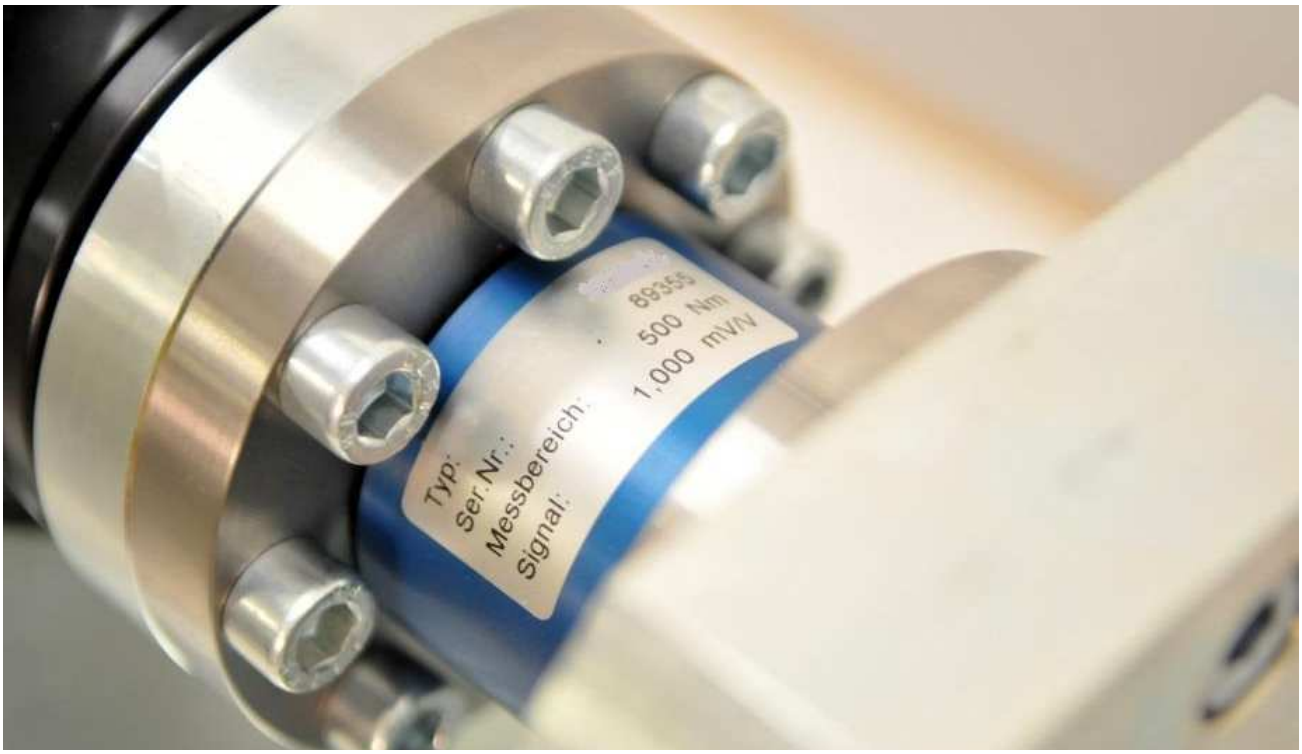
TesT

Torsion Testing Machines

Machines and Facilities for Product Development and Quality Assurance

Torsion Testing Machines



Torsion Testing Machines by TesT

Torsion testing machines initiate and measure active and passive torques at predefined rotation angles. The range of application extends from the classical torsional materials testing to most complex component testing. The core components are:

- Torque transducer
- Machine frame with controlled drive and angle measurement
- TesTController 850-USB:
  Measurement and control electronic unit for machine controlling and measurement data acquisition
- TesTWinner® 950:
  Testing and analysis software

The determination of torque is carried out by static reaction sensors (Models 411 / 415) or by rotating sensors (Models 421 / 422). Additionally, multi component sensors for the measurement of preload forces and torque at bolted connections are available. Depending on application and measuring range the sensors will be equipped with support bearings to protect against transverse load.

The controlling of the system is conducted by the TesTController 850-USB, that is integrated inside the machine, and by the free programmable testing machine software TesTWinner® 950.

