

Product information

Optical-tactile devices with CNC table and tailstock Mar4D PLQ 4200-T4

Product features

• Speed:

- Extremely fast, mechanical-optical workpiece alignment by means of a fully automatic centering and tilting table in combination with the matrix camera
- Axis movements with a unique speed of up to 200 mm/s
- Very fast and high-resolution matrix camera with a large field of view of 15x10 mm (WxH) in effective combination with innovative probe systems
- Mahr T7W with motorized axis of rotation and thus fastest stylus change on the market or RENISHAW SP25M 3D scanning probe system
- Joint evaluation of all collected measurement data via MarWin

• Productivity:

- Workpieces that were not manufactured between tips are simply clamped in the chuck
- Many different measuring functions combined in one device
- Flexible workpieces with up to D=210 mm, L=450 mm and 20 kg measured directly in production next to the production machines
- Increased measuring capacities and reduced waiting time

• Precision:

- Compensation of eccentrics of several millimeters to 1 µm in less than 30 seconds
- Integrated environmental controls, such as active temperature compensation of the device, ensure consistent measurement quality and significantly reduce waste
- The motorized tailstock with clamping force monitoring prevents operator influences and increases the reproducibility of the measurement results

• User-friendliness:

- The ergonomic housing and interior design enables convenient and gentle operation for many hours
- Light curtains and interior monitoring protect people and measuring devices



Item no.: **5554204**

Technical data

Travel/measuring path X1 axis	200 mm
Travel/measuring path X2 axis	200 mm
Travel/measuring path Y-axis	40 mm
Pos.-/Meas. path Z-axis	450 mm
Positioning speed C-axis	0.2 - 60 1/min
Positioning speed X1 axis	0.5 - 200 mm/s
Positioning speed X2 axis	0.5 - 200 mm/s
Positioning speed Y-axis	0.5 - 50 mm/s
Positioning speed Z-axis	0.5 - 200 mm/s
Workpiece length max.	450 mm
Workpiece diameter max.	210 mm
Table load max.	20 kg
Error limit Length	$MPE \leq (2.4 + l/200) \mu\text{m}; 'l' \text{ in mm}$
Error limit diameter	$MPE \leq (1.3 + d/150) \mu\text{m}; 'd' \text{ in mm}$
Measured value resolution Length	0.01 - 0.0001 mm
Measured value resolution diameter	0.01 - 0.0001 mm
Angular resolution	0.01 - 0.0001 °
Reference temperature	20 °C
Sensors	optical tactile
Optical system	telecentric precision optics, image field approx. 15 x 10 mm (W x H)
Camera system	CMOS matrix camera
Probe system	Mahr T7W and/or RENISHAW SP25M
Special equipment	CNC table and motorized tailstock
Measuring computer	AIO PC or industrial AIO PC with UPS (each incl. Microsoft Windows 10 IoT LTSC)
Operating temperature	10 °C to 35 °C
Storage and transport temperature	5 °C to 60 °C
Sound pressure level	<75 dB(A)
Permissible humidity	max. 70 %; non-condensing
Mains voltage	90 – 240 V
Mains frequency	50/60 Hz
Power consumption max.	850 W

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- All devices are "robot-ready" and automation solutions, such as robot loading, can be implemented quickly and directly via our specialized MES department

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Transportation options	suitable for air freight
Scope of delivery	PC holder and two 60° centering tips (2 – 44 mm)