



CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board

500 Montgomery Street, Suite 625, Alexandria, VA 22314, 877-344-3044

This is to certify that

Lansmont Corporation

17 Mandeville Court

Monterey, CA 93940

has been assessed by ANAB
and meets the requirements of international standard

ISO/IEC 17025:2005

and national standard

ANSI/NCSL Z540-1-1994 (R2002)

while demonstrating technical competence in the field of

CALIBRATION

Refer to the accompanying Scope of Accreditation for information regarding the types of calibrations to which this accreditation applies.

AC-1708

Certificate Number


ANAB Approval

Certificate Valid: 10/16/2018-08/02/2020
Version No. 007 Issued: 10/16/2018



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. 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 17025:2005
AND ANSI/NCSL Z540-1-1994 (R2002)**

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CALIBRATION

Valid to: **August 2, 2020**

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.



Vice President

