SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017
& ANSI/NCSL Z540-1-1994

METTLER-TOLEDO, LLC DBA
ATLANTIC SCALE
136 Washington Avenue
Nutley, NJ 07110
Vincent A. Benenati Phone: 973 661 7090 ext 35

CALIBRATION

Valid To: August 31, 2028 Certificate Number: 2736.01

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the organization's compliance with R205 – A2LA's Calibration Program Requirements), accreditation is granted to this laboratory to perform the following calibrations[1, 7]:

I. Dimensional

Parameter/Equipment	Range	CMC[2] (±)	Comments
Inside, Outside, & Depth Micrometers[3]	Up to 1 in (> 1 to 2) in (> 2 to 3) in (> 3 to 5) in (> 5 to 6) in	110 µin 120 µin 140 µin 180 µin 210 µin	Gage blocks
Calipers[3]	Up to 6 in (> 6 to 10) in (> 10 to 12) in	810 µin 840 µin 720 µin	Gage blocks, caliper checker
Dial Indicators[3]	Up to 0.5 in (> 0.5 to 1) in (> 1 to 2) in (> 2 to 3) in	56 µin 61 µin 77 µin 94 µin	Gage blocks
Height Gages	Up to 1 in (> 1 to 12) in (> 12 to 18) in	370 µin 490 µin 620 µin	Gage blocks, caliper checker

5202 Presidents Court, Suite 220 | Frederick, MD 21703-8398 | Phone: 301 644 3248 | Fax: 240 454 9449 | www.A2LA.org

Parameter/Equipment	Range	CMC[2, 6] (±)	Comments
Gage Blocks	(0.01 to 1) in (> 1 to 4) in (> 4 to 8) in (> 8 to 12) in	(4.0 + 4.0*L*) µin (1.4 + 5.9*L*) µin (6.4 + 5.2*L*) µin (18 + 4.6*L*) µin	P&W Lab Master™ master gage blocks
Cylindrical Gages – Pins, Plugs & Discs	(0.01 to 1) in (> 1 to 4) in (> 4 to 8) in (> 8 to 12) in	(3.8 + 4.1*L*) µin (1.6 + 5.9*L*) µin (6.5 + 5.2*L*) µin (18 + 4.6*L*) µin	P&W Lab Master™ master gage blocks
Ring Gages	Up to 1 in (> 1 to 4) in	(8.0 + 2.6*L*) µin (4.1 + 5.4*L*) µin	P&W Lab Master™ master ring gages

II. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC[2, 5] (±)	Comments
DC Voltage – Generate	(0 to 329.9999) mV 330 mV to 3.299 999 V (3.3 to 32.999 99) V (33 to 329.9999) V (330 to 1000) V	11 µV/V + 1.6 µV 5.4 µV/V + 10 µV 6.3 µV/V + 88 µV 10 µV/V + 770 µV 0.011 mV/V + 2.1 mV	Multifunction calibrator
DC Voltage – Measure	(0 to 199.99) mV 200 mV to 1.9999 V (2 to 19.999) V (20 to 199.99) V (200 to 1000) V	5.0 µV/V + 0.31 µV 1.8 µV/V + 6.9 µV 3.5 µV/V + 7.2 µV 5.5 µV/V + 53 µV 5.4 µV/V + 660 µV	Precision DMM
DC Current – Generate	(0 to 329.999) µA 330 µA to 3.299 99 mA (3.3 to 32.9999) mA (33 to 329.999) mA 330 mA to 1.099 99 A (1.1 to 2.999 99) A (3 to 10.9999) A (11 to 20) A	99 µA/A + 0.014 µA 64 µA /A + 0.042 µA 64 µA/A + 0.29 µA 57 µA/A + 5.8 µA 130 µA/A + 32 µA 240 µA/A + 100 µA 320 µA/A + 520 µA 660 µA/A + 820 µA	Multifunction calibrator

