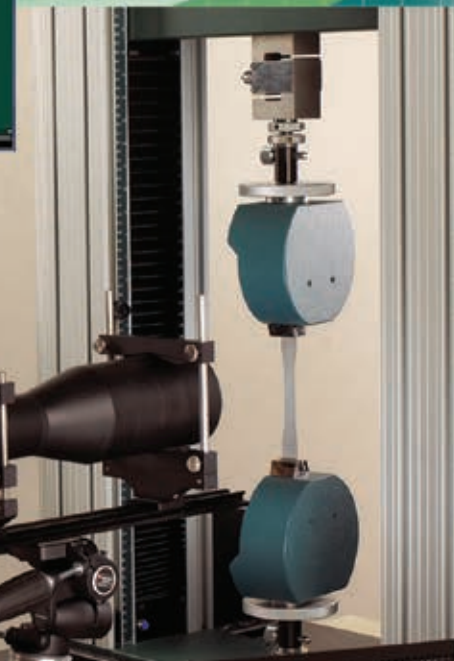


HORIZON SOFTWARE MATERIALS TESTING DATA ACQUISITION AND ANALYSIS SOFTWARE



Tinius Olsen

THE FIRST NAME
IN MATERIALS TESTING

POWERFUL MATERIALS TESTING SOFTWARE

Tinius Olsen is proud to introduce you to the next evolution of testing software with our Horizon package. As part of our development process, we have taken the best features of our existing software offerings, including Test Navigator, QMat, and EP600 software, added a host of report writing and data manipulation capabilities and in the process, created a new, unparalleled testing platform that will make easy work of your

materials testing programs, whether they're designed for the demanding rigors of R&D or the charting and analysis functions of QC testing.

One of the first features you see within the Horizon software is its use of the most current Windows environments. These familiar formats make it easy to use and learn, especially since the same familiar functionality is maintained throughout the program.

Key Features of Horizon Software Include:

- Test Method Library
- Test Editor
- Tabbed Test and Recall Area
- Multiple Machine Control
- Output Editor
- Multilingual
- Method Editor
- Result Editor
- Multifaceted Security
- Touchscreen Enabled*

*Touchscreens require the use of Windows 8 operating system and a touchscreen.

The Tabbed Testing area. This section can highlight different tabs to indicate the different machines that are connected to Horizon software.

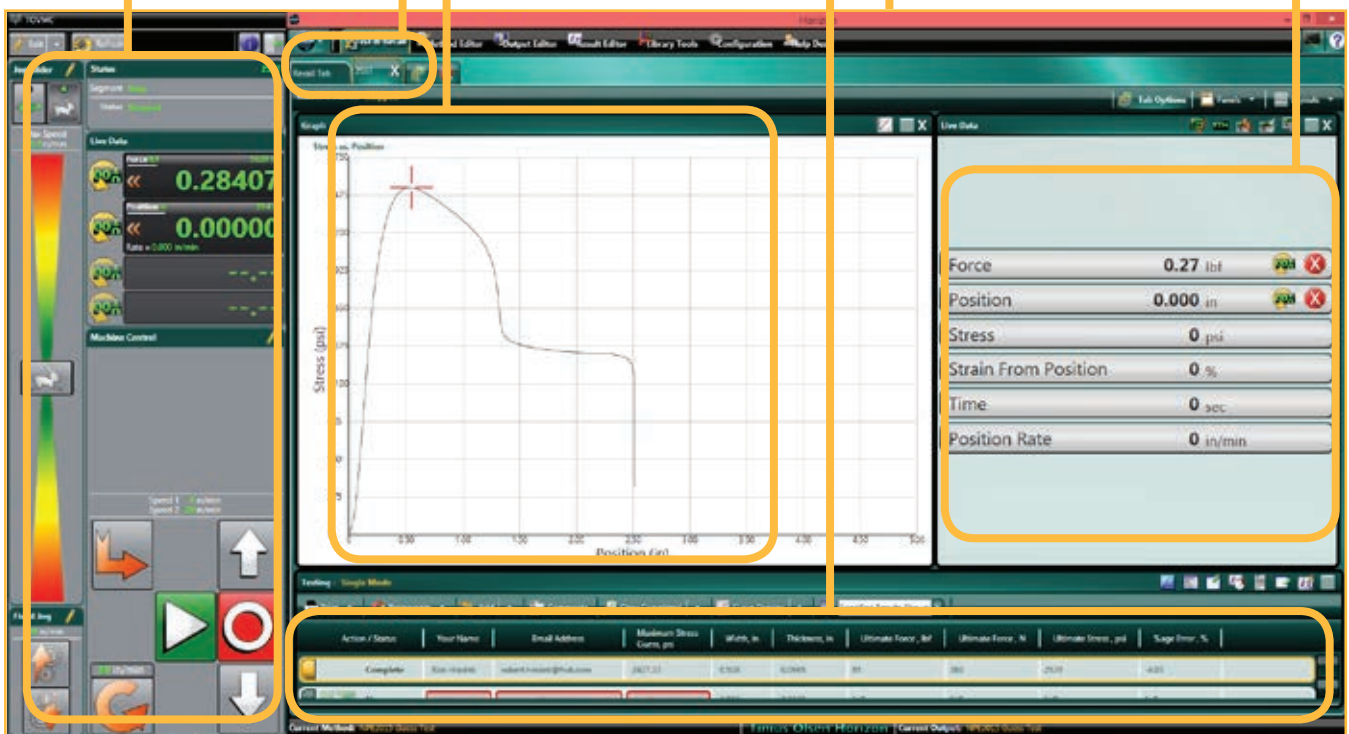
The Machine Controls window. From here you have complete control of the machine running the test.

