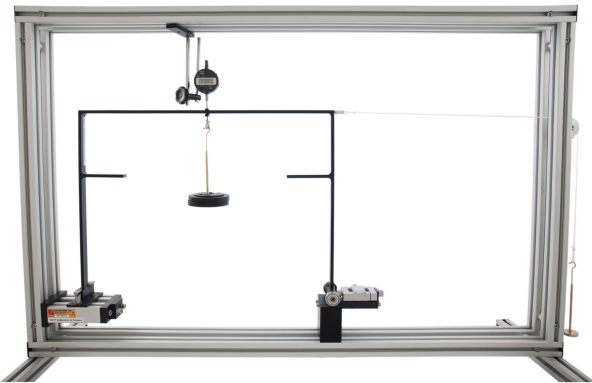




## DEFLECTION of FRAMES

### HST7



Year 3  
study

#### Features

- High quality, robust and durable components.
- Realistic steel welded portals.
- 5 x optional portals available.
- Numerous loading and dial gauge positions around each portal.
- Potential for customer designed portals to be used.
- Dedicated e-book supplied

#### Description

A 'rectangular' Portal frame and an 'S' frame made from rectangular solid steel section are provided with either pinned ends or simple supports to enable each frame to be set up in the HST1 Universal Frame and Stand (sold separately) and loaded horizontally and vertically. One end of the portal frame pivots on a knife edge, while the other end is free to move horizontally on a track plate against a load cell.

Horizontal reactions are monitored using the integral load cell within the track plate and its output fed into the HDA200 Interface (sold separately). Frame deflection and sway is measured using the dial gauges supplied. Load hangers, calibrated weights, cords and pulleys are provided to apply vertical and/or horizontal loading to the frames.

#### Related laws

- Castiglianos' Theorem.
- Clerk Maxwell's Theorem.
- Simpsons Rule.
- Horizontal Thrust
- Side Sway.
- Unit Load Method.
- Bending Moment Diagrams (BMD).

#### Learning capabilities

- Comparison of experimental results with theoretical values derived using Castigliano's theorem and numerical analysis by Simpson's rule.
- Study the load, horizontal thrust, deflections, sway in portal frames.

### Technical Specification

- Rectangular Portal: 600mm (W) x 450mm (H)
- "S" Frame with roller: 600mm (W) x 600mm (H)
- Steel Portal Frame material: 25mm (W) x 8mm (t)
- Weights Set: 2 x 0.1N, 4 x 0.2N, 1 x 1N, 2 x 2N, 6 x 5N, 2 x 20N, 1 x 50N.
- Load Cell: 0...500N
- Digital Dial Gauge: 12.7mm travel; 0.01mm resolution

### Essential Ancillaries

- HST1 (or HST100)
- HDA200

### Recommended Ancillaries

- HST7a
- HST7c
- HST7d
- HST7e
- HST7g

### What's in the Box?

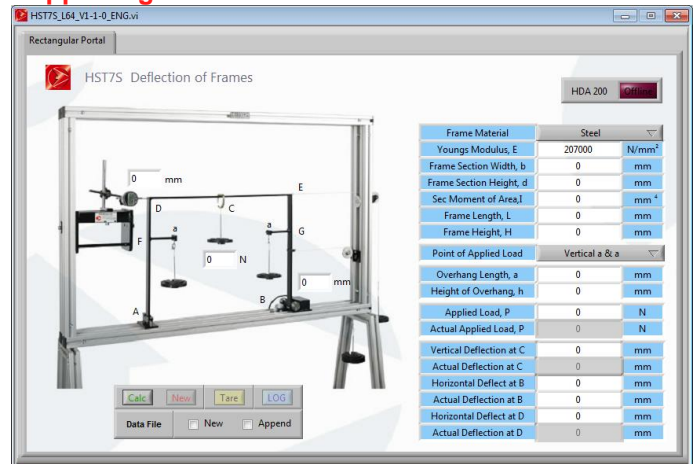
- 1 x Rectangular Portal
- 1 x 'S' Frame Portal
- 1 x Load Cell Track plate
- 2 x Digital Dial gauge and cable
- 2 x 0.1N, 4 x 0.2N, 1 x 1N, 2 x 2N weights
- 6 x 5N, 2 x 20N, 1 x 50N weights
- 2 x Load hanger
- 2 x Hanger Clamp
- 2 x Pulley
- 1 x Tape measure
- Accessories container
- 3 x Hex wrench
- Instruction manual
- Software

- E-book
- Packing list
- Test sheet

### You might also like

- HST8
- HST12

### Supporting Software



- HST7S

### Minimum System Requirements

- Computer or Laptop running WIN7 or above

### Weights & Dimensions

- Weight: 30 kg
- Length: 1350mm
- Width: 730mm
- Height: 580mm

### 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

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COUNTRY OF ORIGIN - UK WARRANTY PERIOD - 2 YEARS

**Ordering information**

To order this product, please call PA Hilton quoting the following code:  
HST7

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