



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

METROLOGIA MONTERREY, S.A. DE C.V.

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CALIBRATION

Valid To: June 30, 2027

Certificate Number: 1572.01

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^{1,5}:

I. Acoustical Quantities

Parameter/Equipment	Range	CMC ² (±)	Comments
Sound Level Meter ³	94/114 dB at 250 Hz 94/114 dB at 1000 Hz	0.39 dB 0.39 dB	Quest technologies calibrator QC-20

II. Chemical Quantities

Parameter/Equipment	Range	CMC ² (±)	Comments
pH Meter ³	4 pH unit 7 pH unit 10 pH unit	0.014 pH 0.014 pH 0.014 pH	Buffer standards
Conductivity Meter ³	1408 µS/cm 12.85 mS/cm 111.3 mS/cm	9.5 µS/cm 0.087 mS/cm 0.80 mS/cm	Buffer standards

III. Dimensional

Parameter/Equipment	Range	CMC ² (±)	Comments
Height Gages ³	Up to 600 mm	1.5 µm/m + 8.1 µm	Step gage
Micrometers ³ – Length Flatness Parallelism	Up to 100 mm	1.0 µm/m + 0.81 µm 0.26 µm 0.49 µm	Gage blocks Optical flats
Calipers ³	Up to 600 mm	2.6 µm/m + 7.5 µm	Step gage, gage blocks
Displacement Indicators & Test Indicators ³ – Resolution 50 µin Resolution 10 µm Resolution 0.1 µm Resolution 1.0 µm	Up to 2 in Up to 25 mm Up to 25 mm Up to 100 mm	0.92 µm 4.4 µm 0.44 µm 1.5 µm/m + 0.76 µm	Micrometer head Indicator calibrator Gage blocks
Gage Blocks – Length	Up to 100 mm	3.2 µm/m + 0.10 µm	By mechanical comparison with Tesa gage blocks comparator (ASME B89.1.9)
Metallic Rulers/Scales	Up to 900 mm	2.4 µm/m + 65 µm	Optical electronic scale
Glass Scales	Up to 50 mm	48 µm/m + 1.6 µm	Heidenhain MT 60K & micrometer head
Pin Gages	(0.50 to 63) mm	3.2 µm/m + 0.60 µm	Laser scan micrometer
Steel Feeler Gauges ³ /Thickness Gauges ³	(0.01 to 3.0) mm	1.5 µm	Digital micrometer
Thread Plug Gage ³ – Pitch Diameter	Up to 50 mm	2.7 µm	Three wire method & digital micrometer

Parameter/Equipment	Range	CMC ² (±)	Comments
Optical Comparator ³ – Magnification Length	10× to 50× 200 mm travel	5.2 µm 4.7 µm/m + 3.5 µm	Glass scales
Surface Texture Analyzers/Meters ³ (Ra, Rz)	Ra: 3 µm 6 µm Rz: 9.54 µm 23.242 µm	0.036 µm 0.063 µm 0.34 µm 0.34 µm	Roughness specimen standards
Indicator Calibrator	Up to 25 mm	0.79 µm/m + 0.69 µm	Gage blocks, electronic dimensional comparator
Thickness Gauge, Digital, Dial, Test/Lever ³	Up to 100 mm	1.4 µm/m + 0.83 µm	Gage blocks
Coating Thickness Gage ³	0.024 mm 0.053 mm 0.078 mm 0.128 mm 0.257 mm 0.508 mm 1.027 mm 1.503 mm	0.32 µm 0.33 µm 0.37 µm 0.80 µm 0.80 µm 0.84 µm 0.98 µm 1.0 µm	Defelsko calibration standards
Height Master Steel & Ceramic Types ³	Up to 610 mm	2.8 µm/m + 1.3 µm	Gage block, step gage, electronic dimensional comparator
Granite Surface Plate ³ – Repeat Readings Only (Local Variation in Flatness Only)	Up to 5 µm	0.59 µm	ASME B89.3.7, electronic dimensional comparator, repeat reading gage
Laser Scan Micrometer ³	0.5 mm 5 mm 15 mm 30 mm 50 mm	0.38 µm 0.39 µm 0.54 µm 0.55 µm 0.57 µm	Cylindrical masters class XXX

Parameter/Equipment	Range	CMC ² (±)	Comments
Depth Micrometer ³ – Length, Interchangeable Rods Flatness	Up to 152.4 mm	2.1 µm/m + 2.6 µm 0.26 µm	Depth micrometer calibrator, gage blocks, optical flats

