ASTR9 Three-Pinned Arch

三鉸拱

Features:

- For studying the characteristics of a three-pinned arch under various load conditions
- High-quality structures teaching module for students of mechanical, civil and structural engineering
- Allows safe and practical experiments into three-pinned arches
- Realistic and verifiable experiment results
- Optional AII's Structures Software package for extra 'virtual' experiments that simulate and confirm the results from your hardware and allow extended experiments
- Optional ASTR2000 unit with AII's Structures Software package for automatic data acquisition and virtual experiments
- One of many interchangeable experiment modules from AII's modern, flexible and cost-effective Structures teaching system
- Ideal for classroom demonstrations, or students working in pairs or small groups

Description:

The experiment hardware fits onto a Multi Structures Test Frame (ASTR1, available separately). Students apply various loads at set positions along the top of a simple 'determinate' three-pinned arched structure. They can also apply a uniformly distributed load.

The structure has a pivot at one end and at the crown. The arch rolls against a load cell at the opposite end. The load cell connects to a Multi-Channel Digital Transducer Display (ASTR1a, available separately) to measure and display the thrust reaction. The equipment includes a lead to connect the load cell to a Multi-Channel Digital Transducer Display (ASTR1 a).

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Specification:

- Standard Features
  Supplied with lecturer guide and student guide

- Experiments
  - Studies of the:
    characteristics of a three-pinned arch; relationship between applied loads and horizontal thrust produced from a simple determinate arched structure.
  - Also:
    Appreciation of footing stability and economy

- Essential Ancillaries
  - Multi Structures Test Frame (ASTR1)
  - Multi-Channel Digital Transducer Display (ASTR1a)

- Recommended Ancillaries
  - Structures Software (ASTRS) for virtual experiments or
  - Automatic Data Acquisition Unit (ASTR2000) for automatic data acquisition and virtual experiments

- Operating Conditions
  +5°C to +40°C

- Dimensions
  700 x 310 x 70 mm ± 15%

- Arch
  100 mm rise
  500 mm span
  9 loading positions

- Masses
  1 x 100 g
  1 x 200 g
  1 x 300 g
  2 x pair of uniformly distributed loads

- Accessories
  1 x 600 mm Rule