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ICON Technologies Introduces the ICON 6-150 Mill/Turn Machining Center to the Precision Metal Cutting Marketplace

ST. LOUIS, MO - ICON Technologies, a division of Hydromat, offers a unique multi-station Mill/Turn center, the ICON 6-150, to the precision metal cutting marketplace. Designed with four machining stations, two dedicated loading/unloading stations, and simultaneous vertical and horizontal axis capabilities, the ICON was developed around flexible machining principles. Equipped with a six position table, it shuttles pallets to four machining modules for fast, ultra-precision cutting.

Each of these four machining modules is equipped with one cartridge style motor spindle. Each spindle type is selected based on the type of cutting to be performed at that station. ICON offers high torque spindles in the following configurations; 10,000 RPM, 20,000 PRM, 42,000 RPM, & 60,000 RPM. These spindles are air-purged, liquid cooled and are permanently grease lubricated and therefore virtually maintenance free.

The machine is equipped with four servo driven, direct drive B-axis motors. These B-axis motors are installed on stations 2, 3, 5, & 6 and have a position accuracy of +/- 4 seconds. Each table is equipped with a zero point clamping system, made by EROWA in Switzerland, to securely and accurately clamp the base pallet to the B-axis motors. The positional repeatability of these pallets is less than 0.002 mm. An optional 350 Nm disc brake can be added for precise positioning during heavy cutting at an elevated level of force. Stations one and four are for loading, unloading, gauging, A/B loading and inverting for sixth side machining.

These four cutting stations produce 5-sided machining with 4-axis interpolation; 6 sides if the idle station is used for work piece inversion. Each machining unit is equipped with its own HSK E40 size, 12-tool changer allowing for maximum tooling flexibility. HSK E32 size is available as an option

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An additional heavy cutting B-axis motor type is also offered. With a more stout design, it has a more rigid profiling capability with increased torque. Power is driven through a worm drive gear box rather than the direct drive of the standard B-axis motor.

The ICON 6-150 also can also come equipped with a 5th axis machining unit that features a high-speed integrated direct-drive motor spindle, one created by the designers at ICON Technologies in conjunction with the Fischer Precise spindle company. Available with this optional 5th axis, the ICON 6-150 Mill/Turn Center is perfect for medical applications and the production of aerospace, hydraulic, automotive, and other precision machined parts.

Workpieces are mounted by hand or by robotics on pallets that are transferred to each station by the rotary table. At each of the four machining stations the B-axis motors engage with the pallets for indexing or turning of the workpieces. The part sizes can range up to 150mm in diameter and ??? in height.

The Machine frame is designed as a sturdy, welded, steel construction. It supports the indexing table, the four (4) machining units as well as the B-tables. The openings below the machining stations assure an optimal evacuation of coolant and chips from the working area. Individually arranged and controllable coolant nozzles are installed inside of the machine frame for the purpose of providing coolant to the cutting tools and preventing chip accumulation inside the machining area.

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This Multi-station transfer technology enables simultaneous machining on all four stations, making the machine ideal for medium to high production of complex work pieces requiring multiple operations, complex cuts, and where tight tolerances are critical. The ICON Technologies engineering team embodies a rich history of manufacturing disciplines and they work closely with the customer to develop an innovative production solution.

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Caption: ICON Technologies, a division of Hydromat Inc., introduces the ICON 6-150 Mill/Turn Center, a precision metal cutting machine that combines flexible Lean principles with a pallet transfer system for increased production

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