

Product Name :
Forces On A Beam Apparatus

Product Code :
ELABBFA0024



Description :

Forces On A Beam Apparatus

Technical Specification :

Forces On A Beam Apparatus Features Low cost, effective teaching. Self-contained. Bench mounted. Direct measurement of reactions by scales. Loads and supports can be placed in any position. Practical verification of equilibrium of vertical force or moments. Simply supported beams or levers. Three year warranty. Range of Experiments Experimental determination of the reaction forces in the supports of a simply supported beam under various loadings. Measurement of loads and moments on a lever. Comparison with calculated results and validation of the principle of equilibrium. Description A horizontal length of material with a vertical load system is called a beam. It is one of the most basic engineering ways of supporting a load. External forces such as the applied loads and the beam support reactions have to be in equilibrium. Given a loading system, the support reactions can be calculated from force and moment equations. This apparatus is designed for simple experiments and demonstrations on simply supported beams. Two scales act as supports and enable reactions to be read directly. Two movable load hangers allow loads to be put in a number of positions. Levers can be investigated by placing the beam across one of the scales. Different leverage ratios can be set up using an adjustable tie rod which locates in one of three alternative positions on the base plate. The force in the rod is measured by a linear spring balance. This equipment is part of a range designed to both demonstrate and experimentally confirm basic engineering principles. Great care has been given to each item so as to provide wide experimental scope without unduly complicating or compromising the design. Each piece of apparatus is self-contained and compact. Setting up time is minimal, and all measurements are made with the simplest possible instrumentation, so that the student involvement is purely with the engineering principles being taught. A complete instruction manual is provided describing the apparatus, its application, experimental procedure and typical test results.

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