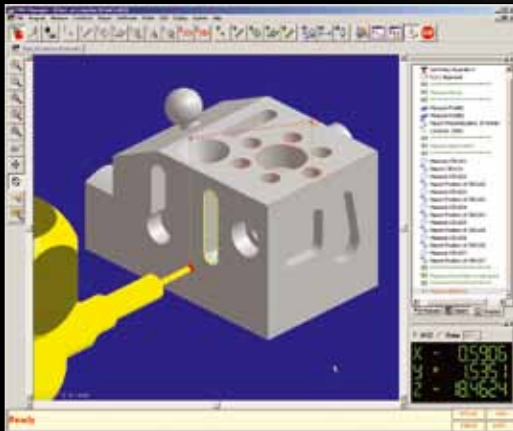




CMM-Manager

Full-featured metrology software
for manual, CNC and portable CMMs



A full-featured metrology software for manual, CNC and portable CMMs

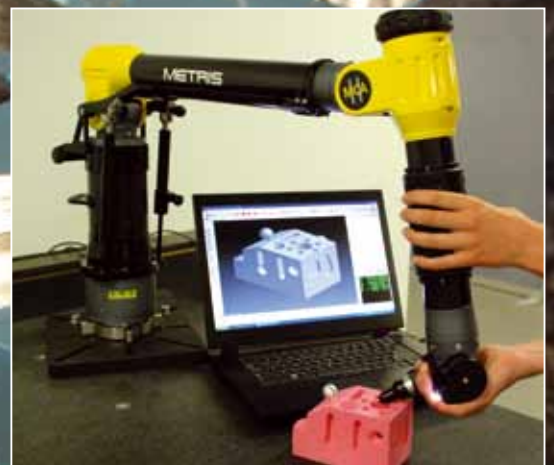
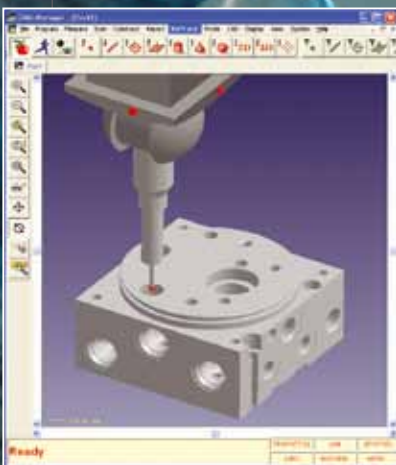


CMM-Manager is a task-oriented, highly intuitive software for tactile measurements using manual, CNC and portable CMMs.

It is a fully integrated CMM measurement environment featuring walk-in quick-measure, one-click CAD-measure, collision-free CAD-teach, virtual simulation, real-time verification, advanced path planning, CAD alignment, datum alignment and many more smart functions.

CMM-Manager also offers flexible yet easy-to-use functionalities, including graphical probe configuration management, automatic tip calibration, cross-section scanning and group feature measurement.

CMM-Manager also support portable, handheld CMMs such as articulated arms or Nikon Metrology Optical CMM K-Series.



Quick to start, fast results

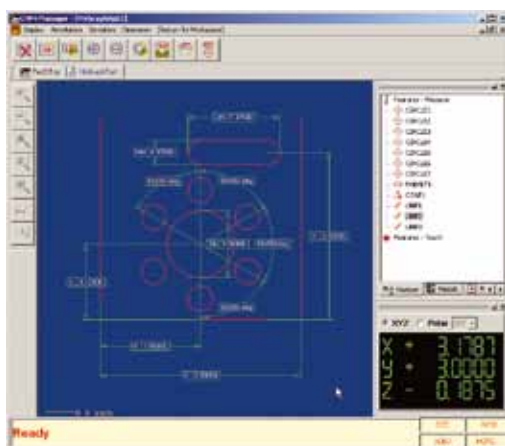
Walk-in measurement

CMM-Manager offers clear and simple user interface design and enables the operator to quickly measure complicated features, such as hole patterns, in minutes.



