

Hooke's law

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Principle

The validity of Hooke's law is determined for two helical springs with different spring constants. The elongation of the helical spring, which depends on the deforming force, is studied by means of the weights of masses. For comparison, a rubber band, for which no proportionality exists between the exerted force and the resulting elongation, is submitted to the same forces.

Benefits

- The law that governs the elongation of springs
- Determine the magnitude that describes the main characteristics of a spring
- Discover the main difference in the behaviour of springs and rubber bands

Tasks

1. Determining the spring constants of helical springs.
2. Study of the elongation of a rubberband.

Learning objectives

- Hooke's law
- Spring constant
- Limit of elasticity
- Elastic hysteresis
- Elastic after-effect

Scope of delivery

Tripod base PHYWE	02002-55	1
Barrel base expert	02004-00	1
Support rod, stainless steel, different lengths	02034-00	1
Cursors, 1 pair	02201-00	1
Weight holder, 10 g	02204-01	1
Slotted weight, silver bronze, 10 g	02205-03	4
Slotted weight, silver bronze, 50 g	02206-03	3
Helical spring, 3 N/m	02220-00	1
Helical spring, 20 N/m	02222-00	1
Silk thread, l = 200 m	02412-00	1
Scale, l = 750 mm, on rod	02200-00	1
Holding pin	03949-00	1
Square section rubber strip, l 10m	03989-00	1
Right angle clamp expert with fulcrum screw	02054-00	1