Parameter/Equipment	Range	CMC[2, 5] (±)	Comments
DC Current – Measure	(0 to 199.99) µA 200 µA to 1.9999 mA (2 to 19.999) mA (20 to 199.99) mA 200 mA to 1.9999 A (2 to 20) A	11 µA/A + 0.8 nA 12 µA/A + 6.3 nA 14 µA/A + 63 nA 49 µA/A + 0.9 µA 180 µA/A + 18 µA 410 µA/A + 450 µA	Fluke 8508A
Resistance – Generate	(0 to 10.9999) Ω (11 to 32.9999) Ω (33 to 109.9999) Ω (110 to 329.9999) Ω 330 Ω to 1.099 999 kΩ (1.1 to 3.299 999) kΩ (3.3 to 10.999 99) kΩ (11 to 32.999 99) kΩ (33 to 109.9999) kΩ (110 to 329.9999) kΩ 330 kΩ to 1.099 999 MΩ (1.1 to 3.299 999) MΩ (3.3 to 10.999 99) MΩ (11 to 32.999 99) MΩ (33 to 109.9999) MΩ (110 to 329.999) MΩ (330 to 1100) MΩ	27 µΩ/Ω + 0.0067 Ω 20 µΩ/Ω + 0.010 Ω 19 µΩ/Ω + 0.010 Ω 19 µΩ/Ω + 0.013 Ω 18 µΩ/Ω + 0.014 Ω 18 µΩ/Ω + 0.14 Ω 17 µΩ/Ω + 0.094 Ω 18 µΩ/Ω + 0.74 Ω 17 µΩ/Ω + 0.96 Ω 21 µΩ/Ω + 7.0 Ω 20 µΩ/Ω + 8.5 Ω 39 Ω/MΩ + 110 Ω 83 Ω/MΩ + 220 Ω 150 Ω/MΩ + 0.0025 MΩ 310 Ω/MΩ + 0.0058 MΩ 2.0 kΩ/MΩ + 0.086 MΩ 9.8 kΩ/MΩ + 0.63 MΩ	Multifunction calibrator
Fixed Points	14 Ω 25 Ω 62.5 Ω 100 Ω 200 Ω 250 Ω 350 Ω 400 Ω 500 Ω 4 kΩ 10 kΩ 20 kΩ 40 kΩ 100 kΩ 107 kΩ 300 kΩ 400 kΩ 500 kΩ	0.69 µΩ 0.67 µΩ 0.56 µΩ 0.55 µΩ 0.68 µΩ 0.69 µΩ 0.61 µΩ 0.61 µΩ 0.6 µΩ 0.65 µΩ 0.67 µΩ 0.75 µΩ 0.59 µΩ 0.46 µΩ 0.47 µΩ 0.73 µΩ 1 µΩ 0.65 µΩ	Isotech RB802-18, multifunction calibrator

Parameter/Equipment	Range	CMC[2, 5] (±)	Comments
Resistance – Measure	(0 to 1.9999) Ω (2 to 19.999) Ω (20 to 199.99) Ω 200 Ω to 1.9999 kΩ (2 to 19.999) kΩ (20 to 199.99) kΩ 200 kΩ to 1.9999 MΩ (2 to 19.999) MΩ (20 to 199.99) ΩM 200 MΩ to 2 GΩ	13 µΩ/Ω + 19 µΩ 9.1 µΩ/Ω + 30 µΩ 8.2 µΩ/Ω + 88 µΩ 8.0 mΩ/kΩ + 0.87 mΩ 8.0 mΩ/kΩ + 6.8 mΩ 8.3 mΩ/kΩ + 61 mΩ 9.9 Ω/MΩ + 1.1 Ω 23 Ω/MΩ + 97 Ω 130 Ω/MΩ + 0.010 MΩ 1.5 MΩ/GΩ + 1.0 MΩ	Fluke 8508A
Capacitance – Generate	(0.22 to 0.3999) nF (0.4 to 1.0999) nF (1.1 to 3.2999) nF (3.3 to 10.9999) nF (11 to 32.9999) nF (33 to 109.999) nF (110 to 329.999) nF 330 nF to 1.099 99 µF (1.1 to 3.299 99) µF (3.3 to 10.9999) µF (11 to 32.9999) µF (33 to 109.999) µF (110 to 329.999) µF 330 µF to 1.099 99 mF (1.1 to 3.2999) mF (3.3 to 10.9999) mF (11 to 32.9999) mF (33 to 110) mF	25 % + 0.01 nF 22 % + 0.01 nF 21 % + 0.01 nF 0.3 % + 0.01 nF 0.35 % + 0.1 nF 0.3 % + 0.1 nF 0.3 % + 0.3 nF 0.3 % + 1 nF 0.3 % + 3 nF 0.3 % + 10 nF 0.47 % + 30 nF 0.53 % + 100 nF 0.53 % + 300 nF 0.53 % + 1 µF 0.52 % + 3 µF 0.52 % + 10 µF 0.87 % + 30 µF 1.3 % + 100 µF	Multifunction calibrator

