

Working Towards the World's Standard Machines

RONDCOM 44DX/44SD



All-in-one Type RONDCOM 44DX

Rotation accuracy of $0.02 \pm 4H/10000 \mu\text{m}$
In full pursuit of compact high accuracy and high rigidity



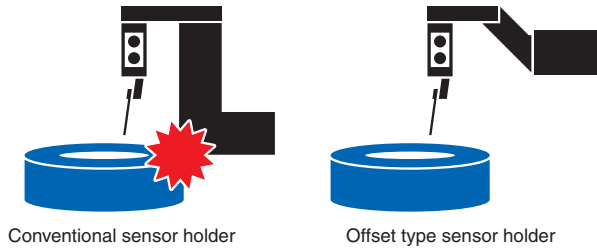
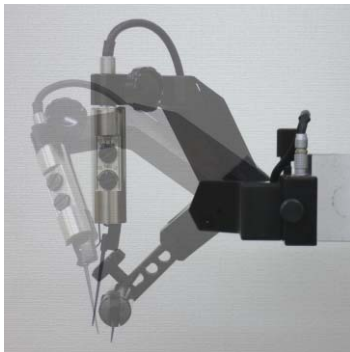
Separate Type RONDCOM 44SD

* The anti-vibration table, system rack and printer are options.

New Offset Type Sensor Holder (patent pending)

The RONDCOM 44 comes equipped with a newly developed offset type sensor holder as standard. This holder enables measurement without interference between the R-axis arm and the workpiece. (Patent pending)

This holder simplifies the measurement of flanged workpieces, workpieces with thick walls between the ID and OD, and deep holes.



Conventional sensor holder

Offset type sensor holder

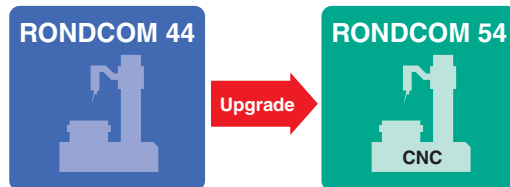
Upgradable from Manual Type RONDCOM 44 to CNC Type RONDCOM 54 (patent pending)

Measurement can now be upgraded to CNC control in accordance with requests from numerous users. Upgrading to CNC control is amazingly simple and involves no changes to installation space. The measuring machine can be upgraded as required in existing installation sites even if the user initially installed a manual model due to a limited number of measurement workpieces.

● Conventional roundness measuring machines



● Roundness measuring machines of the future



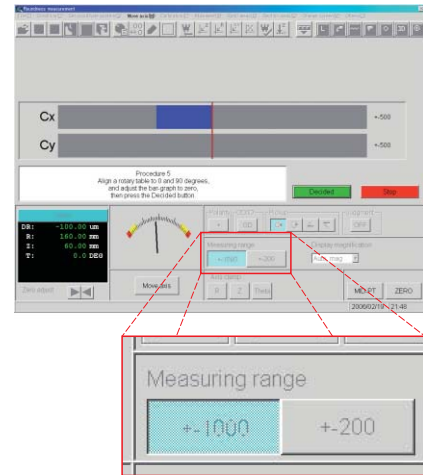
R44SD → to R54SD
R44DX → to R54DX

Incorporating Outstanding Easy-to-operate Centering/Tilting Support Functions

Operation is quite simple for adjusting the amount of eccentricity and tilt in the XY-axes of the workpiece shaft center with respect to the center of the rotating shaft. All you have to do is to adjust the displacement position of the bar graph displayed in the alignment adjustment screen to the zero position.

Wide Range Supported for Infinite Magnification Range

Two measuring ranges, $\pm 1000 \mu\text{m}$ and $\pm 200 \mu\text{m}$, can be used selectively according to the accuracy of the workpiece. The $\pm 1000 \mu\text{m}$ measurement range has a calculation resolution of $0.002 \mu\text{m}$ equivalent to the conventional measurement magnification of 10000X, which allows it to be used for almost all workpieces.



