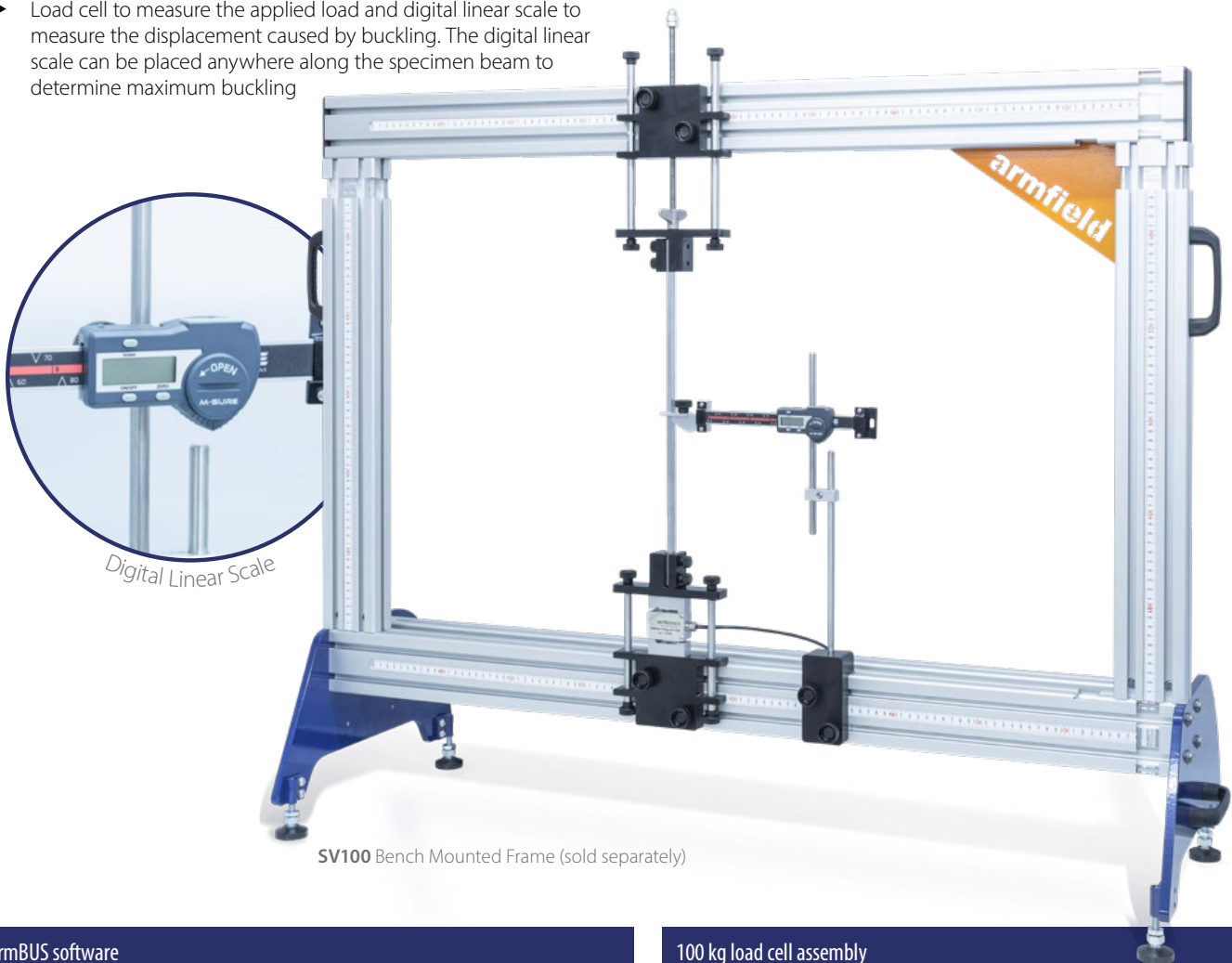


The experiment Buckling of Struts allows the experimental investigation of the loads needed to cause buckling between different fixing conditions and lengths of sample. The sample material and cross-sectional area will remain the same throughout to encourage consistency.

