

ADMET

Materials Testing Systems

eXpert 5900 Series®

Electro-Dynamic Fatigue Testing Systems



Clean, High-Speed Electro-Dynamic Fatigue Testing

ADMET eXpert 5900 Series Electro-Dynamic Fatigue Testing Systems deliver fast, accurate fatigue testing in a compact, all-electric platform. Designed for multi-million cycle durability testing, these systems provide **dynamic force capacities from 1 kN to 20 kN at frequencies up to 20 Hz**—without hydraulic fluids or pumps. For engineers and quality teams who need reliable fatigue data with minimal maintenance and lab overhead, the eXpert 5900 series offers a **precise and repeatable testing solution**.



System Highlights

Consistent Fatigue Data Over Millions of Cycles: The eXpert 5900 Series maintains consistent load, position, and strain amplitude through long-duration fatigue tests. This reduces drift over millions of cycles, helping teams trust results without re-testing.

Higher Frequency for Faster Tests: The eXpert 5900 supports high-frequency fatigue testing up to 20 Hz while maintaining precise control. Engineers can shorten test timelines without sacrificing data quality, enabling faster decisions during design and validation.

Compact, Safer Fatigue Testing: The compact, table-top configuration fits easily into lab environments while integrated safety features help manage stored energy and sudden specimen failure—protecting operators and surrounding equipment during fatigue testing.



All eXpert 5900 systems can be fit with an oven or environmental chamber for temperature-controlled testing.

Actuator and Frame Specifications

MODEL	Unit	5950	5951	5952	5955
Continuous Force	lbf	225	500	1,125	2,250
	kN	1	2.2	5	10
	kgf	100	225	500	1,000
Dynamic Force (3 sec)	lbf	500	900	1,800	3,150
	kN	2.2	4	8	14
	kgf	225	400	800	1,400

Common Specifications	
Actuator Stroke	6 in (152 mm) Standard, 10 in (254 mm) Optional
Maximum Speed	Up to 480 in/min (12,192 mm/min) max. Can be optimized to best meet customer's testing applications.
Position Resolution	0.00005 in / 0.0012 mm
Electrical Power	220 VAC, Single or Three Phase, 50,60 Hz
Weight and Dimensions	Approximate standard frame dimensions: 23 in (584mm) wide by 75 in (1905mm) tall by 17.5 in (444mm) deep. Approximate standard frame weight: 250 lbs (114 kg).
T-Slot Baseplate Option	ADMET offers several slotted and threaded baseplate designs to accommodate a wide range of fixturing designs and testing applications.

Measurement Performance – ADMET offers best-in-class accuracies for repeatable and reliable testing



Load Measurement Accuracy: Meets or exceeds ASTM E4, BS/EN/ISO 7500-1: 2004, DIN 51221 and JIS B7721 standards. ADMET self-identifying load cells are offered with all systems.



Strain Measurement Accuracy: +/- 0.5% of reading down to 1/50 of full scale with ASTM E83 class B extensometers. Meets or exceeds ASTM E83 and BS/EN/ISO 9513:2002 standards.

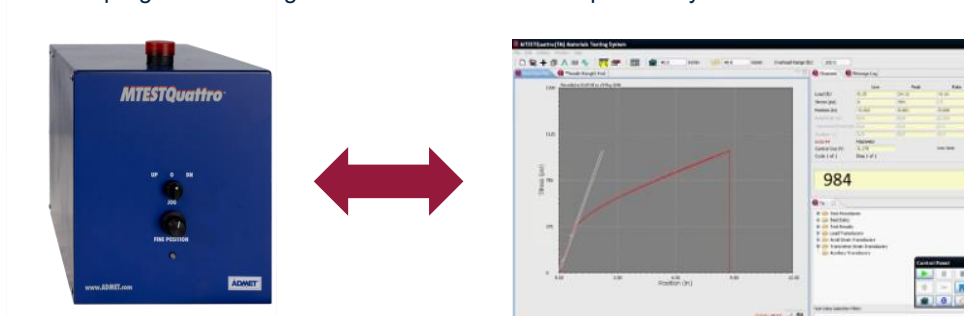


Crosshead Position Accuracy: The greater of +/- 0.01mm or +/- 0.05% of displacement.



MTESTQuattro® Windows-Based Controller and Software

ADMET Electro-Dynamic Fatigue Testing Systems come equipped with **MTESTQuattro®**, our most advanced test controller, which is a PC-based unit that offers a wide range of flexibility in control, data acquisition, analysis, and reporting. This controller features 8 kHz servo update periods and programmable log rates to 1 kHz and- is manipulated by a state-of-the-art Windows-based software.