The Graph window. This section can be modified to show multiple types of graph.

The Test Results window. The selected test results are displayed here at the end of the test.

Typical live test screen showing machine controls and resultant graph. From this screen there are four key scalable windows that can be edited.

The Live Data window. From here you can choose which data channels you want to watch.



METHOD LIBRARY AND TEST AREA



If your testing regimen follows a quality control analysis to a variety of international standards, then going to the Test Method Library is, most likely, the first place you want to visit; here you can select your desired test method that we have written in accordance with different international test standards. So, for example, if you need to test for the melt flow index of incoming resin, to ASTM D1238 procedure B, simply select that routine from the list in the library. Similarly, if you need to determine the pipe crush strength in accordance with EN802, or the tensile strength of steel reinforcement bar in accordance with ASTM E8, or the Vicat softening temperature of plastics in accordance with ISO 306 etc., simply make the selection from the library, confirm machine and specimen parameters and start the tests – only four clicks of your mouse from start-up to testing!

If, on the other hand, you want to develop your own calculated result from a test, using a national standard as a template for your unique test, it is a simple task of adding the result (and calculation) to the output, and saving the test set-up with your unique name.

Alternatively, you can develop your own test method where you have complete control over how the test machine performs over the course of the test. You can program the control segments, control options, specimen parameters, the report output, and how the test machine and software communicate with each other.

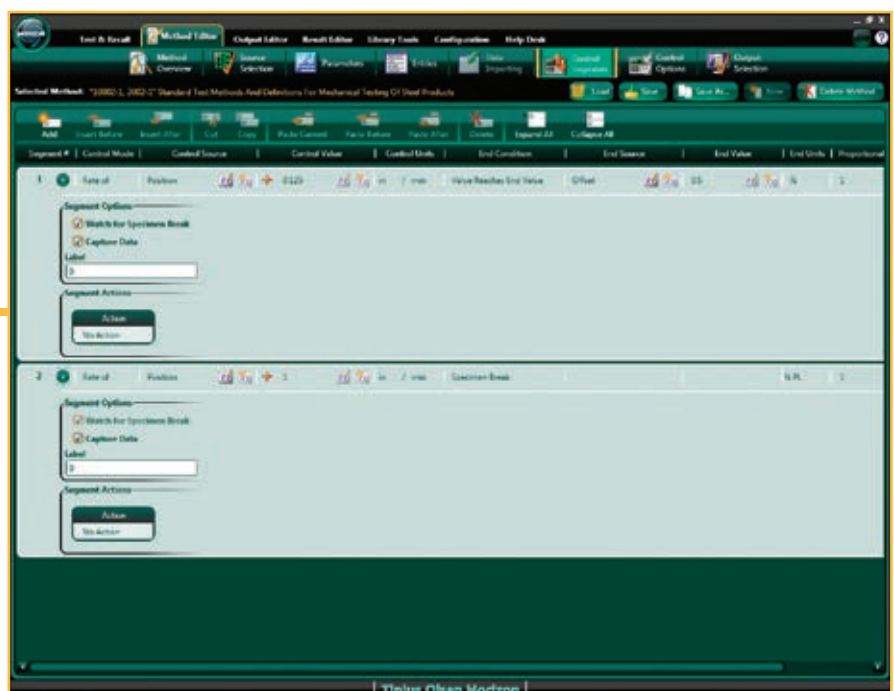
Control Segments setup within the Method Editor section of Horizon software. The number of control segments available for each test, and test type, is unlimited, although experience indicates that typically no more than five are generally used.



