

Mecmesin

testing to perfection

MultiTest-d

Digital Motorised
Test Stand

Tension and Compression
Test Solutions



MultiTest-d Focus

The MultiTest-d has been designed as the ideal entry-level motorised test stand for the most popular tensile and compression applications. Simple operation and rugged construction make it ideal for production environments and research & development laboratories.

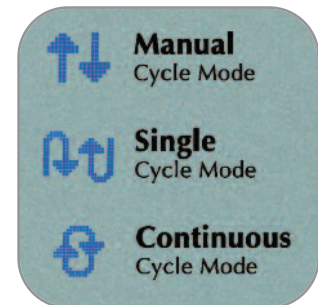
Combined with a Mecmesin force gauge and accessories, the MultiTest-d is an affordable solution for testing (crimps, plastics, textiles, wire and a wide range of lower to mid-range force applications).



- Precise and accurate digital speed control
- Easily adjust speed in small increments
- Separate settings for up and down speeds
- Speed 'locked off' to avoid accidental adjustment by operator



- Digital display of displacement
- Large and easy-to-read LCD screen
- Clear display of up and down speed
- Data - output of displacement and force (when used with Advanced Force Gauge).



- 3 test modes for maximum versatility and flexibility
- Manual - allows the operator to move to an exact position
- Single Cycle - saves time by semi-automating a simple test routine
- Continuous Cycle - ideal for basic repetitive tests



MultiTest-d Features



Accessories

Each Mecmesin force gauge purchased comes with a set of standard accessories.

Mecmesin also offers a wide range of other grips and fixtures to create a test system that meets your needs at an affordable price.



For further information please refer to the accessory datasheets.

Rigid Aluminium Base

manufactured with a solid build quality

Speed Control

digitally controlled speed selection

Emergency Stop

Button for immediate test termination.

Manual/Single/Continuous Cycle Mode Key

- Select Manual Mode to perform a test by pressing and holding Start / Stop key
- Select Single Mode to semi-automate the test to run to a limit switch or a stop signal from a force gauge
- Select Continuous Mode and the stand will continue to run between limits, while counting cycles

Zero Key to reset the displacement at the current crosshead position.

Gauges

A range of gauges in a wide variety of capacities is also available to measure force in tension and compression with optimum precision and performance.



- Advanced Force Gauges (AFG)



- Basic Force Gauge (BFG)

Anvil Plate adjustable to accommodate a wide range of fixtures and grips

Easy-to-read LCD Screen

with digital display of displacement and speed

Bidirectional Start / Stop

Key to manually initiate / stop tension or compression testing

CE mark safety approved to European standards



MultiTest-d Range

The MultiTest-d is available in two versions to suit a wide range of test applications.

The MultiTest 1-d test stand has a 1kN (220lbf) load rating, with a longer column to accommodate samples up to 530mm (20.9") in height.

The MultiTest 2.5-d is a more compact test stand with a higher load rating of 2.5kN (550lbf). With a higher force capacity the MultiTest 2.5-d is suitable for mid-range tension and compression testing on samples with heights up to 350mm (13.8").

Key Features



- Digital display of speed and displacement
- Data output for creation of load / displacement graph
- Keypad with clear, intuitive navigation of functions
- Three control modes saving time by automating tests
- Portable, benchtop design
- Precise and accurate speed control with speed setting protection
- Fully motorised crosshead drive system
- Single ballscrew for precision linear motion
- Automatic stand reverse / stop capability
- Adjustable upper and lower limit switches

* Shown with force gauge and grips (not supplied)



MultiTest 1-d

- 1000N / 100kgf / 220lbf load capacity
- 500mm (19.7in) crosshead travel
- 1-1000mm/min (0.04-40in/min) speed range

MultiTest 2.5-d

- 2500N / 250kgf / 550lbf load capacity
- 330mm (13.0in) crosshead travel
- 1-750mm/min (0.04-30in/min) speed range

