

eXpert 8600 Series

Axial-Torsion Testing Systems

System Brochure



eXpert 8600 Series Axial-Torsion Testing Systems

Versatility, Offering a Vast Array of Testing Capabilities

ADMET eXpert 8600 Axial-Torsion Test Frames feature oil free linear and rotary actuators for clean room operation, unlimited torsion actuator rotation, coordinated and independent movement between actuators, wide column spacings, and large actuator strokes for maximum flexibility. Systems are offered as floor standing and table-top units and come equipped with ADMET's MTESTQuattro® Controller. The control software enables users to get the most out of a single test system; users can perform uniaxial tension/compression tests, torsion only tests or axial-torsion tests with complex control profiles required for advanced studies in material mechanics.

Applications

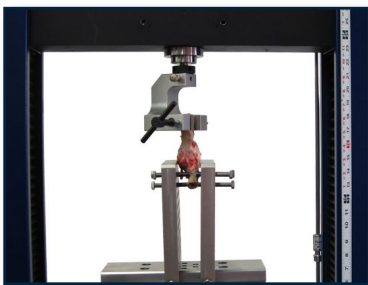


eXpert 8653 (50kN/100Nm) Floor Standing Axial-Torsion Tester

ADMET eXpert 8600 Series Axial-Torsion Testing Systems provide the flexibility to perform tests according to ASTM and ISO standards on medical and dental implants, spinal constructs, bone plates, screws, fittings, biomaterials, components and more. eXpert 8600 testers can be factory configured with test methods for specific test standards but also offer the flexibility and ease-of-use for users to define their own test methods. They are ideally suited for performing:

- ASTM F543 A1-A4 Test Methods for Metallic Medical Bone Screws
- ASTM F1541 Test Methods for External Skeletal Fixation Devices
- ASTM F1798 Evaluating Subassemblies Used in Spinal Arthrodesis Implants
- ASTM F2077 Test Methods for Intervertebral Body Fusion Devices
- ISO 594 Test Methods for Luer Conical Fittings

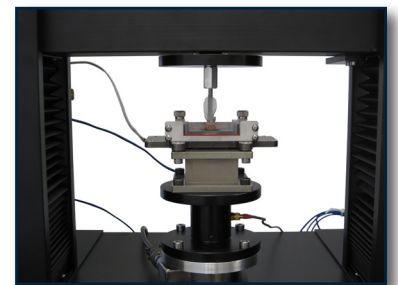
In addition, many users have equipped the eXpert 8600 Series Axial-Torsion Test Systems with heated fluid baths and custom fixturing for in-situ testing of biomaterials, tissue, ligaments, joints and bone.



eXpert 8653 (50kN/100Nm) Axial Torsion Test System with custom fixturing for performing bone joint tests



Axial Torsion Test System performing ISO 594 Conical Luer fitting tests



eXpert 8600 (0.2kN/1Nm) with heated fluid bath for measuring the adhesive properties on biomaterials in shear

eXpert 8600 Series

Axial-Torsion Testing Systems

Single Test Solutions

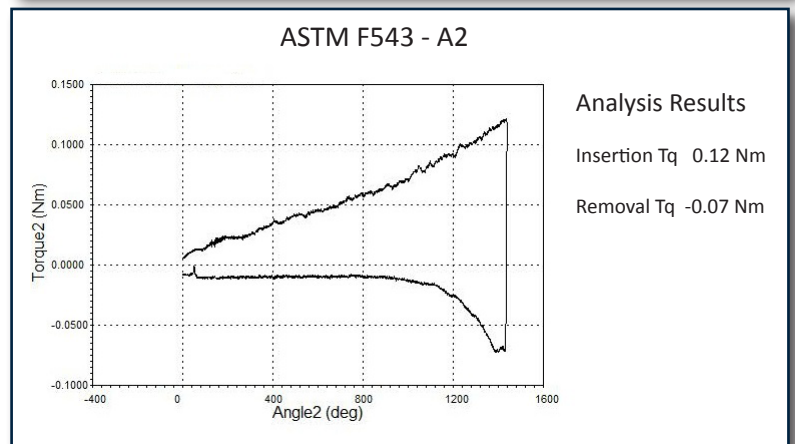
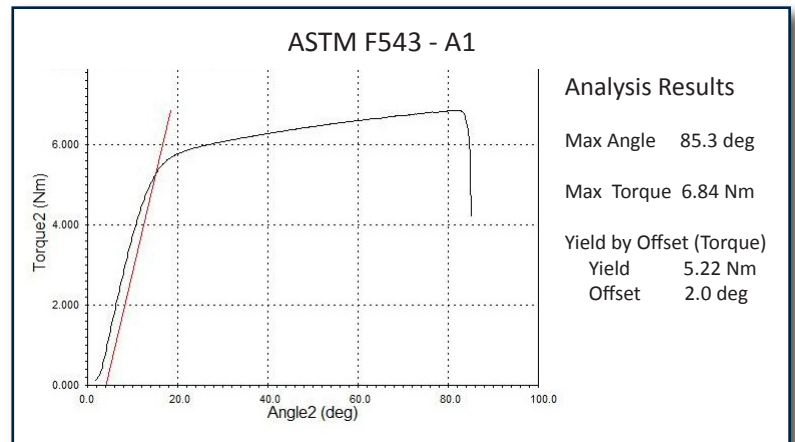
ADMET's eXpert 8600 Axial-Torsion Testing Systems equipped with MTESTQuattro® are versatile instruments capable of a wide range of tests. In some situations, however, users might need to perform just a single specific test and do not need the breadth of options available with the full featured system. To that end, we offer eXpert 8600 systems pre-programmed for specific test procedures in accordance with customer needs.

