



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

LAWRENCE FACTOR, INC.  
Laboratory Services Division  
X-ZAM<sup>®</sup> Laboratories  
4790 NW 157<sup>th</sup> Street  
Miami Lakes, FL 33014  
Wanderly Ramirez Phone: 305 430 0550

CHEMICAL

Valid To: July 31, 2020

Certificate Number: 0314.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on containerized breathing air:

<u>Test Technology</u>	<u>Analytes</u>	<u>Method(s)</u>
Spectroscopy – FTIR	Carbon Dioxide* Carbon Monoxide* Hydrocarbons* Water Vapor*/ Dewpoint* Nitric Oxide* Sulfur Dioxide* Halogenated Solvents Acetylene Nitrous Oxide Halogenated Hydrocarbons Nitrogen Dioxide*	LF-500; LF-501
Gas Chromatography – GC	Nitrogen Oxygen	LF-505
Electrochemical	Oxygen*	LF-503, LF-501
Microgravimetry	Oil and Particles*	LF-502, LF-501
Microscopy	Particulates	LF-504
Calculation <sup>1</sup>	Nitrogen*	LF-501
Organoleptic	Odor	LF-506

<sup>1</sup> Note: The calculation of Nitrogen is not a test method; it is a calculation by difference

\* **Customers utilizing Lab-on-Locale™ for testing on these parameters**

*The laboratory is only accredited for the test methods listed above. The accredited test methods are used in determining compliance with the specifications listed below. The inclusion of these specifications on this Scope does not confer laboratory accreditation to the specifications nor does it confer accreditation for the method(s) embedded within the specifications.*

1. **Compressed Gas Association**  
ANSI/CGA G-7.1 Commodity Specification for Air: Grades A, D, E, J, L, N  
United States Pharmacopeia (2011) Medical Air USP– CGA Grade N
2. **National Fire Protection Association**  
NFPA 1500 Fire Department Occupational Safety and Health Program;  
NFPA 99 Standard for Health Care Facilities;  
NFPA 1404 Standard for Fire Service Respiratory Protection Training  
NFPA 1989 Standard on Breathing Air Quality for Fire and Emergency Services Respiratory Protection
3. **Occupational Safety and Health**  
OSHA 29 CFR 1910.134 - Major Requirements of OSHA's Respiratory Protection Standard
4. **U.S. Navy Diving Manual**  
US-NAVY-NAVSEA 0910-LP-103-8009US-NAVY-NAVSEA 0910-LP-106-0957  
US-NAVY-NAVSEA 0910-LP-115-1921  
NAVSEA S9592-B3-MAN-010
5. **Canadian Standards Association**  
CAN/CSA Z180.1 - Compressed Breathing Air and Systems;  
CAN/CSA Z275.2 - Occupational Safety Code for Diving Operations
6. **NOAA Diving Manual, Chapter 15**  
NITROX I and II
7. **IANTD/IAND Standards and Procedures Manual**  
IANTD/IAND Blending Standards: Oxygen Compatible Air
8. **ISA - Instrument Society of America**  
ANSI ISA-S7.3-1975 (R1981)-ANSI/ISA-S7.0.01: Quality Standard for Instrument Air
9. **ISO - International Organization for Standardization**  
ISO 8573-1: Compressed Air-Part 1: Contaminants and Purity Classes  
ISO 8573-2: Test Methods for Oil Aerosol Content  
ISO 8573-3: Test Method for Measurement Humidity  
ISO 8573-4: Test Methods for Solid Particle Content  
BS 3406-4: Methods for Determination of Particle Size Distribution  
ISO 8573-6 Test Methods for Gaseous Contaminant Content  
ISO 8573-8 Test Methods for Solid Particle Content by Mass Concentration  
ISO 8573-9 Test Methods for Liquid Water Content
10. **US GSA Federal Specification**  
BB-A-1034B Compressed Air, Breathing;
11. **British Standard European Norm**  
BS EN 12021 Respiratory Equipment Protective Devices - Compressed Air for Breathing Apparatus  
BS Ministry of Defense Standard 68-284 – Compressed Breathing Gases for Aircraft, Diving, and Marine Life-Support Applications
12. **European Pharmacopeia 6.0**  
Medicinal Air
13. **Australian/New Zealand Standard**  
AS/NZS 2299.1: Operational Diving Operations, Part 1: Standard Operational Practice;  
AS/NZS 1715: Selection, Use, and Maintenance of Respiratory Protective Equipment - Air Quality (Compressors or Cylinders) for Supplied-Air Respirators  
AS 2568: Purity of Compressed Medical Breathing Air
14. **Brazilian Standard**  
ABNT NBR 12543: Respiratory Protection Equipment – Terminology



15. **Norwegian Standard**  
Norwegian Regulation 441 – Control Marking and filling of Compressed Air bottles for diving and respiratory protection
16. **Oils, Lubricants, and Petroleum Products**  
Infrared Spectral Comparisons of Organic Sample Material (Perkin-Elmer Corp., 1983)

<sup>2</sup>*This laboratory's scope contains withdrawn or superseded methods. As a clarifier, this indicates that the applicable method itself has been withdrawn or is now considered "historical" and not that the laboratory's accreditation for the method has been withdrawn.*

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## *Accredited Laboratory*

A2LA has accredited

**LAWRENCE FACTOR, INC.**

*Miami Lakes, FL*

for technical competence in the field of

**Chemical Testing**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *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 8<sup>th</sup> day of October 2018

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President and CEO  
For the Accreditation Council  
Certificate Number 0314.01  
Valid to July 31, 2020

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