In order to generate a measurement plan, GD&T information attached to the 3D Design Model is needed. Design Model formats marked “W/PMI” will read GD&T information contained in the CAD system and stored in the Design Model file. Design Model formats without PMI can be annotated with GD&T in MCAT Planner.

Design Model Support:
• Parasolid (option)
• CATIA V5 (option)
• CATIA V4 (option)
• Siemens NX (option)
• IGES (option)
• SAT (included)
• STEP (included)

Three types of software are provided according to the task:

1) Load design model
2) Select CMM system configuration
3) Part placement via virtual alignment
4) Measurement program
5) Generate MCGO/Geopak part program

CAT100P 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 via pointing device (mouse, trackball, etc.) selection. The same principles apply for programming probe paths (clearance and measurement), while at the same time, using the nominal directly off the CAD model for tolerance comparison.

MCOSMOS
Mitutoyo: Controlled Open Systems for Manual 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 application.

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 records that prompt the operator, allowing even first-time users to create routines to measure parts.

MCAT Planner
MCAT Planner is Mitutoyo’s latest software development for fast and efficient CMM part programming. Operation of MCAT 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 MCGO/Geopak part program

MSURF
Mitutoyo software enables users to perform operations from measurement to evaluation on the same platform with the non-contact line laser probe. Surfacemaster is used. Three types of software are provided according to the task:

MSURF-5: Calculates point cloud data measured by a CNC CMM with Software Measure. Generates scanning paths by defining the scanning start position, length and width.

MSURF-4: Conducts analysis or comparison verification of measured point cloud data in reference to nominal data (supporting CAD data import).

MSURF-PLANNER: Creates measurement macros (surface form, feature form) for the line laser probe from 3D CAD data. Optimized data travel path, number of probe head revolutions, etc. for a measurement.

Design Model Support:
• STEP (included)
• IGES (included)
• KEIS (option)
• Siemens NX (option)
• CATIA V4 (option)
• CATIA V5 (option)
• CRGO (option)
• Parasolid (option)
• SOLIDWORKS (option)
• VDAFS (option)

Included in the Gold Care Program:
• A Second Year Extended Warranty
• A Five-year Extended Warranty for Manual CMMs
• Five-year Software Technical Phone Support
• One seat at Mitutoyo Institute of Metrology Class
• MeasurLink Pro Edition Quality Data Management Software®
• MITUTOYO Eco-Fix® or Opti-Fix® Starter Fixturing System
• MITUTOYO Stary Stylist Kit (Included with Touch Probe Machines)

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In addition to our worldwide distributors worldwide, Mitutoyo products are subject to U.S. Export Administration Regulations (EAR). As an export of our full line of coordinate measuring machines, it may require prior approval by the appropriate governing authority.

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Coordinate Measuring Machines

In-line CNC

- MACH
  - The MACH-3A and MACH-V 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 system. Use for stand-alone applications or integrate into cells.

- STRATO-A
  - The STRATO-A series guarantees high accuracy. High acceleration is achieved with improved rigid air bearings on all axial guideways. The scale systems on Mitutoyo high-precision models utilize a high-performance linear encoder for detecting axis position.

- MACH 3A
  - The MACH-3A and MACH-V 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 system. Use for stand-alone applications or integrate into cells.

- MACH V9106
  - The MACH V9106 is a high-precision, high-speed 5-axis CNC Shop Floor CMM. It is designed for high-speed 5-axis control, drastically reducing measurement time compared to standard 5-axis measuring machines.

- MiSTAR 555
  - The entry-level Mitutoyo Eco-Fix Kit S version is comprised of a 250mm x 250mm baseplate footprint and 58 total components in the system. The Eco-Fix Kit S 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).

- Accessories
  - Fixture Kits
  - Stylin Kits
  - Change Racks

 change racks

- TP200
  - The TP200 is a high-accuracy touch-off probe with a maximum 40µm repeatability at 25µm. The TP200 can be fitted with a long stylus up to 150mm.

- SP253
  - The SP253 is comprised of two sensors in a single housing. Users can switch between a choice of noncontact and contact measuring modules (which carry M5 style with lengths from 20mm to 400mm) and an adapter module that is compatible with Renishaw’s TP20 family of probe modules.

- PH20
  - The PH20 is a 5-axis optical probe that monitors a variety of sensors to provide real-time feedback. The PH20 is a 5-axis optical probe that monitors a variety of sensors to provide real-time feedback.

- REVO
  - The high-speed 5-axis scanning (max 50,000 max) supports 3-axis control, supporting high-speed sampling of up to 40,000 µm/s for high-speed scanning.

- QVP
  - The QVP probe performs measurement by image processing micro geometry that cannot be measured by a contact-type probe or flexible bodies that are easily deformed by slight measuring forces.

- SurfTest
  - The SurfTest probe allows the CMM to take surface finish measurements using the PH10M autocorrect probe head, allowing the probe to be changed from the ACR1 change rack. This streamlines the measuring process.

- MiSTAR
  - The MiSTAR 555 provides an accurate passive means to automatically exchange parts without the need for requalification. The MiSTAR uses an autopoint connector to attach probes and extensions to the PH10M PLUS and PH10MQ PLUS. The MiSTAR is a four-part unit where two can be linked together allowing eight different probes or extensions to be stored in the rack providing more capacity.

- FC25
  - The FC25 knobs are for automatic changing of SP253 scanning and touch-trigger modules. A range of modules changing systems allows any of the SP253 system elements to be stored in each port.

- MCR20
  - The MCR20 module changing rack is designed to securely store up to six probe modules for automatic changing. (for TP20 modules)

- SC200
  - The SC200 provides automatic, high-speed changing between up to six TP20 stylus modules.