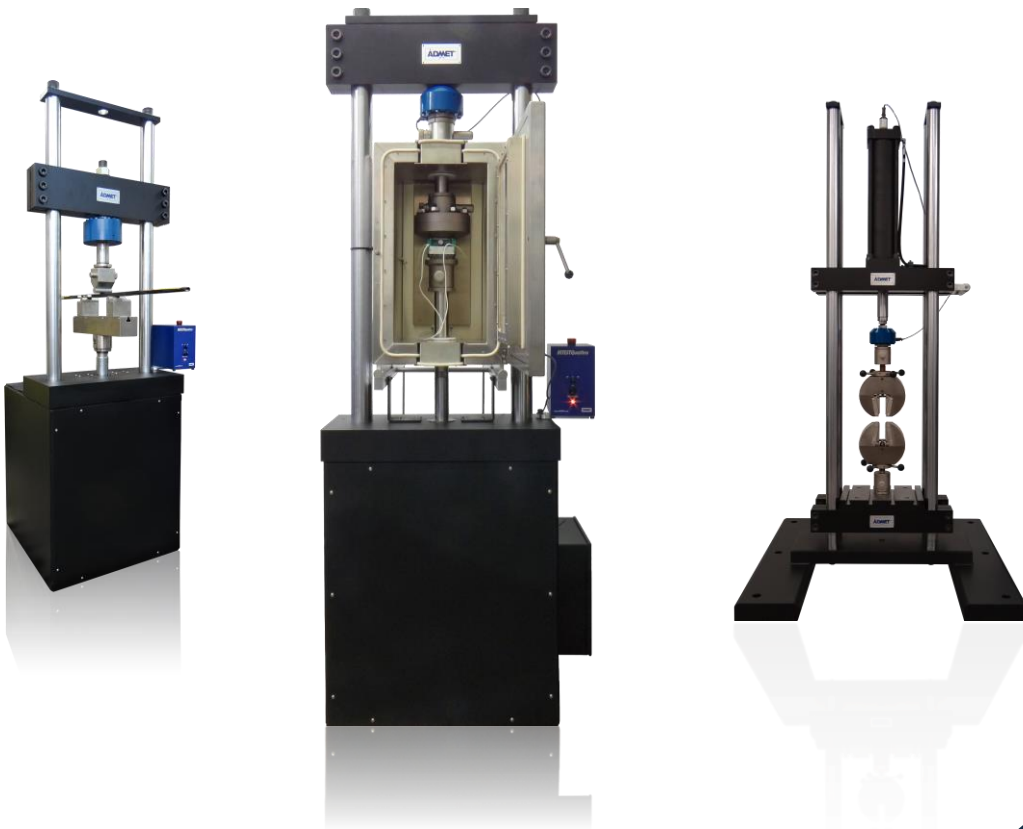


eXpert 1600 Series®

Servo-hydraulic Universal Testing Systems



High-Capacity Static Testing for Demanding Applications

ADMET Servo-hydraulic Universal Testing Systems are engineered for applications requiring **high force capacity, rigid load frames, and precise load control**. Designed for tensile, compression, flexural, and proof testing of metals, composites, fasteners, and structural components, these systems deliver **stable, repeatable performance at loads up to 600 kN**. With robust hydraulic actuation, configurable frame geometries, and industry-proven control electronics, ADMET Servo-hydraulic Universal Testing Systems support **production testing, qualification, and standards compliance** in the most demanding environments.



All eXpert 1600 systems can be equipped with furnaces, environmental chambers, safety enclosures, and custom grips and fixtures to accommodate your exact testing needs.



System Highlights

High-Capacity Servo-hydraulic Actuation: Equipped with servo-hydraulic actuators designed for stable, controlled force application at high loads. Systems support precise static loading, proof testing, and long dwell holds without load drift, making them well suited for qualification and certification testing.

Rigid, Low-Deflection Load Frames: Heavy-duty welded or bolted load frames are engineered to minimize deflection under load, ensuring accurate force transmission. Frame designs support consistent results when testing large, stiff, or high-strength materials.