Library search result, looking for a standardised tensile test routine.

Notable Features of Test Method Library and Test Editor

- Searchable database of international test standards.
- Standards from ASTM, ISO, EN, BS DIN and many more.
- Tests for tension, flexure, melt index, compression etc.
- Ability to customize the test setup using a standard as a template.
- Setups are available in multiple languages and dialects — even create your own!
- Multiple levels and types of security so data and equipment is protected.

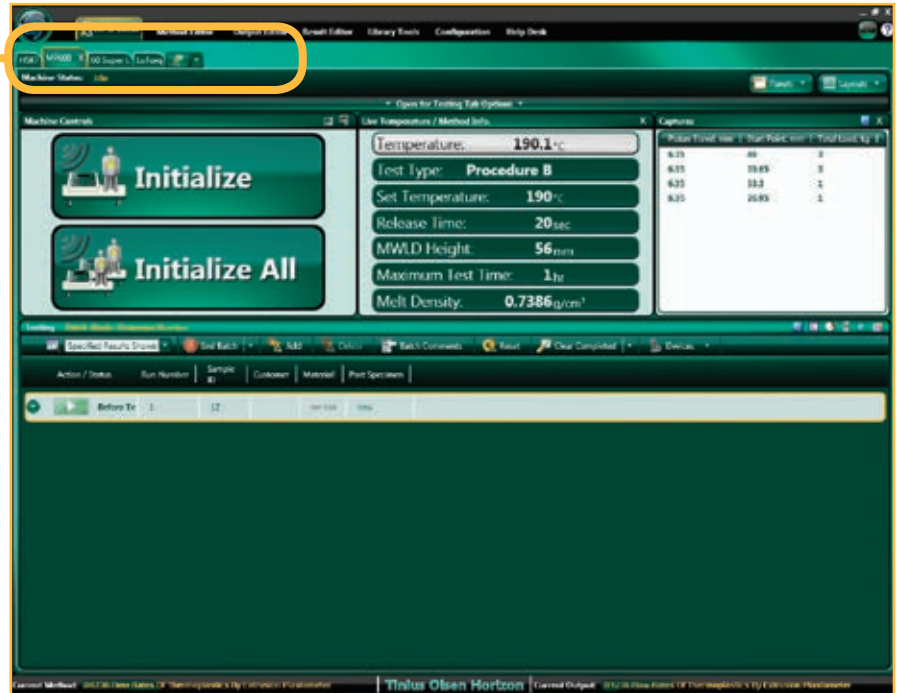


TABBED TEST AND RECALL AREA



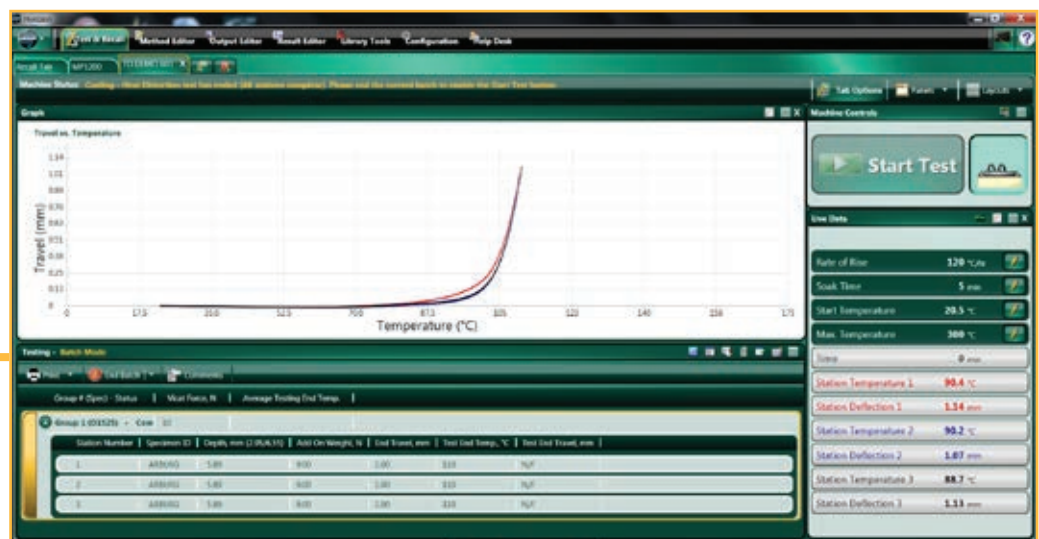
The next feature you may notice is that Horizon can perform multiple tests at one time, controlling and gathering test data from multiple machines (provided your pc has the necessary hardware to control multiple machines). This is true whether you're controlling and gathering data from multiple melt indexers, hydraulic tensile testing machines; and/or electromechanical testing machines, (whether they're performing tensile, compression, flexural, tear, peel, or other tests).

