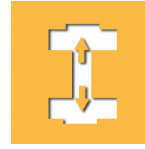
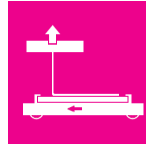


MODEL 50ST

ELECTROMECHANICAL

MATERIALS TESTING MACHINE



The model 50ST 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 50kN / 11,000 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 standard 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 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.

¹Supplied at the time of order



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.



SPECIFICATIONS



50ST Specifications

Frame	Tension Compression load capability	Yes		
	Frame capacity	kN	50	
		kg	5,000	
		lbf	11,000	
	Proof tested	25 % 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 coat 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	1065	
		in	42	
	Optional crosshead travel	mm	400	
		in	16	
	Stiffness	kN/mm	100	
		klbf/in	557	
	Height	mm	1655	
		in	65	
	Width	mm	729	
		in	29	
	Depth	mm	506	
		in	20	
	Weight	kg	163	
		kg	359	
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	31db			

Software required for materials tests

50ST Specifications

Control-ler	Max data processing rate	168 MHz	
	Data acquisition rate at PC	1000 Hz	
	Number of instrument de-vice connections external	4	
	Number of instrument de-vice connections internal	3	
	Bluetooth enabled	v4.0 with A2DP, LE, EDR	
	External PC connection	USB	
	User interface connec-tivity	TO HMC, Proterm, Horizon	
	Force	Force measuring device - type	Strain gauge based load cell
Load cells available		25N 50N, 100N, 250N, 500N, 1kN, 2,5kN, 5kN, 10kN, 25kN, 50kN	
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	
Exten-sion mea-sure-ment	Resolution	0.1 um	
	Accuracy	+/-10um	
	Range	+/- 217m	
	Calibration standard	ISO 9513, ASTM E83	
	Internal sampling rate	2.73kHz	
Position control	Test Speed	mm/min	0.001 to 500 to 20kN
		mm/min	0.001 to 250 to 50kN
		in/min	0.00004 - 20 to 4,000lbf
		in/min	0.00004 - 10 to 11,000lbf
	Resolution	um	0.1
		in	0.000004
	Accuracy	+/- 0.005%	
	Return speed post test	mm/min	0.001 to 500
		in/min	0.00004 to 20
	Resolution	um	0.1
		in	0.000004
	Accuracy	+/- 0.005%	
Crosshead positioning speed	mm/min	0.001 to 500	
	in/min	0.00004 to 20	
Resolution	um	0.1	
	in	0.000004	
Accuracy	+/- 0.005%		
Return to zero function	Yes		
Power require-ment	Supply voltage options	110/240V	
	Frequency	50/60Hz	
	Power	530W +/- 10%	