

1000M System

Consists of Load frame, Controls, and Software.



Test Methods

- *Strength Tests*
- *Tensile*
- *Compression*
- *Peel and Adhesion*
- *Tear*
- *Shear*
- *Bend Test*

Applications

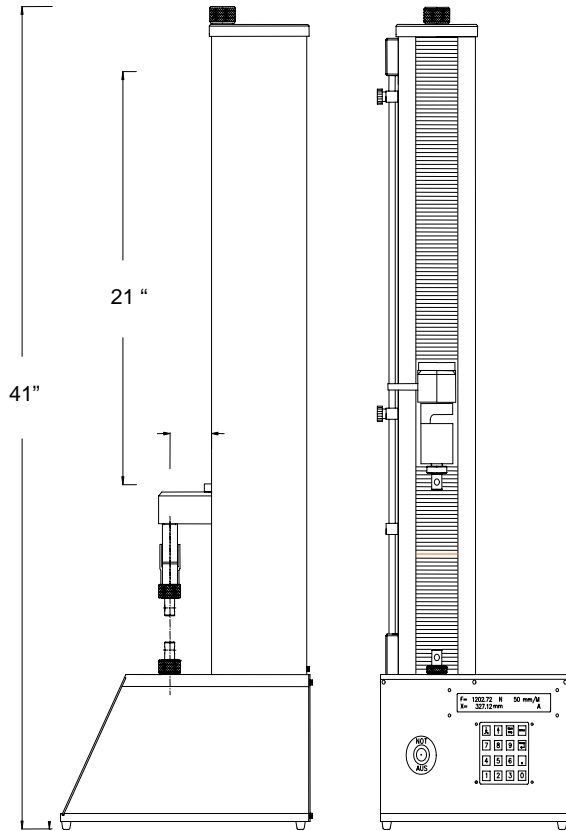
- *Rubber*
- *Foam*
- *Plastics*
- *Adhesives*
- *Metal Products*
- *Textiles*
- *Wood*
- *Wire*

System Specifications	
Model Reference	1000M
Load Capacity	1125 Pounds (5 kN)
Maximum Test Speed	20 inches per minute
Load Accuracy	+/- 1% of reading to 1/200 th load cell capacity (per ASTM E4)
Position Resolution	0.000004 inches (0.1 micron)

System Services

- 12 month Warranty
- Manuals & Support Documentation including multimedia CD
- Local calibration and engineering services available via field service network
- Optional – On Site Installation and Training
- Optional – Grips, Fixtures, Extensometers and Software

Load Frame



Features

- Robust single column load frame
- Crosshead travel over 21 inches
- Compact tabletop design
- Increased travel length option

Attribute	Specification
Drive Technology	Electromechanical & Ball Screw
Load Capacity	1125 Pounds
Test Speed Maximum	20 inches per minute at full load
Return & Jog Speed Maximum	27 inches per minute at no load
Column Clearance	2.6 inches
Head Travel Maximum	21 inches ; 44 inches optional
Mechanical Interface	5/8 inch male shank with dowel pin
Dimensions	41"H x 12"W x 16"D
Weight	100 Pounds
Power	115 VAC
Position Limits	Adjustable Upper and Lower Mechanical limits
Load Cell	
Load Cell Rating	1000 Pounds (others available) - 150% Overload
Optional Load Cells	Available from 1000 pounds to 0.1 Pound

M Controls

Consists of intelligent motherboard, firmware, signal conditioners and appropriate enclosure.



The M Controller is an intelligent 16 bit controller that controls and measures machine and test data in electromechanical test systems. It features preset software with display and keypad input that is easy to use and load cell signal conditioning, machine output and data acquisition. Test results may be sent to software to be printed, stored or sent to Excel for further analysis.

