

KSM-068**ADVANCED BEAM TESTING APPARATUS**

An unlimited range of beam experiments can be conducted to measure support reactions, deflections, and rotations for simply supported beams, fixed beams, two-span continuous beams, simple and propped cantilevers, and sinking supports.

The supplied beams, made from different materials and cross-sections, are carried by pinned supports mounted on three load-measuring piers. Each pier contains an electronic load cell that measures vertical reaction forces.

Optionally, the output from each load cell can be connected to the supplied Data Acquisition Interface, with the Data Acquisition Software capturing key experimental parameters directly from the hardware.

Three dial gauges on movable stands are provided to measure beam and support displacements. The apparatus is also supplied with hangers, a calibrated weights set, and a selection of test beams.

Specifications

- Demonstrates and evaluates the slope and deflection of cantilevers and beams
- Supports a variety of investigations, including:
 - Simply supported beams
 - Fixed-end beams
 - Propped cantilevers
 - Continuous beams
 - Support reactions
- Accommodates a range of beam materials and cross-sections
- Part of a range of interchangeable experiments designed for mounting in a bench-mounted test frame (supplied)
- Includes three reaction-measuring piers with electronic load indicators and re-leveling mechanisms to simulate or compensate for sinking supports
- Three dial gauges measure vertical deflection
- Pier supports allow vertical reactions without horizontal restraint, with options to clamp beams or support them on a knife edge
- Fourth pier enables clamping of a beam or cantilever end to measure fixing moments in propped cantilevers or fixed beams
- Three adjustable dial gauge stands for deflection measurement along the test beam

Note: Specifications and Photos can be altered without prior notice in our constant efforts for improvement.



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- Four load hangers for applying point and distributed loads
- Digital display for real-time viewing of forces and deflections
- Supplied software for data acquisition and analysis
- Comprehensive technical manual included
- Set of slotted weights supplied

Experiment Possibilities

- Investigation of all variables affecting beam deflection
- Measurement of slope and curvature of beams
- Determination of support reactions for single-span and continuous beams
- Analysis of the effect of sinking supports
- Verification of area-moment theorems
- Application of the superposition principle
- Verification of Clerk Maxwell's reciprocal theorem
- Study of flitched beams (optional)
- Study of non-uniform beams (optional)
- Comparison of measured reactions with theoretical predictions
- Detailed study of the influence of sinking supports

