

PRECISION

Valve & Automation

PVA3000™

AUTOMATED FLUID DISPENSING SYSTEMS



The PVA3000™ Automated Fluid Dispensing System

Precision Valve & Automation helps industries to better process their dispensing operation through automated technology. The PVA3000™ has been proven to assist manufacturers in improving their products and remain increasingly competitive in the marketplace. Compared to handheld operations, automation increases quality, improves material utilization, and increases capacity while keeping labor costs to a minimum. Whether you are bonding, potting, gasketing, meter-mixing, or applying beads and dots, the PVA3000™ automated fluid dispensing system successfully applies coatings, sealants, and adhesives accurately and consistently.

Mechanical Features of the PVA3000™

The PVA3000™ employs precision ball screw slides driven by a brushless DC servo motor through a large 500 mm x 500 mm standard work area. All axes offer optical encoder feedback. A safety brake is installed on the z-axis. The flexible extruded aluminum frame of the PVA3000™ allows for easy modular integration. A payload capacity of 25 pounds permits multiple valve configurations and tooling options for increased throughput and flexibility.

Motion Capabilities

All systems offer full programmable motion in 2D (PVA3200™), 3D (PVA3300™), or 3D with a theta axis (PVA3400™). The PVA3000™ offers geometric path interpolation, as well as acceleration and deceleration in all axes simultaneously. Maximum single axis speed in any one plane is 27.6 inches per second. Precision Valve & Automation also offers pneumatic rotary tilt axes for customized dispensing operations. This feature will tilt the dispensing gun to a preset angle within the path program. The PVA3000™ offers positioning accuracy to +/- 0.001".

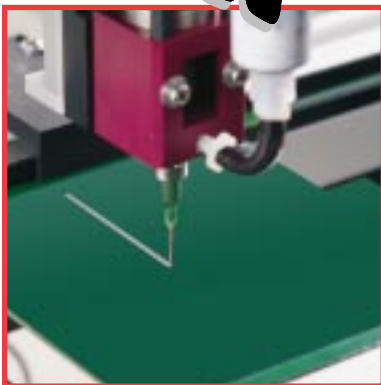
Dispense a Wide Range of Materials

Precision Valve & Automation's extensive and diverse line of dispensing valves allows for a hassle-free process. Applying silicones, epoxy, coatings, paint, etc., is possible with the flexibility of positive displacement metering, rotary screw, diaphragm, and time and pressure valves. Each valve is designed specifically for dot, bead, and spray applications. With over 15 different valves commercially available, you can remain confident that Precision Valve & Automation has the right solution for your operation.

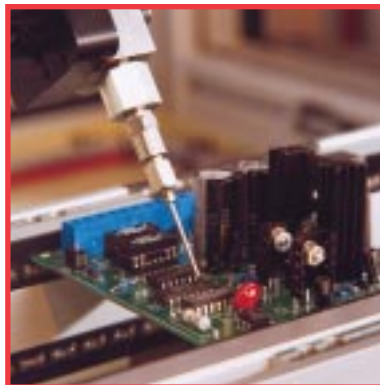
Material feed systems must also be able to accommodate various viscosities and chemistries. Precision Valve & Automation utilizes a diverse range of stainless steel pressure vessels, ram pumps, and cartridge feed systems that range from 2.5 ounces to 55 gallons in capacity. Syringe systems can hold from three to thirty cubic centimeters in volume.



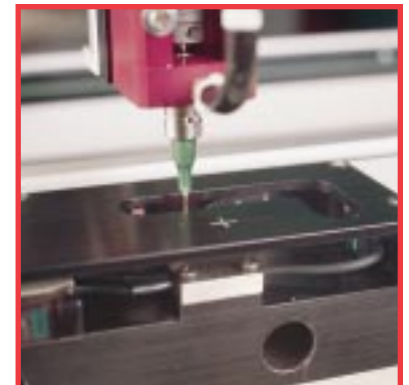
PVA3000™ Applications



Solder paste applications can be automated with the PVA3000™ three axis workcell and SV100 servo valve.



The FC100, on a pneumatic tilt axis, applies a bead of coating to a printed circuit board.



