

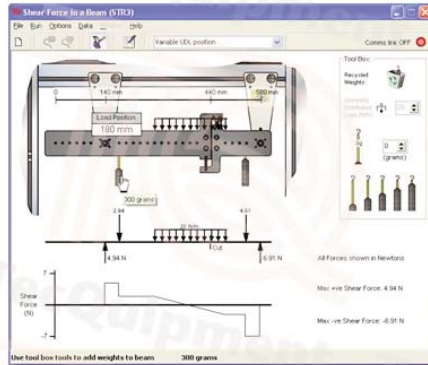


## Structures

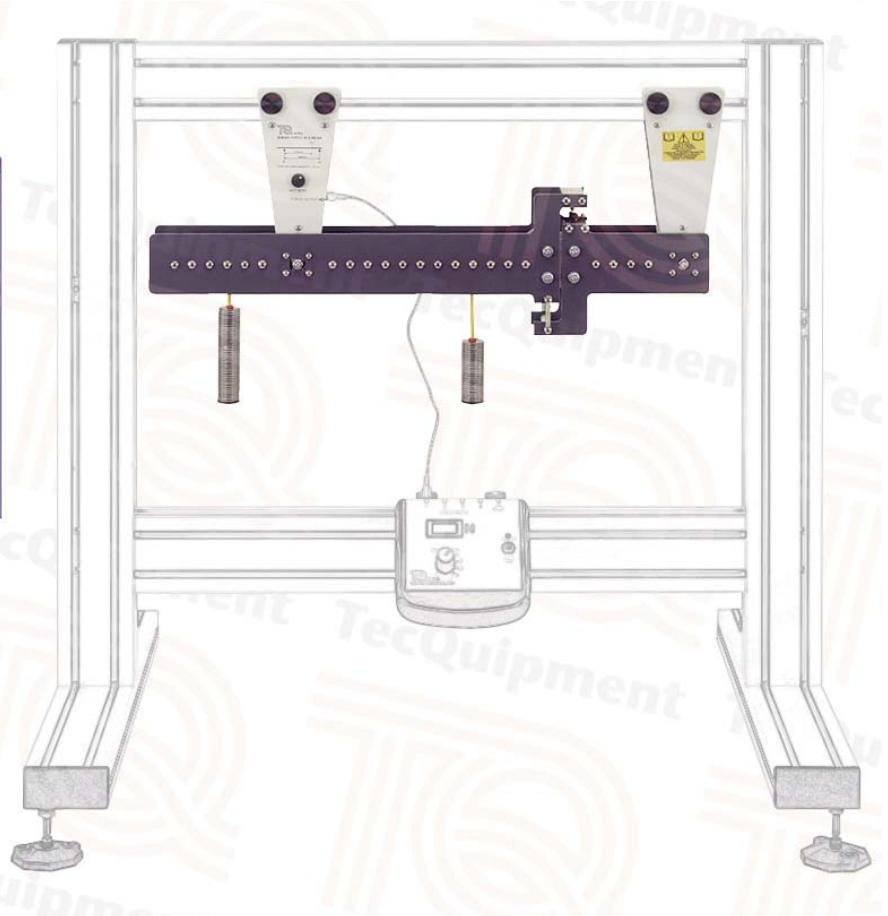
## STR3

## Shear Force in a Beam

**Shows and proves the basic theory of shear force in a beam**



Screenshot of the optional Structures Software



- High-quality structures teaching module for students of mechanical, civil and structural engineering
- Allows safe and practical experiments into shear force in a beam
- 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 with 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

## STR3

## Shear Force in a Beam

**Description**

The experiment hardware is a simply supported beam with a 'cut'. The beam fits onto a Structures Test Frame (STR1, available separately).

A mechanism bridges the cut, which stops the beam collapsing and allows movement in the shear direction only. An electronic load cell measures the force, and connects to a Digital Force Display (STR1a, available separately). Students apply loads at set positions using hangers holding various masses.

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 which displays and logs your experiment results and gives the extra virtual experiments.

**Standard Features**

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

**Experiments**

- Shear force variation with an increasing point load
- Variation of shear force for various loading conditions
- Examination of various other loading cases and their effect on shear force, including loads traversing the beam

**Essential Base Unit**

- Structures Test Frame (STR1)

**Essential Ancillary**

- Digital Force Display (STR1a)

**Recommended Ancillary**

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

**Operating Conditions**

*Operating environment:*  
Laboratory

*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:*  
660 x 250 x 90 mm, 4.5 kg

*Packed dimensions and weight:*  
Approximately 0.078 m<sup>3</sup>, 6 kg

*Loads:*  
Five weight hangers and 150 x 10 g masses

*Hanger supports:*  
23 loading positions along the beam, 20 mm apart

*Force measurement:*  
Electronic load cell

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**TecQuipment** is one of the global leaders in technical teaching equipment for engineering. If you are interested in one of TecQuipment's products feel free to contact us at:



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