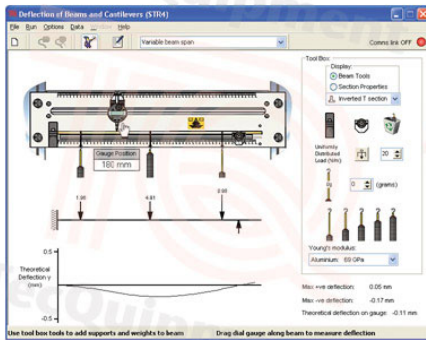


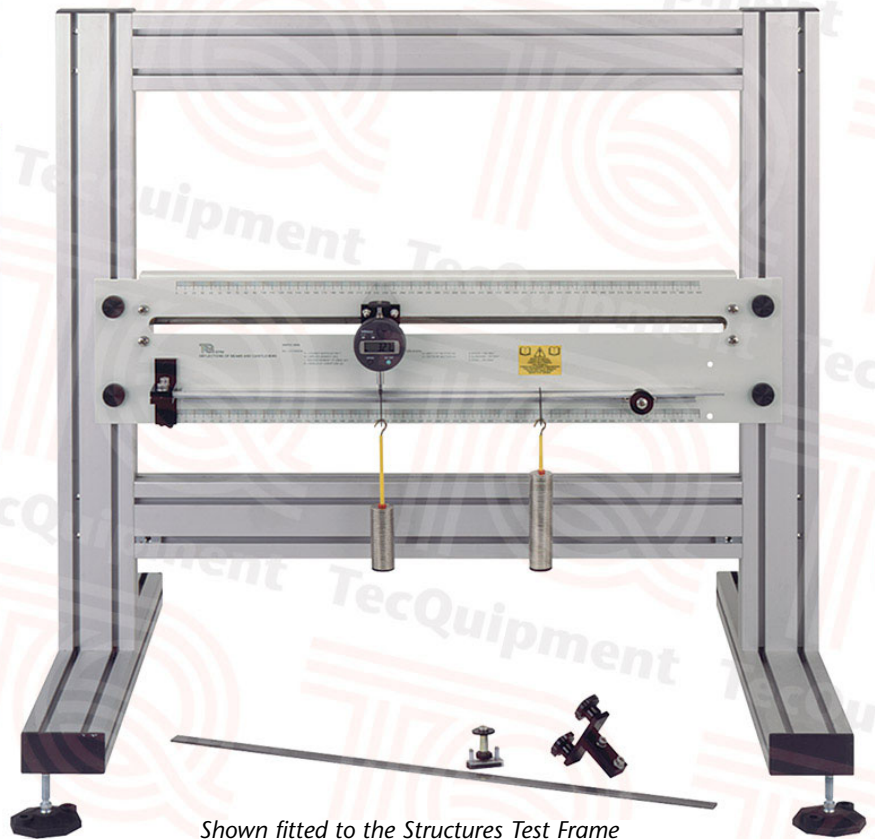
STR4

Deflection of Beams and Cantilevers

For study of beam deflection under different loads and fixing conditions



Screenshot of the optional TecEquipment Structures Software



Shown fitted to the Structures Test Frame (supplied separately)

- High-quality structures teaching module for students of mechanical, civil and structural engineering
- Allows safe and practical experiments into deflections of beams and cantilevers
- Realistic and verifiable experiment results
- Optional TecEquipment's Structures Software package for extra 'virtual' experiments that simulate and confirm the results from your hardware and allow extended experiments
- Optional STR2000 unit including TecEquipment's Structures Software package for automatic data acquisition **and** virtual experiments
- One of many interchangeable experiment modules from TecEquipment's modern, flexible and cost-effective Structures teaching system
- Ideal for classroom demonstrations, or students working in pairs or small groups

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- An ISO 9001 certified company

STR4

Deflection of Beams and Cantilevers

Description

The experiment hardware consists of a backboard that fixes to the Structures Test Frame (STR1, available separately). Test beams fit onto the backboard using a rigid clamp and knife-edge supports. Students apply loads at any position using hangers holding various masses. Mounted on a trammel, a digital deflection indicator traverses the beam. The indicator measures beam deflection. Scales on the backboard show the position of the indicator, the loads and supports.

The lecturer guide provides details of the equipment including sample experiment results. The student guide describes how to use the equipment and gives experiment procedures.

For extra 'virtual' experiments, TecEquipment can supply the optional TecEquipment Structures Software (STRS), 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, TecEquipment can supply the optional Automatic Data Acquisition Unit (STR2000). Supplied as standard with the STR2000 is TecEquipment's Structures Software that displays and logs your experiment results and gives the extra virtual experiments.

Standard Features

- Supplied with lecturer guide and student guide
- Two-year warranty
- Made in accordance with the latest European Union directives

Experiments

Examination of:

- Beam deflections
- General bending formulae
- Beam end rotations
- Elastic moduli (Young's modulus) for various materials

Typical conditions are:

- Cantilever
- Propped cantilever
- Encastre beam
- Simply supported beam

Essential Ancillaries

- Structures Test Frame (STR1)

Recommended Ancillaries

- Structures Software (STRS) for virtual experiments
- or**
- Automatic Data Acquisition Unit (STR2000) for automatic data acquisition **and** virtual experiments

Operating Conditions

Operating environment:

Laboratory environment

Storage temperature range:

-25°C to +55°C (when packed for transport)

Operating temperature range:

+5°C to +40°C

Operating relative humidity range:

80% at temperatures < 31°C decreasing linearly to 50% at 40°C

Specification

Nett dimensions and weight:

880 x 180 x 120 mm, 5.5 kg

Packed dimensions and weight:

Approximately 0.060 m³, 7 kg

Loads:

10 knife-edges with weight hangers and 150 x 10 g masses

Test beams:

- 1 x aluminium
- 1 x steel
- 1 x brass

Deflection measurement:

Digital deflection indicator

Accessories:

Rule and vernier