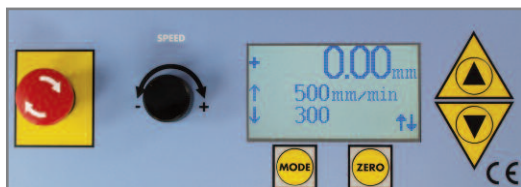


MultiTest-d

Motorised Test Stands

Tension & Compression
Test solutions

Operating Manual



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The MultiTest-*d*

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The MultiTest-d

Important: It is essential that you familiarise yourself with the contents of this Start-up Manual before attempting to operate your MultiTest-d Test System.

Scope

This Start-up Manual is suitable for use with the Mecmesin MultiTest 0.5-d, 1-d, 2.5-d and their derivatives. *(The front cover illustrates a MultiTest 2.5-d)*

Introduction

Thank you for choosing this Mecmesin MultiTest-d, force testing system. With correct use it will provide many years of accurate and reliable service.

The MultiTest-d has been specifically designed as an easy-to-use tension and compression testing solution for production areas, where throughput, productivity and minimal training are vital and where the use of a computer is not always suitable.

Before Use

Unpacking the stand

When you first receive the MultiTest-d, please check that there is no obvious damage to the packaging. Appendix 2 lists items which should be included with your test stand. Please contact Mecmesin or your authorised distributor immediately if any items are missing or there are signs that the packaging or the test stand itself has been damaged. Do not use the test stand until you have done so.

We strongly recommend that the packaging is kept as this can be useful if the unit needs to be returned for calibration. Appendix 3 lists instructions for repacking the test stand.

Safe Operation of the MultiTest-d

Before you use the MultiTest-d, you must read the guidance contained in the section 'A Guide to the Safe Use of Mains Powered Test Frames' on the safe use of this product. Test systems delivered into the European Union (EU) will have a copy of this section translated into a language appropriate for your country supplied by your Mecmesin distributor.

Failure to adhere to the guidelines for safe use given in this operating manual may result in irreparable damage to the test stand and personal injury to the operator.

A Guide to Safe Use of Mains Powered Test Frames

MECMESIN TEST FRAMES HAVE BEEN DESIGNED AND MANUFACTURED IN A CONTROLLED SYSTEM TO ENSURE COMPLIANCE WITH ALL RELEVANT EUROPEAN COMMUNITY DIRECTIVES.

DECLARATION OF CONFORMITY: A copy of the relevant Declarations of Conformity can be seen in Appendix 1. Alternatively, electronic copies are available at the 'Knowledge Centre' section of the Mecmesin website: **www.mecmesin.com**

1. Receiving and Unpacking

- 1.1 The specification gives the weights of the test frames. Use suitable lifting equipment to remove the test frame from the packaging.
- 1.2 Once safely removed from the packaging place the test frame on a stable and level work surface.
- 1.3 Inspect the machine for any signs of obvious transit damage.

IF ANY DAMAGE IS DISCOVERED DO NOT GO ANY FURTHER WITH INSTALLATION AND DO NOT CONNECT TO THE MAINS SUPPLY UNDER ANY CIRCUMSTANCES.

Contact your local supplier immediately who will decide the most appropriate action and rectify the situation as quickly as possible. We strongly recommend that you retain the packaging for the test frame as this can be re-used when the frame needs to be returned to your authorised Mecmesin distributor for periodic servicing and calibration. Instructions for re-packing the test frame are given in Appendix 3.

2. Installing the Machine

Note: that for test frames with a height greater than 1 metre, customers in Europe are required to ensure that for a force of 20% of machine weight, or 250 newtons (whichever is less) applied to the top of the machine shall not be capable of toppling the machine, or machine and bench together.