IV. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC ^{2, 4, 6} (±)	Comments
DC Voltage – Generate ³	(0 to 330) mV (0.33 to 3.3) V (3.3 to 33) V (33 to 330) V (330 to 1000) V	24 nV/mV + 1.2 µV 16 µV/V + 6.3 µV 14 µV/V + 84 µV 22 µV/V + 0.19 mV 22 µV/V + 1.6 mV	Fluke 5520A
DC Voltage – Measure ³	(0 to 200) mV (0.2 to 2) V (2 to 20) V (20 to 200) V (200 to 1000) V	19 nV/mV + 3.0 µV 8.3 µV/V + 0.012 mV 13 µV/V + 3.6 µV 26 µV/V + 0.48 mV 27 µV/V + 0.29 mV	Keithley 2002
DC Current – Generate ³	(0 to 330) µA (0.33 to 3.3) mA (3.3 to 33) mA (33 to 330) mA (0.33 to 1.1) A (1.1 to 3) A (3 to 11) A (11 to 20.5) A	0.017 % + 23 nA 0.016 % + 0.13 µA 0.012 % + 0.30 µA 0.012 % + 3.3 µA 0.016 % + 0.52 mA 0.044 % + 0.051 mA 0.059 % + 0.56 mA 0.042 % + 16 mA	Fluke 5520A
DC Current – Measure ³	(0.2 to 2) mA (2 to 20) mA (20 to 200) mA (0.2 to 2) A (2 to 10) A	0.021 % + 0.034 µA 0.012 % + 3 µA 0.044 % + 4.8 µA 0.045 % + 0.022 mA 0.36 % + 1.8 mA	Keithley 2002 Fluke 289

Parameter/Range	Frequency	CMC ^{2,4,6} (±)	Comments
AC Voltage – Generate ³ (1 to 33) mV (33 to 330) mV 330 mV to 3.3 V (3.3 to 33) V (33 to 330) V (330 to 1020) V	45 Hz to 10 kHz	0.016 % + 8.1 µV 0.019 % + 9.3 µV 0.019 % + 0.084 mV 0.02 % + 0.66 mV 0.025 % + 6.7 mV 0.037 % + 8.5 mV	Fluke 5520A
AC Current – Generate ³ (29 to 330) µA (0.33 to 3.3) mA (3.3 to 33) mA (33 to 330) mA (0.33 to 1.1) A (1.1 to 3) A (3 to 11) A (11 to 20.5) A	45 Hz to 1 kHz (45 to 100) Hz 100 Hz to 1 kHz (45 to 100) Hz 100 Hz to 1 kHz	0.14 % + 0.12 µA 0.12 % + 0.17 µA 0.05 % + 2.2 µA 0.049 % + 0.024 mA 0.060 % + 0.11 mA 0.071 % + 0.12 mA 0.073 % + 2.2 mA 0.12 % + 2.3 mA 0.14 % + 5.7 mA 0.17 % + 6.3 mA	Fluke 5520A
AC Voltage – Measure ³ (1 to 200) mV (0.2 to 2) V (2 to 20) V (20 to 200) V (200 to 750) V	(50 to 1000) Hz	0.02 % + 32 µV 0.035 % + 0.23 mV 0.035 % + 3.5 mV 0.035 % + 36 mV 0.058 % + 0.13 V	Keithley 2002
AC Current – Measure ³ (0.2 to 2) mA (2 to 20) mA (20 to 200) mA (0.2 to 2) A (2 to 10) A	(50 to 1000) Hz (45 to 1000) Hz	0.14 % + 0.37 µA 0.14 % + 3.6 µA 0.14 % + 36 µA 0.32 % + 1.0 mA 0.97 % + 2.4 mA	Keithley 2002 Fluke 289

