

QM-Measure and QM-Data

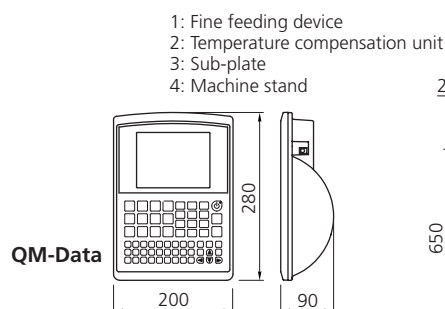
SERIES 198 — Flexible Measuring Gage/Data Processor



The QM-Measure employs a unique "open space" structure to make workpiece loading/unloading easy. This also allows the shop operator to approach the workpiece without obstruction by the machine column.

In choosing this unique structure, Mitutoyo has determined the QM-Measure's body design through the FEM (Finite-Element Method) analysis so that the machine deformation during probing is minimized and evened. The optimized machine design achieves a competent measuring accuracy of $(3.0+4L/1000)\mu\text{m}$ and very smooth probing with minimum operation fatigue.

If the QM-Measure is required to evaluate the workpiece dimension at 20°C temperature, and shop or workpiece temperatures are not at 20°C, an optional Temperature Compensation System can be installed. It can expand the operation temperature range to 15°C - 30°C.



SPECIFICATIONS

Model No.		QM-Measure 333	QM-Measure 353
Measuring range	X-axis	300mm (12")	300mm (12")
	Y-axis	300mm (12")	500mm (20")
	Z-axis	300mm (12")	300mm (12")
Length standard		Precision linear encoder	
Resolution		0.0005mm (.00002")	
Accuracy (20°C±1°C)*		E = $(3.0+4L/1000)\mu\text{m}$, R = $4.0\mu\text{m}$ (.00016")	
Guide method		Air bearing for each axis	
Clamping method		Clamping screw	
Fine feeding device		Optional (10mm/.4" stroke)	
Z-axis balance		Counterweight	
Measuring table		Optional (aluminum or granite sub-plate)	
Machine stand		Optional	
Workpiece loading		Maximum height: 410mm (16.14")	
		Maximum mass: 30kg (66 lbs.)	
Air pressure		0.35MPa or 51PSI	
Air consumption		50L/min. (in normal state) or 1.8CFM	
Mass**	QM-Measure	130kg (286 lbs.)	170kg (374 lbs.)
	QM-Data	1.2kg (2.6 lbs.)	1.2kg (2.6 lbs.)

* ISO 10360-2

E: Error of indication of volumetric length measurement

L: Measuring length (mm)

R: Probing error (with TP2 touch signal probe)

**Excluding the optional machine stand.

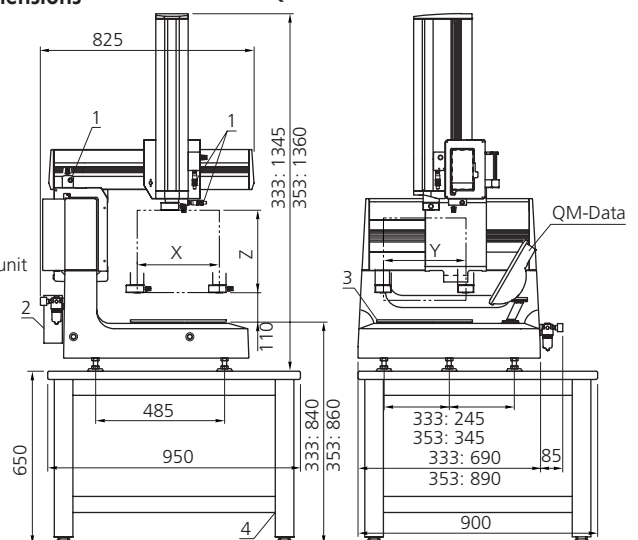
OPTIONAL ACCESSORIES

06ABQ040A:	Ceramic master ball
06AAY484:	Machine stand (table top H=750mm)
06AAX288:	Machine stand (table top H=650mm)
06AAX763:	Granite sub-plate for QM-Measure 333
06AAX917:	Granite sub-plate for QM-Measure 353
06AAD671:	Clamping unit
06AAY251:	Fine feeding device (10mm/.4" stroke)
937179T:	Foot switch
06AAX263:	Floppy disk drive
06AAX265:	Printer (120V)
06AAX266:	Printer (230V)
908353:	Printer paper (5 rolls)
—:	Temperature compensation system

