



EQUILIBRIUM of RIGID BODY HST23B



Year 1
study

Features

- HST23 Optional experiment
- Real life application
- Visual experiment
- Simulated 'ladder' with movable mass
- Horizontal and Vertical reactions measured
- 'Ladder' angle adjustable
- Quick and easy movement of movable mass
- Rollers at each end of 'ladder'
- Restraint provided to avoid collapse of 'ladder'

Description

This option is available to enhance the experiments of the HST23. It uses a majority of the standard items supplied with the HST23, so no additional large costs are required. A simulated 'ladder' can be leant against the inside members of the HST1 or HST100 frames. At each end of the ladder are bearing rollers. The vertical roller is supported in a wall plate whilst the horizontal roller is supported in a ground plate. To prevent collapse of the ladder it is loosely restrained within the vertical wall plate. The vertical and horizontal reactions are provided by cords tensioned using a combination of calibrated weights. Equilibrium is monitored by visually observing the roller positions when the ladder is loaded. A sliding weight can be easily clamped at selected positions on the ladder while equilibrium is established. The weights and hangers provided with the HST23 are used for the HST23B.

Related Laws/Applications

- Equilibrium of Forces
- Vertical and Horizontal Reactions
- Reactions
- Tangential Friction
- Moments
- Inclination Angle

Learning capabilities

- Determine ground and wall reactions as a body moves up a ladder
- Experimental verification of calculations using the three conditions of equilibrium

Technical Specification

- Ladder length: 560mm (approx.)
- Increments on ladder: every 70mm
- Movable weight secured with knurled thumbscrew
- 'Ladder' angle from 10° to 45° during experiments
- Sliding mass: 0.5kg (approx.)

Essential Ancillaries

- HST23

What's in the Box?

- 1 x Ladder
- 1 x Movable mass
- 1 x Top track plate
- 1 x Bottom track plate
- 1 x Cord assembly

Weights & Dimensions

- Weight: 7 kg
- Length: 630mm
- Width: 80mm
- Height: 80mm

Essential Services

- HST23

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:
HST23B

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