Table-Rotating Type Roundness · Cylindricity Measuring Instruments

On-Site Easy to Operate Desktop Roundness Measuring Instruments

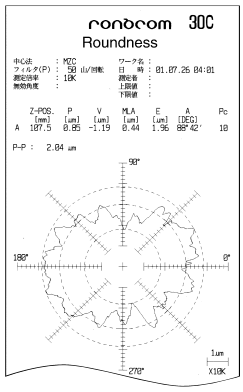
RONDCOM 40C/30C

RONDCOM 40C

RONDCOM 30C

Sample Measurement Analysis

Roundness measurement

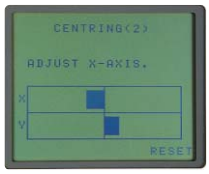


Highly Rigid Static-Pressure Air Bearings

Static-pressure air bearings with a proven track record have been adopted for the rotation mechanism, providing the highest load resistance and extended rotation precision in this class of machine.

Operator-Friendly Centering/ Tilting Support Function

Eccentricity in the X and Y directions of the center of the workpiece axis with respect to the center of the rotating axis, as well as tilting are displayed in bar graphs on the LCD panel. This simplifies alignment.



Automatic Measuring Function

Each axis is provided with a motorized auto stop function, automating movement, measurement and retract operations. This function is extremely effective for repeated measurements of mass produced workpieces on the production floor.

Automatic Magnification Calibration Function

This function simplifies calibration of magnification when the stylus is changed to accommodate different workpieces profiles. The sensitivity for four types of detectors can be registered.

Automatic Eccentricity Correction/Tilt Correction Function

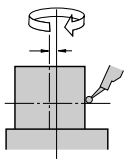
Analyzing the eccentricity and tilting of the workpiece in the measuring range and automatically correcting for it have dramatically reduced the time and effort needed to perform alignment.

Combination of Center Line Definition Methods

Four types of center line definition methods can be freely selected and combined for concentricity, squareness and other measuring items.

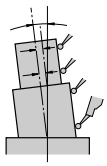
Functions to Reduce Operator Load

Automatic Eccentricity Correction



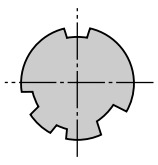
Corrects for deviation of rotating axis center and center of workpiece, and prints outs an easy-to-view record.

Automatic Tilt Correction



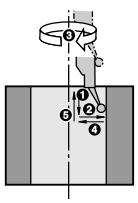
Corrects for tilting of rotating axis center and center of workpiece, enhancing judgment accuracy of coaxiality and cylindricity.

Notched Workpiece

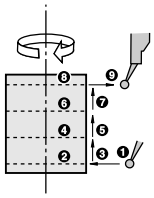


Calculates center of workpiece from data for remaining round portion, enabling judgment that does not differ from person to person.

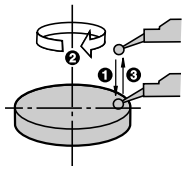
Automatic Measuring Functions



❶ Detector down
❷ Detector retract (ID), advance (OD)
❸ Measurement
❹ Detector advance (OD), retract (ID)
❺ Detector up



❶ Detector advance
❷ Measurements 4, 6, 8
❸ Movements 5, 7
❾ Detector retract



❶ Detector down
❷ Measurement
❸ Detector up

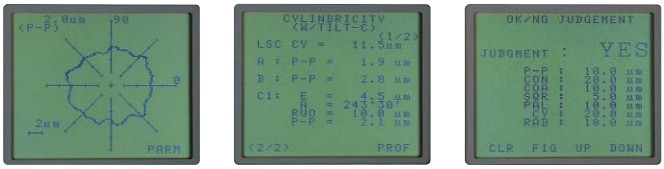
Compact Easy to Operate Roundness Measuring Instrument

Setting Procedure

Menus to set measuring, analysis, display and recording conditions

Viewing the eccentricity graph display during centering simplifies the procedure.

Measurement



Parameter values and measuring profile for roundness, coaxiality, cylindricity and squareness, etc.

Specifications

Model		RONDCOM 40C	RONDCOM 30C
Measuring range	Max. measuring diameter	φ250mm	
	Left/right feed (R-axis)	125mm	
	Up/down feed (Z-axis)	300mm	200mm
	Max. load diameter	φ400mm	
	Max. measuring height (Outer diameter)	520mm	420mm
	Max. measuring height (Inner diameter)	300mm	200mm
Rotation accuracy	ISO 4291/JIS B7451	(0.050+6H/10000)μm H: Height from table surface to measuring point [mm]	
	Max. deviation from min. square circle	(0.025+3H/10000)μm	
Straightness accuracy		0.5μm/100mm 1.5μm/300mm	————
Parallelism accuracy		3μm/300mm	————
Rotation speed (θaxis)		6/min	
Up/down speed (Z-axis)		0.6, 1.5, 3, 6 mm/s Rapid feed: Approx. 15 mm/s	5mm/s
Radius speed (R-axis)		5mm/s	
Auto stop accuracy	Z-axis/R-axis	±1μm	
Rotating table	Table outer diameter	φ148mm	
	Centering adjustment range	±2mm	
	Tilting adjustment range	±1°	
	Load	25kg	
Detector	Linearity range	±400μm	
	Measuring force	70mN	
	Stylus shape	φ1.6mm carbide ball	
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)	
Measuring items	Circumferential direction (θaxis)	Roundness, flatness, parallelism, concentricity, coaxiality, cylindricity, diameter deviation, squareness, non-uniformity, run-out	Roundness, flatness, parallelism, concentricity, coaxiality, squareness, non-uniformity, run-out
	Axial direction (Z-axis)	Straightness, cylindricity, squareness	————
Processing functions		Centering/tilting support function, AI measurement function, notch processing function (level, angle), automatic eccentricity correction/tilt correction function, combination of roundness evaluation methods, pass/fail judgment function, automatic measurement	
Types of filters		2RC, phase compensation	
Cutoff values		15, 50, 150, 500, peaks/rotation	
Display		LCD panel	
Display items		Measuring conditions, measuring parameters, profile drawing, printer output conditions, comments, error messages	
Recording system		Thermal dot array (Recording width: 104 mm)	
Measuring magnification		50, 100, 200, 500, 1K, 2K, 10K, 20K, 50K	
Other	Power source	AC100V±10%, 50Hz/60Hz (must specify)	
	Power consumption	250VA	
	Air supply	0.3 - 0.7MPa	
	Air consumption	30Nℓ/min	
	Installation dimensions	1400 (W) × 900 (D) × 850 (H) mm	1400 (W) × 900 (D) × 750 (H) mm
	Weight	120kg	
	Standard accessories	Magnification calibration block gage, printing paper (E-CH-R06A), instruction manual	