Parameter/Equipment	Range	CMC[2] (±)	Comments
Electrical Simulation of Thermocouple Indicating Devices –			
Type B	(600 to 800) °C (800 to 1000) °C (1000 to 1550) °C (1550 to 1820) °C	0.59 °C 0.49 °C 0.45 °C 0.48 °C	Multifunction calibrator
Type C	(0 to 150) °C (150 to 650) °C (650 to 1000) °C (1000 to 1800) °C (1800 to 2316) °C	0.43 °C 0.4 °C 0.44 °C 0.63 °C 1.0 °C	
Type E	(-250 to -100) °C (-100 to -25) °C (-25 to 350) °C (350 to 650) °C (650 to 1000) °C	0.62 °C 0.3 °C 0.28 °C 0.3 °C 0.45 °C	
Type J	(-210 to -100) °C (-100 to -30) °C (-30 to 150) °C (150 to 760) °C (760 to 1200) °C	0.33 °C 0.22 °C 0.2 °C 0.23 °C 0.29 °C	
Type K	(-200 to -100) °C (-100 to -25) °C (-25 to 120) °C (120 to 1000) °C (1000 to 1372) °C	0.4 °C 0.24 °C 0.22 °C 0.32 °C 0.48 °C	
Type L	(-200 to -100) °C (-100 to 800) °C (800 to 900) °C	0.43 °C 0.31 °C 0.21 °C	
Type N	(-200 to -100) °C (-100 to -25) °C (-25 to 120) °C (120 to 410) °C (410 to 1300) °C	0.55 °C 0.39 °C 0.36 °C 0.36 °C 0.43 °C	
Type R	(0 to 250) °C (250 to 400) °C (400 to 1000) °C (1000 to 1767) °C	0.67 °C 0.42 °C 0.47 °C 0.48 °C	

Parameter/Equipment	Range	CMC[2] (±)	Comments
Electrical Simulation of Thermocouple Indicating Devices – (cont)			
Type S	(0 to 250) °C (250 to 1000) °C (1000 to 1400) °C (1400 to 1767) °C	0.64 °C 0.54 °C 0.55 °C 0.64 °C	Multifunction calibrator
Type T	(-250 to -150) °C (-150 to 0) °C (0 to 120) °C (120 to 400) °C	0.81 °C 0.44 °C 0.39 °C 0.38 °C	
Type U	(-200 to 0) °C (0 to 600) °C	0.65 °C 0.32 °C	
Electrical Simulation of RTD Indicating Devices –			
Pt 385, 100 Ω	(-200 to -80) °C (-80 to 0) °C (0 to 100) °C (100 to 300) °C (300 to 400) °C (400 to 630) °C (630 to 800) °C	0.06 °C 0.06 °C 0.09 °C 0.11 °C 0.12 °C 0.14 °C 0.27 °C	Multifunction calibrator
Pt 3926, 100 Ω	(-200 to -80) °C (-80 to 0) °C (0 to 100) °C (100 to 300) °C (300 to 400) °C (400 to 630) °C	0.06 °C 0.06 °C 0.09 °C 0.11 °C 0.12 °C 0.14 °C	
Pt 3916, 100 Ω	(-200 to -190) °C (-190 to -80) °C (-80 to 0) °C (0 to 100) °C (100 to 260) °C (260 to 300) °C (300 to 400) °C (400 to 600) °C (600 to 630) °C	0.29 °C 0.05 °C 0.06 °C 0.07 °C 0.09 °C 0.09 °C 0.11 °C 0.12 °C 0.27 °C	

Parameter/Equipment	Range	CMC[2] (±)	Comments
Electrical Simulation of RTD Indicating Devices – (cont)			
Pt 385, 200 Ω	(-200 to -80) °C (-80 to 0) °C (0 to 100) °C (100 to 260) °C (260 to 300) °C (300 to 400) °C (400 to 600) °C (600 to 630) °C	0.05 °C 0.05 °C 0.05 °C 0.06 °C 0.14 °C 0.15 °C 0.16 °C 0.19 °C	Multifunction calibrator
Pt 385, 500 Ω	(-200 to -80) °C (-80 to 0) °C (0 to 100) °C (100 to 260) °C (260 to 300) °C (300 to 400) °C (400 to 600) °C (600 to 630) °C	0.05 °C 0.06 °C 0.06 °C 0.07 °C 0.09 °C 0.09 °C 0.1 °C 0.14 °C	
Pt 385, 1000 Ω	(-200 to -80) °C (-80 to 0) °C (0 to 100) °C (100 to 260) °C (260 to 300) °C (300 to 400) °C (400 to 600) °C (600 to 630) °C	0.05 °C 0.05 °C 0.06 °C 0.07 °C 0.07 °C 0.1 °C 0.1 °C 0.27 °C	
PtNi 385, 120 Ω (Ni120)	(-80 to 0) °C (0 to 100) °C (100 to 260 °C	0.1 °C 0.1 °C 0.17 °C	
Cu 427, 10 Ω	(-100 to 260) °C	0.35 °C	

