



STATIC and DYNAMIC BALANCING APPARATUS

HTM66



Year 2
study

Features

- Self-contained bench top apparatus
- All rotating parts fully guarded
- Three mass sets of different mass
- Masses can be adjusted for radius
- Many experimental adjustments can be made.
- Speed controlled and limited.
- Power 'cut-out' with guard removed.

Description

A bench mounted enclosure contains all the electronics and safety guard for this apparatus. On top is a shaft running in bearings. The shaft can carry up to four balance masses (non-coplanar). Each mass can be easily adjusted for imbalance by its radius, linear and angular position.

Linear and angular scales ensure accurate positioning of

each mass. A set of 12 balance masses are provided of varying mass, and each one has a thin alignment slot produced.

During dynamic balancing the shaft is run from a speed controlled motor through a pulley and belt arrangement. The speed of the motor is accurately controlled from the front panel. When static balancing is required the shaft is disengaged from the motor by simply sliding off the belt. To statically balance the shaft and each individual balance mass, the balance moment is measured using precision weights, bearing balls, pulley and cords.

Related laws

- Static balancing
- Dynamic balancing
- Non-coplanar masses
- Vector diagrams

- Vector resolution
- Resultant forces
- Moment polygons
- Moments
- Imbalance
- Vibration

Learning capabilities

- Static balancing of non-coplanar masses
- Dynamic balancing of non-coplanar masses
- Comparison between theoretical and actual results
- Use of vector diagrams, vector resolution, resultant forces, moment polygons, turning moments

Technical Specification

- Speed controlled motor shaft: 0...1400rpm
- Balance mass radius: 30...70mm
- Balance masses: 50, 75, 100g
- Linear adjustment: scale in millimetres
- Angular adjustment: 360°, 1° resolution

What's in the Box?

- 1 x HTM66 Assembly
- 1 x Protective Dome
- 1 x Static Balancing Attachment
- 4 x 50g Balance Mass
- 4 x 75g Balance Mass
- 4 x 100g Balance Mass
- 100 x Ball weights
- 2 x Load hanger
- 1 x Combination Spanner
- 1 x Power Supply
- Locking Handle
- Instruction manual
- Packing list
- Test sheet

You might also like

- HVT5

Weights & Dimensions

- Weight: 8 kg
- Length: 500mm
- Width: 500mm
- Height: 460mm

Essential Services

- 110/120V, 60Hz or 220/240V, 50Hz, single phase, live neutral and earth
- 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 condensing

Ordering information

To order this product, please call PA Hilton quoting the following code:
HTM66

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