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# 600KN UNIVERSAL TESTING MACHINE QM- 600M2F



## APPLICATIONS

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### 600kN Universal Testing Machine QM-600M2F

Universal Testing Machine QM-600M2F is capable of conducting material and product tests with a maximum capacity of 600 kN. It is equipped with a servo motor, a precise transmission system, and 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.

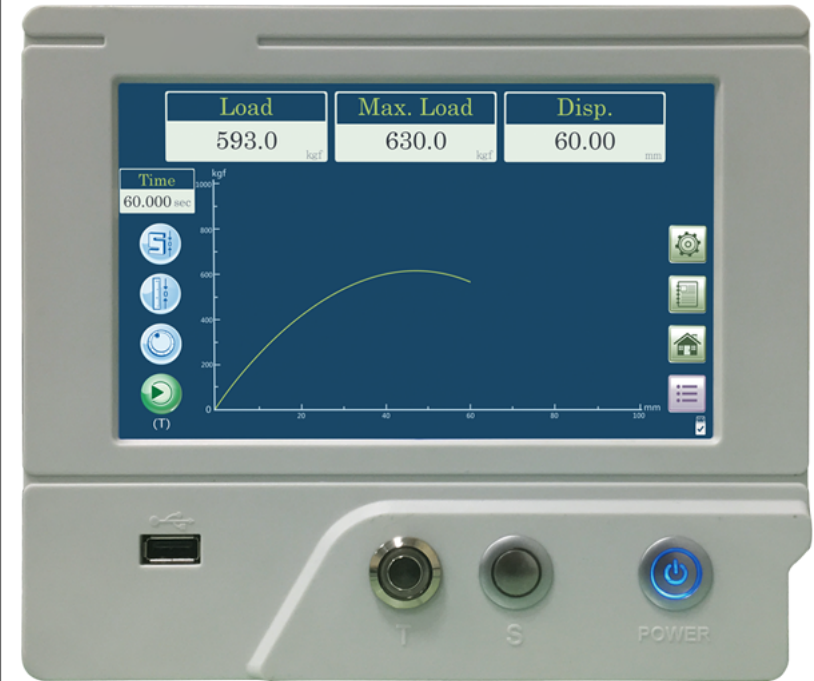
This series of tensile testing machines adopts a high-torque servo motor to support its movement and motive power. To reduce maintenance issues, the machine features high rigidity and strength in its construction. It provides users with a quiet testing environment and high-precision test results. This 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> |
|----------------------|

- 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.



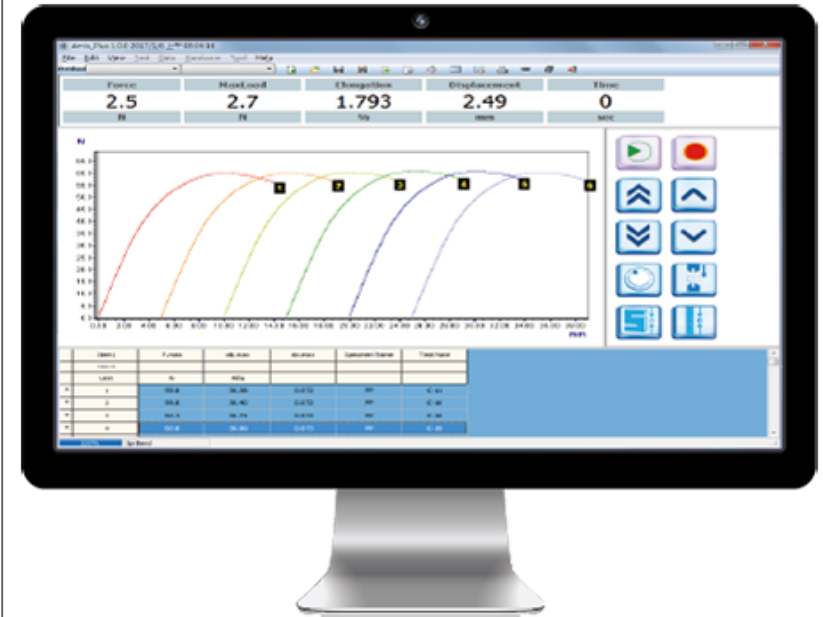
QM-S-Ext Clip-on Extensometer

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

### 600kN Universal Testing Machine QM-600M2F 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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### 600kN Universal Testing Machine QM-600M2F 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)<br>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<br>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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