



TORSION of BARS APPARATUS HSM2



Year 2
study

Features

- Bench mounted, compact.
- Four test specimens, of different materials.
- Angle of Twist can be measured in two positions along specimen.
- Bearings for smooth rotation.
- Very visual.
- Quick and easy set up.
- Customer specific specimens can be used.

Description

Apparatus to understand and investigate directly the relationship between the torsional load applied to a round bar and the angular twist produced and how this relationship varies with the beam material and its cross sectional polar moment of area. Specimens are rigidly held in a clamp fixed to one end of the bench top base frame. A bearing at the other end contains a short shaft with an integral pulley and chuck. The pulley has cord wrapped around its periphery to allow torque to be applied using the Load hanger and calibrated weights supplied. A rotation scale and pointer can be attached at any point on the specimen's length to find the angle of twist of the specimen. A specimen set is supplied with a variety of specimens in round bar and differing materials.

Related Laws/Applications

- Modulus of Rigidity.
- Shear Modulus.
- Torsion Constant.
- Polar Moment of Inertia.
- Angle of Twist.
- Gauge Length.

Learning capabilities

- To measure the angle of twist produced by torsional loads for various specimens and verify that the relationship is linear.
- To determine the modulus of rigidity for specimens of various materials.

Technical Specification

- Extruded aluminium base frame with solid connecting bars
- 3-jaw chuck to hold specimens at one end with chuck keys supplied
- 90° Protractor in 1° increments
- Mild steel rod: Ø5mm x 500mm long
- Brass rod: Ø5mm x 500mm long
- Aluminium alloy rod: Ø4.76mm x 500mm long
- Nylon rod: Ø6.35mm x 500mm long
- 2 x attaching protractors and protractor scales provided

What's in the Box?

- 1 x HSM2
- 4 x specimens
- 1 x Chuck key
- 1 x Hex wrench set
- 1 x Tape measure
- 1 x 2m spare cord
- 5 x 0.1N; 1 x 1N; 2 x 2N; 1 x 5N; 1 x 10N
- Instruction manual
- Packing list
- Test sheet

You might also like

- HST22
- HSM31

Weights & Dimensions

- Weight: 12 kg
- Length: 600mm
- Width: 140mm
- Height: 140mm

Essential Services

- Sturdy Bench top

Ordering information

To order this product, please call PA Hilton quoting the following code:
HSM2

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COUNTRY OF ORIGIN - UK WARRANTY PERIOD - 5 YEARS