

Mecmesin

testing to perfection

MultiTest-d

Digital Motorised
Test Stand

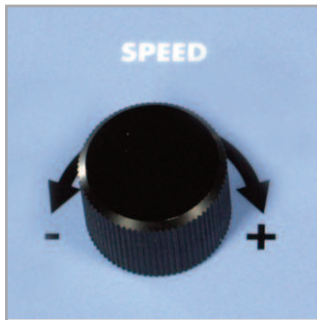
Tension and Compression
Test Solutions



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 R&D laboratories.

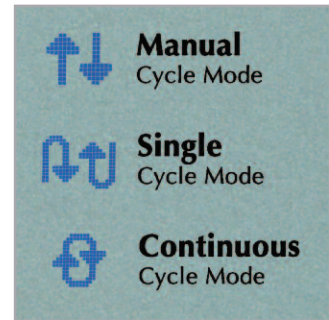
Combined with a Mecmesin force gauge and accessories, the MultiTest-d is an affordable solution for tension and compression testing (e.g. crimps, plastics, textiles, wire and a wide range of low to mid-range force applications).



- 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 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.

Force 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 Gauge (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 2.5-d is the standard test frame with a load rating of 2.5kN (550lbf), it's substantial column length accommodates samples up to 530mm (20.9") in height and also facilitates extensive elongation of smaller samples. The higher force capacity makes the MultiTest 2.5-d the ideal choice for quality control applications requiring mid-range tension and compression tests.

For tests on high elongation materials such as film and rubber we offer a range of MultiTest-d test stands with longer travel:

- MultiTest 1-d with a 1kN (220lbf) load rating and 1000mm crosshead travel
- MultiTest 0.5-d with a maximum load of 500N (110lbf) and a crosshead travel of 1200mm.

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 2.5-d

- 2500N/250kgf/550lbf load capacity
- 500mm (19.7") crosshead travel
- 1-1000mm/min (0.04-40in/min) speed range

MultiTest 1-d

- 1000N/100kgf/220lbf load capacity
- 1000mm (39.4") crosshead travel
- 1-1000mm/min (0.04-40in/min) speed range

Specifications

MultiTest-d		0.5	1	2.5
TEST FRAME				
Rated capacity	N	500	1000	2500
	kgf	50	100	250
	lbf	110	220	550
Number of ballscrews		1	1	1
Speed range	mm/min	1 - 1000	1 - 1000	1 - 1000*
	in/min	0.04 - 40	0.04 - 40	0.04 - 40
Crosshead speed accuracy		±0.1% of indicated speed		
Throat Depth**		70.5mm (2.8")	70.5mm (2.8")	70.5mm (2.8")
Vertical daylight		1359mm (53.5")	1159mm (45.6")	590mm (23.2")
Height		1710mm (67.3")	1510mm (59.4")	941mm (37")
Width		290mm (11.4")	290mm (11.4")	290mm (11.4")
Maximum Power Requirements		120 watts	200 watts	250 watts
Voltage		230V AC 50Hz or 110V AC 60Hz		
DISPLACEMENT				
Crosshead travel***		1200mm (47.3")	1000mm (39.4")	500mm (19.7")
Maximum headroom***		1230mm (48.4")	1030mm (40.6")	530mm (20.9")
STANDARD LOAD MEASUREMENT OPTIONS				
Force gauge and dovetail bracket				
S-beam loadcell, tension block module and AFTI display				

* 2.5kN - recommended maximum speed = 750mm/min (30in/min) above 2000N

** measured to centre line of the force gauge

*** measured with a force gauge and short extension rod fitted

Common Specifications

Speed resolution	±1.0mm/min (±0.04in/min)
Speed accuracy	±0.1mm/min (±0.004in/min)
Displacement resolution	0.01mm or 0.0004 inches
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 indication on stand	On LCD screen
Reverse on alarm point	Yes, with appropriate force gauge and cable
Reverse on sample break	Yes, with appropriate force gauge and cable
Limit switch repeatability****	<0.5mm (0.02")
Limit switch over-run at top speed	<2mm (0.08")
Operating temperature	10C to 35C (50F - 95F)
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

