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QUALITEST™

**50KN UNIVERSAL
TESTING MACHINE -
TENSILE /
COMPRESSION TESTER
QM-50-M2F
(ADVANCED
CONTROLLER/SOFTWARE)**



APPLICATIONS

50kN Universal Testing Machine - Tensile / Compression Tester QM-50-M2F (Advanced Controller/Software)

Universal Testing Machine QM-50-M2F features a large test space and a long stroke, with a maximum test capacity of 50 kN. Its maintenance-free transmission mechanism helps reduce maintenance issues while providing a quiet testing environment and high-precision results.

This tensile testing machine includes a single-separated electric control box and a separate electronic control system to avoid interference with transmission components, enhancing test stability and facilitating the maintenance and updating of electronic systems.



Equipped with an advanced M2F controller system, the QM-50-M2F can perform various tests, including creep, constant compression, cycle, and multi-step test modes. It supports tensile, compression, bending, peeling, and compression tests. The precision jog wheel allows for fine-tuning of machine movements, ensuring precise positioning and accurate calibration to increase test accuracy. The high-speed signal feedback mechanism reduces the risk of machine overload. Additionally, the reserved external signal can be connected to an external signal source, enhancing the machine's control mode.

Accessories

Display Panel

- 7" color touch TFT display panel.
- Supports Chinese, English, and Japanese languages.
- Displays force, pressure, displacement, and time.
- Test conditions include test speed, direction, auto-return, and stop at the break point.
- Analyzes maximum force, interval force, force at break point, and more.
- Multiple stop condition settings: force, displacement, time, and elongation.
- 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.



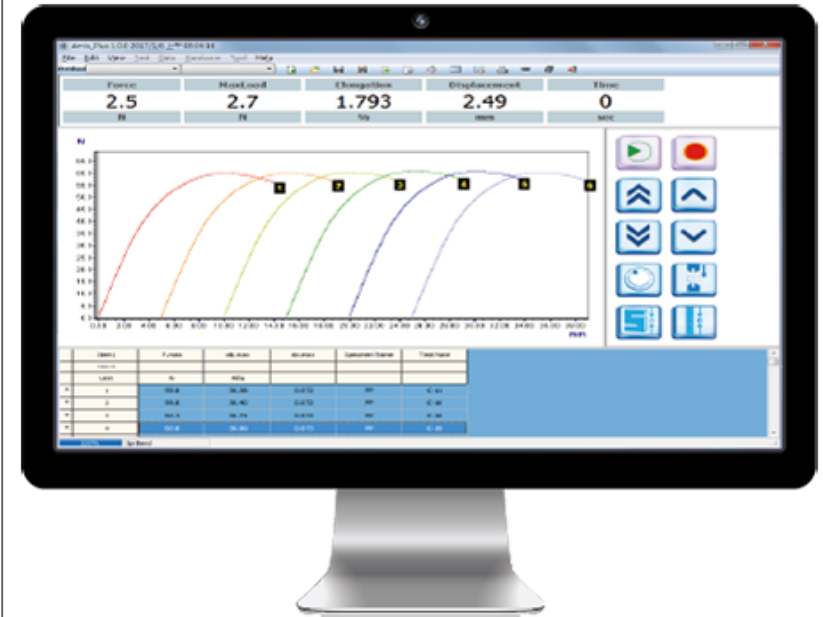
QM-S-Ext Clip-on Extensometer

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 1200 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, peeling, spring, creep, and other tests.
- Machine protection features: over-travel, overload, and overtime stop conditions.
- Supports various test patterns such as reciprocation, creep, constant tensile (compression), test pause, slippage, 10-stage settings, etc.
- 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

50kN Universal Testing Machine - Tensile / Compression Tester QM-50-M2F (Advanced Controller/Software) Features

- Supports auto-identification of load cell parameters.

- Supports auto-identification of displacement accessory parameters.
- Provides screw holes for future multi-usage of other fixtures.
- The jog controller allows precise adjustment of displacement, making calibration more convenient.
- No specification limitations for the PC connecting to the software, ensuring easy PC maintenance.
- Allows a maximum of 10-stage speed settings in one test.
- Provides defined test modes for multi-stage cyclic tests, long-period tests, reciprocating tests, and more.

TECHNICAL SPECIFICATIONS

50kN Universal Testing Machine - Tensile / Compression Tester QM-50-M2F (Advanced Controller/Software) Technical Specifications

Model	QM-50-M2F
Max. Capacity	50 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)	1100 mm
Stroke Resolution	0.0001 mm
Cantilever Distance	420 mm
Speed Range	High Speed Mode : 0.05~600.0 mm/min Low Speed Mode : 0.0002 ~ 2.0 mm/min
Speed Precision	+1%

PC-Port	RJ45 (TCP/IP) [Software is optional]
Data Sampling Rate	Max. 1200 Hz
Motor	Servo Motor
Machine Stiffness	53.10 kN/mm
Hardware Safety Protection	Upper/Lower limit, Emergency Stop Button
Software Safety Protection	Force, Displacement, Time Protection
Voltage	Single Phase 200 ~ 240VAC, 8A (110V is also available)
Dimension	90 × 60 × 195 cm
Weight	280 kg



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