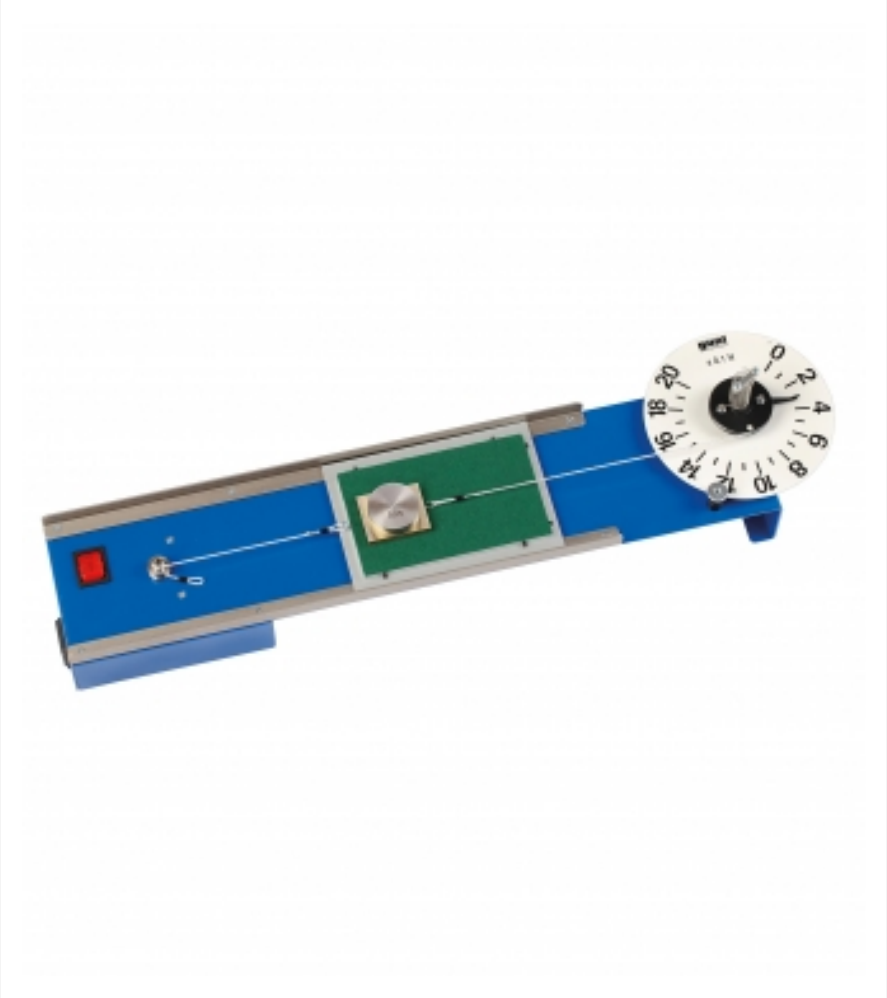
TM 200
Fundamentals of mechanical friction



Description

■ **fixed friction body and uniformly moving friction surfaces**

The unit provides fundamental experiments on static and dynamic friction. Two solid bodies are moved against each other in a uniform manner. The frictional forces occurring in the process are measured. The friction body under investigation is connected to a force gauge and remains at rest.

The paired material is driven by a motor and slides beneath the friction body. Two sliding velocities can be selected. The normal force is altered by adding extra weight to the bodies.

All parts are clearly laid out and well protected in a storage system.

Learning objectives/experiments

- difference between static and dynamic friction
- friction forces as a function of
  - normal force, material pairing, size of contact area
  - sliding velocity (relative velocities of the paired materials)
  - surface properties of the paired materials
- determine coefficients of friction

Specification

[1] fundamentals of mechanical friction
[2] stationary friction body and force gauge and motor-driven support friction surface
[3] 2 friction bodies, each with two different surfaces
[4] 2 supporting friction surfaces with a total of three different surfaces
[5] 2 cable drum driving velocities
[6] force gauge overload-proof with clearly legible dial
[7] storage system for all parts

Technical data

Supporting surfaces
- Al / felt, PVC

Friction body
- smooth / rough (Al), brass / felt

Drive with synchronous motor
- driving velocities: 23,5cm/min; 47cm/min

Force gauge
- measuring range: 0...2N
- graduation: 0,1N

Weights
- 8x 0,5N

230V, 50Hz, 1 phase
230V, 60Hz, 1 phase
120V, 60Hz, 1 phase; UL/CSA optional
LxWxH: 720x480x178mm (storage system)
Weight: approx. 10kg (storage system)
Weight: approx. 4kg (experimental unit)

Scope of delivery

1 experimental unit
1 set of weights
2 friction bodies
2 supporting friction surfaces
1 storage system with foam inlay
1 set of instructional material

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Optional accessories

020.30009	WP 300.09	Laboratory trolley