Test Screen showing the tab labeled for multiple MP1200 Melt Indexers. The software is ready to start the tests on multiple MP1200 models, or MP600 models etc, while at the same time controlling the tests being performed on the first tab, which in this example, is an H5kT tensile tester.



Notable Features of Tabbed Test and Recall Area

- Examine test results from previous tests while performing live tests.
- Ability to test multiple machines and machine types, with sufficient PC power and bandwidth.
- Multiple graph types can be used for each test.
- Full PC networking integration and backup across a PC network
- Recall function enabling users to add key data perhaps not available, or missed, pre-test.



Results from a six station Deflection Temperature Under Load test run on an HDTM603.

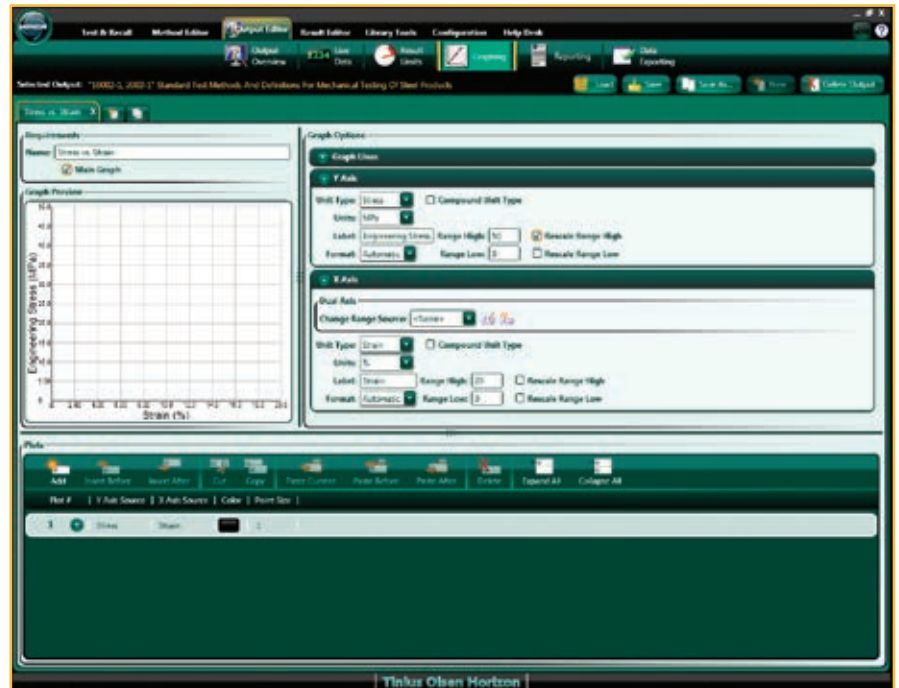
RESULT EDITOR AND OUTPUT EDITOR



Multiple, different graphs can be produced per test, using different measurement axes.

