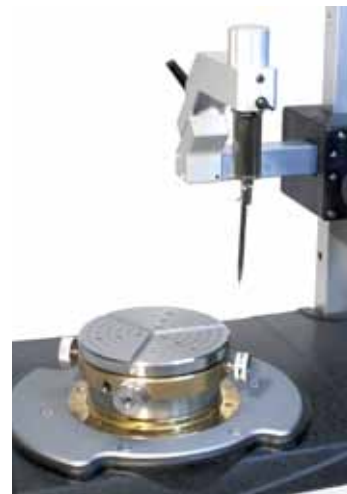




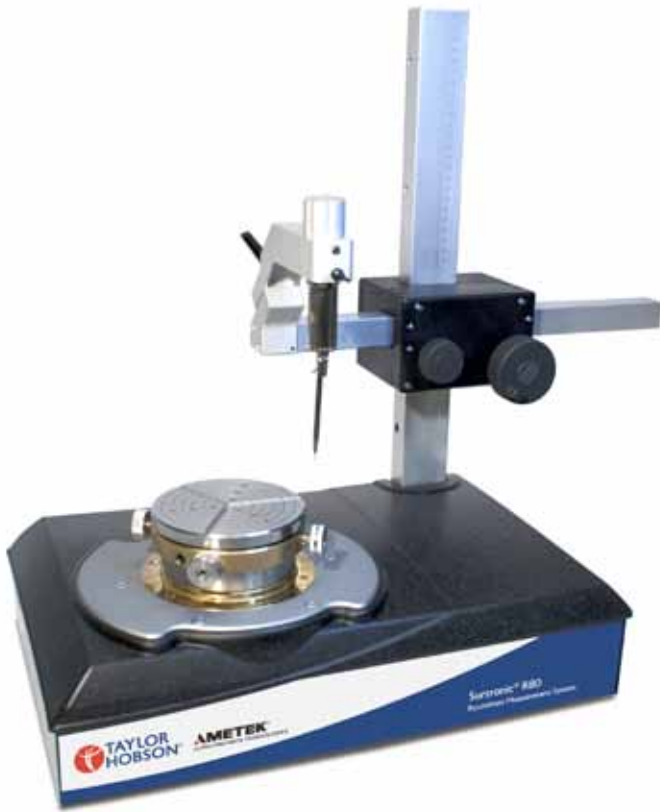
Surtronic® R-50/R-80

Roundness measurement system



Surtronic® R-series

High speed roundness systems for bearings, automotive and precision industries



Surtronic® R-series

A range of roundness products robust enough for the shop floor but accurate enough for any inspection room.

Working closely with manufacturers across a wide range of industries including bearings, automotive and aerospace engineering, Taylor Hobson has focussed on the key attributes that are most important for quality control in today's precision industries.

The new Surtronic® R-series instruments offer a flexible solution for all your roundness and form requirements with a variety of systems and application specific accessories along with fixtures that can be tailored to your specific need.

Speed (3 parts/minute including set-up)

The most important benefit these systems offer is speed. In precision industries as manufacturing volumes increase all too often the bottleneck is metrology. High measurement throughput systems ensure higher sampling rates are achieved while also supporting increased manufacturing volumes.

Precision (± 25 nm spindle accuracy)

Although many times faster than traditional benchtop roundness systems there is no loss of precision or accuracy. Full ISO compliant measurements can be taken with ± 25 nm accuracy and 30 nm gauge resolution.

Robustness (suitable for 24/7 operation)

All systems are designed for constant 24 hour, 7 days a week use in demanding shop floor environments; manufactured using only the most durable and hard wearing materials.

Ease of use (touchscreen software)

The X-sight touch screen software platform with intuitive navigation make the Surtronic roundness system as easy to use as a SatNav or SmartPhone with everything you need at your fingertips.



X-sight touch screen software



“Speed and reliability matter; we choose Taylor Hobson metrology.”

Dr Sashi Balakrishnan, Chief Tribologist,
Mercedes-Benz High Performance Engines
(leading Formula 1 engine supplier)

Surtronic® R-series specification

Roundness measurement system

Model number		R-50	R-80
Measuring capacity	Max diameter	300 mm	
	Max height	280 mm	
	Max weight	20 Kg (44 lb)	
Work table	Diameter, standard	125 mm	
	Diameter, accessory	300 mm	
	Centering	±1.25 mm	
	Levelling	30 arc minutes	
	Height of neutral plane	51 mm	
Spindle	Speed of rotation	15 Rpm Max	
	Radial limit of error (departure from the LS circle)	± 25 nm @ 6 Rpm	
Gauge	Range	2 mm	
	Resolution	30 nm	
Filter	Type	None, Gaussian, Robust Gaussian, 2 CR-PC, Fourier	
	Standard filter cut-offs	1-15 upr, 1-50 upr, 1-150 upr, 15-150 upr, 1-500 upr, 15-500 upr	
	Special filters	User selectable & Bandpass	
System features	Roundness/flatness	✓	✓
	Coaxiality, eccentricity,	✓	✓
	Concentricity, radial runout	✓	✓
	Squareness	✓	✓
	Parallelism	✓	✓
	Measure interrupted surfaces	●	✓
	Thickness variation	●	✓
	Centering attachment 200 mm	●	●
	Centering attachment 300 mm	●	●
	Table top 300 mm	●	●

