



CCI HD

HD-3D surface and film thickness optical profiler



CCI HD

Challenges your definition of impossible



Advanced optical interferometry

- 2.2 mm vertical range with closed loop piezoless Z axis scanner
- AutoStitch as standard, measures large parts with high resolution
- 2048 x 2048 pixel array for large FOV with high resolution
- New Claritas 20 light conditioning, increased angle sensitivity improves data quality

Industry leading data quality

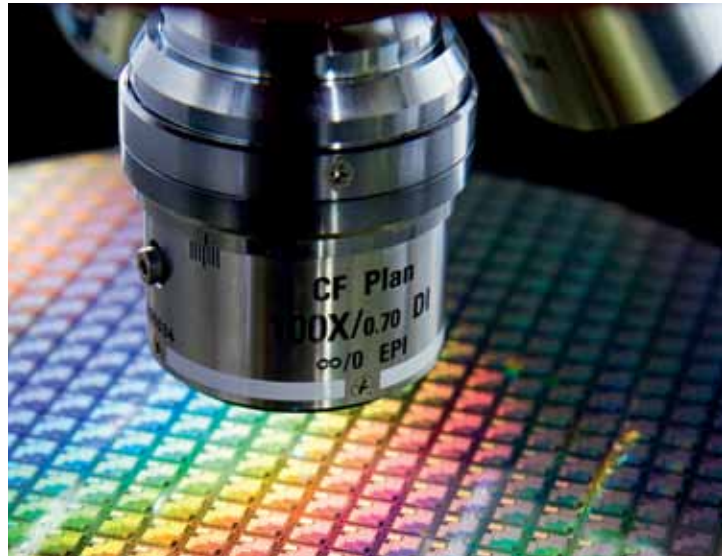
- <math><0.2\text{ \AA}</math> RMS repeatability, <math><0.1\%</math> step height repeatability
- FEA optimised mechanical design for excellent R&R capability
- 0.1 \AA resolution over the entire measurement range
- Built in anti-vibration for optimum data quality

Robust design for long term cost effectiveness

- Piezoless Z axis scanner eliminates expensive repair bills
- Automatic surface detection prevents crash damage to lens
- New XL option for larger parts without loss of data quality
- Ease of operation reduces the possibility of operator error

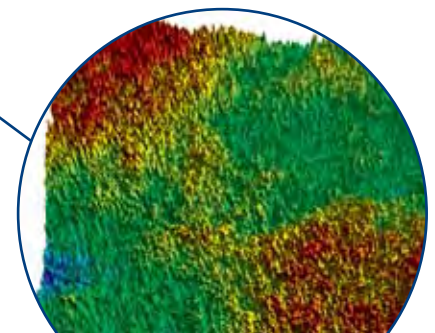
64-bit control and analysis software

- Multi-language support including Chinese and Japanese
- Advanced 64 bit AutoStitch offers fast stitching over large areas
- New tools including 4D analysis of 3D surfaces as they evolve over time
- Automatic report generation based on batches of measurement data



Improving ball point pen performance

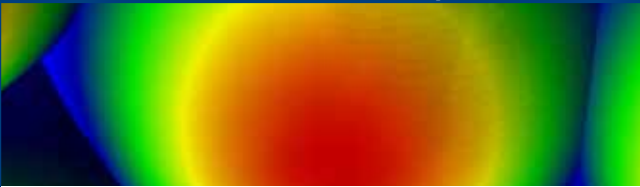
CCI HD is used to study the size, shape and volume of the pits in small bearings that control the consistent flow of ink.



Unrivalled application possibilities

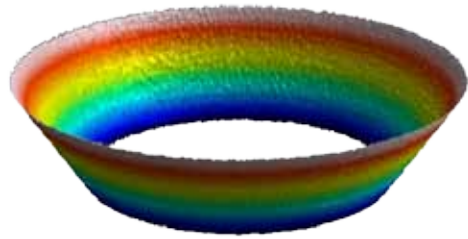
CCI single measurement mode gives unbeatable range resolution and accuracy

Micro lens array



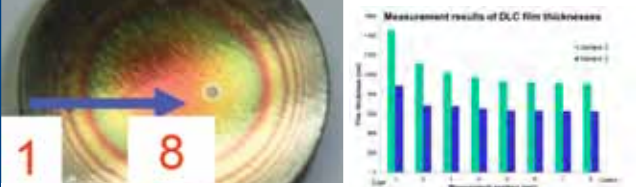
The 4 million pixel camera and the large field of view combine to maximise the measurement area and sample detail possible from a single measurement of complex structures. New Claritas 20 light conditioning increases the maximum angle that can be measured to give world leading data quality. Adapters such as FOW optics are not suitable for this type of measurement as either the measurement area, maximum measurement angle or the lateral resolution are compromised.

3D injector cone measurement



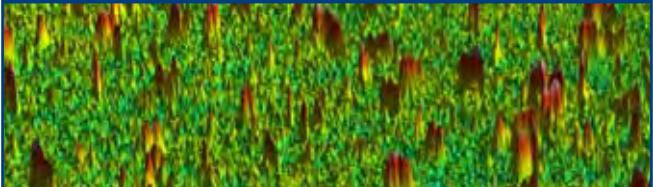
The high sensitivity of the CCI HD optics is ideal for measuring steep-sided rough surfaces. Backed up with our experience in roundness measurement the CCI HD is the perfect tool for measuring cone angle, roundness, roughness and straightness of fuel injector cones.

Thin film measurement



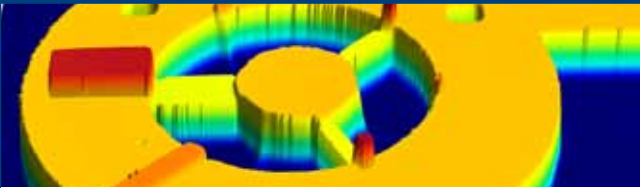
The CCI HD is the only interferometer capable of measuring film thicknesses of less than 100 nm on multiple types of coating and substrate. When combined with other functionality such as real dissimilar material correction it becomes the perfect instrument for any advanced metrology challenge.

CO₂ laser mirrors



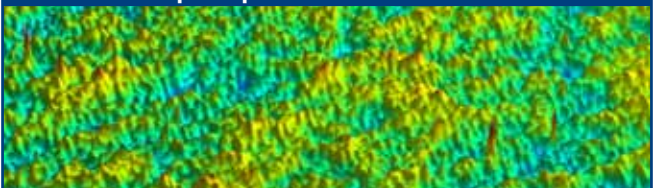
Optical mirrors used in CO₂ lasers need to be very highly polished and defect free to avoid localized heating and ultimately instrument failure. The high Z resolution and high lateral resolution of the CCI HD are critical for identifying defects down to a few nm in size.

MEMS



CCI HD can automatically measure a wide variety of MEMS parameters including roughness, waviness, form, dimensioning, step height (including real dissimilar material correction), film thickness (down to 50 nm) and displacement over time (4D software feature). The wide variety of measurement options is unmatched.

Super polished surfaces



As technology advances, the requirements for highly polished surface finishes are increasing. The low noise performance of the CCI interferometers enables differentiation of different super smooth surfaces not possible on more traditional interferometers.

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