



# SIMPLE FLYWHEEL HTM9



**Year 1** study

## Features

- Wall mounted apparatus.
- Can be mounted to HST1, HST100, HAC10, HAC14, HVT12f frames
- · Flywheel 'locked' before weights applied
- All hangers and weights supplied
- Timing system supplied

#### Description

A steel disc Ø250mm diameter and 30mm thick is mounted on a shaft running in precision bearings housed in a substantial wall bracket. A mark on the flywheel and a pointer on the bracket enables the revolutions to be counted and timed with the stop watch supplied. A cord, Load hanger and set of weights are provided to start the flywheel rotating. From the timings of a known number of revolutions, students can then verify the experimental capabilities of the apparatus.

## **Related Laws/Applications**

- Newton's Second Law of Motion
- Rotational Mass
- Rotational Acceleration
- Moment of Inertia
- Angular Acceleration
- Torque
- Couple
- Rotating Machinery

#### Learning capabilities

- To verify the second law of motion applied to a flywheel, i.e. the relationship between torque and angular acceleration
- To compare experimental and calculated moments of inertia of a disc
- To study the energy transformations and to demonstrate that a flywheel can be used to store energy



## **Technical Specification**

- Coated Steel Flywheel
- Flywheel: Ø250 x 30mm thick
- Weights set: 10 x 0.1N, 10 x 0.2N, 1 x 1N, 2 x 2N, 1 x 5N, 1 x 10N
- 1 x Load hanger

# **Essential Ancillaries**

- HAC14
- HAC10
- HST1
- HST100
- HVT12f

## What's in the Box?

- 1 x HTM9 assembled
- 1 x Load hanger
- 10 x 0.1N, 10 x 0.2N, 1 x 1N weights
- 2 x 2N, 1 x 5N, 1 x 10N weights
- 1 x Stopwatch
- 1 x Tape measure
- Spare Cord
- Instruction manual
- Packing list
- Test sheet

# Weights & Dimensions

- Weight: 18 kg
- Length: 190mm
- Width: 250mm
- Height: 300mm

## **Essential Services**

· Recommended Suspension height not to exceed 1.0metres

## **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: HTM9

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