Designed with Safety In Mind: Built with dependable hardware, protective shielding, and other built-in safeguards, the 1600 series delivers safe and consistent performance in busy lab environments.

System Specifications

MODEL	Unit	1654 <i>Static</i>	1655 <i>Static</i>	1657 <i>Static</i>	1658 <i>Static</i>
Load Capacity	<i>lbf</i> <i>kN</i> <i>kgf</i>	22,500 100 10,000	33,750 150 15,000	67,500 300 30,000	135,000 600 60,000
Maximum Speed	<i>in/min</i> <i>mm/min</i>	5.5 139.7	5.5 139.7	7 177.8	4 101.6
Position Control Resolution	<i>in</i> <i>mm</i>	0.0001 0.0025	0.0001 0.0025	0.0001 0.0025	0.0001 0.0025
Power Stroke	<i>in</i> <i>mm</i>	12 304.8	12 304.8	12 304.8	12 304.8
Total Vertical Test Space	<i>in</i> <i>mm</i>	45 1,143	45 1,143	45 1,143	68 1,727.2
Space Between Columns	<i>in</i> <i>mm</i>	19 482.6	19 482.6	19 482.6	19 482.6
Height	<i>in</i> <i>mm</i>	97 2,463.8	97 2,463.8	97 2,463.8	108 2,743.2
Working Height	<i>in</i> <i>mm</i>	36 914.4	36 914.4	36 914.4	36 914.4
Width	<i>in</i> <i>mm</i>	37 939.8	37 939.8	37 939.8	33 838.2
Depth	<i>in</i> <i>mm</i>	29 736.6	29 736.6	29 736.6	36 914.4
Maximum Power	<i>HP</i> <i>VA</i>	1 745.7	1 745.7	2 1,491.4	2 1,491.4
Electrical	<i>VAC</i> <i>Phase</i> <i>Hz</i>	110–220 1 ϕ 50–60	110–220 1 ϕ 50–60	110–220 1 ϕ 50–60	110–220 1 ϕ 50–60

Longer or shorter strokes are available upon request. Total vertical test space is the distance from the top surface of the piston rod to the bottom surface of the crosshead when fully extended, excluding load cell, grips and fixtures. Larger or smaller openings can be accommodated by varying the lengths of the columns.

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



Load Measurement Accuracy: +/- 0.5% of reading down to 1/500 of load cell capacity. Meets or exceeds ASTM E4, BS/EN/ISO 7500-1:2004, DIN 51221 and JIS B7721 standards. ADMET self-identifying load cells 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.

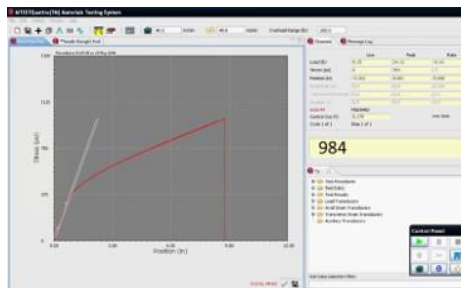


Crosshead Position Accuracy: The greater of +/- 0.01mm or +/- 0.05% of displacement.



MTESTQuattro® Windows-Based Controller and Software

ADMET Servo-hydraulic Testing Machines 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 with support for ASTM and ISO specification analysis - User-defined calculations for custom research protocols, with real-time and post-test analysis
Test Methods	- Built-in test 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 for cyclic methods - 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



Application Gallery: eXpert 1600 Series



Common ASTM and ISO Test Methods Include:

- ASTM A370: Mechanical Testing of Steel
- ASTM C365: Compression Testing of Sandwich Cores
- ASTM E8: Tension Testing of Metallic Materials
- ASTM E9: Compression Testing of Metallic Materials
- ASTM D6641: Compression Testing of Matrix Composites
- ASTM A615: Tension Testing of Rebar and Carbon Steel Bars
- ISO 6892-1/2: Tension Testing of Metallic Materials
- ISO 13314: Compression of Porous and Cellular Metals



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

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