



L Series Materials Testing Machines



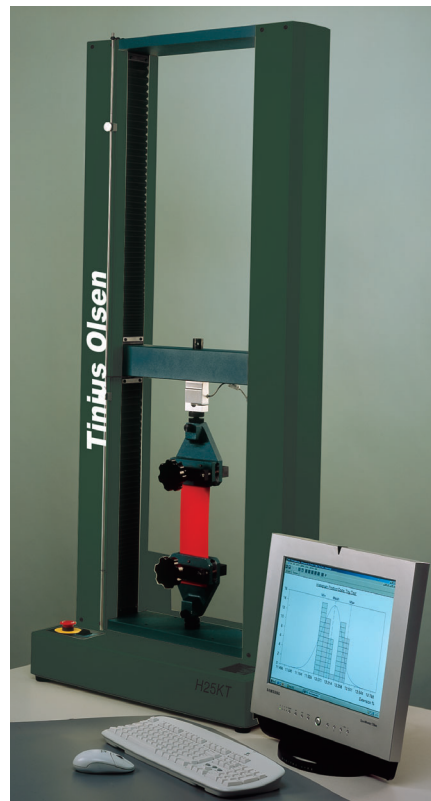
L Series Materials Testing Machines

The L series of materials testing machines have frame capacities of 1kN, 5kN, 10kN or 25kN and are combined with a variety of grips and fixtures, extensometers and application specific software to provide turnkey testing systems that are designed to test a range of materials, including rigid plastics, plastic films, rubber materials, textiles and fabrics, and yarns, in tension, compression, flexure, shear and peel.

At the heart of each system is the testing machine, so, building on the quality and technology that is built into all Tinius Olsen machines, we have developed the L series of machines which talk directly with a standard pc via a high speed RS232 in both ASCII and a proprietary super high speed binary modes.

Robust construction of the loadframes comprising oil soaked precision leadscrews, high precision ball race bearings, high grade material for crossheads and current electronics, combined with our years of experience in machine construction results in these superior testing machines.

Flexibility and simplicity of use is also built into the design of these machines. Each machine features rapid change Z beam loadcells that allow quick and easy capacity reduction to an appropriate capacity for the test. These loadcells have a measurement accuracy of $\pm 0.5\%$ of the applied load, from 2% to 100% of the loadcell capacity. Each machine also features rapid grip change capability; a simple pinning technique means that the gripping fixtures can be changed for different test configurations extremely rapidly and is exceptionally easy.



TECHNICAL SPECIFICATIONS

| Model | | H1KL | H5KL | H10KL | H25KL |
|--|--------|--|--|--|---|
| Capacity | kN | 1 kN | 5 kN | 10 | 25 |
| | kg | 100 kg | 500 kg | 1,000 | 2,500 |
| Maximum Sample Diameter | mm | 150 | 200 | 405 | 405 |
| Load Cells | | Rapid change Z beam load cells with digital encoding for automatic recognition and scaling available - 1kN, 500N, 250N, 100N, 50N, 10N, 5N | Rapid change Z beam load cells with digital encoding for automatic recognition and scaling available - 5kN, 2.5kN, 1kN, 500N, 250N, 100N, 50N, 10N, 5N | Rapid change, low profile Z type, load cells with digital encoding for automatic recognition and scaling available - 10kN, 5kN, 2.5kN, 1kN, 500N, 250N, 100N, 50N, 10N, 5N | Rapid change, low profile Z type load cells with digital encoding for automatic recognition and scaling available - 25kN, 10kN, 5kN, 2.5kN, 1kN, 500N, 250N, 100N, 50N, 10N, 5N |
| Maximum Crosshead Travel (excluding grips) | | Measurement direct from ballscrew - fully auto scaling of single measurement range. | Measurement direct from ballscrew - fully auto scaling of single measurement range. | Measurement direct from ballscrew - fully auto scaling of single measurement range. | Measurement direct from ballscrew - fully auto scaling of single measurement range. |
| | mm | 445 | 750 | 1100 | 1100 |
| Testing Speed Range | mm/min | 0.001 to 1000 up to 500N, 0.001 to 500 up to 1kN | 0.001 to 1000 up to 2.5kN, 0.001 to 500 up to 5kN | 0.001 to 1000 | 0.001 to 1000 |
| Jog Speed | mm/min | 0.001 to 1000 | 0.001 to 1000 | 0.001 to 1000 | 0.001 to 1000 |
| Return Speed | mm/min | 0.001 to 1000 | 0.001 to 1000 | 0.001 to 750 | 0.001 to 750 |
| Dimensions HxWxD | mm | 820x360x360 | 1140x490x450 | 1600x650x450 | 1600x650x450 |
| Weight | kg | 25 | 50 | 115 | 120 |

Specifications:

Load measurement accuracy: +/- 0.5% of indicated load from 2% to 100% capacity
Extended range down to 1% capacity with accuracy of 1% of indicated load.

