FRICTION of BELTS APPARATUS

HFN9



Year 2
study

Features

- Sturdy Wall mounted apparatus
- Can be mounted to HST1, HST100, HAC14, HVT12f frames
- One pulley caters for three belts. No interchanging of pulleys
- Constant tangential drive of pulley
- Three belts supplied; flat, vee, rope
- Customer specific belts can be used
- Full set of weights and hanger supplied

Description

The apparatus consists of a wall mounted pulley with a loaded belt. The pulley is made of aluminium and has two machined grooves to suit a flat, vee belt, and a rope. Each belt fits into its respective groove during testing. For a given belt tension and angle of lap, a turning moment can be applied by adding weights to the pulley drive hanger. The idea is to determine the torque which just causes the pulley to turn, and so to find the ratio of the belt tensions. This enables the belt tension equation to be verified and the coefficient of friction to be determined. The angle of lap can be easily varied by placing one end of each belt at different angular positions on the wall bracket. A removable pin and bar are used to enable the various angular positions to be achieved.

Related Laws/Applications

- Automotive
- Friction
- Machines
- Wear
- Slip
- Torque
- Belt drives
- Angle of lap

Learning capabilities

- To observe the relationship between the tensions in the two sides of a belt
- To assess the differences between Vee, rope, and flat belts
- To determine the coefficient of friction between the pulley and belt for the belt sections
- To investigate the effect of angle of lap

Technical Specification

- Single large pulley
- Flat groove and 40° 'V' groove
- 150mm effective groove diameter
- Pulley timing grooves at 18° intervals
- Belt anchor points at 15° intervals
- Safety interlock to stop pulley rotating

Recommended Ancillaries

- HAC14
- HST1
- HST100
- HVT12f

What's in the Box?

- 1 x HFN9
- 1 x Flat belt
- 1 x 'V' belt
- 2 x Hook
- 1 x Stopwatch
- 1 x 5m Spare cord
- 1 x Load hanger
- 4 x 0.1N; 3 x 0.2N; 1 x 1N; 2 x 2N; 1 x 5N; 2 x 10N; 4 x 20N; 4 x 50N
- Instruction manual
- Packing list
- Test sheet

You might also like

- HFN8

Weights & Dimensions

- Weight (excluding set of weights): approximately 10kg
- Length: 230mm
- Width: 150mm
- Height: 280mm

Essential Services

- Rigid Vertical Support

Ordering information

To order this product, please call PA Hilton quoting the following code:
HFN9

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