



**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017
AND ANSI/NCSL Z540-1-1994 (R2002)**

Nationwide Gage Calibration, Inc.

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CALIBRATION

Valid to: **March 28, 2023**

Certificate Number: **AC-1160**

Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
DC Voltage – Source	Up to 330 mV (0.33 to 3.3) V (3.3 to 33) V (33 to 330) V (330 to 1 020) V	7.8 μ V 43 μ V 0.47 mV 6.1 mV 22 mV	Multi-Product Calibrator
DC Current – Source	Up to 330 μ A (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	0.1 μ A 0.39 μ A 3.9 μ A 39 μ A 0.24 mA 1.4 mA 6.4 mA 24 mA	Fluke 5520A Multi-Product Calibrator
Resistance – Source	Up to 11 Ω (11 to 33) Ω (33 to 110) Ω (110 to 330) Ω (0.33 to 1.1) k Ω (1.1 to 3.3) k Ω (3.3 to 11) k Ω (11 to 33) k Ω (33 to 110) k Ω (110 to 330) k Ω (0.33 to 1.1) M Ω (1.1 to 3.3) M Ω	0.97 m Ω 1.5 m Ω 3.7 m Ω 14 m Ω 37 m Ω 0.11 Ω 0.37 Ω 1.1 Ω 3.7 Ω 13 Ω 38 Ω 0.24 k Ω	Multi-Product Calibrator



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Resistance – Source	(3.3 to 11) MΩ	1.7 kΩ	Multi-Product Calibrator
	(11 to 33) MΩ	9.8 kΩ	
	(33 to 110) MΩ	65 kΩ	
	(110 to 330) MΩ	1.2 MΩ	
	(0.33 to 1.1) GΩ	2.4 MΩ	
AC Voltage – Source	(1 to 33) mV		Multi-Product Calibrator
	(10 to 45) Hz	31 μV	
	45 Hz to 10 kHz	6.6 μV	
	(10 to 20) kHz	8.3 μV	
	(20 to 50) kHz	39 μV	
	(50 to 100) kHz	0.14 mV	
	(100 to 500) kHz	0.31 mV	
	(33 to 330) mV		
	(10 to 45) Hz	0.13 mV	
	45 Hz to 10 kHz	57 μV	
	(10 to 20) kHz	62 μV	
	(20 to 50) kHz	0.14 mV	
	(50 to 100) kHz	0.31 mV	
	(100 to 500) kHz	0.77 mV	
	(0.33 to 3.3) V		
	(10 to 45) Hz	1.2 mV	
	45 Hz to 10 kHz	0.58 mV	
	(10 to 20) kHz	0.73 mV	
	(20 to 50) kHz	1.2 mV	
	(50 to 100) kHz	2.7 mV	
	(100 to 500) kHz	9.2 mV	
	(3.3 to 33) V		
	(10 to 45) Hz	12 mV	
	45 Hz to 10 kHz	5.8 mV	
	(10 to 20) kHz	9.2 mV	
	(20 to 50) kHz	14 mV	
	(50 to 100) kHz	35 mV	
	(33 to 330) V		
	(10 to 45) Hz	74 mV	
	45 Hz to 10 kHz	78 mV	
(10 to 20) kHz	97 mV		
(20 to 50) kHz	0.12 V		
(50 to 100) kHz	0.77 V		
(330 to 1 020) V			
45 Hz to 1 kHz	0.35 V		
(1 to 5) kHz	0.3 V		
(5 to 10) kHz	0.36 V		



