Table-Rotating Type CNC Measuring Instrument

RONDCOM 54DX3/54SD3

Setting a New World Standard in CNC Instruments

RONDCOM 54DX3
*CNC detector holder is optional.

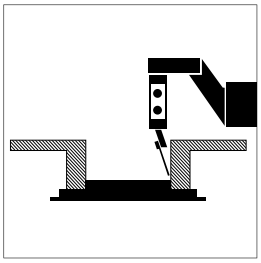
RONDCOM 54SD3
* CNC detector holder, Anti-vibration table, PC rack and printer are optional.

Compact, High-Accuracy Manual Roundness Measuring Instrument

Achieved rotation accuracy of 0.02+3.7H/10000μm to realize high accuracy required of workpieces. Assured R-axis indication accuracy improves the reliability of diameter measurements.

Offset Type Detector Holder (patented)

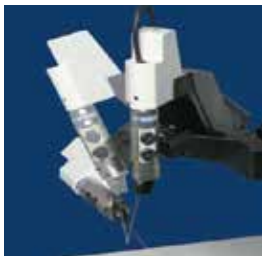
Various workpieces can be measured easily without interference from the R-axis arm. You can switch between outside diameter measurement and top flatness measurement just by tilting the detector holder.



Example of effective workpiece measurement with the offset type detector holder

Offset Type CNC Detector Holder (patented)(option)

Detector positioning for ID/OD measurements, top/under/tapered surfaces measurements, and so on can be controlled automatically. The same detector is used with all standard type instruments and is also available after upgrades. Once you have both a standard model and the CNC holder model, maintenance costs are reduced.



Detector with All Orientation Safety Function

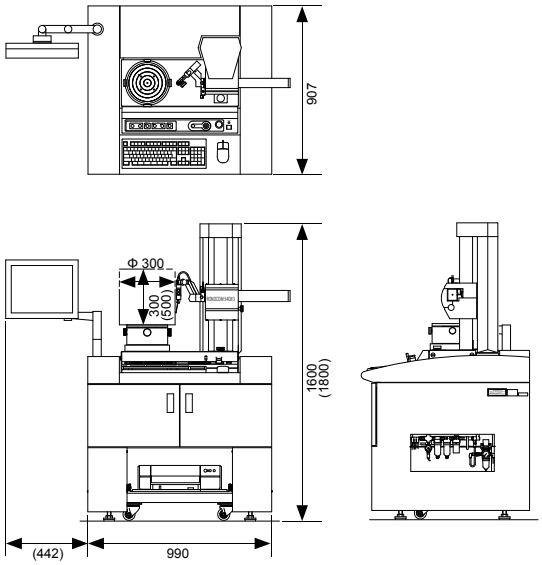
If stylus overload is detected, the emergency stop function is automatically activated to prevent damage to stylus and detector. A front adjustment function is also incorporated to support notched workpieces.

IMR engine achieving fastest alignment

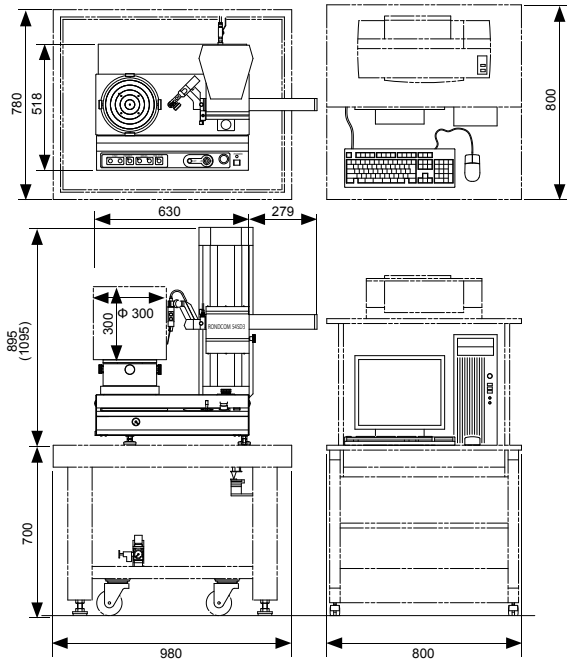
The newly developed high-resolution I. M. R (Infinite Magnification Range) board ensures resolution of 2 nm (2/1000 μm) in the measurement range of ±1000 μm. This is equivalent to a conventional measuring magnification of 10000x. In combination with the centering/tilting support functions, these instruments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

External view

RONDCOM54DX3



RONDCOM54SD3



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

Specifications

Model			RONDCOM 54			
			DX3		SD3	
				High column		High column
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 (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/10000) μm (H: Height from table top to measuring point mm)			
	Axial direction JIS B 7451-1997		(0.02 + 3.7 R/10000) 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			
Scale 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)			
	At auto centering/tilting		2, 4, 6, 10, 20/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 points/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), CNC automatic measuring function, wide-range function, automatic centering/tilting adjustment function			
Special functions			Offset type detector holder (standard equipment) Offset type CNC detector holder (option)			
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 2000	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.