

ForceTest™
Force and Torque Testing Software

User Manual



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Introduction

Welcome to Chatillon ForceTest™, a Microsoft Windows™ based data analysis package for Chatillon DF II and DF I Series gauges. This software is designed to enhance the capabilities of your force gauge by allowing you to record and analyze data on your computer. ForceTest can be used to test, acquire data and analyse results for:

- Pull to Break testing
- Pull to Limit testing
- Compress to Rupture testing
- Compress to Limit testing
- Friction testing
- Peel testing
- Torque testing

System Requirements

OPERATIONAL SYSTEM REQUIREMENTS

The following Microsoft Windows operating systems are supported:

- Microsoft Windows 7 SP1
- Microsoft Windows 8.1
- Microsoft Windows 10

SOFTWARE REQUIREMENTS

ForceTest requires the following dependencies be installed to operate. If they are not installed, the ForceTest installer will install them during the ForceTest installation.

- Microsoft.NET 4.5.2
- Microsoft Report Viewer 2010 SP1

MINIMUM HARDWARE REQUIREMENTS

The following minimum computer requirements are required to run ForceTest:

- 1 gigahertz (GHz) 32-bit (x86) or 64-bit (x64) processor
- 1 gigabyte (GB) RAM (32-bit) or 2 GB RAM (64-bit)
- 2 GB available hard disk space
- 1024px by 768px display
- 1 USB port or RS232 port
(Using the RS232 port requires the SPK-DF-RS232 cable.)
- Chatillon DF I Series or DF II Series Force Gauge

Setup

INSTALL

Install ForceTest from the ForceTestSetup.exe installer. The installer will install the ForceTest application, its dependencies, and the RS232-to-USB driver for the DF I Series and DF II Series gauges.

LICENSING

When first installed, ForceTest is available as a 30-day trial or fully licensed with the ForceTest USB license fob. The ForceTest USB license fob is included with the purchase of a new Chatillon DFS II gauge or separately for DFE II, DFS I, DFE I force gauges.

Viewing License

The current license can be viewed from the About Us dialog.

HARDWARE SETUP

Connect the DF II or DF I Series gauge to the computer via the USB-to-RS232 or SPK-DF-RS232 cables. The Windows drivers for the USB-to-RS232 cable are installed by the ForceTest installer, so the gauge will be recognized by Windows when connected.

Baud Rate

To ensure the highest data rate from the DF II or DF I Series gauges, please configure the gauge to communicate at 115200 baud rate. Please see the DF II or DF I Series manual to configure the gauge to use the 115200 baud rate.

ForceTest Operation

At a high-level, the four steps to use ForceTest to run a test and record data from a DF II or DF I Series gauge are:

1. Connect to a gauge.
2. Create a test.
3. Run a test.
4. View and analyse data.

These four steps are the basics of ForceTest, but it offers many advanced features and options to help meet any force testing need. Please review the rest of the manual to understand how the features and options work.

