



BASIC VISION MEASURING MACHINE (VMM) - QUALIVMM™ BASIC 200



STANDARDS

ANSI/ASME B89.4.1

ISO 10360-7

ISO 14253-1

ISO 14978

Basic Vision Measuring Machine (VMM) - QualiVMM™ Basic 200

Daily quality control shouldn't be a headache, and the QualiVMM™ Basic 200 ensures it isn't. This manual video measuring platform is engineered for dependable 2D part inspection, utilizing a rock-solid granite base and column to guarantee stability. By combining a precision stage with optical scale feedback and iMeasuring software, the system delivers the consistency required for high-volume manufacturing environments.

To maintain high accuracy, the machine features a low-backlash motion structure that restricts return error to within 2 µm. Visual clarity is handled by a high-resolution color camera and zoom lens—perfect for sharp edge detection and detailed feature analysis. Additionally, its programmable LED lighting (both surface and transmissive) provides the versatility needed to inspect various materials and surface finishes with ease.

APPLICATIONS

Basic Vision Measuring Machine (VMM) - QualiVMM™ Basic 200

Applications

- Incoming Inspection for Machined Parts

- Ensure accuracy before production begins by verifying hole placements, slot widths, and step features. This manual approach is perfect for teams that require high-precision measurements and batch-to-batch variation checks without the complexity of a full CNC setup.
- Production QC: Stamping & Small Metal Components
 - Maintain quality on fast-moving production lines by confirming radii, profiles, and edge geometries. The system's high-clarity imaging and uniform lighting help remove operator bias, ensuring every measurement is objective and repeatable.
- Plastic & Molded Component Analysis
 - Overcome the challenges of measuring molded parts where reflectivity, texture, or flash might obscure details. By utilizing adjustable transmissive and surface LED lighting, you can maximize contrast for sharper edge detection and more accurate dimensional checks.
- Electronics & Miniature Assemblies
 - Examine intricate connector housings, small brackets, and fixture details with precision zoom optics. The ergonomic workbench layout is designed to support stable fixturing, making it easy to perform repetitive inspections on delicate electronic components.
- Toolroom & Calibration Support
 - Streamline the verification of templates, gauges, and reference parts. With a repeat accuracy of 2 μm , this system serves as a dependable cornerstone for daily calibration routines and toolroom quality audits.

Image



Standards

- ISO 10360-7: Acceptance and reverification tests for CMMs using imaging probing systems (vision/video).
- ISO 14253-1: Decision rules for proving conformity or nonconformity while considering measurement uncertainty.
- ISO 14978: General concepts and requirements for GPS measuring equipment.
- ASME B89.4.1: Methods for performance evaluation of coordinate measuring machines.

FEATURES

Basic Vision Measuring Machine (VMM) - QualiVMM™ Basic 200 Key Features

- Ultra-Stable Granite Foundation
 - The base and column are constructed from premium granite to ensure superior thermal stability. This heavy-duty structure is specifically engineered to dampen vibrations and maintain consistent repeatability during daily operations.
- Precision Stage with Low Return Error
 - Featuring a polished rod and a specialized fast-lock mechanism, the stage is designed for smooth motion. These mechanics are strictly specified to keep table return error within a tight tolerance of $2 \mu\text{m}$.
- High-Accuracy Optical Feedback
 - The system integrates high-precision optical rulers with a professional-grade worktable. This combination delivers a certified measurement accuracy of:
$$\leq 3.0 + \frac{L}{200} \mu\text{m}$$
- Versatile Programmable LED Lighting
 - Achieve perfect contrast on any material using the integrated lighting suite, which includes 3-ring LED surface illumination and transmissive LED parallel lighting. These programmable options ensure that even the most challenging part finishes are clearly visible.
- Professional iMeasuring Software
 - Purpose-built for QC and industrial inspection, the iMeasuring software provides a comprehensive suite of tools for handling complex measurement tasks with an intuitive workflow.
- Advanced Imaging System
 - High-resolution digital color cameras paired with precision zoom optics produce sharp, high-contrast images. The system is calibrated to minimize distortion, ensuring that the visual data used for measurement is as accurate as possible.

TECHNICAL SPECIFICATIONS

Basic Vision Measuring Machine (VMM) - QualiVMM™ Basic 200 Technical Specification

Specification	QualiVMM™ Basic 200
Product Type	Manual Video Measuring System
Granite Worktable (mm)	390 × 220
Glass Stage (mm)	229.5 × 129.5
X/Y Travel (mm)	200 × 100
Linear Scale Resolution (X/Y)	0.5 μm
Base and Column	High-precision granite
Measurement Accuracy (E1x,y)* (μm)	2.5 + L/200
Repeatability (μm)	2
Illumination (software controlled)	3-ring single-zone LED cold surface light; transmissive LED parallel light; optional coaxial light
Camera	1/2.9" high-resolution digital camera, 1.6 Mpixel
Zoom Lens	6.5× high-resolution zoom lens; optical 0.7×-4.5×; video 26×-172× (21.5" monitor)
Measuring Software	iMeasuring
Supported OS	Windows 10/11 (32/64-bit)
Language Options	English, Simplified Chinese, Traditional Chinese (other languages optional)

Specification	QualiVMM™ Basic 200
Operating Conditions	20°C ±2°C; <1°C/hr change; 30-80% RH; vibration <0.02 g, 15 Hz
Power	AC 220V / 50Hz; or 110V / 60Hz
Dimensions (W × D × H, mm)	477 × 452 × 725
Weight (Gross / Net, kg)	65 / 50

* L = measured length (mm).

Basic Vision Measuring Machine (VMM) – QualiVMM™ Basic 200 Series

QualiVMM™ Basic 200

Measuring Range by Model

Travel Range (X × Y × Z, mm)	Model	Code #	X Travel (mm)	Y Travel (mm)	Z Standard Travel (mm)	Z Max Custom Travel (mm)
150 × 100 × 100	QualiVMM™ Basic 150	525-020D	150	100	100	—
200 × 100 × 100	QualiVMM™ Basic 200	525-020E	200	100	100	200
250 × 150 × 200	QualiVMM™ Basic 250 Series	525-020F	250	150	200	300
300 × 200 × 200	QualiVMM™ Basic 300 Series	525-020G	300	200	200	400
400 × 300 × 200	QualiVMM™ Basic 400 Series	525-020H	400	300	200	400

Travel Range (X × Y × Z, mm)	Model	Code #	X Travel (mm)	Y Travel (mm)	Z Standard Travel (mm)	Z Max Custom Travel (mm)
500 × 400 × 200	QualiVMM™ Basic 500 Series	525-020J	500	400	200	400



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