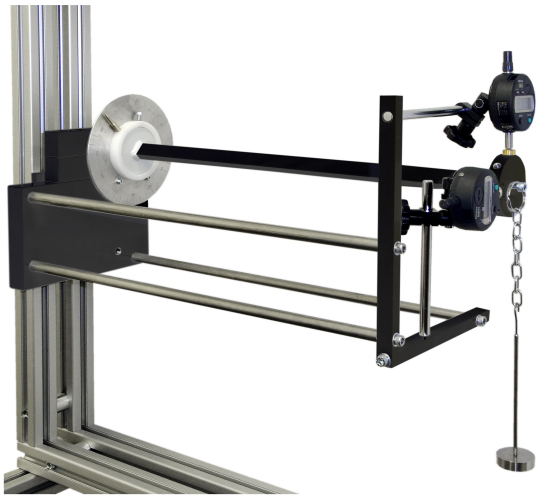
UNSYMMETRICAL BENDING & SHEAR CENTER

HST21



Year 2
study

Features

- Three test beams supplied as standard
- 360° adjustment in one degree increments
- Free end deflection measured relative to its fixed end.
- Shear Centre part of standard arrangement
- Potential for customer specific specimens.
- Dedicated e-book supplied

Description

A ‘U’ section, ‘L’ section and 'Rectangular' section cantilever are horizontally supported within a rotating clamp which fits in a substantial block attached to the HST1 Universal Frame and Stand (sold separately). The rotating clamp enables the loading and deflection planes to be set relative to the cross section axes. A protractor scale is fitted to the block and a pointer on the specimen references against this scale. At the other end of the cantilevers is a boss onto which two dial gauges rest and through which the vertical loading is applied. The flat anvils of the dial gauges ensure a consistent flat surface during cantilever deflection. The dial gauges are mounted at right angles to each other and have full positional adjustment. For shear centre work, additional loading bars are supplied that attach into the free end of the specimens, onto which the dial gauges can be referenced. Loading is applied to the specimens using a Load hanger and calibrated weights set.

Related Laws/Applications

- Principle Axis
- Shear Centre
- Unsymmetrical Bending
- Cantilever
- Neutral Axis

Learning capabilities

- Study of the horizontal and vertical deflection of asymmetrical cantilevers when the plane of loading does not coincide with a principle axis of the section
- Study of the horizontal deflection of asymmetrical cantilevers under various loadings
- Verification of the theory of unsymmetrical bending
- Determination of the neutral axis in an angle section
- Determination of the Shear Centre in U channel section only

Technical Specification

- 'U' section: 21(W) x 40(H) x 4.8(t) x 530(L) mm
- 'L' section: 25(W) x 25(H) x 3.2(t) x 530(L) mm
- Rectangular section: 20(W) x 10(H) x 530(L) mm
- Digital Dial Gauge: 12.7mm travel; 0.01mm resolution
- Weights set: 8 x 5N
- 2 x Load hanger

Essential Ancillaries

- HST1 (or HST100)

Recommended Ancillaries

- HDA200

What's in the Box?

- 1 x Frame Bracket
- 1 x 'U' section
- 1 x 'L' section
- 1 x Rectangular section
- 2 x Digital Dial Gauge and Data Cable
- Pointer Assembly
- 2 x Load hanger
- 8 x 5N Weights
- Accessories container
- 1 x Tape measure
- Level
- 3 x Hex wrench
- Instruction manual
- E-book
- Packing list
- Test sheet

You might also like

- HSM30
- HST12
- HSM10

Weights & Dimensions

- Weight: 16 kg
- Length: 670mm
- Width: 480mm
- Height: 340mm

Essential Services

- 110/120V, 60Hz or 220/240V, 50Hz, single phase, live neutral and earth for optional HDA200

Operational Conditions

- Storage temperature: -10°C to +70°C
- Operating temperature range: +10°C to +50°C
- Operating relative humidity range: 0 to 95%, non condensing

Ordering information

To order this product, please call PA Hilton quoting the following code: HST21

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