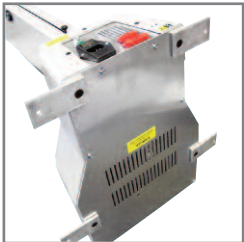
A Guide to Safe Use of Mains Powered Test Frames

2.1 Bolting MultiTest Test Frames to the Work Surface

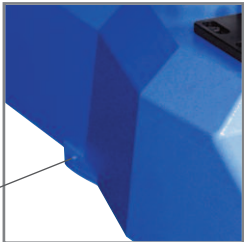
In order to comply with European regulation and safe use of the equipment, single column stands should be secured to the bench as follows:

Test stand	Height (mm)	Feet/fixing supplied	Bolting recommended?
0.5	1710	Anchor brackets	Yes
1	1510	Anchor brackets	Yes
2.5	941	Rubber feet	No*

* N.B. For MultiTest-xt Console controlled frames we recommend that the console is located below the information label on the mounting rail for stability. If the Console is to be mounted above this point, please contact your authorised Mecmesin agent to purchase a set of Anchor Brackets.



The extended length test stands MultiTest 0.5 and MultiTest 1 are supplied with base anchoring brackets to allow the test stands to be bolted to a bench.



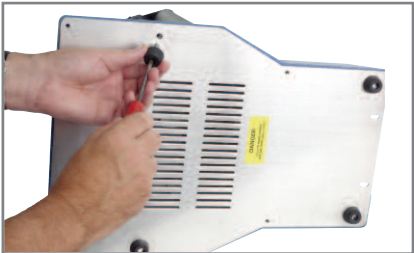
'Locating eye' on MultiTest 5

Note: when securing the Console to the test frame do not exceed the recommended height of 700mm (26.6") as this can cause stability problems.

Fitting the feet to the stand

The MultiTest 2.5 is supplied with rubber feet.

Support the stand and fit the four rubber feet to the base of the stand.



Fitting rubber feet to the base of the test stand

A Guide to Safe Use of Mains Powered Test Frames

2.2 Ensure adequate ventilation

To prevent overheating, ensure that all the air ventilation vents on the test frame are not obstructed. Where a Console is fitted, it is cooled by an internal fan; make sure that when fitted to the test frame the Console air vents are not obstructed.

3. Check the setting for the electrical supply

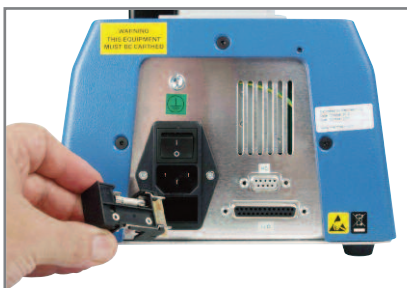
Connecting a mains powered test frame to the wrong supply will almost certainly cause extensive damage to the equipment. Mecmesin test frames must only ever be connected to a mains power installation that has a fully installed earthing system.

CONNECTING A MAINS POWERED TEST FRAME TO AN ELECTRICAL POWER OUTLET WITHOUT AN EARTH CONNECTION IS EXTREMELY DANGEROUS AND COULD LEAD TO A RISK OF ELECTROCUTION.

The combined mains input socket and voltage selector can be found on the rear panel of single column stands and on the right hand side of twin-column force stands. It is on the rear of Vortex stands. Check that the voltage selector is set correctly for your supply. The voltage that is selected is the one that appears the correct way up when looking at the socket.



**Combined mains switch and voltage selector.
This unit is set to
220-240V ac**



**To change the operating voltage,
remove the fuse cartridge, turn it
over and re-fit**

It is possible to change the voltage selection by turning off the power and removing the line cord (if fitted). The fuse cartridge can now be withdrawn. Check that both fuses of the correct rating are present, and re-fit the fuse cartridge so the desired voltage marking is the correct way up.

A Guide to Safe Use of Mains Powered Test Frames

4. Operating environment

Mecmesin test frames should only ever be installed in suitable environmental conditions. The operating temperature and humidity should be within the range given in the specification.

After all the above points have been checked and confirmed to be correct you may connect the machine to the mains outlet only with the supplied mains leads.

When the power is applied with the ON/OFF switch in the ON position, four Light Emitting Diodes (LED) or the back-lit display on the front panel will illuminate as appropriate. This shows power is reaching the machine and it is ready for use.

