

Prima Power Lasers and Servo-Electric Technology Boost Productivity

Founded in 1985, American Industrial Heat Transfer Inc. has earned a reputation as a leading manufacturer of high-quality heat transfer products, including shell and tube heat exchangers and air and oil cooling units. The company's products are used throughout industry, including paper mills, food, medical, construction equipment, tractor/trailer trucks, etc. American Industrial Heat Transfer manufactures 95% of all components used in its products at the company's facility in LaCrosse, VA, where it has a wide array of CNC turning machines, drills, welders, and press brakes. For its sheet metal fabrication and laser cutting needs, American Industrial utilizes turret punch presses and laser cutting machines from Prima Power.

Other features of the E5x include:

- Extremely high servo-electric accuracy for less scrap, more production, and excellent forming and marking capability
- Fully-programmable punching speed, upper and lower limit of stroke
- Programmable Clamp Setting
- Robust O-frame design for perfect tool alignment and less wear on the punching tools
- Touch screen and Tulus Lite user interface
- Average power consumption of 4 kW for less energy use

“What do I like about the Platino lasers? What don't I like about them?”

According to Chris Niles, operation manager, prior to purchasing the E5x turret punch presses, his company did a thorough review of punching technology on the market. “We looked at what technology was available from other builders,” says Niles. “We were surprised that you could generate that amount of force with a servo drive. Twenty-three tons is a lot of force to punch through steel. Previously, the only way to punch that much force was with hydraulics. However, today Prima Power is one of the pioneers in servo-electric technology. We really liked how environmentally friendly and maintenance free it is. There is a lot of trouble shooting involved with hydraulics, but servo drives are a lot cleaner to operate, which means less maintenance

for our technicians on the floor. From our past experience with the Prima Power hydraulic turret punch presses, we expected very precise equipment, tight tolerances, and precision punching...and the servo-electric machines are even better.”



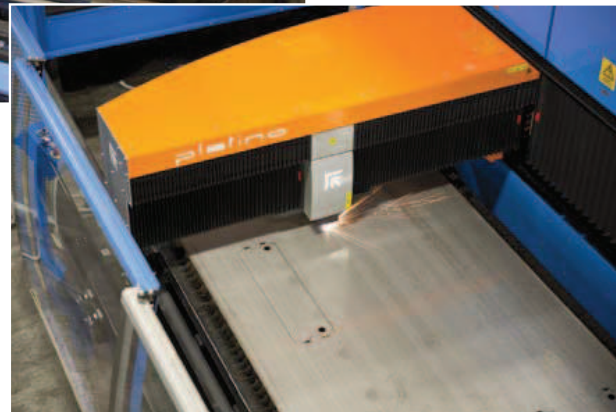
While Chris Niles, operation manager, expected to have good results from the Platino lasers in such areas as faster speeds and turnarounds, American Industrial experienced unexpected positive effects from the lasers' clean cuts that made it easier on the welders during assembly.

Turret Punch Presses

American Industrial Heat Transfer has a long history with Finn-Power and now Prima Power machines. Today the company has two E5x servo-electric turret punch presses and an older A Series model.

With the E5x by Prima Power, modern servo-electric punching productivity is available in a flexible and affordable package. It has been designed to offer versatile capacity made easy to utilize. Prima Power's new machine control and user interface software with touch screen panel ensure fast setup and convenient operation. The E5x has the ability to process full 1,250 mm x 2,500 mm sheets without repositioning and makes nesting of the parts more efficient and economical.

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Offering a compact footprint along with a Cartesian Cantilever structure that provides three-sided access, Platino is a cost-effective machine that is easy to operate and quick to program.

Platino 2D Lasers

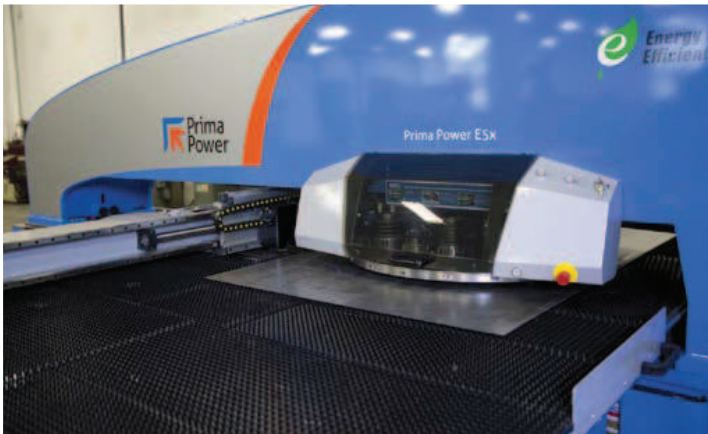
The latest equipment acquisitions by American Industrial were two Prima Power Platino lasers with 4kW resonators.

The Prima Power Platino is equipped with lasers developed and produced at Prima Electro in laser powers ranging from 3kW to 5kW. The laser cuts a broad range of materials and thicknesses with speed and precision without the need for manual adjustments. Platino's laser cutting head gives users a choice of a 10-inch focal length in addition to the standard 5-inch and 7.5-inch lenses. The 10-inch lens enhances the application flexibility by increasing the depth of focus and enlarging the spot diameter for high and uniform cut quality of thick stainless (5/8 in), thick aluminum (1/2 in) and thick mild steel (1 in).