Dimensions

QM-Measure

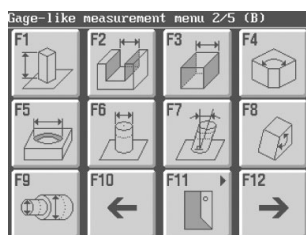
Unit: mm



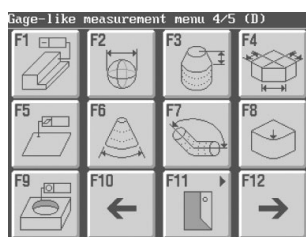
Intuitive Icons* for Gage-like Measurement

The QM-Data operates as a "Gage-like" instrument. Instead of the troublesome data entry by computer keyboard or pull-down menu selection, the QM-Data provides 5 "Gage-like measurement" menu displays including 43 1D/2D/3D geometric element icons.

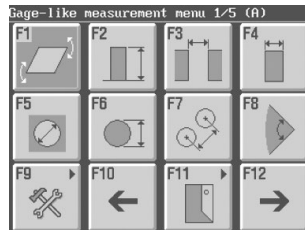
Just press the representative function key of the element icon to be measured, and then touch a workpiece feature with a touch trigger probe. The QM-Data immediately calculates the measured geometry and displays the result on the large LCD panel. The shop operator can ignore the complicated 3D coordinate system setup during the measurement.



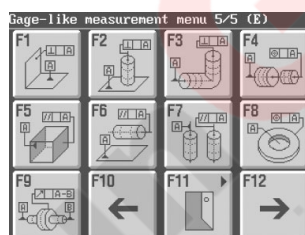
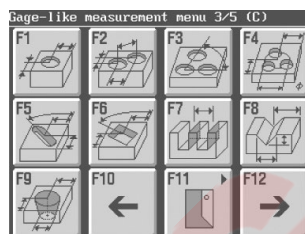
Standard measurement



Advanced measurement



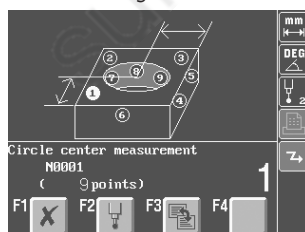
Simple measurement



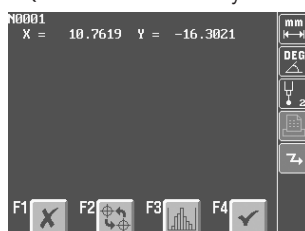
*The copyright of the software and icons used are owned by Mitutoyo Corporation.

Interactive Graphic Display

After the geometric element is selected, the QM-Data draws a graphic of the feature on the LCD panel including number of input points and position to be required. This allows the operator to perform the measurement with accurate data collection.



The last input point is measured, the QM-Data immediately shows the measurement result.



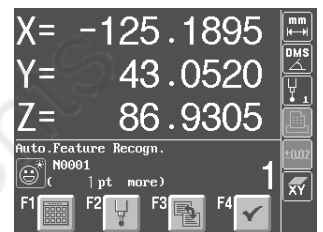
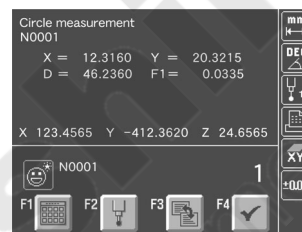
Multiple Language Support

The operation language is available in English, Japanese, German, French, Italian, Spanish, Portuguese.



Mitutoyo "AI" Function

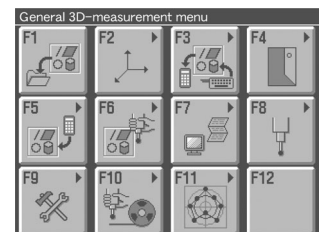
Furthermore when using "AI" function, even the geometric feature selection can be skipped. The QM-Data identifies from the input data what geometric feature is measured, then shows the graphic display and calculates the dimensions automatically. This allows the operator to continue the measurement without interruption using key-stroke.



Enlarged display mode: Simple indication of XYZ probe position

For Advanced Measurement

In addition to the Gage-like measurement menus the QM-Data provides experienced operators with advanced functions equal to a standard CMM software.



Coordinate System Customization for Experienced Operators

If the 3D coordinate system automatically generated in the Gage-like measurement is not suitable for your workpiece, the QM-Data offers the operator a choice of twelve additional coordinate system setup patterns.

