

A Pressing Need

A sheet metal fabricator's green focus and investment in an electric press generates 40% electrical savings

Sheet metal spray booth manufacturer Global Finishing Solutions is intent on being a green manufacturer. So when the company's US manufacturing operation in Osseo, WI, decided to revamp its fabricating operation, it wanted equipment that could help it cut energy consumption.

Global Finishing's Canadian operation is based in Barrie, ON. The company services its main clientele, the aerospace sector, by providing finishing equipment and a service roster spanning conceptual design, engineering, research and development, to manufacturing and technical support.

The industrial products division at GFS supplies some of the latest technological innovations in open-face paint booths, powder coating booths, industrial burn-off ovens, process and curing ovens. "Whether it be woodworking or metal forming, liquid coating or powder coating, application or burn-off, we manufacture the finest finishing equipment available today," states Jonathan Barrick, marketing manager for the Canadian sales and design engineering arm of GFS. "Our unique 'modular' approach allows our customers to choose which components they need, while GFS consultants help tailor these components to the requirements of each client."

In the growing area of auto and truck refinishing, R&D at GFS is working to improve automotive paint booths for new levels of performance and efficiency. "We're proud to be the exclusive provider of paint booths for all major auto manufacturers' shop equipment programs, and GFS has forged strategic relationships with all major coating and paint manufacturers," boasts Barrick.

A key component of the GFS business plan is integrating the latest in sheet metal fabricating technology into its paint booth and

oven manufacturing cycle. "We're an environmentally conscious company, and when we buy new equipment we choose to invest in 'green' machinery," says Barrick. "We are always on the lookout for ways to reduce our environmental impact while also increasing production efficiencies."

And that's what compelled GFS to purchase a new Murata Motorum 2558 Servo-Drive turret press, now installed at its Osseo, WI, facility, the corporate

previous turret we had."

Purchased from Gladwin Machinery, a fabrication equipment dealer in Menomonee Falls, WI, the new turret was shipped to the sprawling 143,000 sq ft GFS plant and made operational in quick time.

Larry Will, operations manager for GFS at Osseo, recalls how he and his management team selected the premier press. "In August of 2008, I put in a submission for money for a



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and industrial manufacturing headquarters for North America.

Barrick is big on the benefits it brings to GFS. "The press is 100 per cent electrically operated, using about 70 per cent less energy than other turrets with similar capabilities," he points out, adding that the usage of servo motors in place of hydraulics means there's no need for the use of messy oils or refrigerant coolers. "That significantly reduces the environmental impact of the turret's operation. In addition, this new turret is much more efficient in its operation when compared to the

new turret. In July (2009), we started the process of machine selection and we were thorough in looking at other types and brands of machines during our buying process. We strove to have a certain amount of commonality with our existing equipment for the ease of our operators and maintenance department."

By early October Will had made his selection and placed the order for the Motorum 2558, receiving the machine on October 26th. By the morning of October 28th his production crew were making parts on the new equipment,

already outpacing the three other CNCs on the shop floor.

Those parts are made of 18 gauge steel, galvanized, stainless steel, and aluminized steel sourced from Central Steel & Wire Co. in Chicago, and from Viking Materials Inc. in Minneapolis, MN.

The new servo motor ram drive concept in punch press technology not only offers higher productivity in an eco-friendly working environment, it makes high speed and low noise punching possible by controlling acceleration and deceleration of ram drive and by controlling ram power during punch stroke.

Will gives several reasons why he purchased the Murata 2558. "I knew the direction that I wanted to go based on past experience with Murata Wiedemann. They make good equipment, as do many other manufacturers, but the main difference in my mind is service and their service is outstanding, and downtime is critical to our organization."

Due to the time sensitivity of his business, he can't shut down for a day. Will says he needs the equipment up and running consistently to produce quick-ship products.

"This machine gives us everything we need in a turret. It has a large turret configuration with four auto-index stations, several of the AI stations are large and allow for a long separating tool to be used. Its equipped with a 60 in. throat that allows us to run 5-ft material without having to reposition. We've noticed a huge increase in the processing speed over an older machine that was replaced."

The Motorum 2558 has been designed to help raise productivity via an auto-index speed up to 180 rpm, a punch rate of up to 400 hpm, and process integration of bending, forming, and tapping. Among its main features: downward extrusion up to 2 mm; forming with upward thrust; turret bending height as high as 20 mm; a servo motor with 25 metric ton (27.5 US ton) punching capacity; and a punching accuracy of +/- 0.1 mm (+/- 0.004 in). The reinforced single piece design with triple box construction affords more precise tool alignment under full tonnage punching. And the thick Meehanite turret has burnished bores that guide the punch



The Murata press can handle parts up to 7.87 in. x 6.30 in. (200 mm x 160 mm).

holders throughout the stroke. The bi-directional turret positions each tool as the table positions the sheet. Hardened bushings guide turret indexes for more accurate positioning.

General specifications for the 2558 include: a stainless steel (with urethane ball transfers) tabletop style; and approximate machine dimensions of 205 in. (5,200 mm) width, 222 in. (5,644 mm) length, 89m in. (2,250 mm) height, and a table height of 38.6 in. (980 mm). The part size is a maximum 7.87 in. x 6.30 in. (200 mm x 160 mm), and a minimum 1.18 in. x 3.15 in. (30 mm x 80 mm).

Due to its servo motor drive mechanism, the 2558 differentiates itself from most other turret presses as an eco-machine, one that uses the energy it needs only at the time of punching, and uses regenerated energy generated at the time of braking. Thus running cost is reduced.

“We really like the savings that we see on our electrical bill,” says Will, who estimates he has achieved close to 40 per cent electrical savings on the servo turret, as compared to more traditional hydraulic turrets. “Bringing the Murata 2558 on board not only helps conserve energy and saves us money, it also makes this a good “green” decision that fits in perfectly with our focus on greening our physical work environment and operations.”

Assessing the capabilities and performance of his 2558, Will admits he’s pleasantly surprised. He’s impressed by the machine’s lightning fast nibble rate of 800 hpm, its power to punch 400 hpm on 1-in. centres, and maximum axis speed of 4,921 ipm. With the larger nibbling/parting stations he

can run 3-1/2-in. parting tools instead of 2 in. as before, meaning he can reduce parting operations by almost 50 per cent. All in all these attributes add up to the Murata punching out parts twice as fast as Will’s older machines.

“With a larger turret configuration we can keep the turret populated with pretty much all of our tools, eliminating most of the downtime due to having to change tools,” observes Will, who says he’s also seeing greater life in the punches because of less turret wear.

“Any time you replace an older machine with a new machine, certain things automatically occur,” adds Will. “Maintenance issues disappear resulting in less downtime and more predictable shop routings. Thanks to the additional throughput, we find ourselves running more parts across this machine than the other turrets in our plant.”

Asked if he’s happy with his new Murata 2558, Will replies, “absolutely.” **CM**

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