Parameter/Range	Frequency	CMC[2, 5] (±)	Comments
AC Voltage – Generate			
(1 to 32.999) mV	(10 to 45) Hz 45 Hz to 10 kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 500) kHz	450 µV/V + 8.0 µV 86 µV/V + 5.2 µV 120 µV/V + 5.3 µV 610 µV/V + 6.2 µV 2.2 mV/V + 0.012 mV 4.8 mV/V + 0.055 mV	Multifunction calibrator
(33 to 329.999) mV	(10 to 45) Hz 45 Hz to 10 kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 500) kHz	0.18 mV/V + 0.012 mV 0.078 mV/V + 0.014 mV 0.087 mV/V + 0.015 mV 0.21 mV/V + 0.016 mV 0.52 mV/V + 0.028 mV 1.3 mV/V + 0.078 mV	
330 mV to 3.299 99 V	(10 to 45) Hz 45 Hz to 10 kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 500) kHz	0.19 mV/V + 0.055 mV 0.091 mV/V + 0.080 mV 0.12 mV/V + 0.074 mV 0.18 mV/V + 0.095 mV 0.45 mV/V + 0.16 mV 1.5 mV/V + 0.82 mV	
(3.3 to 32.9999) V	(10 to 45) Hz 45 Hz to 10 kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz	0.19 mV/V + 0.69 mV 0.09 mV/V + 0.82 mV 0.15 mV/V + 0.76 mV 0.21 mV/V + 1.2 mV 0.57 mV/V + 2.2 mV	
(33 to 329.999) V	45 Hz to 1 kHz (1 to 10) kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz	0.11 mV/V + 8.8 mV 0.12 mV/V + 10 mV 0.15 mV/V + 9.5 mV 0.15 mV/V + 28 mV 1.3 mV/V + 65 mV	
(330 to 1020) V	45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	0.19 mV/V + 15 mV 0.16 mV/V + 17 mV 0.18 mV/V + 31 mV	

Parameter/Range	Frequency	CMC[2, 5] (±)	Comments
AC Voltage – Measure			
(0 to 199.99) mV	(1 to 10) Hz (10 to 40) Hz (40 to 100) Hz 100 Hz to 2 kHz (2 to 10) kHz (10 to 30) kHz (30 to 100) kHz	160 µV/V + 18 µV 150 µV/V + 5.3 µV 110 µV/V + 5.4 µV 110 µV/V + 2.9 µV 140 µV/V + 4.7 µV 340 µV/V + 9.2 µV 770 µV/V + 21 µV	Fluke 8508A
200 mV to 1.9999 V	(1 to 10) Hz (10 to 40) Hz (40 to 100) Hz 100 Hz to 2 kHz (2 to 10) kHz (10 to 30) kHz (30 to 100) kHz (100 to 300) kHz 300 kHz to 1 MHz	130 µV/V + 210 µV 120 µV/V + 23 µV 98 µV/V + 22 µV 77 µV/V + 22 µV 110 µV/V + 22 µV 230 µV/V + 41 µV 580 µV/V + 200 µV 3.0 mV/V + 2.0 mV 10 mV/V + 20 mV	
(2 to 19.999) V	(1 to 10) Hz (10 to 40) Hz (40 to 100) Hz 100 Hz to 2 kHz (2 to 10) kHz (10 to 30) kHz (30 to 100) kHz (100 to 300) kHz 300 kHz to 1 MHz	0.14 mV/V + 1.6 mV 0.12 mV/V + 0.22 mV 0.094 mV/V + 0.21 mV 0.078 mV/V + 0.20 mV 0.11 mV/V + 0.21 mV 0.22 mV/V + 0.40 mV 0.58 mV/V + 2.0 mV 3.0 mV/V + 20 mV 10 mV/V + 200 mV	
(20 to 199.99) V	(1 to 10) Hz (10 to 40) Hz (40 to 100) Hz 100 Hz to 2 kHz (2 to 10) kHz (10 to 30) kHz (30 to 100) kHz (100 to 300) kHz	0.15 mV/V + 13 mV 0.12 mV/V + 2.2 mV 0.096 mV/V + 2.3 mV 0.081 mV/V + 2.4 mV 0.11 mV/V + 2.2 mV 0.22 mV/V + 4.3 mV 0.58 mV/V + 20 mV 3.0 mV/V + 200 mV	
(200 to 1000) V	(1 to 10) Hz (10 to 40) Hz 40 Hz to 10 kHz	0.15 mV/V + 70 mV 0.12 mV/V + 20 mV 0.16 mV/V + 17 mV	

