RONDCOM 44DX3/44SD3

Designed to Deliver the World's Highest Standard of Performance

RONDCOM 44DX3

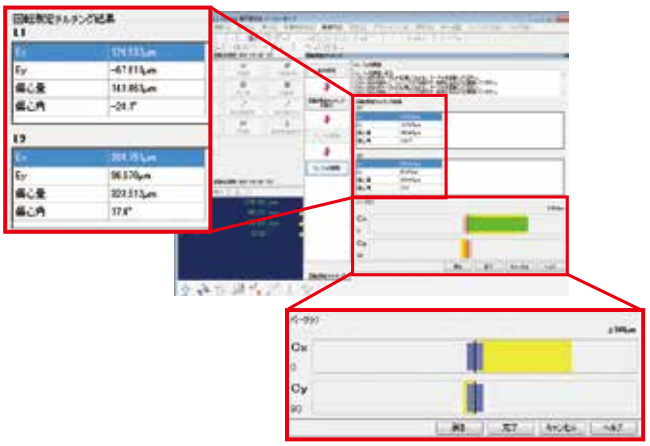
RONDCOM 44SD3
* Anti-vibration table, PC rack and printer are optional.

Compact, High-Accuracy Manual Roundness Measuring Instrument

With rotation accuracy of (0.02 + 3.7H/10000) µm, this instrument supports measurement of high-precision components. Assured R-axis indication accuracy improves the reliability of diameter measurements.

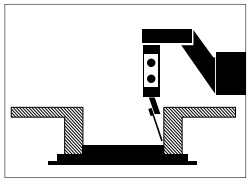
Centering/Tilting/Leveling Support Functions (patented)

Easily adjust eccentricity and tilt between the center of rotation and the center of the workpiece simply by adjusting the displacement to zero as indicated on the bar graph in the alignment display.



Offset Type CNC Detector Holder (patented) (option)

Various workpieces can be measured easily without interference from the R-axis arm. You can switch between outside diameter measurement and top flatness measurement just by tilting the detector holder.



Example of effective workpiece measurement with the offset type detector holder

Upgradeable from Manual to CNC

A simple upgrade procedure lets you easily convert the manual type RONDCOM 44 into the CNC type RONDCOM 54.
The original footprint remains unchanged so there is no disruption to your workspace. So even when a manual machine has been installed because only a small number of workpieces need to be measured, you can upgrade it at any time as needed.

●Conventional measuring instrument

Manual machine → Repurchase → CNC machine

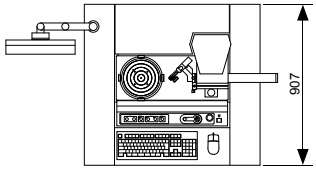
●RONDCOM 44 and 54 series

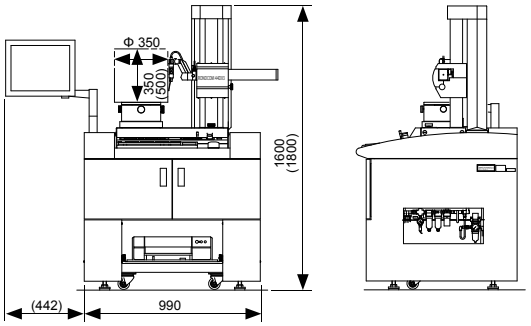
IMR engine achieving fastest alignment

The newly developed high-resolution I. M. R (Infinite Magnification Range) board ensures resolution of 2 nm (2/1000 µm) in the measurement range of ±1000 µm. This is equivalent to a conventional measuring magnification of 10000x. In combination with the centering/tilting support functions, these instruments make possible a tremendous leap in working efficiency.

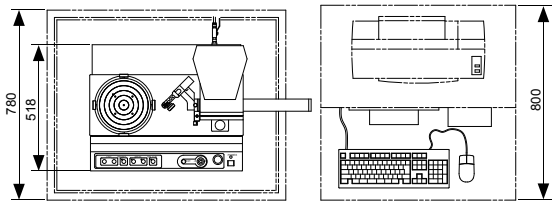
External view

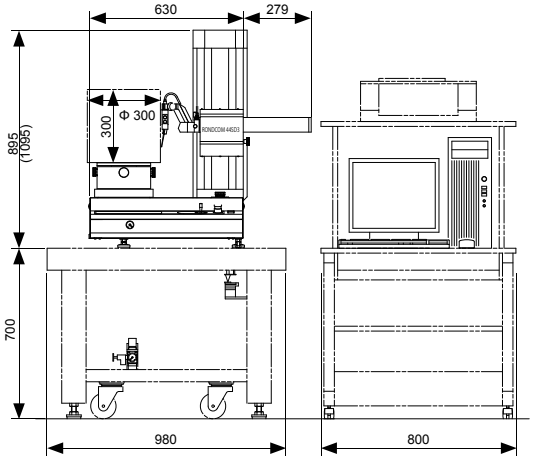
RONDCOM44DX3





RONDCOM44SD3





Options
Anti-vibration table: E-VS-R16B (H=700)
System rack: E-DK-S24A

Specifications

Model			RONDCOM 44			
			DX3		SD3	
				High column		High column
Measuring system			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 (OD/ID* measurement)		300 mm	500 mm	300 mm	500 mm
	Max. measuring depth (Throat height)		150 mm (Limited by size of measuring diameter and combination of detector and stylus)			
Rotation accuracy	Radial direction JIS B 7451-1997		(0.02 + 3.7 H/10,000) µm (H:Height from table top to measuring point mm)			
	Axial direction JIS B 7451-1997		(0.02 + 3.7 R/10,000) µm (R: Distance from table rotational center mm)			
Straightness accuracy	Up/down direction (Z-axis)	Wide range	0.11 µm/100 mm			
		Narrow range	0.17 µm/290 mm	0.23 µm/490 mm	0.17 µm/290 mm	0.23 µm/490 mm
	Radial direction (R-axis)		0.7 µm/150 mm			
Parallelism accuracy	Up/down direction (Z-axis)		0.7 µm/290 mm	1.04 µm/490 mm	0.7 µm/290 mm	1.04 µm/490 mm
	Radial direction (R-axis)		1.0 µm/150 mm			
Indication accuracy	Radial direction (R-axis)		(2 + L/180) µm L: Moving length mm			
Measurement speed	Rotational speed (θ-axis)		2 to 10/min (At moving: Max20/min)			
	Up/down speed (Z-axis)		0.5 to 6 mm/s (At moving: Max50 mm/s)			
	Radial direction speed (R-axis)		0.5 to 6 mm/s (At moving: Max25 mm/s)			
Auto stop accuracy	Z-axis/R-axis		±5 µm			
Rotary table	Table outside diameter		Φ 220 mm			
	Adjustment range of centering/tilting		±2 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			Centering/tilting support 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), semiautomatic measuring function, wide-range function			
Special functions			Offset type detector holder (standard equipment) Upgrade to RONDCOM 54 is possible			
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 or laser printer can be selected			
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			
	Installation dimensions (W x D x H) mm		1500 x 900 x 1600	1500 x 900 x 1900	2050 x 900 x 1700	2050 x 900 x 1900
	Weight (except options)		500 kg	510 kg	194 kg	204 kg

Dedicated catalog is available.