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**waterjet**

**A STEP  
ahead**

**Krando Metal Products** gains a competitive advantage with its KMT Waterjet 90,000 psi, dual-head waterjet

# waterjet



BY MEGHAN BOYER

Some companies may hesitate to be the first adopter of a new product or technology, but Krando Metal Products Inc., Broomall, Pa., relishes it. The company has the first dual-head waterjet able to run at 90,000 psi with 125 horsepower, and it's providing Tony DiAngelus, founder and CEO, with a number of benefits.

"It's given us an extremely competitive edge because no one else has one of these," he says. "We can say to someone, 'Our waterjet is cutting as quick as some lasers.'" In addition, Krando is experiencing faster production speeds and lower costs per part because of the waterjet, which the company installed in November.

KMT Waterjet Systems, Baxter Springs, Kan., supplied the 90,000 psi Streamline Pro 125 horsepower pump with dual intensifiers, and MC Machinery Systems Inc., Wood Dale, Ill., manufactured the Suprema DX 6x12 table with dual heads. Both companies have been committed equally to making sure the pump and table work together "because it's the one and only," says DiAngelus. "We started a new phase."

Established in 1987, Krando manufactures products largely for the construction

industry, including decorative panels, signage, address markers, awnings, canopies, specialty louvers, grill work and decorative trim. The company works with a variety of materials, including aluminum, stainless steel and hot-rolled. A product can range from a simple perforated panel with round holes to a very ornate panel that has the name of a company waterjet cut into it, says DiAngelus.

Having two waterjets—the new system and an existing one with a 60,000 psi KMT Streamline 100 horsepower pump—allows Krando more flexibility to handle different jobs. "We could be doing work for a refinery that has a pipe break, and they need new flanges cut. They can't wait two weeks," he says. "Now that I have this primary machine, I can flip parts back and forth from one to the other."

## Faster production

The new waterjet running at 86,000 psi already has doubled Krando's production. Using 0.5-inch stainless steel, "our old waterjet cut through it at 5 inches a minute. This is cutting through at 12, and it's giving too good of a finish, so we can bump it up to almost 15. It's just an incredibly accurate, incredibly good cut," DiAngelus says.

The KMT Waterjet Streamline Pro 125 horsepower pump allows Krando to run two heads at the same time, doubling cut speeds for roughly the same price per hour, says Chuck Schmidt, Northeast area manager for KMT Waterjet. "Even the tables with four heads on them still can't cut as fast as the KMT Streamline Pro 90,000 psi system with dual heads," he says. Each of the dual heads also has the maximum-sized orifice at 0.011 inches.

With increased speed and productivity, Krando's cost per part has dropped dramatically, roughly 60 percent to 65 percent, says DiAngelus. "We are getting basically 89 percent to 90 percent more parts per hour than we ever were able to get with the



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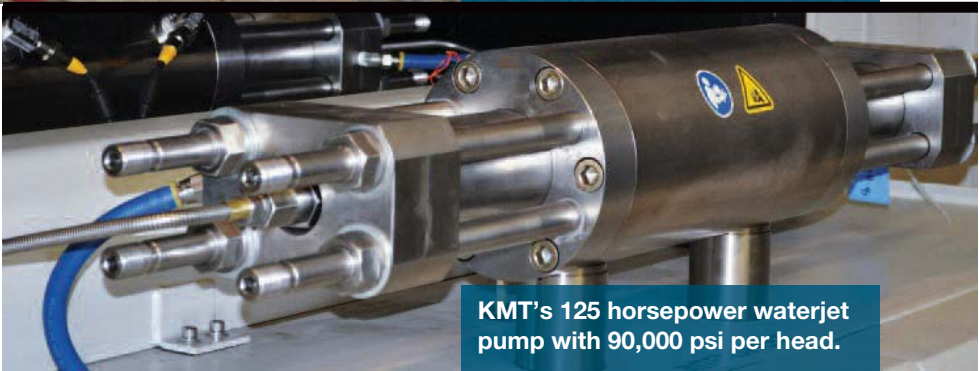
Dual cutting heads operating simultaneously up to 90,000 psi on Krando's waterjet has increased cut speeds for roughly the same price per part.

last machine," he says. Also, the company is using less abrasive, which reduces its overall costs further.

"The real number that everybody is worried about is not your operating costs per hour but how much it costs to produce a part," says Schmidt. "Because we are cutting so much faster, we're able to produce each part for less money. And in this environment, that's the name of the game right now."

