

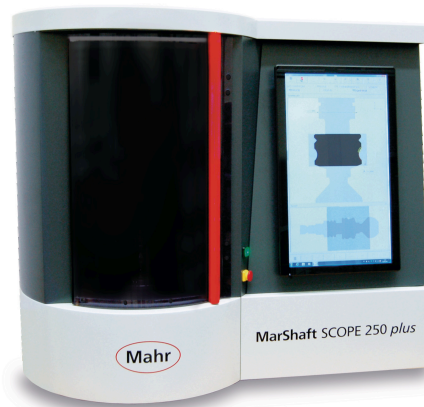
Product information

Optical shaft measuring devices MarShaft SCOPE 250 plus

Product features

The role of dimensional metrology is expanding at a dramatic rate, in parallel with innovations in manufacturing processes. Given the ever more stringent accuracy requirements and falling cycle times in production (turning, milling, grinding, etc.), rapid measurement directly at the manufacturing machine is absolutely essential. Measurement at the point of origin of the product, with rapid feedback to the manufacturing process to avoid waste. Mahr's flexible MarShaft SCOPE 250 plus shaft measuring machine offers the right measuring solution for the fast, precise and fully automatic measurement of rotationally symmetrical workpieces in production.

The MarShaft SCOPE 250 plus has a high precision roundness measuring axis (C) and a vertical measuring axis (Z) with a measuring range of 250 mm. At its heart is the state-of-the-art, high-resolution CMOS matrix camera (live image) with an image field of 1088 x 2048 mm. The extremely high image acquisition rate of over 120 images per second keeps measuring times to a minimum. Zoom functions allow the smallest details to be measured, which with conventional measuring methods are difficult if not impossible to test.



Item no.: **5361803**

Technical data

Positioning speed C-axis	0.2 - 60 1/min
Positioning speed Z-axis	0.5 - 200 mm/s
Measured value resolution Length	0.01 - 0.0001 mm
Measured value resolution diameter	0.01 - 0.0001 mm
Table load max.	5 kg
Error limit Length	$MPE \leq (3.0 + l/125) \mu\text{m}; "l" \text{ in mm}$
Error limit diameter	$MPE \leq (1.5 + d/40) \mu\text{m}; "d" \text{ in mm}$
Angular resolution	0.01 - 0.0001 °
Reference temperature	20 °C
Workpiece length max.	250 mm
Workpiece diameter max.	40 mm
Sensors	optical
Optical system	Telecentric precision optics with a large field of view
Camera system	CMOS matrix camera
Special equipment	Tailstock and high-precision C-axis
Measuring computer	SFF-PC (incl. Microsoft Windows 10 IoT LTSC)
Operating temperature	35 °C to 10 °C
Storage and transport temperature	50 °C to -10 °C
Sound pressure level	< 70 dB(A)
Permissible humidity	max. 90 %; non-condensing
Mains voltage	100 – 240 V
Mains frequency	50/60 Hz
Power consumption max.	500 W
Weight basic unit	120 kg
Transportation options	suitable for air freight
Scope of delivery	2 pieces 60° centering tips (2 – 15 mm)