5. Emergency stop button

Ensure that access to the **Emergency Stop** button on the front control panel is never obstructed. Check its basic operation as described in the enclosed Reference Manual, if appropriate.

6. Operator training

Each person who is to use the machine should be fully trained in the safe use of motorised testing machines. Training can be arranged by contacting Mecmesin Ltd or an authorised distributor. The machine has the ability to generate forces large enough to cause permanent damage to human limbs, if placed between the crosshead and the base. Fingers, hands and other parts of the body should be kept away from the moving crosshead and shroud opening.

Note: that, in the case of the 5kN force testing frames and the twin-column force testing frames, the concertina dust covers conceal a potential mechanical hazard and should not be tampered with, especially when the machine is running.

6.1 Computer-controlled test frames

If the test frame is controlled by an external computer running a Microsoft Windows™ operating system, then we strongly recommend that no other programs are used while Mecmesin Emperor™ Software is running. Commands and inputs to other software programs could cause problems with Emperor™ and result in unpredictable behaviour. Extra consideration should be given to systems that are connected to networks and the possibility of unexpected actions as a result of external commands.

A Guide to Safe Use of Mains Powered Test Frames

Care should be taken with computer-controlled devices such as the mouse and keyboard such that they are not inadvertently activated possibly causing the crosshead to move unexpectedly. Ensure that the mouse is not left with the cursor positioned over any of Emperor's™ buttons which could start the crosshead moving if the mouse button were accidentally pressed.

6.2 Avoid prolonged use of the Console or keyboard and mouse

Prolonged use of devices with a touch screen or a keyboard and mouse may lead to Repetitive Strain Injury. Users should be made aware that excessive use of the keyboard and mouse or the touch screen should be avoided, and frequent rest breaks are recommended.

6.3 Program “Hold”

'Hold' and 'pause' functions are available in some programs. While a 'Hold' or 'pause' is in progress, the stand may appear to be inactive, but then may start moving again without warning. Do not attempt to adjust the grips or remove the sample until the test is completed.

An operating test stand should never be left unattended. Always disconnect the machine from the mains power supply when not in use to avoid inadvertent actuation of the machine by untrained personnel.

6.4 Finishing a test

At the end of testing it is good practice to remove the last sample from the grips. Do not leave a sample under tension or compression in a force testing frame, or under torsion in the case of a Vortex stand when the power is turned off. This could present a hazard should an attempt be made to recover the sample either before or after power is re-applied to the test frame.

6.5 Console or computer failure and operation of the front panel jog buttons

If the Console or controlling computer fails or becomes inactive, it is still possible to control the movement of the crosshead or rotary platen in the case of a Vortex stand by using the jog buttons on the front panel of the test frame. Operate the jog buttons to recover a trapped sample. Once the sample has been removed, switch off the test frame and contact your local Mecmesin distributor for advice before using the test frame again.

A Guide to Safe Use of Mains Powered Test Frames

6.6 In the event of a mains power failure

If the mains power should fail, the test frame will stop moving, but the Console can still operate from its internal battery for some time. Some sample data may be lost depending upon what the system was doing when the power failed.

CAUTION - It is possible that when the power fails the sample could be under compression or tension in a force testing stand, or under torsion in the case of a Vortex stand. Care should be exercised when attempting to release a trapped sample from the grips. It is preferable to wait until the power is restored and then relieve the strain using the jog buttons before removing the sample.

7. Using computer-controlled or Console controlled stands with other equipment

7.1 Digital inputs and outputs

MultiTest-*i* and *xt* and Vortex-*i* and *xt* are provided with digital input and output connections than can be used with other devices e.g. Programmable Logic Controllers (PLC). If the stand has been connected to such an external device, it is possible for the PLC to have control over the stand. Particular attention should be paid when configuring the 'START TEST' and 'GO HOME' commands as these can cause the crosshead or platen to move without warning and without any input to the computer, Console or front panel jog buttons.