Parameter/Range	Frequency	CMC[2, 5] (±)	Comments
AC Current – Generate			
(29.00 to 329.99) µA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz (10 to 30) kHz	1.1 µA/mA + 0.19 µA 0.74 µA/mA + 0.20 µA 0.59 µA/mA + 0.20 µA 1.8 µA/mA + 0.20 µA 4.9 µA/mA + 0.33 µA 7.5 µA/mA + 1.8 µA	Multifunction calibrator
330 µA to 3.2999 mA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz (10 to 30) kHz	1.1 µA/mA + 1.3 µA 0.57 µA/mA + 1.3 µA 0.41 µA/mA + 1.4 µA 1.1 µA/mA + 1.2 µA 3.1 µA/mA + 1.0 µA 6.5 µA/mA + 1.0 µA	
(3.3 to 32.999) mA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz (10 to 30) kHz	0.92 µA/mA + 13 µA 0.36 µA/mA + 14 µA 0.10 µA/mA + 15 µA 0.30 µA/mA + 14 µA 1.1 µA/mA + 12 µA 2.5 µA/mA + 11 µA	
(33 to 329.99) mA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz (10 to 30) kHz	0.89 mA/A + 0.15 mA 0.34 mA/A + 0.15 mA 0.092 mA/A + 0.16 mA 0.44 mA/A + 0.16 mA 1.1 mA/A + 0.16 mA 2.5 mA/A + 0.19 mA	
(0.33 to 1.099 99) A	(10 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	1.0 mA/A + 0.35 mA 0.27 mA/A + 0.19 mA 4.0 mA/A + 0.69 mA 17 mA/A + 3.4 mA	
(1.1 to 2.999 99) A	(10 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	1.2 mA/A + 0.21 mA 0.39 mA/A + 0.10 mA 4.0 mA/A + 0.69 mA 17 mA/A + 3.4 mA	
(3 to 10.9999) A	(45 to 100) Hz 100 Hz to 1 kHz (1 to 5) kHz	0.18 mA/A + 7.7 mA 0.39 mA/A + 7.4 mA 20 mA/A + 3.0 mA	
(11 to 20.5) A	(45 to 100) Hz 100 Hz to 1 kHz (1 to 5) kHz	0.45 mA/A + 21 mA 0.63 mA/A + 20 mA 20 mA/A + 7.1 mA	Fluke 5522A, with Fluke 50-turn coil
(20 to 1000) A	(45 to 65) Hz (65 to 440) Hz	0.93 % + 100 mA 0.37 % + 90 mA	

Parameter/Range	Frequency	CMC[2, 5] (±)	Comments
AC Current – Measure			
(0 to 220) µA	(1 to 10) Hz 10 Hz to 10 kHz (10 to 30) kHz	0.04 % + 20 nA 0.04 % + 20 nA 0.09 % + 50 nA	Fluke 8508A
200 µA to 2 mA	(1 to 10) Hz 10 Hz to 10 kHz (10 to 30) kHz	0.04 % + 0.2 µA 0.04 % + 0.2 µA 0.09 % + 2 µA	
(2 to 20) mA	(1 to 10) Hz 10 Hz to 10 kHz (10 to 30) kHz	0.04 % + 2 µA 0.04 % + 2 µA 0.09 % + 2 µA	
(20 to 200) mA	1 Hz to 10 kHz (10 to 30) kHz	0.04 % + 20 µA 0.08 % + 20 µA	
200 mA to 2 A	10 Hz to 2 kHz (2 to 10) kHz	0.08 % + 200 µA 0.1 % + 200 µA	
(2 to 20) A	10 Hz to 2 kHz (2 to 10) kHz	0.11 % + 2 mA 0.3 % + 2 mA	

