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QUALITEST™

HIGH STABILITY VISION MEASURING MACHINE (VMM)



STANDARDS

ISO 10360-7

ISO 14253-1

ISO 14978

High Stability Vision Measuring Machine (VMM) - QualiVMM™ MB Series

Vision Measuring Machine (VMM) solutions in the QualiVMM™ MB Series are built for high-stability, high-throughput dimensional inspection of larger parts and fixtures. A moving-bridge architecture keeps the workpiece fixed, which helps reduce handling error on heavy or awkward components.

Four-axis CNC closed-loop automation supports repeatable, program-driven measurement for QC and production workflows. A granite (marble) base and crossbeam, precision guides, servo drive motion, and high-resolution imaging work together to deliver consistent results across shifts.

APPLICATIONS

High Stability Vision Measuring Machine (VMM) - QualiVMM™ MB Series Applications

- Electronics and connectors
 - Measure pins, housings, slot widths, lead spacing, and form features that need quick, repeatable inspection. The fixed-workpiece layout is helpful when parts are fixtured in batches for high-volume QC.
- Medical devices and precision components

- Verify critical dimensions on machined and molded parts such as small frames, tubes, and assemblies where documentation and repeatability matter. Automated routines reduce operator-to-operator variation for incoming and final inspection.
- LCD and display-related parts
 - Inspect profiles, cutouts, hole patterns, and alignment features on frames, brackets, and tooling plates. Programmable lighting helps tune edge detection for reflective or low-contrast surfaces.
- Aerospace and aviation manufacturing
 - Support dimensional verification of larger fixtures, plates, and precision-machined components. The series covers multiple travel ranges, including large-format options for long parts.

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Standards

- ISO 10360-7: Acceptance and reverification tests for coordinate measuring systems using imaging probing systems (relevant when VMM performance is verified through imaging-based measurement).
- ISO 14253-1: Decision rules for proving conformity or nonconformity with specifications, including measurement uncertainty considerations.
- ISO 14978: General concepts and requirements for GPS measuring equipment (useful as a framework for metrology equipment selection and verification).

FEATURES

High Stability Vision Measuring Machine (VMM) - QualiVMM™ MB Series

Key Features

- Moving-bridge design with a fixed workpiece
 - Parts stay in place while the bridge travels, which supports stable measurement on heavier or larger components.
- 4-axis CNC closed-loop automation
 - Automated routines run measurement programs with consistent motion control for repeatable inspection results.
- Granite (marble) base and crossbeam
 - A rigid strund improves long-term stability in shop-floor or QC lab environments.
- High-resolution linear scale feedback
 - Glass ified with 0.5 μm resolution for the linear scales on this series.
- Precision motion components
 - Linear guides, ground bcomponents support controlled, smooth positioning.
- Imaging system for clear observation
 - High-definition color cedge finding and feature measurement on a wide range of parts.
- Programmable multi-zone LED illumination

- with multi-zone control helps optimize contrast across different materials and finishes.
- iMeasuring measurement software
 - Sge measurement workflows for production QC and reporting.
- Optional multi-sensor expansion and customization
 - Configurations can adnsing modules, with customization available to match application needs.

TECHNICAL SPECIFICATIONS

High Stability Vision Measuring Machine (VMM) - QualiVMM™ MB Series Technical Specification

Specification	QualiVMM™ MB 400 Series	QualiVMM™ MB 500 Series	QualiVMM™ MB 600 Series	QualiVMM™ MB 800 Series
X/Y Travel (mm)	300 × 400	400 × 500	500 × 600	600 × 800
Z Travel (mm)	200			
Linear Scale (X/Y/Z)	Glass grating scale, 0.5 μm resolution			
Guideway System	Precision linear guides, dual-rail with double sliders			
Operating Mode	Joystick + mouse control, automatic measurement programs			
Accuracy E1x,y* (μm)	2 + L/200			
Accuracy E1z* (μm)	4.0 + L/200			
Repeatability (μm)	2			
Contour Lighting	LED parallel contour illumination			

Specification	QualiVMM™ MB 400 Series	QualiVMM™ MB 500 Series	QualiVMM™ MB 600 Series	QualiVMM™ MB 800 Series
Surface Lighting	0-255 stepless adjustable, 5-ring / 8-zone LED surface illumination			
Camera	1/2.9" high-definition digital color camera			
Optics / Magnification**	8.3× electronic feedback zoom lens; optical 0.6×-5.0×; video 20×-170× (21.5" monitor)			
Measuring Software	iMeasuring			
Supported OS	Windows 10/11 (32/64-bit)			
Language Options	English, Simplified Chinese, Traditional Chinese (additional languages available)			
Operating Conditions	20°C ±2°C; <1°C/hr change; 30-80% RH; vibration <0.02 g, ≤15 Hz			
Power	220 V / 50 Hz / 10 A (110V is also available)			
Machine Dimensions (W × D × H, mm)	1195 × 832 × 1579	1463 × 940 × 1591	1568 × 1040 × 1591	1818 × 1157 × 1590
Crate Dimensions (W × D × H, mm)	1380 × 1170 × 1910	1690 × 1300 × 2000	1800 × 1400 × 2000	2300 × 1700 × 2000
Net Weight (kg)	650	780	1380	2000

* L = measured length (mm).

** Video magnification depends on monitor size and resolution.



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