RONDCOM NEX Rs

Dedicated catalog is available.

RONDCOM NEX Rs DX

High-Accuracy Roundness and Surface Texture Measurements

World's highest rotation accuracy of 0.02+3.2H/10000 µm contributes to production of highly accurate parts.

RONDCOM NEX Rs SD
*Equipped off-set typed CNC detecting holder with RONDCOM NEX Rs 300 system

Playing dual roles: Replacing a detector allows measuring surface texture and roundness (cylindricity/straightness)

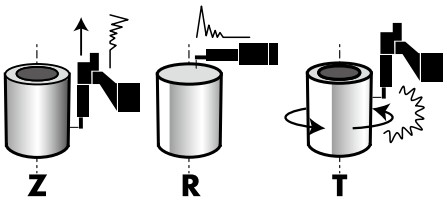
Typical machine arrangement is to equip a roundness measuring instrument to evaluate the roundness and a surface texture measuring instrument to evaluate the roughness. Respective instruments conduct functions from alignment through measurement/ analysis specialized in each instrument purpose.
RONDCOM NEX Rs plays a role of both measurements of roundness and roughness, and the distinction contributes to the extreme reduction of installation space and cost, and the maximization of working efficiency.

Roughness Measurement for Workpieces with Axial or Rotary Shape

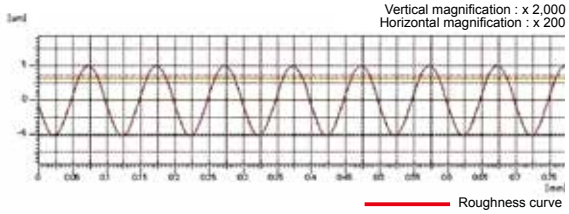
The platform of a roundness measuring instrument basis allows utilizing the automatic centering function for the roundness measurement, and the function saves time for positioning the ridgeline for roughness measurement in axes.
Furthermore, the full automatic measurement feature supported by CNC specification enables the consecutive roughness measurements on circumference, on edge face, and so on.
The instrument functions as a common roughness measuring instrument by placing a workpiece on the tilt cross table, R-axis playing a role of X-axis in a roughness measuring instrument.

High-Accuracy Roughness Measurement (Conformity to JIS/ ISO)

Achieve high accuracy roughness measurement in Z-axis, R-axis and T-axis.

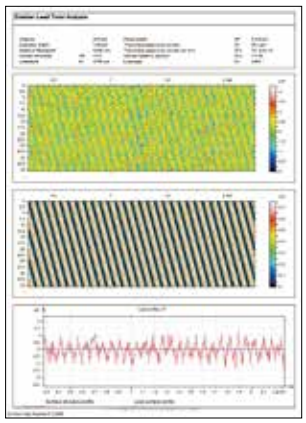


Measurement example)
R axis direct operated roughness measurement (roughness specimen)



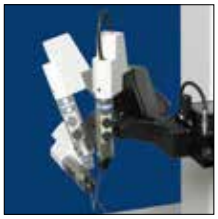
Lead-Twist Measurement (Option)

Measure the periodic and fine twist structure on a cylindrical shaft.
Visualization of twist structure enables easy analysis.



Offset type CNC detector holder (Optional)

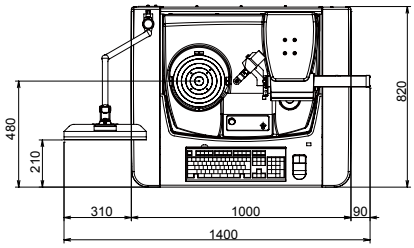
*** Standard equipment with RONDCOM NEX Rs 300 system**

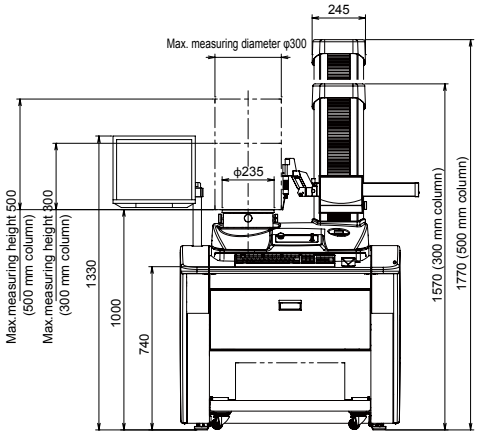


Automatic control feature allows controlling the detector position at inner/outer, upper/lower and taper face.
Holding both manual and CNC holders eliminates the necessity of a holder for maintenance purpose and suppresses the cost.