III. Fluid Quantities

Parameter/Equipment	Range	CMC[2, 4] (±)	Comments
Mass Flow Rate – Flow Meter & Flow Controller	(5 to 500) sccm (> 500 to 5000) sccm (> 5000 to 50 000) sccm	0.21 % + 0.10 sccm 0.20 % + 1.6 sccm 0.21 % + 7.6 sccm	Bios Drycal bench

IV. Mechanical

Parameter/Equipment	Range	CMC[2] (±)	Comments
Laboratory Balances[3] – Fixed Points			Performed in accordance with NIST handbook 44 test method:
Resolution:			
0.0001 mg	1 mg	5.8 µg	1 mg to 200 g using ASTM Class 0 weights
0.0001 mg	2 mg	5.8 µg	
0.0001 mg	3 mg	5.8 µg	
0.0001 mg	5 mg	5.8 µg	
0.0001 mg	10 mg	5.8 µg	
0.0001 mg	20 mg	5.8 µg	
0.0001 mg	30 mg	5.8 µg	
0.0001 mg	50 mg	5.8 µg	
0.0001 mg	100 mg	5.8 µg	
0.0001 mg	200 mg	5.8 µg	
0.0001 mg	300 mg	5.8 µg	
0.0001 mg	500 mg	5.8 µg	
0.000 000 1 g	1 g	20 µg	
0.000 000 1 g	2 g	20 µg	
0.000 000 1 g	3 g	20 µg	
0.000 000 1 g	5 g	19 µg	
0.000 001 g	10 g	29 µg	
0.000 001 g	20 g	43 µg	
0.000 001 g	30 g	43 µg	
0.000 001 g	50 g	69 µg	
0.000 01 g	100 g	0.15 mg	
0.000 01 g	150 g	0.17 mg	
0.000 01 g	200 g	0.29 mg	
0.0001 g	300 g	0.89 mg	(300 to 64 000) g using ASTM Class 1 weights
0.0001 g	400 g	1.2 mg	
0.0001 g	500 g	1.4 mg	
0.001 g	600 g	1.9 mg	
0.001 g	800 g	2.4 mg	
0.001 g	1000 g	3 mg	
0.001 g	1200 g	3.6 mg	
0.001 g	2000 g	5.8 mg	
0.001 g	2500 g	7.2 mg	
0.001 g	3000 g	8.7 mg	
0.001 g	3500 g	10 mg	
0.001 g	4000 g	12 mg	
0.001 g	4500 g	13 mg	
0.001 g	5000 g	14 mg	
0.01 g	6000 g	19 mg	
0.01 g	8000 g	25 mg	
0.01 g	10 000 g	30 mg	
0.01 g	12 000 g	31 mg	
0.01 g	15 000 g	44 mg	
0.1 g	16 000 g	90 mg	

Parameter/Equipment	Range	CMC[2] (±)	Comments
Laboratory Balances[3] – Fixed Points (cont) Resolution: 0.1 g 0.1 g 0.1 g 0.1 g 0.1 g	 20 000 g 25 000 g 30 000 g 32 000 g 64 000 g	 100 mg 110 mg 0.12 g 0.12 g 0.20 g	 Performed in accordance with NIST handbook 44 test method: (300 to 64 000) g using ASTM Class 1 weights
Industrial Scales[3] – Fixed Points Resolution: 0.000 01 kg 0.000 01 kg 0.000 01 kg 0.000 02 kg 0.000 02 kg 0.000 02 kg 0.0001 kg 0.0001 kg 0.0001 kg 0.0001 kg 0.0001 kg 0.0001 kg 0.001 kg 0.001 kg 0.001 kg 0.001 kg 0.001 kg 0.001 kg 0.001 kg 0.001 kg 0.001 kg 0.002 kg 0.002 kg 0.002 kg 0.02 kg 0.02 kg 0.02 kg	 1 kg 2 kg 3 kg 4 kg 5 kg 6 kg 10 kg 15 kg 20 kg 25 kg 30 kg 35 kg 40 kg 50 kg 60 kg 75 kg 80 kg 100 kg 120 kg 125 kg 150 kg 200 kg 250 kg 300 kg 400 kg 500 kg 750 kg	 6.7 mg 8.4 mg 11 mg 17 mg 18 mg 22 mg 67 mg 74 mg 84 mg 94 mg 0.11 g 0.12 g 0.62 g 0.62 g 0.63 g 0.64 g 0.65 g 0.67 g 0.70 g 0.70 g 0.74 g 1.3 g 1.4 g 1.5 g 48 g 59 g 88 g	Performed in accordance with NIST Handbook 44: (1 to 300) kg using ASTM Class 1 weights (300 to 4000) kg using ASTM Class 6 & NIST Class F weights

