

Hooke's law 1.3.01-01

What you can learn about ...

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

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.

Tasks:

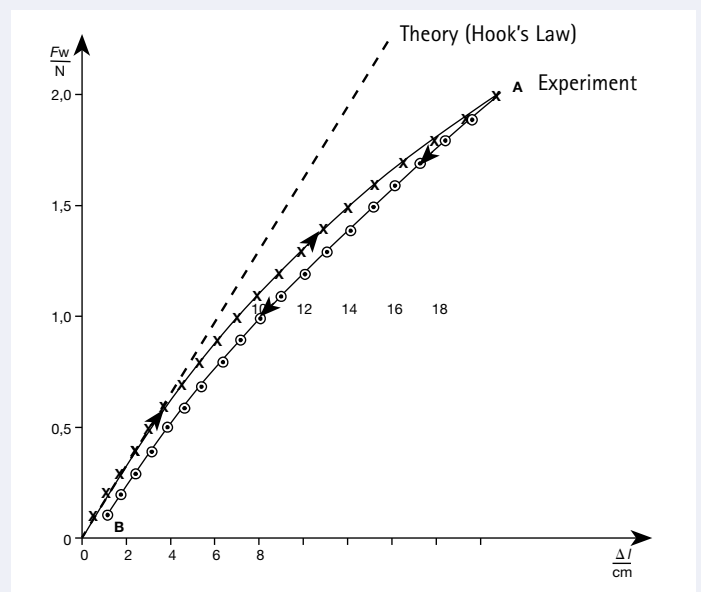
1. Determining the spring constants of helical springs
2. Study of the elongation of a rubber band



What you need:

Tripod base -PASS-	02002.55	1
Barrel base -PASS-	02006.55	1
Support rod -PASS-, square, $l = 1000$ mm	02028.55	1
Right angle clamp -PASS-	02040.55	1
Cursors, 1 pair	02201.00	1
Weight holder f. slotted weights	02204.00	1
Slotted weight, 10 g, black	02205.01	2
Slotted weight, 10 g, silver bronze	02205.02	2
Slotted weight, 50 g, black	02206.01	1
Slotted weight, 50 g, silver bronze	02206.02	2
Helical spring, 3 N/m	02220.00	1
Helical spring, 20 N/m	02222.00	1
Silk thread, 200 m	02412.00	1
Meter scale, demo, $l = 1000$ mm	03001.00	1
Holding pin	03949.00	1
Square section rubber strip, $l = 10$ m	03989.00	1

Complete Equipment Set, Manual on CD-ROM included
Hooke's law P2130101



Acting weight F_w as a function of the extension Δl for a rubber band (elastic hysteresis).