BENDING MOMENT in a BEAM

HST10

Year 1
study

Features

- Visually realistic, 'cut' beam
- Takes internal forces and shows them externally
- Bending Force output via load cell
- Unrestricted loading positons
- Load position at 'cut' in beam
- Experiment can be undertaken from both sides
- Quickly and easily interchangeable with HST9 and HST46
- Optional Influence line section
- Optional HSTS Software
- Dedicated e-book supplied

Description

Each beam is simply supported on vertical supports which can be positioned in a variety of positions along the beam lengths. At the ‘cut’ section, a bearing in one beam rests inside a radiused pocket of the other beam. This restricts any vertical movement between the two beams (hence removes any visible shear force), but does not restrict rotation between the two beams and hence bending is not restricted. In their unloaded state the beams are levelled using the level indicator provided. Loads are applied to the beam using the Load hangers and calibrated weights set. The force transducer connects to the HDA200 Interface (sold separately).

Related Laws/Applications

- Bending Moment
- Strain
- Stress
- Young's' Modulus
- Bending Moment Diagrams (BMD)
- Verification of Equilibrium of Vertical Forces and Moments

Learning capabilities

- Visual demonstration of shear force at a ‘cut’ in a beam
- Comparison of experimental results with theory
- Creation and use of shear force diagrams
- Shear force variation with differing load points, positions and arrangements
- Use of a force transducer to monitor shear force

Technical Specification

- Beam lengths of 650 and 350mm
- Beam cross section: 51 x 38mm
- 50mm graduations on beams
- Weights set: 1 x 1N, 2 x 2N, 2 x 5N, 2 x 10N

Essential Ancillaries

- HST1 (or HST100)
- HDA200

Recommended Ancillaries

- HST10A
- HSTS

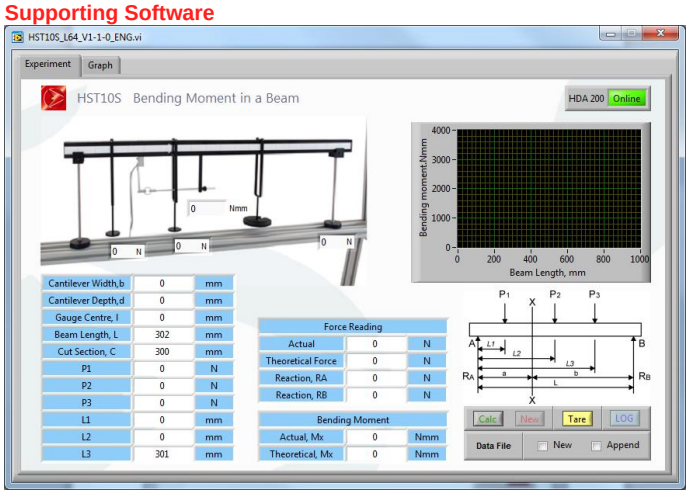
What’s in the Box?

- 1 x Short Beam
- 1 x Long Beam
- 2 x Support Rods
- 3 x Hangers
- 1 x 2N, 2 x 2N, 2 x 5N, 2 x 10N weight
- 1 x Tape measure
- Accessories container
- Hex wrench
- Instruction manual
- E-book
- Packing list
- Test sheet

You might also like

- HST9
- HST46
- HFC31

Supporting Software



- HSTS Structures Experimental Software Package
- The HST10S comes supplied as part of the HSTS Structures Experimental Software Package
- The HST10S software allows the student to see the differences between the theoretical and reality of the experimental set-up
- This software works both on and off line and can be used as part of a student lecture to help guide students through the learning process

Minimum System Requirements

- See HSTS Specification

Weights & Dimensions

- Weight: 6 kg
- Length: 1000mm
- Width: 100mm
- Height: 350mm

Essential Services

- 110/120V, 60Hz or 220/240V, 50Hz, single phase, live neutral and earth for 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: HST10

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