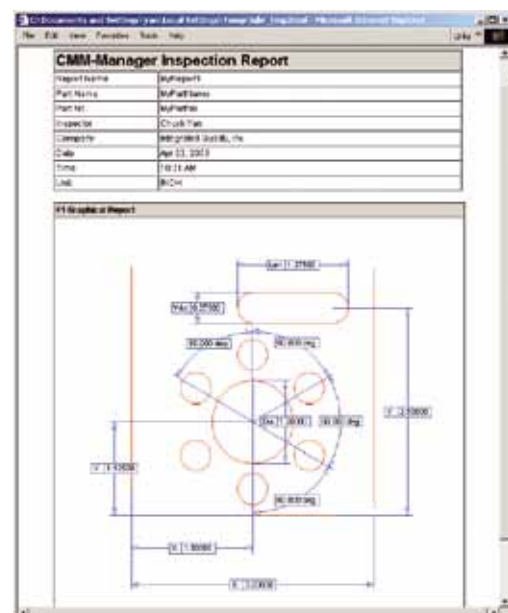
Graphical dimensioning

CMM-Manager provides intuitive and easy-to-use graphical dimensioning tools. The operator can quickly snap measured features on the screen to display dimensions including distance, angle, and size.

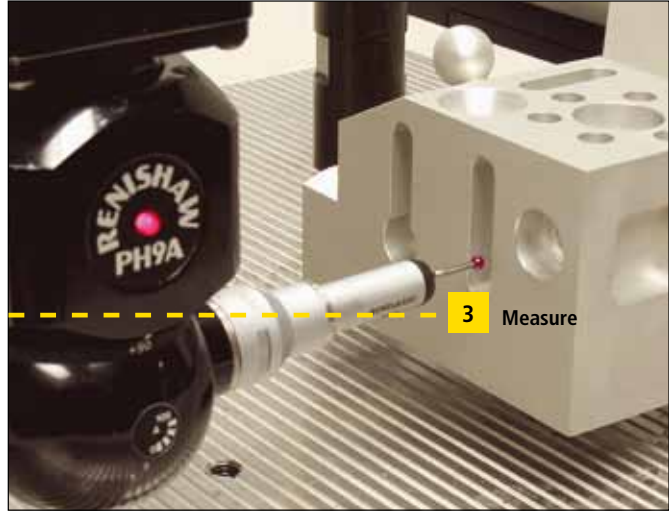
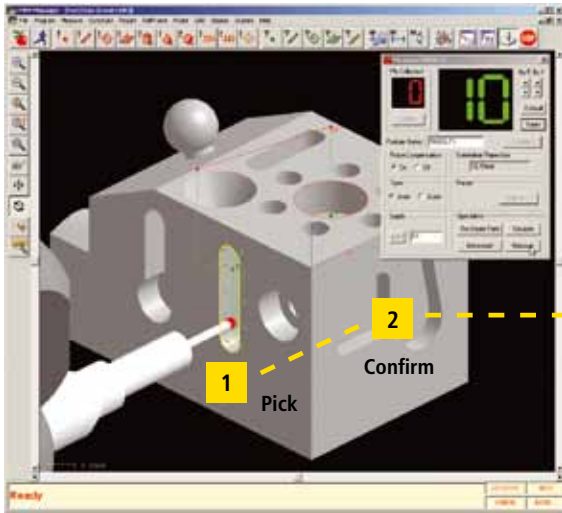


Web-ready report

CMM-Manager also generates graphical deviation reports where color codes directly inform user on the deviations.



Easy to use, easy to analyze



True click-and-measure capability

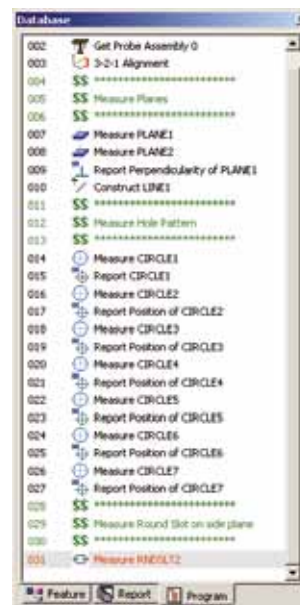
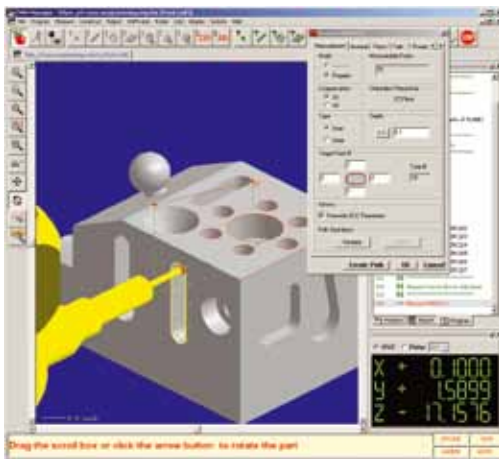
CMM-Manager offers true click-and-measure capability. The operator picks the feature on the screen. CMM-Manager automatically selects the proper probing angle and generates a collision-free path. The operator then simply clicks the measure button to confirm the selection, and the CMM measures the feature rapidly. This allows the user to concentrate on feature measurement and reporting instead of spending hours manually programming probe angles or collision free paths.