Specifications

Model		MultiTest 1- <i>d</i>	MultiTest 2.5- <i>d</i>
TEST FRAME			
Maximum load	N	1000	2500
	kgf	100	250
	lbf	220	550
Number of ballscrews		1	1
Speed range	mm/min	1-1000	1-750
	in/min	0.04-40	0.04-30
Throat depth**		70.5mm (2.8")	70.5mm (2.8")
Vertical daylight		590mm (23.2")	410mm (16.1")
Height		940mm (37")	750mm (29.5")
Width		290mm (11.4")	290mm (11.4")
Depth		414mm (16.3")	414mm (16.3")
Weight		19kg (42lbs)	18kg (40lbs)
Maximum power requirement		80 watts (maximum)	160 watts (maximum)
Voltage		230V AC 50Hz	230V AC 50Hz
		110V AC 60Hz	110V AC 60Hz
DISPLACEMENT			
Crosshead travel*		500mm (19.7")	330mm (13.0")
Maximum headroom*		530mm (20.9")	350mm (13.8")
STANDARD LOAD MEASUREMENT OPTIONS			
Force gauge & dovetail bracket			
S-Beam loadcell, tension block module & AFTI display			

* measured with force gauge and short extension rod fitted ** measured to centre line of force gauge

Common Specifications

Speed unit	mm/min and inches/min
Speed resolution	1mm/min or 0.04 inches/min
Speed accuracy	+/- 0.1mm/min
Displacement unit	mm and inches
Displacement resolution	0.01mm or 0.0004 inches
Displacement accuracy	+/- 0.25mm over 500mm (1- <i>d</i>)
	+/- 0.25mm over 300mm (2.5- <i>d</i>)
Operating modes	Manual, Single Cycle, Continuous Cycle
Up and down control	By membrane switch
Digital display of speed/displacement	On LCD screen
Direction of travel indicated on stand	On LCD screen
Reverse on alarm point	Yes, with appropriate force gauge & cable
Reverse on sample break	Yes, with appropriate force gauge & cable
Limit switch repeatability***	<0.5mm (0.02in)
Limit Switch over-run at top speed	<2mm (0.08in)
Operating temperature	10 - 35°C / 50 - 95°F
Humidity range	Normal industry and laboratory conditions
Loadholding	No
Graphical representation****	via Emperor Lite Software
Output of test results to PC/Printer/Datalogger****	via Emperor Lite Software

Options (available on request)

Column gaiter (shield at the front of the column protects in dust area)
 Extended columns
 Extended throat depth
 Machine guard
 Horizontal operation

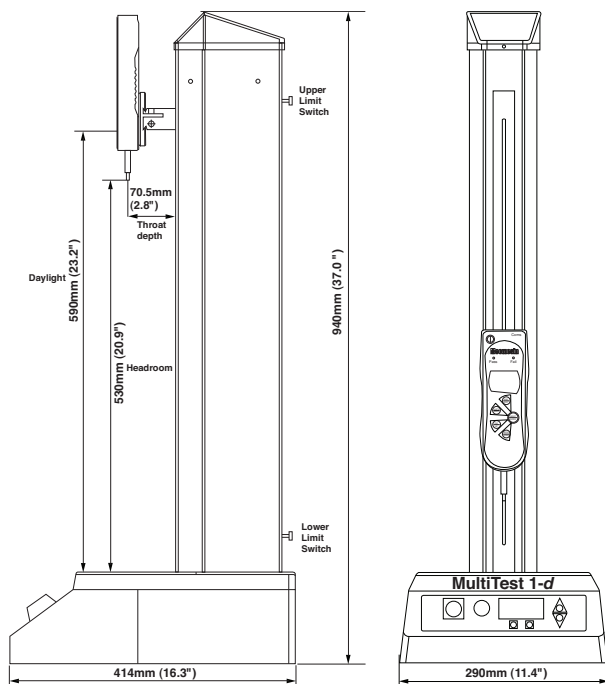
*** at given speed (i.e. not necessarily over whole speed range) **** when used with force gauge

