PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:

Spec Air Specialty Gases

22 Albiston Way, Auburn, ME 04210

(Hereinafter called the Organization) and hereby declares that Organization 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
(as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

Chemical Calibration

(As detailed in the supplement)

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen
President

Perry Johnson Laboratory Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325
Troy, Michigan 48084

Initial Accreditation Date:	*Issue Date:*	*Expiration Date:*
October 07, 2006	July 13, 2023	October 31, 2025

Accreditation No.:	*Certificate No.:*
59406	L23-537

The validity of this certificate is maintained through ongoing assessments based on a continuous accreditation cycle. The validity of this certificate should be confirmed through the PJLA website: www.pjlabs.com

Certificate of Accreditation: Supplement

Spec Air Specialty Gases
22 Albiston Way, Auburn, ME 04210
Contact Name: Jason Goldrup Phone: 207-440-5887

Accreditation is granted to the facility to perform the following calibration:

Chemical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Trace Moisture Calibration Gas Cylinder [F]	0.1 µmol/mol to 20 µmol/mol	$(1.33 \times 10^{-1} + 1.52 \times 10^{-7}C)$ µmol/mol	Meeco Aquavolt Plus Electrolytic Hygrometer Method: Purity Plus LWI Rev.# 44
Trace Hydrocarbon Calibration Gas Cylinder [F]	0.1 µmol/mol to 20 000 µmol/mol	$(1.05 \times 10^{-1} + 3 \times 10^{-2}C)$ µmol/mol	Gowmac Series 2300 Total Hydrocarbon Analyzer Flame Ionization Detector Method: Purity Plus LWI Rev.# 44
Trace Oxygen Calibration Gas Cylinder [F]	0.2 µmol/mol to 250 000 µmol/mol	$(2.79 \times 10^{-2} + 1.85 \times 10^{-2}C)$ µmol/mol	Teledyne 3000T and /or Delta F DF310E Electrochemical/Potentiostat Method: Purity Plus LWI Rev.# 44
Gas Mixture Concentration [F]	40 µmol/mol to 100 000 µmol/mol	$(125.4 \times 10^{-1} + 1.98 \times 10^{-2}C)$ µmol/mol	GC with TCD and/or Gravimetric Method Method: Purity Plus LWI Rev.# 44

1. The CMC (Calibration and Measurement Capability) stated for calibrations included on this scope of accreditation represent the smallest measurement uncertainties attainable by the laboratory when performing a more or less routine calibration of a nearly ideal device under nearly ideal conditions. It is expressed at a confidence level of 95 % using a coverage factor *k* (usually equal to 2). The actual measurement uncertainty associated with a specific calibration performed by the laboratory will typically be larger than the CMC for the same calibration since capability and performance of the device being calibrated and the conditions related to the calibration may reasonably be expected to deviate from ideal to some degree.
2. The laboratories range of calibration capability for all disciplines for which they are accredited is the interval from the smallest calibrated standard to the largest calibrated standard used in performing the calibration. The low end of this range must be an attainable value for which the laboratory has or has access to the standard referenced. Verification of an indicated value of zero in the absence of a standard is common practice in the procedure for many calibrations but by its definition it does not constitute calibration of zero capacity.
3. The presence of a superscript F means that the laboratory performs testing of the indicated parameter at its fixed location. Example: Outside Micrometer[F] would mean that the laboratory performs this testing at its fixed location.
4. The term C represents concentration in moles or micromoles appropriate to the uncertainty statement