Parameter/Equipment	Range	CMC ² (±)	Comments
Electrical Simulation of Thermocouple Indicators & Indicating Systems ³ –			
Type B	(600 to 800) °C (800 to 1000) °C (1000 to 1550) °C (1550 to 1820) °C	0.52 °C 0.41 °C 0.36 °C 0.39 °C	Fluke 5520A
Type C	(0 to 150) °C (150 to 650) °C (650 to 1000) °C (1000 to 1800) °C (1800 to 2316) °C	0.36 °C 0.31 °C 0.37 °C 0.59 °C 0.98 °C	
Type E	(-250 to -100) °C (-100 to -25) °C (-25 to 350) °C (350 to 650) °C (650 to 1000) °C	0.59 °C 0.20 °C 0.18 °C 0.20 °C 0.26 °C	
Type J	(-210 to -100) °C (-100 to -30) °C (-30 to 150) °C (150 to 760) °C (760 to 1200) °C	0.32 °C 0.20 °C 0.18 °C 0.21 °C 0.28 °C	
Type K	(-200 to -100) °C (-100 to -25) °C (-25 to 120) °C (120 to 1000) °C (1000 to 1372) °C	0.39 °C 0.22 °C 0.20 °C 0.31 °C 0.47 °C	
Type L	(-200 to -100) °C (-100 to 800) °C (800 to 900) °C	0.44 °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	0.47 °C 0.27 °C 0.23 °C 0.22 °C 0.33 °C	

Parameter/Equipment	Range	CMC ^{2, 4, 6} ($\pm$)	Comments
Electrical Simulation of Thermocouple Indicators & Indicating Systems ³ – (cont)			
Type R	(0 to 250) °C (250 to 400) °C (400 to 1000) °C (1000 to 1767) °C	0.67 °C 0.42 °C 0.39 °C 0.48 °C	Fluke 5520A
Type S	(0 to 250) °C (250 to 1000) °C (1000 to 1400) °C (1400 to 1767) °C	0.55 °C 0.43 °C 0.44 °C 0.55 °C	
Type T	(-250 to -150) °C (-150 to 0) °C (0 to 120) °C (120 to 400) °C	0.74 °C 0.29 °C 0.20 °C 0.18 °C	
Type U	(-200 to 0) °C (0 to 600) °C	0.65 °C 0.32 °C	
High Voltage – Measure ³			
AC Voltage @ 60 Hz	(1 to 28) kVrms	0.79 % + 3.2 V	Fluke 289 with Fluke 80K40 high voltage probe
DC Voltage	(1 to 40) kV	0.19 % + 4.2 V	
High Current – Measure ³			
AC Current, @ (45 to 65) Hz	(10 to 1000) A (1000 to 2500) A	2.4 % + 0.59 A 3.8 % + 3.1 A	Fluke 376 FC, iflex i2500-18
DC Current	(10 to 1000) A	2.4 % + 0.59 A	Fluke 376 FC

Parameter/Equipment	Range	CMC ² (±)	Comments
Electrical Simulation of RTD Indicators & Indicating Systems ³ –			
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	0.089 °C 0.089 °C 0.11 °C 0.13 °C 0.14 °C 0.16 °C 0.28 °C	Fluke 5520A
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	0.089 °C 0.088 °C 0.11 °C 0.13 °C 0.14 °C 0.16 °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	0.30 °C 0.082 °C 0.087 °C 0.097 °C 0.11 °C 0.12 °C 0.13 °C 0.14 °C 0.28 °C	
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	0.082 °C 0.082 °C 0.081 °C 0.088 °C 0.16 °C 0.17 °C 0.18 °C 0.20 °C	
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	0.083 °C 0.088 °C 0.089 °C 0.097 °C 0.12 °C 0.12 °C 0.13 °C 0.15 °C	

Parameter/Equipment	Range	CMC ^{2, 4} (±)	Comments
Electrical Simulation of RTD Indicators & Indicating Systems ³ – (cont)			
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	0.076 °C 0.076 °C 0.081 °C 0.088 °C 0.096 °C 0.11 °C 0.11 °C 0.28 °C	Fluke 5520A
PtNi 385, 120 Ω	(0 to 100) °C (-80 to 0) °C (100 to 260) °C	0.12 °C 0.12 °C 0.18 °C	
Cu 427, 10 Ω	(-100 to 260) °C	0.36 °C	
Ni 120	(-80 to 260) °C	0.096 % + 0.25 °C	Fluke 712B
Pt 100-385	(-200 to 800) °C	0.019 % + 0.31 °C	
Pt 100-3926	(-200 to 630) °C	0.011 % + 0.31 °C	
Pt 200-385	(-200 to 250) °C (250 to 630) °C	0.28 °C 0.028 % + 0.21 °C	
Pt 500-385	(-200 to 500) °C (500 to 630) °C	0.09 m °C/°C + 0.39 °C 0.019 % + 0.34 °C	
Pt 1000-385	(-200 to 630) °C	0.02 % + 0.30 °C	