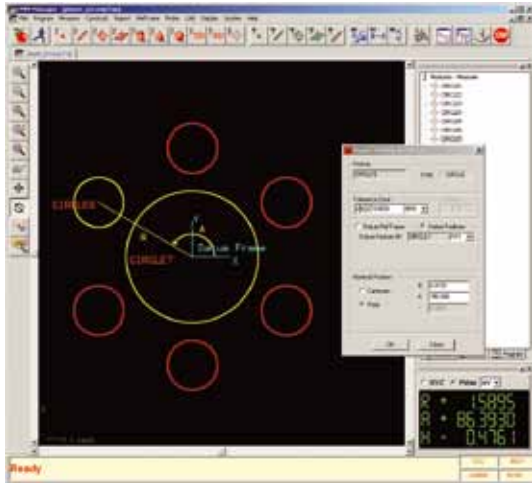
Iconized part program representation

CMM-Manager organizes part program using clear, easy-to-understand icon representation. Each icon represents a measure, a construct or a report task. This task-oriented design eliminates the struggle of dealing with lengthy text based part programming.

CAD-based graphical programming

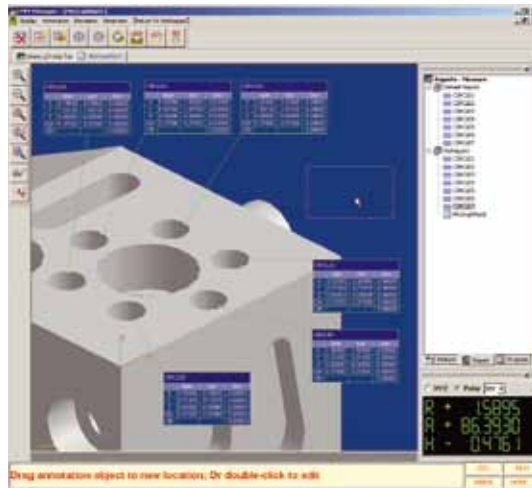
CMM-Manager provides comprehensive graphical programming tools for the operator to easily create inspection programs directly from CAD model. These part programs can be easily modified and visually simulated to verify the execution.





Graphics assisted tolerance reporting

CMM-Manager highlights reporting and datum features for easy feature identification, and illustrates reporting dimensions and tolerances in the graphics window for easy visual confirmation.

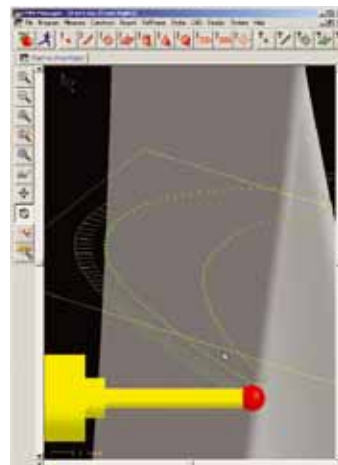
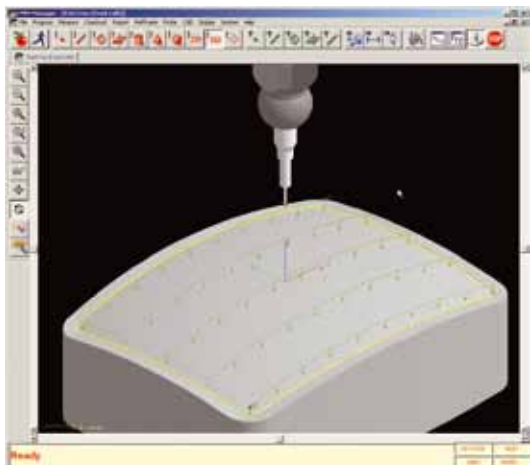


