

CRYSTA-APEX S500 Series

Series 191 - Standard CNC CMM

Designed and constructed using Mitutoyo's wealth of experience in CNC CMM technology, CRYSTA-APEX S features lightweight materials and an innovative machine structure, providing high motion stability, high accuracy, and affordability. The temperature compensation function (16°C to 26°C) can yield accurate measurements even on the shop floor. Compatible vision and scanning probe technologies are employed to provide flexible and effective measurement capabilities.



CRYSTA-Apex S544

Model	CRYSTA-Apex S544	CRYSTA-Apex S574
No.	191-244 191-243	191-248 191-247
Range X x Y x Z axis	505 x 405 x 405 mm	505 x 705 x 405 mm
Work table size	638 x 860 mm	638 x 1160 mm
Mass (main unit)	515 kg	625 kg

191-244 and 191-248 : multiwire models

Specifications

Digital step Accuracy ⁽¹⁾	0,1 μm E _{0,MPE} : ±(1,7+0,3L/100)μm, ±(1,7+0,4L/100)μm ^(?) P _{F_{TU},MPE} : 1,7 μm MPE _{THP} : 2,3 μm (50s)
Work table material	Black granite
Work table tapped insert	M8 x 1.25 mm
Workpiece	Max. height : 545 mm Max. loading : 180 kg
Scales	High accuracy linear encoder
Guide system	Air bearings on each axis
Max. drive speed	520 mm/sec
Max. acceleration	Each axis : 1333 mm/s ² (0,13G) Max. combined acceleration : 2309 mm/s ² (0,23G)

⁽¹⁾ According to ISO 10360-2 (2010) methods when using the SP25M probe system module SM25-1, with a ø 4x50 mm stylus.
L= measured length (mm).

^(?) Specified accuracy for temperature range: 16° - 26°C.



Joystick controller (optional)

Accuracy is specified for the following environmental conditions for the CMM*:

Temperature range		18°C - 22°C	16°C - 26°C
Temperature change	Per hour	1.0 K	1.0 K
	Per 24 hours	2.0 K	5.0 K
Temperature gradient	Vertical	1.0 K/m	1.0 K/m
	Horizontal	1.0 K/m	1.0 K/m

* When using temperature compensation system