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Capacitance Meter Calibration ³ – (10 to 1000) Hz (10 to 600) Hz	(0.19 to 3.3) nF (3.3 to 11) nF (11 to 33) nF (33 to 110) nF (110 to 330) nF (0.33 to 1.1) µF (1.1 to 3.3) µF (3.3 to 11) µF (11 to 33) µF (33 to 110) µF (110 to 330) µF (0.33 to 1.1) mF	0.56 % + 13 pF 0.29 % + 13 pF 0.29 % + 0.12 nF 0.30 % + 0.12 nF 0.30 % + 0.34 nF 0.29 % + 1.3 nF 0.31 % + 3.3 nF 0.31 % + 11 nF 0.48 % + 34 nF 0.53 % + 0.11 µF 0.54 % + 0.34 µF 0.54 % + 1.1 µF	Fluke 5520A
Inductance Meter Calibration ³ – 1 kHz	(0.001 to 9.999) H	23 mH/H	Inductance master IET LS-400
High Resistance Meter ³ – @ DC Voltages (250, 500, 750, 1000) V	100kΩ to 10 MΩ 10MΩ to 11.1 GΩ	0.13 % 1.2 %	High resistance decade substituter IET HRRS-F-5-100K
Current Clamp Meter ³ – AC Current (45 to 65) Hz Torroidal Non-Torroidal DC Current	(10 to 16.5) A (16.5 to 150) A (150 to 1025) A (10 to 16.5) A (16.5 to 150) A (150 to 1025) A (10 to 16.5) A (16.5 to 150) A (150 to 1000) A	0.41 % + 3.5 mA 0.41 % + 26 mA 0.45 % + 64 mA 0.61 % + 41 mA 0.65 % + 0.29 A 0.71 % + 1.0 A 0.58 % + 24 mA 0.58 % + 0.16 A 0.64 % + 0.53 A	Fluke 5520A w/coil

Parameter/Equipment	Range	CMC ^{2, 4} (±)	Comments
Oscilloscope Calibration ³ –			
Amplitude			
Sinewave			
1 MΩ Load	1.8 mV to 55 V _{pk - pk}	3.5 % + 2.4 mV	Fluke 5520A w/SC600
50 Ω Load	1.8 mV to 2.5 V _{pk - pk}	4.3 % + 2.3 mV	
Squarewave			
1 MΩ Load	1.8 mV to 55 V _{pk - pk}	3.6 % + 1.0 mV	
50 Ω Load	1.8 mV to 2.5 V _{pk - pk}	4.3 % + 2.4 mV	
Trianglewave			
1 MΩ Load	1.8 mV to 55 V _{pk - pk}	3.6 % + 1.2 mV	
50 Ω Load	1.8 mV to 2.5 V _{pk - pk}	4.3 % + 2.2 mV	
Time Marker @			
1 V _{p-p}	(1 to 5) s	2.9 % + 23 ms	
	(1 to 500) ms	0.42 % + 48 μs	
Power Meter Calibration ³ –			
DC @ 33 mV to 1020 V	0.01 mW to 336 W 336 W to 3.06 kW (3.06 to 20.9) kW	0.026 % + 3.4 mW 0.026 % 0.082 %	Fluke 5520A
AC @ (45 to 65) Hz (33 to 329.999) mV	(0.01 to 3) mW	0.044 % + 3.4 μW	
	(3 to 10.9) mW	0.065 % + 3.1 μW	
	(10.9 to 30) mW	0.15 % + 1.4 μW	
	(30 to 109) mW	0.12 % + 0.59 μW	
	(109 to 297) mW	0.15 % + 0.80 μW	
	(297 to 726) mW	0.13 % + 2.8 μW	
	726 mW to 1.49 W	0.15 % + 8.5 μW	
AC @ (45 to 65) Hz 330 mV to 1020 V	(1.49 to 7) W	0.13 % + 4 μW	
	0.01 mW to 9.2 W	0.13 % + 1.6 mW	
	(9.2 to 33.7) W	0.095 % + 0.69 mW	
	(33.7 to 91.8) W	0.14 % + 0.54 mW	
	(91.8 to 336.6) W	0.094 % + 1.3 mW	
	(336.6 to 918) W	0.13 % + 0.71 mW	
	918 W to 2.25 kW	0.11 %	
	(2.25 to 4.6) kW	0.14 %	
	(4.6 to 20.9) kW	0.12 %	

