can be added to an existing PVA2000™ coating cell for increased efficiency.

UV2000. Ultraviolet light curing oven module

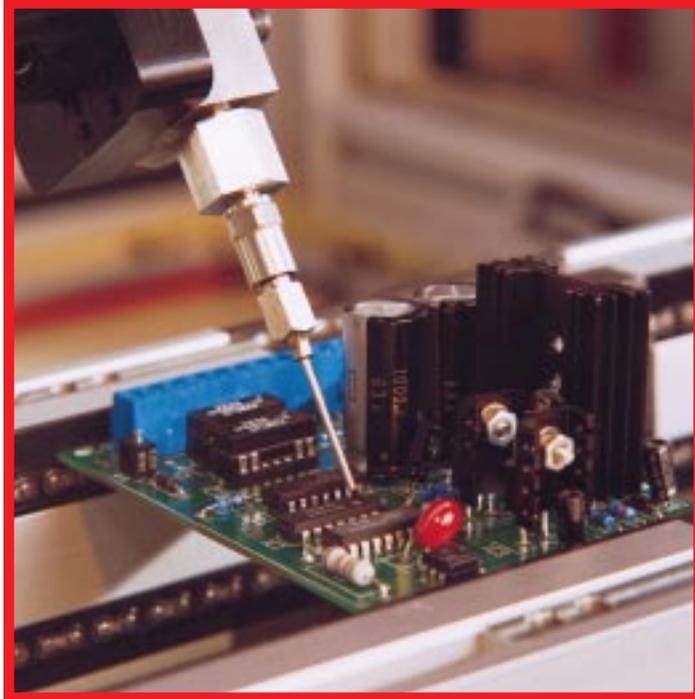


IR2000. Infrared heat curing oven module



BI2000. Board inverter module





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