



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

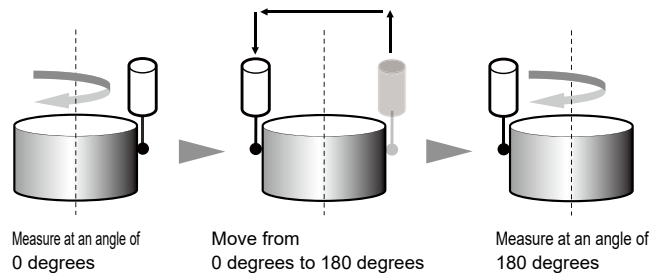
Equipped with full new function and meets a need of machined parts high accuracy measurement. It is a top class high accuracy roundness cylindrical profile measuring instrument.

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*

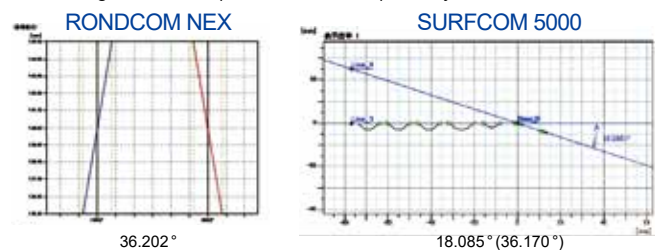
The straightness of tapered surface can be measured by the function. Taper angle and straightness can be measured even if it excess the range of the detector.

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



Example of the measurement

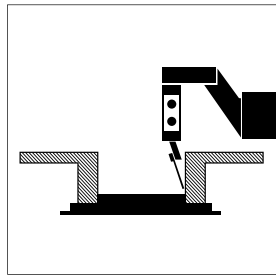
Comparison of the measurement results, by the high accuracy contour measuring instrument (SURFCOM 5000) and by RONDCOM NEX.



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

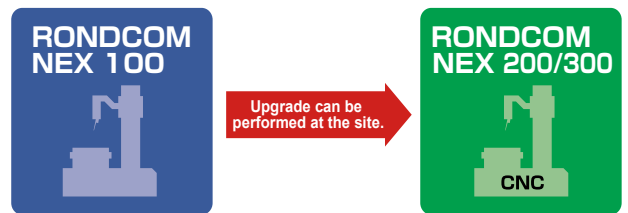
To meet the needs of many users, it is now possible to upgrade a manual machine to a CNC machine. The CNC conversion is amazingly easy and makes no change to the installation space. If you have installed a manual machine because only a small quantity of workpieces had to be measured, the machine can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

*Excepts RONDCOM NEX Rs sries and α sries.

