BIFILAR / TRIFILAR SUSPENSION

HVT8



Year 2
study

Features

- Wall mounted apparatus
- Can be mounted to HST1, HST100, HAC14, HVT12f frames
- Two suspensions in One experiment
- Moment of Inertia of common shapes
- Timed oscillations with timer supplied

Description

A suspended wall bracket supports wire cables for a two wire (Bifilar) or three wire (Trifilar) suspension system. No drill chucks or cumbersome fixing devices are used, so that calculations are straight forward, as is the changing over of the two wire or three wire arrangement. The bifilar suspension consists of an upper suspension plate and two cables/cords at 50 mm radius. At the bottom end of the cable/cord is a cross bar with a set of holes for attaching the range of test specimens and again holes for the cable/cord set at 50mm radius. The Trifilar suspension comprises an upper suspension plate with three wires equally spaced on a pitch circle diameter. At the lower end of the cable/cord is the lower suspension plate with a central hole for attaching test specimens and 3 cable/cord holes at 50mm radius. The moment of inertia and radius of gyration of a heavy body can be found by timing its oscillation using the stopwatch supplied. The moment of inertia can be adjusted by the addition of a ring and solid cylinder mass to the rectangular bar suspended from the wires.

Related Laws/Applications

- Radius of Gyration
- Moment of Inertia

Learning capabilities

- To determine experimentally the moment of inertia and radius of gyration of a rectangular bar, ring and cylinder.
- Comparison with theoretical results.
- Comparison of Bifilar and Trifilar setups.

Technical Specification

- Rectangular Bar: 400(L) x 32(W) x 32(H) mm; 3.5kg
- Solid Cylinder: Ø70mm x 100mm long; 6.0kg
- Ring: Ø150 O.D x Ø75 i.d x 25.4 thick mm; 3.7kg

Recommended Ancillaries

- HAC14
- HST1
- HST100
- HVT12f

What's in the Box?

- 1 x Wall bracket
- 1 x lower plate
- 1 x lower arm
- 1 x Rectangular bar
- 1 x Cylinder
- 1 x Ring
- 1 x Tape measure
- 1 x Stop watch
- Instruction manual
- Packing list
- Test sheet

Weights & Dimensions

- Weight: 20 kg
- Length: 460mm
- Width: 250mm
- Height: 2000mm

Essential Services

- Sturdy vertical support

Ordering information

To order this product, please call PA Hilton quoting the following code:
HVT8

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