FUNICULUR POLYGON and FORCES APPARATUS

HFC3

Year 1
study

Features

- Compact, visual bench top unit
- Elegant demonstration of the conditions of equilibrium
- Co-planar, concurrent and non-concurrent forces
- Five loads can be applied
- Large protractor for angular adjustment
- Reaction disc and strip supplied
- Full set of weights and hangers supplied

Description

A sturdy base board, supports a circular table above the bench top. The table supports a large protractor and central pin. Around the edge of the table can be secured movable pulleys. These pulleys can be secured at varying angles. Cords run over the pulleys and secure to a central ring, and Load hanger. The central ring sits over the central pin when the loads are being applied to the hangers. When the central ring is removed from the central pin, the system rests in its equilibrium position, and the lines of action of the forces are recorded by drawing along the weighted cords onto a piece of paper attached to the pulley table.

The loads are applied using the hangers and cords provided, with the cords easily connecting to the shapes by the use of the small hooks provided.

Two additional shapes are provided to expand the student learning into link polygons for three or more non-concurrent coplanar forces.

Related laws

- Static co-planar forces
- Concurrent forces
- Non-Concurrent forces
- Triangle of Forces

- Polygon of Forces
- Link Polygon
- Lines of action

Learning capabilities

- To resolve by experiment any suitable system of static coplanar forces which may or may not be concurrent
- To verify graphically using:
- a) triangle of forces for three concurrent coplanar forces
- b) polygon of forces for more than three concurrent coplanar forces
- c) link polygon for three or more non-concurrent coplanar forces
- To investigate (c) for either a disc or a rectangular shape
- To compare the accuracy of the experiment by comparing the experimental and graphical results

Technical Specification

- Base Board: 350(L) x 350(W) mm
- Raised Table: 300mm above base board, Ø460mm
- Protractor: 0…360°, 1° resolution
- 5 x pulley bracket
- 5 x Load hanger
- Weights set
- Reaction Disc: Ø160mm; 12 equi-spaced holes on Ø150mm PCD
- Reaction Strip: 223(L) x 13(W) mm; 15 holes at 15mm pitch

What’s in the Box?

- 1 x HFC3
- 5 x Pulley bracket
- 5 x Cord assembly
- 2 x Split ring
- 5 x Load hanger
- 1 x Reaction strip
- 1 x Reaction disc
- 1 x 3m Spare cord
- 20 x 0.1N; 10 x 0.2N; 5 x 1N; 8 x 2N; 4 x 5N
- Instruction manual
- Packing list
- Test sheet

You might also like

- HFC2
- HST23

Weights & Dimensions

- Weight: 12 kg
- Length: 350mm
- Width: 350mm
- Height: 350mm

Essential Services

- Sturdy Bench Top

Ordering information

To order this product, please call PA Hilton quoting the following code:
HFC3