



### Features

- Bench mounted.
- Direct measurement of reactions by spring balances.
- Loads and supports can be placed in any position.
- Practical verification of equilibrium of vertical force or moments.
- Simply supported beams or levers can be set up.

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.

Tesca Reaction of Beam Apparatus is designed for simple experiments and demonstrations on simply supported beams. Two spring balances act as supports and enable reactions to be read directly. Three movable load hangers allow loads to be put in a number of positions.

Levers can be investigated by suspending the beam from the free-standing frame, and holding down the end with a spring balance.

Note: Specifications are subject to change.

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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.

### Specifications

- Determination of the reaction forces in the supports of a simply supported beam under various loadings; also measurement of loads and moments on a lever; validation of the principle of equilibrium.
- The apparatus consists of a beam of @1m long, linear spring balances, three load hangers, and a bench top mounting unit.
- Technical manual for student and lecturer provided.
- 1m ruler supplied
- Set of weights

### 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.