

eXpert 5900 Series Dynamic Testing Systems

Fast Acting, Accurate and Durable.

eXpert 5900 Series Dynamic Testing Systems are fast acting table top testers ideally suited for performing static and dynamic fatigue tests on a variety of materials and components. These dynamic machines employ a brushless servo motor and roller screw based linear actuator to achieve loading frequencies up to 10 Hz. The compact and robust actuator mounts to the adjustable upper crosshead of a stiff dual column frame. It connects to single phase power and requires no oil or lubrication to operate; resulting in a clean low maintenance solution. With dynamic force capacities ranging from 4kN to 14kN, the eXpert 5900 Series machines are used to evaluate the mechanical properties of biologic materials, composites, orthopedic fixation devices, prostheses, spinal constructs, foams, flexible circuits, elastomers and more. eXpert 5900 Series test systems provide the sensitivity and resolution to test flexible materials at low forces and are ruggedly designed to perform multi-million cycle durability tests. Example test types include:

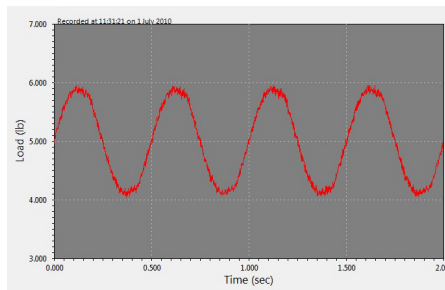
- **ASTM F384:** Test Methods for Metallic Angled Orthopedic Fracture Fixation Devices
- **ASTM F1717:** Test Methods for Spinal Implant Constructs
- **ASTM F2077:** Test Methods For Intervertebral Body Fusion Devices
- **ASTM D3574:** Test Methods for Flexible Cellular Materials - Constant Force Pound Test
- Durability Testing of Flexible Circuits and Thin Films
- Durability/Wear Testing of Textiles



eXpert 5951 equipped to perform ASTM D3574 Constant Force Pound Test on Foam.

Precise Control

Controller	MTESTQuattro®
Interface	Windows Software
Analysis	Extensive calculations library w/ built-in ASTM/ISO specification analysis.
Test Procedures	Use built-in or create an unlimited number of simple to complex procedures.
Reporting	Store and organize all data. View and print user customizable test reports with chart and tables.



MTESTQuattro® dynamic test waveform.

eXpert 5900 Dynamic Systems can be equipped with ADMET's MTEST-Quattro Test Controller. MTEST-Quattro includes multiple channels of high resolution input, fast sampling and servo update rates for accurate control and measurement of static and dynamic fatigue tests. An all inclusive analysis suite plus the ability to develop your own test procedures provides the flexibility to perform virtually any test according to ASTM, ISO or customer test specifications.



The ADMET DC1x Controller is a single-channel PID servo controller that provides AC, DC and quadrature encoder transducer conditioning, basic function generation, hydraulic pressure control, and a servo valve driver circuit. A four line display and 24 key tactile keypad provides an easy-to-use interface for creating test setups and adjusting control parameters during test.

Controller	DC1x
Interface	Touch Panel
Analysis	Extensive calculations library w/ built-in ASTM/ISO specification analysis.
Test Procedures	Use built-in or create an unlimited number of simple to complex procedures.
Reporting	Store and organize all data. View and print user customizable test reports with chart and tables.

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Model		5951	5952	5955
RMS Force Capacity	lbf	500	1,125	2,250
	kN	2.5	5	10
	kgf	250	500	1,000
Maximum Force (1 sec)	lbf	900	1,800	3,150
	kN	4	8	14
	kgf	400	800	1,400
Maximum Speed (220 VAC)	in/min	480	480	480
	mm/min	12,192	12,192	12,192
Maximum Speed (110 VAC)	in/min	300	300	300
	mm/min	7,620	7,620	7,620
Actuator Stroke	in	6	6	6
	mm	152	152	152
Position Resolution	in	0.0002	0.0002	0.0002
	mm	0.005	0.005	0.005
Maximum Power	VA	1,760	2,800	3,600
Single Phase Voltage	VAC	110,220	110,220	110,220
	Hz	50,60	50,60	50,60

Common Specifications

Stroke	152 mm / 6 in
Dynamic Capability	10 Hz @ 5 mm peak to peak 7 Hz @ 10 mm peak to peak 5 Hz @ 18 mm peak to peak 4 Hz @ 20 mm peak to peak 2 Hz @ 45 mm peak to peak 1 Hz @ 90 mm peak to peak
Max Vertical Opening	559 mm / 22 in (Between Base & X-head)
Vertical Opening Adjustment	Manual lever clamps. Crosshead counter balanced for easy vertical adjustment.

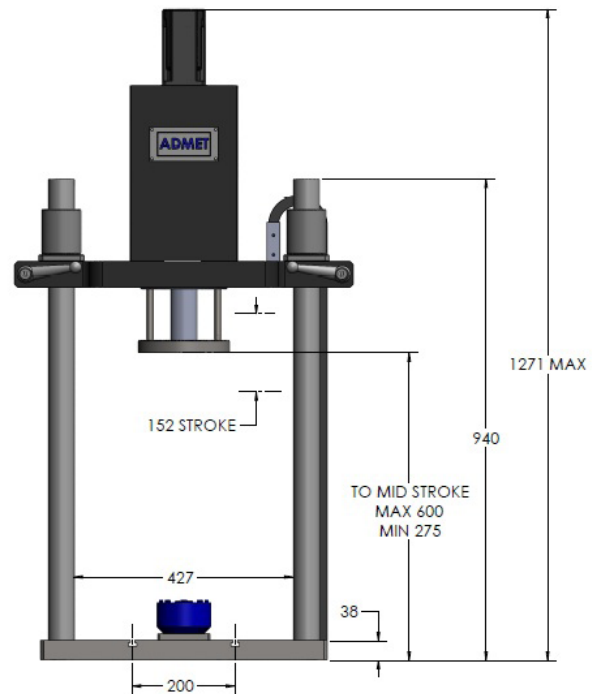
Load Measurement Accuracy: +/- 0.5% of reading down to 1/100 of load cell capacity. Meets or exceeds ASTM E4, BSENIS 7500-1: 2004, DIN 51221 and JIS B7721 standards. Optional extended range calibrations are available. ADMET self-identifying load cells are offered with all systems.

Service and Calibration

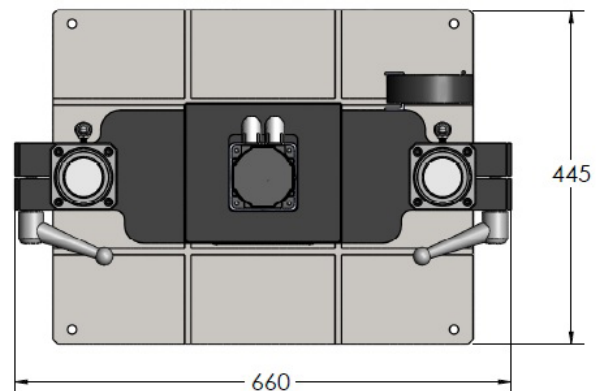
Training and Service - ADMET testing systems are easy to learn and use. We provide introductory on-line training in addition to on-site training. We provide free phone and email product support through the life of the system. ADMET's on-site service and calibration team includes over 100 individuals in over 40 locations in the USA.

Calibration - Customers can setup calibration contracts with ADMET or a private third party. All services meet ISO/IEC Guide 17025 and ANSI/NCSL Z540.

eXpert 5900 Series Key Dimensions (mm)



Elevation View



Plan View