

area can easily be tiled together to allow processing over the full range of the mm x 150 mm XY motion. Other options include a wide range of XY stages, galvo processing areas, rotary stages, vision registration, inspection and robotics. "This type of laser platform offers a wide range of capabilities, from the lab to the production floor, all incorporating the best of today's highly efficient, cold processing lasers," says David Plourde, the executive vice president of Preco.

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HIGH SPEED PLASMA CUTTING SYSTEM SLASHES OPERATING COSTS

Controlled Automation, Inc. (Bauxite, AR) introduces the new XPR300TM plasma cutting system from **Hypertherm, Inc.** (Hanover, NH) for all of their plate processing machines, including their PlasMAX high speed cutting machine. XPR300 represents one of the most significant advances in mechanized plasma cutting technology ever. Expanding on the foundational HyDefinition process with new technologies such as Cool Nozzle, Vented Water Injection (VWI), vent-to-shield, plasma dampening and advanced arc stability, this plasma cutting systems achieves a new level of cut quality, X-DefinitionTM. In addition to unmatched cut quality on mild steel, stain-

less steel and aluminum, the XPR300 also increases cut speed, dramatically improves productivity, triples realized consumable life in many applications, and slashes operating costs by over 50 percent.

The unitized PlasMAX high speed plasma cutting machine differs from any other plate cutting system with its unique all-aluminum gantry design for the highest speed accelerations between parts. This allows the machine to produce the most critically accurate plasma cut parts possible for material up to 4 in (102 mm) thick and with maximum material sizes up to 8 ft (2.5 m) wide to 30 ft (9.2 m) long. Its high precision linear rail is made from hardened steel that is round instead of flat to ensure little debris reside on the path of linear motion. This allows for smoother travel and less build-up of mill scale, dust and particles that can affect cut quality at high accelerated travel speeds.

This system offers the cutting edge (no pun intended) in advanced shape nesting software and beyond: its Nesting software is used for easy navigation between machines for the operator, with seamless integration with a variety of communication tools unavailable on any other cutting machine

in the world. Controlled Automation imports from all current 3D drafting models (such as Design Data SDS-2 and Tekla detailing software) and communicates with the latest inventory management software (such as FabTrol and FabSuite) to handle the cutting edge of production. The advanced dual-side AC servo drive system on this machine can be controlled to accuracies unable to be matched by single-side drive systems. Dual drives eliminate the high point loading on the guide rails generated by single side drive machines under acceleration, which lead to guide failure. The dual drive system on either end of the traveling gantry provides machine accuracies to ± 0.15 mm/m (0.006 in/36 in).

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WATER-GUIDED LASER CUTTING WITH VIRTUALLY NO HEAT IMPACT

Makino/Single Source Technologies (SST; Auburn Hills, MI) is the exclusive distributor in North America of the unique Laser MicroJet® (LMJ) M-series of 3-axis and 5-axis machines from **Synova S.A.** (Lausanne, Switzerland). These water-guided laser cutting systems enable substantial reduction of total cost of ownership in high-precision material processing. The water-guided laser beam cuts and drills perfectly parallel and clean kerfs or holes with virtually no heat impact. As a consequence, production yields are greatly improved. Post-Laser process steps are frequently eliminated, translating into parts produced at a level of quality and reliability that cannot be achieved by other manufacturing techniques. The 5-axis MCS 500 system offers unique benefits to hole-drillers and shops that micro-machine metals, ceramics and composite materials with high precision in aerospace, energy (industrial gas turbines), defense, medical, automotive, hard material tool making and general metal micro-machining.

Using water to guide the laser to a given workpiece has the following advantages:

- *Water guides the laser:* The application becomes insensitive to the focal plane of the laser. A cylindrical laser beam is created resulting in perfectly parallel walls, tight kerf widths and enabling the user to cut thick or non-flat parts, without having to worry about being in focus.



The Hypertherm XPR300TM plasma cutting system on the PlasMAX high speed cutting machine from Controlled Automation increases cut speed; achieves a new level of cut quality on mild steel, stainless steel and aluminum; dramatically improves productivity; triples realized consumable life in many applications; and slashes operating costs by over 50 percent.