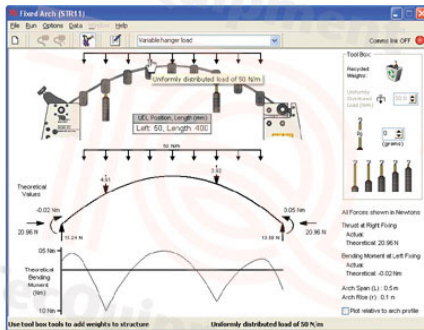


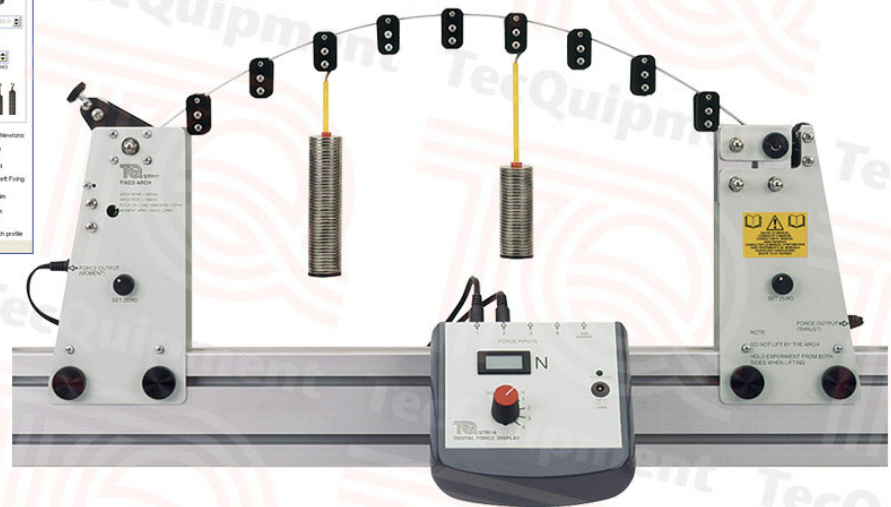
STR11

Fixed Arch

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



Screenshot of the optional TecEquipment Structures Software



Shown fitted to the Structures Test Frame and connected to a Digital Force Display (both supplied separately)

- 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 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

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, TecEquipment can supply the optional TecEquipment 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 TecEquipment Structures Software datasheet for full details.

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 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
- Two-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 Ancillaries

- Structures Test Frame (STR1)
- Digital Force Display (STR1a)

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:
700 x 310 x 70 mm, 4.5 kg

Packed dimensions and weight:
Approximately 0.078 m³, and 6 kg

Loads:
9 weight hangers and 150 x 10 g masses

Arch:
100 mm rise, 500 mm span

Accessories:
Rule