LAB ENGINEERING

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Product Name :	**Product Code :**
Bending Moment Apparatus	ELABBFA003

Description :

Bending Moment Apparatus

Technical Specification :

Bending Moment Apparatus Features Low cost, effective teaching Self-contained Bench mounted Experimental determination of bending moment at a beam section Loads and supports can be placed in any position Visual vertification of the nature of bending moment Allows investigation of stability and influence lines Reinforces concept of equilibrium of vertical forces and moments Three year warrant Range of Experiments To comprehend the action of moment of resistance in a beam To measure the bending moment at a section of a loaded beam and to compare with a theoretical estimate To study the definition of an influence line for bending moment Description A length of material supported horizontally and carrying vertical loads is called a beam. The loading causes bending and transverse shearing. The loads and reactions are the 'external' forces acting on the beam. They must be in equilibrium. However, the strength of the beam depends on 'internal' forces or moments. This experiment demonstrates the nature of these internal forces and their dependence on the external system of forces. The experimental beam is in two parts, joined together by a pair of low friction ball bearings. An underslung spring balance provides a resisting moment, and also allows the section bending moment to be measured. A hinged metal strip to simulate the loading pattern of panelled girder for a more advanced experiment on influence lines is available. The beam is simply supported on end bearings and several weight hangers can be attached at any position on either side of the hinge. 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.