

Roundtest RA-220

SERIES 211 – Roundness Measuring Instruments

- The RA-220 is a small, manual type Roundness/Cylindricity measuring instrument.
- Exceptional analysis capabilities and easy operation.
- X/Z axes fine-adjustment mechanism.
- Scale incorporated in the Z axis.
- Inside/outside diameter continuous measurement function.
- DAT function.
- Wide-range detector.
- Compact and highly accurate (equipped with premium quality air-bearing).

Roundtest RA-220



Technical Data

Turntable

Rotational accuracy

Radial: (0.04+6H/10000) μm

H: probing height (mm)

Axial: (0.04+6X/10000) μm

X: Probing radius (mm)

Rotational speed: 6 rpm

Table diameter: 150 mm

Centering range: ±3 mm

Levelling range: ±1°

Max. probing diameter: 280 mm (380 mm when the detector orientation is changed to the vertical position, only samples up to 50 mm from the table surface can be measured)

Max. workpiece diameter: 470 mm

Max. table loading: 25 kg

Vertical column (Z-axis)

Vertical travel: 280 mm

Straightness

(in narrow range): 0.2 μm / 20 mm

Straightness

(in entire range): 0.5 μm / 100 mm

Parallelism with

turntable axis: 0.5 μm / 100 mm

Max. probing height: 280 mm from the turntable surface

Max. probing depth: 100 mm (min. ID: ø30 mm)

Horizontal arm (X-axis)

Horizontal travel: 165 mm (including a protrusion of 25 mm over the turntable axis)

Probe and stylus

Measuring range: ±1000 μm (±30%)

Measuring force: 70 to 100 mN (±30%)

Standard stylus: 12AAL021, carbide ball, ø1.6 mm

Measuring direction: Bi-directional

Stylus angle

adjustment: ±45° (with graduations)

Data analysis unit

Processing unit: Built-in

Types of roundness

evaluation: LSC, MZC, MIC, MCC

Recording device: Built-in thermal line printer (optional external printer)

Recording

magnification: X5, X10, X20, X50, X100, X200, X500, X1k, X2k, X5k, X10k, X20k, X50k, X100k, X200k (15 step)

Roughness component

reduction: Low pass filter, band pass filter

Filter type: 2CR-75%, 2CR-50%, 2CRPC-75% (phase corrected), 2CRPC-50% (phase corrected), Gaussian, filter OFF

Cutoff values: 15 upr, 50 upr, 150 upr, 500 upr, 15-150 upr, 15-500 upr, 50-500 upr

Number of measuring sections

(1) 1-5 cross sections: Roundness, Coaxiality, Flatness

(2) 1-3 cross sections: Radial runout, Perpendicularity (axis reference)

(3) 2 cross sections: Concentricity, Thickness deviation, Parallelism

(4) 3 cross sections: Perpendicularity (plane reference)

(5) 3-5 cross sections: Cylindricity

Air supply

Air pressure: 390 kPa

Air consumption: 30 L/min

Power supply: 100V AC - 240V AC, 50/60Hz

Dimensions (WxDxH): 585.5 x 546 x 775 mm

Mass: 151 kg (main unit), 2 kg (air regulator)

SPECIFICATIONS

Model	RA-220
Code No. (mm)	211-642E
Code No. (inch/mm)	211-643E