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# 500KN UNIVERSAL TESTING MACHINE QM- 500M2F



## APPLICATIONS

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### 500kN Universal Testing Machine QM-500M2F

Universal Testing Machine QM-500M2F has a capacity of 500 kN or more. The rigid and durable structure of this universal tensile testing machine ensures more stable tests and reduces damage to the machine. It is commonly used for testing metals, composites, construction materials, and other materials that require high test force.



Equipped with an advanced M2F controller system, the UTM can perform creep, constant compression, cycle, and multi-step test modes, conforming to various tensile, compression, bending, peeling, and compression tests.

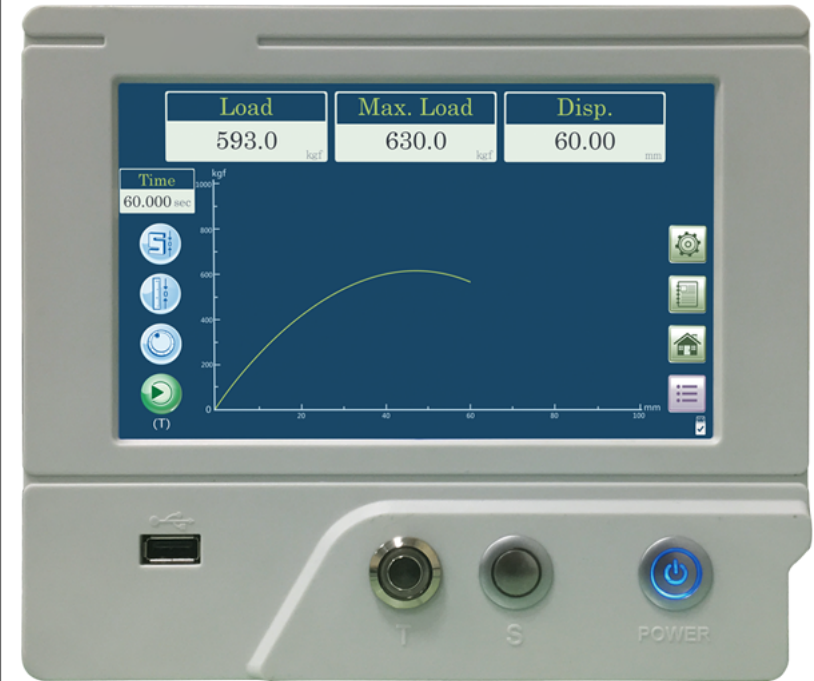
This series of tensile testing machines adopts a high-torque servo motor to support its movement and motive power. To reduce maintenance issues, the machine features high rigidity and strength in its construction. It provides users with a quiet testing environment and high-precision test results. This series is suitable for metals, composites, construction materials, and other materials requiring high test force.

All universal tensile testing machines in this series are equipped with a jog controller for precise positioning and up/down movement to prevent overload during load cell calibration. The optional display supports stand-alone operation for simple tests.

## **Accessories**

<b>Display Panel</b>
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- 7" color touch TFT display panel.
- Supports English and other languages.
- Displays force, pressure, displacement, and time.
- Test condition settings include test speed, direction, auto-return, and stop at the break point.
- Analyzes maximum force, interval force, force at break point, and more.
- Provides multiple stopping point settings: force, displacement, time, and elongation.
- Supports over-travel, overload, and overtime stop protection settings.
- Can save up to 50 test results; supports USB storage.
- Option to restore the machine to factory settings.
- Stand-alone mode calibration available.
- Supports switching between Metric and Imperial units.



QM-L-Ext Long Extensometer

QM-L-Ext Long Extensometer is ideal for measuring elongations greater than 20% in materials such as rubber, plastic, PE, fabric, and webbing. These high-elongation measurement accessories are typically used with dumbbell-shaped specimens. The extensometer can connect with the testing machine to automatically detect the deformation of the test piece during testing.



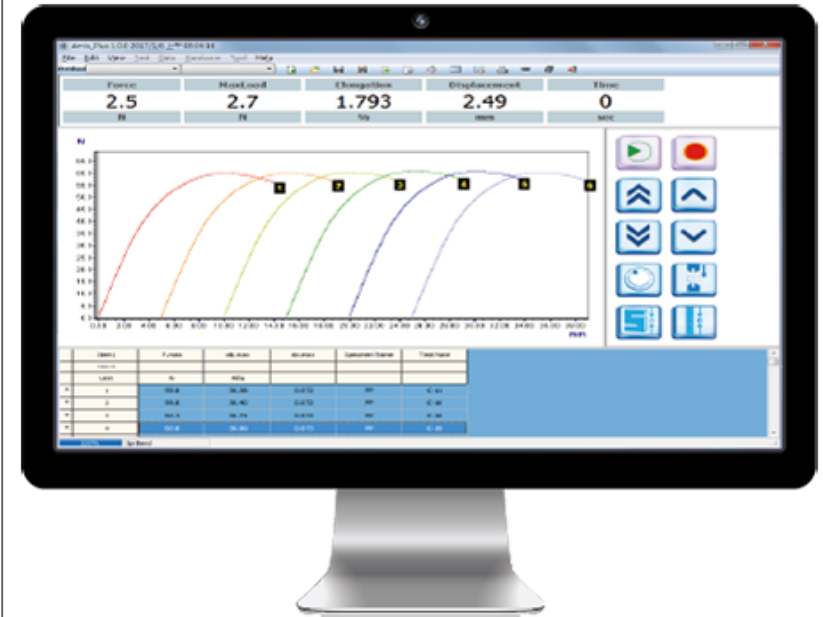
QM-S-Ext Clip-on Extensometer

QM-S-Ext Clip-on Extensometer is designed to measure the deformation of metals and hard plastics with less than 100% elongation. During testing, it can measure the complete deformation rate without needing to be dismantled. For specimens with longer gauge lengths or higher elongation rates, a customized longer extensometer is also available.



