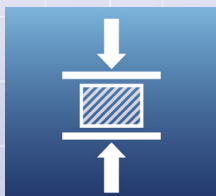# Mecmesin

testing to perfection

MultiTest-*dV*
Precision tension & compression tester
with *VectorPro™ Lite* data acquisition software

| Top load | Flexure / Bend | Compression | Lap shear | Pull off / Pull out | Tensile strength |

MultiTest-*dV*

Precision tension and compression tester

Key Features

The MultiTest-*dV* provides outstanding value as a superior motorised force tester up to 2.5 kN. Designed for precision compression and tension testing, its simple controls, backed by sophisticated electronics, make it the ideal choice for routine testing when combined with a digital force gauge.

An extensive range of grips and fixtures is available from Mecmesin to deliver an affordable solution which doesn't break your budget.

3 models

Load rating
- 0.5 kN
- 1.0 kN
- 2.5 kN

4 test modes
- manual up/down control
- to or between target displacement
- to or between limit switches
- to or between pre-set gauge loads

Control panel display

Clear indication of speed, displacement and (when AFG connected) load.

Four simple buttons to operate

Just four multifunction buttons for all settings and operation.

Versatile and precise

Crosshead speed from 0.1 to 1200 mm/min

Positional resolution to 0.001 mm

Advanced Force Gauge (AFG)

The AFG interacts with the MultiTest-*dV* to enable controlled testing to a load limit or break. (order separately)

Grips and fixtures

Mecmesin offers a wide range of grips and fixtures to suit your needs.

Multifunction wheel

Fine control allows precise setting of speed and position.

Coloured LEDs clearly indicate machine status during testing.

USB connection:

Connect to a PC with VectorPro™ Lite software, for test settings and results storage, streaming data, graph plotting, calculations, and basic statistics.

MultiTest-*dV* Controls

The MultiTest-*dV* has a simple-to-use front panel for precise selection of test parameters. Based on the tried and tested MultiTest frame, it has completely new control electronics to deliver superior performance combined with affordability.

