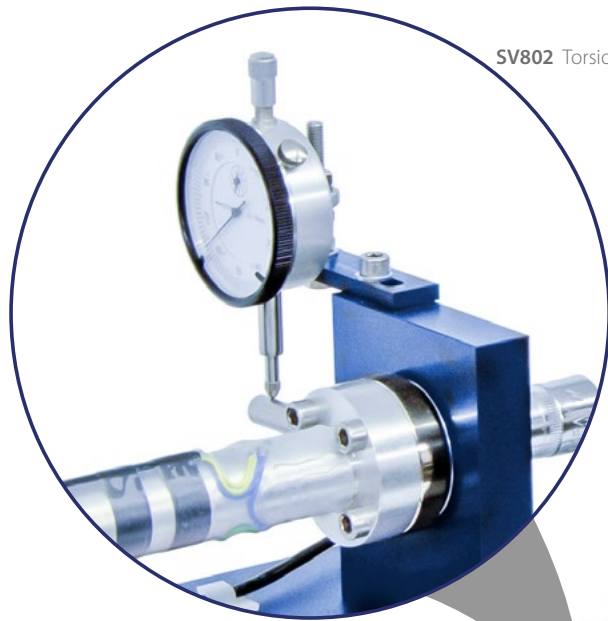


The unit can cater for test specimens of up to 750mm between the moment head and torsion head. The moment head is fixed but the torsion head can be moved along the base to allow for the different lengths of specimen.

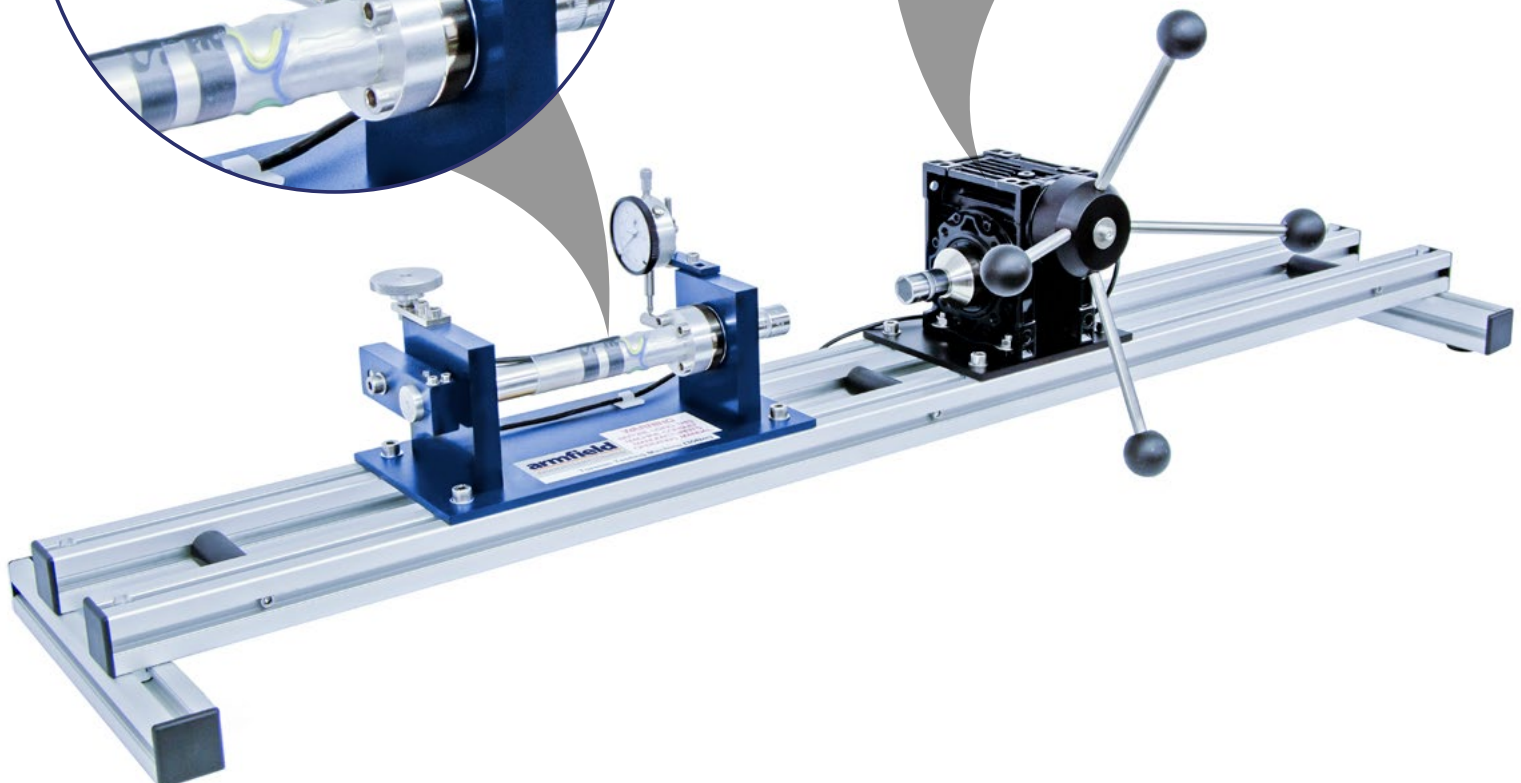
The change in length of the specimen is not restricted during the experiment. Standard hexagon drives are used for transmitting the torque into the specimens.

