



CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board

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

This is to certify that

Lake Balance And Calibration Services
139 Union Street
Madison, OH 44057

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

ISO/IEC 17025:2005

while demonstrating technical competence in the fields of

CALIBRATION

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

AC-1109

Certificate Number



ANAB Approval

Certificate Valid: 07/26/2017-06/26/2019
Version No. 009 Issued: 07/26/2017



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

Lake Balance and Calibration Services

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CALIBRATION

Valid to: **June 26, 2019**

Certificate Number: **AC-1109**

Mechanical

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Balances	Up to 2 g (0.0001 mg) Up to 20 g (0.001 mg) Up to 200 g (0.01 mg) Up to 1 000 g (0.1 mg) Up to 3 000 g (0.1 mg) Up to 5 000 g (0.01 g) Up to 5 000 g (0.001 g) Up to 30 000 g (0.01 g) Up to 60 000 g (0.01 g)	0.003 mg 0.009 mg 0.047 mg 3 mg 9.1 mg 19.0 mg 14.8 mg 91.3 mg 194 mg	ASTM Class 1 Weights
Balances Minimum Sample Quantity	Up to 60 kg	< 0.1% of reading	ASTM Class 1 Weights
Industrial Scales	Up to 100 kg (10 g) Up to 250 kg (100 g) Up to 500 kg (100 g) Up to 1 000 kg (500 g)	16.97 g 122.38 g 134.16 g 612 g	Class F Weights
Mass	Up to 2 g 2 to 20 g 20 to 200 g 200 to 1 000 g 1 000 to 3 000 g 3 000 to 5 000 g 5 000 to 10 000 g 10 to 30 kg 30 to 60 kg	0.002 mg 0.009 mg 0.046 mg 0.17 mg 1.1 mg 3.4 mg 6.5 mg 15.3 mg 73.8 mg	Class 0 Weights with: Micro Balance Semi-Micro Balance Analytical Balance Medium Precision Balance Heavy Precision Balance





Mechanical

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Pipettes	Up to 2 μL (2 to 20) μL (20 to 200) μL (200 to 500) μL (500 to 1 000) μL (1 000 to 10 000) μL	0.04 μL 0.110 μL 0.168 μL 0.196 μL 0.435 μL 6.73 μL	Micro Balance Micro Balance Semi-micro Balance
Laser Tachometers Contact Tachometers	0 to 1 000 rpm 0 to 1 000 rpm	0.07 rpm 0.07 rpm	Control Motor

Thermodynamic

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Temperature	(-190 to 0) $^{\circ}\text{C}$ (0 to 199) $^{\circ}\text{C}$ (200 to 1 372) $^{\circ}\text{C}$	0.2 $^{\circ}\text{C}$ 0.2 $^{\circ}\text{C}$ 1.2 $^{\circ}\text{C}$	Omega Electronic Thermometer, Thermocouple Probe Type K

Dimensional

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Micrometer	Up to 1 in	79 μin	Gage Blocks
Calipers	Up to 6 in Up to 12 in	660 μin 730 μin	Length Standards Rod standards

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. This scope is formatted as part of a single document including Certificate of Accreditation No. AC-1109.



Vice President

