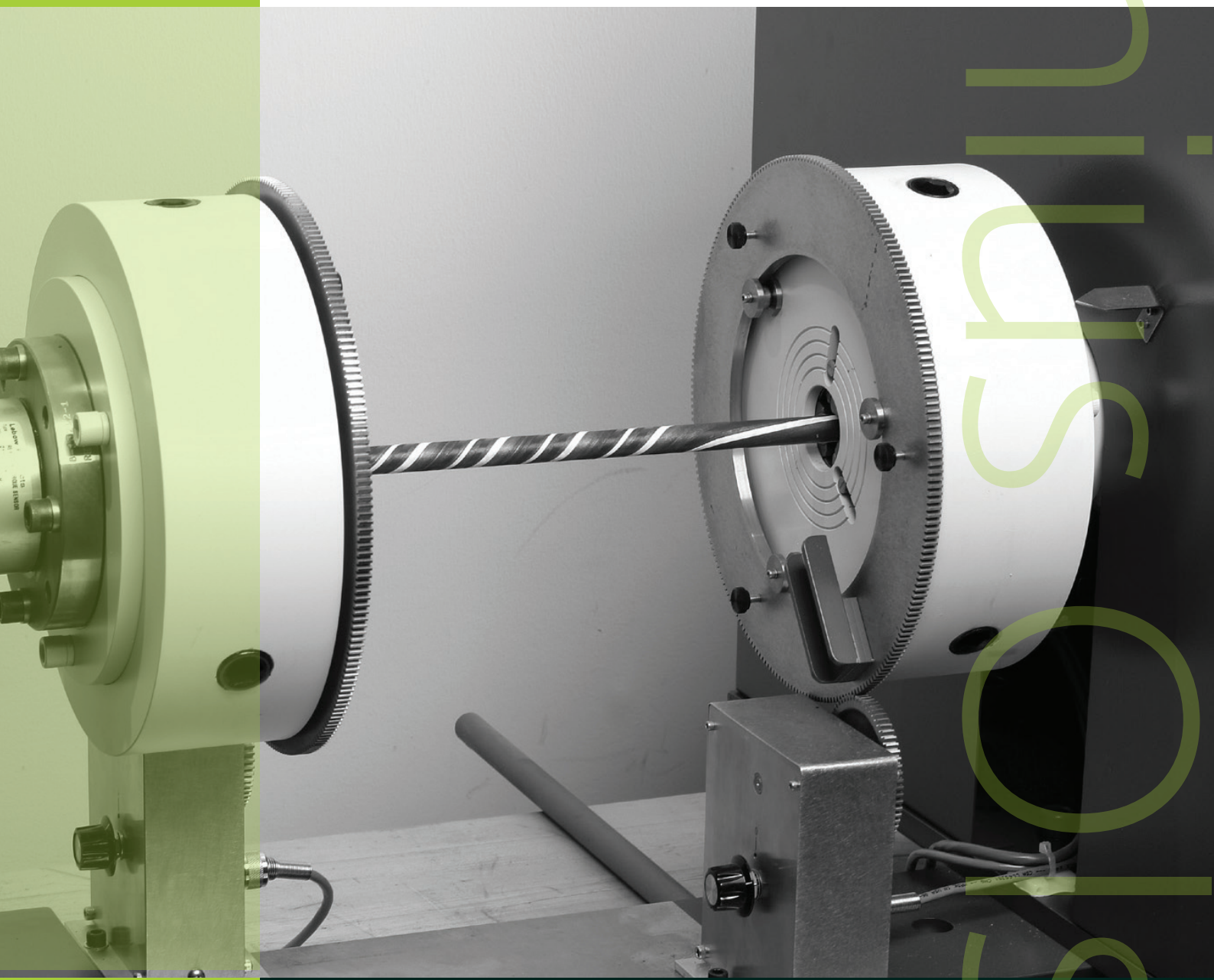
Tinius Olsen



Torsion

Torsion Testers

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Torsion Testers

For maximum versatility and capability, Tinius Olsen offers a full range of torsion testing machines in capacities from 10,000 to 300,000in.lbf or kg.cm (1,000 to 30,000N.m). Higher capacity and other longer length models are available upon request.

These uniquely superior torsion testers provide loading and weighing capabilities in both directions of rotation. This feature makes it possible to conveniently determine not only the ultimate torque of a specimen, but also how that specimen behaves under conditions of continuous or intermittent torque loading in both directions.

Essentially, each torsion tester comprises a variable speed drive loading system, and a digital control and indicating system in a fixed section of the machine. The weighing head with its strain gage torque sensor is mounted on a movable section that can be positioned on rails to accommodate specimens of varying lengths.