7.2 Assemblies of machines and the emergency stop button

If the test stand is to be incorporated into other 'Machines' as defined by the Machinery directive section 1.2.4.4 such as a PLC network, then it is important to note that pressing the emergency stop button on the Mecmesin test frame will not stop any machinery except the Mecmesin test stand, unless the controller is specifically programmed to perform such action in this event. Any personnel configuring such a system must be deemed 'competent' to perform such a task. It is the responsibility of the user to carry out any necessary risk assessment associated with safety-critical operation.

8. Eye protection and protective clothing

Eye protection should always be used in the form of an approved pair of safety spectacles. Extra bodily protection may be necessary if destructive testing or volatile failure of a test piece is likely. Consideration needs to be given to the likely behaviour of the samples being tested and the use of any appropriate personal protective equipment that may be needed.

A Guide to Safe Use of Mains Powered Test Frames

A risk assessment should be carried out prior to using the test frame to ensure that all necessary safety measures have been considered and carried out.

It is important to review the risk assessment if new tests or new samples are introduced.

9. Machine guarding

If, after the risk assessment, it is considered that machine guarding is needed, then please contact your local supplier who, through the Mecmesin Sales Department, can arrange the supply of a suitable guard for the required level of protection.

10. Continued safe use

Once the machine is installed it should provide a reliable long term resource for universal testing. If however the machine fails, or appears to behave in an unusual manner, contact your local supplier for support. Do not continue to use the machine until it has been checked and if necessary, repaired and returned to a safe working condition.

10.1 Servicing and calibration

To ensure optimal safe performance, your test stand must be regularly serviced and the Intelligent Loadcell (ILC) or Intelligent Torque Cell (ITC) calibrated by Mecmesin Ltd or an authorised distributor.

If the machine is damaged in use, advise your local supplier and have the machine repaired to a safe working condition. Do not use the machine until it has been repaired.

11. Cleaning

It may occasionally become necessary to clean the outside of your test stand. This can be done by disconnecting the mains electricity supply, removing loose debris with a soft brush, then wiping with a damp cloth.

Note: when cleaning the membrane keypad, care must be taken to avoid liquids, especially alcohols, seeping around the edge of the membrane. Therefore, we recommend the use of a lightly dampened cloth to avoid liquid spillage onto the membrane. **Under no circumstances should organic solvents or any other cleaning fluid be used.**

A Guide to Safe Use of Mains Powered Test Frames

12. Moving/Re-installing the Machine

The test stand must be powered down before attaching/removing cables. When the connectors are not in use please ensure that they are covered with the connector covers all the time.

Note: no cable should exceed 3 metres in length.

Note: it is advisable to remove the Console, if present, from the test stand before moving the machine.

Lifting the test stand. The specification gives the weights of the test stands. Use suitable lifting equipment to remove the test stand. The preferred method of lifting MultiTest twin-column stands is by use of the supplied lifting eye-bolts fitted to the top of both columns.

IF IN DOUBT CONSULT YOUR LOCAL SUPPLIER TO ENSURE CONTINUED SAFE USE.

13. Disabling and scrapping

When the test stand has reached the end of its useful life, it should be decommissioned. Remove the electricity supply cable to the test frame and, if appropriate, the Console power adaptor.

Dispose of the test stand in accordance with all local and national safety and environmental requirements.

General Information

Mecmesin are proud to introduce the MultiTest-*d* range of motorised test stands. MultiTest-*d* stands provide a versatile and accurate method of applying tensile and compressive forces at an affordable price. Complemented by a Mecmesin loadcell or force gauge (as illustrated in the photograph on the front cover), together with special fixtures and accessories, it constitutes a force measurement system suitable for accurately reproducing the testing of a wide range of products.

Across the globe, quality control and product design centres, as well as research laboratories, rely upon MultiTest-*d* stands for precision force testing.

MultiTest 0.5-*d*

The MultiTest 0.5-*d* is a 0.5kN (110lbf) test stand with a sizeable column height to accommodate samples up to 1230mm (48.4")* in length and facilitate extensive elongation of smaller samples.