ALLOWS THE STUDY OF BUCKLING OF SLENDER COLUMNS AND RELATIONSHIPS BETWEEN LENGTH, END FIXING CONDITIONS AND BUCKLING LOAD

This experiment has the following properties:

- ▶ Buckling specimens secured between two fixing conditions that are attached to mounting blocks
- ▶ Load cell to measure the applied load and digital linear scale to measure the displacement caused by buckling. The digital linear scale can be placed anywhere along the specimen beam to determine maximum buckling



SV100 Bench Mounted Frame (sold separately)



armBUS software



100 kg load cell assembly

Description

The Buckling of Struts hardware fits onto the standard Armfield SV100 Bench Mounted Frame.

The kits include aluminium struts of varying length Short 300mm, Medium 330mm and Long 360mm which is compressed using a screw mechanism

The experiment is supplied with 3 fixing scenarios:

- ▶ Both ends fixed
- ▶ Both ends pinned
- ▶ One end pinned with one end fixed

A fixed connection is clamped and screwed in, the pinned connection allows more movement and is nestled in a notch.

An integral load cell connected to the Armfield SV101 Structures Interface Unit displays the load on the strut as it is compressed.

Requirements

Scale



Electrical supply: 110/120V, 60Hz or 220/240V, 50Hz

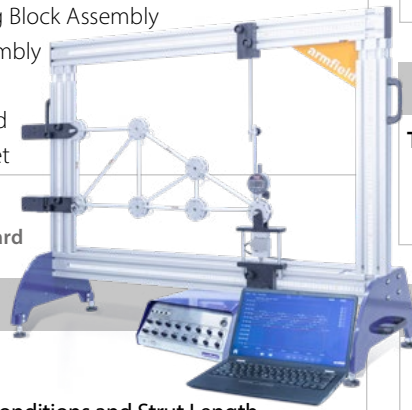
- ▶ SV100: Bench Mounted Frame
- ▶ SV101: Structures Interface Unit
- ▶ PC with a USB port, running Windows 7 or above

Technical specification

Portal Specimens

- ▶ 9 x Buckling Specimens
- ▶ 2 x Fixing Brackets
- ▶ 2 x Pinning Brackets
- ▶ 2 x Long Bracket Guide Bars
- ▶ 2 x Short Bracket Guide Bars
- ▶ 1 x Load Cell
- ▶ 1 x Load Cell Mounting Block Assembly
- ▶ 1 x Load Applying Mounting Block Assembly
- ▶ 1 x Digital Linear Scale Assembly
- ▶ 1 x DTI Holder Mount
- ▶ 1 x DTI Holder Extension Rod
- ▶ 1 x DTI Holder Mount Bracket

The Armfield SV series is supplied with structures software as standard



Related laws

- ▶ Euler's Theory
- ▶ Euler's Buckling Load
- ▶ Buckling Load against End Conditions and Strut Length
- ▶ Slenderness Ratio

Overall dimensions

Length	1.176m
Width	0.392m
Height	0.922m

Packed and crated shipping specifications

Volume	0.1m ³
Gross weight	25 kg

Experimental content

- ▶ Euler's theory and buckling loads
- ▶ Comparison of sample length against results
- ▶ Comparison of mounting styles and results
- ▶ Analysis of the deflection in the sample

Features / benefits

- ▶ Includes different fixings and a selection of different length specimen struts for multiple experiments
- ▶ Supplied with Armfield structures software as standard
- ▶ Includes digital linear scale

Graphing detail



Essential accessories/equipment

- ▶ SV100: Bench Mounted Frame
- ▶ SV101: Structures Interface Unit

Related products

Torsion and buckling

- ▶ SV601: Unsymmetrical Bending and Shear
- ▶ SV602: Torsion of Rods and Tubes

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

- ▶ SV600: Buckling of struts
- ▶ SV100: Bench Mounted Frame (Sold separately)
- ▶ SV101: Structures Interface Unit (Sold separately)

Armfield standard warranty applies with this product

Knowledge base

- > 28 years expertise in research & development technology
- > 50 years providing engaging engineering teaching equipment

Benefit from our experience, just call or email to discuss your laboratory needs, latest project or application.

An ISO 9001:2015 Company



Products CE certified

armfield.co.uk

Aftercare

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Commissioning
Training
Service and maintenance
Support: armfieldassist.com