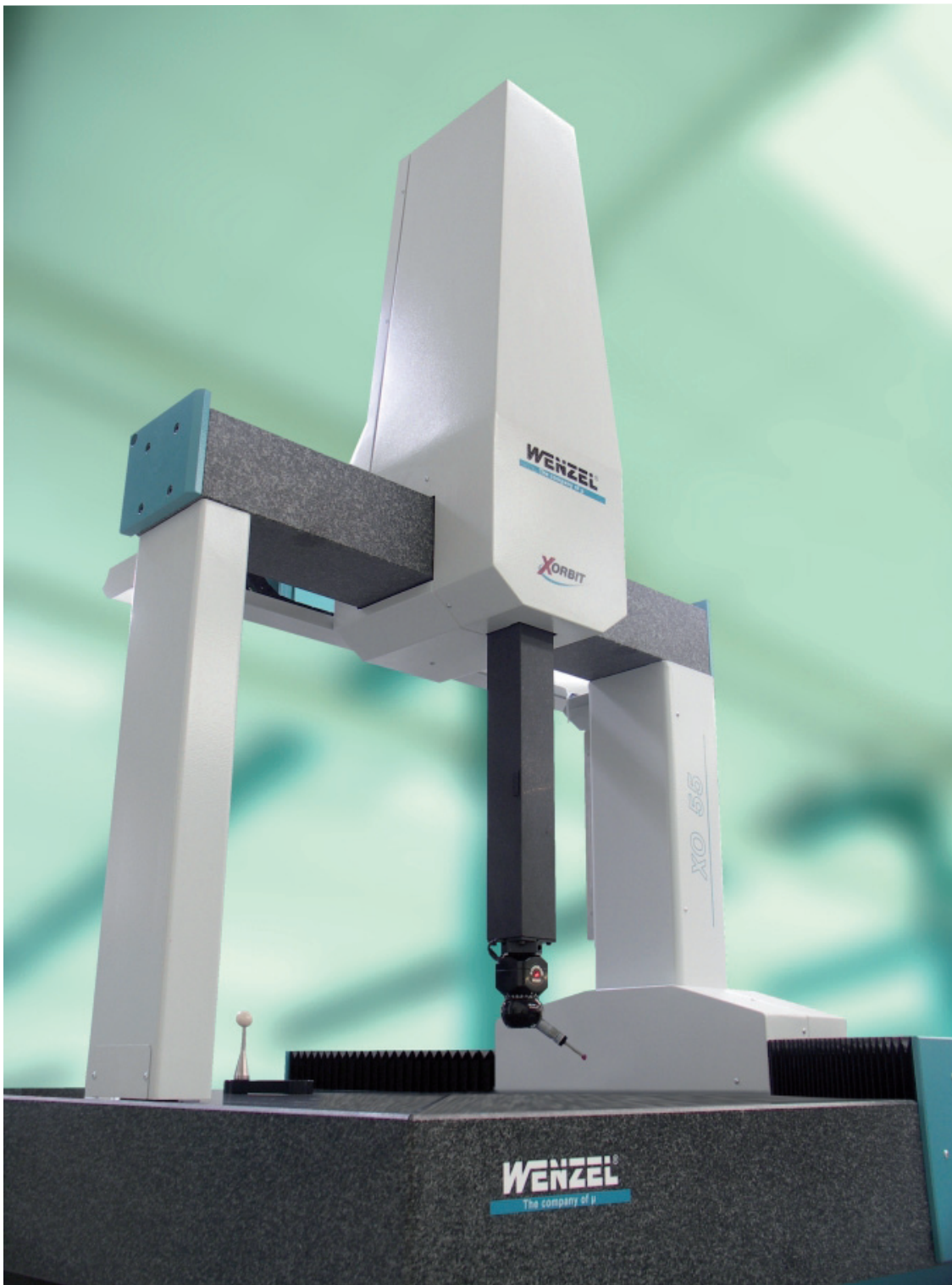


Co-ordinate Measuring Machine XOrbit 55, XOrbit 87 STANDARD-Models

Technical Data



Technical Data XOrbit 55 / XOrbit 87

Short description

- CNC-bridge design measuring machine with touch-trigger or scanning probe systems
- All granite guide-ways are accurately hand-lapped
- Compact design operator workstation, with integrated controller and computer
- CMM available in two sizes for the optimal selection of the required measurement volume

