



The first name in materials testing

L Series

Electromechanical Material Testing Machine



The Tinius Olsen L Series of mechanical testing systems provide the simplicity, performance and affordability needed for quality control and product testing.



L Series

The L Series of electromechanical testing machines from Tinius Olsen is designed to test a wide range of materials including, but not limited to: plastics, films, paper, packaging materials, filter material, adhesives, foils, food, toys, medical devices and components, in tension, compression, flexure and peel.

Testing machines are available in frame capacities of 5kN, 10kN, 25kN and 50kN and are combined with a variety of grips and fixtures, extensometers and software to provide standard testing systems for a variety of applications.

At the heart of each system is the testing machine. Building on the quality and technology that is built into all Tinius Olsen machines, we have developed the L Series of machines that communicate directly with a standard PC via a high speed USB.

Robust construction of the loadframes comprising oil soaked pre loaded 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 2-100% 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 easily.

KEY FEATURES

- **USB connectivity**
- **Sunken power connector to ease service**
- **Protective screen supporting panels on the sides**
- **Air piped inside the machines to bottom and upper crossheads for supporting pneumatic fixtures**
- **Suitable for tension, compression, flexure, shear and other tests to a maximum force of 50kN(11,000lbf)**
- **Primary system interface is a PC running Tinius Olsen's Horizon data analysis software connected via USB**
- **System features local Jog up, jog down and stop buttons so the crosshead can be positioned for easy specimen loading**
- **Meets or exceeds the requirements of national and international standard for materials testing systems**

Accessory connectivity

Connecting accessories is made easy with the test frame via a built-in accessory connection panel on the machine.

Extensometers

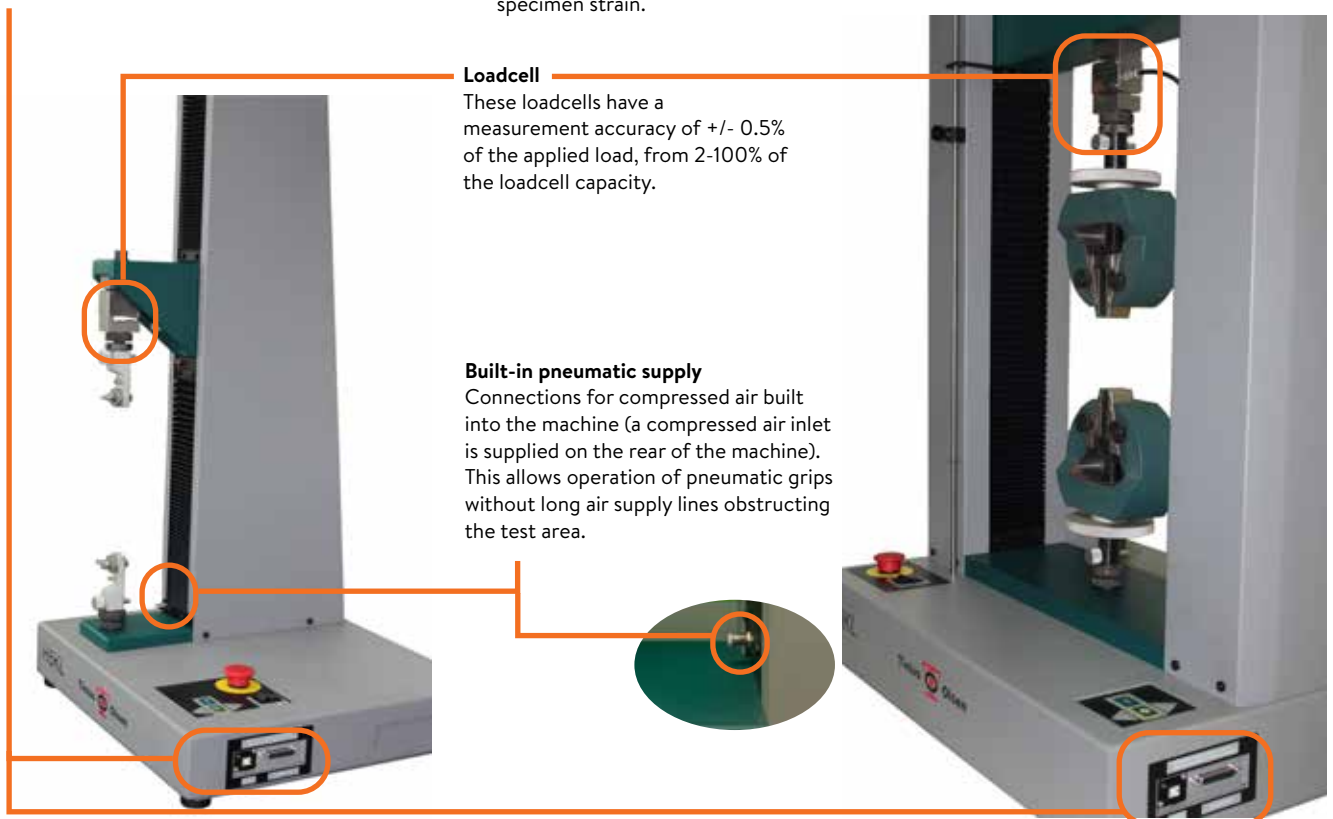
Full complement of video, automatic, encoder, laser, strain gage and LVDT extensometers are available for the determination of specimen strain.

Loadcell

These loadcells have a measurement accuracy of $\pm 0.5\%$ of the applied load, from 2-100% of the loadcell capacity.

