SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

TA INSTRUMENTS–WATERS LLC – ELECTROFORCE SYSTEMS GROUP
9625 76th Street, Suite 150
Eden Prairie, MN 55344
Amy Olson Phone: 952 278 3026

CALIBRATION

Valid To: February 28, 2027 Certificate Number: 4120.01

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the organization's compliance with R205 – A2LA's Calibration Program Requirements), accreditation is granted to this laboratory to perform the following calibrations[1, 4]:

I. Dimensional

Parameter/Equipment	Range	CMC[2, 5] (±)	Comments
Linear Displacement[3] – Measure			ASTM E2309
	(0.25 to 25) mm	0.0039 mm	LVDT
	(0.25 to 60) mm	0.0091 mm	LVDT
	(0.25 to 100) mm	0.013 mm	Dial indicator

II. Mechanical

Parameter/Equipment	Range	CMC[2] (±)	Comments
Force Transducers[3]			ASTM E4
	(8.9 to 225) N	0.19 N	Load cells
	(17.8 to 450) N	0.23 N	Load cells
	(4.4 to 1100) N	0.39 N	Load cells
	(44.5 to 2250) N	0.27 N	Load cells
	(177.9 to 4500) N	1.3 N	Load cells
	(355.9 to 9000) N	5.2 N	Load cells
	(889.64 to 15 000) N	13 N	Load cells
	(5 to 5000) gf	0.1 % of indicated value	Deadweight

[1] This laboratory does not offer commercial calibration service except to customers of its products.

[2] Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMCs represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

[3] Field calibration service is available for this calibration. Please note the actual measurement uncertainties achievable on a customer's site can normally be expected to be larger than the CMC found on the A2LA Scope. Allowance must be made for aspects such as the environment at the place of calibration and for other possible adverse effects such as those caused by transportation of the calibration equipment. The usual allowance for the actual uncertainty introduced by the item being calibrated, (e.g. resolution) must also be considered and this, on its own, could result in the actual measurement uncertainty achievable on a customer's site being larger than the CMC.

[4] This scope meets A2LA's *P112 Flexible Scope Policy.*

[5] The type of instrument or material being calibrated is defined by the parameter. This indicates the laboratory is capable of calibrating instruments that measure or generate the values in the ranges indicated for the listed measurement parameter.

Accredited Laboratory

A2LA has accredited

TA INSTRUMENTS–WATERS LLC – ELECTROFORCE SYSTEMS GROUP

Eden Prairie, MN

for technical competence in the field of

Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets R205 – *Specific Requirements: Calibration Laboratory Accreditation Program.* 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*).

Presented this 10th day of February 2025.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 4120.01
Valid to February 28, 2027
Revised January 22, 2026

For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.