Once all the data has been gathered, Horizon can consolidate it into reports that you can customize to your, or your customer's, individual needs. The output editor allows unprecedented formatting of your data. You can select what live data can be shown during the test; the acceptable limits of the results; the graphical representation of the test — in multiple formats; the layout of the report including the use of your, or your customer's, logo on the report; and also if you need the resultant data available in another format (it can be readily exported or converted to that desired format).

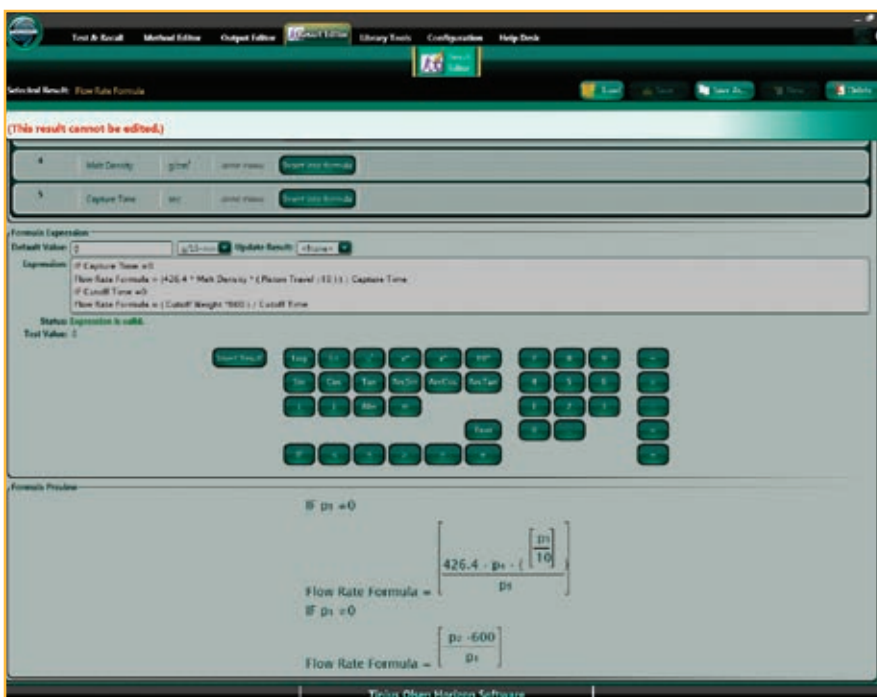
These reports can be distributed across one pc, multiple pcs, or even across a network; the presentation of these test reports is compatible with multiple common formats, including an ERP format.



Graph setup in the Output Editor function of Horizon software.

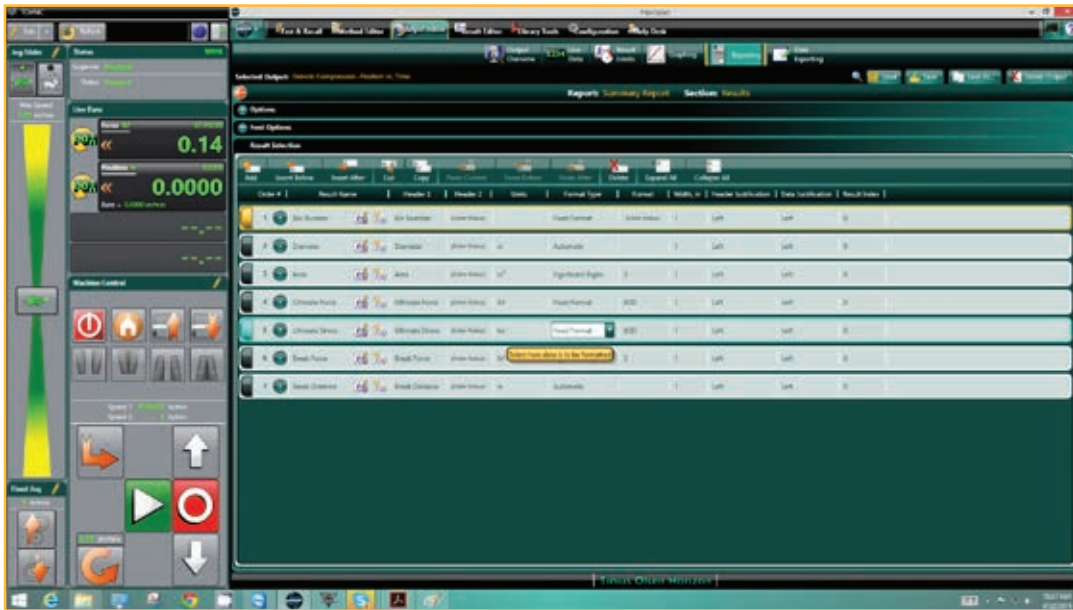
Notable Features of Result Editor and Output Editor