KMT specializes in high-pressure waterjet intensifiers, with its Streamline Pro 90,000 psi pump and a 100,000 psi pump that will reach the market later this year. Higher pressure pumps require not only special design attention from KMT but also a quality table able to withstand the force.

DiAngelus was impressed with MC Machinery's table in addition to KMT's pump, says Schmidt. MC Machinery and KMT worked closely together on the installation because it was a first for both companies. "It was KMT's first 125 horsepower to be sold, installed and dual-head



KMT's 125 horsepower waterjet pump with 90,000 psi per head.

operating," he says. "It was also [MC Machinery's] first at the same time."

MC Machinery had to build the waterjet table to "handle the additional turbulence being generated by both the higher pressure and water volume" generated by the KMT 90,000 psi pump, says Nick Giannotte, MC Machinery vice president of sales and marketing for waterjet. "Our table is built with 22-inch I-beam construction and is driven by 40-millimeter ball screws to ensure consistent and accurate movement across the table," he says. Additionally, the machine features an independent gantry to support

the dual cutting heads, which each have taper-control compensation. This helps maintain a high degree of tolerances while maintaining maximum cut speeds, says Giannotte, noting the company builds every machine to such high standards regardless of pump pressure.

#### Maintaining the machine

KMT over-built its machine to make it easier to maintain. "They have made it so simple that seal changes, which are the biggest maintenance item on the pump, can be done in less than 15 minutes," says DiAngelus.

# waterjet

An overhead view of the KMT 90,000 psi Streamline Pro 125 horsepower pump with dual intensifiers and the MC Machinery Suprema DX table with a crane for loading and unloading materials.



The pump also has software that will indicate what is wrong. "It tells you what's wrong with it. It tells you if you are in need of seals," says DiAngelus. Seals don't necessarily go bad at the same time, and with four seals to each head, it's helpful to know which needs attention, he says.

"At 90,000 psi and now at 100,000 psi, we have redesigned our top works so that a seal now can be changed in 15 to 20 minutes, so [companies] don't have to sacrifice maintenance to move up to a higher pressure factor cutting system," says Schmidt.

Krando has not been running its dual-head system at 90,000 psi for anything ¼ inch and lower. "We only pump it up to 90,000 if we get above ¼ inch thick, so at 60,000 I am getting 800 hours of seal life. At 90,000, I am going to get 250. If I average it all out, it should be somewhere around 500 hours," he says, noting he will need more hours using the machine to know for certain the

length of seal life he can get.

Getting the MC Machinery waterjet system running smoothly at Krando's facility required attention and work from both companies involved, and neither disappointed, says DiAngelus. "It wasn't like one was pushing me off on the other. That never happened," he says. KMT and MC Machinery representatives were on hand to work out any kinks.

Krando's philosophy is to treat customers with integrity, and when the company was looking to add a second waterjet to its facility, "the big thing I was looking for was service after the sale, reliability and nobody passing the buck," says DiAngelus. "That's what I found to be the most refreshing part" of working with KMT Waterjet and MC Machinery. "They took responsibility to make sure this machine was up, running

and I was completely satisfied with it."

KMT's Streamline Pro 100,000 psi pump is not yet available, but DiAngelus already is interested in it. "As soon as it becomes available, it will be here," he says. He does not yet know what additional benefits a higher-power pump will bring him, but any additional gain will be well worth the upgrade because it will continue to keep Krando a step ahead of competitors. ■

**KMT Waterjet Systems**, Baxter Springs, Kan., 800/826-9274, [www.kmtwaterjet.com](http://www.kmtwaterjet.com).

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**MC Machinery Systems Inc.**, Wood Dale, Ill., 630/616-2909, [www.mitsubishi-world.com](http://www.mitsubishi-world.com).

**"It's speed.  
Our waterjet is cutting as quick as lasers.  
That's how fast we can cut."**

Tony DiAngelus, Founder & CEO  
Krando Metal Products, Inc.

**Increase Speed, Increase Productivity!** Anthony DiAngelus Jr. & Tony DiAngelus

**Krando Metal Products of Broomall, PA has the first KMT Streamline PRO® 90,000psi/125 HP Waterjet pump with dual cutting heads.**

Production has doubled, with no operating cost increase, and has reduced the cost per part by roughly 60-65%.

**"It's given us an extremely competitive advantage because it allows greater cutting flexibility of multiple parts."**

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