MultiTest 1-*d*

The MultiTest 1-*d* is a 1kN (220lbf) test stand, also ideal for testing high elongated samples with lengths up to 1030mm (40.6")*

MultiTest 2.5-*d*

The MultiTest 2.5-*d*, while retaining all the operational features of the MultiTest 1-*d* is a more compact test stand with a higher load rating of 2.5kN (550lbf).

The higher force capacity makes the MultiTest 2.5-*d* the ideal choice for quality control applications requiring mid-range tension and compression testing on samples with lengths up to 530mm (20.9")*

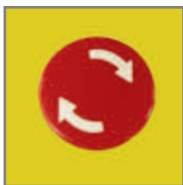
**Subject to grips being used*

Using the MultiTest-d



Mains Inlet Connector

Front Panel Control



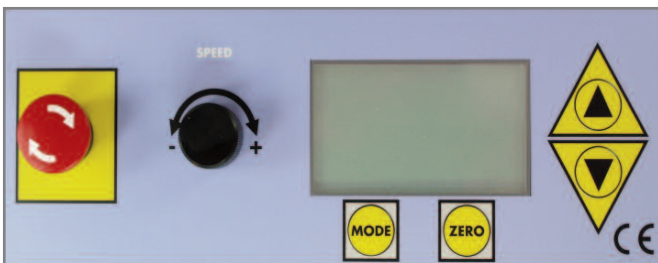
Emergency Stop

Set the limit switches, turn each thumbscrew anticlockwise, move to approximately 50mm either side of the moving crosshead and re-tighten.

Check voltage selected is correct.

Connect your MultiTest-d to an appropriate mains supply; turn on the power switch at the bottom of the Mains Inlet Connector and the display will illuminate indicating **“MultiTest 0.5-d”, “MultiTest 1-d” or “MultiTest 2.5-d.”**

The front control panel of the MultiTest-d has been designed with a digital display for ease-of-use.



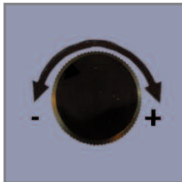
Pressing the red Emergency Stop button will, at any time, stop the crosshead moving.

To disengage the stop button turn clockwise and then release.

It is advisable to check and become familiar with the operation of the Emergency Stop once the system is connected to the appropriate mains supply.



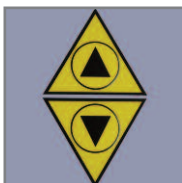
Mode



Speed Setting



Zero



Up/Down

Every press of the Mode key will cycle round the current stand mode in the following order: Manual Cycle, Single Cycle, Continuous Cycle. To change the setting, the Mode key must be held for 2 seconds. The setting will flash and each consecutive mode press will change values on the display in the following order: Up Speed, Down Speed and Speed/Displacement Units. The value may be changed with the speed dial. When parameters are set press the Zero key to escape to normal display.

The MultiTest-*d* has variable speed control for both upward and downward directions. Speed is set and controlled by the knob on the front panel and the speed is indicated on the digital display. To set the up speed, press the Mode key for 2 seconds until the speed starts to flash on the digital display. Change the speed by moving the knob clockwise or anti-clockwise in increments of 1mm/min (0.04in/min). Press the Mode key to move to down speed on the digital display and change the speed by moving the knob clockwise or anti-clockwise in increments of 1mm/min (0.04in/min). Press again the Mode key and the unit speed will flash; then select the unit speed desired by moving the knob clockwise or anti-clockwise. Press the **Zero** key to store settings and exit.

To save time setting the speed to minimum or maximum turn the knob quickly to reach the maximum speed of: 1 - 1000 mm/min (0.04 - 40in/min) on the MultiTest 0.5-*d*, 1-*d* and 2.5-*d*. **Note:** 2.5kN - recommended maximum speed = 750mm/min (30in/min) above 2000N.

Pressing the Zero key will zero the displacement at the current crosshead position (will also zero the counter for the continuous cycle mode).

