

plate

Messer Cutting Systems' Global Rotator Infinity is used to create bevels for weld-preparation surfaces.

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Cutting Systems' literature. It has box beam steel construction and hardened and ground ways to support heavy cutting carriages. X-axis rails are machined from 115 pound per yard crane rail to support and guide the cutting operation.

"The TMC is our industry workhorse," says Joerg Toberna, marketing manager, Messer Cutting Systems. "It's a proven machine and has progressed into a larger more beefy machine throughout the years."

Customers can choose from a variety of features and options to add to the TMC4500's standard frame. "We can add drills, oxy-fuel, plasma, bevel cutters and different types of markers, making it a very universal, robust piece of equipment," says Toberna. "We listen to the customer about what he's trying to produce with our piece of equipment and we make suggestions on what we think would be the best fit."

#### Accurate bevels

With its plasma cutters, Willbanks processes parts for oil and gas industry equipment, railcars, transmission towers, trailers and transportation, and mining equipment. Many of its customers turn to Willbanks for cutting because they don't want to manage plasma cutting internally or are over capacity on their own machines.

Willbanks' TMC4500 comes equipped with Messer's Global Rotator Infinity plasma beveler, which has continuous rotation and A- and C-axis interpolation to create bevel cuts of  $\pm 45$  degrees on nearly any contour.

The ability to bevel cut parts is beneficial for weld preparation, Toberna says. He points out when welding two pieces of steel together, a beveled edge allows for better weld penetration, which makes a strong, reliable joint. However, the bevel must be accurate because if the bevel angle changes, it increases the amount of weld filler needed to join the material.

"If the bevel angle changes from 30 degrees to 32 degrees along the edge of the part, that equates to a 7 percent increase in volume of weld filler," Toberna says. "Sometimes in the world of beveling, they need to put a land on the material. There

# New capabilities attract customers

## Willbanks Metals expands its plasma cutting business

BY LAUREN DUENSING

Family-owned and operated Willbanks Metals Inc., Fort Worth, Texas, opened its doors in 1974 with a shear and a press brake, providing fabricating services to customers. In 1978, the company bought its first decoiler line and expanded into the steel distribution business.

Because of its past experience, Willbanks puts a high priority on value-added processing. "We started our service center business as a fabricator—somebody that provided value first before thinking about distributing the steel," says Ryan Letz, CEO and president. "Our business has shifted quite a bit since then. We're more focused on the distribution and adding value. Over the course of several years, we've added more and more services, starting with oxy cutting, then plasma and laser."

#### Adding value

Willbanks ensures new capabilities complement existing services. "We bought our first plasma cutting machine in 2005," says Letz. "We had been flame cutting for years prior to this offering but strictly oxy cutting. Our model has always been to focus our efforts on adding more value to the steel we sell. By adding



The bevel angle is set automatically using a combination of A-axis and C-axis interpolation by the CNC.

plasma cutting to the mix, it really gave us more opportunities to add value to our lighter-gauge products."

Letz says that first machine is still in operation and Willbanks has added several more since then. "In 2010, we were introduced to Messer through our machinery dealer, and we were looking for a specific ability to plasma cut at an angle, also known as beveling. From our assessment, their beveling capability was unmatched and has proven that since we installed the machine."

Willbanks chose the TMC4500 with two 400-amp rotating/bevel heads and a 16-foot-by-83-foot slagger table from Messer Cutting Systems, Menomonee Falls, Wis. The TMC4500 is built for a rigorous environment, according to Messer



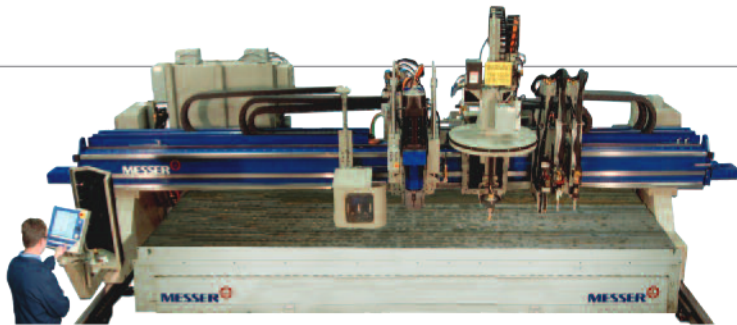
again, a land reduction of 0.040 inch, coupled with an additional 2 degree bevel will give you a 15 percent increase in volume. So, as your bevel deviates because you don't have a very accurate bevel machine or a very accurate bevel head, the next step would be that your welder has to spend more time and more wire to fill the gap, which means more time and money on that part or assembly."

