

ZEISS CenterMax[®] Specifications



Version: 2021-05

Seeing beyond

System description

Type according to ISO 10360-1:2000	Gantry CMM	Gantry CMM				
Operating mode	motorized / CNC	motorized / CNC				
Sensor mounts	Fixed installation	Fixed installation				
Software	ZEISS CALYPSO, ZEISS GEAR F	ZEISS CALYPSO, ZEISS GEAR PRO, ZEISS HOLOS				
Acceleration						
Travel speeds		axis	Vector			
Set-up mode	in mm/s	0 to 70				
Batch measurement mode	in mm/s	max. 300	max. 520			
Acceleration	in m/s ²	max. 1.2	max. 2.4			

Accuracy and measuring performance ¹⁾

The functionality of the device and its specifications are only achievable when using original accessories by ZEISS. The specified parameters are observed in the application of the internal test instructions for acceptance testing and in the use of the released standards in accordance with the ISO 10360 series.

ZEISS CenterMax			ZEISS VAST gold	ZEISS VAST XTR gold	
TVA ^{2) 3)} (Temperature Variable Accuracy)	tva mpe _e	in µm	1.2 + (0,05 Δθ) + L/(280 - (5 Δθ))	1.2 + (0,05 Δθ) + L/(280 - (5 Δθ))	
Length measurement error ²⁾ MPE complies with ISO 10360-2:2009	E0 / E150	in µm	At 20 °C: 1.2 + L/280 At 26 °C: 1.5 + L/250 At 30 °C: 1.7 + L/230 At 40 °C: 2.2 + L/180	At 20 °C: 1.2 + L/280 At 26 °C: 1.5 + L/250 At 30 °C: 1.7 + L/230 At 40 °C. 2.2 + L/180	
Repeatability range of E0 MPL complies with ISO 10360-2:2009	RO	in µm	1.1	1.1	
Scanning error MPE complies with ISO 10360-4:2000	THP	in µm	2.2	2.2	
required measuring time MPT	τ	in s	26	26	
Form measurement error MPE for roundness ⁴⁾ complies with ISO 12181 (VDI/VDE 2617 sheet 2.2)	RONt (MZCI)	in µm	1.0	1.0	
Single stylus form probing error MPE complies with ISO 10360-5:2010	PFTU	in µm	1.4	1.4	
Multi-stylus form probing error MPE complies with ISO 10360-5:2010	PFTM 5)	in µm	2.7	3.3	
Multi-stylus dimension probing error MPE complies with ISO 10360-5:2010	PSTM 5)	in µm	1.0	1.0	
Multi-stylus location probing error MPE complies with ISO 10360-5:2010	PLTM 5)	in µm	2.2	2.3	
Length measuring system	ZEISS glass ceramic; reflected light system, photo-electric, resolution 0.2 µm				

Sensors

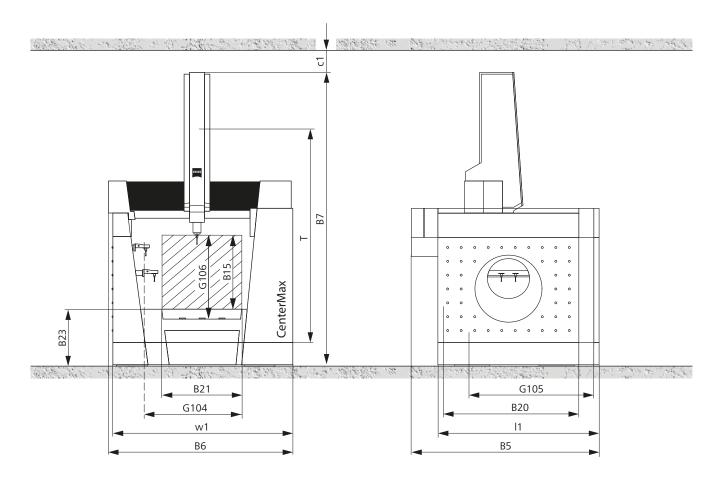
ZEISS VAST gold

Active measuring with stylus changer Scanning measuring rate up to 500 points/s.