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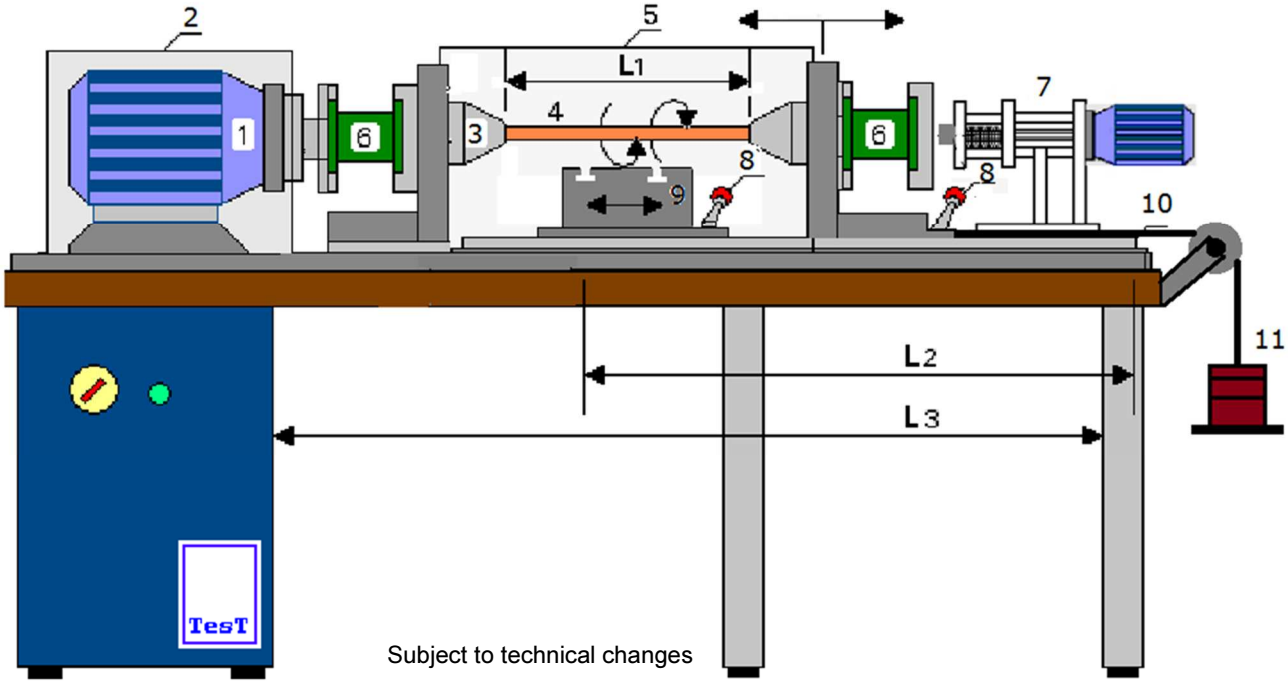

Subject to technical changes

Schematic Design of Torsion Testing Machines by TesT

a) The dimensions of the parts to be tested (L1) define the length of the linear displacement (L2) and the total length of the machine table (L3). The linear displacement fixes the sensors and potential specimens.

b) The maximum torque influences the size of drive and controlling unit.

c) Clamping devices and specimen holders influence the height of the torsion axis.

d) On demand the machine dimensions can be adapted to customer requirements for potential, future extension plans.

1. Drive unit with motor, gear and bearing
2. Protective cover, with integrated safety switch
3. Clamping devices
4. Specimen
5. Polycarbonate protective cover, movable in longitudinal axis, with safety switch
6. Rotating torque transducer with coupling to the drive and bearing block or version as reaction sensor at specimen counter bearing
7. Motorised axial force transmission and measurement
8. Fixing devices
9. Horizontal tool holder with T-slots on linear displacement, fixable
10. Machine table with cabinet for power electronics and torsionally rigid machine bed
11. Axial force transmission due to weight masses

