



NEWS

Mitutoyo America Corporation

965 Corporate Blvd. • Aurora, IL 60502
phone: (630) 820-9666 • fax: (630) 820-2614
www.mitutoyo.com

Editorial Contact:
Mark T. Izumi

New Mitutoyo CRYSTA-Apex[®]S CMM offers enhanced performance, improved economics



October 13, 2011- (Aurora, IL) The new CRYSTA-Apex[®]S Coordinate Measuring Machine from Mitutoyo America Corporation brings new levels of performance and economy to the 1.7 μm class of CNC CMMs.

With a maximum error of $MPE_E = (1.7+3L/1000) \mu\text{m}$, the new Mitutoyo CRYSTA-Apex[®]S more than doubles the effective measuring range at a given measurement tolerance as compared to typical CMMs in its class. Additionally,

the CRYSTA-Apex[®]S drive features high-speed (max 519 mm/s) and high acceleration (max 2,309 mm/s²). These advances result in higher throughput for greater productivity and lower total owning and operating costs.

The CRYSTA-Apex[®]S uses the new UC-400[®] controller to manage digital servo system control loops for position, speed, and current. This makes it easy to implement various types of control algorithms. Additionally, the digital servo system has a wide dynamic range and is highly resistant to drift over time.

Extreme rigidity helps the CRYSTA-Apex[®]S maintain accuracy. The Y-axis guide rail is integrated into one side of the granite surface plate. Precision air bearings located on the bottom, front, rear and upper surfaces of the X-axis slider minimize vibration and ensure stability even during high-speed, high-acceleration operation.

Accuracy is further enhanced by an advanced Temperature Compensation System. The System consists of a thermometer unit that measures the temperatures from thermal sensors located on the scale units of the CMM main unit and from a set of workpiece thermal sensors. The temperature data is transferred to the UC-400[®] machine controller for thermal compensation. For proper workpiece compensation, the thermal expansion coefficient of the workpiece material is entered by the user; since the material of scale units of the CMM is constant, this expansion coefficient is permanently stored in the temperature unit.

The CRYSTA-Apex[®]S supports a wide range of probes that offer increased capabilities including the MPP-310Q scanning probe that collects cloud point data at speeds of up to 120 mm/s. Other probes suited for screw depth measurement, ultra-small diameter measurement and non-contact measurement are also supported.

Available software options enable the CRYSTA-Apex[®]S to tackle a wide

variety of measurement applications. Software packages include GEOPAK[®], a high-functionality general-purpose measurement program which is at the heart of MCOSMOS[®] (Mitutoyo Controlled Open System for Modular Operation Support) software. MCOSMOS[®] supports virtually every CAD format while providing routines for in-line measurement, data feedback, and process management. Additional software supported includes: CAT1000S[®] for freeform surface evaluation; CAT1000P[®], an offline teaching program; SCANPAK[®], for contour measurement; and a range of programs supporting laser and vision probes.

CRYSTA-Apex[®]S provides USB communications for connectivity. Additionally, CRYSTA-Apex[®]S supports MeasurLink STATMeasure Plus[®], Mitutoyo's proprietary statistical-processing and process-control program.

MeasurLink STATMeasure Plus[®] performs statistical analysis and provides real-time display of measurement results for SPC applications. The program can also be linked to a higher-level network environment for enterprise-wide functionality.

###

About Mitutoyo:

Mitutoyo Corporation is the world's largest provider of measurement and inspection solutions offering the most complete selection of machines, sensors, systems and services with a line encompassing CMMs (Coordinate Measuring Machines), vision, form and finish measuring machines as well as precision tools and instruments, and metrology data management software.

Mitutoyo's nationwide network of Metrology Centers and support operations provides application, calibration, service, repair and educational programs to ensure that our 6,000+ metrology products will deliver measurement solutions for our customers throughout their lifetime.

Contact:
Mitutoyo America Corporation
965 Corporate Boulevard
Aurora, IL 60502
Phone: (630) 820-9666; Fax: (630) 820-2614

E-mail: info@mitutoyo.com or visit our website at www.mitutoyo.com