Pressing the Up/Down key will start the move of the crosshead in manual, single or continuous cycle modes. At stationary the stand displays both the Up and Down speeds.



**Manual
Cycle Mode**



**Single
Cycle Mode**

Note: Do not push or pull the limit switches with your hand. Pressing any key will stop the stand moving.



**Continuous
Cycle Mode**

Note: A Mecmesin AFG gauge and cable is required to cycle between load limits.

Manual Cycle Mode

Pressing the Up key will drive the crosshead upwards at the speed indicated by the front panel display. Pressing the Down key will drive the crosshead downwards at the speed indicated by the front panel display. While the crosshead is moving, the display will show the current speed set with the other direction hidden. The crosshead will continue to move in the appropriate direction all the time the Up/Down key is pressed. Releasing the Up/Down key will stop crosshead movement. When the crosshead is moving up or down if an optical limit switch is encountered, the crosshead will stop. The current speed the crosshead is travelling at may be changed using the dial. When the stand stops the speed will revert to the set speed.

Single Cycle Mode

Pressing the Up key will drive the crosshead upwards at the speed indicated by the front panel display. Pressing the Down key will drive the crosshead downwards at the speed indicated by the front panel display. While the crosshead is moving the display will show the current speed with the other direction hidden. When the Up/Down key is released, the crosshead will continue to move until an optical limit switch is encountered, at which point the crosshead will stop before travelling in the opposite direction for a single cycle. In single or continuous cycle mode when any key is pressed after the release, the stand will stop.

Continuous Cycle Mode

In this mode the stand will continue to cycle between limit switches or between load limits, while counting the number of cycles. When the position of the other optical limit switch (or load limit) is reached, the crosshead will stop and reverse.

Note that during the cycle, pressing any key should stop the crosshead. After 999 cycles, the counter is reset to zero and the stand will continue to cycle. In any mode, the current speed the stand is travelling at may be changed using the dial. This speed will revert to the set speed on next step of cycle or stop.

Stand Reverse/Stop

The stand will respond to the appropriate stand reverse/stop signal from an AFG/AFTI connected to the back of the stand to reverse or stop the crosshead. Note that in manual mode, a stand reverse signal will stop the crosshead movement all the time the AFG signal is in the appropriate state - it will not cause the crosshead to reverse direction.

Mechanical limit switch

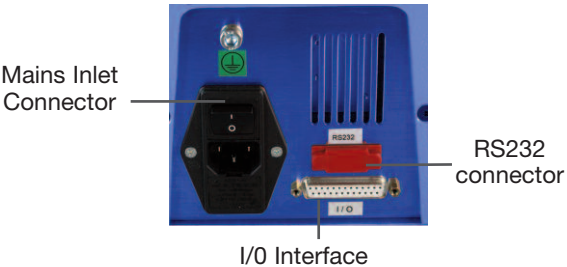
Note: Over travel will appear on the screen

Mechanical limit switches are provided that are activated if the crosshead passes an optical limit switch which fails to stop the crosshead. No crosshead movement is allowed whilst a mechanical limit switch is activated.

Connecting-up and Communication

The required power supply voltage (110-120V or 220-240V) is indicated by the value in the black panel within the fuse cartridge housing. Your local Mecmesin representative will already have checked that the fuse cartridge has been installed correctly for the supply voltage of your country. It is possible to modify your MultiTest-*d* for operation in a country with a different supply voltage by: turning off the power, removing the fuse cartridge housing, removing the black fuse cartridge, checking that both fuses are fitted, rotating the cartridge through 180°, then reassembling and reinstalling. The new voltage rating will now be displayed in the black panel.

There is an external control part at the rear of the MultiTest-*d*. The MultiTest-*d*, can respond via the appropriate Mecmesin cable, to signals from an AFG or AFTI. For further information, please refer to the Gauge Operating Instructions.



A 25-Way Female D-type Connector is fitted at the back of the stand (I/O Interface), and contains connections for the stand reverse Up, Down and stop; and RS232 connection to a Mecmesin force gauge. A 9-Way Female D-type Connector is fitted at the back of the stand, and contains RS232 connection straight through to a PC.

