

DEFLECTION of BEAMS APPARATUS

HSM1



Year 1
study

2 to 3
participants

15 mins
setup

30 mins
duration

Space required
2(L) x 1(W) m

Features

- Bench top apparatus for large number of beam tests
- Point, offset and uniformly distributed (UDL) loads
- Cantilever
- Two reaction piers with digital display
- Vertical height adjustment and recording
- Quick and easy adjustment of test span
- Containers supplied for all accessory parts
- Full set of weights and hangers supplied
- Dedicated e-book

Description

The bench mounted apparatus has an aluminium profiled base on levelling feet. Two reaction piers can be moved along the length of the base to create differing test spans for the beam. On each pier the vertical load is displayed digitally on the front. The height of each reaction pier is adjustable and displayed digitally also. A single steel beam and two load hangers are supplied together with two analogue dial gauges for measuring beam deflections and slopes. The dial gauges are mounted on movable stands for accurate position along the beam length. A set of calibrated weights and hangers are supplied along with the necessary tools to adjust the equipment.

Related Laws/Applications

- Beams
- Civil Engineering
- Structural Engineering
- Encastré
- Bending Theory
- Beam Span
- Circular Bending
- Uniformly distributed Load
- Cantilever

Learning capabilities

- Deflection of a Simply Supported Beam with varying Span
- Deflection for an Offset Load on a Simply Supported Beam
- Distributed Loads on a Simply Supported Beam
- Circular Bending
- End Load on a Cantilever

Technical Specification

- Beam span: Up to 1000mm
- Digital Reaction Piers: $\pm 50\text{N}$, 0.1N resolution
- 9mm Height adjustment of Reaction piers
- Beam: 1200(L) x 25(W) x 5(H) mm, steel
- 2 x Dial Gauge: 25mm measuring range, 0.01mm resolution
- Base frame approximately 1400mm in length
- 0.5N hangers x 2
- Hanger clamp for point loading beam x 2 off.
- Weight set

Recommended Ancillaries

- HSM1f: Optional Flitched Beam
- HSM1g: Optional Test Beam Set

What's in the Box?

- 1 x Base frame
- 2 x Pier assembly
- 2 x Dial gauge stands
- 2 x Dial gauge
- 2 x Hanger clamps
- 1 x Tape measure
- 1 x Hex wrench set
- 2 x 10N weights
- 10 x 5N weights
- 2 x 0.5N Load hanger
- 1 x Test beam
- Instruction manual
- Packing list
- Test sheet
- Dedicated e-book

You might also like

- HSM1c: Advanced Beam Testing Apparatus (Analogue version)
- HSM1cD: Advanced Beam Testing Apparatus (Digital version)
- HST11: Continuous and Indeterminate Beams
- HST13: Deflection of Beams and Cantilevers

Weights & Dimensions

- Unit: 1400(L) x 400(W) x 400(H)mm
- Net Weight: 26 kg
- Gross: 1520(L) x 430(W) x 450(H)mm
- Gross Weight: 32 kg

Essential Services

- Sturdy Bench top

Operational Conditions

- Storage temperature: -10°C to $+70^{\circ}\text{C}$
- Operating temperature range: $+10^{\circ}\text{C}$ to $+50^{\circ}\text{C}$
- Operating relative humidity range: 0 to 95%, noncondensing

Ordering information

To order this product, please call PA Hilton quoting the following code: HSM1

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