

Fiber Laser & FastBend Spark Product Redesign Savings

Richards-Wilcox Inc., Aurora, IL, traces its history to 1880, and is one of the longest continuously-operated factories in the Chicago area. The company began in business as a manufacturer of hinges and flat track sliding door hardware systems for stables, barns, and garages.

Today, Richards-Wilcox Holdings, Inc. is a privately-held company still specializing in overhead conveyors, door hardware products, and office filing and storage systems, with each product line branded under either Aurora Storage Products, Inc. or Richards-Wilcox, Inc.

The company's 300,000-square-foot facility in Aurora, IL, still located on the original site, is where the company manufactures and distributes product throughout the US, Canada, Mexico, and Europe. Several years ago, Richards-Wilcox purchased a museum-grade storage



(From left to right) Eric Gramly, Dan Santoro, and Tom Glennon were part of the management staff challenged to upgrade their company's older punching and bending machines with new technology. Their choice was the Prima Power Platino Fiber Laser and the FastBend panel bender.

"We were able to purchase the new Prima Power equipment based on the new museum product line," continues Glennon. "We were at a point where we needed to upgrade the facility, and the equipment that Prima Power was offering opened up a lot of new opportunities for us to make parts using less steel, less time, and with better construction."

Prima Power Platino® Fiber Laser

The Platino Fiber Laser cutting machine is the perfect balance of innovation and experience. This product combines efficient and ecological fiber laser technology with

the proven reliability and flexibility of the Platino platform. It is the right choice for sheet metal manufacturers looking for a production tool which is:

- efficient, granting energy and maintenance savings
- productive, particularly on thin and medium-gauge sheets
- flexible, suitable for a wide range of materials, including highly-reflective metals
- reliable and capable of meeting any production need, with a variety of automation modules
- user-friendly, easy to install, use, and maintain

"We went from 2-4 weeks lead times to a 1 or 2 day turnaround. Within 30 minutes we could have emergency parts off the Platino Fiber Laser instead of waiting three days."

The Platino Fiber Laser can be used to cut a wide range of materials. Fiber lasers are more effective than other laser sources for cutting highly-reflective materials (e.g. aluminum alloys, copper, brass). The Platino Fiber cuts various thicknesses, up to 20 mm of mild steel, with efficiency and quality. Productivity increases particularly with thin and medium-gauge sheet metal.

Laser Savings

The addition of the Platino Fiber Laser allowed Richards-Wilcox to save the \$300,000 it was spending on outsourced laser parts. "We went from 2-4 weeks lead times to a one or two day turnaround," says Glennon. "Within 30 minutes we could have emergency parts off the Platino Fiber Laser instead of waiting three days. We have actually offloaded some of our other machines because of the capabilities of the laser. This has allowed the older machines to increase their reliability and productivity. The Platino Fiber Laser runs two shifts per day. We've been getting 12-14 hours/day out of the laser for the past two months."



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cabinet line, which represented a new and promising market for the company. The requirements and tolerances of this new line were more extensive than the company's previous shelving units. "Our challenge was to upgrade and replace our older punching and bending machine with new technology that would allow us to compete in this new market," explains Tom Glennon, engineering manager. "Another need was laser cutting capacity. We were outsourcing nearly \$300,000 for laser blanks each year."

Prima Power Solutions

After a very thorough search of fabrication equipment from various builders, the management of Richards-Wilcox decided to purchase the Prima Power 4 kW Platino Fiber Laser, installed in July 2015, and the FastBend panel bender, which was installed in November 2015.

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Quality of Cut

"When you shear or punch a blank, you have to make sure that the tooling stays sharp or the subsequent operations are more difficult," continues Glennon. "By having the clean edges and the consistency of the laser, we can run quicker, with less setup time, less part to part deviations, while making the processes downstream better and quicker."

Prototypes

"Another benefit of the Platino Fiber Laser is that we have gone from weeks to a couple of days to create prototypes," says Glennon. "This has allowed us to truly begin to work as a product development group. We do a great deal of custom work for our customers. One of our company's strengths is that if our customer needs a large order of standard product and a few custom parts to make it all fit together, we are very accommodating. Now that we have the fiber laser, we are able to test all those custom parts, get them assembled, tested, and proven before we ship them to the customer."