Drag-and-drop graphical report creation

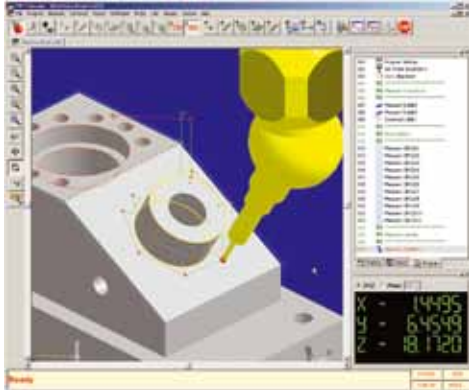
CMM-Manager provides drag-and-drop function for easy graphical report creation. The operator can simply drag a report item from the report database tree to the graphics report window to instantly create a graphics report table.

Cross section & free form surface scanning

CMM-Manager allows the operator to easily define a cutting plane for cross section scanning or to pick a free form surface for digitization.

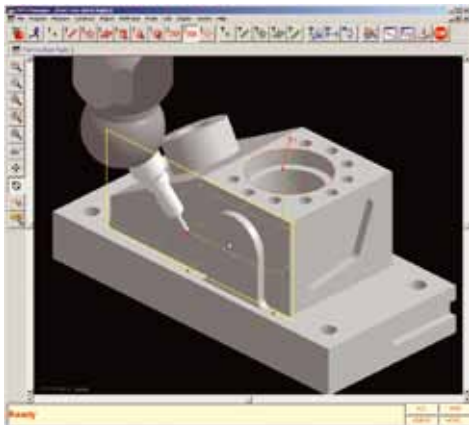


Smart features for accurate inspection



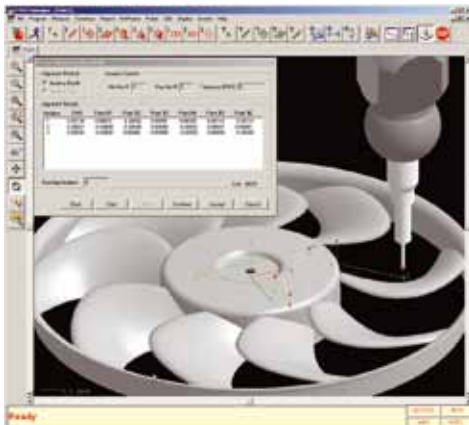
Automatic probing angle selection

CMM-Manager automatically selects the best probing angle to measure features. When necessary, CMM-Manager will select multiple probing angles in order to inspect difficult-to-measure features, such as deep pockets and through holes.



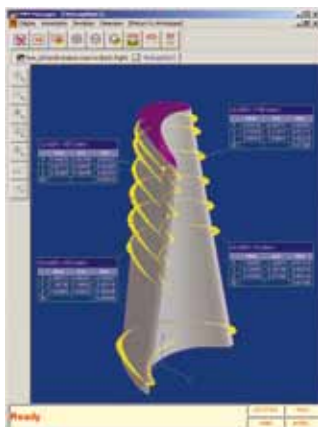
Automatic collision avoidance

CMM-Manager intelligently modifies probe moving path to avoid any obstacles along the path once a probe collision is detected. As this is done automatically, it smartly generates completely collision-free inspection path.



Iterative datum alignment for soft fixturing

CMM-Manager provides powerful datum alignment tool which align a part to designated datum points. This soft fixturing function eliminates the need of dedicated hard fixtures and helps customers to reduce expenditure of hard fixture fabrication and maintenance.



Best-fit analysis for improved inspection accuracy

CMM-Manager has a built-in best-fit analysis engine to compare measurement data with the CAD model. This powerful best-fit function eliminates the influence of misalignment and cosine errors in tolerance evaluation to achieve the best inspection accuracy.

Efficient portable measurements

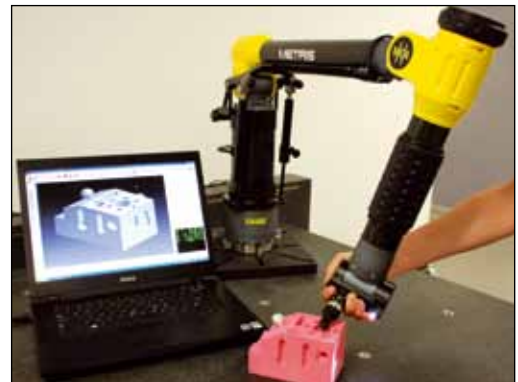
CMM-Manager supports tactile measurements using portable CMMs, such as articulated arm and K-Series Optical CMM. With a user interface featuring large icons for better visibility, the CMM-Manager is a highly intuitive, easy-to-use metrology software for inspection tasks at the shop floor covering a wide range of measurement volumes. Beside the rich, inherent functionalities for CNC and manual fixed-bed CMMs, CMM-Manager also contains smart features for portable arm measurements, such as improved user guidance, automatic probe recognition and same program for CNC and manual CMM.

