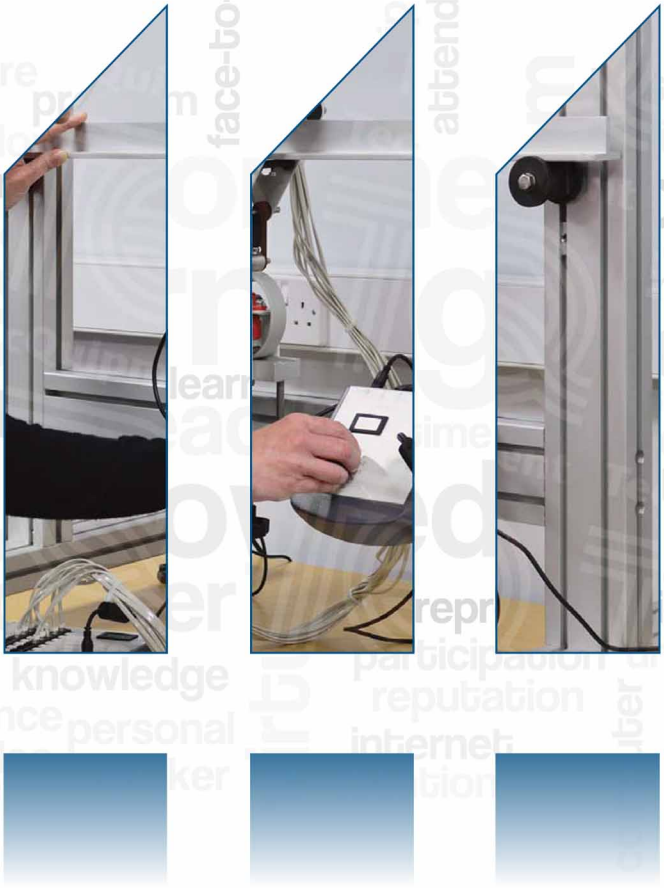

Structures

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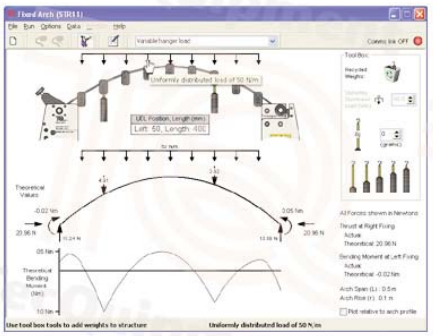
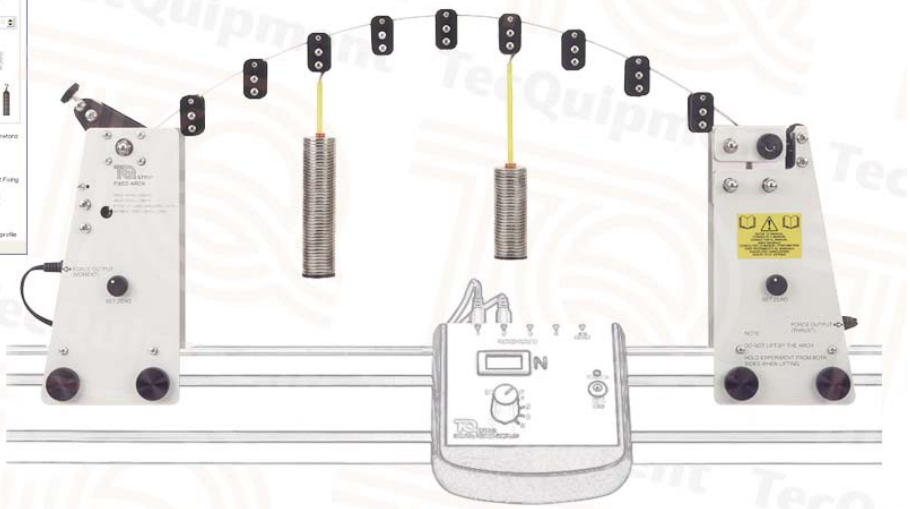
STR11

Fixed Arch

For studying the characteristics of a fixed arch under various load conditions



Screenshot of the optional TecQuipment Structures Software



- High-quality structures teaching module for students of mechanical, civil and structural engineering
- Allows safe and practical experiments into a fixed arch
- 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

STR11 Fixed Arch

Description

The experiment hardware fits onto a Structures Test Frame (STR1 – not supplied). To load the arch, students fit masses on weight hangers to set positions along the arch span. Both ends of the arch are fixed. At one end of the arch, a moment arm rests on a load cell. This measures the fixed moment reaction. At the other end, a load cell measures the horizontal thrust.

The equipment includes leads to connect the load cells to a Digital Force Display (STR1a – not supplied).

The lecturer guide provides details of the equipment including sample experiments 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 that you do with the hardware. They also extend the choice of tests than that available using only the hardware, for example: higher loads, uniform loads or different test specimens. This extends the student's learning experience. Refer to the TecQuipment Structures Software datasheet for full details.

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 experiments results and gives the extra virtual experiments. Refer to the STR2000 datasheet for full details.

Standard Features

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

Experiments

- Demonstration of the characteristics of a fixed arch.
- Examination of the relationship between applied loads, horizontal thrust and fixing moment produced from a fixed (thus redundant in three degrees) arched structure.
- Comparison of behaviour to simplified theory based on the Secant assumption.

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

Specifications

Nett dimensions and weight:
700 x 310 x 70 mm, 4.5 kg

Packed dimensions and weight:
Approximately 0.078 m^3, and 6 kg

Loads:
9 weight hangers and 150 x 10 g masses

Arch:
100 mm rise, 500 mm span

Accessories:
Rule

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infoWERK is a leading expert in the development of eLearning courseware, learning system solutions, teaching and AV equipment.

Furthermore infoWERK is the representative and system integrator of "TecQuipment".

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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