"Most, if not all, plasma cut parts need to be welded to another part," Letz says. "When OEMs or our customers weld these parts, they require a beveled edge to give them a cleaner weld. A lot of customers internally bevel their parts with a separate operation, but it is a very costly extra step. We are able to save them this extra step and save our customers time, resources and money."

## From initial training to production cutting

The TMC4500 comes with Messer Cutting Systems' Global Control Plus. "It's our own control," Toberna says. "The design, the operating system, the software all comes from the Messer Group. It's user-friendly and PC based. If an operator wants to cut a part, he will go into a folder, pull that part out, select the material thickness that he wants to cut and with what process, load the part, and hit start. It's a four-step operation. Basically, we can turn a novice operator into an expert in a very short period of time."

To familiarize operators with new equipment, Messer Cutting Systems offers a three-phase training program. "First, the operators and programmers come up here, and, in the case of beveling, have two days hands-on training on their machine. They're not training on a simulator or



**The TMC4500 ST is a heavy-duty, box-beam constructed gantry cutting machine that is built to handle rigorous production environments.**

someone else's machine," Toberna says.

This first phase of training gives the operator a chance to ask questions outside of a manufacturing setting.

"We spoon feed the training," Toberna says. "If you're in a five-day training class, it's easy to forget what you did Monday when it comes to Friday. In this case, when the operator leaves our facility, he feels comfortable with the machine but he may not have asked all his questions. When our serviceman comes in to install the machine and supply the operator with additional training, the operator is ahead of the curve on the equipment, so you can explain things to him or her in a day or two."

After the operator has used the plasma cutting machine in a production setting for about four to six weeks, Messer comes back to "fine tune the rest of the questions they may have." In addition, the company is available for more training "down the road," Toberna says. "We'll come back and do more training, if there is a change in operators or more training is required. We're always here. We have a fully staffed seven-person applications department that strictly is here to answer those questions and go out and do training."

Currently, Willbanks has four different brands of flame cutting equipment, which means the company has to manage four types of systems. To streamline operations, it bought another TMC4500 "with two gantries and a much larger



**The Global Control Plus has a custom shape library, multiple process databases, CAD import, true-shape nesting, productivity monitoring and remote diagnostics.**

table for better throughput," Letz says. "We also purchased a Titan oxy cutting machine. This will give us the ability to cut thicker steel and more parts at a time."

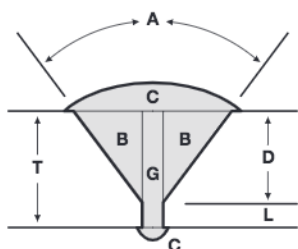
"Our goal is to have one operating system and interface that the operator trains on and uses on a daily basis," Letz continues.

Letz says because of the amount of different industries Willbanks serves and short-notice orders, the company needs to be flexible—another advantage to a universal operating system within the company.

"It was a no-brainer for us to buy another Messer, not only because of the capabilities and the quality that we're seeing from it but also because now we're on one system," Letz says. "We have one training for five different operators. If there needs to be some cross-training, which we're big proponents of here, we can bring somebody in that's not necessarily the expert in operating it because it's a lot simpler of a program to run and use." ■

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## WELD VOLUME COMPARISON

- T = 0.75-inch plate
- A = 30 degree 60 degree included angle
- G = 0.8 root opening
- L = 0.8 land
- C = 0.125 reinforcement

Source: Messer Cutting Systems

### WHAT HAPPENS IF...

- Angle changes from 30 degrees to 32 degrees? ➔ **7% increase in volume**
- Land reduction of 0.040 inch? ➔ **15% increase in volume**
- Weld gap increases 0.040? ➔ **20% increase in volume**