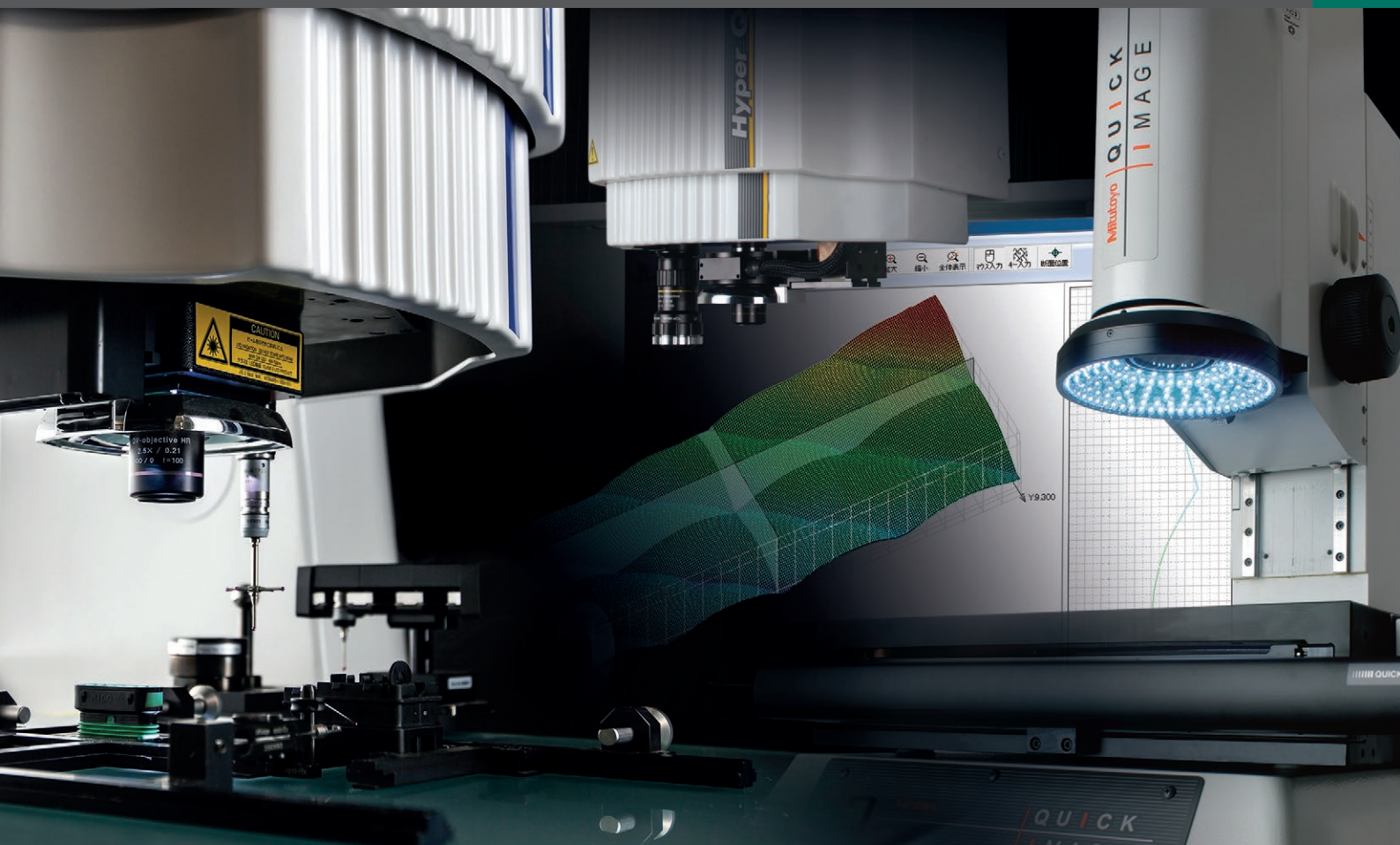


VISION MEASURING SYSTEMS

Introducing Mitutoyo's full line of Vision Measuring Equipment.

VISION MEASURING SYSTEMS



Manual

Quick Scope

Manual Vision Measuring System

- XYZ measurement.
- 0.1 μm resolution glass scales.
- Quick-release stage movement for easy traverse over a large area.
- USB colour camera.
- 8X optical zoom.
- Full FOV measurement.
- Triple source lighting is standard – stage, ring and coaxial types.
- Five stage sizes for measuring up to 400 x 200 mm in XY and up to 150 mm in Z.
- Fully programmable zoom and lighting.
- Real-time editing.
- SPC data macros and export included.



