



CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

Antibus Scales & Systems, Inc.
1919 Research Drive
Fort Wayne, IN 46808

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.

A handwritten signature in black ink, appearing to read 'R.D.L.', is positioned above a horizontal line.

R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 11 May 2022
Certificate Number: L2253



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)**

Antibus Scales & Systems, Inc.

1919 Research Drive
Fort Wayne, IN 46808
Lynn Billiard
260-432-3591

CALIBRATION

Valid to: **May 11, 2022**

Certificate Number: **L2253**

Electrical – DC/Low Frequency

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Electrical Simulation of Thermocouple Indicating Devices ¹	Type K (-200 to 1 372) °C	0.69 °C	Fluke 741B Process Calibrator
	Type J (-210 to 1 200) °C	0.64 °C	

Length – Dimensional Metrology

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Calipers ¹	(0 to 6) in	290 μin	Gage Blocks
Micrometer ¹	(0 to 6) in	570 μin	Gage Blocks
Height Gage ¹	(0 to 12) in	60 μin	Gage Blocks

Mass and Mass Related

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Force Gages ¹ (0.000 5 lbf Resolution) (0.000 2 lbf Resolution) (0.000 5 lbf Resolution) (0.01 lbf Resolution) (0.1 lbf Resolution) (0.1 lbf Resolution) (0.5 lbf Resolution)	(0 to 5) lbf (0 to 11) lbf (0 to 22) lbf (0 to 110) lbf (0 to 300) lbf (0 to 1 000) lbf (0 to 3 000) lbf	0.000 6 lbf 0.001 3 lbf 0.003 lbf 0.072 lbf 0.15 lbf 0.18 lbf 0.79 lbf	Class 6 Weights
Force – Tension and Compression ¹ (1 lbf resolution) (10 lbf resolution) (10 lbf resolution)	(0 to 10 000) lbf (0 to 10 000) lbf (0 to 100 000) lbf	1.9 lbf 18 lbf 60 lbf	Load Cells
Class F Mass Standards	20 lb 25 lb 50 lb 500 lb 1 000 lb 10 kg 20 kg 25 kg	0.000 11 lb 0.000 37 lb 0.000 5 lb 0.011 lb 0.015 lb 0.19 g 0.21 g 0.21 g	Modified Substitution
Lab Balance ¹ (0.000 1 g Resolution) (0.001 g Resolution) (0.01 g Resolution) (0.01 g Resolution)	(0 to 310) g (0 to 510) g (0 to 1 000) g (0 to 4 100) g	1.0 mg 2.4 mg 19 mg 23 mg	Class 1 Weights and NIST Handbook 44 utilized for the Calibration of Weighing Systems
Lab Balance ¹ (0.01 g Resolution) (0.1 g Resolution) (0.1 g Resolution)	(0 to 6) kg (0 to 8.1) kg (0 to 24) kg	0.075 g 0.20 g 0.34 g	Class 2 & 3 Weights and NIST Handbook 44 utilized for the Calibration of Weighing Systems
Lab Balance ¹ (0.1 g Resolution) (2 g Resolution)	(0 to 16) kg (0 to 20) kg	2.0 g 4.2 g	Class F Weights and NIST Handbook 44 utilized for the Calibration of Weighing Systems
High Resolution Unmarked Scales ¹ (0.000 1 kg resolution) (0.000 1 kg resolution)	(0 to 40) kg (40 to 150) kg	0.32 g 0.82 g	Class 1 and Class 2 Weights with Substitution to Range of use