A Mecmesin gauge (AFG) can be connected to the I/O Interface of the stand and a computer can be connected to the RS232 of the stand. This will link the RS232 of the stand and gauge to a PC, allowing Emperor™ Lite software to be used. This will show the accumulated data graphically, plotting force from the gauge and displacement from the stand.

Baud Rate Selection

Hold **Mode** key and turn on the stand. Make sure that options which appear on the digital screen of the the stand are the same as for the gauge and the computer:

B:9600 - B: 19200 - B: 57600 - B:115200

Rotate dial to select correct baud rate and press the **Zero** key to set and continue.

PC Commands

? Request the load value from a connected AFG and then add a displacement value from the stand to the result. This will display results on the PC in the form of '0.0, 0.0<CR>LF>' (load, displacement)

Force Gauges, Loadcells and Fixturings

Note: Forces gauges, loadcells & others fixtures are options available upon request

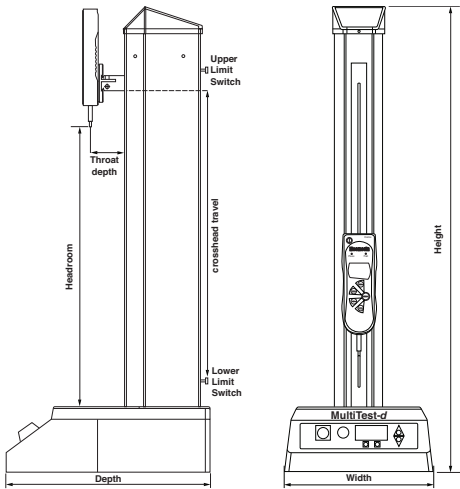
You will need to attach a force measuring device to your MultiTest-d; this will usually be an Advanced Force Gauge (AFG), Basic Force Gauge (BFG) or an S-Beam loadcell. Attach an AFG or BFG by removing the dovetail bracket supplied with the stand to the back of the gauge, slide it back (with loadcell stud pointing downwards) onto the moving crosshead dovetail, and then tighten with the Allen key provided.

Loadcells and force gauges are delicate pieces of equipment and can easily be damaged.

Attach an S-beam loadcell by screwing it into a tension block module, then proceed as for attaching a gauge. If you have purchased a special fixturing, attach this to the gauge/loadcell and/or your MultiTest-*d*.

One way of causing damage would be to drive the test frame downwards until the loadcell (or loadcell stud on AFG or BFG instruments) hits something solid. This is a risk when a user is not yet familiar with operating a new test frame. Consequently it is essential to set the limit switches so that the upwards/downwards travel of the crosshead is limited to prevent over travel or apply excessive load to the sample. Adjust limit switches according to your sample dimensions and testing requirements.

Dimensions



Stand shown with force gauge fitted

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

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")
Weight		38kg (84lbs)	36kg (79lbs)	22kg (49lbs)
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)
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	via Emperor™ Lite Software
PC/Printer/Datalogger*****	

Options (Available upon request)

Column gaiter

Extended throat depth

Safety guard

Horizontal operation

**** 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

Appendix 1

Declarations of Conformity

EC DECLARATION OF CONFORMITY We, Mecmesin Limited Newton House, Spring Copse Business Park, Slinfold, West Sussex, RH13 0SZ <i>hereby declare that the product (s):</i> MultiTest 0.5-d; MultiTest 1-d; MultiTest 2.5-d Motorised Test Stands <i>and associated and derivative product (s):</i> - <i>to which this declaration relates, are in conformity with the essential requirements of the Council Directives:</i> • EMC Directive 2004/108/EEC • Low Voltage Directive 2006/95/EEC • Machinery Directive 2006/42/EEC <i>and tested to the following standards and other normative documents:</i> EN 61000-6-2, EN 61000-6-3, EN 60204-1, EN 61010-1, EN 60950-1 Declaration Issue Date: 1st January 2011  _____ <i>Managing Director: John Page</i>  PROVIDE A THOROUGH TEST SOLUTION