## Software functions

- Data sampling rate up to 400 Hz.
- Controlled by mouse, keyboard, and the up/down button on the machine for quick grip position adjustment.
- Requires Windows system.
- Available languages: English and other languages.
- Operation Mode: TCP/IP two-way transmission to connect with PC.
- Can import and display multiple test data simultaneously.
- Supports switching between Metric and Imperial units.
- Provides a flexible table for data analysis.
- Allows naming data results and creating user-defined formulas.
- Data can be displayed in table, graph, or both.
- Data processing capabilities: save, import, list, statistical comparison, etc.
- Adjustable X-Y axis on the graph, including curve marks, interval marks, slope, etc.
- Supports tensile, compression, bending, spring, and other tests.
- Machine protection features: over-travel, overload, and overtime stop conditions.
- Supports various test patterns such as constant tensile (compression) and 10-stage settings.
- Specimen modular design for easy and quick specimen information setting.
- Test condition modular design to reduce human error.
- Supports upper and lower limits for data selection to access key information.
- Multiple I/O ports for additional test functions.



## FEATURES

### 500kN Universal Testing Machine QM-500M2F Features

- Supports automatic identification of load cell parameters.
- Supports automatic identification of displacement accessory parameters.

- Includes screw holes for future use with other fixtures.
- The jog controller allows precise adjustment of displacement, making calibration more convenient.
- No specific PC requirements for connecting software.
- Allows up to 10 different speed settings in a single test.
- Provides user-defined modes for multi-stage cyclic tests, long-period tests, reciprocating tests, and more.

## TECHNICAL SPECIFICATIONS

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### 500kN Universal Testing Machine QM-500M2F Technical Specifications

Model	QM-600M2F	QM-500M2F
Max. Capacity	600 kN	500 kN
Unit	Force: gf, kgf, lbf, N, kN, ozf, tonf(SI), ton(long), tonf(short) Pressure: Kpa, Mpa, psi, bar, mm-Aq, mm-Hg	
Force Resolution	1/100,000 (31 bits)	
Force Precision	±1% (within 2%-100% of load cell capacity; higher accuracy is optional)	
Test Stroke (w/o grips)	1500 mm	
Stroke Resolution	0.0001 mm	
Cantilever Distance	550 mm	
Speed Range	High Speed Mode: 0.02 ~ 330.0 mm/min Low Speed Mode: 0.0002 ~ 2.0 mm/min	
Speed Precision	±1%	
PC-Port	RJ45 (TCP/IP) [Software is optional]	

Model	QM-600M2F	QM-500M2F
Data Sampling Rate	Max. 1200 Hz	
Motor	Servo Motor	
Hardware Safety Protection	Upper/Lower limit, Emergency Stop Button	
Software Safety Protection	Force, Displacement, Time Protection	
Voltage	3 Phase 200~240 VAC, 70 A (110V is also available)	
Dimension	155 x 85 x 295 cm	
Weight	2350 kg	



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Address: 8201 Peters Rd., #1000,  
Plantation, FL 33324, USA.

### Qualitest Canada & International

Tel: +1.905.944.9825 | Fax: +1.905.944.0304  
E-mail: [sales@qualitest-inc.com](mailto:sales@qualitest-inc.com)  
Address: 70 East Beaver Creek Rd., #9, Richmond Hill,  
Ontario L4B 3B2, Canada.

### Qualitest Latin America (Mexico and LATAM Region)

E-mail: [ventas@qualitest-inc.com](mailto:ventas@qualitest-inc.com)

### Qualitest KSA (Regional Office)

Tel: +966 11 500 6659  
Address: Level 7, 3.09, District 3, King Abdullah  
Financial District, Riyadh, Saudi Arabia

### Qualitest Singapore (ASIA PACIFIC Regional Office)

Tel: +65 6393 5480 | E-mail: [singapore@qualitest-inc.com](mailto:singapore@qualitest-inc.com)  
Address: 50 Raffles Place, Singapore Land Tower,  
Level 46, Singapore, 048623.

### Qualitest Indonesia (Representative Office)

Tel: +62 21 2985 9522 | Fax: +62 21 2985 9889  
E-mail: [indonesia@qualitest-inc.com](mailto:indonesia@qualitest-inc.com)  
Address: One Pacific Place Level 11, Jl. Jend. Sudirman,  
Kav. 52-53, SCBD Area, Jakarta 12190, Indonesia.

### Qualitest FZE (Regional GCC/ME Office)

Tel: +971 4 8819252 | Fax: +971 4 8819262  
Email: [gcc@qualitest-inc.com](mailto:gcc@qualitest-inc.com)  
Address: Jafza One, BB 1610, Jebel Ali Free Zone,  
PO Box 261440, Dubai, UAE.

### Qualitest India

E-mail: [india@qualitest-inc.com](mailto:india@qualitest-inc.com)  
Address: 15th Floor, Dev Corpora, Pokhran Road No.1,  
Eastern Express Highway, Thane, Maharashtra,  
Mumbai, 400601, India

