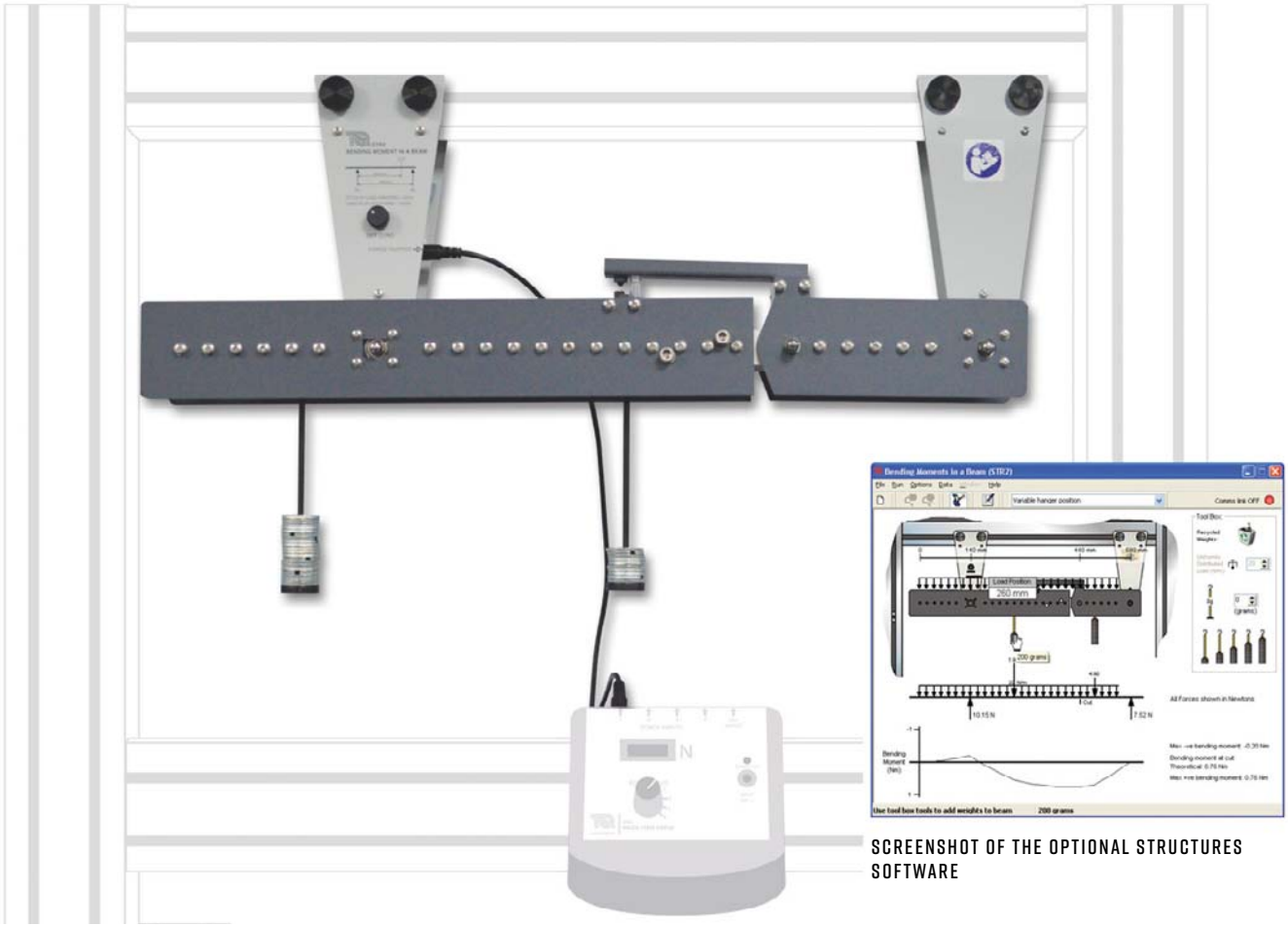
STR2

BENDING MOMENTS IN A BEAM

Experiment that illustrates and proves the basic theory of bending moments in a beam. Mounts on the Structures test frame and connects to the Structures automatic data acquisition unit and software.



SCREENSHOT OF THE OPTIONAL STRUCTURES SOFTWARE

KEY FEATURES

- Allows safe and practical experiments into bending moments in a beam
- Realistic and verifiable experiment results
- Optional TecQuipment'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 TecQuipment's Structures Software package for automatic data acquisition and virtual experiments
- One of many interchangeable experiment modules from TecQuipment's modern, flexible and cost-effective Structures teaching system

LEARNING OUTCOMES

- Bending moment variation at the point of loading
- Variation of bending moment away from the point of loading
- Examination of various other loading cases, including loads traversing the beam

KEY SPECIFICATIONS

- 5 weight hangers and 150 x 10 g masses
- 24 loading positions along the beam
- Force measured by electronic load cell

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DESCRIPTION

The experiment hardware is a simply supported beam 'cut' by a pivot. The beam fixes to the Structures Test Frame (STR1, available separately). Students apply loads at set positions using hangers holding various masses. To stop the beam collapsing, a moment arm bridges the cut onto a load cell thus reacting (and measuring) the bending moment force. A Digital Force Display (STR1a, available separately) displays forces during experiments.

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

STANDARD FEATURES

- Supplied with lecturer guide and student guide
- Five-year warranty
- Made in accordance with the latest European Union directives
- ISO9001 certified manufacturer

ESSENTIAL BASE UNIT

- Structures Test Frame (STR1)

ESSENTIAL ANCILLARIES

- 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

SPECIFICATIONS

TecQuipment is committed to a programme of continuous improvement; hence we reserve the right to alter the design and product specifcation without prior notice.

NETT DIMENSIONS AND WEIGHT:

660 mm x 235 mm x 90 mm, 3.5 kg

PACKED DIMENSIONS AND WEIGHT:

Approximately 0.078 m^3, 6 kg

LOADS:

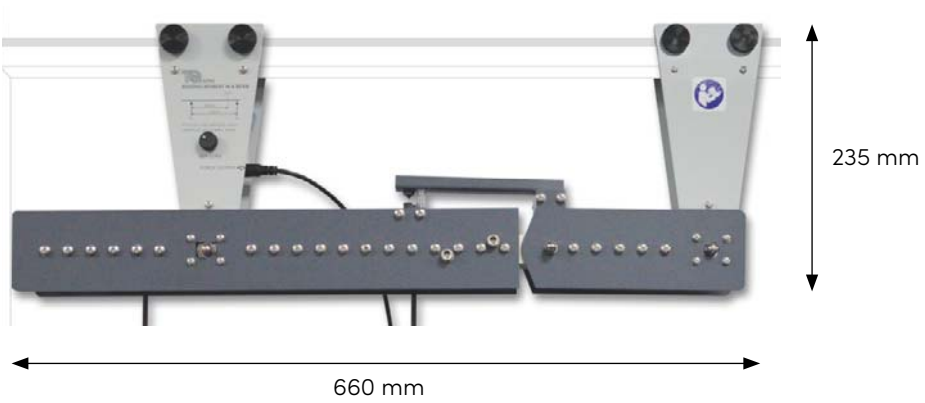
5 weight hangers and 150 x 10 g masses

HANGER SUPPORTS:

24 loading positions along the beam, 20 mm apart

FORCE MEASUREMENT:

Electronic load cell



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