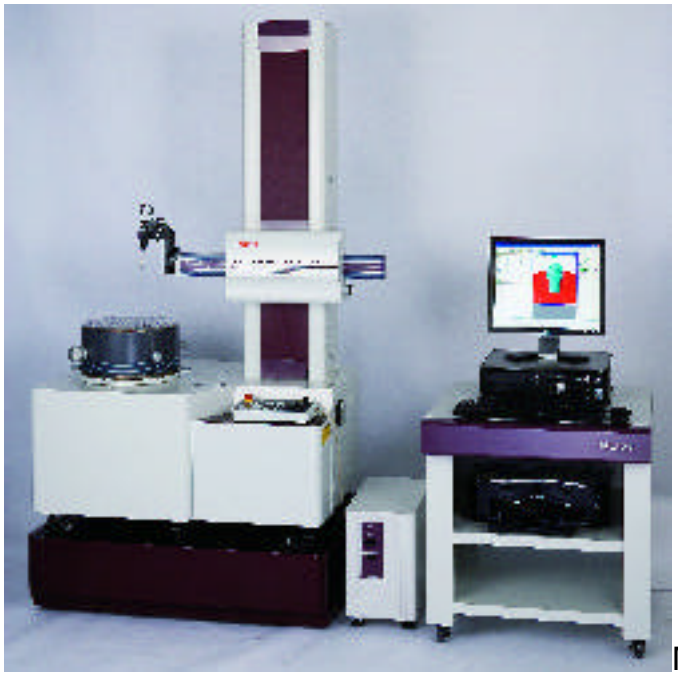
Roundness, Cylindricity Measurement System



Mitutoyo America Corp. announces availability of the new ROUNDTEST RA-H5200 Series roundness/cylindricity measurement systems, which combine extreme accuracy with functional flexibility. Accuracy of the ROUNDTEST RA-H5200 is largely attributable to exceptionally rigid construction. FEM (Finite Element Modeling) was used in designing the unit's base to assure geometric accuracy by minimizing deformations caused by normal machine operation. The turntable of the ROUNDTEST RA-H5200 is also manufactured for extreme rigidity and rides on high-precision air bearings. As a result, rotational accuracy – the key to performance of roundness/cylindricity measurement – is world-class at (0.02+3.5H/10000)µm.

The turntable is equipped with Automatic Adjustment Table (AAT) for high-speed, fully-automatic workpiece centering/leveling; thus reducing positioning errors, while also freeing the operator. The ROUNDTEST RA-H5200 also features ultra-high Z-Axis column straightness (0.05µm/ 100mm in the narrow range) as well as standard vibration isolation.

While supporting the full range of roundness measurement routines, the ROUNDTEST RA-H5200 can also be equipped with an optional roughness unit using a multi-sensor probe which is able to operate in both roundness measuring and surface roughness modes. Incorporating the roughness detector enables measurement in the circumferential direction around the ?-axis, as well as in direct-drive directions along the X- and Z-Axes with a stationary table. As a result, surface roughness as well as roundness and cylindricity can be validated.

The RA-H5200 uses Mitutoyo ROUNDPAK Measurement and Analysis Software that features an intuitive graphical interface, making the instrument flexible and easy to use. Running under Windows, ROUNDPAK simplifies setup and control. ROUNDPAK

supports a wide variety of parameters, including those for roundness/cylindricity, as well as flatness and parallelism. In addition, the program includes an offline teaching function that enables virtual execution of measurement operations in a 3D simulation window. By storing and indexing measurement and evaluation setups, libraries of sequences can be compiled. Custom reports, including depiction of data in 3D graphics, can be easily generated.

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