CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Lansmont Corporation
17 Mandeville Court
Monterey, CA 93940

Fulfills the requirements of

ISO/IEC 17025:2017

and national standard

ANSI/NCSL Z540-1-1994 (R2002)

In the field of

CALIBRATION

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 02 August 2022
Certificate Number: AC-1708

This laboratory 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 (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017 AND ANSI/NCSL Z540-1-1994 (R2002)

Lansmont Corporation

17 Mandeville Court
Monterey, CA 93940
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CALIBRATION

Valid to: **August 2, 2022** Certificate Number: **AC-1708**

Acoustics and Vibration

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
SAVER™ Calibration Acceleration (g)	(3 to 5.25) g rms @ (10 to 500) Hz	0.06 g (1.2 % of reading)	Kistler 8704B100 Accelerometer, B&K 8305 Accelerometer, Endevco 133 Signal Conditioner By Comparison
Accelerometer Calibration Acceleration (g)	(0.2 to 10) g @ (5 to 10 000) Hz	2 % of reading	Modal Shop 9155C Calibration Workstation, CB Model 3960C Shaker & Accelerometer by Comparison
Voltage (VAC) Test Partner and SAVER™	(2.5 to 100) VAC @1 kHz	7.9 mV	HP DMM 34401A, Agilent Function Generator 33120A By Direct Measurement
Voltage (VDC) Test Partner and SAVER™	(2.5 to 100) VDC	2.3 mV	HP DMM 34401A, Agilent Function Generator 33120A by Direct Measurement
Charge (pC rms) SAVER™	280 pCrms	2.8 pC	HP DMM 34401A, Agilent Function Generator 33120A, Capacitor Standards by Direct Measurement

Electrical – DC/Low Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Voltage (VAC) Vibration Controller Calibration[2] @ (45 Hz to 100 kHz)	0.1 Vrms 1.0 Vrms 10 Vrms	0.69 mV 6.9 mV 69 mV	DVM, Fluke 187/287 by Direct Measurement
Voltage (VAC) Vibration Controller Calibration @ (10 Hz to 20 kHz)	0.1 Vrms 1.0 Vrms 10 Vrms	0.23 mV 2.3 mV 23 mV	HP/Agilent DMM 34401A By Direct Measurement
Voltage (VDC) Vibration Controller Calibration[2]	0.1 V 1.0 V 10 V	45 µV 450 µV 4.5 mV	DVM, Fluke 187/287 by Direct Measurement
Voltage (VDC) Vibration Controller Calibration	0.1 V 1.0 V 10 V	8.6 µV 48 µV 0.41 mV	HP/Agilent DMM 34401A by Direct Measurement
Voltage (VDC) Test Partner Bridge/Strain	5 mV 20 mV 50 mV 200 mV	4 µV 14 µV 36 µV 0.14 mV	HP/Agilent DMM 34401A HBM K148 Bridge Calibrator

Mass and Mass Related

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Pressure (mbar) (Ambient)	(900 to 1 100) mbar	3.1 mbar	Omega HHP-241 Digital Manometer by comparison
E4, Force (Compression)[2]	2 000 lbf 5 000 lbf 25 000 lbf 50 000 lbf	1.3 lbf 3.2 lbf 18 lbf 32 lbf	Comparison using 9840 Interface Indicator with: 1610-2k Load Cell 1620-5k Load Cell 1610-25k Load Cell 1620-50k Load Cell

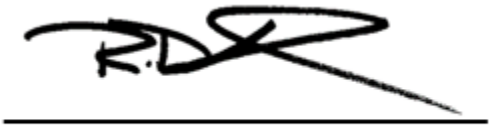
Thermodynamic

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Temperature	(-40 to 60) °C	0.22 °C	Vaisala HM1/ HMP77B Thermohygrometer, Environmental Chamber by comparison
Relative Humidity	(20 to 80) %RH	1.2 %RH	

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 (k=2), corresponding to a confidence level of approximately 95%.

Notes:

1. On-site calibration service is available for this parameter, since on-site conditions are typically more variable than those in the laboratory, larger measurement uncertainties are expected on-site than what is reported on the accredited scope
2. Parameters available for on-site calibration only
3. Vibration data is typically reported in units of g rms.
4. This scope is formatted as part of a single document including Certificate of Accreditation No. AC-1708.



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