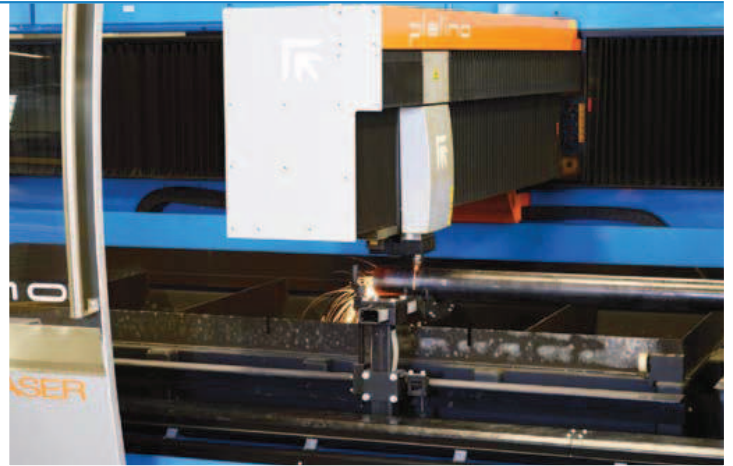
“We are taking something that would take 4 or 5 hours in the machine shop to machine and now producing the part in one or two minutes on the Platino.”

Offering a compact footprint along with a Cartesian Cantilever structure that provides three-sided access, Platino is a cost-effective machine that is easy to operate and quick to program. Its unique stonecast frame reduces vibration and increases stiffness by about 4 times compared to cast iron and about 6 times compared to welded frames. Its low heat conductivity results in much higher thermal stability compared to traditional cast or steel frames.

“What do I like about the Platino lasers,” asks Niles. “What don't I like about them? Historically in our business, the fabrication has always been done on a punch. However, with a laser we are able to produce a nice smooth edge with very minimum burr on the back side of the part. When we first installed the Platino, we ran one of our bigger jobs that involved all 316 stainless steel. In the past, it would have taken us roughly three weeks to punch out the parts we needed. It took us only 3-1/2 hours on the Platino laser.”



With the ESx by Prima Power, modern servo-electric punching productivity is available in a flexible and affordable package. It has been designed to offer versatile capacity made easy to utilize.



One of the Platinos' features that American Industrial Heat Transfer especially liked was the rotary axis option for tube cutting. With zero set-up time, the Platino can change from cutting sheet metal to processing of round, square, and rectangular tubes.



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Easier Assembly

While Niles expected to have good results from the laser in such areas as faster speeds and turnarounds on getting parts out the door, American Industry experienced unexpected positive effects from the lasers after installation and the Platinos were up and running. “The Platinos were our first lasers, so we had a learning curve,” explains Niles. “We really enjoy the machines. We look at how fast we can get the parts out on the 7 gauge, and it has a nice clean cut. This has made it easier on our welders during assembly. A lot of our pieces fit together...and they are fitting together a lot better due to the lasers.”

“Before we purchased the Prima Power machines, we produced \$300,000 worth of product per month. Now we do \$800,000 per month. We more than doubled our production with the Prima Power equipment.”

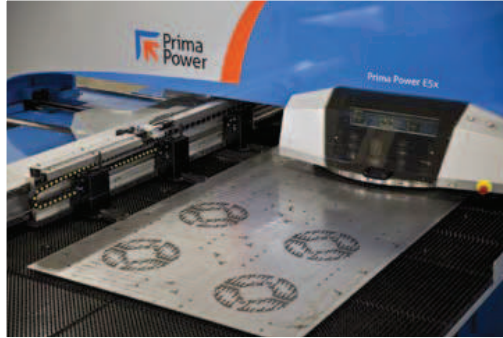
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From Flat Cutting to Tube Processing

One of the Platino's features that Niles especially liked was the rotary axis option for tube cutting. With zero setup time, the Platino can change from cutting sheet metal to processing of round, square, and rectangular tubes. "Prior to purchasing the Platino lasers, we had many stages of production," explains Niles. "First we had to saw the pipes, and then they would go into the machine shop, where we would mill out the radius so that it would fit on top of the shell with a proper fit for the welders. We don't have to do that anymore. We can put it on the rotary chuck and actually cut out the radius as the pipe is rotating, and cut it all in one piece. We are taking something that would take 4 or 5 hours in the machine shop to machine and now producing the part in one or two minutes on the Platino. We get a lot of use out of the rotary axis option. On one part which is 316 stainless steel tubing with 10 gauge wall, we can cut the 320 holes on the Platino in about 15 minutes...compared to the 3 - 4 days it took us before the lasers."



With the E5x by Prima Power, modern servo-electric punching productivity is available in a flexible and affordable package. It has been designed to offer versatile capacity made easy to utilize. Prima Power's new machine control and user interface software with touch screen panel ensure fast set up and convenient operation.

"When we first installed the Platino, we ran one of our bigger jobs that involved all 316 stainless steel. In the past, it would have taken us roughly three weeks to punch out the parts we needed. It took us only 3-1/2 hours on the Platino laser."

The Platino lasers have made us more diversified, and have helped us shorten our lead times for our products. We aren't depending on outside companies to bring in materials.

Before the Platinos, we would make a drawing or a print for a special flange and had to hire one of the local steel distributors to flame cut it out for us. Today, we have our sheet in stock, run it on the Platino, and do not have to depend on outside vendors."

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