



RONDCOM NEX

Dedicated catalog is available.

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

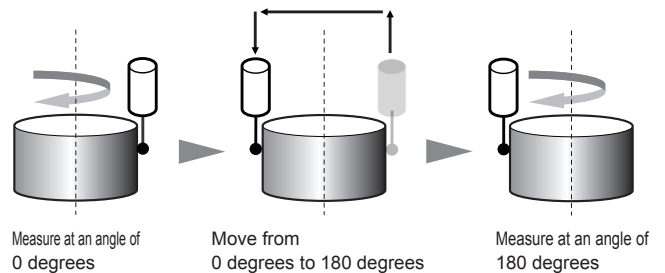
Equipped with full new function and meets a need of machined parts high accuracy measurement. It is a top class high accuracy roundness cylindrical profile measuring instrument.

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*

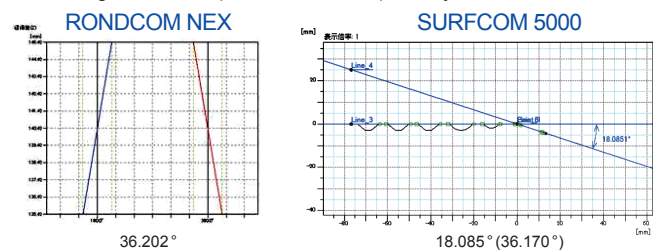
The straightness of tapered surface can be measured by the function. Taper angle and straightness can be measured even if it excess the range of the detector.

*Taper angle may have an impact on the measurement accuracy at straightness. Contact us for details.



Example of the measurement

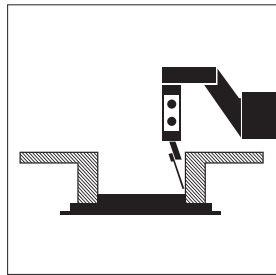
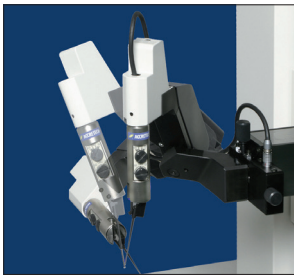
Comparison of the measurement results, by the high accuracy contour measuring instrument (SURFCOM 5000) and by RONDCOM NEX.



Offset CNC detector holder **patented**

RONDCOM NEX 300 system standard accessory

A mechanism enabling the measurement of various shapes of workpieces without interference with the R axis is provided as a standard feature. The manual type, which is mounted on the NEX100/200 systems, features an easy operation that switches between outer diameter measurement and plane measurement of the top surface only by pushing down the holder. The CNC type, which is mounted on the NEX 300 system, can control the detector posture fully automatically for the measurement of inner and outer diameters, top and bottom surfaces and tapered surface, etc., and significantly improves the measurement efficiency. Since the detectors of the manual type holder and the CNC type holder are common, if you have both, you do not need to keep a spare detector for maintenance, which results in cost reduction.



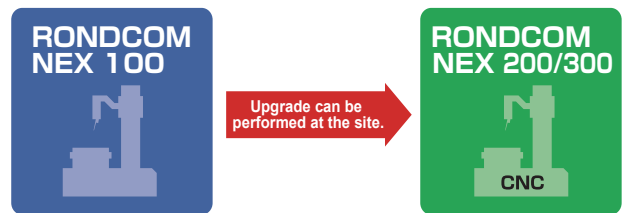
CNC upgrade available

To meet the needs of many users, it is now possible to upgrade a manual machine to a CNC machine. The CNC conversion is amazingly easy and makes no change to the installation space. If you have installed a manual machine because only a small quantity of workpieces had to be measured, the machine can be upgraded in the same space whenever necessary.

● Conventional measuring instrument



● RONDCOM NEX 100 and NEX 200/300 series



Automatic lubrication function mounted on Z-axis column

Almost maintenance-free by automatic lubrication to column.

Weight saving and high rigidity by employing ceramics for R-axis arm

The linear expansion coefficient of ceramic is smaller and weighs half of iron but the material is harder. Its weight is reduced but higher in rigidity and additionally it is hardly affected by changes in environmental temperature.



Full-covered main body and column

Minimization of effect of disturbance from air-conditioner and others by functional design.

ACCTee Integrated Analysis Software

Innovative approach to measurement with new concept All-in-one software for measurement and analysis based on electronic form system.

Rust proof by adopting SUS table

Adopting SUS for the table frees from rust. Unnecessity of oil coating, Maintenance-free.

Extension of centering stroke

Extend the centering stroke to ± 5 mm by extending the table diameter to $\Phi 235$ mm.

Spiral cylindricity measuring function

Spiral cylindricity measurement by combining table rotation with rectilinear movement. Unnecessity of Z positioning saves 30% of cylindricity measurement time compared to conventional manner.

Equipped optical linear scale in Z-axis column

In case of measurement using tilt adjusting function, it is not necessary to set up the measuring height.

