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

PFEIFFER VACUUM INC.
4037 Guion Lane
Indianapolis, IN 46268
Alex Ivanchenko Phone: 317 328 8492

CALIBRATION

Valid To: March 31, 2023 Certificate Number: 2197.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations[1, 4]:

I. Dimensional

Parameter/Equipment	Range	CMC[2] (±)	Comments
Optical Gauging	9 µm to 1.5 mm	1.0 µm	Microscope

II. Fluid Quantities

Parameter/Equipment	Range	CMC[2, 3] (±)	Comments
Gas Flow – Measure	(15 to 5000) g/min (0.03 to 120) g/min (10 to 50) mg/min (1 to 25) mg/min (0.1 to 3000) µg/min	0.28 % of reading 0.24 % of reading 0.31 % of reading 0.39 % of reading 0.67 % of reading	Gas flow primary standards

5202 Presidents Court, Suite 220 | Frederick, MD 21703-8515 | Phone: 301 644 3248 | Fax: 240 454 9449 | www.A2LA.org

III. Mechanical

Parameter/Equipment	Range	CMC[2, 3] (±)	Comments
Pressure – Measure	Up to 5000 psia 4 in·H_2O to 10 psi	0.013 % full scale 0.01 % full scale or 0.03 % of reading (whichever is greater)	Pressure standards
Vacuum – Measure	Up to 20 Torr	0.25 % full scale or 0.6 % of reading (whichever is greater)	Vacuum standard

IV. Thermodynamics

Parameter/Equipment	Range	CMC[2, 3] (±)	Comments
Temperature – Measure	(0 to 100) ºC	0.2 ºC	Comparison with thermistor probe

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[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] 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.

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

Accredited Laboratory

A2LA has accredited

PFEIFFER VACUUM INC.

Indianapolis, IN

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 ANSI/NCSLI 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 4th day of February 2021.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2197.01
Valid to March 31, 2023

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

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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NONDESTRUCTIVE

Valid To: March 31, 2023 Certificate Number: 2197.02

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the organization's compliance with A2LA R212 – Specific Requirements: Nondestructive Testing and Inspections), accreditation is granted to this laboratory to perform the following tests on aircraft components, automotive components, pipes, hoses, valves and fittings, pressure vessels:

Test	Test Method
Leak Testing (Helium & Air)	ASTM E498/E498M, E499/E499M, E515
Leak Testing Microflow, Mass Extraction	ATC04-9-2-4, ASTM F3287; SAE J2587, SAE J2045, SAE J2973
Leak/Flow Testing Regular Flow	ATC04-9-2-5
Package/Seal Integrity (Leak/Not Leak Rate)	ASTM F2391, 3287, USP 1207

The laboratory is accredited for the test methods listed above. The accredited test methods are used in determining compliance with the material specifications listed below; however, the inclusion of these material specifications on this Scope does not confer laboratory accreditation to the material specifications. Inclusion of these material specifications on this Scope also does not confer accreditation for every method embedded within the specification. Only the methods listed above on this Scope are accredited.

Product Specification ANSI/AAMI/ISO 11607-2:2006

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Accredited Laboratory

A2LA has accredited

PFEIFFER VACUUM INC.

Indianapolis, IN

for technical competence in the field of

Nondestructive Testing

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 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 4th day of February 2021.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2197.02
Valid to March 31, 2023

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