



SEISMIC TABLE HVT5



Year 2
study

Features

- Self-contained setup with all accessories supplied for large range of experiments detailed in manual.
- Variable frequency range available for testing, test setups can be taken through resonance.
- Amplitude of vibration adjustable.
- Frequency can be set and locked as well as pulse function.
- Digital display for showing cycles per second.
- Sensor Box with digital oscilloscope functions provided with two single axis accelerometer sensors.
- Data acquisition software USB linked to sensor box to record and store frequency data.
- Accessory for measuring displacement of models provided.

Description

The HVT5 Seismic Table comes with a wide range of model structures and variations to test many different concepts of ground movement activity and structure reaction. With this equipment students can learn some of the fundamental concepts of structure design and designing principles as well as gain a much fuller understanding of the background theory of many related topics and how they are applied in industry. This apparatus is a uniaxial motion simulator (one-degree-of-freedom) but with this and the accessories supplied topics such as resonance, dampening, torsion, material properties and end condition fixings can be investigated. The unit consists of a bench mounted main base with front panel controls and display, the amplitude as well as the frequency of movement can be controlled and set by the user. Two single axis accelerometer sensors are provided with magnetic bases; these can be fixed to the structure models and linked via sensor box, with digital oscilloscope capabilities, to a PC or laptop where data can be captured (via the software provided) and recorded for future analysis. Comparison of a wide variety of models and setup variations can be achieved with the mounting boards provided. It is possible for students to construct their own models to fix to the platform for testing although only experiments with the equipment provided is outlined in the manual.

Related Laws/Applications

- Earthquake
- Structure Motion
- Civil Engineering
- Construction
- Vibration

Learning capabilities

- Uniaxial vibration, single degree of freedom.
- Dampening types and effectiveness on reducing vibration and magnitude of displacement.
- Anti-seismic protection.
- Experiments looking at cross sectional area, density, bending moments, centre of gravity and weight distribution.
- Calculating natural frequency, damping ratio, spring stiffness and frequency response.
- Fixing conditions
- Torsional twist of 3D models.
- Local vibration.
- Free location of sensor pick-up points and orientation.
- Different material reaction to amplitude and frequency of movement.
- Investigation of resonance speeds and modes. Changing setup variables to manipulate resonance.

Technical Specification

- Frequency Range: 1 to 14Hz, 60 to 840 RPM (+/- 10%) dependant on setup and accessories used.
- Amplitude range: 0- 10mm
- Single Axis Accelerometers: x 2
- 9Vdc and 12Vdc operating voltage

What's in the Box?

- 1 x HVT5
- 1 x Sensor box
- 1 x Stiffness assembly
- Long and short legs
- 1 x Vibration antenna
- 8 x weights
- 1 x roller support model
- 2 x PVC sides
- 4 x Braces
- 1 x Silicone plate
- 1 x 15Vdc power supply
- 2 x accelerometer
- 5 x 100g masses
- 1 x USB cable
- Instruction manual
- Packing list
- Test sheet

You might also like

- HTM66

Weights & Dimensions

- Weight: 10 kg
- Length: 670mm
- Width: 480mm
- Height: 340mm

Essential Services

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

Ordering information

To order this product, please call PA Hilton quoting the following code: HVT5

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COUNTRY OF ORIGIN - UK WARRANTY PERIOD - 5 YEARS