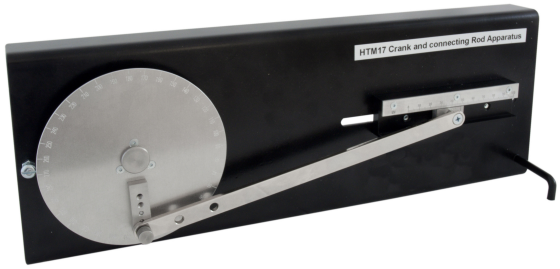
CRANK and CONNECTING ROD APPARATUS

HTM17



Year 1
study

Features

- Excellent visual bench top unit
- Sturdy all metal unit
- Engraved protractors
- Three crank lengths, three crank radius

Description

This bench top unit comprises a sturdy base plate, which can be mounted vertically for demonstration purposes or flat for experimental use. On the left of the base is a large rotating protractor scale 'Crank' that rotates on a shaft and bearing arrangement. The increments on the protractor match with a indicator that ensure accurate reading of the angular movement of the scale. Integral to this protractor are varying radius positions used for locating the crankshaft. At the other end of the crankshaft is a slider 'Piston' that runs in a slide housing. A linear scale mounted to this housing ensures accurate readings of the piston displacement. An input disc can houses a crank pin, which can be fixed at various radii across the input disc face.

Adjustments can be made to the position of the crank shaft on the crank. This adjusts the crank length and hence the stroke of the piston. There are also three (3) positions available on the crank shaft to change the length of the crankshaft. For incremental angular movement of the protractor, the associated movement of the slider are recorded and plotted.

Related laws

- Linear Motion to Rotation
- Simple Machines
- Connecting Rods
- Crank, piston, flywheel
- Combustion Engine

- Automotive

condensing

Learning capabilities

- To determine the relationship between crank angle and stroke
- To study the effect of changing the crank radius
- To study the effect of changing the connecting rod length
- To investigate by graphical differentiation the relationship between angular and linear speeds and accelerations of the mechanism
- To construct velocity and acceleration diagrams for the mechanism
- Comparison of experimental results with theoretical predictions
- Study the effect of crank stroke with fixed cylinder

Technical Specification

- Crank pin radii: 25, 37.5, 50mm
- Connecting rod lengths: 120, 140, 160mm
- Protractor: 360°, 1° increments

What's in the Box?

- 1 x HTM17 Assembly
- Hex Wrench
- Instruction manual
- Packing list
- Test sheet

Weights & Dimensions

- Weight: 5 kg
- Length: 420mm
- Width: 75mm
- Height: 150mm

Essential Services

- Sturdy Bench top

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

Ordering information

To order this product, please call PA Hilton quoting the following code:
HTM17