It can be used standalone with an AFG digital force gauge, or combined with VectorPro™ Lite for acquisition, plotting and analysis, of data with controlled storage of test routines.
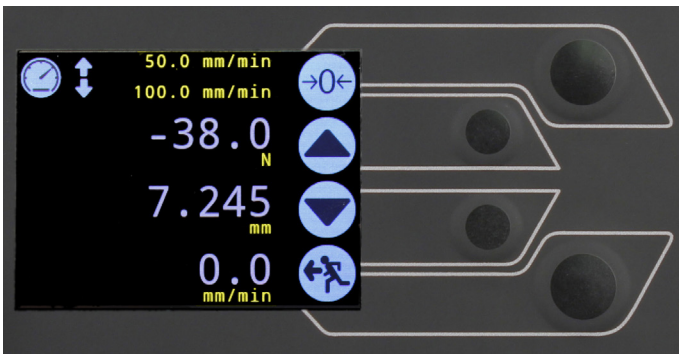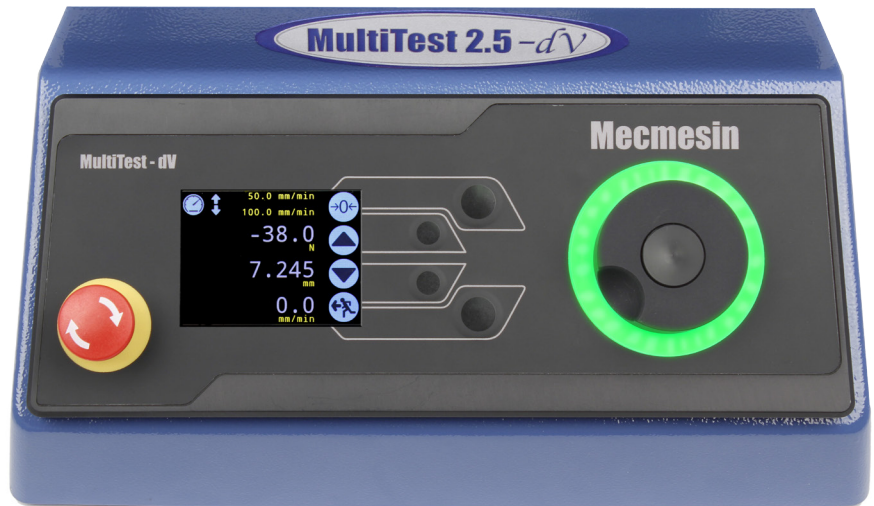
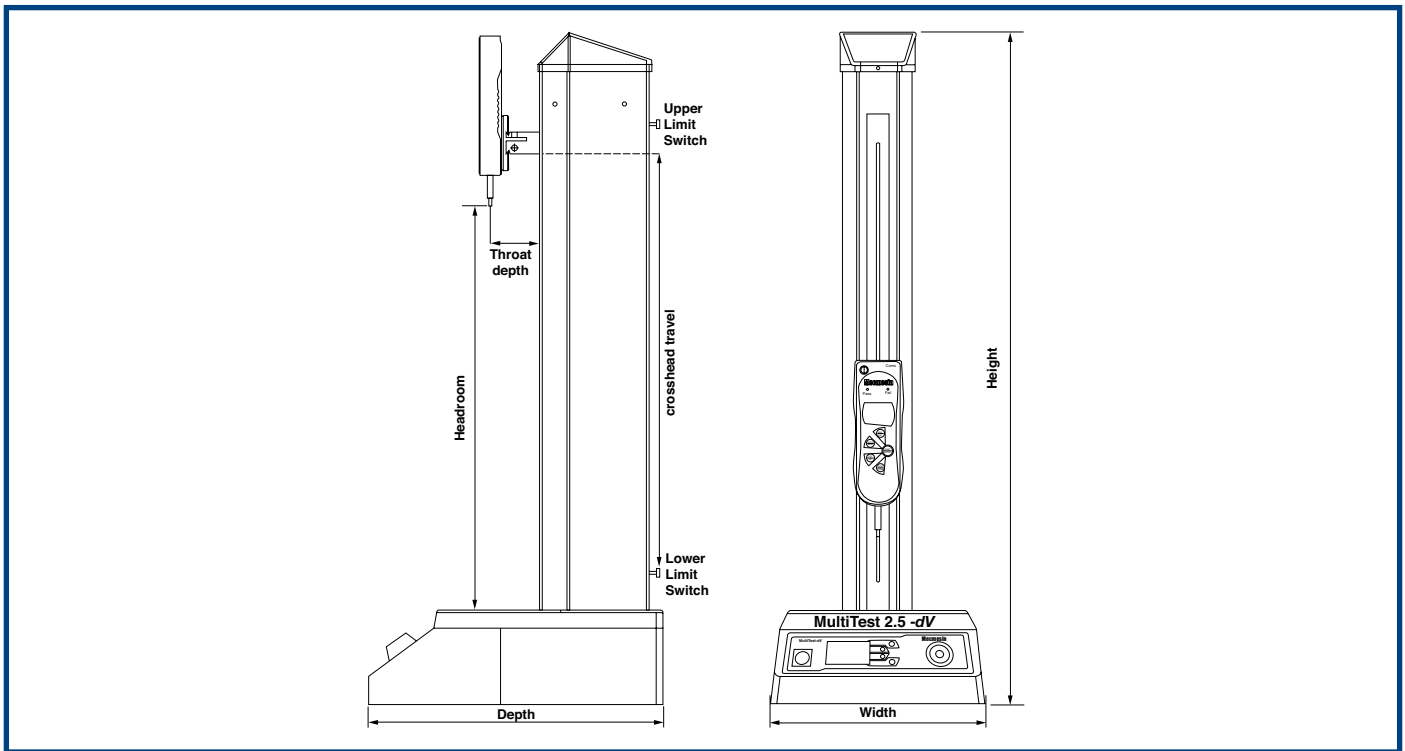◄ Clear colour display of status, up and down speeds, displacement and load (when AFG connected)

◄ Four multifunction buttons for all settings and operation. Multi-language display

◄ Continuous live readings during testing, including status and cycle count: plus peak and break capture by AFG or full data capture and plotting with VectorPro™ Lite

▲ Lights indicate stand status
Dial positions crosshead precisely
Centre button confirms menu settings