Specifications

Model		ROND COM 44	
		DX	SD
Measuring system		Manual	
Measuring range	Max. measuring diameter	$\phi 300\text{mm}$	
	Left/right feed (R-axis)	170mm	
	Up/down feed (R-axis)	300mm	
	Max. load diameter	$\phi 580\text{mm}$	
	Max. measuring height	OD measurement: 300 mm, ID measurement: 300 mm	
Rotation accuracy	Radial direction JIS 7451-1997	$(0.02+4H/10,000) \mu\text{m}$ H: Height from table surface to measuring point (mm)	
	Axial direction JIS B 7451-1997	$(0.02+4R/10,000) \mu\text{m}$ R: Distance from table center of rotation (mm)	
Straightness accuracy	Up/down direction (Z-axis)	0.12 $\mu\text{m}/100\text{mm}$, 0.2 $\mu\text{m}/300\text{mm}$	
	Radius direction (R-axis)	0.8 $\mu\text{m}/150\text{mm}$	
Parallelism accuracy	Up/down direction (Z-axis)	0.8 $\mu\text{m}/300\text{mm}$	
	Radius direction (R-axis)	1.0 $\mu\text{m}/150\text{mm}$	
Indication Accuracy	Radius direction (R-axis)	$(2+L/170) \mu\text{m}$ L: Drive distance (mm)	
Rotation speed (θ -axis)		2 to 10/min	
Up/down speed (Z-axis)	Measuring speed (drive speed)	0.5 to 6mm/s (max. 50mm/s)	
Radius speed (R-axis)	Measuring speed (drive speed)	0.5 to 6mm/s (max. 25mm/s)	
Auto-trigger function	Z-axis/R-axis	$\pm 5 \mu\text{m}$	
Rotating table	Table outer diameter	$\phi 220\text{mm}$	
	Adjustment range centering/tilting	$\pm 2\text{mm}/\pm 1^\circ$	
	Load	30kg	
Sensor	Measuring force	30 to 100 mN (variable)	
	Stylus shape	$\phi 1.6 \text{ mm}$ carbide ball, length 53 mm	
Number of sampling points		14,400 points/rotation	
Filter types	Digital filter	Gaussian/2RC	
Cutoff values	Rotation	(low pass)	15, 50, 150, 500, 1500 peaks/rotation, any value in range 15 to 1500 peaks/rotation
		(band pass)	15 to 1500, 15 to 500, 15 to 1500 peaks/rotation
	Rectilinear	(low pass)	0.025, 0.08, 0.25, 0.8, 2.5, 8 mm, settable in 0.0001 mm units
Roundness evaluation of profile error		MZC (min. range centerline method), LSC (least square centerline method), MIC (max. inscribed circle centerline method), MCC (min. circumscribed circle centerline method), N.C. (no correction), Multi (multiple setting)	
Measuring items	Rotation	Roundness, flatness, parallelism, concentricity, coaxiality, cylindricity, diameter deviation, squareness, thickness non-uniformity, run-out, diameter	
	Rectilinear	Straightness (Z), straightness (R), cylindricity, squareness, parallelism, diameter deviation, axis center straightness	
Processing functions		Centering/tilting support functions, notch processing function (level, angle, cursor) Combination of roundness evaluation methods, nominal value collation, shading processing function, real-time display verification function automatic measurement function	
Special functions		Offset type sensor holder provided as standard Upgradable to ROND COM 54	
Display (color monitor)		15" LCD	17" CRT
Display items		Measuring conditions, measuring parameters, printer output conditions, profile drawing (expansion plan, 3D plan), comments, error messages, etc.	
Recording system		Selection of color printer/laser printer	
Measuring range		$\pm 1000 \mu\text{m}$, $\pm 200 \mu\text{m}$	
Other	Power supply (voltage indication required)	AC 100 V to 240 V, 50/60 Hz	
	Power consumption	Approx. 470 VA (not including printer)	
	Air source	Supply pressure: 0.35 to 0.7 MPa, Usage pressure: 0.3 MPa	
	Air consumption volume	30N ℓ /min	
	Machine dimensions (mm)	990 \times 925 \times 1600	630 \times 473 \times 895
	Machine weight (kg)	500	220