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Vibration

DESCRIPTION

The VIBRATIONS range enables clear and comprehensive learning of VIBRATIONS covering a variety of theories and topics. An understanding of the way in which materials and components react to excitation, is fundamental when studying the application of loads on a variety of fixed structures and rotating machinery. The VIBRATIONS range forms a comprehensive range of equipment, from simple pendulums, beam vibrations to complex structural vibrations. All are suitable for demonstration and experimental work.

TORSIONAL VIBRATION APPARATUS

This bench top mounted unit is used to study torsion and torsional vibration. The apparatus is constructed around a profiled aluminium base onto which are mounted 4 vertical chuck pillars. Each pillar contains a central shaft running in precision bearings with a chuck at one end which grips a torsion specimen. Each chuck also contains a large disc of varying mass and inertia. With these chucks it is possible to assemble a torsion specimen with up to 3 masses. Vibrations are transmitted into the torsion specimen by means of an exciter, which is electronically speed controlled from the main control unit. Angular movement sensors on the chuck pillars provide the amplitude of vibration as an electrical signal. The control unit conditions these signals and makes them available to view on the Data Acquisition System. Static twist of the specimen is achievable using the attachable protractor, pointer, hanger and calibrated weights supplied.

VIBRATIONS FRAME

The Vibrations Frame offers the ideal working frame for all of the Universal Vibration apparatus experiment modules.

Manufactured from high quality, ergonomic aluminium profile, it comprises solid side profiles for rigidly mounting experiment components and dual upper and lower members, which creates a mounting slot thus allowing the individual experiment components to be interchanged quickly and efficiently.

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DATA ACQUISITION SYSTEM

This unique and compact Data Acquisition System is an essential accessory for the Universal Vibrations Apparatus experiments. When connected to the relevant experiment and its sensors, the system allows measuring, capturing, storing and analyzing of experiment data. Experiment software supplied with the apparatus simulates an oscilloscope, allowing parameters such as phase angle, excitation frequency and displacement to be viewed. The parameters are fed into the system via the experiment sensors, i.e. proximity sensor, LVDT.