

For Immediate Release

News About: Mitsui Seiki (USA) Inc.
563 Commerce Street
Franklin Lakes, NJ 07417
Contact: Scott Walker (201) 337-1300

From: Gorman Communications, LLC
Contact: Lynn Gorman (203) 266-5831; lynn@gorcomm.com

**Produce parts from a single block –
Precision HMC Designed for Heavy Cutting**

FRANKLIN LAKES, NJ – May 2005 – The Mitsui Seiki HU63A-5X trunnion system (A-axis) has been redesigned to provide a larger range of motion and higher torque for improved heavy cutting applications. The machine also promotes easier workpiece access. It has been reconfigured to fit into a more compact package, allowing for reduced guarding and less interference from the castings.

The HU63A-5X is the mid-size machine in Mitsui Seiki's tilting trunnion table range, with a work envelope of 900 x 800 x 800 (X, Y, Z axes). The horizontal CNC machine holds 0.00012 in. true position (ISO 230-2) through all linear axes, and 0.001 degree resolution on B and C rotary axes which, according to the company, are the highest accuracies in the industry.

The trunnion table machine configuration meets the demands for high speed contouring and high accuracy positioning applications on heavier weight parts. In many applications, the workpiece casting process step can be completely eliminated and a highly complex, prismatic part can be produced from a solid block in a wide variety of materials. It features a 2-station automatic pallet changer and is FMS-ready.

Like all of Mitsui's rigid and precise horizontal machining centers, the HU63A-5X's geometric accuracy is stellar and tightly controlled. It features a high-grade cast iron bed which is treated with a gas emulsion process for controlling material composition. Its

linear ways are made with abrasive-resistant, hardened tool steels for toughness and strength without flaking, bending or cracking.

The way mounting surfaces, both linear and rotary, are hand scraped, achieving straightness under 2 arc seconds in all linear axes, which would be impossible to achieve on surfaces that are machined and ground. Ballscrews are measured with a dedicated gage to ensure accuracy and reduce wear and positional tolerance degradation. The ballscrew mounting pads are hand scraped, rather than machined, so they are more accurately aligned with the ways. The manufacturer uses roller-bearing guideways on its rotary axes for maximum rigidity and smooth motion.

Mitsui Seiki also builds its own spindles featuring a tough and hard spindle shaft material. The spindle nose drive keys are ground in, rather than milled and inserted, providing up to 60 percent more stiffness in the taper. The company has also developed a patented tool clamping system that uses one-fifth of the typical clamping forces, substantially lengthening bearing life and the mechanical components of the spindle.

For more information, contact Mitsui Seiki USA, Inc., (201) 337-1300, or on the web at www.mitsuiiseiki.com.

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Photo caption: Trunnion HMC from Mitsui Seiki holds 0.00012 in. true position (ISO 230-2) through all linear axes, and 0.001 degree resolution on B and C rotary axes are the highest accuracies in the industry.