A BENCH TOP MOUNTED UNIT FOR APPLYING TORQUE TO FAILURE ON METAL SPECIMENS.

SV802 Torsion Tester



SV802 Gearbox



Experimental content

- ▶ Torsional loading to failure of varying material specimens
- ▶ Torsional variation due to material, cross sectional area
- ▶ Comparison between actual and theoretical results
- ▶ Determination of the Modulus of Rigidity and Yield Shear Stress
- ▶ Working with the elastic torsion equation
- ▶ Hardness testing

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Issue: 1

URL: <http://www.armfield.co.uk/structures>

Applications

ME CE IP

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Description

Up to 30Nm torque is applied via the moment head to differing material test specimens using hand operated worm and wheel gearbox (60:1 ratio).

The unit can cater for test specimens of up to 750mm between the moment head and torsion head. The moment head is fixed but the torsion head can be moved along the base to allow for the different lengths of specimen. The change in length of the specimen is not restricted during the experiment. Standard hexagon drives are used for transmitting the torque into the specimens.

The angular position of one end of the test specimen can be adjusted before and during the experiment to either compensate for twist or to set known twist. This is done using the adjustment mechanism on the torsion head and the reference dial gauge mounted on the torsion head also.

Strain gauge technology is used within the torsion head and the output from these strain gauges is fed directly into the **AIU** Armfield interface units. The software supplied with the **AIU** Armfield interface unit captures and stores the data to allow further data manipulation and processing.

Ordering Specification

- ▶ 1 x Power supply
- ▶ 18 x Specimens
- ▶ 1 x Safety glasses
- ▶ 1 x Ear defender
- ▶ 1 x Hex wrench set
- ▶ 1 x Vernier caliper
- ▶ Instruction manual
- ▶ Packing list
- ▶ Test sheet

Technical specification

- ▶ 30Nm torsion ability
- ▶ Bench top unit, with sturdy extruded base frame
- ▶ 18 test specimens supplied in steel (x6), aluminium (x6) and brass (x6)
- ▶ 17mm A/F hexagon ends on specimens
- ▶ Test diameter on specimens: $\varnothing 6$ mm nominal
- ▶ Can cater for specimen lengths up to 750mm
- ▶ Specimen loading through 60:1 worm/wheel gearbox operated by hand
- ▶ Digital display of torque (resolution of 0.1Nm) and angle (resolution of 0.1°)
- ▶ Analogue dial gauge: 10 or 25mm range, 0.01mm resolution

Overall dimensions

Length	1.450m
Width	0.360m
Height	0.320m

Packed and crated shipping specifications

Volume	0.77m ³
Gross weight	85kg

Requirements

Scale



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

- ▶ PC with USB port, running Windows 7 or above

Features / benefits

- ▶ High quality, visual apparatus
- ▶ Sturdy bench frame for up to 750mm specimen lengths
- ▶ Digital Interface and software option
- ▶ Steel, aluminium, brass test specimens supplied
- ▶ Vernier, ear defenders, safety glasses supplied
- ▶ Pen supplied to visibly show angle of twist of specimens

Related laws

- ▶ Modulus of Rigidity
- ▶ Shear Modulus
- ▶ Torsion Constant
- ▶ Polar Moment of Inertia
- ▶ Angle of Twist
- ▶ Gauge Length
- ▶ Maximum Torque
- ▶ Elastic Region
- ▶ Plastic Region
- ▶ Tensile Strength

Essential accessories/equipment

- ▶ **AIU:** Armfield Interface Unit (Sold separately)

Recommended Accessories / equipment:

- ▶ **SV802-1:** Additional Set of Specimens: 6 x Brass
6 x Steel
6 x Aluminium

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

- ▶ SV802 Torsion Testing Machine (30Nm)
- ▶ SV802-1: Additional Set of Specimens
- ▶ **AIU:** Armfield 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



armfield.co.uk

Aftercare

Installation
Commissioning
Training
Service and maintenance
Support: armfieldassist.com