Our 10,000in.lbf (1,000N.m) torsion tester is bench mountable and the moveable section slides on a guide rail.

All other models are floor based and are furnished with heavy duty slotted steel bed rails that are normally embedded in, or secured to, a concrete foundation to assure maximum rigidity and accessibility. The moveable section on these higher capacity machines is mounted on four rollers that glide along these slotted rails and allow rapid positioning. Additionally, these rollers allow the moveable unit to compensate for any changes in specimen length during loading. The standard maximum distance between chucks is 7ft (approximately 2.1m); however, other lengths can be provided.

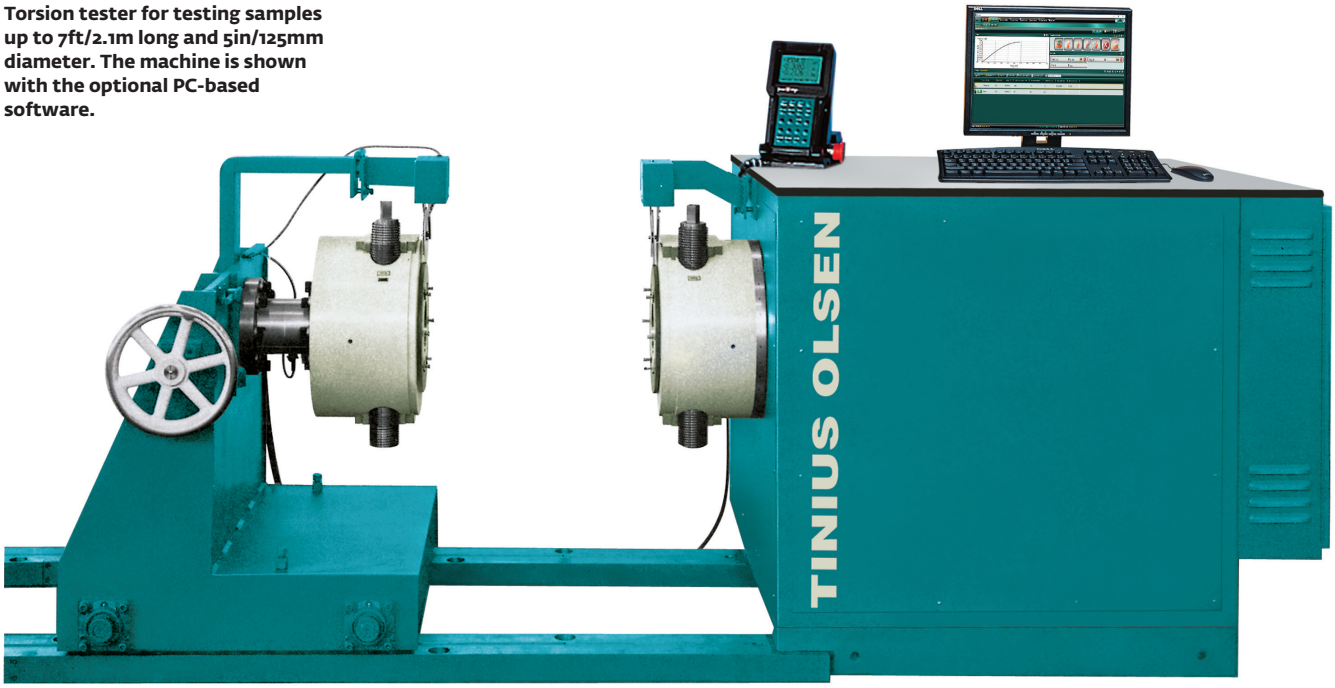
All torsion testers feature our patented bidirectional grips, which ensure slip-free specimen clamping regardless of the twist direction. With these precision machined universal grips, loads can be applied in both directions without changing grips.

Bench mounted 10,000in.lbf machine camera

The rugged, electromechanical loading system employs a gear reduction system coupled directly to a variable speed drive motor. This reversible loading system provides positive, infinitely variable testing speeds from 5-180° per minute in either direction (the 10,000in.lbf model has a testing speed range from 5-360° per minute in either direction). As the load increases, more power is delivered to the twisting head to apply increasing torque to the specimen to maintain the preselected twisting rate.

No system would be complete without controlling software and data analysis of the resultant data. The addition of a torsion test module to our Horizon software allows complete machine control along with capture and analysis of the resultant torsional test data, showing the material behaviour throughout the test.

Torsion tester for testing samples up to 7ft/2.1m long and 5in/125mm diameter. The machine is shown with the optional PC-based software.