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AC Current – Source	(29 to 330) μ A		Multi-Product Calibrator
	(10 to 20) Hz	1.2 μ A	
	(20 to 45) Hz	0.99 μ A	
	45 Hz to 1 kHz	0.94 μ A	
	(1 to 5) kHz	1.4 μ A	
	(5 to 10) kHz	3.2 μ A	
	(10 to 30) kHz	6.2 μ A	
	(0.33 to 3.3) mA		
	(10 to 20) Hz	7.8 μ A	
	(20 to 45) Hz	4.9 μ A	
	45 Hz to 1 kHz	4 μ A	
	(1 to 5) kHz	7.7 μ A	
	(5 to 10) kHz	20 μ A	
	(10 to 30) kHz	39 μ A	
	(3.3 to 33) mA		
	(10 to 20) Hz	70 μ A	
	(20 to 45) Hz	36 μ A	
	45 Hz to 1 kHz	18 μ A	
	(1 to 5) kHz	32 μ A	
	(5 to 10) kHz	78 μ A	
	(10 to 30) kHz	0.16 mA	
	(33 to 330) mA		
	(10 to 20) Hz	0.69 mA	
	(20 to 45) Hz	0.35 mA	
	45 Hz to 1 kHz	0.16 mA	
	(1 to 5) kHz	0.39 mA	
	(5 to 10) kHz	0.77 mA	
	(10 to 30) kHz	1.6 mA	
(0.33 to 1.1) A			
(10 to 45) Hz	2.1 mA		
45 Hz to 1 kHz	0.59 mA		
(1 to 5) kHz	7 mA		
(5 to 10) kHz	29 mA		



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AC Current – Source	(1.1 to 3) A		Multi-Product Calibrator
	(10 to 45) Hz	6.3 mA	
	45 Hz to 1 kHz	2.3 mA	
	(1 to 5) kHz	21 mA	
	(5 to 10) kHz	87 mA	
	(3 to 11) A		
	(45 to 100) Hz	8.1 mA	
	100 Hz to 1 kHz	13 mA	
	(1 to 5) kHz	0.39 A	
	(11 to 20.5) A		
	(45 to 100) Hz	29 mA	
	100 Hz to 1 kHz	35 mA	
(1 to 5) kHz	0.7 A		
Capacitance – Source	(190 to 400) pF	6.3 pF	Multi-Product Calibrator
	(0.4 to 1.1) nF	6.5 pF	
	(1.1 to 3.3) nF	20 pF	
	(3.3 to 11) nF	34 pF	
	(11 to 33) nF	0.13 nF	
	(33 to 110) nF	0.34 nF	
	(110 to 330) nF	1.3 nF	
	(0.33 to 1.1) μF	3.4 nF	
	(1.1 to 3.3) μF	13 nF	
	(3.3 to 11) μF	34 nF	
	(11 to 33) μF	0.21 μF	
	(33 to 110) μF	0.61 μF	
	(110 to 330) μF	2.3 μF	
	(0.33 to 1.1) mF	6.1 μF	
	(1.1 to 3.3) mF	18 μF	
	(3.3 to 11) mF	60 μF	
(11 to 33) mF	0.19 mF		
(33 to 110) mF	0.97 mF		
Electrical Simulation of Thermocouple Indicating Devices	Type B		Multi-Product Calibrator
	(600 to 800) °C	0.46 °C	
	(800 to 1 000) °C	0.37 °C	
	(1 000 to 1 550) °C	0.33 °C	
	(1 550 to 1 820) °C	0.36 °C	



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Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Electrical Simulation of Thermocouple Indicating Devices	Type C		Multi-Product Calibrator
	(0 to 150) °C	0.33 °C	
	(150 to 650) °C	0.29 °C	
	(650 to 1 000) °C	0.34 °C	
	(1 000 to 1 800) °C	0.52 °C	
	(1 800 to 2 316) °C	0.85 °C	
	Type E		
	(-250 to -100) °C	0.52 °C	
	(-100 to -25) °C	0.21 °C	
	(-25 to 350) °C	0.19 °C	
	(350 to 650) °C	0.21 °C	
	(650 to 1 000) °C	0.25 °C	
	Type J		
	(-210 to -100) °C	0.3 °C	
	(-100 to -30) °C	0.21 °C	
	(-30 to 150) °C	0.19 °C	
	(150 to 760) °C	0.21 °C	
	(760 to 1 200) °C	0.27 °C	
	Type K		
	(-200 to -100) °C	0.36 °C	
	(-100 to -25) °C	0.22 °C	
	(-25 to 120) °C	0.21 °C	
	(120 to 1 000) °C	0.29 °C	
	(1 000 to 1 372) °C	0.42 °C	
	Type L		
	(-200 to -100) °C	0.39 °C	
	(-100 to 800) °C	0.29 °C	
	(800 to 900) °C	0.21 °C	
Type N			
(-200 to -100) °C	0.42 °C		
(-100 to -25) °C	0.26 °C		
(-25 to 120) °C	0.23 °C		
(120 to 410) °C	0.22 °C		
(410 to 1 300) °C	0.3 °C		
Type R			
(0 to 250) °C	0.59 °C		
(250 to 400) °C	0.38 °C		
(400 to 1 000) °C	0.36 °C		
(1 000 to 1 767) °C	0.42 °C		