V. Fluid Quantities

Parameter/Equipment	Range	CMC ² (±)	Comments
Dynamic Viscosity Meter ³	100 cP 500 cP 1000 cP 5000 cP	0.50 cP 2.0 cP 4.7 cP 23 cP	Viscosity standards
Viscosity Cups ³ – Zahn 2, 3, 4	(123.8 to 168.5) cSt (233.8 to 325.4) cSt	0.85 cSt 1.8 cSt	Viscosity standards, stopwatch

VI. Mechanical

Parameter/Equipment	Range	CMC ²⁻⁴ (±)	Comments
Pressure ³ – Gages	Up to 25 in·H ₂ O Up to 15 psi Up to 100 psi Up to 300 psi Up to 2000 psi Up to 5000 psi Up to 10 000 psi Up to 30 000 psi	0.033 in·H ₂ O 0.0078 psi 0.0013 psi/psi + 0.004 psi 0.0011 psi/psi + 0.04 psi 0.0012 psi/psi + 0.020 psi 0.0012 psi/psi + 0.13 psi 18 psi 40 psi	Pressure transducer & digital pressure gauge
Transducers (4 to 20) mA	Up to 5000 psi	0.059 % + 0.01 mA	Pressure transducer, digital pressure gauge & multimeter
Vacuum Gages ³	Down to 13.26 psi	0.0088 psi	Digital pressure gauge
Pneumatic Pressure Relief Valves ³	Up to 100 psi Up to 200 psi	0.36 psi 0.46 psi	Digital pressure gauge

Parameter/Equipment	Range	CMC ² (±)	Comments
Force Gage ³ – (Tension & Compression)	Up to 500 lbf (200 to 2000) lbf (1000 to 10 000) lbf (10 000 to 100 000) lbf	0.000 082 lbf/lbf + 0.0039 lbf 2.4 lbf 12 lbf 0.000 24 lbf/lbf + 120 lbf	OIML Class M2 weights Load cell
(Only Compression)	(50 to 500) lbf	1.5 lbf	Load cell
Indirect Verification of Rockwell Hardness Testers ³	HRBW: Low Medium High HRC: Low Medium High HR15N: Low Medium High HR30N: Low Medium High HR45N: Low Medium High HR15TW: Low Medium High HR30TW: Low Medium High HR45TW: Low Medium High	0.70 HRBW 0.60 HRBW 0.60 HRBW 0.41 HRC 0.41 HRC 0.37 HRC 0.48 HR15N 0.60 HR15N 0.42 HR15N 0.57 HR30N 0.60 HR30N 0.52 HR30N 0.49 HR45N 0.59 HR45N 0.52 HR45N 0.69 HR15TW 0.65 HR15TW 0.44 HR15TW 0.56 HR30TW 0.53 HR30TW 0.46 HR30TW 0.55 HR45TW 0.58 HR45TW 0.59 HR45TW	Indirect verification per ASTM E18

Parameter/Equipment	Range	CMC ² (±)	Comments
Indirect Verification of Brinell Hardness Testers at Test Condition(s) ³ – 10/3000/10 5/250/10	(100 to 200) HBW (300 to 400) HBW (500 to 600) HBW (40 to 80) HBW (100 to 140) HBW (160 to 200) HBW	1.2 HBW 2.6 HBW 5.6 HBW 0.41 HBW 0.50 HBW 1.3 HBW	Indirect verification method per ASTM E10
Indirect Verification of Leeb Hardness Testers ³	720 HLD	9.6 HLD	Indirect verification method per ASTM A956
Scales & Balances ³	1 mg to 210 g (210 to 610) g (610 to 6500) g (1.5 to 30) kg (10 to 60) kg (5 to 100) kg (50 to 500) kg	1.1 µg/g + 25 µg 1.9 mg 0.0014 mg/g + 17 mg 0.7 mg/kg + 0.18 g 6.9 mg/kg + 1.8 g 19 g 0.18 kg	Weights Class: OIML Class E2 OIML Class E2 OIML Class F1 & F2 OIML Class F2 OIML Class F2 & M1 OIML Class M1 OIML Class M1
Mass – Class F1 & F2 Class M1, M2 & F2	(0.1 to 42) g (42 to 210) g (210 to 520) g (520 to 6100) g (6100 to 31 000) g	1.5 µg/g + 37 µg 0.50 µg/g + 0.13 mg 1.5 mg 1.5 µg/g + 13 mg 5.5 µg/g + 87 mg	Class E2 weights & comparator Class F1 & F2 weights & comparator

