



Defromation of Curved Axis Beams (SMT-SM-03)

In construction engineering, a distinction is made between beams and arches. An arch is a statically indeterminate supported structure with a curved axis and two fixed supports or clamp fixings. The supports of an arch (such as a double-articulated arch) absorb forces vertically and horizontally. The ends of the arch in the supports do not move. This produces the static arching effect of the system. In mechanical engineering, crane hooks and chain links are typical examples of a curved beam. The beam under test is loaded with weights. Dial gauges record its horizontal and vertical deformations.

TECHNICAL SPECIFICATIONS

Specifications:

- Elastic deformation of curved-axis beams under load.
- 3 different beams with the same cross-section: circular beam, semi-circular beam, quadrant beam.
- Support block to fix the quadrant beam.
- Pillar with support for mounting the circular or semi-circular beam.
- 3 dial gauges to record the horizontal and vertical deformation.
- Storage system to house the components.
- Curved-axis beam:
 - Radius: approx. 150mm.
 - Cross-section WxH: 20x5mm.
 - Material: steel, galvanised.
- Dial gauges:
 - Measuring range: 0...20mm.
 - Graduation: 0.01mm.
- Weights:
 - 1x 1N (hanger).
 - 2x 2N.
 - 1x 5N.
 - 1x 10N.
 - 4x 20N.
- LxWxH: 400x300x650mm.
- Weight: approx. 21kg.
- LxWxH: 1170x480x178mm (storage system).

