Analysis Software

**Micat Planner**
- Micat Planner is Mitutoyo’s latest software development for fast and efficient CMM part programming. Operation of Micat Planner is easy and intuitive. Programs are made with a few mouse clicks in minutes instead of hours or days. **Workflow:**
  1. Load design model
  2. Select CMM system configuration
  3. Part placement via virtual alignment
  4. Measurement program
  5. Generate MGCONS Geopak part program

**MCosmos**
- Mitutoyo Controllable Open Systems for Modular Operation Support. MCosmos has three choices of module configuration. From the basic MCOSMOS-1 to the advanced MCOSMOS-3, choose a configuration for your measurement applications. Geopak (Basic geometry module) Provides an easy graphical console to the operator by the use of tool bars and windows which can be personalized to the operator’s preference. Its graphically enhanced display provides step-by-step, on-screen wizards that prompt the operator, allowing even inexperienced users to create models to measure parts.

**Msurf**
- MSURF software enables users to perform operations from measurement to evaluation on the same platform when the non-contact line laser probe, SurfaceMeasure, is used. Three types of software are provided according to the task:
  1. MSURF-S: Calculates point cloud data measured by a CNC CMM with Software Measure. Generates scanning paths by defining the scanning start position, length, and width.
  2. MSURF-F: Conducts analysis or comparison verification of measured point cloud data in reference to nominal data (supporting CAD data import).
  3. MSURF-P: Planned MSURF software enables users to perform operations from measurement to evaluation on the same platform, while at the same time, using principles apply for programming probe paths (clearance device (mouse, trackball, etc.) selection. The same are taken accurately from the CAD model via pointing bars and windows which can be personalized to the operator’s preference. Its graphically enhanced display provides step-by-step, on-screen wizards that prompt the operator, allowing even inexperienced users to create models to measure parts.

**Cat1000p**
- Significantly facilitates the programming of measurement tasks during the GEOPAK learn mode. All data for measuring parts and tolerance evaluations are taken accurately from the CAD model (device, mouse, etc.) selection. The same principles apply for programming probe paths (clearance device (mouse, trackball, etc.) selection. The same are taken accurately from the CAD model via pointing bars and windows which can be personalized to the operator’s preference. Its graphically enhanced display provides step-by-step, on-screen wizards that prompt the operator, allowing even inexperienced users to create models to measure parts.

**Ct1000s**
- From the basic MCOSMOS-1 to the advanced MCOSMOS-3, choose a configuration for your measurement applications. Geopak (Basic geometry module) Provides an easy graphical console to the operator by the use of tool bars and windows which can be personalized to the operator’s preference. Its graphically enhanced display provides step-by-step, on-screen wizards that prompt the operator, allowing even inexperienced users to create models to measure parts.

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Coordinate Measuring Machines

**Ultra-high Accuracy**

- **CRYSTA-Plus M**
  - Smooth operation utilizing high-precision air bearings and lightweight rotating members.
  - Continuous fine feed over the entire measuring range.
  - One-touch air clamp for each axis.
  - Includes Gold Care

**High Accuracy**

- **STRATO-Apex**
  - The series guarantees high accuracy. High acceleration is achieved with improved rigid air bearings on all axial guideways. The scale systems on Hitotsubo high-precision models utilize a high-performance linear encoder for detecting axis position.
  - Accuracy starting at: (0.7 + 2.5L/1000) μm

- **LEGEX**
  - All LEGEX Ultra-accuracy series CMMs are equipped with temperature compensation and do not require a temperature-controlled room. Accuracy is guaranteed within the range of 18 to 22°C.
  - Accuracy starting at: (1.7 + 3L/1000) μm

- **MACH**
  - The MACH 3A and MACH IV maximize machining operations by performing in-line or near-line high speed coordinate measuring in conjunction with your CNC machine tools. MACH Ko-ga-me is a compact, 3D, CNC measuring system. Use for stand-alone applications or integrate into cells.
  - Accuracy starting at: (0.2 + 1L/1000) μm

- **CARBapex / CARBstrato**
  - The CARBapex and CARBstrato series is a lineup of cost-effective, high-level CNC CMMs and offers the world’s largest class measurement range, making it possible to measure car bodies.
  - Accuracy starting at: (15+ 20L/1000) μm

**5-Axis CNC**

- **CRYSTA-Apex 5 1200/1600/2000**
  - The entry-level Mitutoyo Eco-Fix Kit 5 version is comprised of a 250mm x 250mm base plate footprint and 95 total components in the system. The Eco-Fix Kit V is a larger version and built for more complex part fixturing applications (measuring 500mm x 400mm in base plate footprint and a total of 98 total components in the system).
  - Accuracy starting at: (0.2 + 3L/1000) μm

**Change Racks**

- **SCR200**
  - The SCR200 provides the ability to change racks or extensions to be stored in the rack, drastically reducing measurement time (typically 40/45%) for probe rotation.

**Accessories**

- **Fixtures**
  - The ACR3 provides a passive means to automatically exchange probes or extensions to be stored in the rack, allowing the probe to be changed from the ACR3 change rack. This streamlines the measuring process.

- **Stylus Kits**
  - The CRD25 HC2D racks are for automated changing between up to six TP200 stylus modules.

**Inline CNC**

- **TP-200**
  - The TP-200 is a high-accuracy touch-trigger probe with a maximum repeatability of ±2.5μm.
  - The TP-200 can perform a long stylus up to 150mm.

- **SP-25S**
  - The SP-25S is comprised of two sensors in a single housing. Users can switch between a choice for the scanning modules (which can carry MS styls with lengths from 20 mm to 400 mm) and an adapter module that is compatible with Renishaw’s TP20 range of probe modules.

- **PH20**
  - The 5-axes operation reduces time required for probe rotational moves and allows more flexible positioning. This also ensures easy access to workpieces and saves time during programming and measurement.

- **REVO**
  - The high-speed 5-axis scanning (max 500mm/s) surpasses 3-axis control, supporting high-speed sampling of up to 4,000 controllable points and allowing data acquisition during high-speed scanning.

- **OPU**
  - The OPU probe performs non-contact laser probing, automatically adjusting the laser intensity and camera sensitivity for improvement of measurement and workpiece material. The laser system can be utilized in prototyping and production.

- **SurfTest**
  - The SurfTest probe allows the CMM to take surface finish measurements using the PH10 automatic probe head, allowing the probe to be changed from the ACR3 change rack. This streamlines the measurement process.

**Change Modules**

- **MCR20**
  - MCR20 module changing rack is designed to securely store up to six probe modules for automatic changing.

- **SCR200**
  - The SCR200 provides automatic, high-speed changing between up to six TP200 style modules.

- **PH10MQ**
  - Includes four port unit where two can be linked together allowing eight different probes or extensions to be stored in the rack providing more capability.

- **AER20**
  - Utilizes an air bearing mechanism for requalification. The AER20 uses an air pressure module for probe rotation.

- **PH10MQ PLUS**
  - The AER20 provides a passive means to automatically exchange probes or extensions to be stored in the rack.

- **AER30**
  - The ACR3 is a four port unit where two can be linked together allowing eight different probes or extensions to be stored in the rack providing more capability.

- **AER30**
  - The ACR3 provides a passive means to automatically exchange probes or extensions to be stored in the rack.