

#### SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017; ANSI/NCSL Z540-1-1994

#### AABBOTT-MICHELLI TECHNOLOGIES, LLC 15050 West Drive Houston, TX 77053 Patrick Jester Phone: 281-437-2005

### CALIBRATION

Valid To: November 30, 2024

Certificate Number: 5103.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations<sup>1, 5</sup>:

#### I. Chemical

Parameter/Equipment	Range	CMC <sup>2, 4</sup> (±)	Comments
pH – Measuring Equipment <sup>3</sup>	(4, 7, 10) pH	0.012 pH	Buffer solutions
Electrolytic Conductivity – Measuring Equipment <sup>3</sup>	$ \begin{array}{l} \approx 1 \ \mu \text{S/cm} \\ \approx 10 \ \mu \text{S/cm} \\ \approx 100 \ \mu \text{S/cm} \\ \approx 1000 \ \mu \text{S/cm} \\ \approx 1000 \ \mu \text{S/cm} \\ \approx 10 \ 000 \ \mu \text{S/cm} \end{array} $	0.55 μS/cm 0.55 μS/cm 2.1 μS/cm 4.6 μS/cm 40 μS/cm	Conductivity solutions

### II. Mechanical

Parameter/Equipment	Range	$\mathrm{CMC}^{2}\left(\pm\right)$	Comments
Scales and Balances <sup>3</sup>	(5 to 500) mg (1 to 100) g (1 to 10) kg (10 to 150) kg (1/32 to 8) oz	5.9 μg 6 μg 0.029 g 0.030 g 0.0006 oz	Class 1 weights (applied load) ASTM Class 5 (applied load)

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Parameter/Equipment	Range	CMC <sup>2, 4</sup> (±)	Comments
Scales and Balances <sup>3</sup> (cont)	(1 to 20) g (20 to 50) g (50 to 200) g (200 to 1000) g (1 to 5) kg (1 to 25) lb (25 to 50) lb (50 to 500) lb	0.6 mg 0.9 mg 5.2 mg 8.9 mg 2.9 g 0.0006 lb 0.0011 lb 0.0014 lb	
	(500 to 1000) lb (1000 to 24 000) lb	0.06 lb 0.43 lb	
Truck & Rail Scales <sup>3</sup>	(6000 to 30 000) lb	0.70 lb	Weight cart and weight blocks (applied load)
Pressure – Measuring Equipment	(-15 to 0) psig (0 to 30) psig (0 to 100) psig (0 to 500) psig (0 to 1000) psig (0 to 3000) psig (0 to 5000) psig (0 to 5000) psig (0 to 10 000) psig (0 to 20 000) psig	0.003 psig 0.007 psig 0.026 psig 0.045 psig 0.11 psig 0.23 psig 0.65 psig 1.9 psig 2.3 psig	Pressure transducers

## III. Thermodynamics

Parameter/Equipment	Range	$\mathrm{CMC}^{2}\left(\pm\right)$	Comments
Temperature - Measure <sup>3</sup>	(50 to 160) °C	0.058 °C	Mettler Toledo PT1000 sensor
	(50 to 160) °C	2.9 °C	Mettler Toledo HA-TC kit

<sup>1</sup> This laboratory offers commercial calibration service and field calibration service.

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- <sup>2</sup> 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.
- <sup>3</sup> 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.
- <sup>4</sup> 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.

<sup>5</sup> This scope meets A2LA's *P112 Flexible Scope Policy*.

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# **Accredited Laboratory**

A2LA has accredited

# **AABBOTT-MICHELLI TECHNOLOGIES, LLC**

Houston, TX

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 the requirements of ANSI/NCSL Z540-1-1994 and 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 31st day of January 2023.

Mr. Trace McInturff, Vice President, Accreditation Services For the Accreditation Council Certificate Number 5103.01 Valid to November 30, 2024 Revised January 2, 2024