

# R300 ROUNDNESS TESTER

When size makes difference



Pneumostatic table



USB connection



The R300 roundness tester is at the top of the machines for the characterization of surfaces of revolution in the world panorama, born from the thirty years of experience that SM has in this field, it has been expressly designed for the measurement of bulky parts and the weight remarkable while maintaining very high accuracy.

The R300 has 3 metrological axes of measurement and positioning with pneumostatic support that guarantee smooth movements without friction and great rigidity of the entire system.

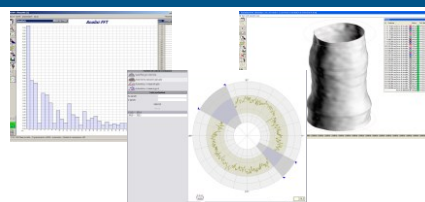
The leading application of the R300 is the characterization of large bearings where it is necessary to determine all those essential characteristics for the final quality of the product, including the camber and the angles of the raceways, which are measured by following the profile of the piece with movement of several axes at the same time, thus generating a very high useful measurement volume.

## Technical data

<b>Product code:</b>	<b>R300 (code: 4.100)</b>	
	Platform diameter:	450 mm
	Expansion diameter:	1200 mm
	Maximum measurable diameter:	1000 mm
	Axial lift:	1200 kg
<b>Axis C</b>	Radial Run-Out (at table level):	≤ 0,1 μm
<b>Pneumostatic table:</b>	Speed:	0,5 - 3 giri/min (measuring) 0 - 6 giri/min (positioning)
	Clutch:	Pneumostatic for manual rotation
	Centering range:	± 5 mm
	Leveling range:	± 1°
	Resolution:	0,1°
	Useful stroke:	500 mm
<b>Axis R</b>	Straightness:	≤ 0,5 μm on 500 mm
<b>Pneumostatic measuring arm:</b>	Speed:	0,2 - 10 mm/s
	Resolution:	0,1 μm
	Useful stroke:	500 mm
<b>Z axis</b>	Maximum reachable height:	600 mm (from table top)
<b>pneumostatic column:</b>	Straightness error:	≤ 0,5 μm su 500 mm
	Speed:	0,5 - 15 mm/s
	Resolution:	
<b>Probe:</b>	Measurement position:	In three positions (horizontal, vertical, lateral)
	Measuring force:	Internal /external 20 - 150 mN
	Measuring range:	± 1000 μm
<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>Power supply:</b>	110-240 V ; 50-60 Hz	

Table expansion for diameters up to 1200mm

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



# R500 ROUNDNESS TESTER

When size makes difference



Pneumostatic table



USB connection



The R500 roundness tester is at the top of the machines for the characterization of surfaces of revolution in the world panorama as regards the maximum dimensions of the object to be measured; born from the thirty years of experience that SM has in this field, it has been expressly designed for the measurement of large and heavy parts while maintaining very high accuracy.

The R500 has 3 metrological axes of measurement and positioning with pneumostatic support that guarantee smooth movements without friction and great rigidity of the entire system.

The leading application of the R500 is the characterization of parts in the energy sector (turbines, compressors, bearings) of large dimensions where it is necessary to determine all those essential characteristics for the final quality of the product.

Thanks to the motorized platform of the table, the centering of the piece takes place automatically through a selectable procedure from Circom software.

## Technical data

<b>Product code:</b>	<b>R500 (codice: 4.105)</b>
<b>Axis C</b>	Platform diameter: 650 mm
<b>Pneumostatic table:</b>	Expansion diameter: 1200 mm
	Maximum measurable diameter: 1300 mm
	Axial lift: 1500 kg
	Radial Run-Out (at table level): $\leq 0,1 \mu\text{m}$
	Speed: 0,25 - 3 giri/min (measuring) 0 - 6 giri/min (positioning)
	Clutch: Pneumostatic for manual rotation
	Centering range: $\pm 5 \text{ mm}$ with full automatic function
	Leveling range: $\pm 1^\circ$
	Resolution: $0,009^\circ$ (40k points / revolution)
<b>Axis R</b>	Useful stroke: 650 mm
<b>Pneumostatic measuring arm:</b>	Straightness: $\leq 0,5 \mu\text{m}$ on 500 mm
	Speed: 0,2 - 10 mm/s
	Resolution: $1 \mu\text{m}$
<b>Z axis</b>	Useful stroke: 900 mm
<b>pneumostatic column:</b>	Maximum reachable height: 600 mm (from table top)
	Straightness error: $\leq 0,5 \mu\text{m}$ su 500 mm
	Speed: 0,5 - 15 mm/s
	Resolution: $1 \mu\text{m}$
<b>Probe:</b>	Measurement position: In three positions (horizontal, vertical, lateral)
	Measuring force: Internal /external 20 - 150 mN
	Measuring range: $\pm 1000 \mu\text{m}$
<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>Power supply:</b>	110-240 V ; 50-60 Hz