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Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Electrical Simulation of Thermocouple Indicating Devices	Type S (0 to 250) °C	0.49 °C	Multi-Product Calibrator
	(250 to 1 000) °C	0.38 °C	
	(1 000 to 1 400) °C	0.39 °C	
	(1 400 to 1 767) °C	0.48 °C	
	Type T (-250 to -150) °C	0.65 °C	
	(-150 to 0) °C	0.27 °C	
	(0 to 120) °C	0.21 °C	
	(120 to 400) °C	0.19 °C	
	Type U (-200 to 0) °C	0.58 °C	
	(0 to 600) °C	0.3 °C	
Electrical Simulation of Thermocouple Indicators ¹	Type B (600 to 1 800) °C	2.6 °C	Precision Temperature Calibrator
	Type E (-200 to 950) °C	1.1 °C	
	Type J (-200 to 1 200) °C	1.3 °C	
	Type K (-200 to 1 370) °C	1.5 °C	
	Type L (-200 to 1 370) °C	1.1 °C	
	Type N (-200 to 1 370) °C	1.8 °C	
	Type R (-20 to 1 750) °C	3 °C	
	Type S (-20 to 1 750) °C	3 °C	
	Type T (-200 to 400) °C	1.5 °C	
	Type U (-200 to 400) °C	1.4 °C	



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Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Electrical Simulation of RTD Indicating Devices	Pt 385, 100 Ω		Multi-Product Calibrator
	(-200 to -80) °C	0.12 °C	
	(-80 to 0) °C	0.12 °C	
	(0 to 100) °C	0.13 °C	
	(100 to 300) °C	0.14 °C	
	(300 to 400) °C	0.15 °C	
	(400 to 630) °C	0.16 °C	
	(630 to 800) °C	0.26 °C	
	Pt 3926, 100 Ω		
	(-200 to -80) °C	0.12 °C	
	(-80 to 0) °C	0.12 °C	
	(0 to 100) °C	0.13 °C	
	(100 to 300) °C	0.14 °C	
	(300 to 400) °C	0.15 °C	
	(400 to 630) °C	0.16 °C	
	Pt 3916, 100 Ω		
	(-200 to -190) °C	0.27 °C	
	(-190 to -80) °C	0.11 °C	
	(-80 to 0) °C	0.12 °C	
	(0 to 100) °C	0.12 °C	
	(100 to 260) °C	0.13 °C	
	(260 to 300) °C	0.13 °C	
	(300 to 400) °C	0.14 °C	
	(400 to 600) °C	0.15 °C	
	(600 to 630) °C	0.26 °C	
	Pt 385, 200 Ω		
	(-200 to -80) °C	0.11 °C	
	(-80 to 0) °C	0.11 °C	
(0 to 100) °C	0.11 °C		
(100 to 260) °C	0.12 °C		
(260 to 300) °C	0.16 °C		
(300 to 400) °C	0.17 °C		
(400 to 600) °C	0.18 °C		
(600 to 630) °C	0.19 °C		



