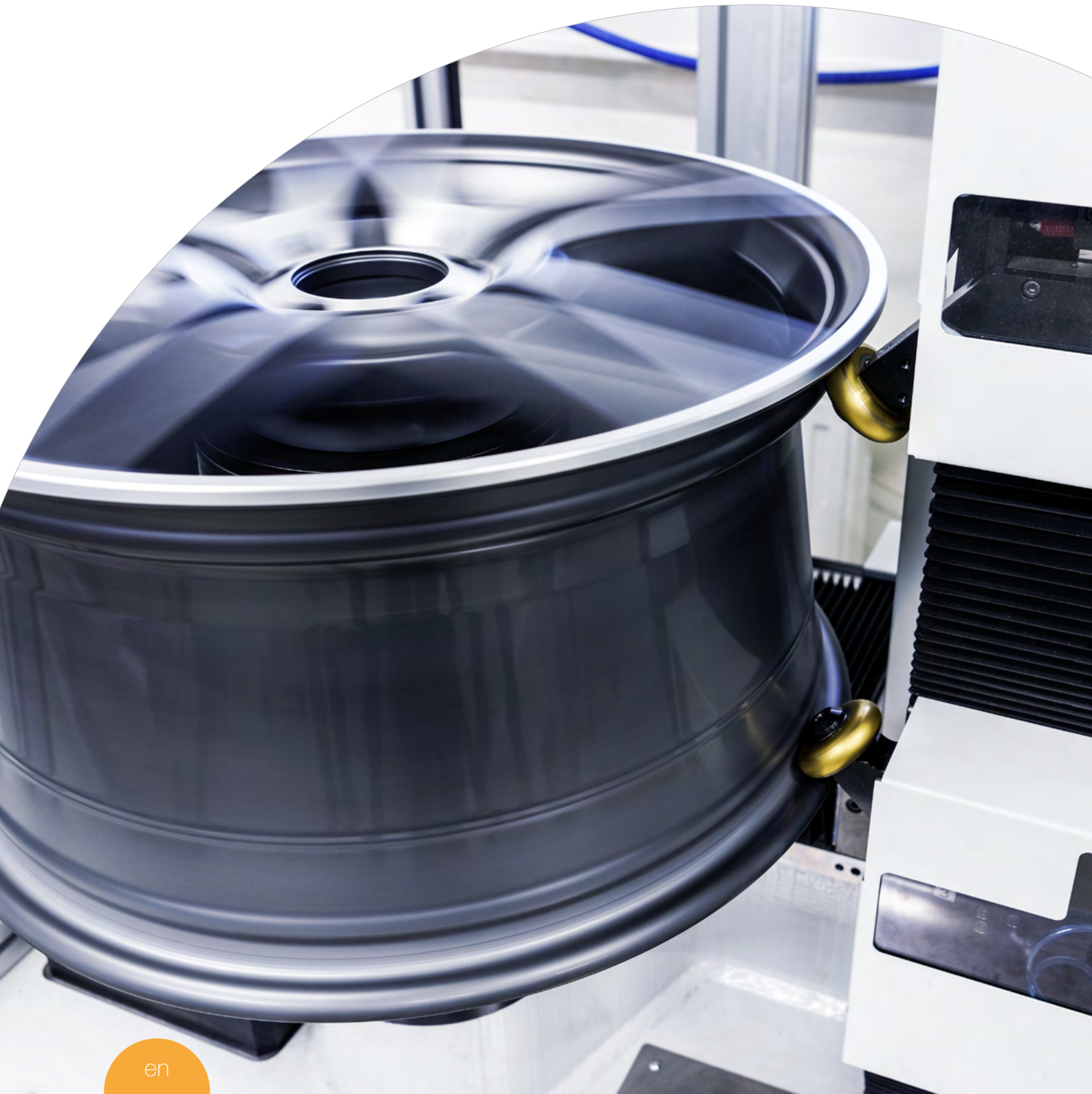


# EXA

Concentricity and runout test



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## Concentricity and runout test

**MAKRA measuring machines were developed to enable the simultaneous measurement of radial and axial runout on the outer and inner tire seat.**



## YOUR ADVANTAGES

- » Accurate clamping and high-precision measurement
- » Wide clamping range possible
- » User-friendly handling

# FEATURES

## Radial/axial runout

Simultaneous measurement of concentricity and runout.



## Match point

Automatic attachment of the match point (optional).



## Wall thickness

Minimum and maximum wall thickness measurement at three different heights and 360°.



## A-value

Precisely measurement of the A-value.



## Hump measurement

Precise measurement of the inner and outer hump.



# TECHNICAL DATA

Machine features	measured values on the wheel	radial and axial runout inside/outside rim width diameter of the tire seat calculation 1 – 6 harmonious and match point measurement/calculation concentricity & axial offset measurement of the center bore A-value measurement match point marking
Wheel parameters	wheel size wheel height	14 – 24" 5 – 14"
Performance characteristics	measuring accuracy center bore concentricity clamping measuring system linear scales measuring system inductive measuring probes	repeatability < 10 µm < 0.02 mm resolution: 0.001 mm resolution: 0.001 mm
Technical components	HMI control system input wheel parameters	via control panel industrial PC via control panel
Interfaces		Profibus
Media	electric connection  pneumatic connection	3 x 400 VAC, 50 Hz, 7.5 kW optional 3 x 480 VAC, 60 Hz, 9.5 kW at least 6 bar, class 4
Machine dimensions	L x W x H	1000 x 1600 x 1600 mm

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