

# SE 100

## Frame for load testing, 400kN



The illustration shows SE 100 together with various accessories

### Description

- **load tests on components from steelwork and civil engineering**
- **specially designed for large components at a 1:1 scale**
- **wide range of applications thanks to extensive accessories**

The demands of modern, technically sophisticated designs require a solid understanding of the strength and deformation of components. Different load states can be simulated in load experiments and the reaction to the load recorded and analysed. This makes it possible to demonstrate the load bearing capacity of the design by means of experiment. The SE 100 frame for load tests has been designed specifically for experiments in the fields of steelwork and civil engineering. Large components at a 1:1 scale are studied.

The frame is delivered in prefabricated parts that must be assembled on site. This makes it possible to transport the separate parts through normal doorways. The frame is set up on four adjustable and vibration-damping feet. The generous operating area is designed as a double frame so that longer components can also be studied.

The design of the frame means experiments can be conducted quickly and without complicated assembly. The unit offers a very wide range of possibilities in conjunction with the accessories and the load application device.

The hydraulically operated load application device, available as accessory SE 100.12, includes a double-action hydraulic cylinder and a hand-operated pump mounted on a table.

The load application device is mounted on rollers and can be positioned at any point on the upper cross-member of the frame. Depending on the experimental setup, it is also possible to use two load application devices (SE 100.02) and therefore generate several forces. The bending is indicated by means of dial gauges, available as accessory SE 100.03.

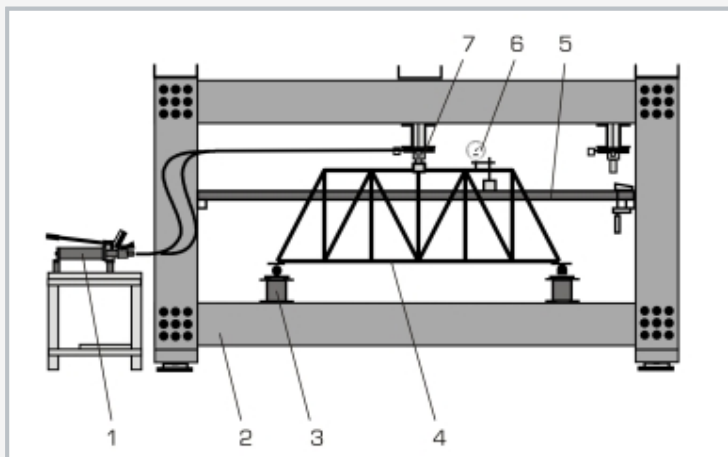
Large components such as reinforced concrete beams, girders or steel frames can be subjected to loads and investigated experimentally. The SE 100.04 accessory is available for experiments on trusses. The forces on typical bars of the truss are recorded by means of strain gauges.

### Learning objectives/experiments

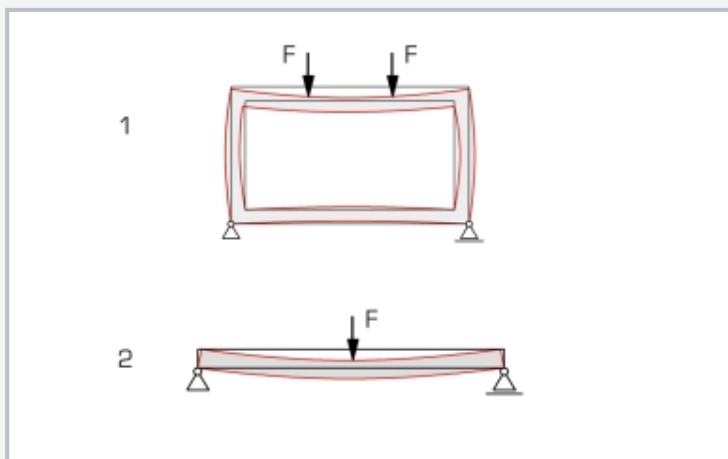
- together with the accessories
  - ▶ bending tests
  - ▶ load tests
  - ▶ compression tests

# SE 100

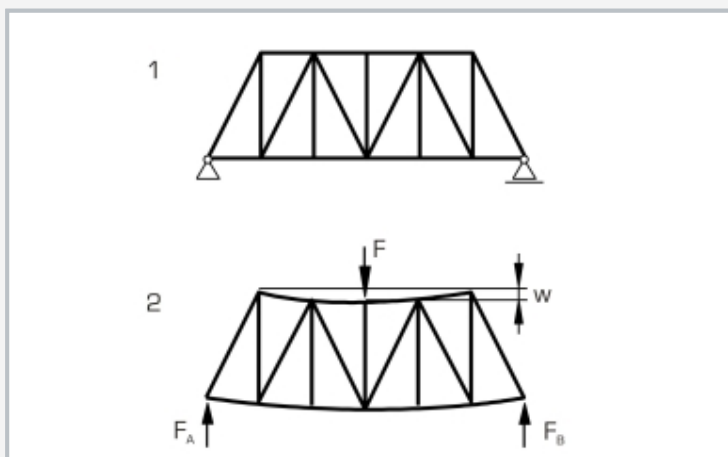
## Frame for load testing, 400kN



1 pump for load application device, 2 frame, 3 support SE 100.01, 4 plane truss SE 100.04, 5 measuring traverse, 6 dial gauge SE 100.03, 7 load application device SE 100.02



Suggestions for your own tests with various large components, for example 1 load on frame, 2 load on beam or girder



Bend test on a plane truss SE 100.04; 1 unloaded truss, 2 loaded truss, F test load,  $F_A$  and  $F_B$  support forces, w bending

### Specification

- [1] investigation of components at 1:1 scale from steelwork and civil engineering
- [2] frame is delivered in parts, transport through normal doorways possible
- [3] large operating area, designed as a double frame, also suitable for very long components
- [4] mounted on 4 adjustable vibration-damping feet
- [5] hydraulically operated load application device for generating compressive forces available as an accessory
- [6] optionally available load application device mounted on rollers; SE 100.12 contains 1 load application device, SE 100.02 contains 2 load application devices
- [7] load application devices can be positioned at any point on the frame
- [8] experiments with different components such as beams, girders or frames possible
- [9] plane truss with strain gauge for force measurement available as accessory SE 100.04

### Technical data

#### Frame

- steel profiles: U 400, St52
- frame opening WxH: 4100x1700mm
- clear span in the double frame: 635mm

#### Test loads

- centre position: max. 300kN
- off-centre: max. 2x 200kN

LxWxH: 5000x1350x2820mm

Weight: approx. 2600kg

### Scope of delivery

- 1 frame of steel profiles

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### Optional accessories

SE 100.01	Standard accessories for load testing
SE 100.02	Hydraulic loading device, 2x200kN
SE 100.12	Hydraulic loading device, 1x200kN
SE 100.03	Dial gauges
SE 100.04	Plane frame with strain gauge for member forces measuring