

DEFLECTION of BEAMS and CANTILEVERS

HST13



Year 2
study

Features

- Wide variety of beam experiments achievable.
- simply supported, cantilever, propped cantilever and encastre (built in)
- Three test beam materials supplied as standard
- Three Deflection indicators supplied as standard
- Point load and Uniformly Distributed Loads (UDL).
- Weights set supplied as standard
- Dedicated e-book supplied

Description

Two support brackets fix into the HST1 Universal Frame and Stand (not supplied) allowing the support of beams along their length and at different spans. Each support bracket comes supplied with point contacts or clamp plates to enable simply supported, cantilever, propped cantilever and encastre (built in) end conditions. Cantilevers can be created using one of the supports fitted with a clamp supplied. Three moveable dial gauges, mounted on moveable stands measure beam deflections and slope. Two test beams are supplied in steel. Each beam is supported and then loaded using the beam clamps, hangers and calibrated weights provided. Point and uniformly distributed loads can be applied to the beam using the weights and hangers supplied.

Related Laws/Applications

- Differential equation for bending of a beam.

Learning capabilities

- Measure beam deflections for point and uniformly distributed loads.
- Verify differential equation for beam bending.
- Measure and calculate slope and end rotations.
- Calculate the Young's Modulus of beam material.
- Apply various end fixing conditions to a beam, including simply supported, cantilever, propped cantilever and encastre (built in).
- Vary the support span for the beam.

Technical Specification

- Steel Beam 25(W) x 3(H) x 1200(L) mm
- Steel Beam 25(W) x 5(H) x 1200(L) mm
- Digital Dial Gauge: 12.7mm travel; 0.01mm resolution
- Weights set: 10 x 1N, 20 x 2N, 1 x 50N
- 1 x Load hanger

Essential Ancillaries

- HST1 (or HST100)

Recommended Ancillaries

- HDA200

What's in the Box?

- 2 x Movable Bracket
- 1 x Clamp Plate
- 2 x dowel point contacts
- 1 x Steel Beam 25(W) x 3(H) x 1200(L) mm
- 1 x Steel Beam 25(W) x 5(H) x 1200(L) mm
- 3 x Digital Dial Gauge and data cable
- 3 x Dial Gauge Stand
- 10 x 1N; 20 x 2N; 1 x 50N
- 1 x Chain links
- 1 x Tape measure
- Accessories container
- 3 x Hex wrench
- Instruction manual
- E-book
- Packing list
- Test sheet

You might also like

- HST11

Weights & Dimensions

- Weight: 20 kg
- Length: 710mm
- Width: 580mm
- Height: 290mm

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: HST13

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