Storage part for PC

Printer

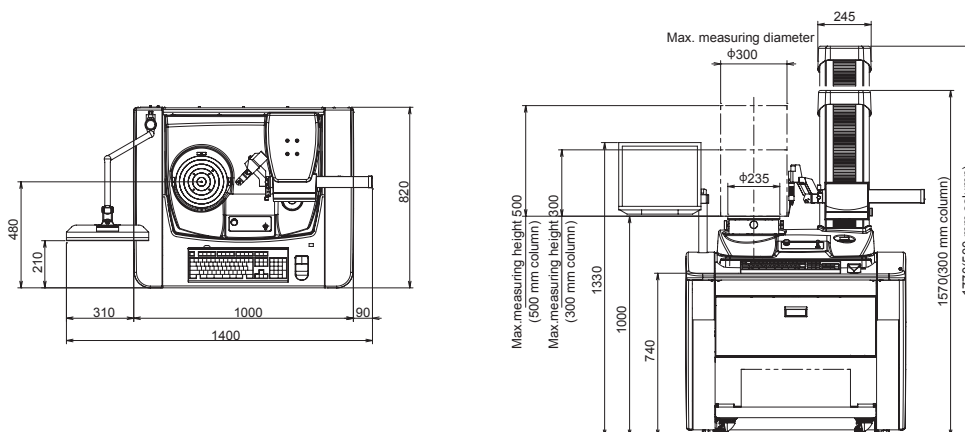
With drawer mechanism.



RONDCOM NEX DX type

RONDCOM NEX Series External View (common with NEX Rs)

DX



RONDCOM NEX/NEX α Specification

Hardware

Item		Model	RONDCOM NEX (-11, -12) RONDCOM NEX α (-21, -22)												
			100				200				300				
			SD		DX		SD		DX		SD		DX		
Model*1			11	12	11	12	11	12	11	12	11	12	11	12	
Alignment			21	22	21	22	21	22	21	22	21	22	21	22	
Offset type detector holder			Manual				CNC				CNC				
Measuring range		Max. measuring diameter (mm)	Outer diameter: Φ 300 (Φ 350)*4 Inner diameter: Φ 360 (Φ 410)*4								Outer diameter: Φ 300 Inner diameter: Φ 360				
		Radial feed range (R-axis) (mm)	180												
		Up/downward feed range (Z-axis) (mm)	300	500	300	500	300	500	300	500	300	500	300	500	
		Max. loading diameter (mm)	Φ 580												
		Max. measuring height (mm)	300	500	300	500	300	500	300	500	300	500	300	500	
		Max. measuring depth (mm)	150 *2												
Accuracy		Rotational accuracy *3	Radial direction (μm)	(0.02 + 3.2H/10000)											
			Axial direction (μm)	(0.02 + 3.2R/10000)											
		Straightness accuracy	Vertical direction (Z-axis) (μm/mm)	0.15 /300	0.23 /500	0.15 /300	0.23 /500	0.15 /300	0.23 /500	0.15 /300	0.23 /500	0.15 /300	0.23 /500	0.15 /300	0.23 /500
			Radial direction (R-axis) (μm/mm)	0.10/100											
		Flatness accuracy	Z-axis/T-axis (μm/mm)	0.7 /300	1.0 /500	0.7 /300	1.0 /500	0.7 /300	1.0 /500	0.7 /300	1.0 /500	0.7 /300	1.0 /500	0.7 /300	1.0 /500
		Squareness accuracy	R-axis/T-axis (μm/mm)	1.0/150											
Scale indication accuracy	R-axis (μm)	(0.5 + L/180 + 2L ΔT/100) L = travel distance (mm) ΔT: temperature difference between standard condition (20°C) and environmental temperature (°C).													
Speed		Measuring speed	Rotational speed (θ-axis) (/min)	1 to 10											
			Up/downward speed (Z-axis) (mm/s)	0.5 to 10											
			Radial direction speed (R-axis) (mm/s)	0.5 to 10											
		Movement speed	Rotational speed (θ-axis) (/min)	max. 20											
			Up/downward speed (Z-axis) (mm/s)	5 to 60											
			Radial direction speed (R-axis) (mm/s)	5 to 30											
Table		Table diameter (mm)	Φ 235												
		Centering range (mm)	±5												
		Tilting range (°)	±1												
		Max. loading mass	NEX (kg)	30											
			NEX α (kg)	60											
Detector/ stylus		Detector E-DT-R120B (standard accessory)	Measuring force (mN)	30 to 100											
			Rectilinear range (μm)	±1000											
			Functions	Inner/outer diameter switching function, front/over travel function, safety stop function											
		Stylus EM46000-S302 (standard accessory)	Stylus ball diameter (mm)	Φ 1.6											
			Stylus ball material	Cemented carbide											