A powerful combination

Tightly integrated with MCA and MCA II (6 and 7-axis) articulated arms, CMM-Manager guides the user through every measurement task. CMM-Manager also supports popular articulated arms, such as FARO, Romer/CimCore, Microscribe, etc.

K-Series spaceprobe for measuring large components

The K-Series Optical CMM with SpaceProbe allows measurements to be taken in a working volume up to 17m³ in a range from 1,5 to 6m. As such, complete vehicles can be easily measured in one track.



Leap-frogging to extend working volume

In case the workpiece exceeds the available working volume, CMM-Manager supports moving or flipping the work piece during the measurement process. This function enables a portable arm operator to measure workpieces larger than the working volume of the measurement system.



Guided plane measurement for 2D feature measurement

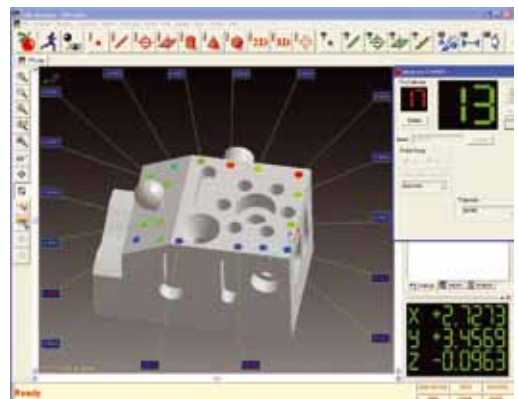
This feature enables the operator to setup a guide plane with specified tolerance zone when measuring a 2D feature with a portable CMM. Measurement points will be taken when the probe crosses the selected guide plane and within the specified tolerance zone.

Guided measurement for tactile scanning

The operator can select a guidance feature, such as a plane, line, cylinder, cone, sphere or a CAD surface, with a specified tolerance zone when measuring a point cloud with a portable CMM. Measurement points will be taken when the probe crosses the selected guidance feature and within the specified tolerance zone.

Audio / visual guidance

With this new feature, the user can setup a tolerance zone and CMM-Manager will change audio tone and color depending whether the probe is inside or outside the specified tolerance zone when the watch window is open.



Software features

Fully integrated measurement environment

- Task-oriented working environment with efficient and intuitive user interface design, easy-to-learn and easy-to-use.
- Walk-in measurement for quick dimension check
- Click-and-measure capability
- CAD based and task-oriented graphical programming
- Virtual simulation and real-time verification
- DMIS part program support including high level language
- Same program for CNC and manual CMM

Advanced path planning

- Automatic probing angle selection
- Collision detection and smart collision avoidance
- Inspection path optimization

Powerful alignment tools

- 3-2-1 alignment for prismatic datum features
- CAD alignment for free form surfaces
- Iterative datum alignment for soft fixturing

Convenient reporting functions

- Complete ASME Y14.5 GD&T support
- Graphics assisted tolerance reporting
- Graphical dimensioning tool for quick dimension report
- Drag-and-drop graphical report creation
- Various combination of customizable text and graphical report
- Color marks illustrating individual CAD deviations of measurement points
- Web-ready HTML report output
- Built-in best-fit analysis function for CAD comparison

Reverse engineering support

- Exporting measured features to IGES and DXF file format
- Exporting measured points to IGES and DXF file format

Retrofit capabilities

- Direct interface for CNC CMM retrofits:
 - Nikon Metrology CMM, Sheffield Cordax, Brown & Sharpe, Mitutoyo, Zeiss, Numerex, Starrett
 - Renishaw UCC1/UCC2 controller retrofits
- Manual CMM retrofits:
 - Sheffield Cordax, Brown & Sharpe, Mitutoyo, Zeiss, Numerex, Starrett
- Articulated arm retrofits:
 - Nikon Metrology MCA / MCA II, MicroscribeX
 - Faro, Romer/CimCore
- Nikon Metrology K-Series Optical CMM



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