



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

TECHNICAL SAFETY SERVICES LLC
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 Berkeley, CA 94710
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CALIBRATION

Valid to: November 30, 2021

Certificate Number: 3199.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations^{1, 5}:

I. Dimensional

Parameter/Equipment	Range	CMC ² (±)	Comments
Length ³ – Micrometers (1 in) Micrometers (2 in) Micrometers (3 in) Calipers (6 in)	 (1 to 25) mm (25 to 50) mm (50 to 75) mm (1 to 150) mm	 1.2 µm 1.3 µm 1.5 µm 10 µm	 Gage block set

II. Mechanical

Parameter/Equipment	Range	CMC ^{2, 6} (±)	Comments
Low Pressure ³ – Measuring Equipment	(1 to 5) inH ₂ O (5 to 15) inH ₂ O	0.0009 inH ₂ O 0.003 inH ₂ O	Heise HQS-1 module w/ Heise ST-2H display
Pressure ³ – Pneumatic Measuring Equipment	(0 to 45) PSIG (45 to 200) PSIG (200 to 500) PSIG	0.006 PSI 0.06 PSI 0.09 PSI	Heise AQS-2 module w/ Heise ST-H2 display

Parameter/Equipment	Range	CMC ^{2, 4, 6} (\pm)	Comments
Vacuum ³ – Measure and Measuring Equipment	(4 to 14) PSI	0.006 PSI	Heise AQS-2 module w/ Heise ST-H2 display
Scales and Balances ³	1 mg to 1 g (1 to 200) g 200 g to 1 kg	0.06 mg 0.65 mg 1.3 mg	Ultra-class set (1 mg to 1 kg)
Mass	(1 to 200) mg 200 mg to 1 g (1 to 80) g (80 to 200) g (200 to 1000) g (1 to 10) kg	0.006 mg 0.017 mg 0.038 mg 0.18 mg 0.34 mg 8.7 mg	Ultra-class set (1 mg to 1 kg); plus 2, 5 kg weights
Airspeed/Anemometry – Measuring Equipment	(35 to 65) fpm (65 to 250) fpm (330 to 660) fpm (660 to 1480) fpm (2500 to 3500) fpm (3500 to 8000) fpm	5 % 3.2 % 5 % 2.2 % 4 % 2.4 %	Wind tunnel w/ orifice plates and differential pressure transmitter

III. Thermodynamics

Parameter/Equipment	Range	CMC ^{2, 6} (\pm)	Comments
Temperature – Measuring Equipment ³	(-95 to -40) °C (-40 to 140) °C (140 to 400) °C	0.070 °C 0.014 °C 0.059 °C	PRT w/ Fluke bath 9190A, Fluke bath 7341, Kaye HTR400

¹ This laboratory offers commercial calibration service.

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 and this laboratory meets A2LA *R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these calibrations. 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 In the statement of CMC, percentages are percentage of reading, unless otherwise indicated.

⁵ This scope meets A2LA's *P112 Flexible Scope Policy*.

⁶ 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

TECHNICAL SAFETY SERVICES, LLC.

Berkeley, CA

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 21st day of November 2019.

A blue ink signature of a person, written over a horizontal line.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3199.01
Valid to November 30, 2021

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