



# BEAM BENDING (TRANSVERSE) VIBRATIONS MODULE HVT12C



## 1 study

### Features

- Study of flexible beam vibration
- Customer selected beam can be tested
- Exciter can be placed anywhere along the length of the beam
- Masses can be modified dependant upon learning requirement

### Description

A flexible beam is supported between two end brackets which create simply supported end conditions. One end bracket allows pivoting only whilst the other allows rolling and pivoting only. One of the brackets is supported on vertical supports that can be moved depending on the beam length being used. The vertical brackets and standard length beam are both supplied. The beam is forced to vibrate using a motor exciter. This motor exciter can be attached anywhere along the working length of the beam. The motor exciter supplied has the ability to have its mass increased by the addition of the calibrated masses supplied. These masses can also be attached in a stack at other points on the test beam. A damping tub, damping medium and damping discs are also supplied to give additional adjustment to the apparatus.

### Related Laws/Applications

- Characteristics of Vibration
- Single Degree of Freedom
- Natural Frequency
- Resonance
- Newton's Second Law
- Conservation of energy
- Hooke's Law
- Mechanical engineering
- Aeronautical engineering
- Structural engineering
- Beam bending

#### Learning capabilities

- Free vibration of a simply supported beam
- Forced vibration of a simply supported beam
- Natural frequency of oscillations
- Resonance
- Amplitude of vibrations
- Phase lag

#### Technical Specification

- Test beam: 772(L) x 25(W) x 5(H)mm, flexible steel
- Disturbing force plugs: Ø4mm, Ø5mm, Ø6mm
- Exciter mass: 3.6kg (approx)
- Damping tub total capacity 2000ml

#### Essential Ancillaries

- Requires HVT12F, HAC90, HAC110 and HVT12K for operation

#### Recommended Ancillaries

- HVT12G

#### What's in the Box?

- 1 x Pivot Bracket
- 2 x Frame Divider
- 1 x Linear Pivot
- 1 x Motor Exciter
- 1 x Damping accessory
- 1 x Test Beam
- 5 x 5N Weights
- Tools
- 6 x disturbance plugs
- Instruction manual
- Packing list
- Test sheet

#### Weights & Dimensions

- Weight: 24kg
- Length: 90mm
- Width: 450mm
- Height: 400mm

#### Essential Services

- HVT12F HAC90 HAC110 HVT12K

#### Ordering information

To order this product, please call PA Hilton quoting the following code:  
HVT12C

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