Specifications

MultiTest-*dV*		0.5	1	2.5
Rated capacities	kN	0.5	1.0	2.5
	kgf	50	100	250
	lbf	110	220	550
Displacement				
Crosshead travel**		1200 mm (47.3")	1000 mm (39.4")	500 mm (19.7")
Maximum headroom**		1230 mm (48.4")	1030 mm (40.6")	530 mm (20.9")
Displacement resolution	mm	0.001	0.001	0.001
	in	0.000025	0.000025	0.000025
Positional accuracy		±0.130/300 mm (±0.005/11.81")	±0.130/300 mm (±0.005/11.81")	±0.130/300 mm (±0.005/11.81")
Speed				
Speed range††	mm/min	0.1 to 1200	0.1 to 1200	0.1 to 1200 †
	in/min	0.004 to 47.2	0.004 to 47.2	0.004 to 47.2
Speed accuracy		±0.2% of indicated speed	±0.2% of indicated speed	±0.2% of indicated speed
Speed resolution	mm/min	0.1	0.1	0.1
	in/min	0.004	0.004	0.004
Maximum no. of cycles per test		9999	9999	9999
Dimensions				
Height		1710 mm (67.3")	1510 mm (59.4")	941 mm (37")
Width		290 mm (11.4")	290 mm (11.4")	290 mm (11.4")
Depth		414 mm (16.3")	414 mm (16.3")	414 mm (16.3")
Vertical daylight		1359 mm (53.5")	1159 mm (45.6")	590 mm (23.2")
Throat depth*		70.5 mm (2.8")	70.5 mm (2.8")	70.5 mm (2.8")
Weight		26 kg (57 lb)	25 kg (55 lb)	24 kg (53 lb)
Electrical supply				
Voltage		230 V AC 50 Hz / 110 V AC 60 Hz	230 V AC 50 Hz / 110 V AC 60 Hz	230 V AC 50 Hz / 110 V AC 60 Hz
Maximum power requirements		120 W	200 W	250 W
Gauges, 10 models from 2.5 N to 2500 N (Advanced Force Gauge)				
Force gauge accuracy		±0.1% of full-scale	±0.1% of full-scale	±0.1% of full-scale

*Measured on centreline of gauge   **Measured with force gauge and short extension rod fitted † 2.5 kN : recommended maximum speed = 750 mm/min (30 in/min) above 2 kN
††Where mains voltage is unreliable, the machine may not run above 1000 mm/min

The MultiTest-*dV* Range

The MultiTest-*dV* range comprises three outstanding value, superior motorised force testers. Each employs a single ballscrew for precision linear motion, upper and lower limit switches, and automatic stop at load and reverse capability when using AFG control. The range offers an ideal affordable solution for routine quality control, as well as ad hoc testing.

◄ **MultiTest 2.5**-*dV* suitable for tension and compression applications up to 2.5 kN, this is the ideal choice for a wide range of routine testing.

◄ **MultiTest 1**-*dV* for tension and compression applications up to 1 kN. The long column height of 1510 mm (59.4"), makes the MultiTest 1-*dV* a preferred choice for the elongation testing of moderately elastic materials and products.

◄ **MultiTest 0.5**-*dV* for applications up to 500 N. An extended column height of 1710 mm (67.3"), makes it best suited to elongation testing of highly elastic materials such as rubber and film.

Mecmesin Advanced Force Gauge (AFG)

With the appropriate communications cables, data can be streamed from the AFG to Mecmesin's VectorPro™ Lite data acquisition software, to combine load, displacement and time.

The MultiTest-*dV* range integrates with the Mecmesin AFG, a versatile and fully-featured precision digital force gauge, available in 10 load capacities from 2.5 N to 2.5 kN (0.55 lbf to 550 lbf) with an accuracy of ±0.1% of full scale. Mounted on, and connected to the MultiTest-*dV*, an AFG adds control, enabling testing between load values, or to stop and reverse when load limits are reached or when a sample break is detected. For all the features of the AFG, see our brochure: *Digital Force and Torque Gauges.*

The Mecmesin Basic Force Gauge (BFG) range can also be used on the MultiTest-*dV*, but without any gauge load control being available, and without compatibility with VectorPro™ Lite.

Part no.	Description
351-092	2 m communications cable, AFG (15-pin RS232), to dV stands (RJ11)
351-093	2 m communications cable, *dV* test stands (USB B), to PC (USB A)

VectorPro™ Lite

Test Data Acquisition Software

Collect and control your test data, and interface with shopfloor SPC systems.

VectorPro Lite enables the same basic test routines that are available through the MultiTest-*dV* panel controls, to be set up and stored on a PC, with their settings, for re-use. Any single test routine can be uploaded from VectorPro™ Lite to the MultiTest-*dV* and can be run from the software to provide real-time load/displacement/time plotting.

Standard calculations can be added to the test profiles to provide a selected range of results, basic statistical analysis, and pass-fail criteria for samples tested. Results and raw data are stored, and can be exported as .tab, .csv or Excel® files for external SPC programs, or printed in report format.

Supplied with individual USB Software License key

Personalised user accounts with simplified workspaces

Create personalised workspaces to simplify operations. Apply permissions to control who can access, run, edit or create tests, view results, and produce reports.