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Local Service

According to Eric Gramly, systems engineer, having local access to Prima Power service was another important factor. "We've had numerous service issues with other machine builders in finding service techs to arrive at our facility in a timely manner," explains Gramly. "Prompt service is very important to us. We like that warm & fuzzy feeling of having service techs just an hour away. In addition, there are a lot of companies that build lasers, but just a few that also build panel benders. We wanted to stay in the same family of machines for our new machines."

FastBend

The Prima Power FastBend panel bender was installed in November 2015. The FastBend is part of the Prima Power servo-electric bender family. While technically part of the bender product line, the FastBend fulfills many of the needs of today's fabricators regarding the press brake operation.



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The FastBend provides a solution to the labor-intensive tool setup, programming, and part handling involved in forming metal in a traditional press brake. It reduces or eliminates non-value added costs associated with the traditional press brake operation. The FastBend also provides additional flexibility with the capability to form different angles, hems, multiple corner radii, "z" offsets, and closed tubular profiles with the standard set of tooling. The Automatic Tool Change (ATC) option, automatic feed table, and automatic inversion of positive and negative bending blades allow for more bends per side in an automatic sequence without manual intervention. The FastBend operator is simply required to load, rotate, and unload the part.

Part setups as fast as 10 seconds can be achieved when using ATC in conjunction with the optional bar code reader and operator instruction display screen. The FastBend operator can initiate a part program by simply scanning the bar code on the part. The instruction screen will notify the operator when the tool setup is complete, and graphically display how the part blank is to be loaded. The result is quality, speed, and elimination of mistakes.

"We were able to reduce the cost of the cabinet by 60% with the purchase of the two Prima Power machines which allowed us to laser cut our own blanks, eliminate welding, and dramatically reduce secondary operations because of the quality we were getting off the laser and bender."

New Design Flexibility

Soon after the FastBend was installed, the engineering department took on the task of designing the museum cabinet. The goal was to achieve a snap-on design that would virtually eliminate welding. According to Glennon, the main target of the redesign was to reduce the cost. "We knew the importance of the new museum product line, but we needed to redesign in order to compete in the marketplace."



The FastBend allowed Richards-Wilcox to eliminate welding the box by having the pieces snap together. The company was able to redesign the box due to the machine's repeatability.



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What features of the FastBend allowed Richards-Wilcox to redesign this product? "The flexibility of the ASB (additional short blades) tooling was a key feature," explains Dan Santoro, industrial engineer. "We were able to redesign features around that...and of course the repeatability of the machine. Before the FastBend, we really weren't able to do any interesting or unique features because they wouldn't necessarily come out the same way twice."

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Flexible Manufacturing Cell

"We have been able to use these two machines as a flexible manufacturing cell," says Glennon. "There is next to no setup time and infinite possibilities for lighter gauge material. The Platino Fiber Laser and FastBend have allowed us to adequately supply a high-mix, low-volume product to our various markets in a timely and cost-effective manner. We have been able to keep our costs down and provide custom pieces for our customers to keep them happy."

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From Design to Finished Products

"From design to finished products," concludes Gramly, "the Prima Power machines have opened new market doors and have allowed us to manufacture in a more modern way. The turnaround time is within a week or less. We can go from prototype to a finished product in no time. We don't have to wait a week to get a part from the outside—now we can get a part within an hour. We are manufacturing much faster now than we ever have. These are the right machines for the right team of people."

"With the other equipment we just couldn't get the repeatability that would allow us to snap or lock pieces of metal together," adds Gramly. "It would work great one time and not the next time. The FastBend allowed us to eliminate welding the box by having the pieces snap together. We were able to design it because of that repeatability. One of the biggest costs we eliminated with the FastBend was setup time with the museum cabinet. We were able to reduce the cost of the cabinet by 60% with the purchase of the two Prima Power machines which allowed us to laser cut our own blanks, eliminate welding, and