- Multiple graph types can be used per test (stress vs strain, or Load vs Time etc).
- Unique results can be calculated that draw on parameters and results from other tests and equipment.
- Reports can be generated using your customer's logo.
- Reports can be created in the precise format you desire.
- Data can be exported to a variety of different formats.
- An overview is always available to preview what has been created.



Customized formulae can be written to create your own unique results. In this particular example, the result calculation is a "standard" result and consequently uneditable and greyed out.

REPORT GENERATION



Result Screen — tabs allow the generation of a single test report for each specimen, and also a summary test report. On each report, individual results from drop-down lists, including operator generated results, can be selected for display.

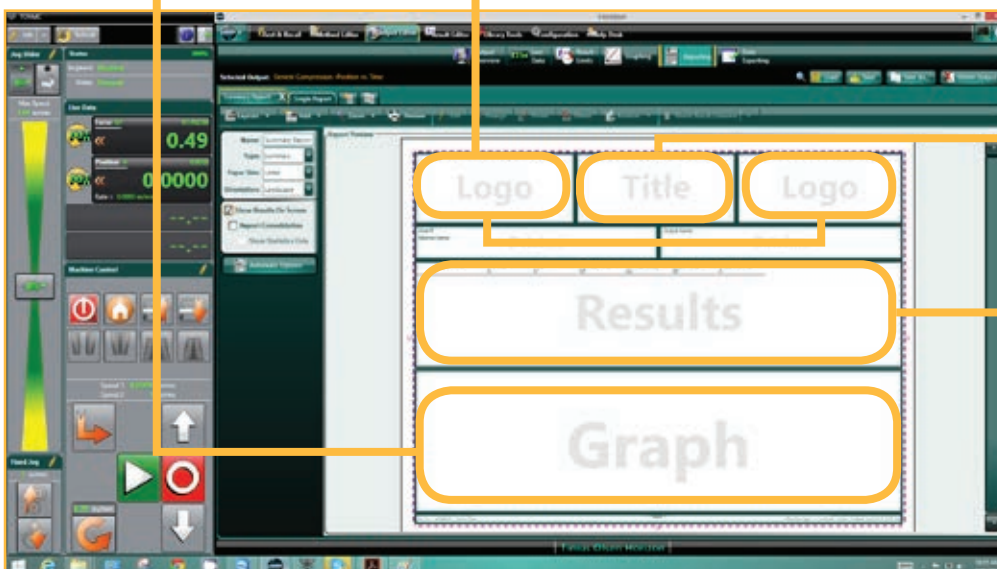
Notable Features of Report Generator

- Multiple graph types, used in the test, can be displayed in the report.
- Drop down list of standard results, and unique results, can be shown in the reports.
- Reports can be generated using your customer's, and your, logo.
- Single reports can be generated for each completed test; additionally, summary reports can also be generated.
- Common SPC analyses can be preformed and the graphical results printed.

Graph result — set-up allows axes to be defined along with the size and location of the graph(s).

Insert your logo, or your customer's logo on the report. As with all sections, the size and location of this section is user defined.

Address and/or identification label or title for the report.



