



Automatic Loading Control for Compression Testing Machines



TEST MARK INDUSTRIES

EASE OF USE AND SIMPLICITY OF OPERATION

Test Mark's next generation closed-loop touchscreen controller features both full automatic and manual test control functions.

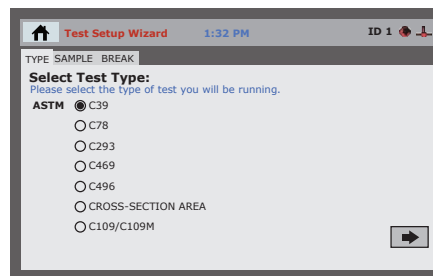
The operator simply selects a test standard, enters its test parameters and touches the start key to begin a test. The machine will automatically begin its rapid approach function, tare, make a soft platen-to-sample contact and shift to the required loading rates. At sample failure, the machine returns the platen to its "at rest" position, displays all test results and stores all test data to memory for recall.

- ✓ **Features a 7" (178 mm) high-resolution color touchscreen with live readout of both numerical and graphic display (imperial or metric values).**
- ✓ **Easy test set-up: Just choose the standard you wish to test and the test set-up Wizard will walk you through the complete set-up.**
- ✓ **Provides two load inputs for controlling two separate compression load frames.**
- ✓ **Provides two displacement inputs for performing compressometer/ extensometer tests.**
- ✓ **Stores up to 1,000 tests with load vs. time graph.**
- ✓ **Includes a USB port for test data transfer to thumb drive, PC or tablet.**
- ✓ **Ethernet port is available for network connectivity.**
- ✓ **1 HP (.75 KW) hydraulic pump.**
- ✓ **Calibration accuracy exceeds ASTM C39 and E4 requirements, +/-0.5% of indicated load from 1% to full machine capacity.**

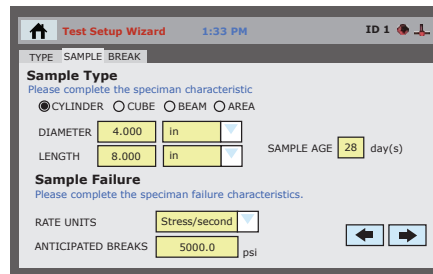
The controller's user-friendly test set-up Wizard quickly guides the user through all set-up functions.

How to Set Up a Test

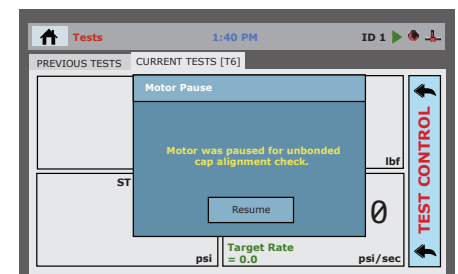
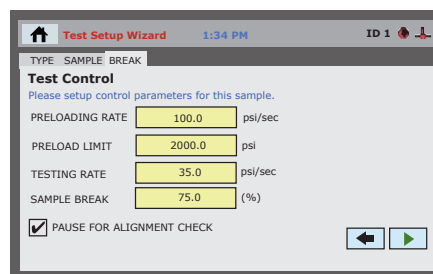
From the Test Standard menu screen, choose a test from: C39 Cylinder, C78 Beam Third-Point, C293 Beam Center-Point, C109 Cube, C469 Young's Modulus and Poisson's Ratio, C496 Cylinder Split in Tension and Sample Cross-Sectional Area.



Advancing to the Sample Type screen, the selected sample type will be highlighted. Just set its dimensions, age, load rate control method and anticipated break value in the highlighted fields.

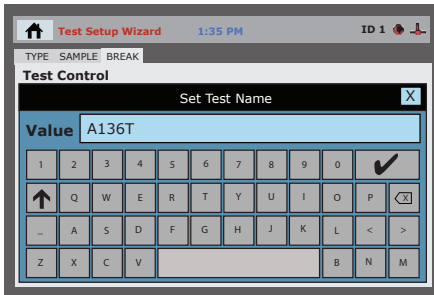


Advancing to the Test Control screen, all loading rate test control values have been automatically set for the selected sample type. If required for cylinder testing, select optional load pause function for un-bonded cap alignment for C39 part 7.4.2 requirements. If selected, the test load will pause for cylinder alignment – touch the screen to continue the test.

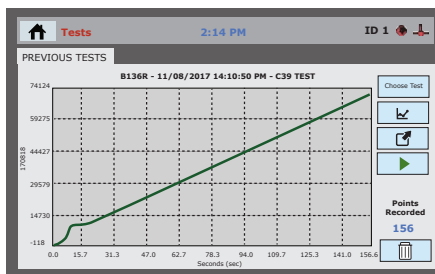
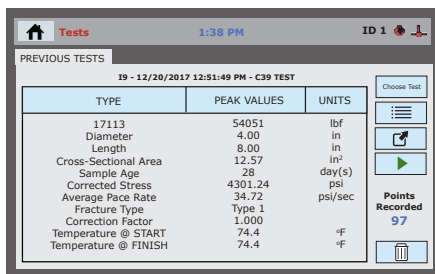


EASE OF USE AND SIMPLICITY OF OPERATION (CONTINUED)

Touch the green start test arrow key and the Test Name screen opens. Set the I.D. number of the test sample and touch check mark to set.



The machine begins to test using the preset loading rates. At sample failure the test stops, automatically retracting the load platen. When testing cylinders, a break-type pattern screen will open – select the break type. Then the Test Results Data screen appears storing the test data and load vs. time graph to memory. You are now ready to start the next test.



Rapid Test Option

The Rapid Test Option indexes the set sample name automatically by one count for each test. All you have to do is touch the green start arrow key on the Test Results Data screen to start the test.

Hydraulic Pumping System

The system is powered by a radial pump with multiple pistons for a smooth and continuous flow of hydraulic oil into the machine's hydraulic ram assembly. This is highly instrumental in the precise rate of loading control required by test standard specifications, eliminating load pulsations caused by competitive single piston pumps.

The pump features a sealed reservoir with a filtered air breather cap to reduce oil contamination; an oil drain plug in the pump's base makes changing oil quick and easy. The system's control box is conveniently located on the front surface of the pump and houses all of the electronic components. The box incorporates both an o-ring seal and air filter to protect the components from airborne and oil contamination. The ON/OFF switch, Emergency Stop Switch and Manual Load Control Knob are located on the front surface of the control box. The manual control knob is activated through the touch screen controller, and can be used to control the rate of loading for conducting a test. The result is easier and precise load control during calibration.

Safety Features

A hydraulic safety valve prevents the machine from operating beyond its maximum capacity. A travel limit switch prevents the hydraulic piston from going beyond its maximum travel point.

The automatic loading control feature is available on all new Test Mark compression testing machines from 30,000 lbs. to 800,000 lbs. capacity, or as a retrofit package for installation on existing machines. Choose from a system mounted on the side of the load frame, or as a separate control console.

Electrical requirements are 120V, 60 Hz, 1 Phase. 220V, 50/60 Hz is also available upon request.



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