



DuPage Machine Staying Ahead at Every Turn

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"We utilize the latest technologies to remain more competitive and bring more value to our customers. The machines can do more, so we can achieve that goal. And, we never stop seeking newer, better ways," said Knuepfer.

Products produced by DuPage Machine range from hydraulic check valves and automotive fuel injectors to cartridge valves for truck brake systems and compressor components, plus stainless steel medical parts and various brass fittings. Turning, grinding, honing and heat-treating are also done at this facility. Additionally, DuPage Machine operates its own tooling department, which utilizes EDM technology. The materials run here include low-carbon steel, stainless, brass, aluminum and some proprietary customer alloys.

Among those "latest technology" additions to the machinery on the floor are several Index six-spindle turning centers, accommodating 32mm and 52mm bar stock. "With these machines, DuPage is able to achieve a more finished part in less time, with less changeover and set-up time," said Applications Engineer Doug Halenza.

"Typically, we were out there competing for the same large quantity jobs as many other shops. With these machines and their faster set-up times, we can actually run smaller quantities and still be very productive," said Halenza.



Index multi-spindle turning centers with Siemens SINUMERIK 840D CNCs onboard allow greater productivity and faster finish time per workpiece, as well as enhanced job throughput efficiencies, owing to the speed and flexibility of the control, according to DuPage Machine.



Typical parts made by DuPage include various hydraulic fittings, as well as high-precision medical devices and automotive components. Primary materials processed at DuPage range from low-carbon steels to stainless, brass and aluminum, as well as some proprietary alloys.

According to Halenza, a key component on the Index turning centers that make this fast-paced production turnover possible is the Siemens SINUMERIK 840D CNC, due to its ability to quickly convert the design program into live machining. The Index machines also have Siemens drive systems onboard.

Each job at DuPage Machine begins with a print from the customer. Using Partmaker CAD/CAM software, the programs are developed, run through post-processing and fed through a DNC system directly to the CNC on the Index machines. Halenza estimates the Index machines outperform the company's conventional lathe technology by a factor of 4x to 6x, conservatively.

"Another advantage of the machines is that the CNC is a Windows-based environment, which means we can literally cut and paste to create our subs and cycles and keep everything in a packaged file very easily," said Halenza. "All the geometry offsets and tooling assignments are accessible in each program, plus the CNC operates the automatic bar feeders."

The company also utilizes (Artist tool) ARTIS monitoring, as part of its overall tool management system, as well as robotic articulation on several of the Index machining centers. The CNC controls all the operations and maintains the data for each program run on the machine. "Although Index

provided training on the machines, Siemens also provided direct support to DuPage Machine for the CNCs," said Halenza.

For Knuepfer, the investment made in the Index multi-spindle turning centers was a wise one. "When all the operations, including cross-drill and offset mill, can be accomplished on a single machine, there are clearly advantages in terms of the overall product consistency and quality," said Knuepfer. "Short runs can be costly, if there is waste before production achieves the spec. With the Index machines and Siemens controls, we get there very quickly, which helps us remain quite competitive."

DuPage Machine also operates a number of other machine tools at this facility, including rotary transfer, Swiss-type turning, single-spindle, bore sizing, honing, CNC centerless grinding and hydraulic assembly equipment, as well as a fully controlled environment quality inspection department



DuPage Machine Products, Inc. operates a 125,000 sq. ft. facility near Chicago with approximately 175 employees.



Siemens SINUMERIK 840D CNCs run all the Index six-spindle turning centers at DuPage Machine. The open architecture design of the control allows all spindle, bar feeder and robotic handling device motions, as well as tool management, to be controlled with high accuracy and repeatability, said DuPage Machine.

run in SPC protocol with Gage Talker software, plus an EDM tooling shop and heat treating operation.

"The CNC can be a powerful tool, if you know how to use it properly. With all the spindles and all the tooling involved on each machine, it's simply a situation where you can get tremendous productivity, but it needs to be properly set up, then properly executed," said Knuepfer. "Our automotive and other critical tolerance business demand that we adhere to strict protocols and the Index machines and Siemens controls can give us exactly that. When you combine such productivity with reliable performance, you get your money's worth, every time."

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