Mechanically, these single test eXpert 8600 systems are identical to their standard counterparts and offer the same quality of engineering and design found in all ADMET systems. In terms of software, however, they are limited to the tests specified by the customer at time of order. Software upgrades are available should customers decide they would like the added flexibility of the full-featured system.

Regardless of your testing application, contact us today! Our sales engineers are standing by ready to diagnose your testing requirements and recommend the system which will best meet your needs.



eXpert 8602 (2.2kN/20Nm) Axial Torsion Test System for performing ASTM F543: Test Methods for Determining the Mechanical Properties of Metallic Medical Bone Screws



MTESTQuattro(R) sample test reports for ASTM F543 A1-Test Method for determining the Torsional Properties of Metallic Bone Screws; and ASTM F543 A2-Test Method for Driving Torque of Medical Bone Screws



51 Morgan Drive Norwood, MA 02062
 Tel: (781) 769-0850 Fax: (781) 769-0884
 Sales@ADMET.com www.ADMET.com

1-800-667-3220

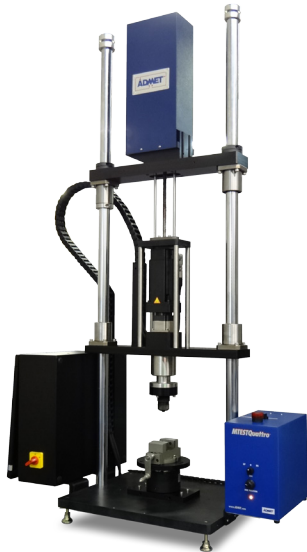
eXpert 8600 Series

Axial-Torsion Testing Systems

Frame Specifications

The eXpert 8600 Series testing systems are supplied with separate actuation for the application of tensile/compressive and torsional forces to the specimen. This provides either independent tensile or compressive or torque, or interdependent simultaneous tension-torque or compression-torque forces, to be applied to the test specimen or part. This results in the means of determining the mechanical properties of screws, characterizing medical implants and intervertebral body fusion devices, testing Luer fittings for leakage and separation forces, measuring adhesive properties of biomaterials, validating constitutive models, and simulating real-world stress conditions. ADMET offers a full line of table top and floor standing axial-torsion testing systems.

ADMET also provides a variety of axial-torsion grips and chucks. Specimens can be tested in air or in an optional fluid bath with heating and cooling so as to produce the desired physiological environment. Various low force load and axial-torsion transducers are available to meet your testing needs.



Model		8600 Table Top	8602 Table Top	8603 Table Top	8611 Table Top	8612 Table Top	8653 Floor
Rating		Static	Static	Static	Static	Static	Static
Maximum Force Capacity	lbf kN	50 0.2	500 2.2	1,000 4.5	2,250 10	5,600 25	10,000 50
Maximum Speed	in/min mm/min	2 50	7 178	20 500	20 500	20 500	20 500
Torque Capacity	in-lbf Nm	8.9 1	177 20	443.5 50	443.5 50	884 100	884 100
Maximum Speed	RPM	30	60	50	100	70	70
Total Vertical Test Space ²	in mm	43 1,090	20 508	20 508	48 1,219	48 1,219	44 1,117
Space Between Columns	in mm	12 304	16.4 419	16.4 419	16.8 426	16.8 426	22 558

Notes:

1. Total crosshead travel is calculated without load cells, grips, and fixtures. Longer strokes can be accommodated by ordering an extended column frame.
2. Total Vertical Test Space is the distance from the top surface of the base platen to the bottom surface of the moving crosshead, excluding load cell, grips and fixtures. Larger openings can be accommodated by ordering an extended column frame.

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.

Crosshead Measurement Accuracy: Better than +/-0.5% of reading. Exceeds ASTM E2309.

Crosshead Speed Accuracy (Zero or constant load): Better than ±0.5% of set speed. Exceeds ASTM E2658.

Strain Measurement Accuracy: Meets or exceeds ASTM E83, ISO 9513, and EN 10002-4.

Sales and Service

Training and Service: ADMET testing systems are easy to learn and use. We provide both introductory on-line and on-site training. Our manuals, tutorials, and troubleshooting guides are updated regularly. 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.

Sales: For more information about axial-torsion testing systems and other ADMET products, please call 1-800-667-3220. Our sales engineers can also be contacted by email at sales@admet.com.



51 Morgan Drive Norwood, MA 02062
Tel: (781) 769-0850 Fax: (781) 769-0884
Sales@ADMET.com www.ADMET.com

www.ADMET.com
Call toll-free: (800) 667-3220