

From Valves to Robots, Galil Precision Helps Drive Production at PVA

In PVA spray coating systems, precision is taken very seriously. That's one reason PVA uses Galil motion controllers to perform key roles in all its systems.

Besides precision, flexibility is what distinguishes PVA systems. This Company seems to be able to do it all when it comes to fluid handling, whether it is dispensing silicones, acrylics, epoxy or urethanes. PVA gives full credit to Galil for helping achieve this flexibility. In fact, PVA calls its Galil controllers "the most flexible motion platform in the industry."

About half of PVA's business is producing spray-coating systems for computer circuit boards. While it is essentially a valve company, the Company also makes pumps, needle tips and robots that carry the valves to apply various coatings and adhesives.

The company uses Galil controllers in all its bench-type, selective, and automated coating and dispensing systems. According to PVA's Joe Baj, "Galil gives us lots of extended I/O so we don't need a separate PLC. The language is easy to learn. Galil has all the features we require: analog inputs, auxiliary encoders and multitasking."

PVA currently uses Galil's DMC-1500 and DMC-2100 series controllers. Galil's DMC-1500 is a high-performance, state-of-the-art motion controller designed for stand-alone operation.

Using a 32-bit specialized microprocessor and a custom gate array, it provides digital signal processing (DSP) performance without sacrificing ease of use and cost effectiveness.

Says PVA's Matt DeBenedetto, "Of the stand-alone controllers I've used, Galil is by far the easiest to program. It's the highest performance controller for the price."

The DMC-2100 controller makes interfacing with robots on the line easy—it simply links the controllers and I/O on Ethernet. PVA also uses Galil's IOC-7007 controller for extended I/O on Ethernet, allowing for more I/O without adding a separate PLC.

PVA engineers appreciate the compatibility of the Galil controllers. Says Jon Merrill, "These controllers are easy to use. I like Galil's ActiveX controls because it makes developing applications easier. It's also easy to switch between the DMC-1500 and the DMC-2100 because the same Galil programs run on both controllers."

In the PVA conveyor system, one robot picks up the circuit board, another applies the coating and a third sends the board to an oven for curing. The DMC-1530 and DMC-1540 controllers allow each robot to perform coordinated motion along a three-dimensional xyz path, and a rotational w path.

In this exacting process, positional accuracy, uniformity of the coating and high volume are crucial. Accuracy required is ± 0.001 inch. Maximum linear speed is 27.6 inches/second.

Located in Halfmoon, New York, PVA was founded in 1992 by its current president, Anthony Hynes.

It began by making high quality valves and then progressed to making robots that incorporate its valves. The company has won the Customer Service Excellence Award given by Circuit Assembly and Technology Forecaster three times. It has also won SMT Magazine's Vision Award. ■



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