



ES19

## SPRING TESTER KIT

Demonstrates the characteristics of coiled springs and how to test them (Hooke's law).



### KEY FEATURES

- One of a series of 18 kits for experiments in fundamental engineering science topics
- For use on any engineering course from foundation to postgraduate
- Flexible and modular – each kit fits onto the work panel (ES1) for experiments and classroom demonstrations
- Supplied in a hard-wearing storage tray with moulded insert to hold parts securely and a graphical list to help check the kit contents
- Rugged and durable parts for safe 'hands-on' experiments – allowing better understanding
- Contains all parts needed for tests of coiled extension and compression springs, showing the use of Hooke's law

# SPRING TESTER KIT

## DESCRIPTION

This versatile kit allows many experiments using different arrangements of its parts. Students, teachers or lecturers fit the parts of the kit to the work panel (ES1) (supplied separately) to study or demonstrate an engineering science topic.

This kit includes different coiled springs for experiments in spring testing. These include extension springs, compression springs, parallel springs and springs that can connect in series.



Students test the springs to prove Hooke's law and find their spring rate, comparing it with given manufacturer's values. They also test springs in parallel and series to see how this affects the overall spring rate.

The kit helps students to understand the link between spring rate, spring extension and the design and construction of springs. It introduces students to key engineering terms such as:

- Spring rate
- Hooke's Law
- Spring pretension

TecQuipment supply a CD-ROM with the work panel (ES1). It includes all the worksheets, guidance notes and lecturer notes (with answers) needed for typical experiments with each kit. The selection of parts in the kits and the choice of fixing points on the work panel means that teachers or lecturers may extend the experiments to an even greater range.

**NOTE:** The kit is for use with the ES1 work panel (supplied separately).

## STANDARD FEATURES

- Five-year warranty
- Manufactured in accordance with the latest European Union directives
- ISO9001 certified manufacturer

## LEARNING OUTCOMES

- Hooke's law and compression spring tests
- Hooke's law and extension spring tests
- Parallel and series spring tests

## OPERATING CONDITIONS

### FOR USE IN:

Well lit classroom or laboratory

### STORAGE TEMPERATURE RANGE:

-25°C to +55°C (when packed for transport)

### OPERATING TEMPERATURE RANGE:

+5°C to +40°C

### OPERATING RELATIVE HUMIDITY RANGE:

80% at temperatures < 31°C decreasing linearly to 50% at 40°C

## ESSENTIAL SERVICES

A level bench or desktop of at least 500 mm wide x 500 mm front to back.

## ESSENTIAL BASE UNIT

Work Panel (ES1)

## SPECIFICATIONS

TecQuipment is committed to a programme of continuous improvement; hence we reserve the right to alter the design and product specification without prior notice.

### STORAGE TRAY (WITH CLIP-ON LID):

450 mm x 320 mm x 85 mm

### NETT WEIGHT:

2.1 kg

### PACKED VOLUME AND WEIGHT:

Approximately 0.015 m<sup>3</sup> and 2.6 kg

### MAIN PARTS:

- Compression spring tester
- Dial caliper
- Assorted coiled springs
- Rule
- Masses