Column gaiter
 Extended throat depth
 Safety guard
 Horizontal operation

available upon request

**** at given speed (i.e. not necessarily over whole range)

***** when used with a force gauge

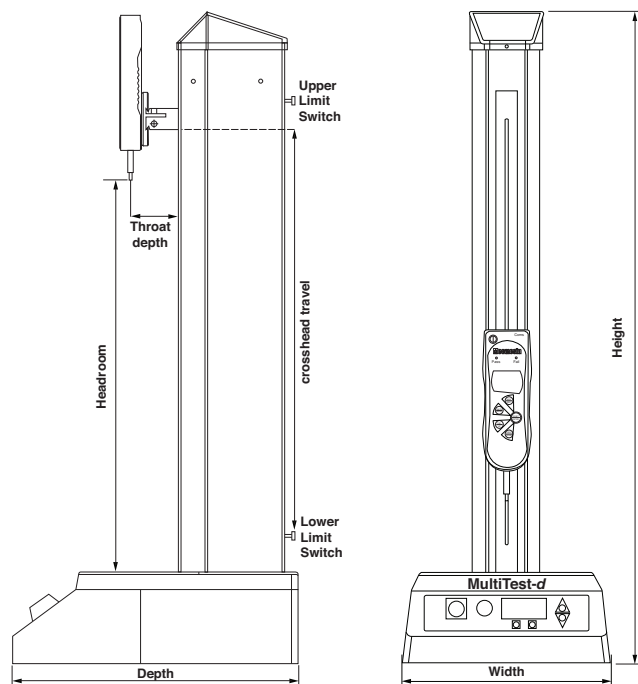
Mecmesin reserves the right to alter equipment specifications without prior notice.
 E&OE

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, our 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



Stand shown with force gauge fitted

	Height	Width	Depth	Croshead travel*	Headroom*	Throat Depth**
MultiTest 0.5- <i>d</i>	1710mm (67.3")	290mm (11.4")	414mm (16.3")	1200mm (47.3")	1230mm (48.4")	70.5mm (2.8")
MultiTest 1- <i>d</i>	1510mm (59.4")	290mm (11.4")	414mm (16.3")	1000mm (39.4")	1030mm (40.6")	70.5mm (2.8")
MultiTest 2.5- <i>d</i>	941mm (37")	290mm (11.4")	414mm (16.3")	500mm (19.7")	530mm (20.9")	70.5mm (2.8")

* measured with a force gauge and short extension rod fitted

** measured to centre line of the force gauge



tensile testing



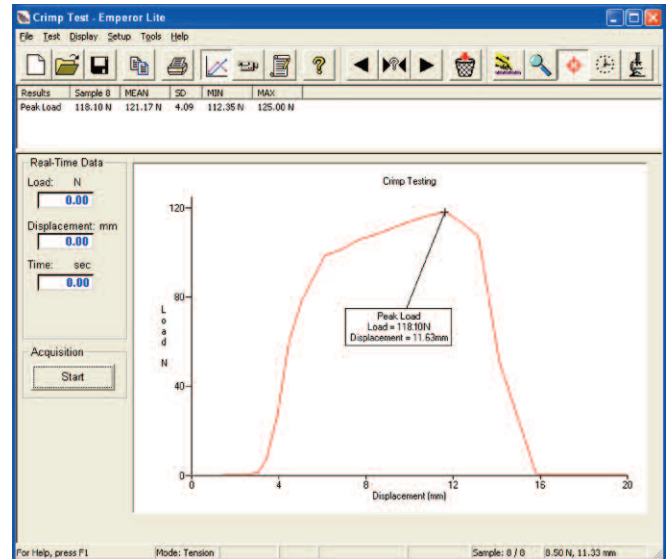
compression testing

Accuracy Control
Performance
Repeatability
Reliability Versatility

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



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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.

Visit us on the web at
www.mecmesin.com



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Dillon/Quality Plus, Inc.

Distributor/Sales/Service/Calibration

Email: sales@dqplus.com

Web: <http://www.dqplus.com/>

3501 N.E. Kimball Dr. Kansas City, MO. 64161

Phone: 800-493-2263 or 816-453-7600

FAX: 816-453-7677



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