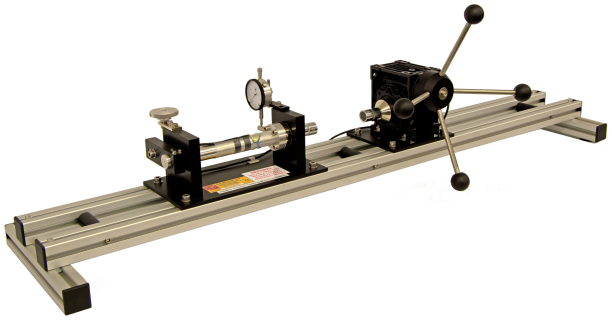
TORSION TESTING MACHINE (30Nm)

HSM31



Year 2
study

Features

- High Quality, Visual apparatus
- Sturdy bench frame for up to 750mm specimen lengths
- Digital Interface
- Steel, aluminium , brass test specimens supplied
- Vernier, ear defenders, safety glasses supplied
- Pen supplied to visibly show angle of twist of specimens

Description

A sturdy bench top mounted unit for applying torque to failure on metal specimens. 30Nm torque is applied via the moment head to differing material test specimens using hand operated worm and wheel gearbox (60:1 ratio). The unit can cater for test specimens of up to 750mm between the moment head and torsion head. The moment head is fixed but the torsion head can be moved along the base to allow for the different lengths of specimen. The change in length of the specimen is not restricted during the experiment. Standard hexagon drives are used for transmitting the torque into the specimens. The angular position of one end of the test specimen can be adjusted before and during the experiment to either compensate for twist or to set known twist. This is done using the adjustment mechanism on the torsion head and the reference dial gauge mounted on the torsion head also. Strain gauge technology is used within the torsion head and the output from these strain gauges is fed directly into the digital display (supplied).

Related Laws/Applications

- Modulus of Rigidity.
- Shear Modulus.
- Torsion Constant.
- Polar Moment of Inertia.
- Angle of Twist.
- Gauge Length.
- Maximum torque.
- Elastic Region.
- Plastic Region.
- Tensile Strength.

Learning capabilities

- Torsional loading to failure of varying material specimens
- Torsional variation due to material, cross sectional area
- Comparison between actual and theoretical results
- Determination of the Modulus of Rigidity and Yield shear stress
- Working with the elastic torsion equation

Technical Specification

- 30Nm torsion ability
- Bench top unit, with sturdy extruded base frame
- 18 test specimens supplied in steel (x6), aluminium (x6) and brass (x6)
- 17mm A/F hexagon ends on specimens
- Test diameter on specimens: Ø6mm nominal
- Can cater for specimen lengths up to 750mm
- Specimen loading through 60:1 worm/wheel gearbox operated by hand
- Digital display of torque (resolution of 0.1Nm) and angle (resolution of 0.1°)
- Analogue dial gauge: 10 or 25mm range, 0.01mm resolution

Recommended Ancillaries

- HSM31B

What's in the Box?

- 1 x HSM31
- 1 x Interface
- 1 x Power supply
- 1 x USB lead
- 18 x specimens
- 1 x Safety glasses
- 1 x Ear defender
- 1 x Hex wrench set
- 1 x Vernier caliper
- Instruction manual
- Packing list
- Test sheet

You might also like

- HSM2

Weights & Dimensions

- Weight: 30 kg
- Length: 1450mm
- Width: 360mm
- Height: 320mm

Essential Services

- Interface: 110/120V, 60Hz or 220/240V, 50Hz, single phase, live neutral and earth.

Ordering information

To order this product, please call PA Hilton quoting the following code: HSM31

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