

# Talyvel<sup>®</sup> 6 and Clinometers

For angular & level measurement, flatness,  
parallelism, straightness & squareness



# Clinometers – precision in angular measurement, checking and setting with 360° range

## Highly Accurate TB100 Microptic Clinometers code 142-43

- Direct reading to 10 seconds of arc
- Estimation to within 2 seconds of arc
- Hardened ground steel base.

The TB100 Microptic Clinometer has been designed for simplicity and very high accuracy. The Clinometer uses a precisely divided circular glass scale, mounted on a spindle that rotates in a high quality bearing. At the end of the spindle is a sensitive bubble vial, which acts as a horizontal reference.

Dual purpose: In addition to functioning as a clinometer, the Microptic Clinometer can be used either vertically or horizontally as a circular measuring table. For this purpose the bubble unit is replaced by an optional worktable, which allows a maximum symmetrical load of 2.25 kg (5 lb). A reflector can also be fitted for use in conjunction with an autocollimator.

The field of view visible in the eyepiece contains two scales. The lower one is the main scale, in degrees with 10 minute sub-divisions; above it is the scale of the optical micrometer, in minutes with 10 sub-divisions.

## A variety of accessories are available on request, including:

### Worktable

Interchangeable with the bubble unit, enabling small components to be attached to the clinometer spindle. Table diameter is 120 mm (4.75 in). With the clinometer horizontal, the table will carry a symmetrically placed maximum load of 2.5 kg (5 lb).

### Adjustable reflector

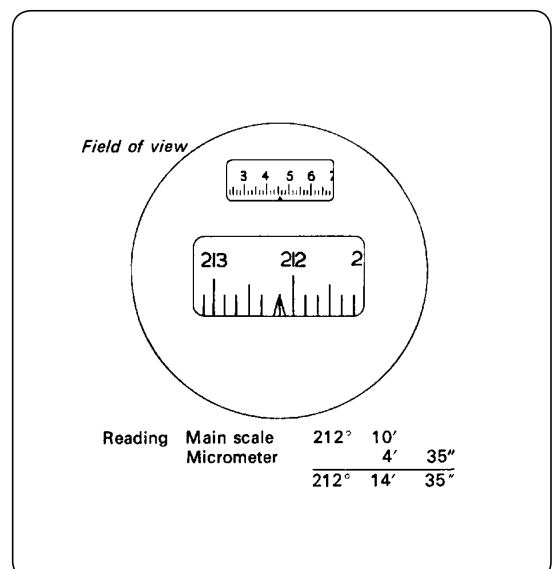
Replaces the bubble unit to enable the clinometer to be used with an autocollimator for setting-out angles.

### Electric Illuminator

For use in poor ambient lighting conditions or when the clinometer is used horizontally. It has a 6.5V, 2W lamp (Code 242-103) and replaces the clinometer mirror.



TB100 checking dividing head



TB100 eyepiece field of view

## Digital Clinometer code 137-2165-01

The digital clinometer is ideal for workshop angular setting, checking and inspection of machine tools and fixtures.

The system offers the following features:

- Large measuring range (+/-45 degrees) accurate to within 2 minutes of arc
- Resolution of 0.01 degree (in certain conditions 4 seconds of arc or 0.02 mm/m)
- Variety of measurement units (push button selectable) to give readings in degrees, minutes of arc, mm/meter, .001"/10 inches.

Automatic setting to absolute or relative zero measuring modes is selectable by push button. All four sides of the hard-anodized aluminium frame are precision machined to make possible angle measurement in any quadrant. Battery power (AA type), sturdy construction and compact size make the device suitable for use virtually anywhere. A built-in calibration program ensures that calibration is always current and correct and can be reset if necessary.

An RS485 interface socket is provided.



## Applications

### Measuring and checking

- Angular faces
- Droop of helicopter blades
- Relief angles on large cutting tools
- Jigs and fixtures
- Checking artillery barrel angle
- Inclination tables on jig boring machines
- Angular work on grinding and lapping machines
- Checking angular indexing heads and tables



## Clinometers technical data

Type	Workshop digital	High precision TB100
Angular range	±45°	0-360°
Max permissible error between any 2 readings shall not exceed	2 min *	10 sec
Dimensions (L x W x H)	100 x 30 x 75 mm	165 x 76 x 215 mm
Weight	0.52 kg (1.1 lb)	3.4 kg (7.5 lb)

\* Best accuracy 30 sec over reduced 1 degree range

## UKAS Certification

Clinometers can be supplied with a United Kingdom Accreditation Service (UKAS) certificate which gives an independent and authoritative traceable guarantee of instrument performance and accuracy. Regular servicing and UKAS calibration will guarantee that the performance specification is maintained.

## Electro optical metrology

Taylor Hobson has been selling electro-optical metrology products since the late 1930s and the range includes Micro Alignment Telescopes (used for checking and setting straightness and alignment) Autocollimators (for accurate measurement of small angular displacements), clinometers and "Talyvel" electronic levels. Used in a range of applications in industries such as machine tools, aerospace, marine and steel rolling, the Taylor Hobson range combines high accuracy and repeatability with fast response and operational convenience.

To provide focused technical support to all its electro-optical metrology customers, Taylor Hobson has a dedicated technical support centre:

## Spectrum Metrology

Electro-optical measurement customers often require advice on solving a specific manufacturing or calibration problem. With many years experience in electro-optical metrology, Spectrum Metrology provides rapid technical and application support via phone, e-mail or on-site visits. Full demonstration and training is available either on-site or in Spectrum Metrology's demonstration room.

Spectrum Metrology is also the authorised repair agent to Taylor Hobson for the electro optical metrology range and holds a wide stock of ex-demonstration equipment for hire or sale.

Spectrum Metrology can be contacted on:

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