



The first name in materials testing

Model 50kL

Electromechanical Materials Testing Machine



The model 50kL is an Electromechanical Materials Testing Machine. It is a robust design for use in a range of materials testing.

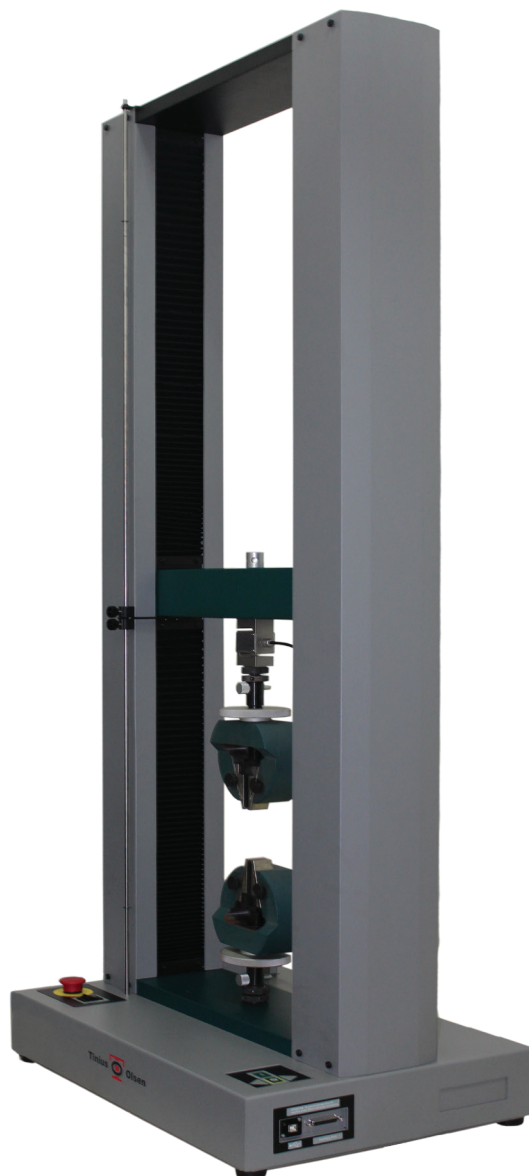


Model 50KL

The model 50kL 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/11,000lbf
- Meets or exceeds the requirements of national and international standard for materials testing systems
- Built-in pneumatic distribution ports provide local air supply to pneumatic grips
- 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
- Protective screen supporting panels on the sides, USB connectivity, Sunken power connector to ease service

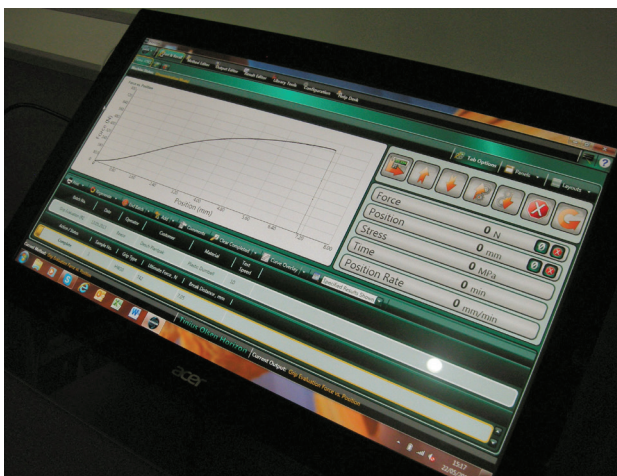


OPTIONS AND ACCESSORIES

- 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 deflectionometers are available using video, laser, encoder, strain gage 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.

MACHINE INTERFACE

- 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 automate operations, from R&D to the charting and analysis of QC testing.





Specifications

50KL Frame specifications		
Item #	99-999-0709	
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	One	
Number of columns	Two	
Column material	Steel sheet	
Column finish	Powder coat paint	
Column color	TO Cool Grey Web # E6 30 27	
Base material	Steel sheet	
Base finish	Powder coat paint	
Base color	TO Cool Grey Web # E6 30 27	
Crosshead material	Solid Steel	
Crosshead finish	Pre-primed, top powder coat paint	
Crosshead color	TO Green Web # 00 4C 45	
Distance between columns	mm	410
	in	16
Maximum crosshead travel	mm	1068
	in	42
Stiffness	kN/mm	100
	klbf/in	571
Height	mm	1610
	in	63.4
Width	mm	720
	in	28
Depth	mm	500
	in	20
Weight	kg	190
	lb	419
Force protection system	Yes, digital	
Displacement protection system	Yes, mechanical and 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	Non-adjustable impact resistance plastic	
Pneumatic air distribution	4mm OD hose with pushfit coupling, rated to 100psi maximum	
Noise at full crosshead speed 2m radius	31db	

NOTE – Software required for materials tests

Frame specifications		
CONTROLLER SPECIFICATIONS		
Max data processing rate	168MHz	
Data acquisition rate at PC	1000Hz	
Number of instrument device connections – external	One	
External PC connection	USB	
FORCE MEASUREMENT		
Force measuring device type	Strain gage-based load cell	
Load cells available	25N, 50N, 100N, 250N, 500N, 1kN, 2.5kN, 5kN, 10kN, 25kN, 50kN	
Resolution	One part in 64,000	
Accuracy	0.5% of applied force across load cell force range	
Range	0.2-100%	
Calibration standard	+/- 0.5% to ISO 7500-1, ASTM E4	
Internal sampling rate	1000Hz	
EXTENSION MEASUREMENT		
Resolution	0.1µm	
Accuracy	+/-10µm	
Range	0.1µm to 1068mm	
Calibration standard	ISO 9513	
Internal sampling rate	2.73kHz	
POSITION CONTROL		
Test Speed	mm/min	0.0001-500 up to 25kN 0.0001-250 up to 50kN
	in/min	4µ”-20” up to 5klbf 4µ”-10” up to 10klbf
Resolution	µm	0.1
	in	4µ”
Accuracy	+/-0.05% of indicated speed	
Return speed post test	mm/min	0.0001-500
	in/min	4µ”-20”
Crosshead positioning speed	mm/min	0.0001-500
	in/min	4µ”-20”
Return to zero function	Yes	
POWER REQUIREMENTS		
Supply voltage options	115/230V	
Frequency	50/60Hz	
Power	530W +/- 10%	
ATMOSPHERIC REQUIREMENTS		
Operating temperature	0-38°C	
Operating humidity	10-90% non-condensing	
Storage temperature	-10-45°C	
Storage humidity	10-90% non-condensing	

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