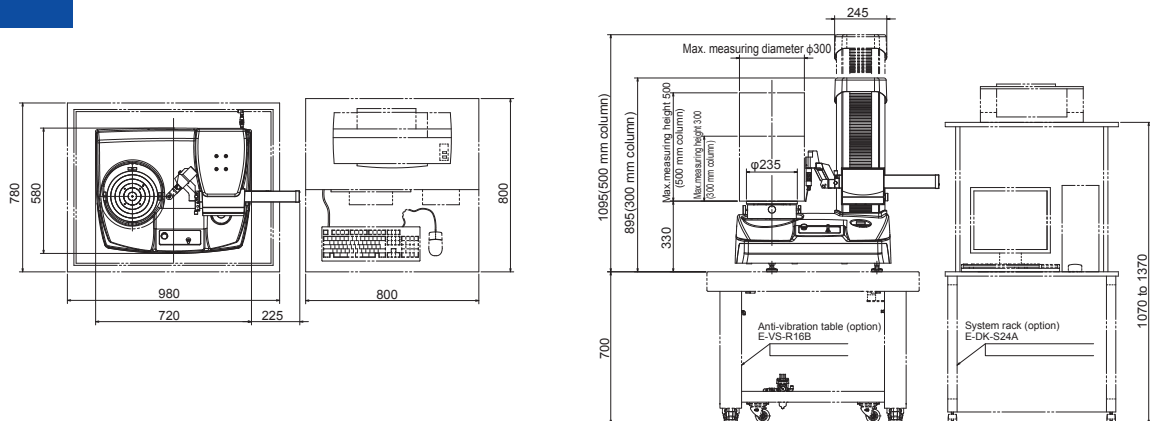
*1 NEX-11 (Max. loading mass 30 kg, 300 mm column), NEX-12 (Max. loading mass 30 kg, 500 mm column)

NEX α-21 (Max. loading mass 60 kg, 300 mm column), NEX α-22 (Max. loading mass 60 kg, 500 mm column)

*2 Please contact our sale personnel as there may be limitations due to the measurement diameter, and the combination of detector and stylus.

*3 JIS B 7451-1997 compliant. H is the height of the measurement point from the upper surface of the table in mm, and R is the distance from the rotational center of the table in mm.

*4 When using measurement diameter extension offset-type detector holder E-DH-RB86A (optional)

SD

Software

Items		Model	RONDCOM NEX (-11, -12) RONDCOM NEX α (-21, -22)											
			100				200				300			
			SD		DX		SD		DX		SD		DX	
Model*1			11	12	11	12	11	12	11	12	11	12	11	12
			21	22	21	22	21	22	21	22	21	22	21	22
Number of sampling		(point)	14400											
Filter type		Digital filter	Gaussian, 2RC, Spline, Robust (spline)											
Cutoff value	Rotational direction (θ-axis)	Lowpass	15, 50, 150, 500, 1500 peaks/rotation, settable any value in range 15 to 1500 peak/rotation											
		Bandpass	1 to 1500 peaks/rotation											
	Rectilinear direction (Z-axis)	Lowpass	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)											
Measuring items	Rotational direction		Roundness, flatness, flatness (compound), parallelism, concentricity, coaxiality, cylindricity, diameter deviation, squareness, thickness variation, run-out, partial circle											
	Rectilinear direction		Straightness (Z), straightness (R), axis straightness, diameter deviation, cylindricity, squareness, parallelism											
Analysis processing function			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 automatic measuring function, automatic centering/tilting adjustment function (except for NEX 100 and NEX α 100)											
Display items			Measuring conditions, measuring parameters, comments, printer output conditions, profile graphics (expansion plan, 3D plan), error messages, etc.											

Specification

Installation dimensions	Width	(mm)	720		1400		720		1400		720		1400		
	Depth	(mm)	580		820		580		820		580		820		
	Height	NEX	(mm)	895	1095	1570	1770	895	1095	1570	1770	895	1095	1570	1770
NEX α		(mm)	900	1100	1570	1770	900	1100	1570	1770	900	1100	1570	1770	
Main unit weight	NEX	Measurement unit	(kg)	Approx. 170	Approx. 180	Approx. 330	Approx. 340	Approx. 170	Approx. 180	Approx. 330	Approx. 340	Approx. 170	Approx. 180	Approx. 330	Approx. 340
		Data processing unit	(kg)	Approx. 10		Approx. 10		Approx. 10		Approx. 10		Approx. 10		Approx. 10	
	NEX α	Measurement unit	(kg)	Approx. 190	Approx. 200	Approx. 350	Approx. 360	Approx. 190	Approx. 200	Approx. 350	Approx. 360	Approx. 190	Approx. 200	Approx. 350	Approx. 360
		Data processing unit	(kg)	Approx. 10		Approx. 10		Approx. 10		Approx. 10		Approx. 10		Approx. 10	
Power	Power supply/frequency (V, Hz)		AC100 to 240, 50/60 (grounding required)												
	Power consumption (VA)		Approx. 530												
Air supply	Supply pressure	NEX	(MPa)	0.35 to 0.7											
		NEX α	(MPa)	0.45 to 0.7											
	Working air pressure	NEX	(MPa)	0.3											
		NEX α	(MPa)	0.4											
	Air consumption	NEX	(NL/min)	30											
NEX α		(NL/min)	40												
Air supply connecting nipple (main unit)		One touch pipe joint for outer diameter Φ 8 hose													
Operating environment	Operating temperature range (°C)		10 to 30												
	Guaranteed accuracy temperature range (°C)		20±2												