R100 ROUNDNESS TESTER

Measurement system for form errors

Mechanical table

USB connection

Circom Software

Following an "all in one" logic, the R100 roundness tester is immediately operational with just a few operations and allows you to immediately characterize all the circular geometries, even complex ones, present on a particular.

The instrument is combined with the Circom software which was created to be extremely intuitive and easy to use, this allows the training 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, flatness, straightness, cylindricity, taper, cone shape, concentricity, parallelism, orthogonality, angularity, coaxiality, run-out, total run out, thickness variation.

For complex surfaces where there are interruptions, Circom is able to exclude 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 rolling 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)

250 mm table expansion - code: 4.400

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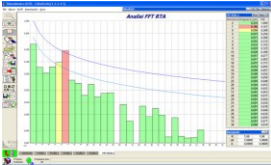
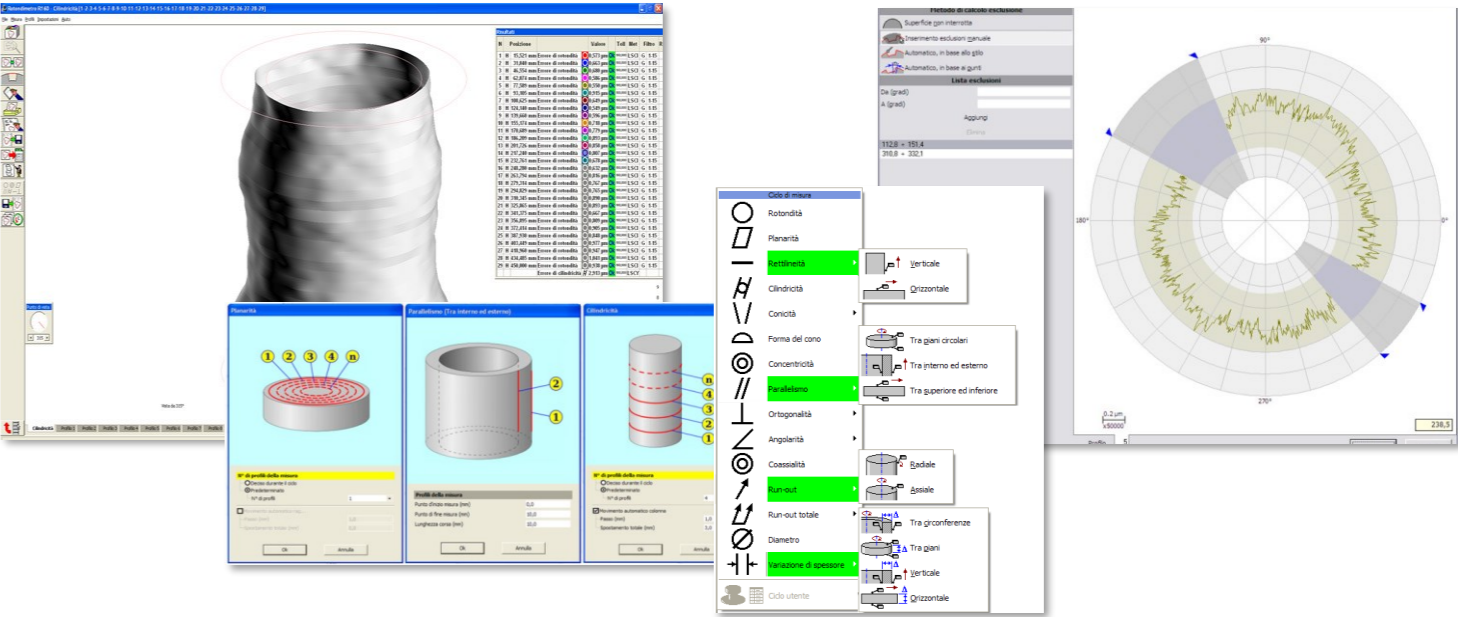### SM Circom software for data analysis and FFT package - code: 4.407

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.

Technical data and dimensions

Product code:	R100 CNC (code: 4.100)
Axis C Table:	Table diameter: 160 mm Maximum load: 200 N Maximum measurable diameter: 300 mm Centering and leveling: ± 3mm - ± 2 ° Roundness error: <0.08 µm
Z axis Column:	Useful stroke: 350 mm, motorized and measuring Straightness error over 300 mm: 0.8 µm Straightness error over 100 mm: 0.3 µm Measurement speed: 0.5-1-2mm / s Positioning speed: 0-15mm / s
Axis R Arm:	Useful stroke: 115 mm Motorized positioning Positioning speed: 0-15mm/s
Calculable parameters:	roundness, flatness, straightness, cylindricity, taper, cone shape, concentricity, parallelism, orthogonality, angularity, coaxiality, run-out, total run-out, thickness variation, Fourier analysis
Probe:	Bi-directional with impact protection - Measuring range: 0.6 mm - Resolution: 0.001 µm
Dimensions:	587 x 632 x 793 mm (L x P x H)
Weight:	105 kg
Power supply:	110-240 V ; 50-60 Hz