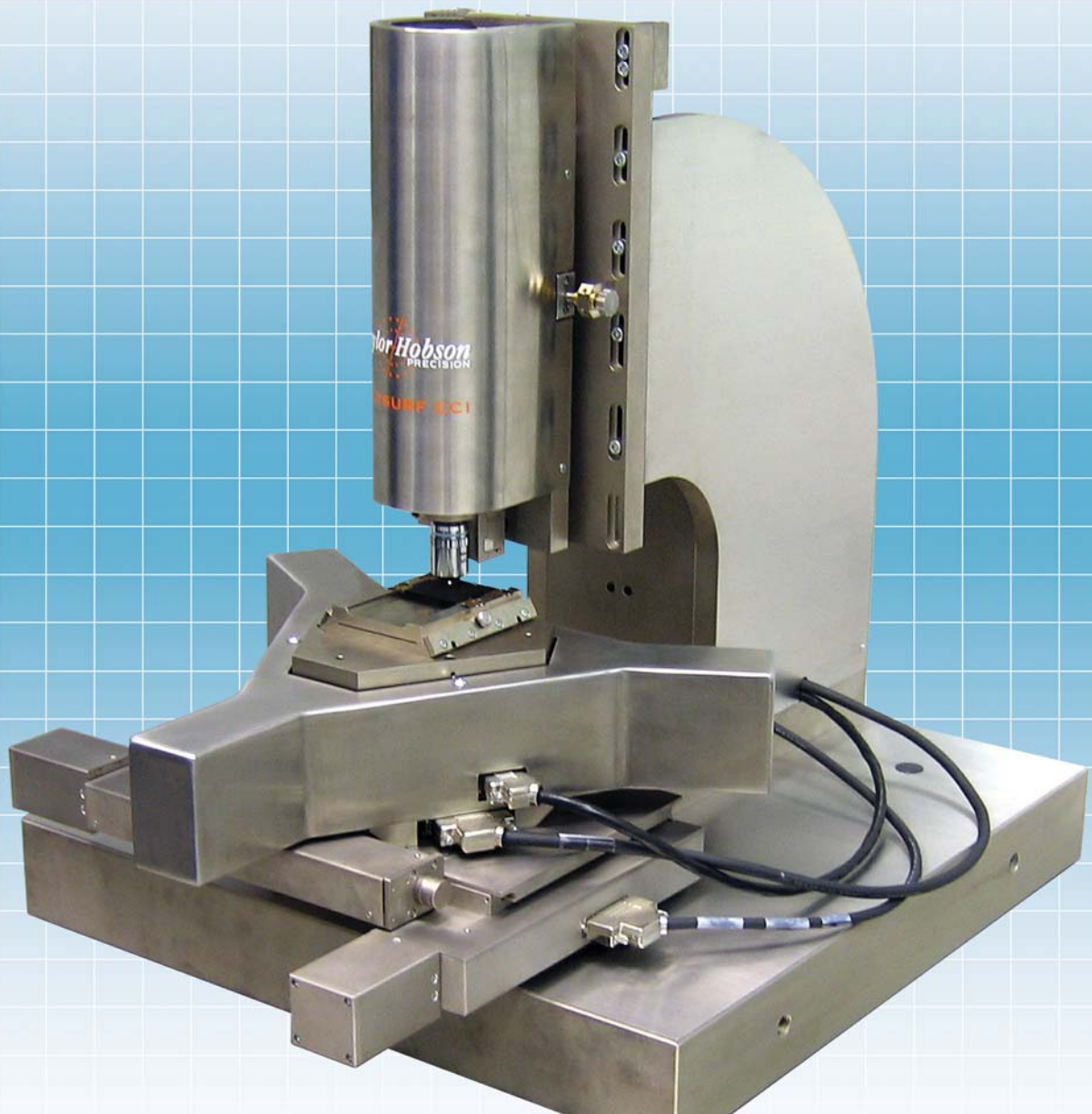


Talysurf CCI 9150 Non-contact 3D Profiler

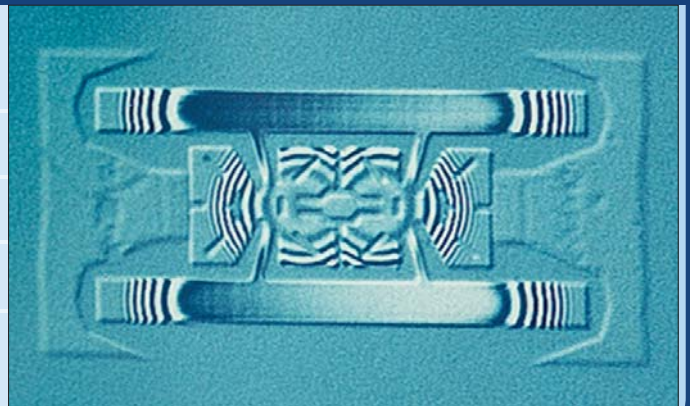
PRODUCT

High throughput, ultra low noise automated metrology instrument



Talysurf CCI delivers results you can trust with industry leading performance...