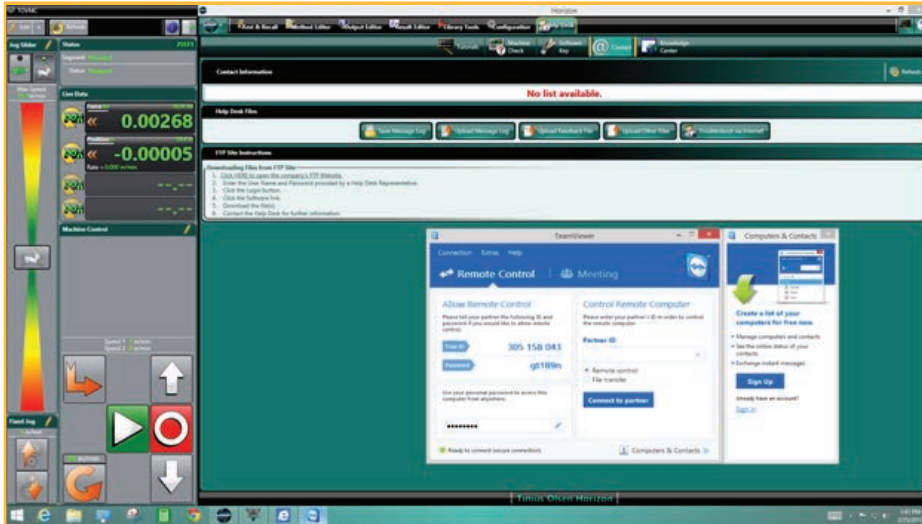
Results Area — choose which results to display and report on the single test report. These results, and more, can be included on the Summary Report.

HELP DESK AND SUPPORT



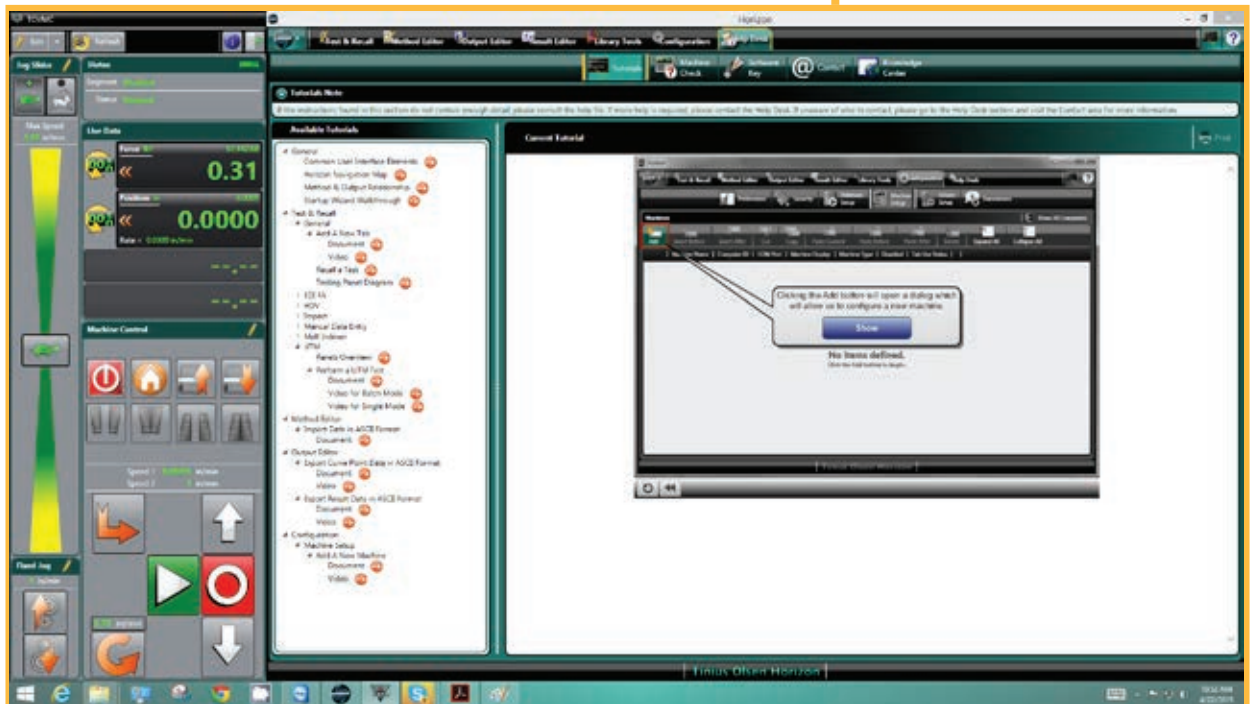
Horizon is one of the most technologically advanced testing software suites, but throughout the design process two key criteria of value and simplicity were maintained. If at any

time you have questions on the operation of the software or how to make different reports, the program has built-in tutorials, on-line help, and Tinius Olsen Help Desk access.



Help Desk launch page. Here you can see the access to the on-disk / on-line tutorials, details of the program key, and emailable access to our manned Help Desk. Also available is access to Team Viewer which will allow our software engineers to take control of your computer for test setup or control help.

