

Picture Framing Equipment for the 21st Century Shop

By Kevin Meath

Over the past decade, improvements in technology have enabled manufacturers to deliver new, dynamic options once thought to never be available to our industry. If you haven't upgraded the backroom equipment in your shop or factory in the last 10 or more years, you are most likely missing out on a great deal of productivity and quality improvements.

As you will see, the many manufacturers who specialize in our industry have made great improvements to just about every piece of equipment your company uses or could use. We now have computerized mat cutters, computerized saws, and computerized V-nail joiners. Many of these new machines can read bar codes or QR codes and allow self-setup for absolute accuracy. These machines let you, the owner or manager, concentrate on sales and business improvements rather than chase accuracy and productivity issues.

In addition, manufacturers and distributors offer purchase, leasing, and/or rental programs that allow you to find the best financial solution for your situation and start improving your bottom line right away.

Let's take a look at some of the major areas of equipment in your frame shop and what the latest machines on the market can do for you.

COMPUTERIZED MAT CUTTERS

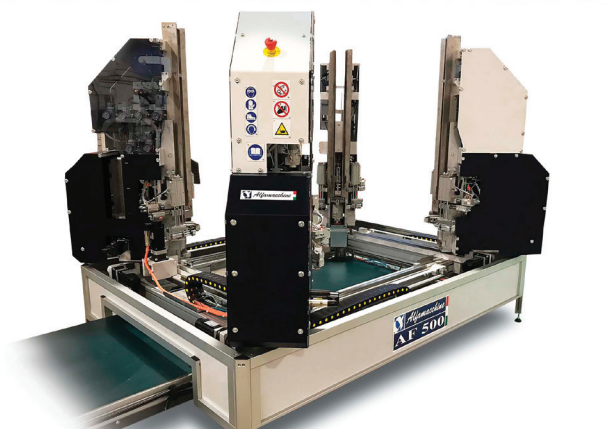
The latest generation of CMCs are considerably more effective at creating your products. The new machines are available in larger bed sizes that can cut much larger boards—up to 104" x 60". Design capabilities have grown exponentially, and their ease of use can allow you to stand out from your competition.

With a new CMC, you can create multi-layer mats; cut letters, numbers, and logos; and design matting that replicates traditional, hand-carved mats. The operator can store an array of designs, from basic to extremely complicated, in the machine's software to allow for per-

fect recall, matching your designs time after time with no additional setup.

Newer machines cut thicker boards with ease, allowing for upselling your designs and producing aesthetically pleasing, higher-value products. Many of these machines use zero-waste matboard clamping systems, while others use vacuum to hold the board to the cutting surface. This can save up to 1 1/2" of waste in every board cut and allows much larger mats to be cut from standard-sized boards. In addition, most machines have drastically improved blade changing and holding systems. Some machines allow for debossing, decorative pen lines, vinyl embellishment cutting, and even signatures to be "signed" in pencil or pen from a file stored in the computer. This gives you the freedom to add a high level of customization and personalization to your projects. Machines available today allow for nesting and tiling, resulting in maximum matboard usage and minimal waste.

With many newer, large CMCs, you can also choose a "cut other end" option and work through production orders twice as fast. With COE, the machine will cycle back and forth between ends, cutting two matboards each cycle. One operator can become twice as effective!



● The AF-500 Frame Joining Robot from Fletcher Business Group

WALL CUTTERS

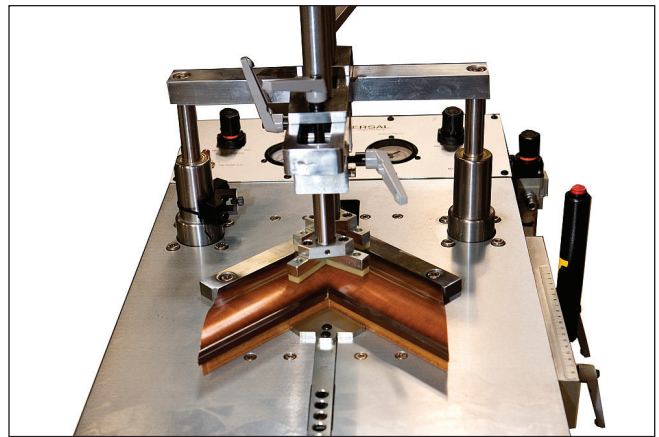
Today's wall cutters offer a much higher production level and are far higher quality than previous iterations. New models have better bearing systems that hold the cutting heads to stop the flex and wander problems that have caused inaccuracies in the past. They have interchangeable cutting heads that allow for consistent, accurate cutting of a wider variety of rigid substrates. The latest versions of wall cutters will cut acrylic, aluminum composite, cardboard, corrugated plastic, foamboard, Gatorfoam, glass, matboard, MDF, polystyrene, and PVC, making your design possibilities almost endless.

You can purchase a machine that will cut up to 96" vertically. There are both fully manual and pneumatically powered machines on the market. None of these machines require electrical power. They now come standard with production stops that allow for quick cutting of repeated measurements. Finally, most machines can be set up for a wall-hung configuration or stand alone, although some do require an optional stand.

SAWS

The latest generation of saws offers many improvements over their predecessors; most noticeably in dust collection and measurement quality. We can now enjoy much cleaner working conditions with saws that are safer than ever. The clamping systems are mostly hands-free, which allows the operator to be safe and control the saw's action. Today's saws use blades from 12" (294mm) to 14" (343mm), allowing very wide moulding to be cut with great accuracy.