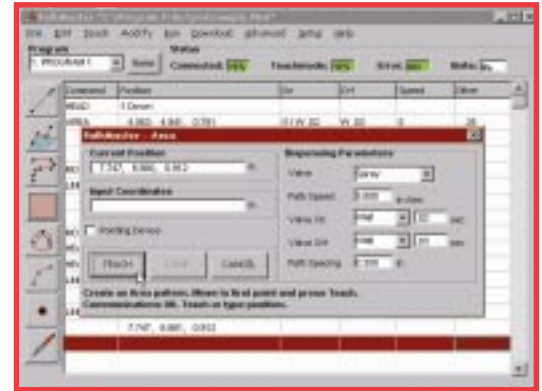
Needle calibration units automatically calibrate the coordinate system to compensate for varied needle locations.

PathMaster™ 2.1 Windows® Programming Software

Programming a path of motion into the memory of the PVA3000™ is completed quickly and easily with PathMaster®, a Windows®-based programming software developed exclusively by Precision Valve & Automation. Easy to read menu screens and option boxes allow you to customize complex paths in only minutes. The PVA3000™ can store up to 30 PathMaster® programs in memory to be recalled by merely choosing the program number from the front panel display. The PVA3000™ is equipped with an RS232 communication port to allow unlimited program storage capacity when utilizing any laptop or personal computer.

PathMaster® allows control over all default settings, including travel speed, valve on time, path spacing, and dwell time. In addition, PathMaster® always displays the current position of all axes and allows you to isolate movement in one or more axes while editing programs line by line. You may preview your path before applying any adhesive via a dry playback mode available on all models.

Fast-Mask™ technology can be used for conformal coating spray applications. This option allows you to program board areas that are to remain free of coating. For heavily coated boards, this feature can reduce programming time by up to 50%. Multimedia help tutorials will provide you with narrated video examples of some common PathMaster® tasks. Toggle the PVA3000™ into manual mode to teach points via a remote trackball control.



Optional Equipment

Precision Valve & Automation offers a variety of options for customizing the PVA3000™ to your application. Just a few examples of these options are described below:

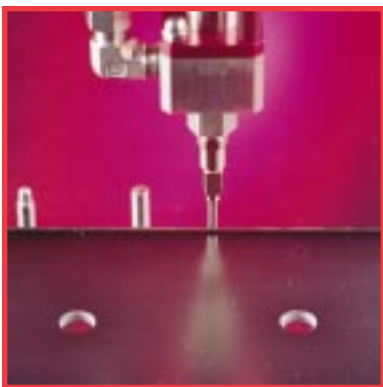
Transfer conveyor - This 48" long conveyor utilizes silicone edge belts and SMEMA communication protocol. Transport is variable from left to right or right to left at speeds ranging from 0.5 inches per minute to 100 feet per minute.

Needle calibration - For added dispensing accuracy, this option will calibrate the coordinate system for varied needle locations.

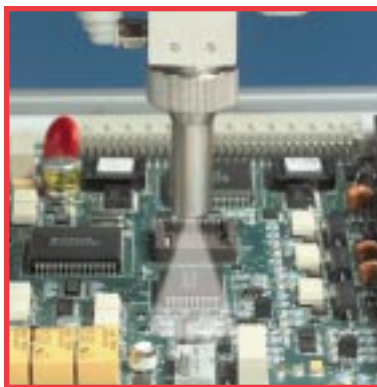
Flow monitoring - Installed in-line, before the adhesive reaches the dispensing valve, this option offers feedback on the material flow. This mechanism will track grams of material applied per each dispensing cycle while establishing volume parameters that you may archive for each program.

Service & Support

Precision Valve & Automation employs an experienced staff of application, programming, and technical support personnel in three domestic and international sales and service centers to maintain over 400 machine installations worldwide. We understand the global commitment necessary for successful multi-shift and international service and support. This is why we also offer all customers 24 hour operator assistance, seven days a week, 365 days of the year.



Silicone gaskets, which produce insulation and protection for many products are applied with the FC200.



Selectively spraying conformal coatings is easier than ever using the FCS100-ES valve and three or four axes of programmable motion.



The PC100 with a static mixer accurately dispenses metered deposits of two-component materials.