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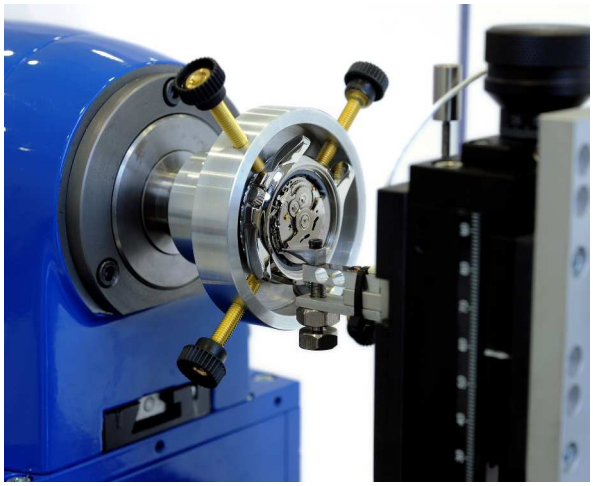
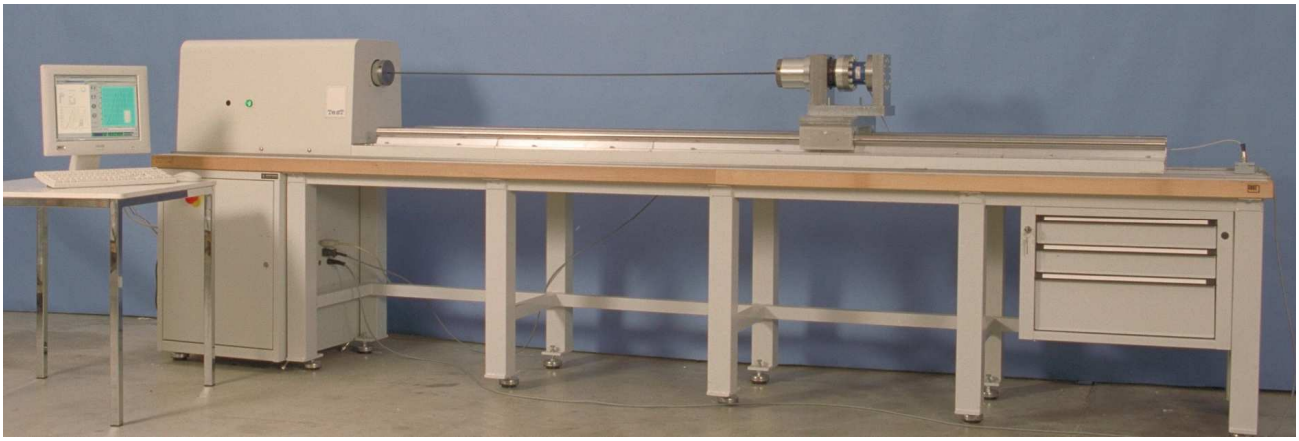
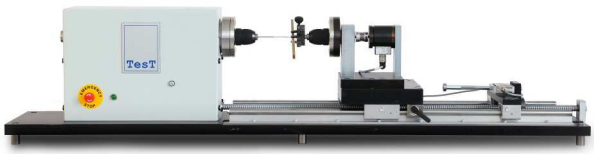
Machine type with device for axial load



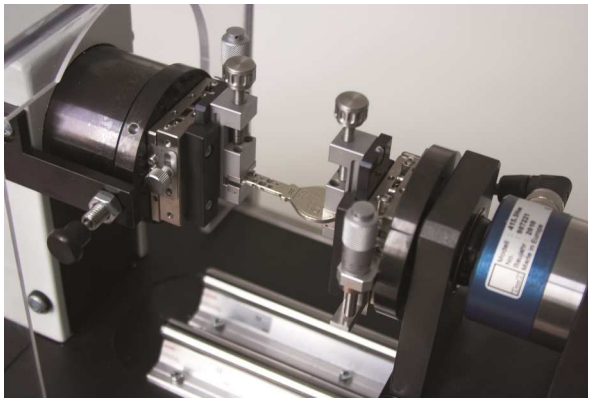
Torsion testing on precision mechanics



Machine type with clamping length up to 2 m



Combined machine
with axial and torsional load



Torsional rigidity of a key

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