

Wide Range Inductive systems for precision contour measurement

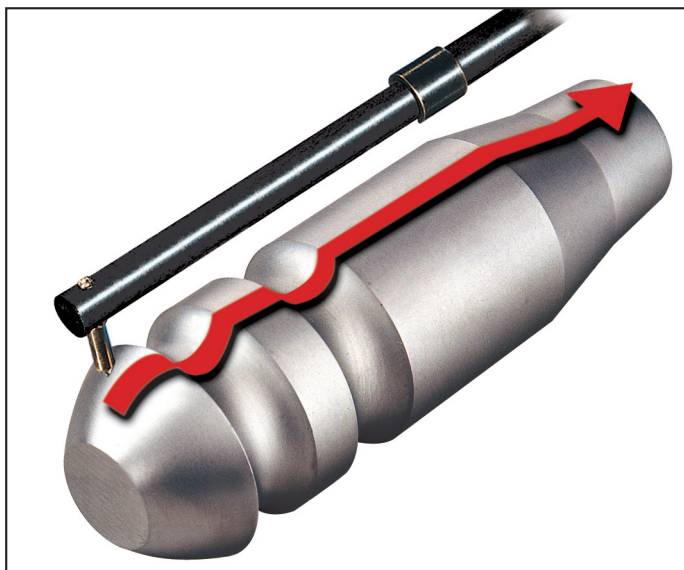
Since its launch in 2003, the all-new range of Form Talysurf Measurement systems from Taylor Hobson has created a new global standard for the measurement of surface finish and form. Taylor Hobson's renowned Wide-Range Inductive pick-up technology is now available as part of this range, in order to address contour and dimensional measurement applications.

Form Talysurf Contour Systems features and benefits

- 28mm vertical range / 427nm resolution**
 An ideal combination of capability - plenty of range to handle even the largest features on typical components AND sufficient resolution to see even the smallest deviations of contour
- 120mm or 200mm horizontal traverse units**
 Choose the version that best suits your application; 0.50um straightness over 120mm or 0.75um straightness over 200mm for high accuracy regardless of component feature size
- Unique Calibration method**
 Taylor Hobson's unique ball calibration routine delivers a linear gauge response across the measurement range, and fully compensates for stylus tip geometry
- 450mm motorized column**
 Standard column handles most applications; 700mm column is available for large components. Motorized Tilt option provides greater measurement flexibility for inaccessible features

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 Contour analysis software

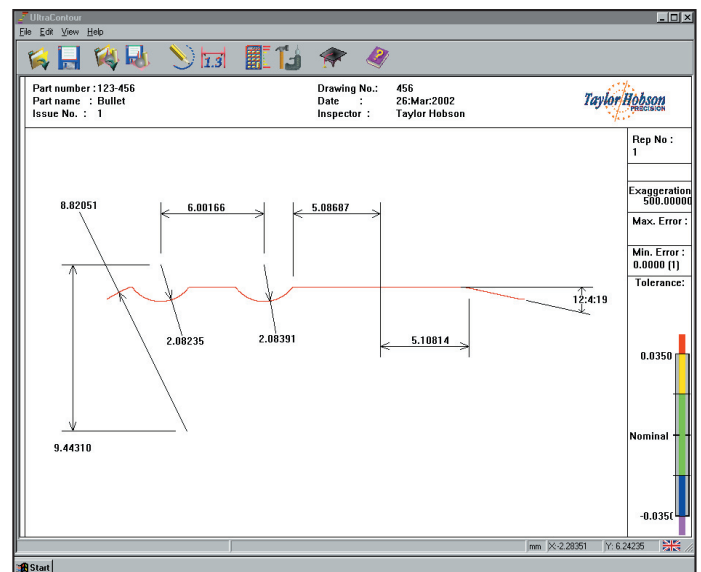
Everything important to the measurement of dimension, form and contour comes with the system as standard. Taylor Hobson's unique ball calibration routine delivers unrivaled gauge linearity, and hence form measurement capability. Ultra Contour Analysis software uses 2D CAD techniques to address fitting and dimensional applications.