Position measurement accuracy: +/- 0.01% of reading or 0.001mm, whichever is greater

Speed accuracy: +/- 0.005% of set speed

Operating temperature range: 32 to 100 degrees F (0 to 38 degrees C)

Storage temperature range: 14 to 115 degrees F (-10 to 45 degrees C)

Humidity range: 10% to 90% non-condensing, web bulb method

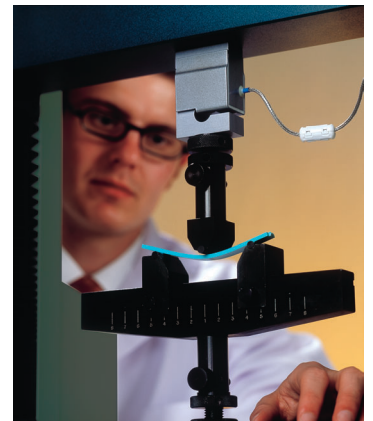
Power: Standard optional voltages 220/240VAC, 50-60 Hz, 2000W

Power must be free of spikes and surges exceeding 10% of the nominal voltage.



Notes:

- Load weighing system meets or exceeds the requirements of the following standards:
ASTM E4, EN 10002-2, BS 1610, DIN 51221, ISO 7500-1. Tinius Olsen recommends that systems are verified at installation in accordance with ASTM E4 and ISO 75001.
- Strain measurement system meets or exceeds the requirements of the following standards:
ASTM E83, EN 10002-4, BS 3846 and ISO 9513.
- These models conform to all relevant European CE Health and Safety Directives
EN 50081-1, 580081-1, 73/23/EEC, EN 61010-1
- Specifications are subject to change without notice



Software



Tinius Olsen has built upon its long history of providing solutions to an enormous variety of testing problems to develop Horizon, a comprehensive software program that makes testing simple, precise, and efficient.

Whether the test sample is metal, paper, composite, polymer, rubber, textile, or a micro component,

Tinius Olsen's Horizon software goes far beyond data collection and presentation. It will help you automate your operations, from R&D to the charting and analysis of QC testing. Horizon provides a library of standard, specific, and application-focused test routines that have been developed in close cooperation with our customers around the world and to the standards they are using.

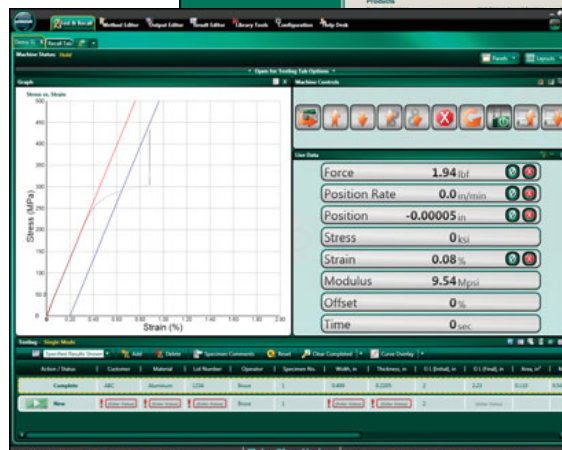
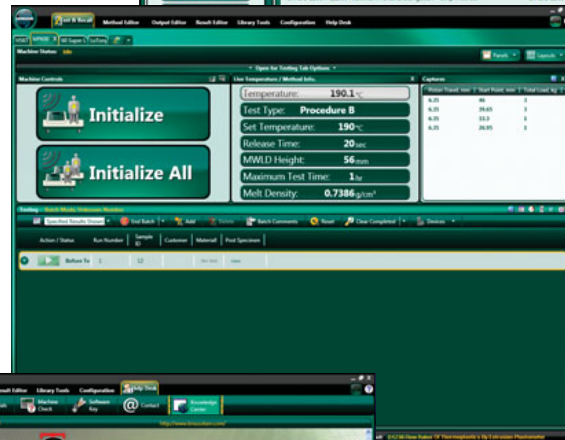
Among the many valuable features offered by Horizon are: a test routine library; simultaneous multiple machine control; test, output, method, and result editors; and multilayered security. This software is designed for data acquisition, data analysis, and closed loop control of nearly all Tinius Olsen testing machines.

Horizon also includes the following:

- Generation of user customized reports
- Standard SPC programs for X-bar, R, and frequency distributions/histograms
- Ability to recall, replot and rescale test curves
- Recall of data that spans different test modules
- User-configurable machine parameter and control settings
- Multilingual capabilities

Horizon is rich with capabilities that improve productivity and enable you to build, access, and use a modern, powerful materials testing database. It employs the latest Windows environments to create an intuitive user experience.

Built-in tutorials, on-line help, and help desk access provide additional user support.



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