

For Immediate Release

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

Mitsui Seiki's Vertex Hybrid G 5-Axis Vertical Metalcutting/Grinding Centers Provide CMM-Level Precision

[FRANKLIN LAKES – NOVEMBER 2019] The Vertex Hybrid G 55-5X / 75-5X / 100-5X machines from Mitsui Seiki 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 BBT40 main spindle and ATC changeable air-spindles of 40,000 to 90,000 RPM capacity.

The recently-introduced 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 including 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”), ± 6 arc seconds in A-axis, and ± 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.

For more information, call Mitsui Seiki at (201) 337-1300, or browse www.mitsuseiki.com.

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