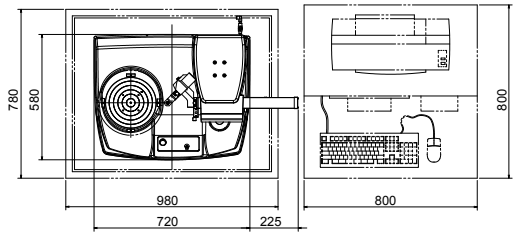
External view

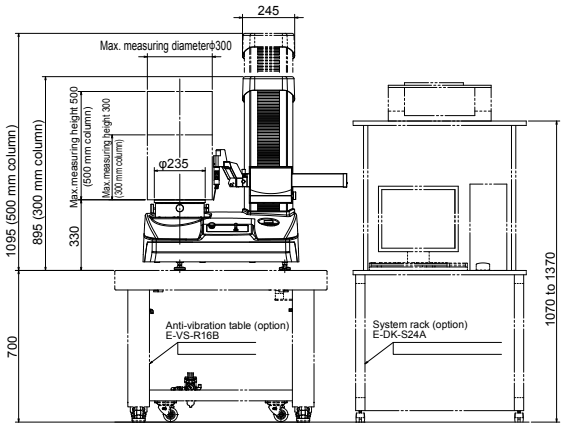
RONDCOM NEX Rs DX





RONDCOM NEX Rs SD





Specifications

Model			RONDCOM NEX Rs			
			DX		SD	
			11	12	11	12
Measuring system			CNC and manual			
Measuring range	Max. measuring diameter		OD: Φ 300 mm, ID: Φ 360 mm			
	Right/left feed range (R-axis)		180 mm			
	Up/down feed range (Z-axis)		300 mm	500 mm	300 mm	500 mm
	Max. loading diameter		Φ 580 mm			
	Max. measuring height		300 mm	500 mm	300 mm	500 mm
	Depth of measurement (height of bosom)		150 mm (Limited by size of measuring diameter and combination of detector and stylus)			
Rotation accuracy	Radial direction JIS B 7451-1997		(0.02+3.2 H/10,000)μm (H: Height from table top to measuring point mm)			
	Axis direction JIS B 7451-1997		(0.02+3.2 R/10,000)μm (R: Distance from the table rotation center mm)			
Straightness accuracy	Up/down direction (Z-axis)	Narrow range	0.10 μm/100 mm			
		Wide range	0.15 μm/300 mm	0.23 μm/500 mm	0.15 μm/300 mm	0.23 μm/500 mm
	Radial direction (R-axis)		0.7 μm/180 mm			
Parallelism accuracy	Up/down direction (Z-axis)		0.7 μm/300 mm	1.0 μm/500 mm	0.7 μm/300 mm	1.0 μm/500 mm
	Radial direction (R-axis)		1.0 μm/150 mm			
Measurement speed	Rotational speed (θ-axis)		1 to 10/min(At moving: Max20/min) 0.01 to 1 /min(Roughness measurement)			
	At auto centering/tilting		2, 4, 6, 10, 20/min			
	Up/down speed (Z-axis)		0.5 to 10 mm/s(At moving: Max60 mm/s) 0.1 to 1.5 mm/s(Roughness measurement)			
	Radial direction speed (R-axis)		0.5 to 10 mm/s(At moving: Max25 mm/s) 0.1 to 1.5 mm/s(Roughness measurement)			
Auto stop accuracy	Z-axis/R-axis		±5 μm			
Rotary table	Table outside diameter		Φ 235 mm			
	Adjustment range of centering/tilting		±5 mm/±1°			
	Load		30 kg			
Detector	Measuring force		30 to 100 mN(steplessly variable)			
	Stylus shape		Φ 1.6 mm carbide ball, Length: 53 mm			
Number of sampling			14,400 points/rotation			
Type of filter	Digital filter		Gaussian/2RC/Spline/Robust (Spline)			
Measuring range			±1000 μm, ±200 μm			
Cutoff value	Rotational direction (θ-axis)	Low pass	15, 50, 150, 500, 1500 peaks/rotation, settable any value in range 15 to 1500 peaks/rotation			
		Band pass	1 to 1500 peaks/rotation			
	Rectilinear direction (Z-axis)	Low pass	0.025, 0.08, 0.25, 0.8, 2.5, 8 mm (any value in 0.0001 mm units)			
Roundness evaluation of form error			MZC (min. zone circle method), LSC (least square circle method), MIC (max. inscribed circle method), MCC (min. circumscribed circle method), N.C. (no compensation),MULTI (multiple setting)			
Measuring items	Rotational direction		Roundness, flatness, flatness (compound), parallelism, concentricity, coaxiality, cylindricity, diameter deviation, squareness, thickness variation, run-out, radius measurement, partial circle			
	Rectilinear direction		Straightness (Z), straightness (R), cylindricity, squareness, parallelism, diameter deviation, axis straightness			
Analysis processing functions			Notch function (level, angle, cursor), combination of roundness evaluation methods, nominal value collation, cylinder 3D profile display (line drawing, shading, contour line), real-time display, profile characteristic graph display (bearing area curve, amplitude distribution function, power spectrum), CNC full automatic measuring function, wide range function, automatic centering/tilting adjustment function			
Special functions			Offset type detector holder 100 system (standard equipment) Offset type detector holder 200/300 system (standard equipment)			
Display (color monitor)			17" LCD			
Display items			Measuring conditions, measuring parameters, comments, printer output conditions, profile graphics (expansion plan, 3D plan), error messages, etc.			
Recording system			color printer			
Other	Power supply (Voltage to be specified), frequency		AC100 to 240 V ±10%, 50/60 Hz (grounding required)			
	Power consumption		Approx. 460 VA (except printer)			
	Air supply	Supply pressure	0.35 to 0.7 MPa			
		Working pressure	0.3 MPa			
		Air consumption volume	30 NL/min			
		Air supply connecting nipple to main unit	One-touch pipe joint for outer diameter Φ 8 mm hose			
	Installation dimensions (W x D x H) mm		1400×820×1570	1400×820×1770	720×580×895	720×580×1095
	Weight (except options)		330 kg	340 kg	180 kg	190 kg