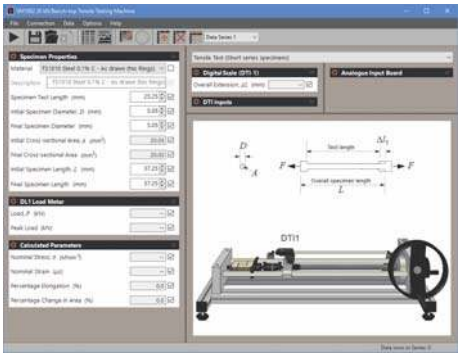
BENCH-TOP TENSILE TESTING MACHINE

VDAS® SM1002

A laboratory-scale, hand-driven bench-top tensile testing machine, 20 kN capacity.



SCREENSHOT OF THE OPTIONAL VDAS® SOFTWARE

OPTIONAL EXTENSOMETER (SM1002A) FITTED TO TL SPECIMEN

FEATURES:		BENEFITS:
Simple hand-operated load application	→	For safe and easy operation that minimises risks to students
Supplied with chucks for standard 20 mm² specimens	→	Compatible with older Hounsfield specimens and chucks – cost saving
Optional Extensometer (SM1000d)	→	For tests of Young's modulus
Optional Compression Cage and Brinell Test Set (SM1002b and SM1002c)	→	Combines hardness testing with tensile testing for flexibility and cost saving

LEARNING OUTCOMES :

- Tensile tests up to 20 kN on specimens made of different metals, to find material characteristics such as upper and lower yield strengths, tensile strength and overall extension.
- Tests of Young's modulus (E) for the specimen material (needs SM1002a and TL specimens)

CONTINUED ON NEXT PAGE

BENCH-TOP TENSILE TESTING MACHINE (SM1002) CONTINUED FROM PREVIOUS PAGE

A sturdy base holds a hand-driven worm and wheel gearbox, driving a lead screw with approximately 400 mm of travel. The mechanism uses ball races and self-aligning ball thrust races in the direction of loading. These low-friction bearings with the large handwheel allow the user to apply maximum load with minimum effort.

The load-measuring mechanism is a strain-gauged load cell that connects to a microprocessor-controlled digital display. The load display unit has a 'peak hold' function to register the maximum load before the specimen breaks. A sliding digital display measures the tensile displacement (extension) over the entire movement. The tensile specimens mount between the load application mechanism and load cell, in collet chucks via ball-jointed spigots. This ensures purely axial loading.

AVAILABLE EXPERIMENT MODULES:

- Brinell Hardness Test Set (SM1002c) 162

RECOMMENDED ANCILLARIES:

- Versatile Data Acquisition System – Bench-mounted version (VDAS-B) 299
- Extra TL and TS specimens 173
- Extensometer (SM1002a) 161

ALTERNATIVE PRODUCTS:

- Universal Testing Machine (SM1000) 163
- Materials Laboratory with Data Capture (MF40 MKII) 166
- Tensile Tester Kit (ES6) 13

BRINELL HARDNESS TEST SET

SM1002C

Fits in the Compression Cage (SM1002b) of the Bench Top Tensile Testing Machine (SM1002) for Brinell hardness tests.

- Includes specimens of different basic engineering materials
- Includes magnifier with graticule to accurately measure the indentation
- Works with TecQuipment's hardness test specimens (HTP)

LEARNING OUTCOMES:

- Brinell hardness tests of different basic engineering materials

An extra experiment module for the test machine, parts of this test set fit into the optional Compression Cage (SM1002b) for simple Brinell hardness tests. The set includes a magnifier with graticule (measurement scale) and test specimens made of basic engineering materials.

THE OPTIONAL COMPRESSION CAGE (SM1002B) FITS INTO THE TENSILE TEST AREA, ADAPTING THE MACHINE FOR EXPERIMENTS THAT NEED A COMPRESSIVE LOAD.

ESSENTIAL BASE UNIT:

- Bench-Top Tensile Testing Machine (SM1002) 161

ESSENTIAL ANCILLARIES:

- Compression Cage (SM1002b)

RECOMMENDED ANCILLARIES:

- Extra hardness specimens (HTP) 173

ALTERNATIVE PRODUCTS:

- Materials Laboratory with Data Capture (MF40 MKII) 166
- Brinell Indenter (SM1000e) 164