Mass and Mass Related

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
High Resolution Unmarked Scales ^{1,2} (0.000 02 lb Resolution) (0.000 05 lb Resolution) (0.000 1 lb Resolution) (0.000 2 lb Resolution) (0.000 5 lb Resolution) (0.001 lb Resolution) (0.002 lb Resolution) (0.005 lb Resolution)	(0 to 6) lb (0 to 12) lb (0 to 30) lb (0 to 70) lb (0 to 120) lb (0 to 200) lb (0 to 300) lb (0 to 600) lb	0.000 64 lb 0.001 3 lb 0.003 1 lb 0.004 5 lb 0.008 9 lb 0.012 lb 0.016 lb 0.024 lb	Class F Weights and NIST Handbook 44 utilized for the Calibration of Weighing Systems
Industrial and Commercial Scales ^{1,3} Avoirdupois (0.001 lb Resolution) (0.002 lb Resolution) (0.005 lb Resolution) (0.01 lb Resolution) (0.02 lb Resolution) (0.05 lb Resolution) (0.1 lb Resolution) (0.2 lb Resolution) (0.25 lb Resolution) (0.5 lb Resolution) (1 lb Resolution) (2 lb Resolution) (5 lb Resolution) (10 lb Resolution) (20 lb Resolution) Metric (0.001 kg Resolution) (0.002 kg Resolution) (0.005 kg Resolution) (0.01 kg Resolution) (0.02 kg Resolution) (0.05 kg Resolution) (0.1 kg Resolution) (0.2 kg Resolution) (0.5 kg Resolution)	(0 to 10) lb (0 to 20) lb (0 to 50) lb (0 to 100) lb (0 to 200) lb (0 to 500) lb (0 to 1 000) lb (0 to 2 000) lb (0 to 100 lb) (0 to 5 000) lb (0 to 10 000) lb (0 to 20 000) lb (0 to 50 000) lb (0 to 100 000) lb (0 to 200 000) lb (0 to 30) kg (0 to 30) kg (0 to 30) kg (0 to 30) kg (0 to 30) kg (0 to 30) kg (0 to 30) kg (0 to 30) kg (0 to 30) kg	0.002 1 lb 0.004 0 lb 0.010 lb 0.020 lb 0.040 lb 0.10 lb 0.21 lb 0.40 lb 0.42 lb 0.90 lb 2.0 lb 3.4 lb 9.0 lb 20 lb 39 lb 0.002 5 kg 0.004 0 kg 0.008 5 kg 0.017 kg 0.033 kg 0.084 kg 0.17 kg 0.33 kg 0.84 kg	Class F Weights and NIST Handbook 44 utilized for the Calibration of Weighing Systems

Mass and Mass Related

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Torque Analyzers – Fixed Points	(5 to 50) ozf·in	0.091 % of reading	Torque Arm and Class 6 Weights
	(5 to 50) lbf·in	0.049 % of reading	
	(25 to 250) lbf·in	0.049 % of reading	
	(100 to 1 000) lbf·in	0.024 % of reading	
	(25 to 250) lbf·ft	0.022 % of reading	
	(60 to 600) lbf·ft	0.049 % of reading	
Torque Wrench	(200 to 2 000) lbf·ft	0.048 % of reading	Torque Analyzer
	(5 to 50) ozf·in	2.9 % of reading	
	(5 to 50) lbf·in	2.3 % of reading	
	(25 to 250) lbf·in	2.3 % of reading	
	(100 to 1 000) lbf·in	2.3 % of reading	
	(25 to 250) lbf·ft	2.3 % of reading	
(60 to 600) lbf·ft	2.4 % of reading		
(200 to 2 000) lbf·ft	2.6 % of reading		

Thermodynamic

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method and/or Equipment
Temperature Chamber ¹ (ovens/freezers)	(-200 to 1 300) °C	1 °C	Fluke 741B Process Calibrator

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. High Resolution Unmarked Scales include high resolution scales not complying with the accuracy class parameters of Table 3 of NIST Handbook 44.
3. Industrial Scales include but are not limited to lab balances, bench scales, floor scales, tank and hopper scales, and vehicle scales.
4. Antibus Scales & Systems, Inc has resident technicians located in Bowling Green, OH.
5. This scope is formatted as part of a single document including Certificate of Accreditation No. L2253.



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