There are machines that use auto measuring tables that allow user input or are set up by scanning a bar or QR code. These machines are quick and extremely accurate with complete repeatability. Shop management can con-



● The DY104 pneumatically operated underpinner from Universal Arquati

trol setup and allowance amounts for any profile. Many of these saws can be equipped with vertical or horizontal hoppers feeding the moulding to the saw. These saws are extremely quick and valuable in the labor they save.

Additionally, there are machines available on which the operator pulls the blade through the moulding for complete control of the cut. These machines are especially useful for very wide mouldings, giving very nice cuts with no adjustments needed for a perfect miter.

UNDERPINNERS

Today's underpinners are better at joining frames, easier to set up, and faster to use than those in the past. Some current models can be automatically set up using bar or QR codes from a work order, so the shop owner or manager has complete control over where V-nails are placed in the moulding and the quantity of nails used for every corner. The machines can store data for up to 5,000 different profiles and nail placements. This is a huge time saver and potentially saves product and rework by preventing mistakes and bad joins due to poor placement of V-nails or using incorrect V-nails for your moulding.

Several machines are available that have a "turret" nail system, allowing the operator to select up to five nail sizes and locations, programmable for up to 5,000 different profiles. These machines allow the operator or manager to select the best possible combination of V-nails to correctly join the frame. By storing the data, the operator can recall accurate information every time for that profile. This guarantees the profile is successfully joined, even for the most difficult profiles.

There are also machines offered by several manufacturers that operate on a "joystick" system. Your moulding (up to 6" wide) is clamped in a separate operation than the firing of the V-nails. This allows the operator to place



● The CS 200 CART pneumatic underpinner from Cassese

as many V-nails as needed in unlimited locations. These machines can also be set up to have stops for front and back V-nails.

One breakthrough machine is the AF-500 Frame Joining Robot from Fletcher Business Group (FBG). This machine is suited for high-volume production with automatic frame joining of moulding and canvas stretcher bars. The Joining Robot system consists of a vertical feeder that automatically positions the moulding into four individually controlled joining stations, each simultaneously inserting V-nails in one or multiple positions per corner. The cut frame legs can be supplied via the conveyor system directly from a double miter saw. The automatic joining process uses a unique vertical clamping design for maximum joining performance, increasing production through-put and yield rates. Average cycle time for four-corner joining is four to six seconds, depending on required V-nail positions. The system is also capable of stacking V-nails.

The Joining Robot handles frame sizes from 8" x 8" up to 30" x 47". The average setup time for changing frame sizes is less than one minute, excluding any needed setup time for adding V-nails to the storage trays and

changing V-nail sizes and nail heads. Frame size adjustments are programmed through a 10" touchscreen panel. Expected production rates for the Robot are 720 to 900 joined frames per hour; this closely matches the output of six to eight workers using dedicated joining machines.

From added customization of products to overall production improvements, today's picture framing equipment and technology gives you choices you could not otherwise make on older models. The 2020 West Coast Art and Frame Expo taking place next month in Las Vegas will give you an opportunity to see all these machines in operation, talk to vendors, and connect with fellow framers. Find out how you can start seeing the margin improvements new machines can yield for your business. **PFM**



Kevin Meath

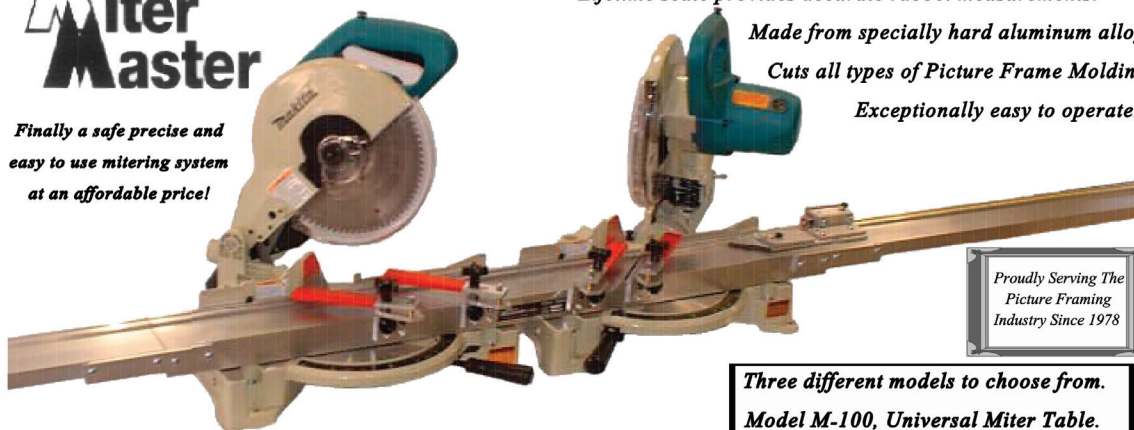
Kevin is a framing professional specializing in operations, sales, and management. His skill set enables him to consult in all areas of frame manufacturing, from small, low-volume, extremely high-quality shops to very high-volume OEM factory production operations. He has extensive experience in plant layout and lean manufacturing practices, design, and product sourcing.

Kevin is currently a consultant working with manufacturers who want to improve productivity, cut costs, and improve yields. His clients range from small companies looking to expand their offerings to larger operations with needs to control costs and improve productivity.

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