Automated

Quick Vision Active (2.0 μm)

New Design CNC Vision Measuring System

- Available in two sizes: 200 and 400 mm.
- High-accuracy fixed-bridge design.
- USB high-resolution colour camera.
- Newly designed zoom system with interchangeable optics.
- Vision and touch-probe measurement available.
- Field retrofittable.
- 3D measurement system and software.
- 0.1 μm resolution glass scales.



Advanced

Quick Vision STREAM PLUS (1.5 μm)

CNC Non-stop Vision Measuring System

- Up to 12X faster than conventional systems by using strobe-pulse illumination for instantaneous image capture (20 mm/sec).
- Add TAF (Tracking Auto Focus) to provide automatic part Z-axis workpiece focusing.
- Automatic and asynchronous image processing.
- Examples: electronic packaging, metal stamping and plastics.
- Includes pattern focus optical enhancement hardware to measure translucent and reflective parts.



Sensor-based

White Light Interferometer^{*1}

- Delivered on a hyper-accurate platform.
- High-accuracy measurement of surfaces, roughness and analysis of line and space measurements of circuit boards/packages.

^{*1} Factory install option. Includes vibration damping system.



UMAP Probing System^{*2}

- Micro-probe measurement systems are delivered on a hyper and ultra-accurate platform.
- Interchangeable microprobes from 15 to 300 μm tip diameter.
- Unmatched repeatability.
- Ultra-low-force measurement.
- 3D measurement for micro geometry.

^{*2} Factory install option on Hyper and ULTRA



Quick Image

Telecentric All-in-focus System

- Single-click measurement.
- Full FOV measurement.
- Auto part-orientation recognition.
- Large FOV of 32 mm.
- USB colour camera.
- Quick-release stage movement for easy traverse over a large area.
- Triple source lighting is standard – stage, ring and coaxial types.
- Multi-segment ring light.
- Five stage sizes for measuring up to 400 x 200 mm in XY.
- On-screen pass/fail measurement.



Quick Vision Apex (1.5 µm)

CNC Vision Measuring System

- Available in three measuring ranges (in X): 300, 400 and 600 mm, all achieving 1.5 µm accuracy.
- Fixed-bridge design for maximum repeatability, acceleration, stiffness and accuracy.
- Programmable ring-light with parabolic mirror design and variable angle of incidence to optimise workpiece illumination.
- Includes pattern focus optical enhancement hardware to measure translucent and reflective parts.



Quick Vision Hyper (0.8 µm)

High-accuracy CNC Vision Measuring System

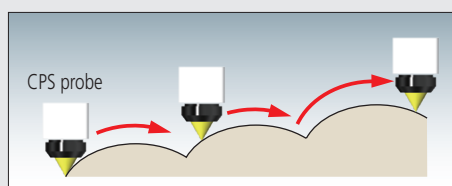
- Sub-micron (0.8 µm) accuracy vision measurement system.
- High-resolution 0.02 µm scale system with ultra-low linear thermal expansion.
- LED illumination with interchangeable objectives to achieve high-accuracy/high-magnification measurements.
- Includes real-time temperature compensation.
- Includes pattern focus optical enhancement hardware to measure translucent and reflective parts.



CPS Probe (Chromatic Point Sensor)^{*3}

- Chromatic confocal displacement sensor.
- Uses the chromatic aberration principle to achieve steep wall non-contact contour measurement.
- Highly reflective and translucent surface measurement is possible.
- Fully programmable unit with small spot size and long working distance to ensure high resolution.
- Patented automatic lighting adjustment allows scanning of different surface materials in a single setup.

^{*3} Factory install option on Apex and Hyper



Fixture Kits

OPTI-FIX Modular Clamping System for Optical Systems

- Six unique kit designs for large and small workpieces.
- Safe and non-marking work-holding designed and manufactured by Mitutoyo.
- Support for flat, flexible and cylindrical parts with unobstructed access to the optical measurement path.
- Easy load, unload and setup.



Quick Vision ACCEL (2.0 μm)

Large-format CNC Vision Measuring System

- Moving bridge design uses high-speed acceleration for high throughput to meet production inspection needs.
- Large-format stage with best-in-class accuracy.
- High-resolution colour camera.
- Newly designed zoom system with interchangeable optics.
- Field retrofittable.
- Vision and touch-probe measurement available.
- Available in measuring ranges (in X) from 800 to 2000 mm.
- 0.1 μm resolution glass scales.
- Includes pattern focus optical enhancement hardware to measure translucent and reflective parts.