- ✓ 0.1Å (0.01 nm) Vertical resolution
- ✓ 0.2Å (0.02 nm) Measurement noise
- ✓ >1,000,000 Data points as standard
- ✓ Single measurement mode of operation
- ✓ 0.03Å (0.003 nm) RMS repeatability



High throughput, automated metrology tool with ultra low noise

Our reputation for excellence is based on over 100 years of metrology experience including more than 25 years of optical interferometer design and manufacture. The Talysurf CCI 9150 is an extremely advanced and innovative measurement tool derived from Taylor Hobson's expertise in both optical and mechanical design.

Scanning broadband interferometry

The Talysurf CCI 9150 is an advanced type of measurement interferometer. It uses an innovative, patented correlation algorithm to find the coherence peak and phase position of an interference pattern produced by a selectable bandwidth light source.

Sub-Angstrom resolution

The Talysurf CCI 9150 is invaluable for Data Storage, Semiconductor Fabrication, MEMS and other applications requiring the ultimate in high precision 3D profile analysis. To an unparalleled level of performance to non-contact 3D measurement with 0.1Å Z resolution over the full Z scan range combined with <0.2Å measurement noise.

All types of surfaces can be measured

Versatility is a prime benefit of the Talysurf CCI 9150. Polished or rough, curved, flat or stepped surfaces with reflectivity between 0.3% and 100% can all be analyzed using one single algorithm, with no need to change mode for different surfaces and no danger of the wrong mode being used.

All material types are measurable including glass, liquid inks, photo resist, metal, polymer and pastes. Even AlTiC and DLC coated surfaces can be correctly measured.³

Data analysis tools

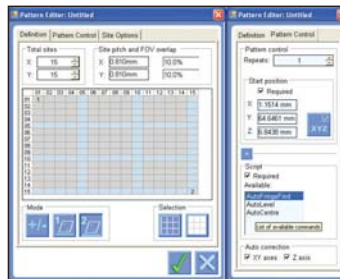
Surfaces are quantified absolutely using the latest internationally recognized parameters for both 3D and 2D surface characterization.

- area and volume parameters
- 120 x 2D & 40 x 3D parameters
- counting and sorting
- automatic step height

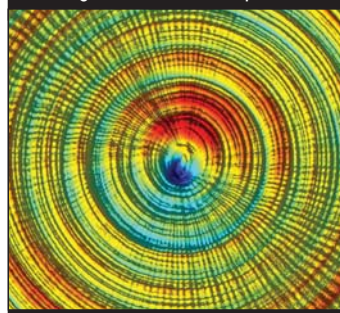
High speed automation

Full automation is included as standard, integrating high precision piezo tip / tilt with high speed X, Y and Z positioning. All axes can be controlled automatically providing target levelling with Tip/Tilt, auto focus in Z and feature recognition in X and Y.

Ideal for components in production trays, Wafer fabrication and MEMS. The system can inspect in excess of 2000 MEMS devices per hour in total hands-off operating mode.



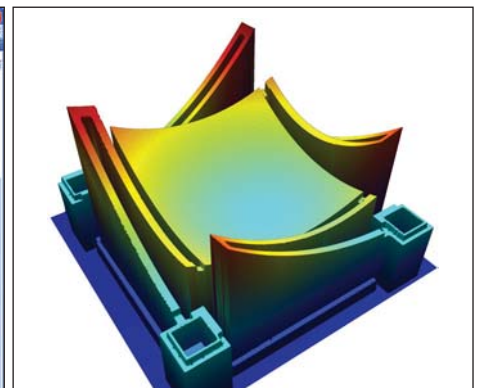
Stitching & automation setup



Diamond turned RMS = 19.8Å



Realtime results in Excel™ including wafer mapping



MEMS silicon diaphragm (5µm height x 2mm length)

Talysurf CCI 9150 System Specifications

Measurement technique	Coherence Correlation Interferometry
Vertical range [Z]	100µm (400µm & z-stitching option)
Vertical resolution	0.01nm [0.1Å] (over full 100µm range)
Noise floor [Z]	0.02nm [0.2Å] ¹
Repeatability of surface RMS [Z]	0.003nm [0.03Å] ²
Measurement area (X, Y)	0.25mm - 7.0mm (square area)
Number of measurement points	1024 x 1024 standard (2048 x 2048 optional)
Optical resolution (X, Y)	0.4 - 0.6µm (surface dependent)
Step height repeatability	A 0.05nm (25 nm step) / A 0.1% (50 nm step and above)
Linearity [Z]	0.03% of measured value
Surface reflectivity	0.3% - 100%
Measurement time	5-20 seconds (typical)

¹ As demonstrated by multiple measurements on a levelled fused silica optical flat

² As demonstrated by 1 sigma Std Dev of 20 Sq (RMS) measurements on SiC flat

³ Requires Automatic AC, Dynamic DC and Thin Film Extension

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:

email: taylor-hobson.sales@ametec.com
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