

## **IMTS 2018 Coverage – For Immediate Release**

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**With Art:** Image of Vertex Hybrid Vertical Machining/Grinding Center

### **Mitsui Seiki Demonstrates New Vertex Hybrid G 5-Axis Vertical Machining/Grinding Centers Providing CMM-Level Precision**

#### **IMTS 2018, Booth 338519**

[FRANKLIN LAKES – JUNE 2018] Mitsui Seiki USA, Inc. will demonstrate the broad capabilities of a new family of Vertex 5-axis hybrid vertical machining / grinding centers in booth 338519 (McCormick Place South Building) at IMTS 2018. The Vertex Hybrid G 55-5X / 75-5X / 100-5X machines provide CMM-level precision in critical high speed milling and grinding applications such as lights-out machining of die and mold, optical and tooling components. The machines are capable of 0.0003" (7.5µm) or better precision in 3+2 or fully simultaneous 5-axis machining, carrying out high speed milling and grinding via a 25,000 RPM main spindle and ATC changeable air-spindles of 40,000 to 90,000 RPM capacity.

The new machines take advantage of Mitsui Seiki's engineered accuracy and rigidity to allow volumetric calibration according to ISO10320-2 using latest FANUC 3D volumetric compensation features, and enable use of in-process 3D (NIST) traceable measuring capability. A part spinning process produces tangential planetary work spindle alignment, emulating the U-axis motion of jig grinding equipment. The machines can employ trochoidal dynamic power or high-speed cutting strategies up to 90,000 RPM.

Key features include automatic in-process grinding wheel dressing and size measurement and wheel calibration. AE sensors and software guided application strategies monitor milling and grinding process finishes.

Vertex machines feature proprietary cast iron beds and a solid “box-in-box” design that provide superior rigidity, stiffness and agility. Innovative machine geometry results in positioning accuracy in the X, Y, and Z-axes of 0.001 mm (0.000040”),  $\pm 6$  arc seconds in A-axis, and  $\pm 4$  arc seconds in the C-axis.

Hand-scraped guideways maximize precision. An advanced thermal compensation system assures size consistency, and glass scales provide minimum resolution of 0.001 mm.

Mitsui Seiki will demonstrate the machines’ capabilities with a combination of milling and grinding on operations on a D2 steel plate, hardened and heat-treated to 60-62 HRC. A form milling tool will rough and pre-finish corner relief, followed by a form-grinding wheel for finishing. After a rounded triangular pocket is milled in the part’s center, a variety of grinding wheels will form critical step features. □

For more information, visit IMTS 2018 booth 338519, call Mitsui Seiki at (201) 337-1300, or browse [www.mitsuiiseiki.com](http://www.mitsuiiseiki.com).

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