

Coordinate Measuring Machines

Precision measuring technology with three dimensions

Manual Type CMM MICROCORD Crysta-Plus M Series

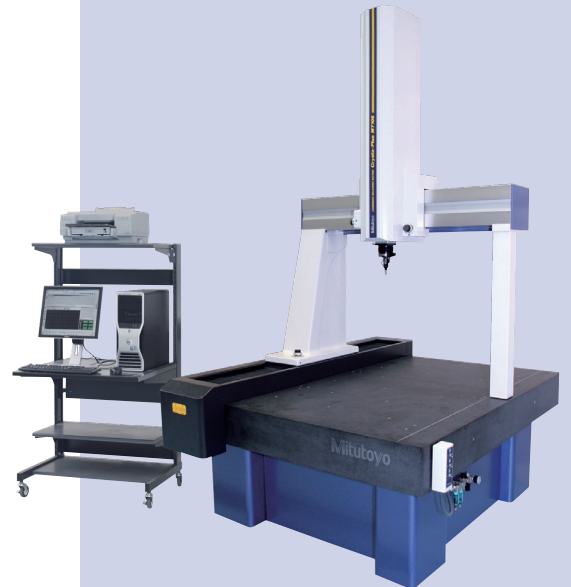
- Manual floating type CMMs developed in quest for high-accuracy, low-cost and easy operation. The Crysta-Plus M is suitable to measure a wide range of applications from a simple dimension to complex form.
- The scale systems on Mitutoyo high-precision models utilizes a high-performance linear encoder (manufactured by Mitutoyo), for detecting axis position. In addition, various technologies have been utilized in the structure, part processing, and assembly to provide high accuracy measurement.
- The Crysta-Plus M700 series has a large main unit, and is equipped with a mobile clamp so that one-touch clamping on each axis can be performed by hand. Continuous fine feed over the entire measuring range can be performed.
- Crysta high-precision series CMM's are equipped with temperature compensation and therefore do not require a temperature controlled room. Accuracy is guaranteed within the range of 15 to 30°C.
- Available options include the auto-leveling air spring vibration isolator and the illuminator unit for the probe.



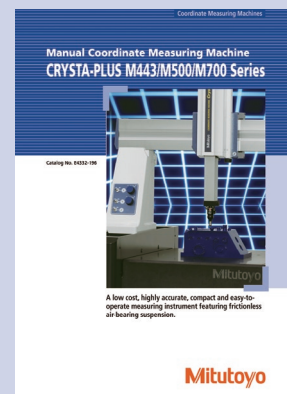
Crysta-Plus M443 with MCOSMOS



Crysta-Plus M574 with MCOSMOS



Crysta-Plus M7106



Refer to the Crysta-Plus M Series leaflet (Catalog No.E4332) for more details.

SPECIFICATIONS

Items		Model	Crysta-Plus M443	Crysta-Plus M544	Crysta-Plus M574	Crysta-Plus M776	Crysta-Plus M7106
Measuring range	X axis		400mm	500mm		700mm	
	Y axis		400mm	400mm	700mm	700mm	1000mm
	Z axis		300mm	400mm		600mm	
Resolution			0.0005mm (0.5μm)				
Accuracy *1,*2 (at 20°C)	Measuring error (E)		$E = (3.0 + 4L/1000)^{*3} \mu\text{m}$	$E = (3.5 + 4L/1000)^{*3} \mu\text{m}$		$E = (4.5 + 4.5L/1000)^{*3} \mu\text{m}$	
	Probing error (R)		4.0μm	4.0μm		5.0μm	
Guide method			Air bearings on each axis				
Clamping of each axis			One-touch air clamp (mobile clamp switch Box)				
Fine feed of each axis			Continuous fine feed over the entire measuring range				
Maximum measurable height			480mm	595mm		800mm	
Maximum table loading			180kg	180kg		500kg	800kg
Mass (including stand)			410kg	512kg	646kg	1560kg	1800kg
Z-axis balancing method			Counterweight				
Air supply	Pressure		0.35MPa (air source: 0.5 to 0.9MPa)			0.4MPa (air source: 0.5 to 0.9MPa)	
	Consumption		50L/min under normal conditions (air source: 100L/min)				

*1 According to ISO 10360-2 methods

*2 When using the touch-trigger probe MH20i/ MH20/ TP20 and stylus (L10mm)

*3 L = measured length (mm)

Note: While the appearance of the natural stone measuring table varies according to the source, the high stability for which this material is known can always be relied upon.

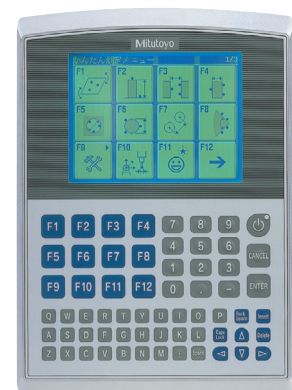
Guaranteed accuracy temperature limits for CRYSTA-Plus M Series

Without thermal compensation		19 to 21°C (Temperature change: 2.0K or less/8hrs)
With compensation	Range	15 to 35°C
	Rate of change	2.0K or less /1hrs 5.0K or less /24hrs
	Gradient	1.0K or less /1m

Data Processing Unit QM-Data300

QM-Data300 is a dedicated control data processing unit that can be used with manual floating CMM's.

- The QM-Data 300 has a simple measurement function that enables 3D measurement without standard coordinates, just like measurement using a gage.
- On screen icons for performance selection along with instructions for entering data.



Example of mounting on Crysta-Plus M443