

Pistorius Machine Company

Mass Production Comes To a Cottage Industry

When you admire the frame of a fine painting, slide open a window in your home with ease, or close a kitchen cabinet that fits its frame perfectly, you owe no small amount of your appreciation to a family-owned company called Pistorius—and to Galil Motion Control.

The Pistorius Machine Company makes precision machinery for mitering and fastening just about any product that requires a precisely fitting frame—custom and ready-to-use picture frames, cabinets, lighting fixtures, displays, woodworking, even geodesic domes. The Company has been in continuous operation since 1937, when a German immigrant named Carl Pistorius first opened for business as a master machinist.

Since then, picture framing and cabinet making have emerged from a cottage industry into a large-scale business requiring mass production. Pistorius has responded by developing automated mitering, fastening and finishing equipment.

To produce high-speed, precisely finished cuts without sacrificing quality, the company developed a special gage to use with its cut-off saws. At its heart is an Econo Series Galil motion controller, the DMC-1414.

Galil controllers not only brought accuracy and repeatability to the process, but at an economical price. By using the DMC-1414, Pistorius can sell its Digi-miter for around \$6500.

Using the company's special gage, the operator enters the desired cut length onto a small LCD numeric keypad, and then feeds the framing material into the saw. The motion

controller automatically programs the stop to the correct position and the cut is made without human intervention.

Before Galil control, an operator had to use a tape measure to move the stop into position and manually lock it into place. For long lengths, the operator might have to walk as far as 25 feet along the line to position the end stop.

Pistorius machines also have the unique ability to measure and compensate for variations in frame molding width through an auxiliary encoder attached to the DMC-1414. The encoder value represents the width of the individual molding, allowing the operator to create frames based on the glass dimension for the inside of the frame.

Pistorius uses a Galil DMC-1414 in its automated frame joiners, as well. Galil's controller automatically positions the vee shaped fasteners for joining frames while accommodating different molding types and sizes. The operator simply selects the number of fasteners to be inserted in the joint, sets the spacing between the nails, and the machine is ready. This information is then permanently stored in a Galil array and can be recalled in the future. No complex computer setups are needed. In fact, Pistorius calls it "extremely user friendly."

Galil has all the features Pistorius was looking for: a built-in controller, servo amplifier, an auxiliary encoder, plus I/O all in one package. The auxiliary encoder measures the molding dimensions. I/O provides additional clamping or stopping to position the saw head. The extra serial port is used for the LCD readout, while the main serial port is used to download programs from a PC. The controller also has position functions to accurately position the framing material.

These features, plus one easy-to-use command language, makes production simple, as does working with a single vendor. As Bernie Kosciuk, a member of the Pistorius engineering team put it, "Galil has it all!" ■



The Digi-miter from Pistorius positions frames accurately for cutting.

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