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

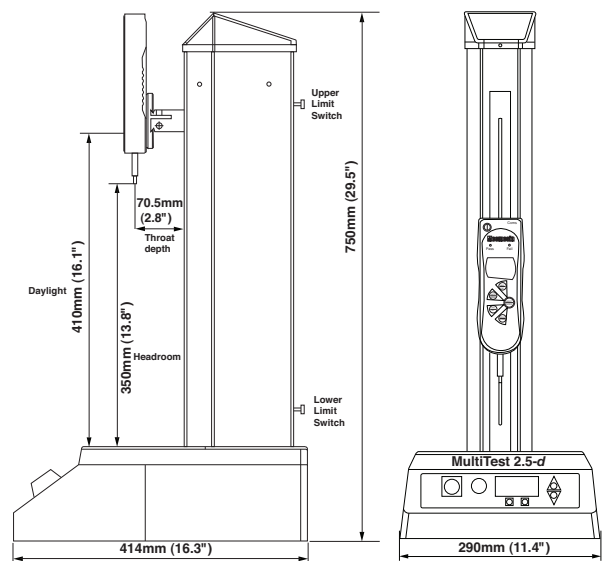
Overview

The MultiTest-*d* test stands are manufactured using rigid aluminium base castings and fabricated steel housing, providing a high degree of rigidity and strength. More than a simple test frame, the new range of MultiTest-*d* stands will ensure many years of reliable service assisting you to improve the quality control of your components, materials and products.

Dimensions



MultiTest 1-d



MultiTest 2.5-d

Stand shown with force gauge fitted.

*Accuracy Control Versatility Repeatability
Reliability Performance*



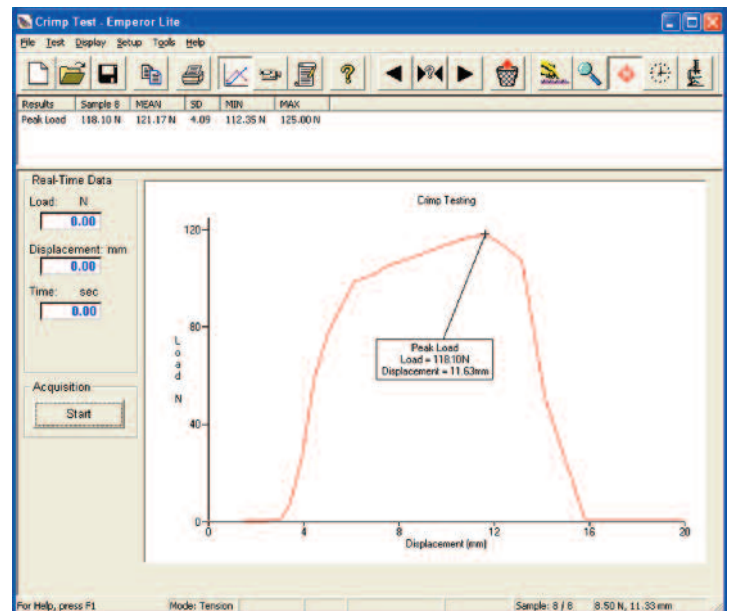
Software

For further information and case studies regarding applications or products please visit our website, www.mecmesin.com or call, +44 (0) 1403 799979

Emperor Lite

Emperor Lite™ is Mecmesin's powerful data-acquisition software, for use with its extensive range of force & torque measurement equipment. The software quickly and easily enables operators to perform in-depth analysis of measurements using a graphical trace of the test.

- View test 'live' on PC screen
- Perform multiple calculations
- Easily identify and label critical measurement values and success / failure points during the test
- Summary test report with graphical traces



Graphical representation of a crimp test

Choose the MultiTest-*d* option from the drop-down list within Emperor Lite™ and the software will be automatically configured to communicate with the MultiTest-*d* stand for fast, easy analysis of test results.

Applications

The MultiTest-*d* is able to support a multitude of applications throughout many industry sectors.

- Compressive testing
- Tensile testing
- Crimp joint testing
- Connector insertion & withdrawal
- Fastener testing
- Peel & adhesion
- Crush testing
- Textile fastener fixing
- Shear test
- Tear testing



Industry sectors



aerospace



automotive



electronics



medical



packaging



pharmaceutical



plastics



safety



textiles

Mecmesin

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Over 30 Years Experience in Force & Torque Technology

Formed in 1977, Mecmesin Limited is today widely regarded as a leader in force and torque technology for quality control testing in design and production. The Mecmesin brand stands for excellent levels of performance and reliability, guaranteeing high quality results. Quality control managers, designers and engineers working on production lines and in research laboratories worldwide rely upon Mecmesin force & torque measurement systems for a range of quality control testing applications, which is almost limitless.

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