Parameter/Equipment	Range	CMC[2] (±)	Comments
Industrial Scales[3] – Fixed Points (cont) Resolution: 0.02 kg 0.02 kg 0.02 kg 0.05 kg 0.05 kg 0.05 kg 0.1 kg 0.1 kg	 1000 kg 1250 kg 1500 kg 2000 kg 2500 kg 3000 kg 3500 kg 4000 kg	 0.12 kg 0.15 kg 0.17 kg 0.23 kg 0.29 kg 0.35 kg 0.41 kg 0.47 kg	Performed in accordance with NIST Handbook 44: (300 to 4000) kg using ASTM Class 6 & NIST Class F weights
Mass – Fixed Points	500 kg 250 kg 200 kg 100 kg 50 kg 30 kg 25 kg 20 kg 10 kg 5 kg 4 kg 3 kg 2 kg 1 kg 500 g 300 g 200 g 100 g 50 g 30 g 20 g 10 g 5 g 3 g 2 g 1 g	12 g 6.9 g 6.9 g 2.8 g 290 mg 6.9 mg 6.9 mg 6.8 mg 1.2 mg 0.71 mg 0.77 mg 0.77 mg 0.48 mg 0.09 mg 0.074 mg 0.065 mg 30 µg 22 µg 12 µg 11 µg 8.6 µg 7.3 µg 5.4 µg 2.7 µg 2.6 µg 1.7 µg	Performed in accordance with NISTIR 6969 SOP 5 & SOP 4 for ASTM Class 1 & 2, & NISTR 6969 SOP 7 for ASTM Class 3 & 4

Parameter/Equipment	Range	CMC[2] (±)	Comments
Mass – Fixed Points (cont)	500 mg 300 mg 200 mg 100 mg 50 mg 30 mg 20 mg 10 mg 5 mg 3 mg 2 mg 1 mg	1.2 µg 0.85 µg 0.83 µg 0.91 µg 0.66 µg 0.64 µg 0.90 µg 0.75 µg 0.50 µg 0.56 µg 0.62 µg 0.62 µg	Performed in accordance with NISTIR 6969 SOP 5 & SOP 4 for ASTM Class 1 & 2, & NISTR 6969 SOP 7 for ASTM Class 3 & 4
Pressure – Transfer Standards & Pressure Devices	(1 to 50) psia	8.3×10^{-5} psi	DHI PG7601
Pressure – Absolute, Gauge, & Gas	(50 to 1000) psia	3.6×10^{-3} psi	DHI PG7601
Pressure Devices[3] –			
Gas	(-30 to 30) inH_2O	-0.0082 % + 0.000 23 inH_2O	Fluke 7250LP
Gas, Absolute & Gauge	(1 to 30) psia (> 30 to 300) psia (> 300 to 500) psia (> 500 to 1000) psia	1.4 x 10^{-3} psi 0.025 psi 0.075 psi 0.11 psi	DHI PPC3, DHI PPC4
Oil, Absolute & Gauge	(1000 to 1500) psia (> 1500 to 5000) psia (> 5000 to 10 000) psia	0.7 psi 1.3 psi 1.8 psi	DHI RPM4
Torque Tools[3] – (Wrenches, Screwdrivers, Watches)	(2 to 20) oz·in (1 to 10) lbf·in (10 to 100) lbf·in (5 to 50) lbf·ft (> 50 to 250) lbf·ft (> 250 to 1000) lbf·ft	0.26 ozf·in 0.17 lbf·in 0.33 lbf·in 0.17 lbf·ft 1.3 lbf·ft 3.3 lbf·ft	Mountz BMX torque cells

