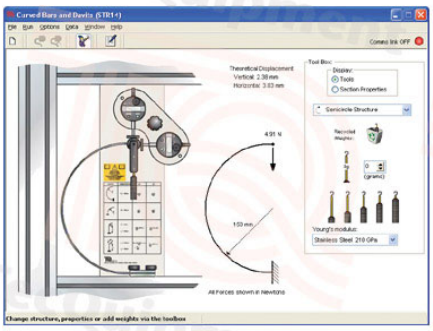
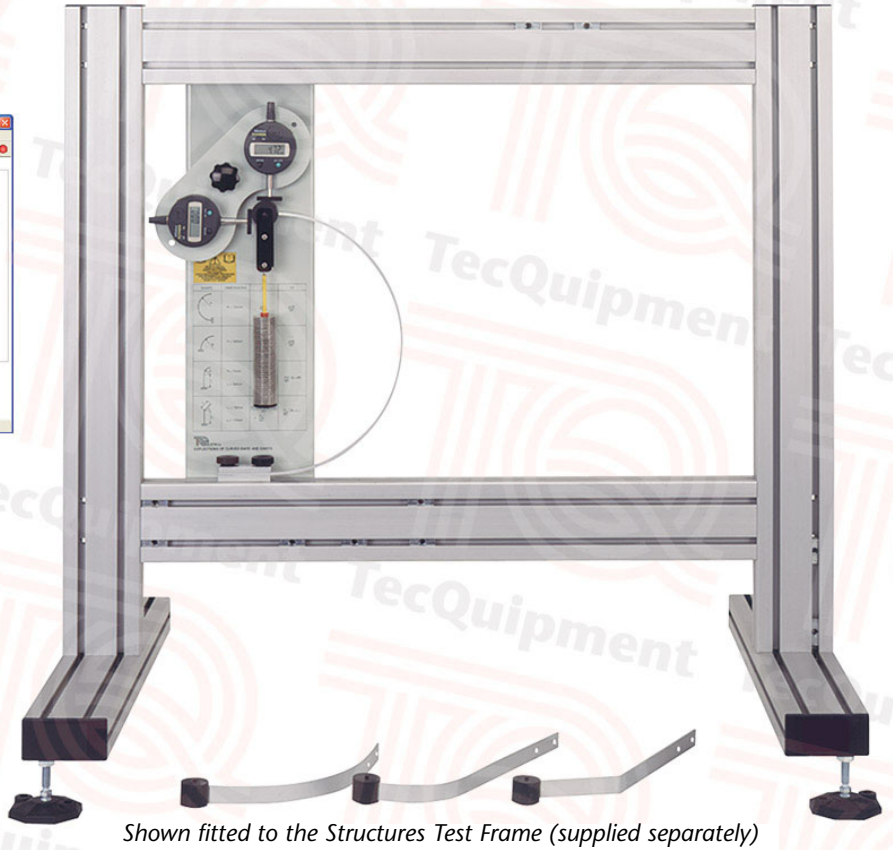
STR14 Curved Bars and Davits

For students to investigate two common curved structures and two common davit structures



A screenshot of the optional TecQuipment 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 curved bars and davits
- 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
- Ideal for classroom demonstrations, or students working in pairs or small groups

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TecQuipment

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Description

The experiment hardware fits onto a Structures Test Frame (STR1, available separately). Included are four different structures. Students attach one of the structures in front of the hardware module, directly onto the test frame. They then apply loads to the structure using masses on hangers.

Two digital deflection indicators, set at 90 degrees to each other on the backboard, contact the structure and so measure horizontal and vertical deflection. The digital deflection indicators are on a magnetic base so students can move them to anywhere on the backboard.

As students load a structure they note the horizontal and vertical deflections, thus investigating the structure behaviour. They then compare this behaviour with theoretical predictions.

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 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

Investigation of the relationship between load, horizontal deflection and vertical deflection for:

- a curved davit
- an angled davit
- a semicircle structure
- a quarter-circle structure

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

Specifications

Nett dimensions and weight:
540 x 200 x 70 mm and 3.5 kg

Packed dimensions and weight:
Approximately 0.12 m^3 and 5.5 kg

Test structure:
Curved davit, angled davit, semicircle, quarter-circle

Test structure:
Aluminium alloy

Load application:
Five weight hangers and 150 x 10 g masses

Accessories:
Vernier

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