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Electrical – DC/Low Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Electrical Simulation of RTD Indicating Devices	Pt 385, 500 Ω		Multi-Product Calibrator
	(-200 to -80) $^{\circ}\text{C}$	0.11 $^{\circ}\text{C}$	
	(-80 to 0) $^{\circ}\text{C}$	0.12 $^{\circ}\text{C}$	
	(0 to 100) $^{\circ}\text{C}$	0.12 $^{\circ}\text{C}$	
	(100 to 260) $^{\circ}\text{C}$	0.12 $^{\circ}\text{C}$	
	(260 to 300) $^{\circ}\text{C}$	0.13 $^{\circ}\text{C}$	
	(300 to 400) $^{\circ}\text{C}$	0.13 $^{\circ}\text{C}$	
	(400 to 600) $^{\circ}\text{C}$	0.14 $^{\circ}\text{C}$	
	(600 to 630) $^{\circ}\text{C}$	0.15 $^{\circ}\text{C}$	
	Pt 385, 1 000 Ω		
	(-200 to -80) $^{\circ}\text{C}$	0.11 $^{\circ}\text{C}$	
	(-80 to 0) $^{\circ}\text{C}$	0.11 $^{\circ}\text{C}$	
	(0 to 100) $^{\circ}\text{C}$	0.11 $^{\circ}\text{C}$	
	(100 to 260) $^{\circ}\text{C}$	0.12 $^{\circ}\text{C}$	
	(260 to 300) $^{\circ}\text{C}$	0.12 $^{\circ}\text{C}$	
	(300 to 400) $^{\circ}\text{C}$	0.13 $^{\circ}\text{C}$	
	(400 to 600) $^{\circ}\text{C}$	0.13 $^{\circ}\text{C}$	
(600 to 630) $^{\circ}\text{C}$	0.26 $^{\circ}\text{C}$		
Pt 385, 120 Ω (Ni 120)			
(-80 to 0) $^{\circ}\text{C}$	0.13 $^{\circ}\text{C}$		
(0 to 100) $^{\circ}\text{C}$	0.13 $^{\circ}\text{C}$		
(100 to 260) $^{\circ}\text{C}$	0.18 $^{\circ}\text{C}$		
Cu 427, 10 Ω			
(-100 to 260) $^{\circ}\text{C}$	0.32 $^{\circ}\text{C}$		
Electrical Simulation of RTD Indicating devices ¹	Pt Ni 120 (100 Ω)		Precision Temperature Calibrator
	(-80 to 260) $^{\circ}\text{C}$	0.26 $^{\circ}\text{C}$	
	Pt 385 (100 Ω)		
	(-200 to 800) $^{\circ}\text{C}$	0.37 $^{\circ}\text{C}$	
	Pt 392 (100 Ω)		
	(-200 to 630) $^{\circ}\text{C}$	0.34 $^{\circ}\text{C}$	
	Pt JIS (100 Ω)		
	(-200 to 360) $^{\circ}\text{C}$	0.34 $^{\circ}\text{C}$	
	Pt 385 (200 Ω)		
	(-200 to 250) $^{\circ}\text{C}$	0.26 $^{\circ}\text{C}$	
	(250 to 630) $^{\circ}\text{C}$	0.82 $^{\circ}\text{C}$	
	Pt 385 (500 Ω)		
	(-200 to 500) $^{\circ}\text{C}$	0.34 $^{\circ}\text{C}$	
(500 to 630) $^{\circ}\text{C}$	0.43 $^{\circ}\text{C}$		
Pt 385 (1 000 Ω)			
(-200 to 100) $^{\circ}\text{C}$	0.26 $^{\circ}\text{C}$		
(100 to 630) $^{\circ}\text{C}$	0.26 $^{\circ}\text{C}$		

Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Gage Blocks ²	Up to 4 in (4 to 20) in	$(1.2 + 3.7L) \mu\text{in}$ $(0.27 + 1.8L) \mu\text{in}$	Gage Block Comparator, Gage Blocks
Gage Block Comparator	Up to 20 in	1.1 μin	Master Gage Blocks
Pin Gages ¹	Up to 2 in	28 μin	Laser Micrometer, Master Plug Gages
Plain Plug Gages ^{1,2}	Up to 10 in (10 to 36) in	$(15 + 1.2L) \mu\text{in}$ $(18 + 1.3L) \mu\text{in}$	Bench Micrometer, Gage Blocks
Plain Ring Gages ²	(0.040 to 12) in	$(15 + 1.8L) \mu\text{in}$	I.D. Comparator, Gage Blocks
Thread Measuring Wires	Up to 0.5 in	17 μin	Bench Micrometer, Gage Blocks, Master Plug Gage
Thread Plug Gages ¹ Major Diameter Pitch Diameter	Up to 10 in	64 μin	Bench Micrometer, Thread Wires, Gage Blocks
Thread Plug Gages Tapered Pitch Diameter	Up to 10 in	72 μin	Bench Micrometer, Thread Wires, Gage Blocks
Thread Ring Gages ¹	Up to 10 in	72 μin	Thread Set Plugs
End Rod Standards ^{1,2}	Up to 60 in	$(14 + 2.4L) \mu\text{in}$	Precision Measuring Machine, Gage Blocks
Calipers ^{1,2}	Up to 40 in 40 to 72 in	$(300 + 0.16L) \mu\text{in}$ $(290 + 0.4L) \mu\text{in}$	Caliper Master, Gage Blocks, Surface Plate
Caliper Master ¹	Up to 12 in	47 μin	Gage Blocks, Precision Indicator, Surface Plate
Height Gages ^{1,2}	Up to 40 in	$(91 + 0.5L) \mu\text{in}$	Gage Blocks, Precision Indicator, Surface Plate
Indicators ¹	Up to 6 in	42 μin	Bench Micrometer, Gage Blocks
LVDTs ¹	Up to 0.05 in	16 μin	Bench Micrometer, Gage Blocks
Depth Micrometers ¹	Up to 12 in	56 μin	Gage Blocks, Surface Plate



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Length – Dimensional Metrology

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Outside Micrometers ^{1,2}	Up to 24 in (24 to 78) in	(27 + 1.8L) μin (580 + 0.2L) μin	Gage Blocks, Optical Flat
Inside Micrometers ^{1,2}	Up to 40 in (Rod Length)	(56 + 0.8L) μin	Precision Measuring Machine, Gage Blocks
Laser Micrometers ¹	Up to 2 in	18 μin	Precision Master Plain Plugs
Supermicrometers / Bench Micrometers ^{1,3}	Up to 1 in Travel Up to 2 in Travel	7.1 μin 7.5 μin	Gage Blocks
ID/OD Comparator ^{1,2} (Comparative)	Up to 12 in	(3.5 + 1.3L) μin	Gage Blocks
Radius Gages	Up to 1 in	220 μin	Precision Vision System
Scales / Rules / Tapes ²	Up to 12 ft	(160 + 0.71L) μin	Precision Vision System
Surface Plates ^{1,2}			In accordance with ASME B89.3.7 using Laser Optics System
Overall Flatness	Up to (120 X 120) in	(64 + 0.53DL) μin	
Local Area Flatness (Repeat Reading)	Up to (24 x 24) in Up to (120 x 120) in	42 μin 36 μin	Mahr Indicator Repeat-o-Meter, Precision Indicator
Optical Comparators ¹			
Angle	Up to 30 in screen	0.04 °	Precision Balls, Glass Scales, Gage Blocks
Magnification	Up to 30 in screen	470 μin	
Radius	Up to 30 in screen	140 μin	
Squareness (X&Y axis)	Up to 30 in screen	160 μin	
Travel	Up to 12 in	150 μin	
Vision Systems ¹			
Angle	Up to 12 in	0.021 °	Precision Balls, Glass Scales, Gage Blocks
Radius	Up to 12 in	61 μin	
Squareness (X&Y axis)	Up to 12 in	39 μin	
Travel	Up to 12 in	63 μin	



