



RONDCOM NEX

Dedicated catalog is available.

* Contact the sales representative for the data processing software.

Top class high accuracy roundness cylindrical profile measuring instrument



RONDCOM NEX DX



RONDCOM NEX SD

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

Rotation accuracy (0.02 + 3.2 H/10000) μm

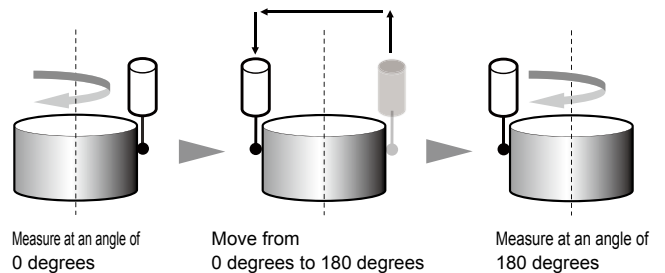
Equipped with full new function and meets a need of machined parts high accuracy measurement. It is a top class high accuracy roundness cylindrical profile measuring instrument.

Opposed diameter measuring function **patented**

Superior feature to measure inner/ outer diameter with high repeatability. Measure a workpiece at angles of 0 and 180 degrees on the table. The evaluation algorithm implemented as the standard to correct the errors by temperature change and generatrix line shifting, performs highly-precise diameter measurement.



Example of the measurement



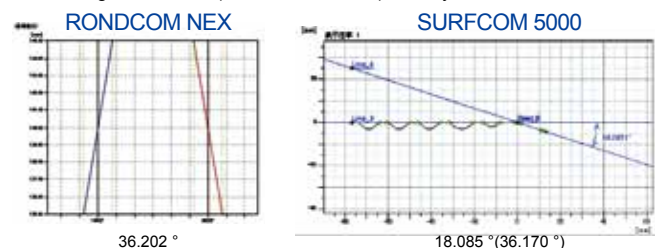
R-axis taper following function

The straightness of tapered surface can be measured by the function. Taper angle and straightness can be measured even if it excess the range of the detector.



Example of the measurement

Comparison of the measurement results, by the high accuracy contour measuring instrument (SURFCOM 5000) and by RONDCOM NEX.



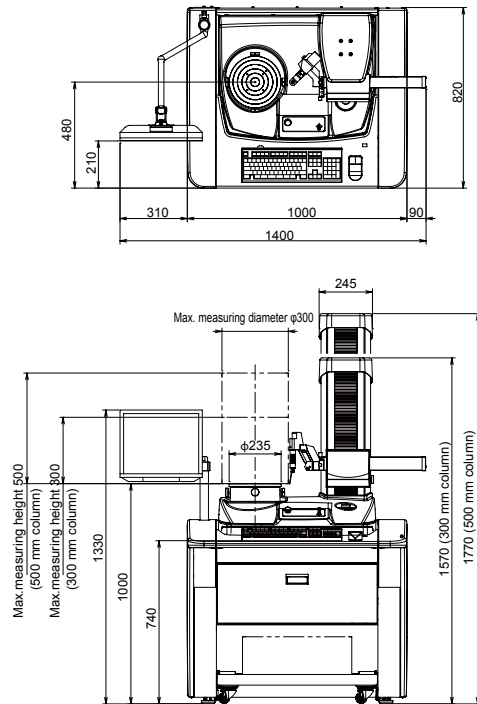
Offset type CNC and manual detector holder patented

*Standard accessory for RONDCOM NEX 300 system

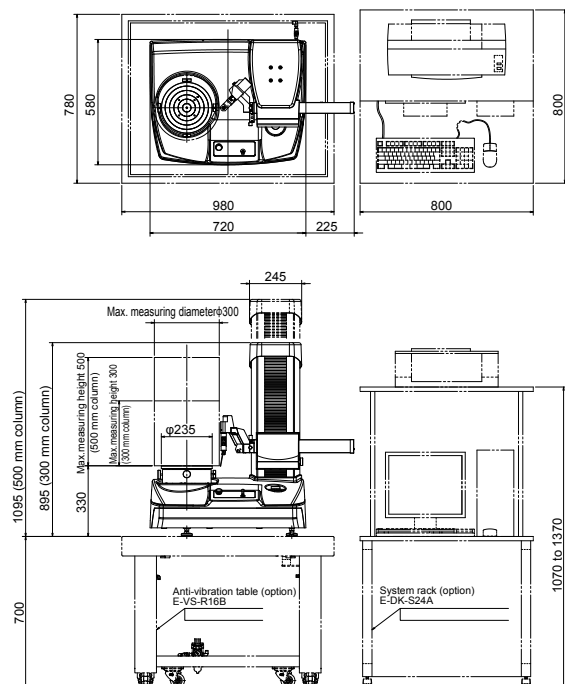
Mechanism for measuring wide variety of workpieces without interfering with R-axis is equipped, as a standard. This function (manual type) provided to NEX100 system enables to measure outer diameter and flatness on upper face by tilting the folder. CNC type detector equipped in NEX200/300 provides the fully automated detector position control to switch the inner/outer diameters, upper/lower faces, taper face etc. for enhancing extremely the measurement efficiency.

External view

RONDCOM NEX DX



RONDCOM NEX SD



Specifications

Model		RONDCOM NEX			
		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
Rotation accuracy	Depth of measurement (height of bosom)	150 mm (Limited by size of measuring diameter and combination of detector and stylus)			
	Radial direction JIS B 7451-1997	$(0.02+3.2 H/10,000)\mu\text{m}$ (H: Height from table top to measuring point mm)			
	Axis direction JIS B 7451-1997	$(0.02+3.2 R/10,000)\mu\text{m}$ (R: Distance from the table rotation center mm)			
Straightness accuracy	Up/down direction (Z-axis)	Narrow range	0.10 $\mu\text{m}/100$ mm		
		Wide range	0.15 $\mu\text{m}/300$ mm	0.23 $\mu\text{m}/500$ mm	0.15 $\mu\text{m}/300$ mm
Parallelism accuracy	Radial direction (R-axis)	0.7 $\mu\text{m}/180$ mm			
	Up/down direction (Z-axis)	0.7 $\mu\text{m}/300$ mm	1.0 $\mu\text{m}/500$ mm	0.7 $\mu\text{m}/300$ mm	1.0 $\mu\text{m}/500$ 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)			
Auto stop accuracy	Radial direction speed (R-axis)	0.5 to 10 mm/s (At moving: Max30 mm/s)			
	Z-axis/R-axis	± 5 μm			
Rotary table	Table outside diameter	Φ 235 mm			
	Adjustment range of centering/tilting	± 5 mm/ $\pm 1^\circ$			
	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		
Roundness evaluation of form error	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)		
		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 $\pm 10\%$, 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	1400x820x1570	1400x820x1770	720x580x895	720x580x1095	
Weight (except options)	330 kg	340 kg	180 kg	190 kg	