

MOVING METHODS

Walker Magnetics offers both traditional and innovative material-handling options

BY GRETCHEN SALOIS

As the global economy continues to recover from a tumultuous decline, Walker Magnetics Co., Worcester, Mass., is receiving more requests from customers seeking to improve their material-handling solutions. Sometimes the most innovative product in the catalogue isn't the best solution for a customer's particular needs.

More shops find themselves competing on an international level. If a service center or fabricator is unable to compete with companies churning out precise and efficiently produced products, it's sure to fall behind. Hol-Mac Corp., Bay Springs, Miss., is a major supplier of steel fabrications, cylinders and tanks. In 2006, Hol-Mac developed a team to address the company's need for improved safety and quality in its burn-to-shape process. According to Jeffrey Holder, CFO at Hol-Mac, as the company expanded, the throughput/capacity of its processes increased. "We had an opportunity to start with a blank

canvas," Holder says. "As we researched the process and our needs, we quickly realized that we didn't have the machines and equipment. We needed a system, and automation is the key to competing in the global marketplace."

A North American, family-owned service center also found itself re-evaluating its output and need to upgrade its facilities. "We recently expanded our facilities," the company's manager says. "We serve approximately 20,000 customers including a variety of OEMs, fabricators, small job shops and machine shops and needed to expand our service capabilities. We had to increase



Walker Magnetics' eight-magnet electro-permanent system is designed for plate handling. It is equipped to handle a range of different plate lengths.

our throughput because we centralized our lighter gauge plate processing, increased our capacity and now service more of our locations with a greater product grade range all from one branch. Our goal was to give faster service with a wider range of products to more of our sales locations.

"What we do is primary processing plasma cut shapes. Our customers then machine the parts or use the parts as is for weldments, fabrication components, etc. The key component is in order to ship decent volumes, with light plate, 10 gauge to 1 inch to 1/2 inch thick, you have to be fast at loading and unloading burning tables."

Both companies turned to Walker Magnetics, which they have used for the past 20 to 30 years, to meet their efficiency and safety needs. "Using a magnet equates to a huge improvement in time efficiency and safety," says Dave Wilber, sales engineer of Walker's lifting division. "Progressive customers are looking to fine-tune their procedures and remove their bottlenecks."

Walker suggested HMC use two electro-permanent magnet systems for handling plates. One system feeds plates

to HMC's shot-blast machine. The other system takes plates from the shot-blast discharge conveyor and feeds the plate to the plasma cutting machines. The magnet system is then used to clear the cut plate from the cutting machine.

"We process sheet/plate sizes from 0.075 inch thick to 6 inches thick with sizes ranging from 48 inches by 96 inches through 120 inches by 360 inches," Holder says. "Electro-permanent magnets bring a high level of safety to our process."



Moving loads that weigh as much as 10 tons can cause problems if you don't have the proper material-handling services." Imperfections and markings on steel parts and plates do not meet the quality standards of HMC and their customers, Holder adds. Walker's magnet curtails any potential for damage to materials in the moving process.

The North American service center's plate-burning facility handles stock plates from $\frac{3}{8}$ inch to $1\frac{1}{4}$ inch and 10 feet by 40 feet using magnets. "We use them with single trolley cranes as well as double trolleys, all with remote control," the



Walker's bipolar magnet is designed to lift solid round bars and flat blocks weighing up to 20,000 pounds.

manager says. "The trolleys can be synchronized or operated independently, and we have fanning switches so we take multiple plates to the plasma tables and position them one at a time on the table. The fanning allows us to keep dropping one plate after another. Fanning also allows for easier pickup of single plates from the inventory pile." He adds the magnets also are used for picking parts off the table to take to the parts cleaning area and for the removal of skeletons. "We'll haul the parts up on a magnet and deliver them to the parts processing plant, pick up the scrap and go again," he says.

The best solution

Sometimes, the most innovative form of material handling may not be the best option for a shop's needs, Wilber notes. For example, when using electro magnets, the customer will require a battery backup system to avoid dropping a load if power is lost. Meanwhile, the more innovative electro-permanent magnets only need a short pulse of electricity and after a few seconds, can hold a load indefinitely without electricity until the release sequence is initiated. "A lot of people would think the latter option is great, but it isn't the answer

to everything," Wilber says. "Sometimes we have to tell customers that they don't want the electro-permanent option. We steer them away because we know they won't be happy." Wilber uses an example where a shop is moving bundles of rebar or tubing. "If you imagine a bundle of this kind of product, the magnet doesn't get to make very good contact with the steel mass because of the multiple air-gaps. The electro magnet can penetrate through, whereas an electro-permanent magnet runs out of gas," he says.

Once needs are identified and options are presented, customers can visualize the difference. "The key element of the magnet system we selected is that it increases the productivity of the crane. We get more accomplished in less time and therefore service more plasma machines while loading and unloading railcars and trucks with our existing cranes," says the North American service center manager. "You don't have to move from hooks to clamps or do a lot of switching because the mag-

net can handle the stock plate and cut parts and scrap. It gives a lot of versatility because we're doing a whole host of different things all day long."

In addition to dependability, the delivery of plates or parts is very quick. Taking the time to manually pull hooks out is both a time and safety concern. "There's always the danger of hands getting smashed. If you can pick up a 1 inch plate with a magnet, the process is much faster and it can be positioned much better on the table or back in inventory and more easily using magnets than plate hooks," he adds.

Another benefit is inventory storage because plates can be dropped flat on top of each other without blocking between plates. This keeps plate flat and eliminates the hassle of tasks such as moving blocking around and storing wood.

Likewise, at HMC, the effectiveness of a plasma or oxy-fuel cutting machine is measured by the amount of time the machine is cutting quality parts safely. "The Walker magnet system allows us to minimize the downtime between plates," Holder says.

A fresh approach to safety

According to Holder, Walker worked with HMC to integrate the company's products into HMC's operations so "we'd have a seamless interaction between the magnets and other equipment in the process," he says.

"We were pleased with Walker's eagerness to help our staff with design and functional issues that came to light during the design of our plate-cutting system," Holder says. "Whether a simple phone call or an onsite visit to our facility, Walker is always ready and willing to provide their expertise."

The North American service center is working with Walker to install timers on their magnets in addition to the battery backup systems already in place. "It will alert someone that 'Hey, this magnet is on,'" the manager says. "You can turn the crane off but the magnet will stay on. If you shut the crane down inadvertently, you don't want the plate to sail down, but



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JEFFREY HOLDER, HOL-MAC

you want to have some sort of warning system in place so that the magnet is not left on."

While the company has some battery magnets, this branch prefers the regular hardwired magnet. The company uses a battery backup system that alerts everyone at the magnet to a power failure by sounding a horn. "It kicks in instantaneously and holds the plate for 20 minutes, [and by then] hopefully power is restored. If there's no power in the building, there's no power in the crane, but at least the plate is not going to drop immediately," he says, adding at that point, there's nothing workers can do except have time to clear the area. "It can

happen at night when you can't see and the safety of workers is of concern. They can clear the area [guided by] emergency lighting.

"We get brown outs. If you have a battery backup system on it [and] lose power on that crane, you're going to hold onto that plate," he says. ■

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