

# Form Talysurf Intra

Precision solutions for surface finish and contour measurement



# Form Talysurf Intra

The original Form Talysurf, launched in 1984, was the first instrument ever to measure texture, form and contour simultaneously. Now, our newly developed Form Talysurf Intra measurement system has reinforced Taylor Hobson's leadership position and created a new global standard for the assessment of surface finish and form. With a full millimetre of range, a wide selection of interchangeable styli and a patented calibration routine, the Intra system is ideal for almost all high precision applications.

## Form Talysurf Intra System Features and Benefits

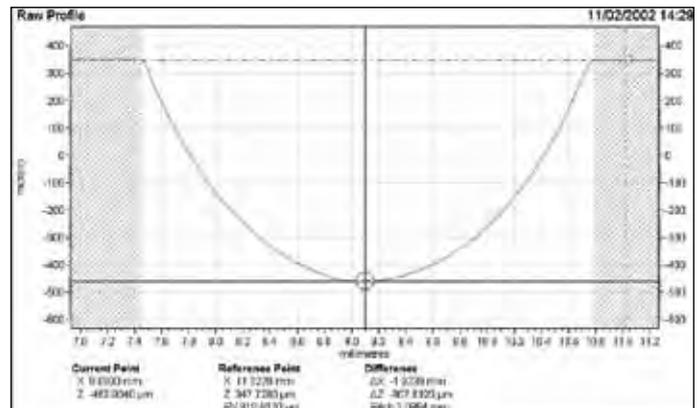
- 1mm vertical range / 16nm resolution**  
 Delivers form (contour) as well as surface finish measurement capability for precision metal forming and other applications.
- 50mm horizontal traverse**  
 Ideal for the majority of shop floor applications. The unit combines both accuracy and portability.
- 0.40um / 50mm straightness error**  
 The high accuracy traverse datum makes possible skidless measurement of waviness, form and contour, even on large components.
- 0.5um horizontal data spacing**  
 Small components and features can be measured more effectively than ever before. Reduced run-up and run-down length further improve usability.
- Manual column**  
 For large or tall components the available manual column provides a stable, dedicated work station for improved throughput.



## Ultra Software - comprehensive surface finish analysis

The Form Talysurf Intra System include everything important to the measurement of surface finish. Fundamental roughness and waviness parameters are included, plus form error analysis, feature exclusion, zoom tool and full programmability for shopfloor applications.

- Form Analysis\***  
 Measure and evaluate Radius, Angle (Slope) and Dimension
- Simple User Interface\***  
 Combines with system programmability to deliver a true shopfloor solution; custom designs available.
- Dual Profile Analysis\***  
 Allows comparison of measurements for wear, tolerancing, etc.
- Ultra Contour Analysis**  
 Separate software utility for dimensional applications, allowing design data and measurements to be directly compared, and error results obtained. Special hardware is also available for wide-range applications.
- Talymap 3D Analysis**  
 Separate software utility for topography applications; special hardware is also required.



## Taylor Hobson delivers an excellent investment

- Save money with flexible, modular system configurations
- Improve accuracy with our patented calibration routine
- Save time with multi-tasking measurement systems
- Increase productivity with automatic, unattended operation
- Prevent mistakes with programmed measurement routines

\*Ultra Software Licence Options

# Choosing the right product

Simple roughness parameters like Ra can be checked with our Surtronic series instruments. If you need advanced analysis, higher levels of accuracy or greater flexibility, Form Talysurf Intra is the perfect choice. It combines industry leading specifications with simplicity of operation for unbeatable practicality and value.

## Analysis fundamentals

The measurable elements of a surface are dimension, form, roughness and waviness. Many high specification components require analysis of all four.

**Dimension** - the functional shape of a surface as defined by radius, angle, distance, and the linear relationship between features.

**Form** - deviations from the intended shape of a surface (flat, spherical, tapered, etc.); often caused by machine tool inaccuracies.

**Roughness** - a deliberate, controllable element of the component design produced by the action of the cutting tool or machining process.

**Waviness** - an undesirable machine tool effect resulting from vibration, lack of stiffness or other instabilities in the machining process.

## Skidless measuring system

Many roughness checkers use skidded pick-ups to guide the stylus over the workpiece, with the workpiece itself forming the datum for measurement.

Because the skid also acts as a mechanical filter, removing or altering general form and waviness characteristics, the collected data is not suitable for advanced analysis.

## Intra is the right choice

For correct data collection the gauge must pass over the component in a straight line such that only the stylus tip comes in contact with the surface under test.

Vertical stylus movement is relative to the traverse datum, a reference bar that has been lapped or precision ground to an extremely high flatness and straightness tolerance.

Form Talysurf Intra is skidless and can be used for waviness, profile and other parameters such as Material Ratio with absolute confidence in the measurement results.

## For your industry

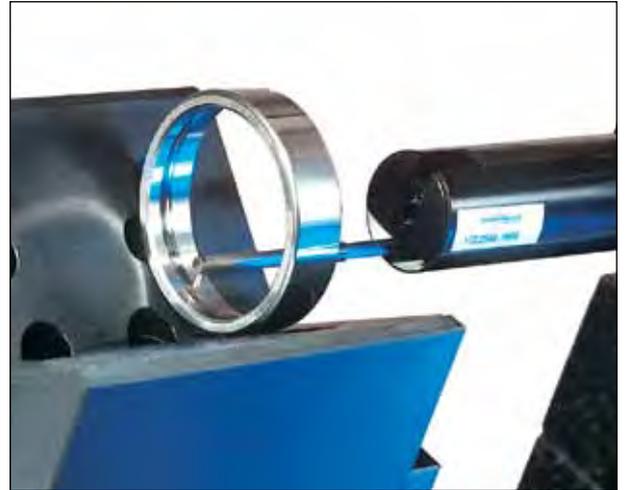
Form Talysurf Intra offers exceptional productivity for a wide range of industries and applications.

## For your budget

For general purpose or for solving a specific application problem, Form Talysurf Intra can be configured to perform within your budget.

## For your future

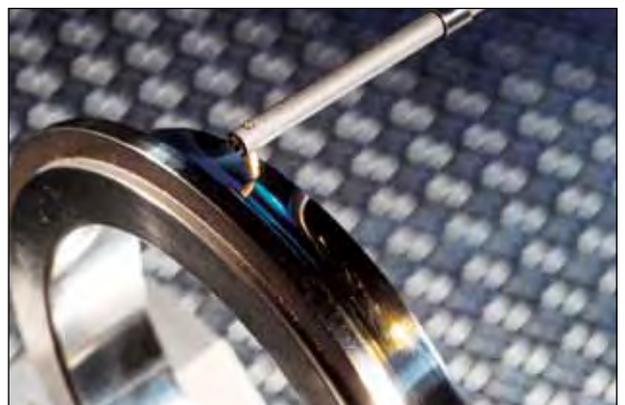
Unlike closed end systems that will be obsolete when your requirements change, Form Talysurf Intra can be expanded to meet whatever the future brings.



skidless tracing arms provide access to internal features such as ball tracks and ring grooves



high resolution skidless pick-up is necessary for straightness and waviness measurements



measurable form features may be spherical, aspherical, concave, convex, internal or external

## 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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- **Precision manufacturing**  
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