Measuring force at data acquisition	in mN	min. 50		
Stylus system weight	in g	max. 600		
Stylus system length	in mm	max. 800		
Stylus rack optional	8 rack slots (max. 24 fixed rack slots, constantly within the measuring range)			
	ZEISS ProMax active stylus rack with 15 slots			
	(requires compressed air supply for measuring operations)			
ZEISS VAST XTR gold	Active measuring with stylus changer, with rotary axis positioning in 15° increments ^ω , 1 μm positioning accuracy ZEISS VAST XTR gold not combinable with ZEISS ProMax Scanning measuring rate up to 500 points/s.			
Measuring force at data acquisition	in mN	min. 50		
Stylus system weight	in g	max. 500		
Stylus system length	in mm	max. 500 (rigid), max. 350 mm (during rotation)		
Stylus rack optional	6 rack slots (combination with ZEISS ProMax not approved)			

Stylus for the acceptance test: ZEISS VAST, length 60 mm, stylus tip diameter 8 mm.
 L = measuring length in mm.
 |Δθ| = absolute value of temperature devitation from 20 °C in K, e.g. |Δθ| = 2 at 22 °C, |Δθ| = 4 at 24 °C.
 Roundness in Scanning Mode on a 50 mm ring gauge for Vscan = 5 mm/s, filter 50 UPR.
 Measuring location near the calibration position to document sensor properties.
 Explanation: 360°/15° = 24 positions.





Note: The given dimensions and weights are approximate values. Dimensions in mm. Subject to change. Dimensioning based on DIN 4000-167:2009.

Environmental requirements

Temperature conditions to guarantee specified accuracies 15 °C - 40 °C Ambient temperature 15 °C - 40 °C Temperature fluctuations per day in K/n 2.0 Temperature gradient spatial in K/n 2.0 Reduce humidity 40 % to 70 % Optional: up to 55 % in combination with an air conditioner on the computer/controller cabinet. Fileor vibrations 2155 Center/fax is equipped with an active damping system and is therefore highly resistant to vibration . Please contact us for limiting curves. Upon request, we will perform a vibration analysis. Acoustic pressure a100 dB Requirements for operational readines Data technology As an option, 2155 Center/fax is available with a computer cabinet. Here the required PC equipment can be safely protected from the immediate production environment. Electrical power rating Measuring machine and triffer 100/1101/32/32/32/3240 V- (c10%), 47-63 Hz. Computer cabinet 1/MPE 100/101/32/32/32/3240 V- (c10%), 47-63 Hz. Computer cabinet 1/MPE 100/101/32/32/32/3240 V- (c10%), 47-63 Hz. Computer cabinet 1/MPE 100/101/32/32/32/3240 V- (c10%), 47-63 Hz. Computer cabinet 1/MPE 100/101/32/32/3240 V- (c10%), 47-63 Hz. Computer cabinet 1/MPE 100/101/32/32/32/3240 V- (c10%), 47-63 Hz. Subjey pressure min. 6 bar, max. 1	Environmental requirements				
Ambient temperature 15 °C + 40 °C Temperature fluctuations per day in K/h 2.0 Temperature gradient spatial in K/m 2.0 Relative humidity 40 % to 70 % optional: up to 85 % in combination with an air conditioner on the computer/controller cabinet. Floor vibrations 2265 ContentAux is exploped with an active damping system and is therefore highly mesizent. Its early protein the immediate production envision analysis. Accountic pressure <100 d8 Requirements for operational readiness Data technology As an option, 2855 CenterMax is available with a computer cabinet. Here the required PC equipment can be addy protected from the immediate production environment. Electrical power rating Measuring machine and 1740°F 1001 101 157/201255232400 °- (£10%), 47-63 Hz. Mount of heat generates: max. 9000 k/h Complex cobinet 1740°F 1001 201 201 '- 257/32400 '- (£10%), 47-63 Hz. Mount of heat generates: max. 9000 k/h Complex cobinet 1740°F 100 1001 157/201 255/32400 '- (£10%), 47-63 Hz. Mount of heat generates: max. 9000 k/h Complex cobinet 1740°F 100 100 1201 201 '- (£10%), 47-63 Hz. Mount of heat generates: max. 9000 k/h Complex cobinet 1740°F 100 200 '- (£10%), 47-63 Hz. Mount of heat generates: max. 9000 k/h Complex cobinet 1740°F 100 200 '- (£10%), 47-63 Hz. Mount of heat generates: max. 90000 k/h<	Ambient temperature for operational readiness			8 °C - 40 °C	
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