Application areas

- In production, receipt of goods and quality assurance
- Measurement of prismatic and free-form components
- Both series and individual measurements
- Palletised operation possible

Standard Features

- The Y-axis guide-way is machined directly in the base plate, providing optimal long-term stability
- Pre-stressed, encompassing air bearings in all axes
- Passive vibration dampers
- Compact HT 400 control panel with central, logarithmic joystick, „mouse function“ and context-sensitive function buttons. Selectable joystick's axis assignment
- The Y- guide-ways feature bellows protections against contamination
- High-speed-dynamic servo drives with position monitoring, combined friction power transmission
- Three-axis contouring controller with intelligent „look-ahead“ function for application-optimised trajectory
- Manual temperature compensation
- Two-stage speed selection and variable speed adjustment (override 0-100%) in all operation modes, resulting in sensitive movement via joystick or in CNC debugging

Probe systems

- Renishaw PH6M, compact probe head for 3D probe mounting
- Renishaw PH10M, PH10T, indexable probe heads featuring 720 repeatable positions in 7.5° steps
- TP20, touch-trigger probe. Stylus module changeable via optional tool changer
- TP200 touch-trigger probe, highly precise and suitable for styli up to 100 mm in length. Styli can be changed via optional tool changer
- SP25 scanning probe, ultra-precise and flexible for scanning and single-point probing
- SP80 scanning probe head, ultra-precise for probe lengths up to 500 mm
For scanning and single-point probing. Stylus combinations can be changed via optional tool changer

Software

- User-friendly Windows software Metrosoft CM for measuring and evaluating geometry and free-form elements (option)
- Graphic user interface featuring extensive automatism to support the User
- User dialog and reporting can be selected and switched on-line independently between 12 languages
- Graphically interactive on- and offline programming system „Grips“ for measurement program creation based on CAD data.
- Numeric and graphic reporting of the measured results
- Workpiece-oriented database, SQL-capable, with multi-user access, network capabilities
- Integrated statistic functions, frequency distribution, trend diagram, machine-capability Cm and Cmk, SPC control charts, process capability Cp and Cpk. Interface to QS-Stat
- Shape- and location tolerances according to ISO 1101 / ASME Y14.5M
- Context-sensitive on-line help in all 12 User languages

Options:

- Software package CM-Surf for measuring free-form surfaces
- CAD direct interfaces (e.g. CATIA V4/V5, Pro-E, Unigraphics, Parasolid)
- I++DME Server
- DMIS Import, DMIS Export, DMIS Reporting, DMIS Native Interpreter

Machine Type		XOrbit 55			XOrbit 87		
Measuring Ranges, Dimensions, Weights							
Measuring ranges	x	[mm]	500	500	800	800	
	y	[mm]	700	1000	1000	1500	
	z	[mm]	500	500	700	700	
Useable table surface		[mm]	800 x 1500	800 x 1850	1100 x 1840	1100 x 2340	
Machine weight		[kg]	1250	1450	2450	2850	
Permissible part weight		[kg]	300	300	800	1100	
General Requirements							
Electric		Single-phase AC, 1P+N+PE, 115/230V +/- 10%, 50/60 Hz, max. 1000 VA, acc. to EN 60204/1					
Compressed air		Supply pressure 6-10 bar, pre-filtered, quality according to ISO 8573-1: Class 4 or better					
Air consumption	(Nl/min)	Min. 70, higher consumption possible, depending on application					
Measuring Accuracy							
Measurement system		Photoelectric scale system, optical division 20µm, resolution 0,1 µm					
Probing uncertainty ¹	MPE _p [µm]	TP20 2,7	TP200 2,3	SP25/SP80 2,1	TP20 2,9	TP200 2,5	SP25/SP80 2,4
Volumetric length measuring uncertainty ²	MPE _E [µm]	TP20 2,7+L/300	TP200 2,3+L/300	SP25/SP80 2,1+L/300	TP20 2,9+L/300	TP200 2,5+L/300	SP25/SP80 2,4+L/300
Volumetric scanning probing uncertainty ³	MPE _{THP} [µm]	SP25/SP80 2,7			SP25/SP80 3,0		
Total measuring time for THP	MPT _{THP} [sec]	72			72		
Operating Environment							
Operating temperature		15°C - 30°C					
Temperature range for MPE _E		18°C - 22°C, ΔT 1K/h, 1K/m, 2K/d					
Relative humidity		40% - 70%					
Dynamics							
Joystick operation	V _{max}	0-20mm/s (creep mode), 0-100mm/s (normal)					
CNC mode	V _{max}	300mm/s axial, 520mm/s volumetric					
CNC mode	a _{max}	1200mm/s ² axis-related, 2000mm/s ² volumetric			900mm/s ² axis-related, 1500mm/s ² volumetric		