Built-in pneumatic supply

Connections for compressed air built into the machine (a compressed air inlet is supplied on the rear of the machine). This allows operation of pneumatic grips without long air supply lines obstructing the test area.





Specifications

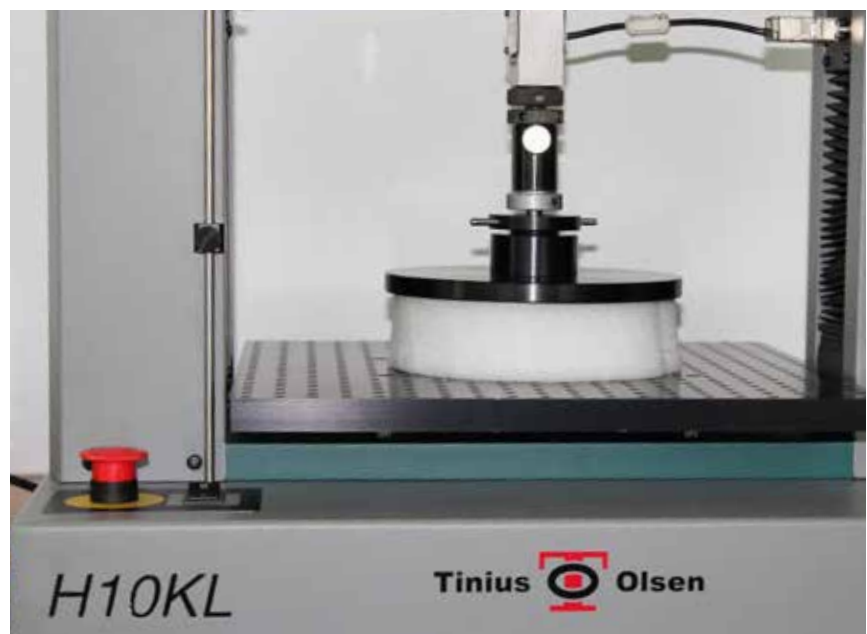
MODELS		5kL	10kL	25kL	50kL
Capacity	kN	5	10	25	50
	lbf	1,000	2,000	5,000	11,000
Test speed range	mm/min	0.001-1000 up to 2.5kN, 0.001-500 up to 5kN	0.001-1000 up to 5kN, 0.001-500 up to 10kN	0.001-1000 up to 12.5kN, 0.001-500 up to 25kN	0.001-500 up to 25kN, 0.001-250 up to 50kN
	in/min	0.04μ"-40" up to 0.5klbf 0.04μ"-20" up to 1klbf	0.04μ"-40" up to 1klbf 0.04μ"-20" up to 2klbf	0.04μ"-40" up to 2.5klbf 0.04μ"-20" up to 5klbf	0.04μ"-20" up to 5klbf 0.04μ"-10" up to 10klbf
Clearance between columns	mm	n/a	405	405	405
	in	n/a	16	16	16
Throat depth	mm	115	n/a	n/a	n/a
	in	4.5	n/a	n/a	n/a
Max crosshead travel	mm	750	1,100	1,100	1,075
	in	29	43	43	42
Dimensions (Hx-WxD)	mm	1140 x 490 x 360	1575 x 650 x 450	1575 x 650 x 450	1620 x 720 x 500
	in	45 x 19 x 14	62 x 26 x 18	62 x 26 x 18	64 x 28 x 20
Weight	kg	60	130	130	190
	lb	132	287	287	419

NOTES :

- Load weighing system meets or exceeds the requirements of the following standards: ASTM E4, ISO 7500-1 and EN 10002-2. Tinius Olsen recommends that systems are verified at installation in accordance with ASTM E4 and ASTM 75001
- Strain measurement system meets or exceeds the requirements of the following standards : ASTM E83, ISO 9513 and EN 10002-4
- Specifications are subject to change without notice.

OPTIONS AND ACCESSORIES

- Grips and fixtures can be easily mounted securely with a locking pin, which also allows simple and rapid changes
- Precision extensometers and deflectometers are available using encoder, strain gauge and/or LVDT technologies
- Safety enclosures with interlocks can be installed to protect operators from violent specimen breaks





*"Horizon makes testing simple,
precise and efficient"*

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



Epsilon One

High precision optical extensometers

- EASY TO USE
- LOW COST
- INSTANT RESET
- LASER ALIGNMENT

The Tinius Olsen **Epsilon One** is a new optical non-contact extensometer performing high-accuracy, high-resolution non-contacting axial strain and displacement measurement, using video to measure strain.

Key Features

- Always on, always ready: Unlike DIC systems, software interactions are unnecessary when running repetitive tests.
- Always real-time: Post-processing is never required, even at the highest data rates.
- Faster throughput with Instant Reset: Auto-start repetitive tests without touching the extensometer or software.
- Reliable, automatic mark detection: Robust tracking of bright or dark marks beyond 1000% strain and speeds >1500 mm/second.
- Laser Assist Alignment System: Provides an instant visual spot-check for specimen alignment and optics positioning.

✓ COMPOSITES ✓ METALS ✓ PLASTICS ✓ CERAMICS ✓ ELASTOMERS ✓ WIRE ✓ FOIL

Tinius
Olsen

Tinius Olsen Automated Testing Systems

PRODUCTIVITY

More tests with increased accuracy

FLEXIBILITY

Complete automated testing solutions

REPEATABILITY

Automated systems that run all day and all night

CONTACT US

www.tiniusolsen.com



The first name in materials testing



Tinius
Olsen



www.tiniusolsen.com

- Horsham, PA, USA
- Redhill, Surrey, UK
- Noida, UP, India
- Shanghai, PR China