

# R250 ROUNDNESS TESTER

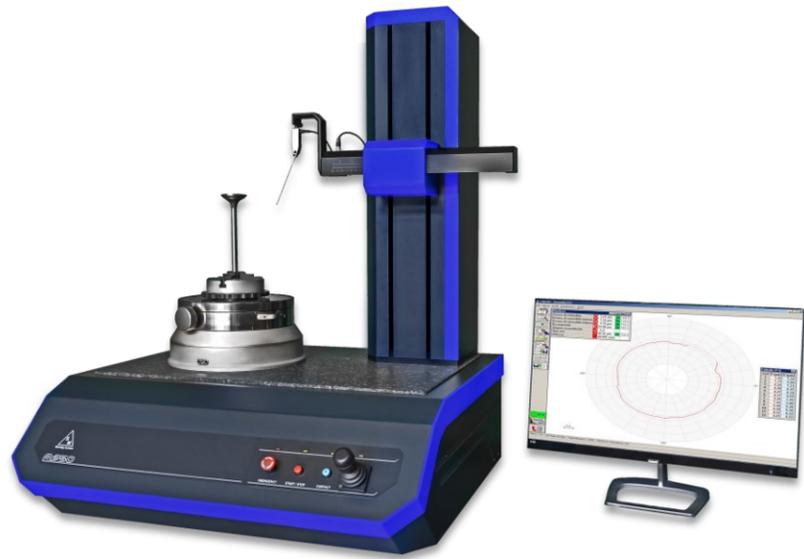
Measurement system for form errors



Pneumostatic table



USB connection



The R250 roundness tester arises from the need to characterize with extreme precision the details that also have circular geometries complex and represents the ideal tool to solve the multiple measurement needs in the mechanical, engine, aerospace and machine building.

Thanks to its solid structure guaranteed by a granite base and to the pneumostatic support table, it can measure even pieces of considerable weight while maintaining high accuracy.

The machine is combined with Circom software which was created to be extremely intuitive and easy to use, this allows the formation of an operator in a very short time with a significant reduction in training and consequently testing costs.

The software allows the analysis of the following geometric tolerances: roundness, straightness, cylindricity, taper, cone shape, concentricity, parallelism, coaxiality, run-out, total run out, thickness variation. For complex surfaces where there are interruptions, Circom is able to execute them automatically or it can be the operator who intervenes manually by removing those inconsistent profile sections.

Additional packages can be added to the basic module, such as harmonic analysis which, using the FFT algorithm, allows you to analyze every single sinusoidal component of the measured profile, which is essential in the field of bearings.

## 6-jaw precision chuck - code: 4.406



The 6-jaw chuck, essential for safely locking the pieces to be measured, also ensures high positioning repeatability, thus avoiding the operator having to check the centering of the piece at each measurement between one change and another.  
Useful closing diameters: internal MIN = 27 - MAX = 96 (mm); external MIN = 1,5 - MAX = 99,5 (mm)  
The simpler version of the chuck with only 3 jaws is also available (code 4.405).  
Useful closing diameters: internal MIN = 50 - MAX = 160 (mm); external MIN = 3 - MAX = 145 (mm)

## 400 mm table expansion - code: 4.401



For medium/large pieces, the expansion of the table guarantees correct support. Also useful for positioning all those pieces that require us to work in cantilever or with an off-axis rotation.