● 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

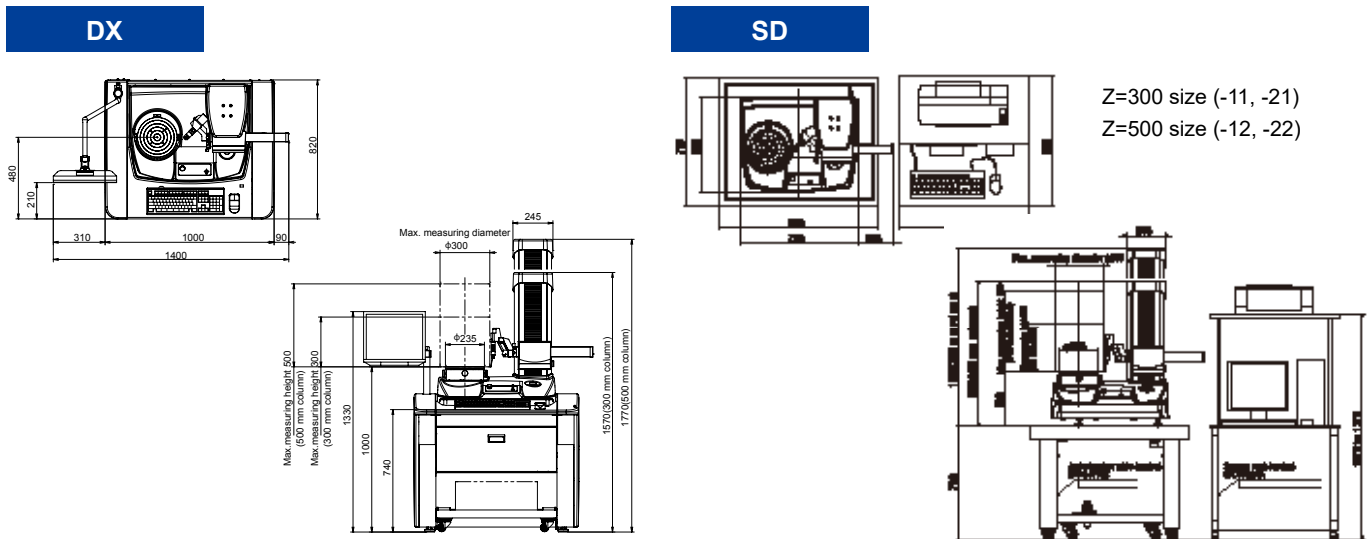
Printer

With drawer mechanism.



RONDCOM NEX DX type

RONDCOM NEX Series External View (common with NEX Rs)



RONDCOM NEX/NEX α Specification

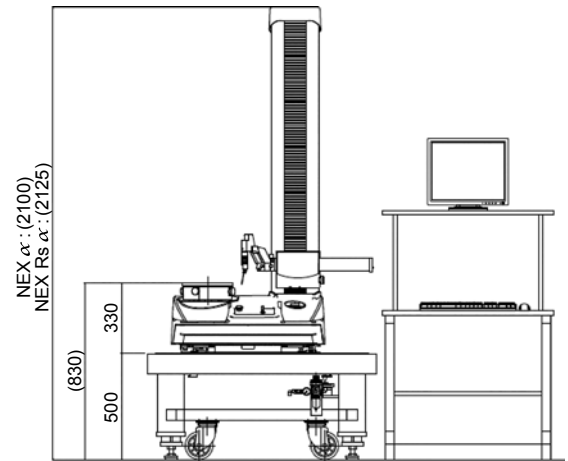
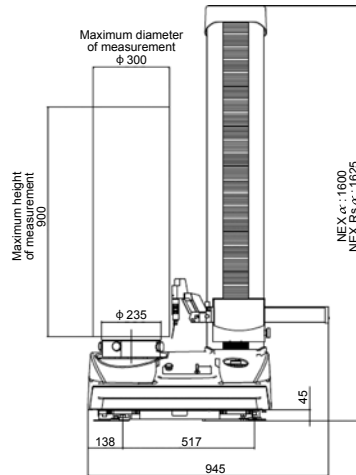
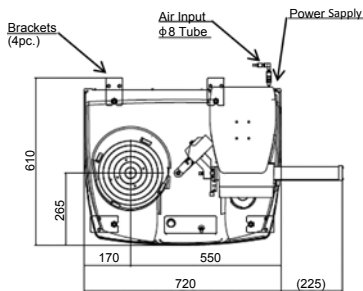
Hardware

Item		Model	RONDCOM NEX (-11, -12) RONDCOM NEX α (-21, -22, -23)																					
			100			200			300															
			SD		DX	SD		DX	SD		DX		SD		DX									
Model *1		11	12	23	11	12	21	12	23	21	22	23	11	12	21	22	23	11	12					
Alignment		Manual						CNC																
Offset type detector holder		Manual						CNC																
Measuring range		Max. measuring diameter (mm)		outer diameter: Φ 300 (Φ 350) *4 inner diameter: Φ 360 (Φ 410) *4																				
		Radial feed range (R-axis) (mm)		180																				
		Up/down feed range (Z-axis) (mm)		300	500	900	300	500	300	500	900	300	500	300	500	900	300	500	900	300	500			
		Max. loading diameter (mm)		Φ 580																				
		Max. measuring height (mm)		300	500	900	300	500	300	500	900	300	500	300	500	900	300	500	900	300	500			
Accuracy		Depth of measurement (mm)		150 *2																				
		Rotation accuracy *3		Radial direction (μ m)		(0.02 + 3.2H/10000)																		
				Axis direction (μ m)		(0.02 + 3.2R/10000)																		
		Straightness accuracy		Up/down direction (Z-axis) (μ m/mm)		0.10/100	0.20/100	0.10/100	0.10/100	0.20/100	0.10/100	0.10/100	0.20/100	0.10/100	0.20/100	0.10/100	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) (μ m/mm)		0.7/180																		
		Parallelism accuracy		Z-axis/T-axis (μ m/mm)		0.7/300	1.0/500	2.0/900	0.7/300	1.0/500	0.7/300	1.0/500	2.0/900	0.7/300	1.0/500	0.7/300	1.0/500	2.0/900	0.7/300	1.0/500	2.0/900	0.7/300	1.0/500	
Squareness accuracy		R-axis/T-axis (μ m/mm)		1.0/150																				
Scale indication accuracy		R-axis (μ m)		(0.5 + L/180 + 2L Δ T/100) L: travel distance (mm) Δ T: temperature difference between standard condition (20°C) and environmental temperature (°C).																				
Speed		Measurement speed		Rotational speed (θ -axis) (/min)		1 to 10																		
				Up/down 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/down 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)		\pm 5																				
		Tilting range (°)		\pm 1																				
		Max. loading mass		NEX (kg)		30																		
		NEX α (kg)		60																				
Detector/Styleus		Detector E-DT-R120B (standardly equipped)		Measuring force (mN)		30 to 100																		
				Linear range (μ m)		\pm 1000																		
				Functions		Switching outer or inner diameter, Front/over travel adjustment function, Emergency stop function																		
		Styleus EM46000-S302 (standardly equipped)		Styleus ball diameter (mm)		Φ 1.6																		
				Styleus length (mm)		53																		
		Styleus ball material		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), NEX α -23 (Max. loading mass 60 kg, 900 mm column)
 *2 Please contact our sale personnel as there may be limitations due to the measurement diameter, and the combination of detector and styleus.
 *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