1: According to DIN EN ISO 10360-2 / Maximum Permissible Error MPE_p

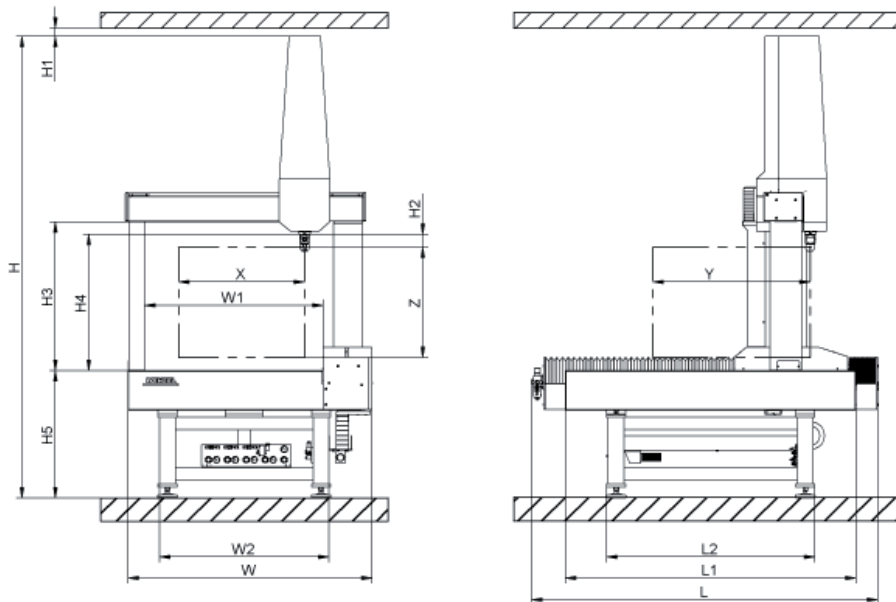
- SP25M with Module SM25-1 and Styli Ø 4 x 21 mm
- SP80 and Styli Ø 5 x 50 mm
- TP200 with Standard Force Module and Styli Ø 4 x 21 mm
- TP20 with Standard Force Module and Styli Ø 4 x 10 mm

2: According to DIN EN ISO 10360-2 / Maximum Permissible Error MPE_E

- SP25M with Module SM25-1 and Styli Ø 4 x 21 mm
- SP80 and Styli Ø 5 x 50 mm
- TP200 with Standard Force Module and Styli Ø 4 x 21 mm
- TP20 with Standard Force Module and Styli Ø 4 x 10 mm

3: According to DIN EN ISO 10360-4 / Maximum Permissible Error MPE_{THP}

- SP25M with Module SM 25-1 and Styli Ø 4 x 21 mm
- SP80 and Styli Ø 5 x 50 mm



Overall Dimensions

	XOrbit 55		XOrbit 87	
H	2505		2930	
W	1170		1550	
L	1600	1950	2200	2700
X	500		800	
Y	700	1000	1000	1500
Z	500		700	
H1	50		50	
H2 (PH 10 T)	80		80	
H3	740		950	
H4	650		865	
H5	800	790	800	800
W1	830		1130	
W2	930		1095	
L1	1500	1850	1840	2340
L2	1070	1420	1320	1720

All dimensions are millimetres

WENZEL Präzision GmbH
Tel: +49 6020 201-0

Werner-Wenzel-Straße
Fax: +49 6020 201-1999

D-97859 Wiesthal
info@wenzel-cmm.com