Parameter/Equipment	Range	CMC ² (±)	Comments
Torque – Wrenches Analyzers, Transducers	(5 to 50) lbf·in	0.001 lbf·in/lbf·in + 0.25 lbf·in	Torque analyzer with loader
	(30 to 300) lbf·in	0.000 36 lbf·in/lbf·in + 0.95 lbf·in	
	(50 to 500) lbf·in	0.000 23 lbf·in/lbf·in + 1.7 lbf·in	
	(50 to 600) lbf·ft	0.0005 lbf·ft/lbf·ft + 1.9 lbf·ft	
	(200 to 1000) lbf·ft	0.0032 lbf·ft/lbf·ft + 3.6 lbf·ft	
	Up to 250 lbf·in	0.0022 lbf·in/lbf·in + 0.0034 lbf·in	Weights OIML Class M2
	Up to 250 lbf·ft	0.0015 lbf·ft/lbf·ft + 0.02 lbf·ft	
	Up to 750 lbf·ft	0.0013 lbf·ft/lbf·ft + 0.47 lbf·ft	
	Up to 250 lbf·in	0.0008 lbf·in/lbf·in + 0.0035 lbf·in	Torque arms with OIML Class M2 weights
	Up to 250 lbf·ft	0.0011 lbf·ft/lbf·ft + 0.0036 lbf·ft	
	Up to 600 lbf·ft	0.0017 lbf·ft/lbf·ft + 0.0066 lbf·ft	
Dynamic Torque Tools, Drivers, & Nut Runners ³	Up to 100 lbf·in	0.0012 lbf·in/lbf·in + 0.33 lbf·in	Torque analyzer
	(5 to 50) lbf·ft (10 to 100) lbf·ft	0.16 lbf·ft 0.31 lbf·ft	

VII. Optical Quantities

Parameter/Equipment	Range	CMC ^{2,4} ($\pm$)	Comments
Illuminance Meter	(275 to 10 000) lux (10 000 to 100 000) lux (100 000 to 400 000) lux	0.72 % + 0.86 lux 1.4 % + 73 lux 2.4 % + 1.5 klux	Photometric bench & standard lamp

VIII. Thermodynamic

Parameter/Equipment	Range	CMC ^{2,4,6} ($\pm$)	Comments
Infrared Temperature – Measuring Equipment	(50 to 100) °C (100 to 300) °C (300 to 500) °C	1.1 % + 0.35 °C 1.5 % 0.35 % + 3.5 °C	Fluke calibrator 9132 with spectral band = (8 to 14) μ m & Emissivity = 0.95
Humidity – Measuring Equipment @ 30 °C	(30 to 80) % RH	1.6 % RH	Rotronic Higropalm HP32/HC2A
Temperature – Measuring Equipment	(18 to 50) °C	0.19 °C	Rotronic Higropalm HP32/HC2A
Temperature – Contact Thermometer ³	(30 to 400) °C	0.34 % + 0.49 °C	Dry-well block, temperature calibrator Fluke 712B w/RTD

IX. Time & Frequency

Parameter/Equipment	Range	CMC ^{2,4,6} ($\pm$)	Comments
Stopwatch – Time ³	(1 to 3600) s	0.22 s	Direct comparison to stopwatch
Frequency – Measure ³	0.1 Hz to 225 MHz	4.2 μ Hz/Hz + 0.19 mHz	Agilent 53131A universal counter

Parameter/Equipment	Range	CMC ^{2, 4, 6} ($\pm$)	Comments
Frequency – Measuring Equipment ³	(0.01 to 11 999) Hz (12 to 2000) kHz	48 μ Hz/Hz + 6.3 mHz 0.042 % + 1.8 Hz	Fluke 5520A
	(2 to 600) MHz	4.3 Hz/MHz + 5.9 kHz	Fluke 5520A

¹ This laboratory offers commercial calibration and field calibration service.

² Calibration and Measurement Capability Uncertainty (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, percentage refers to percent of reading unless otherwise noted.

⁵ This scope meets A2LA's *P112 Flexible Scope Policy*.

⁶ 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

METROLOGIA MONTERREY, S.A. DE C.V.

Nuevo León, MEXICO

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 7540-1-1994 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 24th day of June 2025.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 1572.01
Valid to June 30, 2027

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