Ultra Contour can:

- Compare measured data to nominal form
- Fit data to a template
- Create template from data
- Fit to specific features
- Fit with constrained degrees of freedom
- Fit to any alignment
- Fit using different methods
- Generate conditional reports

Ultra Contour has:

- Easy-to-use interface
- Multiple CAD formats
- Multiple Data formats
- Comprehensive Macro Language
- Report customization
- Full dimensioning facility
- Run-time switchable languages
- Independent axis scaling



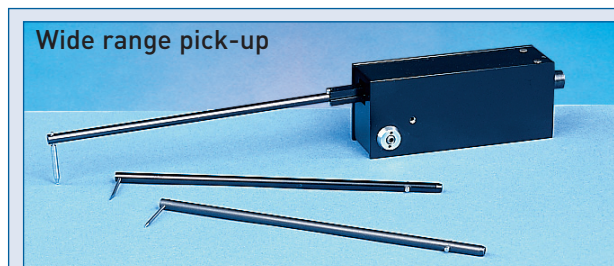
Form Talysurf Wide Range Inductive Contour measuring systems

Horizontal Performance		Form Talysurf WRi120	Form Talysurf WRi200	Environment
Traverse length - X Max / Min		120mm / 0.1mm (4.7in / 0.004in)	200mm / 0.1mm (7.9in / 0.004in)	
Traverse / measuring speeds		10mm/s max – 0.1mm/s, 0.25mm/s, 0.5mm/s & 1mm/s (0.39in/s max – 0.004in/s, 0.01in/s, 0.02in/s & 0.04in/s)		Storage humidity 10% to 80% Relative, non condensing
Minimum data sampling interval in X		0.125µm [0.1mm to 120mm length] [5µin [0.004in to 4.7in]]		Operating temperature 18°C to 22°C (64°F to 72°F)
Straightness uncertainty (Pt) ¹		1.5µm / 120mm (60µin / 4.7in)	2.5µm / 200mm (100µin / 7.9in)	Temperature gradient < 2°C (< 3.6°F) per hour
Vertical Performance				Operating humidity 45% to 75% Relative, non condensing
Nominal measuring range (Z)		Range 1 = 28mm (1.10in) Range 2 = 5.6mm (0.22in) Range 3 = 1.1mm (0.04in)		Maximum RMS floor vibration 2.5µm/s (100µin/s) at < 50Hz 5.0µm/s (200µin/s) at > 50Hz
Resolution (Z)		Range 1 = 427nm (16.8µin) Range 2 = 85nm (3.35µin) Range 3 = 17nm (0.67µin)		Electrical supply
Range to resolution ratio		65,536 : 1		Supply type Alternating supply, singlephase with earth (3-wire system)
Styli		15° Tungsten carbide chisel tip 30° Tungsten carbide conical tip 1mm (0.04in) diameter sapphire ball		Instrument and computer voltage 90V - 130V or 200V-260V (switch selectable)
System Performance				Frequency 47Hz to 63Hz
Spherical calibration artifact		80mm (3.15in) nominal radius standard		Supply voltage transients - width EN 61000 - 4 - 4 : 1995
Calibration Pt ²		Range 1 = 5µm (200µin) Range 2 = 2µm (80µin) Range 3 = 1µm (40µin)		Power consumption 500VA
Radius measurement uncertainty ³		Nominally 0.1% of measured radius [minimum 5mm (0.2in) radius]		Safety EN 61010 - 1 : 2001
Dimensions L x D x H (traverse unit) (granite base)		410x130x225mm (16x5.2x8.9in) 760x500x120mm (30x204.7in)	470x130x225mm (18.5x5.2x8.9in) 760x500x120mm (30x204.7in)	EMC EN 61000 - 6 - 4 : 2001 EN 61000 - 6 - 1 : 2001
Weight (traverse unit)		13.5Kg (30lbs)	15Kg (33lbs)	The above technical data is for measurements taken in a metrology laboratory controlled environment: 20°C ± 1°C (68°F ± 1.8°F), draft free, and isolated from low frequency floor borne vibration.
Motorized vertical column		450mm (17.7in) vertical traverse		Uncertainties and maximum permissible errors (MPE's) are at 95% confidence in accordance with recommendations in the ISO Guide to the expression of uncertainty in measurement (GUM:1993). All errors are expressed as MPE's.
Environmental cover		Optional		

Notes

- 1 Straightness measured over a glass flat nominally parallel to the traverse datum, using an arm with a 1mm diameter ball stylus (speed = 1mm/s, LS Line analysis, primary filter λs = 2.5mm).
- 2 Using an arm with a 1mm diameter ball stylus, (LS Arc analysis, primary filter λs = 2.5mm).
- 3 Assumes a calibration artifact of perfect radius.

Note, Taylor Hobson pursues a policy of continual improvement due to technical developments. We therefore reserve the right to deviate from catalog specifications.



Includes three interchangeable stylus arms

- Conical tip with 30° included angle
- Ball tip with 0.5mm (0.02in) radius
- Chisel tip with 15° included angle