

**SV**  
SERIES

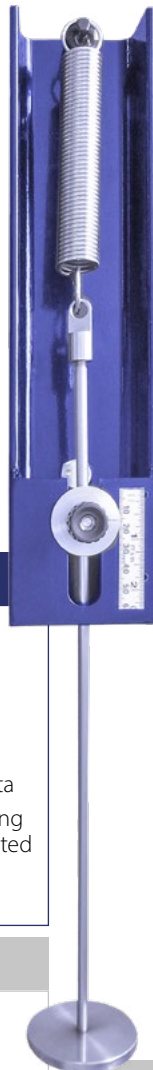
Strength of Materials

Extension of Springs Apparatus – SV808

Extension of Springs Apparatus, to test the relationship between the load applied and the change in length of a spring (Hooke's Law) also determine spring stiffness using measured spring data and load versus extension graphs, this device will cater for a number of working with springs exercises.

A steel, powder coated wall housing has a spring support at its top and a through hole at its lower end. A loop ended extension spring is hooked over the spring support and its remaining loop secured to a Load hanger.

Attached to the shaft of the Load hanger is an extension indicator. This has a small horizontal mark inscribed which reads up against the extension scale on the wall housing. The indicator can be moved up or down the Load hanger shaft to accurately adjust the start position of extension measurements and to cater for different length springs. The Load hanger has a solid base onto which the set of calibrated weights supplied is suspended.



DEMONSTRATES HOOKE'S LAW



Experimental content

- ▶ Working with springs
- ▶ To test the relationship between the load applied and the change in length of a spring (Hooke's Law)
- ▶ To determine spring stiffness using measured spring data and load versus extension graphs
- ▶ Comparison with theoretical estimates and manufacturers data
- ▶ The dependence of spring stiffness on the wire diameter, spring diameter, length, number of turns and material can be calculated
- ▶ Creating load versus extension graphs and extracting key elements

Features / benefits

- ▶ Sturdy wall mounted apparatus
- ▶ Can be mounted to SV100 Frame
- ▶ Demonstrates Hooke's Law
- ▶ Customer specific springs can be tested
- ▶ Four extension springs supplied
- ▶ Integral displacement scale
- ▶ Full set of weights and hanger supplied

Ordering specification

- ▶ 1 x SV808
- ▶ 4 x Extension spring 1 x 5N / 1 x 10N / 2 x 20N
- ▶ Instruction manual
- ▶ Packing list
- ▶ Test sheet

Overall dimensions

Length	0.600m
Width	0.150m
Height	0.100m

Packed and crated shipping specifications

Volume	0.04m <sup>3</sup>
Gross weight	10kg

Related laws

- ▶ Hooke's Law
- ▶ Spring rate
- ▶ Wire
- ▶ Extension

Essential Accessories

- ▶ SV100: Bench Mounted Frame

Requirements

Scale

SV  
101



Technical specification

- ▶ Steel, powder coated wall housing
- ▶ Zinc plated carbon steel extension springs
  - 1 x O.D = Ø22.23mm; wire = Ø2.33mm; Spring Rate = 0.79N/mm
  - 1 x O.D = Ø15.88mm; wire = Ø1.63mm; Spring Rate = 0.31N/mm
  - 1 x O.D = Ø19.05mm; wire = Ø1.83mm; Spring Rate = 0.58N/mm
  - 1 x O.D = Ø25.4mm; wire = Ø2.64mm; Spring Rate = 1.04N/mm
- ▶ Load hanger
- ▶ Movable extension indicator
- ▶ Extension scale calibrated in mm, resolution 1mm

Operational conditions

- ▶ Storage temperature: -10°C to +70°C
- ▶ Operating temperature range: +10°C to +50°C
- ▶ Operating relative humidity range: 0 to 95%, non condensing

Ordering codes

- ▶ SV808 Extension of Springs Apparatus
- ▶ SV100 Bench Mounted Frame