Order Code - 32191
Advanced Beam Testing Apparatus

An unlimited range of beam experiments can be performed to measure support reactions, deflections and rotations of simply supported, fixed and two span continuous beams, simple and propped cantilevers, and sinking supports. Differing material and section beams supplied are carried by pinned supports on three load-measuring piers each containing an electronic load cell which measures the vertical reaction forces. Optionally, output from each load cell is fed into the Data Acquisition Interface supplied. Data Acquisition Software captures the key experimental parameters from the hardware. Three dial gauges on movable stands measure the beam and support displacements. Supplied with hangers, calibrated weights set and set of test beams.

Specifications

- Demonstrate and evaluate slope and deflection of cantilevers and beams
- A variety of investigations to include simply supported and fixed ends and propped cantilevers, support reactions, continuous beams
- A range of beam materials and cross sections
- One of a range of interchangeable experiments, which mount in bench mounted test frame (supplied)
- Three reaction-measuring piers incorporating an electronic load indicator. The piers have a re leveling mechanism to simulate or compensate for sinking supports and three dial gauges measure the vertical deflection
- Beam locates on pier supports, which allow for vertical reactions to be transmitted but no horizontal restraints
- Pier supports allow beams to be clamped or rest on a knife edge
- Fourth pier for clamping the end of a beam or cantilever and allows for the fixing moment of a propped cantilever or fixed beam to be measured
- Three dial gauges on adjustable stands to measure deflections over the test beam.
- Four load hangers allow point and distributed loadings to occur
- Digital display supplied for viewing of forces and deflections
- Software supplied
- Comprehensive technical manual
- Set of slotted weights included

Experiment Possibilities

- All variables in deflection of beams
- Slope and curvature of beams
- Support reactions of single span and continuous beams
- Effect of sinking supports
- Area moment theorems
- Super-position
- Clerk Maxwell's reciprocal theorem
- Flitched beams, optional
- Non-Uniform beams, optional
- Comparison of measured reactions with theoretical values
- Study of effect of sinking supports

Note: Specifications are subject to change.

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