Drag and drop test-building

Drag and drop all the elements needed to create a test routine, apply calculations and build reports. Create repeatable tests in moments and refine them as you go. Each test profile has full version tracking and results storage, along with customisable test summary information.
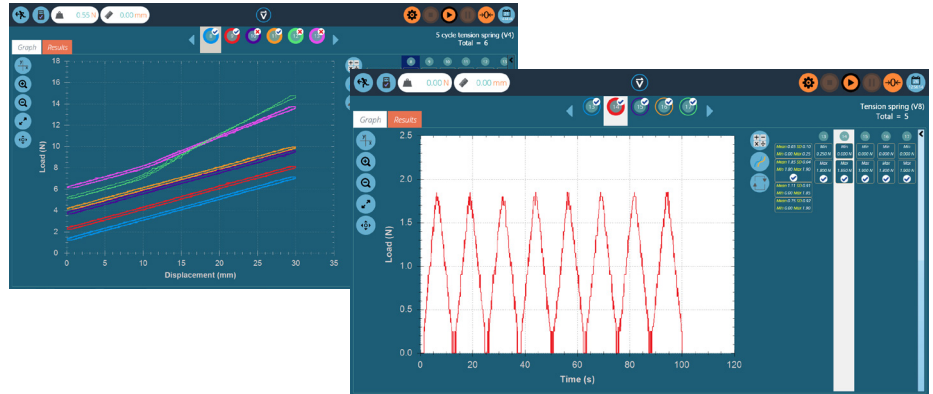
Calculations
- Area under a graph
- Average value (mean)
- Best fit and slope trend lines
- Break point
- Value of x-axis at y-axis value
- Min and Max values
- Peak and Trough

Calculations can be evaluated as pass/fail against your own tolerance values

Live plotting of tests

View tests as they run, with instant calculation or pass/fail results. Get in close to your sample data: Switch axes, zoom, pan, view data point values. Offset sample traces for clarity and comparison. Any results can be re-viewed at any time.

Results handling

- Compare the plots of tested samples and add spot calculations not included in the test profile.
- Select out the samples you want to compare, and adjust calculation parameters temporarily or to save.
- Export raw data, or results, to delimited or Excel files, email a table of results. Create a report of results, graphs and notes to print or save as PDF.
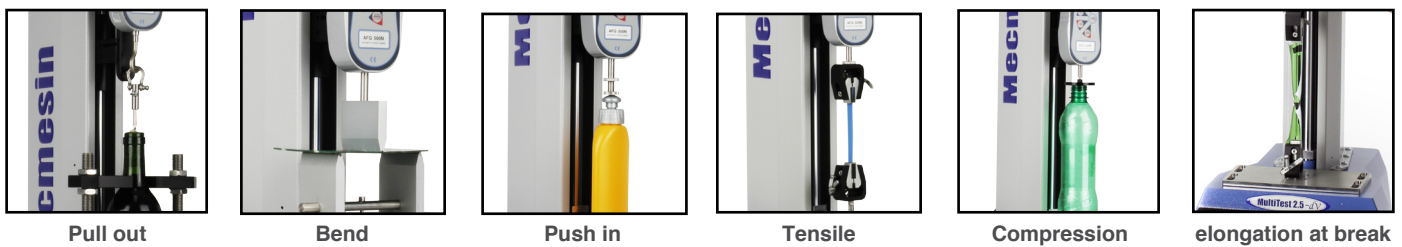

▲
Offset samples

▲
Export data

▲
User-defined report templates

Applications

| **Pull out** | **Bend** | **Push in** | **Tensile** | **Compression** | **elongation at break** |

The MultiTest-*dV* mounted with an AFG force gauge allows a wide range of product tests, including:

- compressive bend
- elongation at break
- pull-out / pull off
- insertion and withdrawal

- top-load
- peel and adhesion
- penetration
- tear

Mecmesin

testing to perfection

Mecmesin - a world leader in affordable force and torque testing solutions

Since 1977, Mecmesin has assisted thousands of companies achieve enhanced quality control in design and production. The Mecmesin brand represents excellence in accuracy, build, service, and value. In production centres and research labs worldwide, designers, engineers, operators, and quality managers endorse Mecmesin force and torque testing systems for their high performance across countless applications.

www.mecmesin.com

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The Mecmesin global distribution network guarantees your testing solution is rapidly delivered and efficiently serviced, wherever you are.

bsi.

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Mecmesin reserves the right to alter equipment specifications without prior notice. E&OE

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