Interface Area	MTESTQuattro® Control System Capabilities
Interface and Usability	- Native Windows-based software with intuitive, graphical user interface - Designed for both novice users and advanced researchers - Customizable layouts with real-time plots, numeric displays, and system status indicators
Analysis	- Extensive built-in calculations library - Full support for ASTM, ISO, and EN specification analysis - User-defined calculations for custom research protocols • Real-time and post-test data analysis
Test Methods	- Built-in method creation tools with unlimited user-defined test procedures - Supports load, displacement, strain, and multi-channel control modes - Multi-step and multi-axis test sequencing - Save, reuse, and modify test templates for consistent results
Multi-Axis Control	- Synchronized control of multiple actuators and feedback channels - Independent or ratio-based control across axes - Real-time closed-loop control for complex biaxial and multi-degree-of-freedom testing
Data Acquisition	- High-speed, synchronized data acquisition across all channels - Real-time plotting of force, displacement, strain, and auxiliary inputs - Configurable sampling rates and trigger conditions
Reporting	- Store, organize, and manage test data within the software - Fully customizable test reports with charts, tables, and calculated results - Print-ready and digital report output
Data Export and Integration	- Export data to common formats (CSV, Excel®, MATLAB®) - Supports integration with external sensors and devices - Digital and analog I/O for environmental chambers and accessories
Safety and System Control	- User-defined limits, interlocks, and emergency stop logic - Real-time monitoring of system status and fault conditions - Designed for safe operation during unattended or automated testing

Service and Training

ADMET strives to make its materials testing products powerful and easy-to-use. Free technical support is standard with the purchase of any ADMET product. We also offer an array of services to help you use your ADMET system to its fullest potential.

Available Services

- ✓ On-site installation and training.
- ✓ Custom analysis and report generation.
- ✓ Creation of, or connectivity to, your in-house database program.
- ✓ Online training with WebEx.
- ✓ On-Site ISO/IEC 17025:2017 Calibration Services.
- ✓ Preventative Maintenance Planning.
- ✓ Install, Operational Qualification (IQ/OQ) Documentation.

ISO/IEC 17025:2017 On-Site Calibration Services

ADMET provides a full range of calibration and maintenance services designed to fit your needs and budget. Our in-house calibration and service team has deep, hands-on knowledge of ADMET systems and is equipped to support you in any situation. Customers who require accredited calibrations in their laboratories or production facilities can establish calibration contracts with ADMET, ensuring automatic service at customer-defined calibration intervals. Proven maintenance programs help minimize downtime on production testing equipment, and each contract can be customized to match your specific equipment and operational requirements.

As a matter of course, we provide all calibration passwords to you at the time of your instrument or machine purchase. This enables you to choose who performs calibration and maintenance on your systems.

ASTM Calibration Standards offered:

- ASTM E4 – Tension/Compression Force Verification
- ASTM E2309 – Crosshead Displacement Verification
- ASTM E2658 – Crosshead Speed Calibration
- ASTM E83 – Extensometer Verification and Classification
- ASTM E2624 – Torque Calibration



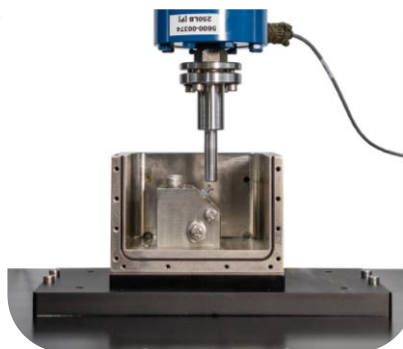
Submit An Inquiry At:
calibration@admet.com



Test with Certainty.

www.admet.com

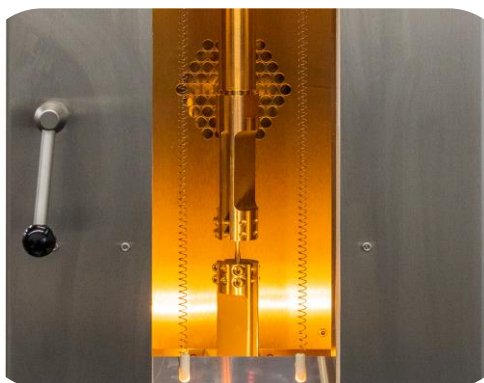
Application Gallery: eXpert 5900 Series



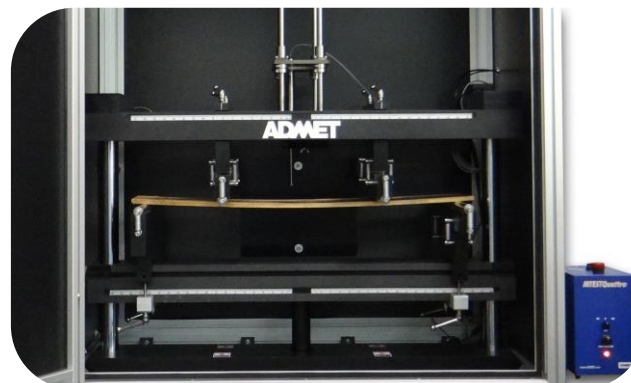
ISO 14801 Dental Implant Testing



Electrically Isolated Grips



Environmental Chamber Testing



Solar Panel Bend Testing



All ADMET systems and software are designed, engineered, and manufactured in the United States.

51 Morgan Drive
Norwood, MA 02062

Tel: (781) 769-0850
Fax: (781) 769-0884

Sales@ADMET.com

For more information, please visit

www.ADMET.com



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