Z=900 size (-23)



When mounted on the anti-vibration table E-VS-R86B

Software

Item	Model	RONDCOM NEX (-11, -12) RONDCOM NEX α (-21, -22, -23)														
		100			200			300								
		SD	DX		SD	DX		SD	DX		SD	DX				
Model *1		11	12	23	11	12	23	11	12	23	11	12	23	11	12	23
Number of sampling	(point)	14400														
Type of filter	Digital filter	Gaussian/2RC/spline/robust (spline)														
Cutoff value	Rotational direction (θ-axis)	settable any value in range of 15, 50, 150, 500, 1500 peaks/rotation, 15 to 1500 peaks/rotation														
	Rectilinear direction (Z-axis)	1 to 1500 peaks/rotation														
Roundness evaluation of form error		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, 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 automatic measuring function, automatic centering/tilting adjustment function (except for NEX 100, NEX α 100)														
Display item		Measuring conditions, measuring parameters, comments, printer output conditions, profile graphics (expansion plan, 3D plan), error messages, etc.														

Specification

Installation dimension *5	Width	(mm)	720	1074	1400	720	1074	1400	720	1074	1400				
	Depth	(mm)	580	824	820	580	824	820	580	824	820				
Height	NEX	(mm)	895	1095	1570	1770	895	1095	1570	1770	895	1095	1570	1770	
	NEX α	(mm)	900	1100	2100	1570	1770	900	1100	2100	1570	1770	900	1100	2100
Weight *5	NEX	Machine	(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
		Computer	(kg)	Approx.10		Approx.10		Approx.10		Approx.10		Approx.10		Approx.10	
	NEX α	Machine	(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
		Computer	(kg)	Approx.10		Approx.10		Approx.10		Approx.10		Approx.10		Approx.10	
Power supply	Voltage, frequency	(V, Hz)	AC100 to 240, 50/60 (grounding required)												
	Power consumption	(VA)	Approx. 530												
Air supply	Supply air pressure	NEX (MPa)	0.35 to 0.7		0.35 to 0.7		0.35 to 0.7		0.35 to 0.7		0.35 to 0.7		0.35 to 0.7		
		NEX α (MPa)					0.45 to 0.7								
	Working air pressure	NEX (MPa)	0.3		0.3		0.3		0.3		0.3		0.3		
		NEX α (MPa)					0.4								
	Air consumption volume	NEX (NL/min)	30		30		30		30		30		30		
	NEX α (NL/min)					40									
Air supply connecting nipple (main unit)		One-touch pipe joint for outer diameter φ 8 mm hose													
Operating environment	Operating temperature	(°C)	10 to 30												
	Guaranteed accuracy temperature range	(°C)	20±2												

*5 The installation dimensions and weight of NEX α-23 (Max. loading mass 60 kg, 900 mm column) are the values when using the anti-vibration table E-VS-R86B (optional).