



Features

- Ideal for student use and classroom demonstrations
- Bench-mounting apparatus
- Self-contained – needs no other parts
- Explains 'shear centre' and the use and construction of Mohr's circle
- Supplied with structural and stress analysis textbook with full theory
- Supplied with set of different specimens

Tesca Unsymmetrical Cantilever Apparatus allows students to load a cantilever and accurately measure its deflection in any coplanar direction.

Students mount a test beam vertically in a frame. The top of the test beam fixes to a holding ring that can rotate through 360 degrees.

Students apply a horizontal load in set increments (weights included) to the bottom (free end) of the test beam. Digital indicators measure the test beam deflections in two directions, at right-angles to each other. Each indicator has a socket and additional cable for connection to Data Acquisition System.

Students apply loads to the beam in set increments and record its displacement. Students can then rotate the beam to another position and repeat the experiment. This allows

Note: Specifications are subject to change.

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students to use the Mohr's circle method to find the principal second moments of area of each section.

To find the shear centre of a test beam, students attach a cross-piece to the free end. The cross piece allows students to apply loads at different positions across and outside the section of the cantilever.

The equipment includes a user guide which describes how to assemble and use the equipment, with practical theory, experiment procedures and typical results.

Specifications

- Digital indicators:
 - Two, each with a digital display U-shape cross-section
 - L-shape cross-section
 - Solid Rectangular cross-section
- Test weights:
 - 5 weight hangers
 - 150 weights, each of 10 g

Experiments

Investigations into bending of unsymmetrical cantilevers, including:

- Vertical and horizontal displacement measurement for varying angles of applied load
- Demonstration that maximum and minimum vertical deflection occurs when horizontal deflection is zero
- Use of Mohr's circle
- Experimental and theoretical determination of the principal moments of area of test sections
- Location of shear centre of each section

Required Services

- Bench space needed: 1 m x 0.6 m