

Form Talysurf PGI BLU

PRODUCT

High-precision 3D instrument for steep-sided aspheric optics



Precision solution with complete automation for rapid measurement throughput & control

- ✓ Form measurement capability of 50nm ($\lambda/12$)
- ✓ Capability of measuring slope angles up to 80 degrees
- ✓ Automated set-up, measurement and analysis routines
- ✓ 3D aspheric measurement, analysis and surface astigmatism display
- ✓ High throughput, geared for production use



Form Talysurf PGI BLU Aspheric Lens/Mold Measurement System

The new Form Talysurf PGI BLU is a dedicated metrology instrument ideal for the precision form measurement of small steep-sided aspheric lens molds. Applications for this instrument include the measurement of lens molds for Blu-ray™ DVD and digital cameras. Offering a 50nm form measurement capability (slope angle insensitive), with fully automated operation, the PGI BLU is the perfect mold metrology instrument for mass-production and R&D facilities alike.

PGI Blu – The Ideal Instrument

Steep-sided aspheric molds for small optics are amongst the most demanding of today's ultra-high precision form measurement applications. The new Form Talysurf PGI BLU is able to meet the most demanding metrology requirements for new and existing lens mold designs, supporting a wide range of product applications:

- Blu-ray (and standard) DVD Optics
- Cellphone Camera Lenses
- Digital Camera Lenses
- High Power LEDs
- Fibre Coupling Optics

Key features:

- **Form measurement capability: 50nm ($\lambda/12$)**
- **Slope angles up to 80 degrees**
 - With no loss of performance
- **Gauge resolution: 0.2nm**
- **Aspheric analysis software**
 - Complete with derived coefficients analysis
 - 3D astigmatic analysis and display
- **Rapid 3D measurement & analysis throughput**
 - Automatic centering and levelling
 - Fully automated measurement routines

Automation

Fully automated operation is facilitated via a new Production Interface, ideal for use on the shop-floor. Providing easy-to-use 'single-click' operation, the PGI BLU can be used with the most basic of training.

Ultra High Precision Air-bearing Spindle

Our specialised spindles provide the best combination of precision and stiffness in the world, providing unrivalled axial and radial accuracy.

- **< 0.02 μ m radial accuracy**
- **0.0003 μ m/mm coning error**

Low Noise

Measurement uncertainty is often driven by external factors including floor-borne and air-borne vibrations. The Form Talysurf PGI BLU is provided with active anti-vibration isolation and a high quality environmental enclosure to reduce the effects of these noise sources.



Aspheric Analysis

The Form Talysurf PGI BLU is supplied with Taylor Hobson's dedicated Aspheric Analysis Software. This provides analysis of aspheres up to 20th order.

Key features Aspheric Analysis:

- **SAG table generation at user-defined x intervals**
- **Derived coefficients analysis**
- **Astigmatism analysis (3D)**
- **Base radius optimization (2D and 3D)**

Asphero-diffractive Analysis (optional)

When combined with the results of the Aspheric Analysis software, the Diffractive Analysis software allows the residual diffractive form to be analysed and the underlying form error to be visualized. Numerical results include overall Pt, measured zone height, zone height error and zone half-diameter.

Key features of Asphero-diffractive Analysis:

- **Visualization of form error after removal of diffractive design**
- **Clear indication of zone transitions**
- **Zone parameters can be exported to a CSV file for further analysis**
- **Designs can be saved and restored easily**

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@ametec.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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