

ACCURETECH Solution for Shop-Floor and Production Line Measurement Using Advanced Carl Zeiss Technologies



GageMax

High-Precision CNC Scanning 3D Coordinate Measuring Machine



3D Coordinate Measuring Machines

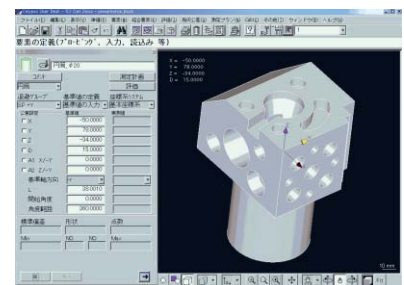
Features

- Solution for shop-floor and production line measurement
GageMax guarantees machine accuracy in production line environments across a wide temperature range of room temperature.
(Accuracy guaranteed across an ambient temperature range of 15°C to 40°C, the best in the world.)
*A small foot-print, an environmental resistant design — This full-fledged 3D Coordinate Measuring Machine equipped with VAST-XT meets the demands of just about any production line environment imaginable.

The Calypso measurement program and AI functions (geometric element auto judgment) simplify operation. Designed to make measurement more efficient for everyone from novices to skilled technicians.
(AI Functions patented by Tokyo Seimitsu in Japan and overseas.)

- Global-level state-of-the-art technology meets the needs of the shop-floor
A collection of advanced Carl Zeiss patented technologies include temperature resistant construction, environment resistant body materials (mineral cast), an extension shaft (Thermo-fit) that does not expand or contract with temperature changes, and more.

Calypso



3D CAD Display Example

Specifications

Model		GageMax HTG 7/5/5		
Measuring Range (mm)	X-axis (mm)	750		
	Y-axis (mm)	500		
	Z-axis (mm)	500		
Accuracy	Maximum Permissible Indication Error	TVA MPE _E (μm)* ¹	$2.2 + (0.05 \times \Delta\zeta) + L / (300 - (5 \times \Delta\zeta))$	
		$ \Delta\zeta = \text{Ambient temperature deviation from } 20^{\circ}\text{C}$		
	MPE _E (μm)* ²	2.2+L/300 (20°C)		
		2.6+L/260 (28°C)		
		2.8+L/240 (32°C)		
		2.95+L/225 (35°C)		
		3.2+L/200 (40°C)		
	Maximum Permissible Probing Error	MPE _P (μm)* ²	2.2	
	Maximum Permissible Scanning Error	MPE _{THP} (μm)* ²	3.3	
Temperature Conditions	Ambient Temperature (°C)	15 - 40		
Temperature Change	Per Day (°C/hour)	3.0		
	Per Hour (°C/day)	10.0		
	Per Meter of Length (°C/m - Height)	2.0		
Measuring Scale		Zeiss ZERODUR scale Resolution: 0.2 μm		
Table	Material	Gabbro		
	Usable Width (mm)	1300		
	Usable Depth (mm)	900		
	Floor-to-Table Height (mm)	850		
Workpiece Size	Max. Height (mm)	593		
	Max. Weight (kg)	250		
Drive Speed	Joystick Mode (mm/s)	0 - 70		
	CNC Mode (mm/s)	0 - 300 (axis directions); 0 - 520 (vector direction)		
	Acceleration (mm/s ²)	0 - 2000 (axis directions); 0 - 3500 (vector direction)		
Probe System	VAST-XT	Active Scanning probe head (supports probe replacement system)		
	Measurement Pressure (mN)	50		
	Probe Attachment Conditions	Max. Length (mm)	500	
		Max. Weight (kg)	500	
Number of Probe Magazine Slots	4 slot			
Power Requirements		Supply: Single-phase 100V AC $\pm 10\%$, 50/60 Hz $\pm 5\%$, Consumption: 2500 VA max.		
Machine Dimensions	Width (mm)	1500		
	Depth (mm)	1730		
	Height (mm)	3020		
Machine Weight (kg)		5000		
Required Ceiling Height for Installation (mm)		3220		

*1 TVA: Thermal Variable Accuracy. A measurement technique that clearly defines a machine's guaranteed accuracy under various ambient temperatures under different installation environments.

*2 MPE_E (Maximum Permissible Indication Error) and MPE_P (Maximum Permissible Probing Error) are based on the ISO 10360-2:2001 (JIS B 7440-2:2003) evaluation method for 3D coordinate measuring machines. Indication accuracy L is the distance between any two points (mm). MPE_{THP} (Maximum Permissible Scanning Error) is based on the ISO 10360-4:2001 (JIS B 7440-4:2003) evaluation method for scanning measurement.