✓ = Included – ● = Optional
(Customer specific analysis available on request)

All accuracies and uncertainties are quoted at 20°C ± 1°C (68°F ± 1.8°F) with 1-50 µm Gaussian filter at 6 rpm.
Due to continuing technical improvements, Taylor Hobson reserves the right to change these specifications.

Surtronic® product range

Surtronic® Duo measures surface roughness at the touch of a button and shows the result on a large colour LCD screen. Cycle time is 5 seconds and the result is saved until another measurement is taken.

- Ready to use out of the box
- Battery life more than 10,000 measurements

Parameters	Range	Resolution
Ra:	40 µm (1600 µin)	0.01 µm (0.4 µin)
Rz, Rv, Rp, Rt:	199 µm (7800 µin)	0.1 µm (4 µin)



Surtronic® S-series is range of roughness testers robust enough for the shop floor and flexible enough for any inspection room.

- Unique stylus lift for total flexibility
- Long traverse length & extended pick-up reach
- Powerful PC software included

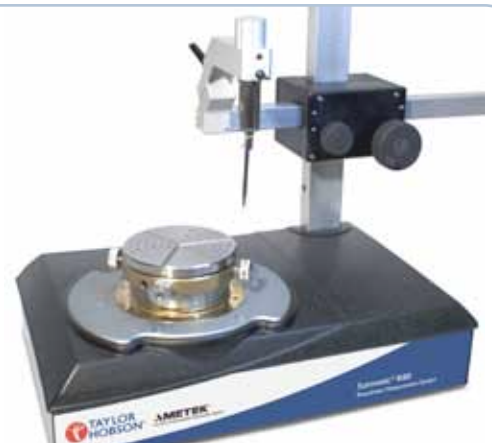
Inductive pick up	
Gauge range / resolution	400 µm (0.012 in) / 0.01 µm (0.4 µin)
Accuracy (5 µm diamond tip)	1% of reading + LSD µm



The Surtronic® R-50/R-80 is robust enough for the shop floor but accurate for any inspection area, giving a flexible solution for all roundness and form measurements.

- Patented gauge orientation
- Robust enough for 24/7 operation
- Easy-to-use touchscreen software

Feature	
Gauge resolution	30 nm (1.18 µin)
Spindle accuracy	±25 nm (0.98 µin)



Surtronic® R-100 Series builds on the robustness and ease-of-use of the R-50/R-80, offering a higher throughput and improved feature set that includes advanced harmonic analyses and a higher gauge resolution.

- Robust, fast and easy-to-use
- Includes Rapid Centre™ *
- Throughput 3 parts / minute including set-up

Feature	
Gauge resolution	6 nm (0.24 µin)
Spindle accuracy	±25 nm (0.98 µin)



* Centering attachment is supplied as standard with 120/125 models, or available to purchase as an accessory on other models.

Serving a global market

Taylor Hobson is world renowned as a manufacturer of precision measuring instruments used for inspection in research and production facilities. Our equipment performs at nanometric levels of resolution and accuracy.

To complement our precision manufacturing capability we also offer a host of metrology support services to provide our customers with complete solutions to their measuring needs and total confidence in their results.

Contracted services from Taylor Hobson

Sales department

Email: taylor-hobson.sales@ametek.com

Tel: +44 (0)116 246 2034

- **Design engineering**
special purpose, dedicated metrology systems for demanding applications
- **Precision manufacturing**
contract machining services for high precision applications and industries

Service department

Email: taylor-hobson.service@ametek.com

Tel: +44 (0)116 246 2900

- **Preventative maintenance**
protect your metrology investment with an Amecare support agreement

Centre of Excellence department

Email: taylor-hobson.cofe@ametek.com

Tel: +44 (0)116 276 3779

- **Inspection services**
measurement of your production parts by skilled technicians using industry leading instruments in accord with ISO standards
- **Metrology training**
practical, hands-on training courses for roundness and surface finish conducted by experienced metrologists
- **Operator training**
on-site instruction will lead to greater proficiency and higher productivity
- **UKAS calibration and testing**
certification for artifacts or instruments in our laboratory or at customer's site



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