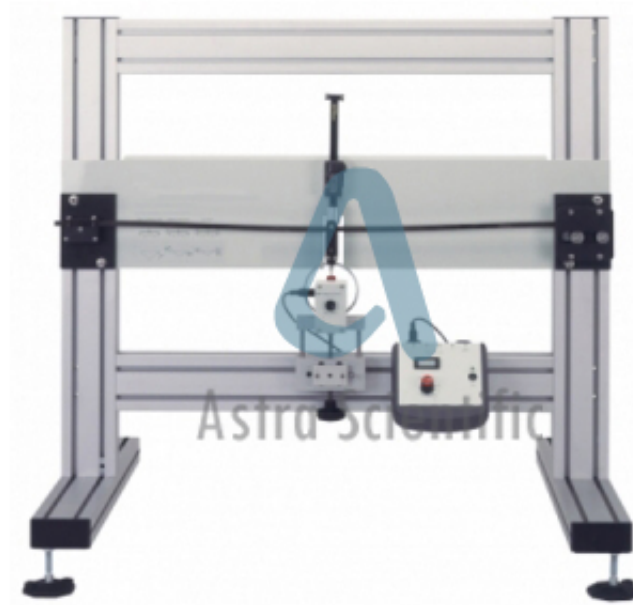


**Product Name :**  
Astra Scientific Elastic Properties of Deflected Beam Apparatus with Data Acquisition

**Product Code :**  
ASTSTRUCTURAL-0006



**Description :**

Astra Scientific Elastic Properties of Deflected Beam Apparatus with Data Acquisition

**Technical Specification :**

**Description:**

An experimental apparatus to investigate the practical plastic bending of beams.

The experiment hardware fitted a Structures Test Frame. Students fix a specimen beam in chucks at both ends of a backboard. The chucks can either clamp the beam, or hold it on a knife-edge. The students then load the beam using a screw mechanism and electronic load cell.

The load cell connects to a Digital Force Display, which displays the load as the beam deforms. A long-travel digital deflection indicator on the backboard measures specimen deformation. To compensate for the specimen shortening as it deforms, one of the chucks moves along the backboard, relative to the deformation.

To apply a load until the specimen beam is in the fully plastic condition, that is, the beam has undergone plastic collapse. Compare the beam behavior with theoretical predictions based on traditional yield stress theory.

The Operation Manual provides details of the equipment including sample experiment results.

The Operation Manual describes how to use the equipment and gives experiment procedures.

For extra 'virtual' experiments, supply the optional Structures Software, for use on a suitable computer. The virtual experiments simulate the tests you can perform with the hardware.

They also extend the choice of tests beyond that available using only the hardware, for example: higher loads, uniform loads or different test specimens. This extends the student's learning experience.

For automatic data acquisition of your experiment results, supply the optional Automatic Data Acquisition Unit. Supplied as standard with the Structures Software that displays and logs your experiment results and gives the extra virtual experiments.

**Key features:**

- High-quality structures Training module for students of mechanical, civil and structural engineering
- Allows safe and practical experiments into plastic bending of beams
- Realistic and verifiable experiment results
- Optional Structures Software package for extra, 'virtual' experiments, that simulate and confirm the results from your hardware and allow extended experiments
- Optional unit with Structures Software package for automatic data acquisition and virtual experiments



## Astra Scientific

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