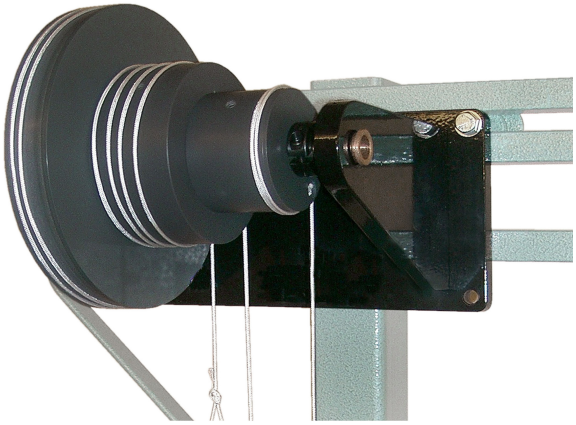
WHEEL and DIFFERENTIAL AXLE

HTM2



Year 1
study

Features

- Wall mounted apparatus.
- Can be mounted to HST1, HST100, HAC10, HAC14, HVT12f frames
- One compound Pulley; three diameters
- One diameter is wheel; two are the differential axle
- Axle has special hanger remaining vertical
- Full set of weights and hangers supplied
- Locking Mechanism

Description

A wheel is attached to a differential axle assembly of Ø114mm (major axle) and Ø38mm (minor axle). The wheel and differential axle are secured to a shaft that runs in bearings within a sturdy wall mounting bracket. The necessary cords and Load hangers are provided and weights are included. The three pulleys are fixed together to form a compound pulley. A single cord is attached to the wheel and wrapped around a number of times before hanging vertically and ending in a loop for the 'LOAD' hanger. A second cord is attached between the major and minor axles. The cord is wrapped in differing directions onto each axle, and this direction can be changed for different parts of the experiments. A special hanger (EFFORT) is mounted to the cord of the axles that allows vertical suspension whilst the axles rotate.

Related Laws/Applications

- Differential
- Simple Machines
- Velocity Ratio
- Mechanical Advantage
- Relationship between Load and Effort
- Effort of Friction
- Efficiency

Learning capabilities

- Experimental determination of velocity ratio
- Comparison with calculated values for simple wheel and differential axle machine
- Determination of variation with load of effort
- Determination of variation with load of efficiency
- Determination of variation with load of Limiting efficiency of the machine

Technical Specification

- Diameter of wheel: 170mm
- Diameter of major axle: 100mm
- Diameter of minor axle: 67mm
- Velocity Ratio: 10.5 : 1
- Maximum recommended Load: 50N
- Weights set: 4 x 0.1N, 3 x 0.2N, 1 x 1N, 2 x 2N, 2 x 5N, 1 x 10N, 2 x 20N

Essential Ancillaries

- HAC14
- HAC10
- HST1
- HST100
- HVT12f

What's in the Box?

- 1 x HTM2 assembled
- 1 x Sheaved Hanger
- 1 x Load hanger
- 4 x 0.1N, 3 x 0.2N, 1 x 1N weights
- 2 x 2N, 2 x 5N, 1 x 10N, 2 x 20N weights
- 1 x Tape measure
- Spare Cord
- Instruction manual
- Packing list
- Test sheet

You might also like

- HTM1
- HTM21

Weights & Dimensions

- Weight: 10 kg
- Length: 410mm
- Width: 330mm
- Height: 240mm

Essential Services

- Recommended Suspension height not to exceed 1.5metres

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: HTM2

All brand and/or product names are trademarks of their respective owners. Specifications and external appearance are subject to change without notice. The colour of the actual product may vary from the colour shown in the brochure.
Copyright © 2018 P.A. Hilton Limited. All rights reserved. This technical leaflet, its contents and/or layout may not be modified and/or adapted, copied in part or in whole and/or incorporated into other works without the prior written permission of P. A. Hilton Limited. Hi-Tech Education is a registered trade mark of P. A. Hilton Limited.
COUNTRY OF ORIGIN - UK WARRANTY PERIOD - 5 YEARS