Quick Vision ULTRA (0.25 μm)

Ultra-high Accuracy CNC Vision Measuring System

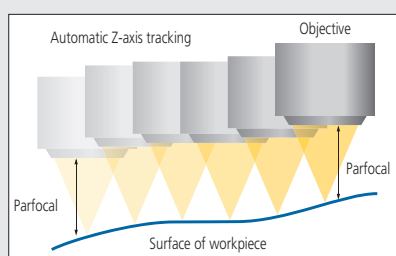
- Highest in class accuracy of 0.25 μm .
- Maximum straightness specification with precision air-bearing linear guide system.
- Scale resolution of 0.01 μm scale system with ultra-low linear thermal expansion.
- Halogen lighting with 3X magnification turret and interchangeable objectives.
- Includes real-time temperature compensation.
- Includes pattern focus optical enhancement hardware to measure translucent and reflective parts.



Tracking Auto Focus (TAF)^{*3}

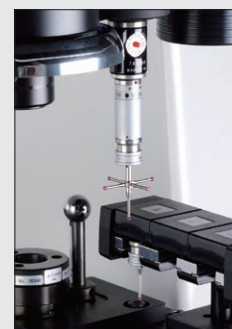
- TAF is a through-the-lens laser-based sensor that tracks the surface contour in Z to reduce or eliminate traditional move-and-measure video focusing.
- Dramatically improves measurement throughput.

^{*3} Factory install option on Apex and Hyper



Touch-trigger Probe

- Quick Vision Series models can be delivered or retrofitted with a touch-trigger probe that allows measurement of features unable to be measured by vision methods alone.
- TP-20 or TP-200 probes can be used.
- Kits include calibration ring/sphere, rack, probes and modules.

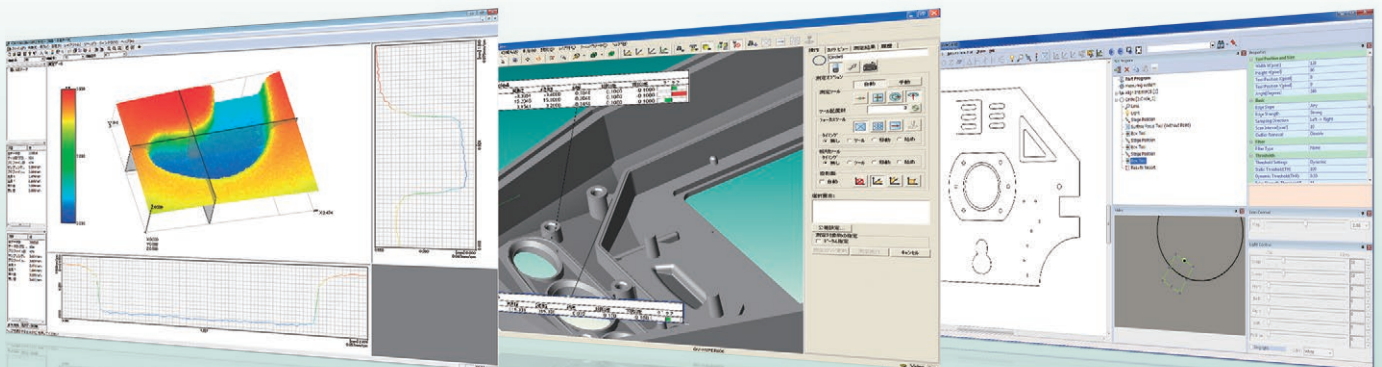
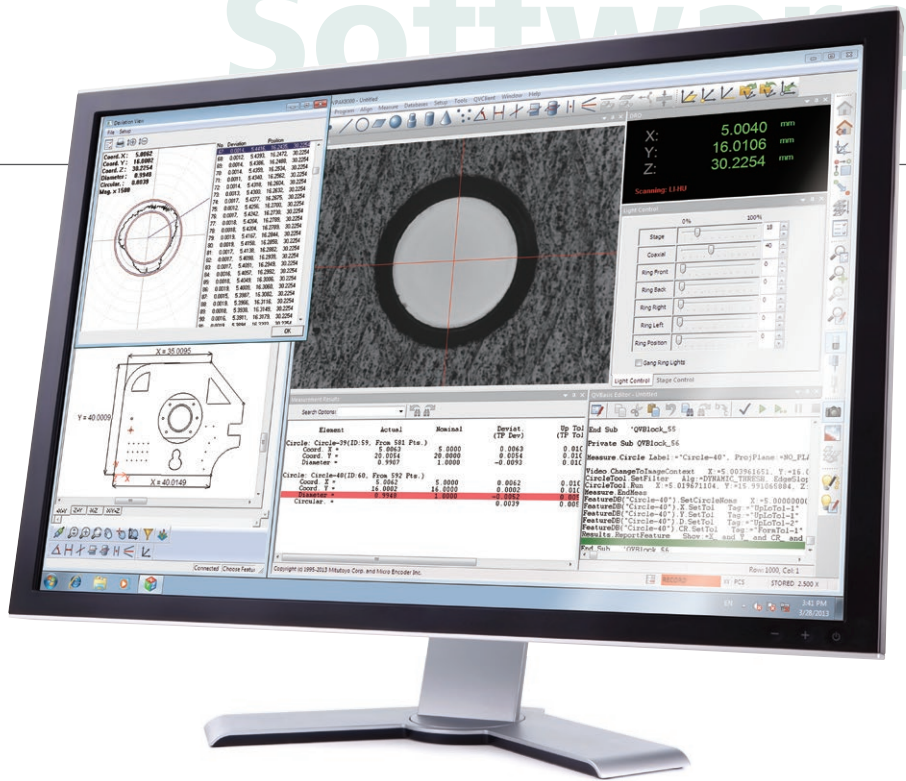


