

## The **LONG** and **SHORT** of **LASER CUTTING**

### Increasing capacity allows H.W. Metal Products to expand its customer base

**W**hen H.W. Metal Products Inc., Tualatin, Ore., opened its doors in 1979, it was just a forming shop. “When we first started, all we did was bend steel because that’s all we could do,” says Jack Suter, president. “Our primary customer base was initially truck trailer manufacturers. They needed the long press capacity for frames. We were renting 12,000 square feet of space and a press brake. Steel service centers would process the material for us cut to size, and we would just bend the material.”

Beginning in 1995, H.W. Metal Products made a number of equipment and operational changes that set the stage for its future growth. In the late 1990s, the company purchased a 10-foot-by-80-foot high-definition plasma table and two 12-foot-by-90-foot plasma tables. In 2000, the company purchased a 60-foot press brake (two 30-foot, 2,500-ton press brakes) and added more welding and fabrication capacity.

#### Finished product quality

By 2007, H.W. Metals’ customers were requesting finished-product cut quality the company’s current plasma systems could not provide. As a result, “we needed to add laser technology to our shop,” Suter says. In 2008, H.W. Metals purchased the Prima Maximo 10-foot-by-60-foot, 4,000-watt laser from Arlington Heights,

Ill.-based Prima Power North America Inc., formerly Prima Finn-Power.

“We went with Prima because we wanted to buy a large laser with the ability to process our large parts,” Suter continues. “When we made the trip to Italy to sign off on the machine, we were still somewhat reluctant and worried about introducing a laser into our environment. We really didn’t know much about lasers. We thought that there would be electrical, vibration and contamination issues. However, we visited facilities similar to ours in Italy that had the Prima Maximo and that answered our questions about the issues we thought we might have with the laser.”

The Prima Maximo provides users with the advantages of a small, accurate and fast machine in an unlimited work area. The Maximo is a large cutting system based on the field-tested Platino 2-D laser machine. Quickness and accuracy combined with a large work area is the result of a complete Platino machine—with its mechanical structure, laser generator, CNC, moving carriages, optical chain and focusing head—traveling on rails over a fixed working table, processing sheets of any length. The only limitation is workshop space.

In addition to the movement axis of the Platino machine (the Z-axis for the vertical movement, the X- and Y1-axis for the longitudinal and transversal one), Maximo features a further Y2-axis, which allows the



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machine to move beyond its Y1-axis stroke and travel as far as the sheet metal to be processed requires.

Users can equip the Maximo with one or more piece-supporting tables and the relevant devices for fume extraction and scrap collection. The workpiece remains fixed during cutting; it is the machine that moves to reach the area to be machined.

This design gives the system flexibility to adjust the work area to the sheet metal being processed. It can provide a local work area for sheets with moderate size, using the X- and Y1-axis, a long-distance work area for long sheets using the X- and Y2-axis and a split work area where the Y2-axis stroke can be divided into two or more work areas to load sheets while the machine works in another area.

The Maximo can be installed quickly and easily because there is no need for a complete foundation. A patented solution for the main carriage guidance and isostatic support means only two plinths of the same length of the Y2-axis stroke are needed.

The system is equipped with a platform for the operator, which moves together with the machine. From this position, the



operator can have full control of the cutting process, watching both the work area and checking all work parameters on the CNC screen.

### Large and small parts

According to Suter, the key selling feature of the Maximo was its traveling power system, which allowed H.W. Metal Products to fabricate a quality part that measures the full 60 feet of length.

“Our purchasing decision was based primarily on the fact that Maximo could do 60-foot products and also do small parts,” he says. “The Maximo reads the table in a grid system and then operates in a small grid,” Suter says. “We wanted to buy one laser for both small and large parts. The Maximo fit the bill and was the best of both worlds. We can cut both small and long parts on the Maximo. The traveling power source allows the cut quality and speed to be the same at foot 60 as it is at foot one. All the competitors’ machines we saw had stationary power units.”

Although H.W. Metals is primarily a carbon steel shop, the company uses the Maximo to cut up to 3/8-inch aluminum, up to 1/2-inch stainless and carbon steel up to 3/4 inch.

“We didn’t cut aluminum and stainless on our plasma tables,” says Suter. “The Maximo’s quality has been very good. It has allowed us to be involved in specific indus-



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tries and parts that previously were unavailable to us because they required a laser-cut quality. During the course of the recession, there were a couple of months when the Maximo was our most-used piece of equipment. It was work we would not have had if we didn't have the laser. Specifically, the Maximo laser helped us expand our business by 10 percent. Certain customers would not accept plasma-cut holes, and the Maximo solves that problem. It also allows us to laser cut a part that previously had to be drilled or punched. The laser was required to keep up with the times."

### **Combination steel processor, job shop**

Today, H.W. Metal Products has expanded to 130,000 square feet with 85 employees that work two shifts, seven days a week. Although most of the company's business comes from West Coast customers, it ships specific products throughout the country. The company can cut with standard plasma, high-definition plasma and lasers

and form a 60-foot piece without the part leaving the building. Its customer base has expanded to producing component parts for transportation equipment manufacturers and general fabrication, such as rail cars, truck bodies, trailers, barges, mobile cranes, light poles, and transmission and cell towers.

"There are two things that I think we offer that are significant," Suter says. "We have evolved into a combination of a steel processor and job shop. Our forte is that our equipment is larger and longer than other so we can produce longer parts, which saves people labor. If you can do something in one piece rather than two, you are forming and cutting a single piece rather than two. Hence, you don't have to weld them together, so there is a cost component, a static component and a quality component. We can not only make parts in larger sections,

but we produce them in high-strength, lighter-weight steel that is the calling card for transportation equipment. This reduces the weight of our customers' products."

H.W. Metal Products' philosophy is identify work the company's customers are processing currently in-house and find ways to eliminate the need for the customers to do second- or third-step operations while using labor resources on more productive functions.

"The Maximo laser helps us in this area," concludes Suter. "Its full potential has yet to be realized by our company." ■

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