

Talyrond 365 Roundness/Cylindricity Systems

PRODUCT

High precision instruments for sub-micron components



Talyrond 365 is the Automatic choice for high performance and value

- | | |
|----------------------------|--|
| Automatic calibration | - prevent mistakes with automatic calibration of the gauge head |
| Automatic center and level | - improve repeatability with automatic alignment of the component |
| Automatic follow mode | - save money on the cost of fixtures for non-concentric components |
| Automatic measuring cycles | - increase productivity with unattended, automatic operation |
| Automatic 3D mapping | - speed up research projects with cylindrical mapping analysis |



Talyrond 365

Talyrond 365 is an all new modular range of roundness measuring instruments that are unsurpassed in accuracy and reliability. There are 10 versions to choose from, offering the right balance of capability, automation and capacity for virtually every application and budget.

Automatic calibration

An industry first for mid-range roundness instruments. This unique, precise and error free routine will calibrate the Talymin 5 gauge head in less than 10 seconds.

Automatic center and level

Our patented 3 point kinematic support system is designed to out-perform all other roundness instruments.

- During centering the spindle rotates continuously; this condition of "dynamic equilibrium" is good metrology and also speeds the centering process
- No null point means components can be centered and leveled at any point above the table top without the frustration of finding a "neutral tilting plane"
- Pre-defined eccentricity target levels less than 0.8µm ensure repeatability and consistency between operators

Automatic follow mode

The column and the arm of the TR365 are capable of following the eccentricity and contour of the part outside of the normal gauge range. This reduces the need for manual pre-centering or the use of expensive workholding fixtures.



auto follow is ideal for non-concentric features

Ultra high precision air bearing spindle

Our spindles provide the best combination of precision and stiffness in the world to give you superior axial and radial accuracy.

- < 0.02µm radial accuracy
- 0.0003µm/mm coning error
- Data point sampling via high accuracy glass encoder giving up to 18000 points

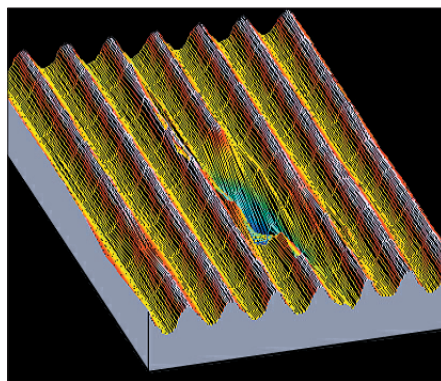
Arm and column axes

Talyrond 365 utilizes precision glass scales and state of the art electronic positioning controls for high precision straightness measurement in both the horizontal and vertical axes. Data sampling up to 200,000 points with 0.25µm resolution is provided.

Talymin 5 gauge head

This single bias inductive transducer has exceptional accuracy, range and resolution along with excellent stability and features that improve measurement efficiency.

- + / - 1mm range (maximum)
- 0.0012µm resolution (minimum)
- built in stop attachment
- ultra fine force control mechanism



3D mapping finds a flaw in the cylinder surface

Gauge orientation mechanism

Our patented gauge mechanism keeps the center of the ball stylus tip constant regardless of gauge orientation. This helps prevent operator errors, greatly simplifies measurement programming and reduces the inspection cycle time.

With this unique design there is a large volumetric air gap around the stylus tip which improves access capability while also reducing the need for multiple styli.

3D Cylindrical Mapping

Now, for the first time, you can measure rotationally symmetric components in 3 dimensions. Coupled with our Talymap imaging software, cylindrical mapping provides analysis of surface topography and form in much greater detail than any other roundness instrument technique.

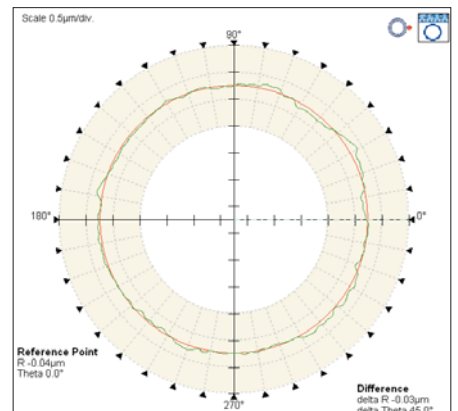
Comprehensive analysis

All Talyrond 365 instruments are driven by Ultra, our powerful Windows based software; analysis features include:

- Roundness
- Cylindricity
- Vertical straightness
- Horizontal straightness (RSU only)
- Parallelism
- Flatness (Single or Multiplane)
- Squareness
- Concentricity and Eccentricity
- Co-axiality
- Harmonic analysis
- Tolerancing
- Cylindrical mapping
- Partial arc roundness
- Partial arc flatness

Instrument Selection Table

300mm Vertical Column	●		●		●		●		
500mm Vertical Column		●		●		●			●
900mm Vertical Column						●			●
Radial Straightness Unit			●	●			●	●	●
Motorized Radial Arm	●	●			●	●	●		
Automatic center & level					●	●	●	●	●
Manual center & level	●	●	●	●					



example of a typical roundness profile

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

- 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

For the above services, contact our Center of Excellence:

email: taylor-hobson.cofe@ametek.com
 or call: +44 116 276 3779

- Design engineering**
 special purpose, dedicated metrology systems for demanding applications
- Precision manufacturing**
 contract machining services for high precision applications and industries
- Preventative maintenance**
 protect your metrology investment with a Talycare service cover plan

For the above services, contact our Sales Department:

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