



Universal Testing Machine (SMT-SM-31)

A solid understanding of the properties of materials is essential for technical and scientific professions. This knowledge helps select the suitable material, monitor production and processing and ensure the requirements in terms of a component. The materials test provides the necessary data in a reproducible and precisely quantified manner. The tensile test, bending test and hardness test are all part of classic destructive materials testing. The range of experiments with SMT-SM-31 covers tensile tests and Brinell hardness tests in the base unit. Compression, bending, shear and cupping tests can be conducted using the accessories. Plate and coil springs can also be tested. The experimental unit has been developed specifically for experiments in small groups and is characterised by a clear design, simple operation and accessories that are easy to exchange.

TECHNICAL SPECIFICATIONS

Specification:

- Classic experiments from destructive materials testing.
- Tensile tests, Brinell hardness test.
- Extensive accessories available for further experiments.
- Generation of tensile and compressive forces.
- Forces generated by hand-operated hydraulic system; no power supply required.
- Force gauge, pointer instrument with drag indicator.
- Dial gauge for determining the elongation.
- 16 hardness specimens.

Technical Data:

- Test force: max. 20kN.
- Stroke: max. 45mm.
- Free installation space for specimens: 165x65mm.
- 16 tensile specimens.
 - Material: 4x Al, 4x Cu, 4x St, 4x CuZn.
- 16 hardness specimens.
 - LxWxH: 30x30x10mm.
 - Material: 4x Al, 4x Cu, 4x St, 4x CuZn.
- Sphere for hardness testing: \varnothing 10mm.



Technical Data:

- Measuring ranges:
 - Force: 0...20kN, graduation: 0.5kN.
 - Travel: 0...20mm, graduation: 0.01mm.
- Dimensions and weight:
 - LxWxH: 610x500x860mm.
 - Weight: approx. 48kg.

Experiments:

- Tensile tests.
- Plot stress–strain diagrams.
- Brinell hardness test.
- Together with the accessories:
 - Compression tests.
 - Bending tests.
 - Cupping tests.
 - Shear tests.
 - Testing of plate and coil springs.