



Talyrond® 565/585XL

High precision measurement of large diameter components



The Talyrond 500XL

High Precision Instruments for Large Diameter Components

The Talyrond 500XL with frictionless air bearing spindle and adjustable column is the ideal system for measurement of large diameter components







Measurement of parts up to 1 metre diameter

Extremely popular in the measurement of large diameter bearings and non-rotationally symmetric components. These instruments are based around the successful Talyrond 500 range, the precision spindle with adjustable column enable measurement of parts up to 1 metre in diameter.

Reproducible measurement results

Decades of experience, ultra precision machining expertise and FEA optimized design combine to provide low noise and near flawless mechanical execution of the measuring axes. Further enhancement via the use of traceable standards and exclusive algorithms effectively eliminates instrument influence from the measurement results.

Monitoring manufacturing

| | | | |
|---|---|--|---|
|  Gauge |  Roundness |  Roughness |  Contour |
| Gauge Range Up to 4 mm | Radial Accuracy $\pm 0.01\mu\text{m}$ | Noise Less than 30nm Rq all axes | LS Arc measurement 5 μm |
| Resolution Down to 0.3 nm | | Ra values Less than 0.1 μm | Pt 0.5 μm |



Non-symmetrical powertrain components



Large diameter high precision bearings



Small jet and turbine engine components

Measurement of non-symmetrical power train components

The majority of power train components are non-symmetrical by nature making them difficult or impossible to measure on traditional roundness systems. The XL range of instruments have been designed to accept wide swing capacities and are ideal for components such as connecting rods, small engine blocks and heads.

As well as non-symmetrical components these roundness systems can measure crankshafts, pistons, valves and cylinder liners making it the most versatile roundness system on the market.

Measurement of large diameter high precision bearings

The Talyrond 565 and 585XL systems come with a frictionless air bearing spindle with high load capacity and excellent spindle stiffness. Large diameter bearings can be measured to a high degree of accuracy and with a high degree of resolution thanks to the massive 72,000 data point resolution of the systems high precision encoder. Added to the system's roundness/flatness capability each XL instrument comes with Harmonic and Velocity analysis software making it a powerful tool for the analysis of bearing surfaces.

Measurement of small jet engine and turbine components

Whether a supplier of engine components or a maintenance, repair and overhaul facility the XL range can help to control engine efficiency and improve engine build time by the analysis of roundness, flatness and form. Parameters such as eccentricity and run-out added to their angular direction allow prediction and control of out of balance situations particularly on stacked components. Features such as harmonic analysis and velocity analysis provide further information to aid in prediction of vibration and noise.

Industries and applications:

- Automotive
- Aerospace
- Bearings
- Hydraulics
- Optics
- Industrial plants

“Having the responsibility to ensure 1.5 million bearings each year are manufactured to the highest quality, means controlling our components at all stages of manufacturing. We have 15 Taylor Hobson roundness measuring instruments that help us maintain high throughput and the accuracies we require to ensure every one of our bearings is of the highest quality.”

Measurement Q/A Coordinator – Leading global bearings manufacturer



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

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- **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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