Features

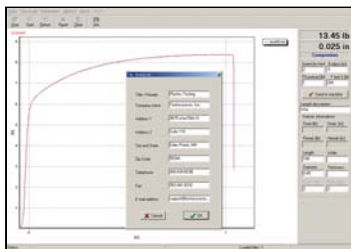
- Capable of either standalone operation or may be controlled via PC
- Easy to use
- Customizable

General Attributes	Specification
Model	M Controller
PC requirements	PC not required ; Optional software would require PC with serial port ; MS Windows 98 or later
Operator Interface	
Machine Controls	Keypad Input Emergency Stop Jog Up & Down Keys Start/Stop Preset Program Key Return Home Key
Data Display	Liquid Crystal Display – test parameters that can be displayed include <ul style="list-style-type: none"> ▪ Live Load ▪ Peak Load & Peak Load Position ▪ Live Position ▪ Displacement at Break
Display Resolution	0.01 mm or inch
Selectable Units	<ul style="list-style-type: none"> ▪ Load -- Pounds, Newtons ▪ Position - Inches, mm
Channels	
Channels	<ul style="list-style-type: none"> ▪ LOAD - Strain gage signal conditioner and data acquisition included for system load cell ▪ POSITION - Controller converts output of encoder to position ▪ STRAIN – CH 2 Extensometer or Load signal conditioner and data acquisition optional
Control Modes	<ul style="list-style-type: none"> ▪ SPEED - operator adjustable from 1 to 700 mm per minute (+/- 128 bits) ▪ POSITION – ramp to position and hold. ▪ LOAD - ramp to a user adjustable load and holds for time. Returns home at completion.

Return to Home	Adjustable speed to 700 mm per minute (27 ipm)
Control	Adjustable gain (10 steps) for load control.
Load Limit	Adjustable software load limit
Data Capture	
Test Results	Peak load and displacement at break values available at conclusion of each test
Position Resolution	0.0001 mm (or 0.0001 inch) via software capture
Standard Load Resolution	+/- 1 part in 100 000 at 50 samples per second
High Resolution Load	+/- 1 part in 2 000 000 at 6.2 samples per second
Data Storage	
Test Setup	Speed, load limits, control mode and internal information saved from test to test.
Data Transfer	
ASCII Data	Machine control settings and test data are ASCII format and able to captured or input to and from controller. See the M Series Software.
Analog Output	Optional 12 or 16 bit analog output
User Programmable	
Speed Settings	Test, Jog/ Return Home variables are programmable.
Keypad Language	English, Spanish or German
Test Direction	Tension or Compression
Calibration	
Password	Calibration data is supervisor password protected.

M Software Products

Options consist of MStat, M Plus Software, Excel Analysis Packages, and Upgrades to R Series



Software packages are available to acquire, display, save and export test data from the M controller. Multiple software products are available for different analyses and purposes.

Features

- Compatible with Windows Operating Systems
- Graphical plotting of load – displacement curves
- Archive raw test data for future analysis

MStat Batch Test	Description
Description	Optional – MStat enables downloading of peak load and displacement at break tensile and compression test results at the conclusion of each test from a buffer of data stored within the M Controller. The program gathers multiple test results to generate test reports and includes statistical summaries of the results.
Test Data	Handles up to 50 test records including date and time stamp, sample ID, Peak load, displacement at break
Statistical Results	Summarizes results reporting minimum, maximum, average, standard deviation and number of samples.
Data Export	Exports data to MS Excel and other spreadsheet programs
Test Reports	Customizable test reports with 10 customizable data fields
Test Control	Operator may control machine through software. Stores machine settings.
Cable	Standard Serial Port cable – length 8 feet
M Plus Software	Description
Description	Optional – Software captures, displays, stores and exports raw load and displacement test data from a tensile or compression test. The data is presented in real time in a load – displacement curve format.
Export & Analysis	Exports data to Excel and other spreadsheet and analysis programs.
Cable	Standard Serial Port cable – length 8 feet ; 100 feet cable optional.
XY Plotting (Curve)	Real Time Display of load versus displacement, load - elongation and stress - elongation % ; includes automatic scaling of plot at conclusion, Grid ON/OFF, Autoscaling & Autozoom.
Test Control	M Plus Software captures load, displacement and strain (with optional signal conditioner) test data and displays stress vs strain curves. Data can be exported to analysis programs such as Excel, or analyzed within the control package with optional application modules matched to requirements. M software enables operators to input key test parameters such speed or load limit, re-zero load and position (or strain) starting points, , initiate the test, pause or stop the test, and return home. Stores machine settings.
Test Reports	Customizable reports
R Controller	Description
Upgrade	Optional - upgrade to R Series