TECHNICAL SPECIFICATIONS

Capacity	**in.lbf or kgf.cm**	10,000	60,000	120,000	300,000
	N.m	1000	6000	12,000	30,000
Mounting		Bench	Floor	Floor	Floor
Maximum specimen diameter	**in**	1.5	3	3	5
	mm	38	76	76	127
Maximum specimen length	**in**	18	72	60	90
	mm	457	1829	1524	2286
Test speed	**degrees per min**	5-360	5-180	5-180	5-180
Weight (net)	**lb**	1100	6200	7625	13,500
	kg	500	2800	3500	6130
Dimensions (LxDxH)	**in**	62 x 25 x 29	148 x 36 x 78	176 x 45 x 78	220 x 64 x 84
	mm	1570 x 630 x 730	3760 x 900 x 1980	4470 x 1140 x 1980	5590 x 1620 x 2130

SPECIFICATIONS

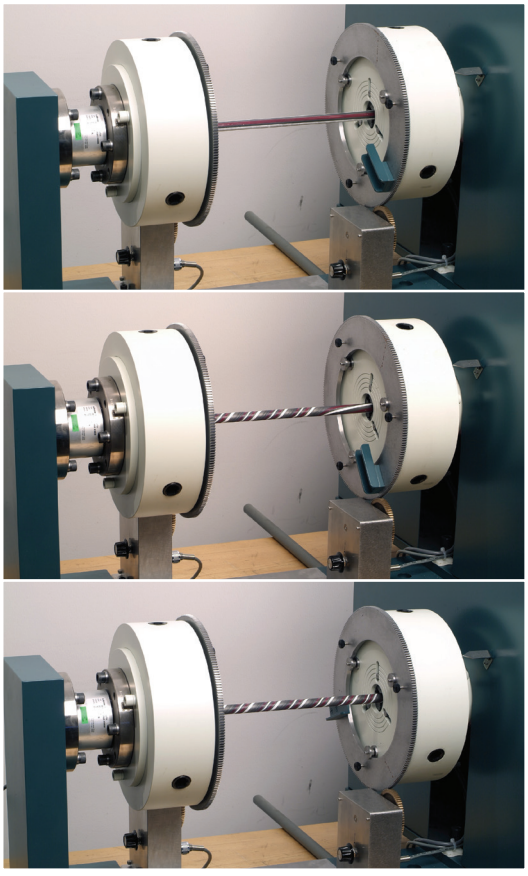
Torque measurement accuracy	+/- 0.5% of indicated torque from 0.2% to 100% capacity
Position measurement accuracy	+/- 0.1% of reading or 0.05°, whichever is greater
Speed accuracy	+/- 0.1% of set speed
Operating temperature range	32-100°F (0-38°C)
Storage temperature range	14-115°F (-10-45°C)
Humidity range	10% to 90% non-condensing, wet bulb method
Power	Standard optional voltages 220/240VAC, 50-60Hz; power must be free of spikes and surges exceeding 10% of the nominal voltage

Specifications subject to change without notice

Samples are easily mounted in the patented bidirectional grips.

OPTIONAL FEATURES

- Torsional pickups can be fitted directly to the sample for exact measurement of the angle of twist.



Top to bottom: A test in progress on the 10,000in.lbf model with a painted sample rod of steel.

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.

Our Horizon software sets new standards of data analysis by adding a host of report writing and data manipulation capabilities that will make easy work of your materials testing programs. As with most features of Horizon, flexibility is key; reports can be customised by operators in any way they wish, as can all user screens allowing operators to focus on features that are most important to them.

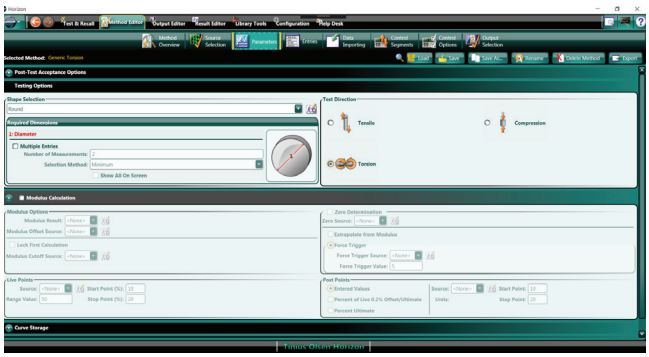
In addition to powerful reports, Horizon Materials Testing software is networkable and scalable so operators and managers can operate equipment and review test results from multiple sources and locations. Horizon provides a library of standard, specific, and application-focused test routines that have been developed in close cooperation with 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 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, running on touchscreen enabled monitors, to create an intuitive user experience. Built-in tutorials, on-line help, and help desk access provide additional user support.

HORIZON

"Horizon makes testing simple, precise and efficient"



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