CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Advanced Mechanical Technology, Inc.
176 Waltham Street
Watertown, MA 02472

Fulfills the requirements of

ISO/IEC 17025:2017

In the field of

CALIBRATION

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

Jason Stine, Vice President

Expiry Date: 16 October 2025
Certificate Number: AC-2511

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

Advanced Mechanical Technology, Inc.
176 Waltham Street
Watertown, MA 02472
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CALIBRATION

Valid to: **October 16, 2025** Certificate Number: **AC-2511**

Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
AMTI Knee Simulator [1]			
AP Linear Displacement	(-25 to 25) mm	0.6 mm	Comparisons to Digital Caliper
Internal/External Angular Displacement	(-30 to 30)°	0.3°	Digital Protractor
Flexion Angular Displacement	(-100 to 100)°	1°	Digital Protractor
Vertical Position Sensors	(-16.5 to 16.5) mm	0.1 mm	Gage Blocks
AMTI HIP Simulator [1]			
Abduction/Adduction Angular Displacement	(-20 to 20)°	0.3°	Comparisons to Digital Protractor
Internal/External Angular Displacement	(-20 to 20)°	0.3°	Digital Protractor
Flexion Angular Displacement	(-50 to 50)°	0.3°	Digital Protractor
Vertical Position Sensors	(-16.5 to 16.5) mm	0.1 mm	Gage Blocks

Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
AMTI VIVO Simulator [1]			
Abduction/Adduction Angular Displacement	(-25 to 25)°	0.4°	Comparisons to Digital Protractor
AP Linear Displacement	(-24 to 24) mm	33 µm	Digital Indicator
ML Linear Displacement	(-24 to 24) mm	15 µm	Digital Indicator
Vertical Linear Displacement	(-22 to 22) mm	17 µm	Digital Indicator
Flexion/Extension Angular Displacement	(-30 to 150)°	0.3°	Digital Protractor
Internal/External Rotation	(-40 to 40)°	0.3°	Digital Protractor

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
AMTI Knee Simulator [1]			
Forces	Fx = Up to 600 N Fy = Up to 600 N Fz = Up to 4 500 N	1 N 1.7 N 3.5 N	Comparisons to Reference Load Cell
Moments	Mx = Up to 45.2 N·m My = Up to 45.2 N·m Mz = Up to 17 N·m	1.1 N·m 1.5 N·m 0.2 N·m	Reference Load Cell, Length Standard Fixture
Vertical Load Actuators	Up to 4 500 N	1.2 N	Reference Load Cell
AMTI HIP Simulator [1]			
Forces	Fx = Up to 180 N Fy = Up to 180 N Fz = Up to 4 500 N	0.1 N 0.1 N 1.9 N	Comparisons to Deadweights Reference Load Cells, Display
Moments – Differential	ΔMx = Up to 7.5 N·m ΔMy = Up to 7.5 N·m ΔMz = Up to 9 N·m	0.1 N·m 0.1 N·m 0.1 N·m	Comparison to Deadweights
Vertical Load Actuators	Up to 4 500 N	1.3 N	Reference Load Cell

Mass and Mass Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
AMTI VIVO Simulator [1]			
Forces	Fx = (-1 000 to 1 000) N Fy = (-1 000 to 1 000) N Fz = (-4 400 to 3 500) N	21 N 21 N 41 N	Comparison to Multi-Axis Reference Load/Torque Cell, Display
Moments	Mx = (-80 to 80) N·m My = (-30 to 30) N·m Mz = (-40 to 40) N·m	1.2 N·m 1.2 N·m 0.6 N·m	
6-axis Load Cells			
Forces	Fx = Up to 2 224 N Fy = Up to 2 224 N Fz = Up to 8 896 N	2.5 N 2.6 N 2.4 N	Comparison to Single-Axis Reference Load Cell, Length Standard
6-axis Load Cells			
Moments	Mx = Up to 113 N·m My = Up to 113 N·m Mz = Up to 56.5 N·m	0.67 N·m 0.66 N·m 0.33 N·m	Comparison to Single-Axis Reference Load Cell, Length Standard
6-axis Force Plates			
Forces	Fx = Up to 4 448 N Fy = Up to 4 448 N Fz = Up to 8 896 N	2.3 N 2.4 N 1.8 N	Single-Axis Reference Load Cell and ASTM F3109-23 utilized in the calibration of this parameter.
6-axis Force Plates			
Forces	Fz = Up to 890 N	0.6 N	Deadweights and ASTM F3109-23 utilized in the calibration of this parameter.
6-axis Force Plates			
Moments	Mx = Up to 5 423 N·m My = Up to 5 423 N·m Mz = Up to 2 712 N·m	0.9 N·m 0.3 N·m 0.3 N·m	Single-Axis Reference Load Cell and ASTM F3109-23 utilized in the calibration of this parameter.
6-axis Force Plates			
Moments	Mx = Up to 542 N·m My = Up to 542 N·m	0.1 N·m 0.1 N·m	Deadweights and ASTM F3109-23 utilized in the calibration of this parameter.

Thermodynamic

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Temperature Probes [1]	(20 to 45) °C	0.1 °C	Comparison to Thermoprobe

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 (k=2), corresponding to a confidence level of approximately 95%.

Notes:

1. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope.
2. Unless otherwise specified in the far-right column, the calibration procedure/method was written internally.
3. This scope is formatted as part of a single document including Certificate of Accreditation No. AC-2511.

Jason Stine, Vice President