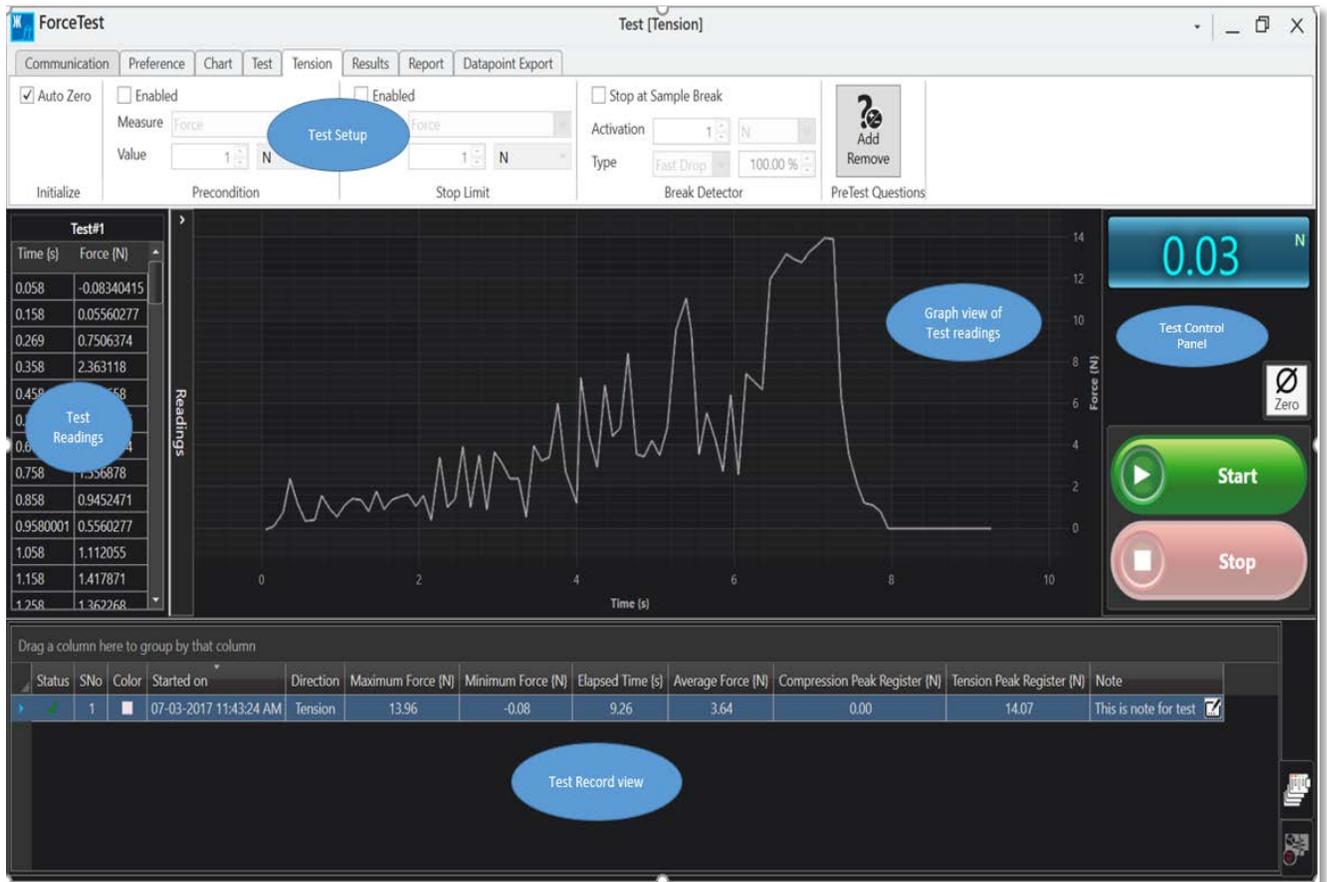
QUICK START

To get going quickly with ForceTest, please follow the directions below to create a tension test that will run for 20s and report results for the maximum force, the minimum force and the average force.

1. Connect a DF II or DF I Series gauge to the computer.
2. Start ForceTest.
3. Press the Connect button on the Communication tab.
4. Select Tension test from the Standard Tests group on the Test tab.
5. Press the Create button.
6. Enter "Tension" as the test name in the General Info dialog.
7. Press the OK button.
8. Switch to the Tension tab.
9. Check the Enable checkbox in the Stop Limit group.
10. Change the Measure drop down list to Time.
11. Enter 20 in the Value field.
12. Switch to the Results tab.
13. Check the Maximum Force, Minimum Force, and Average Force in the Add/Remove Results group.

The test is ready to run; press the green Start button. ForceTest will start recording data from the connected gauge. Gently pulling on the gauge sensor shaft or external load cell will show the readings and graph update as the data changes. After 20 seconds, the test stops and the select results will be available in the Test Record table.

Overview



TEST SETUP

Configuring ForceTest and setting up tests is handled by the tabs in the ForceTest ribbon.

TEST READINGS

The Test Readings are enabled when a test run is finished. The Test Reading table shows the raw readings from a test run with a time stamp. Test Readings is hidden by default; pressing the Readings label will display the Test Readings table.

The Test Readings change to the readings for the test run selected in the Test Record table.

GRAPH

The graph plots a running test run or the test run selected in the Test Record table. Once a test run is finished, the graph can be zoomed in and out using the CTRL key on the keyboard and a mouse wheel. When multiple test runs are selected in the Test Record table, the graph will overlay test runs to allow comparison between test runs.

TEST CONTROL

The Test Control provides the Live Display of the current force reading, the ability to zero the connect gauge, and the controls to Start or Stop a test.

LIVE DISPLAY

The Live Display shows the current reading from a connected gauge in the unit defined in the Live Display group on the Preference tab. This can be different from what is configured and displayed on the gauge.

ZERO

Pressing the Zero button will zero a connected gauge

START/STOP

The Start and Stop buttons are enabled if a gauge is connected. A new test run is started by clicking the Start button and stopped by clicking the Stop button. When a test starts, ForceTest records the data points from the gauge and plots them in real-time. Additionally, a test run can be controlled via the keyboard. The F5 key will start a test run and the F7 key will stop it.

TEST RECORDS

The Test Records table displays the runs already performed for a loaded test. By default, the test record displays the Status, SNo, Color, Started on, Direction, and Note fields. When results are selected, the table will grow to include the results as well.

About Us

AMETEK Sensors, Test & Calibration (STC) is one of the world's leading manufacturers and developers of materials testing and force measurement instruments for testing tension, compressibility, hardness, elasticity, peel or adhesion abilities of materials such as rubber, plastic, metal, wood, textiles and paper

The brands we supply include Lloyd Instruments materials testers, Chatillon force testers, Davenport polymer testers and Newage hardness testers.

Contact Us

Chatillon

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