Appendix 2

Your MultiTest-*d* should be supplied with the following accessories

1. Operating instructions
2. Translation of Appendix 1 (does not apply to English speaking countries, or countries outside European Union (EU))
3. Dovetail bracket (fitted to the crosshead)
4. Appropriate mains cable
5. Allen key for crosshead dovetail
6. Four rubber feet, four attachment screws and allen key if necessary

Appendix 3

Packing instructions for MultiTest 0.5-*d*, 1-*d* & MultiTest 2.5-*d* motorised test frames when returning to Mecmesin Limited

1. Set the crosshead to approximately the centre of the test frame. Remove the four rubber feet from the base.
2. Place the plastic foam collar over the column ensuring that the collar does not hang over the base casting.
3. Lay the test frame into the smaller box with the control panel facing upwards and with the base facing the end with the four holes.
4. Position the wooden back plate on the box and retain the plate through the box to the base casting using four M6x35 sockets-head screws fitted with large M6 plain washers.
5. Place all accessories listed to be despatched with the stand in the box with the test frame, including the feet. Ensure that the accessories and operator manual/handbook are suitably wrapped for protection in transit.
6. Place two of the four plastic foam spacers into the outside box so that they will support the ends of the inner box (longest sides uppermost).
7. Carefully place inner box into outer box, ensuring that inner box rests evenly on foam spacers
8. Close and then seal the inner box with a suitable adhesive tape.
9. Place the remaining two foam spacers over the ends of the inner box, so they will support the ends as per the bottom two spacers.
10. Close and then seal the outer box with a suitable adhesive tape.
11. Attach despatch wallet with relevant paperwork for end destination.

If you have any feedback regarding Mecmesin, its products or services, which you would like to share with us, please contact Mecmesin at: info@mecmesin.com

Also Available from Mecmesin...

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Mecmesin offers a large range of gauges specifically designed to measure force in tension and compression with optimum precision and performance.

The Advanced Force Gauge (AFG) including internal loadcell. The AFG is the most versatile and fully-featured of Mecmesin's instruments.



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The Basic Force Gauge (BFG) is designed for easy operation and provides outstanding force measurement performance and reliability at an affordable price.



Cables

Cable	Mecmesin Part Number
RS232 (9-pin D-type) to USB converter kit	432-228
AFG/AFTI to MultiTest-d stand + RS232 communication cable	351-074
BFG to MultiTest-d stand + RS232 only cable	351-076

Accessories

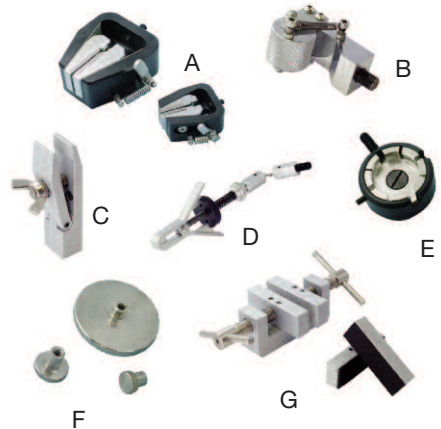


Each Mecmesin gauge comes with a set of standard accessories to help perform basic tension or compression tests. This includes a short extension rod, test hook and compression plate.

A huge range of accessories exclusive to Mecmesin can be fitted to your gauge.

To complete your own application test and for any further details, please do not hesitate to refer to our Accessories Catalogue.

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- A - Wedge Grips
- B - Spring Loaded Eccentric Grip
- C - Large Pinch Grip
- D - Lightweight Mini Vice Grip
- E - Rotational Crimp Receptacle
- F - Compression Plates Nickel Plated
- G - 2 Way Plane Grip

To find out about our broad range of grips and accessories, please call us on: +44 (0) 1403 799979, or visit us at www.mecmesin.com

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Formed in 1977, Mecmesin Ltd 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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