## SM Circom software for data analysis and FFT package - code: 4.407



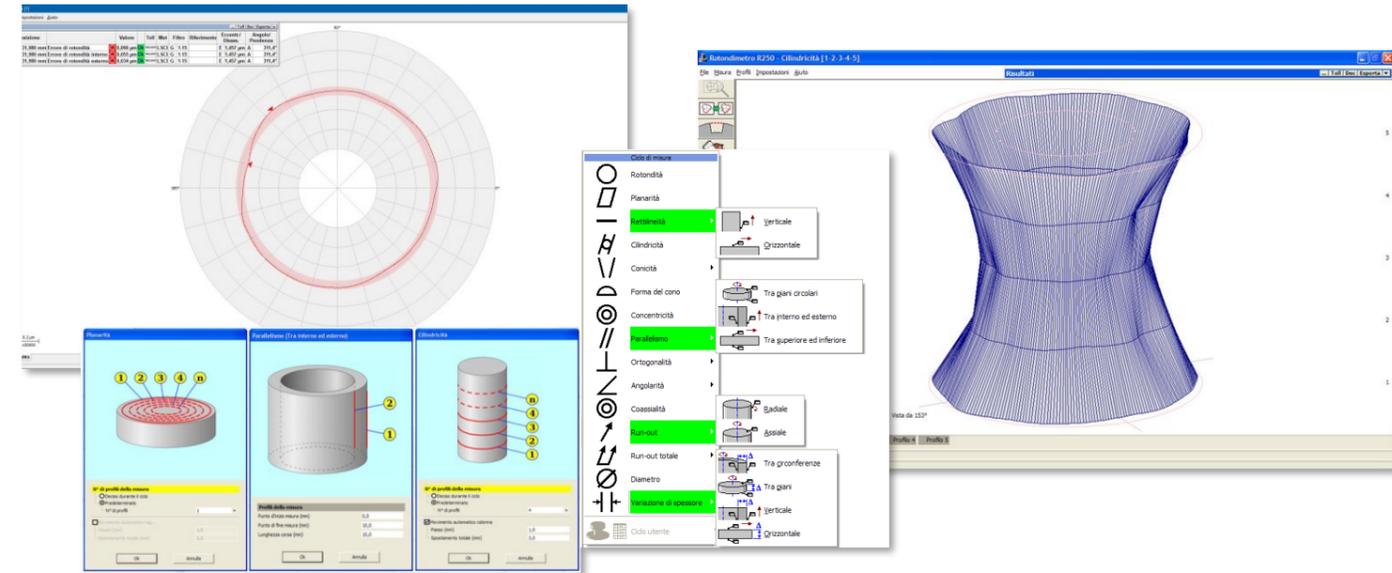
The Circom software analyzes all the measurement characteristics we need, including roundness, flatness, straightness, cylindricity, taper, cone shape, concentricity, parallelism, orthogonality, angularity, coaxiality, run-out, total run-out, thickness variation.  
In addition, a package for Fourier Analysis (FFT) of harmonics is available.

## Measurement tips and calibration standards



The R100 is supplied with a standard measuring probe.  
Among the accessories there are also different terminals for every measurement need, which are easily interchangeable thanks to the threaded coupling. Here are some examples:  
Code 4.300 Terminal L = 32 mm  
Code 4.301 Terminal L = 72 mm  
Code 4.302 Terminal L = 112 mm  
Code 4.303 T-shaped terminal L = 72 mm  
To keep the instrument's performance under control, calibration samples such as the flick (code: 6.201) and the ceramic hemisphere (code: 6.200) are available.

Circom Software



## Technical data and dimensions

<b>Product code:</b>	R250 CNC (code: 4.102)
<b>Axis C Table:</b>	Pneumostatic, table diameter 250 mm Maximum load 500 N Maximum measurable diameter 500 mm Centering and leveling: $\pm 3\text{mm} - \pm 2^\circ$ Roundness error: $<0.08 \mu\text{m}$
<b>Z axis Column:</b>	Useful stroke: 500 mm, motorized and measuring Straightness error over 400 mm: $0.8 \mu\text{m}$ Straightness error over 100 mm: $0.3 \mu\text{m}$ Measurement speed: 0.5-1-2mm / s Positioning speed: 0-15mm / s
<b>Axis R Arm:</b>	Useful stroke: 300 mm Motorized positioning Positioning speed: 0-15mm/s
<b>Calculable parameters:</b>	Roundness, flatness, straightness, cylindricity, taper, cone shape, concentricity, parallelism, orthogonality, angularity, coaxiality, run-out, total run-out, thickness variation, Fourier analysis.
<b>Probe:</b>	Bi-directional with impact protection - Measuring range: 0.6 mm - Resolution: 0.001 $\mu\text{m}$
<b>Dimensions:</b>	786 x 727 x 993 mm (L x P x H)
<b>Weight:</b>	280 kg
<b>Power supply:</b>	110-240 V ; 50-60 Hz