As an additional resource, you can also link directly to our application-based microsites which feature an **Ask-The-Expert** forum where users can ask questions of our market and application technologists.



COMPUTER REQUIREMENTS

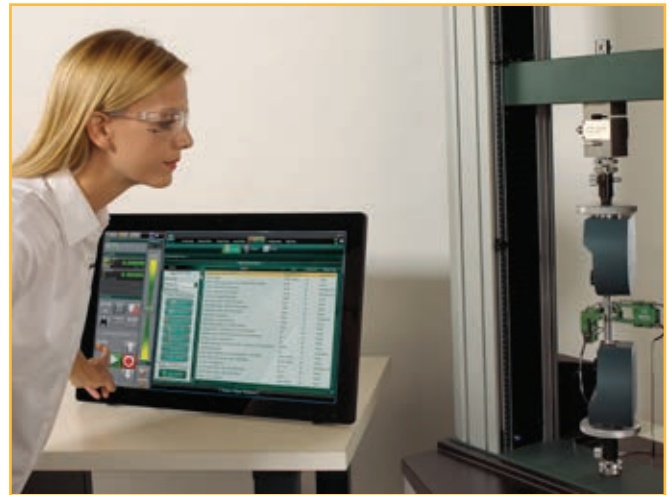


Hardware Requirements

- 2 GHz Pentium Dual Core or better
- 8 GB RAM
 - Using multiple testing machines may require additional memory and/or a faster processor
 - 32-bit systems are limited to a maximum of 4GB of which only 3.25GB is available due to system overheads
- 512 MB DirectX 10.0 capable video card or better
 - A non-integrated Video Card is recommended for best performance
- 40 GB of available hard disk space (minimum)
 - NOTE: SQL Server 2012 Express (installs with Horizon) requires a minimum of 6 GB
- Machine Communication
 - RS232 Machines (i.e. 398, SR2, S-Series, T-Series, 602, MP993, MP600, Impact and HDV):
 - 1 port per testing machine is required. The port may be either an integrated RS232 port OR USB port using a RS232/USB adapter.
 - USB Machines (i.e. MP1200 & VMC controlled):
 - 1 USB port required per testing machine
- Additional Ports
 - 1 USB Port for use with the software key (required)
 - Ports required for each measuring device, barcode scanner, etc.
 - 1 USB Port & 1 DisplayPort if using Touch Screen purchased from Tinius Olsen
- DVD-ROM Drive (to run installation DVD)
- Mouse or pointing device and keyboard supported by Windows
- Monitor
 - 32-bit color
 - 1600 x 900 (Widescreen) or higher
 - If a Touch Screen is used, Windows 8 (or above) is best
- Windows compatible printer (for reporting capabilities)
- Windows compatible sound card and speakers (for audio playback)
- An active Internet connection (for TeamViewer use and Help Desk support) recommended

Software Requirements

- The Horizon Software is designed for 32-bit and 64-bit operating systems running Windows Vista SP2, Windows 7 SP1 or Windows 8. It will NOT install on anything below these Operating Systems (i.e. Windows XP, Windows Vista SP1, Windows 7, etc.).
 - NOTE: A 64-bit Operating System is preferred for best performance.
 - NOTE: If using Windows 8 (or higher) the “.NET Framework 3.5” Windows Feature MUST be enabled before attempting installation.
- Internet Explorer 8 or higher
- Once installed, users MUST be granted full read/write access to the installed software folders (i.e. the “Horizon” and “Microsoft SQL Server” folders).



Summary of Notable Features of Horizon Software

- Full PC networking integration and backup across a PC network using industry standard SQL database structure.
- Multiple licensing of Horizon for multiple installations to review methods, results and reports away from the testing machine, lab or plant.
- Multi level user password capability.
- Recall function enables users to add key data perhaps not available, or missed, prior to the test.
- Built in Team Viewer licenses enabling TO engineers to log in directly, upon request, and provide on-machine technical support.
- Live results during test; there is no limit to the number of results displayed and these need not be used in the test report.
- With sufficient PC power and bandwidth, multiple testing machines can be run from one PC.
- Users can use pre-written international standards methods as templates to modify and build their own test methods.



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