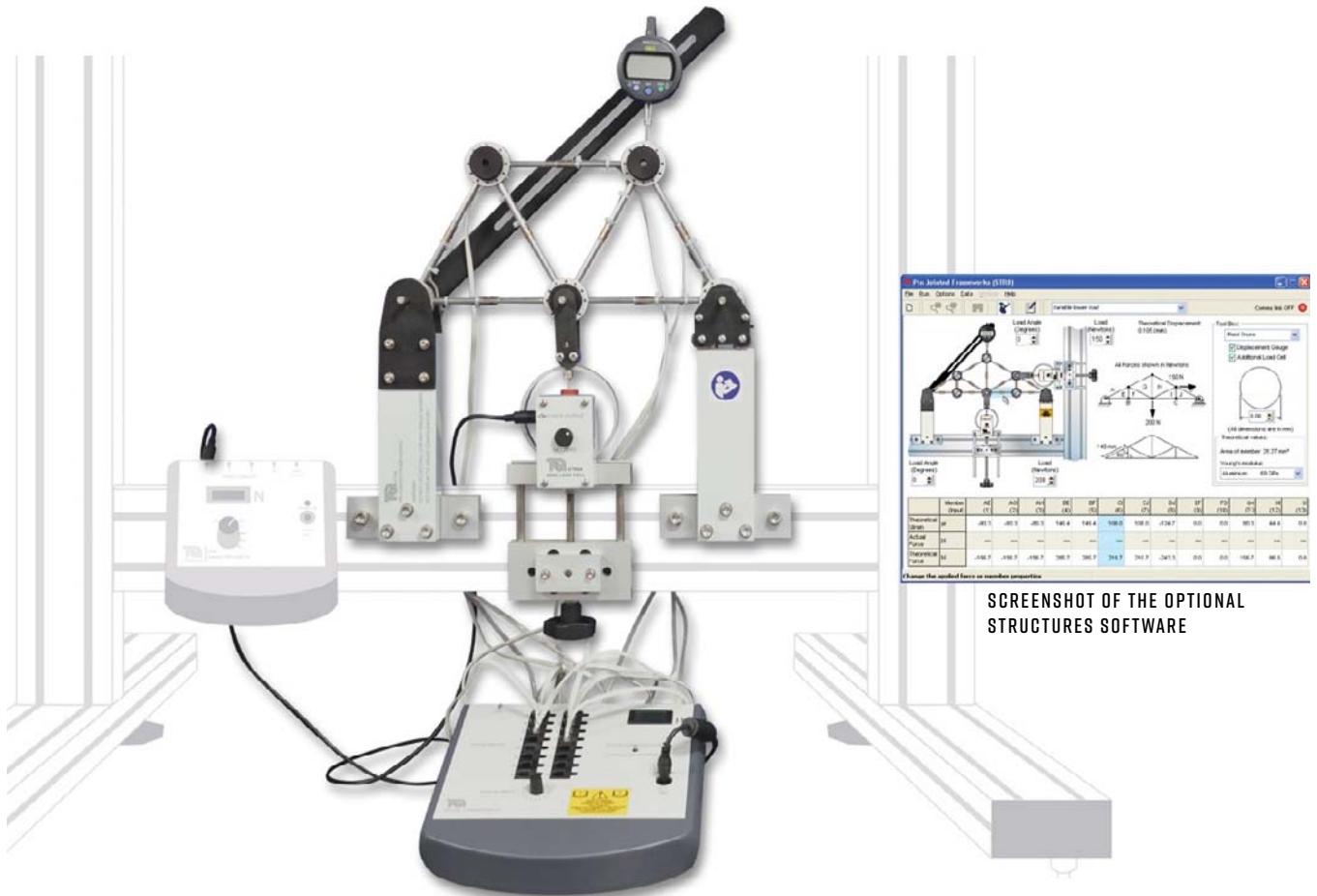


STR8

PIN-JOINTED FRAMEWORKS

Experiment for the study of strains, stresses, forces and deflections in various pin-jointed frameworks, and the study of Bow's notation. Mounts on the Structures test frame and connects to Structures automatic data acquisition unit and software.



SCREENSHOT OF THE OPTIONAL STRUCTURES SOFTWARE

KEY FEATURES

- Allows safe and practical experiments into pin-jointed frameworks
- Realistic and verifiable experiments 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

- Study of Bow's notation, strains, stresses, forces and deflections in various frameworks, including a Warren girder and roof truss
- Comparison of different frameworks

KEY SPECIFICATIONS

- 0 to 500 N load cell with electronic load sensor
- 9 universal bosses: each connect members at 30, 45 or 60 degrees
- 15 stainless steel members: various lengths with strain gauges attached

PIN-JOINTED FRAMEWORKS

DESCRIPTION

The experiment hardware fits onto a Structures Test Frame (STR1, available separately). Students use stainless-steel members to build different pin-jointed frameworks. The members join by slotting the ends into bosses.

The equipment includes two framework supports: a pivoting support, and a pivoting and rolling support. Each member has a strain gauge attached that connects to a digital strain bridge. A load cell applies loads to the structure at various angles. When connected to the optional Digital Force Display (STR1a), the load cell measures the applied load. To apply loads simultaneously, extra load cells are available (STR8a).

A digital deflection indicator measures the deflection and the digital strain bridge shows the strains in the members. From this, students can calculate the forces in the members.

TecEquipment supplies the members in a custom-made storage tray to avoid accidental damage. A second tray stores the joint bosses and other loose items.

Included is a lead to connect the load cell to a Digital Force Display (STR1a, available separately). 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.

ESSENTIAL BASE UNIT

- Structures Test Frame (STR1)

ESSENTIAL ANCILLARY

- Digital Force Display (STR1a)

RECOMMENDED ANCILLARIES

- Additional Load Cell (STR8a)
- Automatic Data Acquisition Unit (STR2000) for automatic data acquisition and 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



ADDITIONAL LOAD CELL (STR8A)

PIN-JOINTED FRAMEWORKS

ESSENTIAL SERVICES

ELECTRICAL SUPPLY:

100 VAC to 240 VAC, 1 A, 50/60 Hz, with earth

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

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

NETT DIMENSIONS AND WEIGHT:

550 x 370 x 150 mm, 8 kg

APPROXIMATE PACKED DIMENSIONS AND WEIGHT:

0.078 m³, 10 kg

LOAD:

0 to 500 N load cell with electronic load sensor (extra load cells are available)

BOSSES:

9 universal bosses, each connect members at 30, 45 or 60 degrees

MEMBERS:

15 stainless steel, various lengths with strain gauges attached

STRAIN MEASUREMENT:

16-way digital strain bridge

DEFLECTION MEASUREMENT:

Digital deflection indicator