Parameter/Equipment	Range	CMC[2, 4] (±)	Comments
Volume – Pipettes[3]	(0.1 to 1) µL (2 to 5) µL (6 to 20) µL (1 to 5) µL (6 to 10) µL (11 to 20) µL (10 to 40) µL (41 to 100) µL (101 to 200) µL (201 to 500) µL (501 to 1000) µL (1001 to 2500) µL (2501 to 5000) µL (5001 to 10 000) µL (10 000 to 50 000) µL	4.1 % 1.4 % 1.7 % 0.07 µL 0.08 µL 0.12 µL 0.23 µL 0.18 µL 0.3 µL 0.91 µL 1.5 µL 5.8 µL 6.4 µL 5.5 µL 29 µL	Photometric methods Gravimetric methods, 6-digit balances Gravimetric methods, 5-digit balances

V. Thermodynamics

Parameter/Equipment	Range	CMC[2, 8] (±)	Comments
Relative Humidity – Measuring Equipment[3]	10 % RH 20 % RH 50 % RH 80 % RH 95 % RH	0.51 % RH 0.51 % RH 0.53 % RH 0.51 % RH 0.53 % RH	Thunder Scientific 2500ST-LT
Temperature – Thermometers & Probes[3]	(-80 to -30) °C (-30 to 300) °C (300 to 660) °C (660 to 1200) °C	0.016 °C (16 mK) 0.011 °C (11 mK) 0.062 °C (62 mK) 1.6 °C	Comparison in liquid bath with SPRT Comparison in liquid & metal block bath with SPRT SPRT with dry block TC with dry block

Parameter/Equipment	Range	CMC[2] (±)	Comments
Temperature Devices– (SPRT, PRT, RTD)			
Fixed Points			
Liquid N_2 comparison	-195.798 °C	0.0037 °C (3.7 mK)	Intrinsic fixed point cell using a thermometry bridge
Mercury cell	-38.8344 °C	0.0023 °C (2.3 mK)	
Water triple point cell	0.01 °C	0.0018 °C (1.8 mK)	
Gallium cell	29.7646 °C	0.0031 °C (3.1 mK)	
Indium cell	156.598 °C	0.0032 °C (3.2 mK)	
Tin cell	231.928 °C	0.0031 °C (3.1 mK)	
Zinc cell	419.527 °C	0.0047 °C (4.7 mK)	
Aluminum cell	660.323 °C	0.0079 °C (7.9 mK)	

VI. Time & Frequency

Parameter/Equipment	Range	CMC[2, 8] (±)	Comments
Frequency – Measure	10 MHz	5.8×10^{-10} Hz/Hz	Spectracom GPS master oscillator
Frequency – Measuring Equipment	0.01 Hz to 2 MHz	1.2×10^{-11} Hz/Hz + 5 µHz	Fluke 5522A w/ext 10 MHz reference
Stopwatch	(0 to 86 400) s/day	0.059 s/day	Vibrograf timometer

[1] This laboratory offers commercial calibration service and field calibration service, where noted.

[2] Calibration and Measurement Capability (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMCs represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

[3] Field calibration service is available for this calibration. Please note the actual measurement uncertainties achievable on a customer's site can normally be expected to be larger than the CMC found on the A2LA Scope. Allowance must be made for aspects such as the environment at the place of calibration and for other possible adverse effects such as those caused by transportation of the calibration equipment. The usual allowance for the actual uncertainty introduced by the item being calibrated, (e.g., resolution) must also be considered and this, on its own, could result in the actual measurement uncertainty achievable on a customer's site being larger than the CMC.

[4] In the statement of CMC, percentages are percentage of reading, unless otherwise indicated.

[5] The stated measured values are determined using the indicated instrument (see Comments). This capability is suitable for the calibration of the devices intended to measure or generate the measured value in the ranges indicated. CMCs are expressed as either a specific value that covers the full range or as a fraction/percentage of the reading plus a fixed floor specification.

[6] In the statement of CMC, L is the numerical value of the nominal length of the device measured in inches.

[7] This Scope meets A2LA's P112 Flexible Scope Policy.

[8] The type of instrument or material being calibrated is defined by the parameter. This indicates the laboratory is capable of calibrating instruments that measure or generate the values in the ranges indicated for the listed measurement parameter.

Accredited Laboratory

A2LA has accredited

METTLER-TOLEDO, LLC DBA ATLANTIC SCALE

Nutley, NJ

for technical competence in the field of

Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets the requirements of ANSI/NCSL Z540-1-1994 and R205 – Specific Requirements: Calibration Laboratory Accreditation Program. 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 1st day of October 2026.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2736.01
Valid to August 31, 2028

For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.