QVPAK

Software for Quick Vision Systems

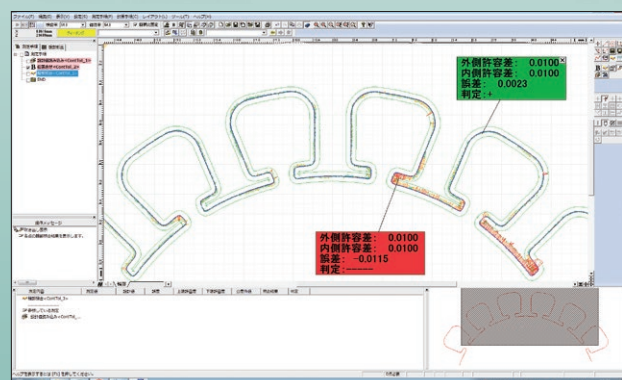
QVPAK has evolved to the most powerful version yet.

- QVPAK controls multiple sensors: CCD cameras, Touch Probes, continuous scanning devices and special probes such as UMAP and LNP.
- 3D graphic display or measuring planes display with QVClient QVGraphic.
- Part programming and editing is made easy with the user-friendly Easy Editor.
- QVPAK also offers various QVclients (standard), real assistants for users (programming mode) or operators (production mode) such as QVSmartEditor and QVNavigator.
- Powerful mathematical algorithms are provided that help detect difficult edges via noise filters (similar to morphological filters) and advanced detection tools that take into account the texture of the target surface.



FORMTRACEPAK-AP.

- Using the same full-featured software available with our form equipment, Mitutoyo provides this fully programmable 2D analysis comparison software.
- Compare to nominal CAD models.
- Export to CAD for reverse engineering.
- Graphical dimensional measurement and tolerancing.
- Custom graphical reporting and layouts.
- Full connectivity to MeasurLink SPC software.





Whatever the challenge, Mitutoyo supports you from start to finish.

Mitutoyo is not only a manufacturer of top-quality measuring products but one that also offers qualified support for the lifetime of the equipment, backed up by comprehensive services that ensure your staff can make the very best use of the investment.

Apart from the basics of calibration and repair, Mitutoyo offers product and metrology training, as well as IT support for the sophisticated software used in modern measuring technology. We can also design, build, test and deliver bespoke measuring solutions and even, if deemed cost-effective, take your critical measurement challenges in-house on a sub-contract basis.

Note: All information regarding our products, and in particular the illustrations, drawings, dimensional and performance data contained in this printed matter as well as other technical data are to be regarded as approximate average values. We therefore reserve the right to make changes to the corresponding designs, dimensions and weights. The stated standards, similar technical regulations, descriptions and illustrations of the products were valid at the time of printing. In addition, the latest applicable version of our General Trading Conditions will apply. Only quotations submitted by ourselves may be regarded as definitive.

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