

MODEL 10ST ELECTROMECHANICAL MATERIALS TESTING MACHINE



The model 10ST is designed for tension, compression, flexure and shear strength testing on materials and assemblies. The robust design that incorporates quality materials and components ensures that our reputation for superior system performance, ease of use, and longevity is maintained. A variety of loadcells are available at differing capacities that give precise applied load measurements from the smallest test specimen to ones that go to full machine capacity. Test machines become complete, powerful test systems with the addition of grips to hold the specimen, strain measurement instrumentation and Tinius Olsen's Horizon Data Analysis software.

FEATURES AND BENEFITS

- Suitable for tension, compression, flexure, shear and other tests to a maximum force of 10kN / 2,000 lbf
- Different system interface options are available, from a familiar tethered handheld interface, a wireless Bluetooth interface panel running an Android application, or virtual machine controller application running on a pc. All interfaces work with Horizon Data Analysis software.
- Meets or exceeds the requirements of national and international standards for materials testing systems.
- 8 full-length T slots built into machine column to allow accessories to securely mounted to the test frame.
- Built-in pneumatic distribution ports that provide local air supply to pneumatic grips.

OPTIONS AND ACCESSORIES

- Test frame can be extended by up to 400mm / 16 inches to increase test area size.¹
- Grips and fixtures can be easily mounted securely with a simple locking pin, which also allows simple and rapid changes.
- Full range of precision extensometers and deflectometers are available using video, laser, encoder, strain gauge and/or LVDT technologies
- Furnaces and/or environmental chambers can be installed for tests at high or low temperatures.
- Safety enclosures with interlocks can be installed to protect operators from violent specimen breaks.
- Tinius Olsen's Horizon software can be connected to the tester by the operator.



Familiar handheld interface which is tethered to the machine. With its larger, tactile, sealed keypad, this interface is ideal for operators whose use gloves to load and unload specimens and prefer a push button keypad. It can be used to operate the basic machine functions and will report basic numerical test data or can be linked with Horizon software.

Wireless handheld interface which is connected to the machine by a Bluetooth link. This interface features an Android based operating platform and can be used to control the machine by itself or in conjunction with Tinius Olsen's Horizon software.



¹Supplied at the time of order

SPECIFICATIONS



10ST Specifications

Frame	Tension Compression load capability	Yes		
	Frame capacity	kN	10	
		kg	1,000	
		lbf	2,000	
	Proof tested	50 % over frame capacity		
	Floor or table mounting	Table mounting		
	Test zones	1		
	Number of columns	2		
	Column material	Aluminium Extrusion		
	Column finish	Anodized		
	Column colour	Natural		
	Base material	Mild Steel		
	Base finish	Pre primed, top powder coat paint		
	Base colour	TO Cool Grey Web # E6 30 27		
	Crosshead material	Mild Steel solid		
	Croshead finish	Pre primed, top powder coat paint		
	Crosshead colour	TO Green Web # 00 4C 45		
	Base cover	ABS recyclable		
	Base cover colour	Cal Black Web # 11 18 20		
	Distance between columns	mm	410	
		in	16	
	Max cross head travel	mm	1090	
		in	43	
	Optional crosshead travel	mm	410	
		in	16	
	Stiffness	kN/mm	100	
		klbf/in	557	
	Height	mm	1265	
		in	64	
	Width	mm	729	
		in	29	
	Depth	mm	506	
		in	20	
Weight	kg	130		
	kg	287		
Force protection system	Yes digital			
Displacement protection system	Yes mechanical & user programmable			
Accessory fitting interface type	Female diameter			
Ball screw type	High precision low backlash			
Ball screw cover/protection	Yes			
Crosshead drive system	DC servo motor			
Feet material	Impact resistant plastic			
Feet adjustment & levelling	No			
Reference rule to support cross head positioning	Yes mm & Inches			
T slots in columns for accessory mounting	8 * M6/M8			
Noise at full crosshead speed 2m radius	22db			

10ST Specifications

Software required for materials tests			
Controller	Max data processing rate	168 MHz	
	Data acquisition rate at PC	1000 Hz	
	Number of instrument device connections external	4	
	Number of instrument device connections internal	3	
	Bluetooth enabled	v4.0 with A2DP, LE, EDR	
	External PC connection	USB	
	User interface connectivity	TO HMC, Proterm, Horizon	
Force	Force measuring device - type	Strain gauge based load cell	
	Load cells available	5N, 10N, 25N 50N, 100N, 250N, 500N, 1kN, 2,5kN, 5kN, 10kN	
	Resolution	1 part in 8,388,608	
	Accuracy	+/-0.1% of applied force across load cell force range	
	Range	0.2% to 100%	
	Calibration standard	+/- 0.5% to ISO 7500-1 ASTM E4	
	Internal sampling rate	1000Hz	
Extension measurement	Resolution	0.1um	
	Accuracy	+/-10um	
	Range	+/- 217m	
	Calibration standard	ISO 9513, ASTM E83	
	Internal sampling rate	2.73kHz	
Position control	Test Speed	mm/min	0.001 to 1000 to 10kN
		in/min	0.00004 to 40 to 2,000lbf
	Resolution	um	0.1
		in	0.000004
	Accuracy	+/- 0.005%	
	Return speed post test	mm/min	0.001 to 1000
		in/min	0.00004 to 40
	Resolution	um	0.1
		in	0.000004
	Accuracy	+/- 0.005%	
	Crosshead positioning speed	mm/min	0.001 to 1000
in/min		0.00004 to 40	
Resolution	um	0.1	
	in	0.000004	
Accuracy	+/- 0.005%		
Return to zero function	Yes		
Power requirement	Supply voltage options	110/240V	
	Frequency	50/60Hz	
	Power	530W +/- 10%	