

HA / Horizontal Series Coordinate Measuring Machine



- Large Volume Horizontal Arm CMM for full Body in White applications.
- Machine with walk-able base.
- Stress relieved rigid steel structure for all axis.
- All axis motion with backlash free rack & pinion systems.
- Free floating linear optical scales with 0.5 μ m resolution.
- High specific modulus carbon fiber 80x80 mm arm.
- Cast iron surface plate is available in customized options of tapping, guided holes, load capacity etc.
- Available in duplex module, Flush to floor installation of machine.
- Choice of Renishaw, Pantec or TARUS Controller
- Choice of Renishaw Probe Heads with TouchTrigger, Scanning and 5 Axis (Revo)
- Renishaw .1 Micron Optical Scales
- Nikon Scanning Heads with Polyworks
- Tsunami Air Filtration System
- Custom Computer Workstation Table
- Battery Backup/Surge Protector
- Two Year Complete System Warranty
- Full Support and Calibration by TARUS, ISO/IEC

Horizontal Series HA CMM Specifications

Measuring range	X [mm]	5000		
	Y [mm]	2 x 1600 mm		
	Z [mm]	2000 mm (vertical)		
Machine Total Weight	[kg]	4200	4900	5550

Power requirements

Electrical	Single-phase AC, 110/220VAC, +/- 10%, 50/60 Hz		
Pneumatic	8 bar, pre-filtered, quality according to ISO 8573-1: Class 4 or better.		
Air consumption	[cfm]	4.2	

Motor Details

Sanyo Denki-DC Servo Motor	T720 (X & Z Axis)	T406 (Y Axis)
Rated Speed	3000 rpm	
Rated Torque	0.605 Nm	0.19Nm
Rated Current	3.4 A	1.4 A

Scale & Encoder Details

Scale	Optical scale with 20 micron grating
Encoder	Optical Encoder with 0.5 micron Resolution

Accuracy

Resolution	[μ m]	0.5
Repeatability	[μ m]	10
Limit probing	MPE P [μ m]	30
Limit length measuring error	[μ m]	$30 + L/50 \mu\text{m} \leq 90 \mu\text{m}$
Limit length measuring error	[μ m]	$45 + L/50 \mu\text{m} \leq 100 \mu\text{m}$

Ambient conditions

Operating	[°C]	18-26°C
Temperature range for MPEE		2oC/h, 5oC/24h, 2oC/m,
Relative Humidity	[%]	40-70%

Vibration Level

30 mm/s² From 1 to 10 Hz, 15 mm/s²

From 10 to 20 Hz, 50 mm/s² From 20 to 100 Hz

Dynamics

Joystick operation	V [mm/s] max	0-20 (creep), 0-100 (Normal)
Max. Pos. Speed	V [mm/s] max	700
Max. Acceleration	a [mm/s ²] max	1200



Available CMM Controller and Software Combos

	Renishaw	Pantec	New TARUS
Modus	(I++)	Direct	
Polyworks	(I++)	Direct	
Touch DMIS	(I++)	Direct	
Verisurf	(I++)	Direct	
VDMIS	(I++)	Direct	
Calypso	(I++)	Direct	
Metrologic	(I++)	Direct	
CAPPS	(I++)	Direct	
Open DMIS	(I++)	Direct	
TARUS EASY DMIS			Direct