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Mass and Mass-Related

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Torque Tools ^{1,2}	Up to 50 ozf-in Up to 1 000 lbf-in Up to 1 000 lbf-ft Up to 2 000 lbf-ft	0.5 ozf-in (0.2 + 0.004 1X) lbf-in (0.3 + 0.003 1X) lbf-ft 22 lbf-ft	Torque Tester
Torque Transducers ¹	(5 to 50) ozf-in (4 to 50) lbf-in (30 to 400) lbf-in (80 to 1 000) lbf-in (20 to 250) lbf-ft (60 to 600) lbf-ft (100 to 1 000) lbf-ft (200 to 2 000) lbf-ft	0.062 ozf-in 0.062 lbf-in 0.5 lbf-in 1.3 lbf-in 0.31 lbf-ft 0.74 lbf-ft 1.3 lbf-ft 2.5 lbf-ft	Weights, Torque Arms
Torque Arms	Up to 2.5 in (2.5 to 5) in (5 to 10) in (10 to 20) in	59 μin 88 μin 160 μin 300 μin	Gage Blocks, Master Plugs, Bench Micrometer
Durometer Calibrators A, B, O, C, D, DO	(0.55 to 45.45) N	0.016 N	Force Gage, Load Cell
Durometers Types A, B, C, D, DO, O Spring Force	(0.55 to 8.05) N Up to 45.45 N	0.9 points 0.9 points	DuroCalibrator
Indenter Shape Indenter Length	(30 to 35) ° (0.096 to 0.1) in	0.03 ° 66 μin	Vision system
Rockwell Hardness Testers ¹	HRBW Low Medium High HRC Low Medium High	0.8 HRBW 0.81 HRBW 0.85 HRBW 0.86 HRC 0.83 HRC 0.82 HRC	Indirect Verification per ASTM E18 using Hardness Test Blocks.
Rockwell Superficial Hardness Testers ¹	HR15N HR30N HR45N HR15TW HR30TW HR45TW	0.94 HR15N 0.91 HR30N 0.97 HR45N 0.93 HRTW 0.92 HRTW 0.94 HRTW	Indirect Verification per ASTM E18 using Hardness Test Blocks.



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Mass and Mass-Related

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Microhardness Testers ¹	Repeatability under forces P (gf) 500 ≤ P ≤ 1 000		Indirect Verification per ASTM E92 using Hardness Test Blocks.
	557 < HK > 685 Error	1.3 μm 0.08 μm	
	571 < HV > 790 Error	2.9 μm 0.9 μm	
Force Gages ^{1,2}	Up to 500 lbf Up to 1 000 lbf	(0.02 + 0.002X) lbf (0.12 + 0.004X) lbf	Class F Weights Force Tester
Cable Tensiometers ²	Up to 1 000 lbf	(0.34 + 0.007 5X) lbf	Force Tester
Pressure Gages, Pressure Transducers ¹	Up to 5 psig	0.002 4 psi	Standard Pressure Gages
	Up to 200 psig	0.14 psi	
	Up to 1 000 psig	0.53 psi	
	Up to 3 000 psig	0.67 psi	
	Up to 7 000 psig	8.5 psi	
	Up to 10 000 psig	16 psi	
Vacuum Devices	Up to 30 inHg	0.12 inHg	Comparison to Vacuum Test Gage
Scales/Balances ^{1,2,4}	Up to 120 g (120 to 220) g	93 μg 0.83 mg	ASTM E617 Class 0 Weights
	(220 to 510) g	1.2 mg	ASTM E617 Class 4 Weights
	(510 to 3 000) g	13 mg	ASTM E617 Class 1 Weights
	Up to 1 000 lb	(0.26 + 0.001 7X) lb	NIST Class F Weights

Thermodynamic

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Temperature Thermometers ¹	(35 to 100) °C	0.32 °C	Thermal Dry Well
	(100 to 250) °C	0.49 °C	
	(250 to 375) °C	0.67 °C	
Temperature Thermometers ¹	(-200 to 1 200) °C	1.3 °C	Precision Temperature Calibrator w/ J Thermocouple Probe

Time and Frequency

Parameter/Equipment	Range	Expanded Uncertainty of Measurement (+/-)	Reference Standard, Method, and/or Equipment
Stopwatch /Timers	Up to 24 hr	490 ms	N.I.S.T. Landline
Frequency – Source	Up to 100 Hz 100 Hz to 1 kHz (1 to 100) kHz (100 to 500) kHz	0.33 mHz 2.9 mHz 0.29 Hz 1.5 Hz	Multi-Product 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. DL = diagonal length in inches, L = length in inches, X = value of applied mass, force, or torque.
3. Uncertainty based on measurement over 1 inch lead screw.
4. The CMC for scales and balances is highly dependent upon the resolution of the unit under test. The CMC presented here does not include the resolution of the unit under test. The resolution will be included in the reported measurement uncertainty at the time of calibration. Calibration weighing system calibrated in accordance with internal calibration procedure CAL-SB290.
5. This scope is formatted as part of a single document including Certificate of Accreditation No. AC-1160.



R. Douglas Leonard Jr., VP, PILR SBU

