BUCKLING of STRUTS
HST45

Year 2
study

Features

- Four test specimens, spring steel, four different lengths
- Force and Deflection connect to HDA200 Interface.
- Dial Gauge can traverse specimen length
- Specimen shape mapping
- Specimens can be loaded off-centre.
- Dedicated e-book supplied

Description

Spring steel specimen struts are supported between two precision chucks; one in the top and one within the screwjack loading mechanism. Attached to the end of the struts are blocks with equi-spaced 'V' grooves in the end face. A variety of end conditions can be created by either clamping the blocks directly into the chucks, or installing knife-edge blocks into the chucks. End conditions include pinned/pinned, fixed/pinned or fixed/fixed. The struts are compressed using the loading mechanism supplied. As the strut starts to deform, the amount of deflection is recorded using a dial gauge. The dial gauge can be moved up and down the strut length so that the deflection can be seen at various points. Both the load cell output and dial gauge output must be fed directly into the HDA200 Interface (sold separately).

Related Laws/Applications

- Euler's Theory.
- Euler's Buckling Load.
- Buckling Load against End conditions and Strut Length.

Learning capabilities

- Euler's theory
- Varying end conditions against Euler's buckling load
- Varying strut length against Euler's buckling load
- Off-centre Strut loading

Technical Specification

- Strut lengths: 350, 400, 450, 500mm
- Strut section: 25(W) x 1.70(H) mm
- Loading Mechanism: 0...500N
- Digital Dial Gauge: 12.7mm travel; 0.01mm resolution

Essential Ancillaries
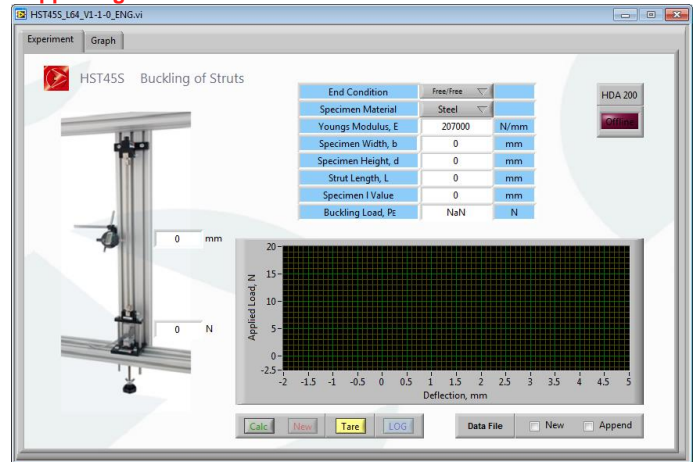
- HST1 (or HST100)
- HDA200

What's in the Box?

- 4 x Specimens
- 1 x Back Support
- 1 x Loading Mechanism
- 2 x Knife Edges
- 1 x Digital Dial Gauge and Data Cable
- 1 x Dial Gauge Stand
- 1 x Tape measure
- Accessories container
- 2 x Hex wrench
- Instruction manual
- Software
- E-book
- Packing list
- Test sheet

You might also like

- HSM15
- HSM10
- HST12

Supporting Software

- HST45S

Minimum System Requirements

- Computer or Laptop running WIN7 or above

Weights & Dimensions

- Weight: 8 kg
- Length: 840mm
- Width: 120mm
- Height: 40mm

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: HST45