CERTIFICATE OF ACCREDITATION

AMERICAN GLOBAL STANDARDS

FLORIDA STANDARDS LABORATORY, INC.

716 Bunker Road
West Palm Beach, Florida 33405 USA

This laboratory is accredited in accordance with the recognized Standard ISO/IEC 17025:2017. "General Requirement for the Competence of Testing and Calibration Laboratories". This laboratory also meets the requirements of ANSI/NCSL Z540.3 2006 and any additional program requirements in the field of calibration. This accreditation demonstrates technical competence for a defined scope and the operation of laboratory quality management systems

ISO/IEC 17025:2017

On-Site & Laboratory Calibration, Repair and Maintenance of Measuring Instruments & Test Equipment.
(As Detailed in the Supplements Attached)

This approval is subject to the firm maintaining its system to the required standards, which will be monitored by AGS. In the issuance of this certificate, AGS assumes no liability to any party other than the firm named above, and then only in accordance with the agreed upon Quality System Assessment Agreement.

Certification Number:	AGS-US12081I-1/6
Original Approval:	December 08, 2011
Date of Issue:	December 08, 2023
Date of Expiration:	December 07, 2026

For and On Behalf of American Global Standards, LLC
Stephen Keneally, President

AIAO-BAR
ACCREDITED

Massachusetts Office: 445 Main Street Rt. 6A, Suite #1107 East Sandwich, MA 02537
California Office: 1187 Coast Village Road, Suite #495 Montecito, CA 93108
617-838-4648 • info@americanglobal.org

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Calibration and Measurement Capability (CMC) is the smallest uncertainty of measurement results the laboratory can achieve when performing routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment under ideal conditions with all relevant sources of uncertainty calculated.

Quality Manual Section *7.6 - Evaluation of Measurement Uncertainty* and Quality Procedure *Estimation of Measurement Uncertainty – QP-7.6*, details information regarding the process for estimated measurement uncertainties. Table I below lists the CMC for laboratory measurement results with estimated uncertainties expressed at approximately the 95 % level of confidence, using a coverage factor of k=2.

The actual measurement uncertainty of a specific calibration result performed by the laboratory may be greater than the CMC due to behavior of the customer's device and to influences from circumstances of the specific calibrations. Uncertainties achievable on-site at a customer's facility are normally expected to be larger than the laboratories best CMC. Such things as environment and other possible adverse effects not controllable outside the laboratory environment must be considered and accounted for.

Table 1: Laboratory Calibration and Measurement Capability

Parameter/Subdivision	Range	CMC	Comments
Dimensional			
Length – Measurement	< 0.10 in	(8.279·L) µin [1, 9]	Federal Products 130B-24 Electronic Gage Block Comparator & Master Gage Block Set
	> 0.10 in to 4.0 in	(9.284·L) µin [1, 9]	
	> 0.10 in to 12.0 in	(17.690 L) µin [1, 9]	Pratt & Whitney 4-50075 Linear Measuring Machine & Master Gage Block Set
	> 12.0 in to 40.0 in	(17.690·L) µin [1, 9]	Master Gage Block Set & Electronic Indicator
	> 40 in to 1 200 in (100 ft)	(0.144·L) in [1, 9]	Stanley 100 ft Tape

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Table 1: Laboratory Calibration and Measurement Capability			
Parameter/Subdivision	Range	CMC	Comments
Length – Measurement (Continued)	< 2.5 mm 2.5 mm to 100 mm	(13.329·*L*) 5 µm [1, 9] (13.329 5·*L*) µm [1]	Federal Products 130B–24 Electronic Gage Block Comparator & Master Gage Blocks
Length – Generation	0.050 in to 0.10 in > 0.10 in **to** 4.0 in 4.0 in to 40 in 2 mm to 100 mm	(8.198·*L*) µin [1, 9] (9.212·*L*) µin [1, 9] (12.121·*L*) µin [1, 9] (13.329 5·*L*) µm [1, 9]	Master Gage Blocks Master Gage Blocks
Surface Plate – Measurement Flatness Repeatability		 30.3 µin [1] 10.0 µin [1]	 Rahn Straight Edge & Repeat–O–Meter
Electrical **DC Voltage – Measurement**	1 µV to 100 mV 0.1 V to 1.0 V 1.0 V to 10.0 V 10.0 V to 100.0 V 100 V to 1 000 V 1 kV to 15 kV 15 kV to 100 kV	0.001 1 % + 0.3 µV [2] 0.001 % + 0.3 µV [2] 0.001 % + 0.5 µV [2] 0.001 2 % + 30 µV [2] 0.001 2 % + 100 µV [2] ± 0.01 % [3] ± 0.115 % [1]	Agilent 3458A Fluke 80F–15 & Agilent 3458A Spellman HVD100 & Agilent 34411A
DC Voltage – Generation	0 to 100 mV 0.1 V to 1.0 V 1.0 V to 10.0 V 10.0 V to 100.0 V 100 V to 1 kV 1 kV to 10 kV	11.632 µV [1] 11.896 9 µV [1] 26.215 1 µV [1] 471.612 µV [1] 4.646 5 mV [1] ± 0.01 % [3]	Agilent 3458A & Fluke 335A Fluke 80F–15, Fluke 410B, Agilent 3458A
AC Voltage – Measurement 1 Hz to 40 Hz 40 Hz to 1 kHz 1 kHz to 20 kHz 20 kHz to 50 kHz 50 kHz to 100 kHz 100 kHz to 300 kHz	 0 mV to 10 mV	 0.03 % + 3 µV [2] 0.02 % + 1.1 µV [2] 0.03 % + 1.1 µV [2] 0.1 % + 1.1 µV [2] 0.5 % + 1.1 µV [2] 4.0 % + 2 µV [2]	 Agilent 3458A

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Table 1: Laboratory Calibration and Measurement Capability			
Parameter/Subdivision	Range	CMC	Comments
AC Voltage – Measurement (Continued)			
1 Hz to 40 Hz	10 mV to 100 mV	0.007 % + 4 µV (2)	Agilent 3458A
40 Hz to 1 kHz		0.007 % + 2 µV (2)	
1 kHz to 20 kHz		0.014 % + 2 µV (2)	
20 kHz to 50 kHz		0.03 % + 2 µV (2)	
50 kHz to 100 kHz		0.08 % + 2 µV (2)	
100 kHz to 300 kHz		0.3 % + 10 µV (2)	
300 kHz to 1 MHz		1.0 % + 10 µV (2)	
1 MHz to 2 MHz		1.5 % + 10 µV (2)	
1 Hz to 40 Hz	100 mV to 1 V	0.007 % + 40 µV (2)	
40 Hz to 1 kHz		0.007 % + 20 µV (2)	
1 kHz to 20 kHz		0.014 % + 20 µV (2)	
20 kHz to 50 kHz		0.03 % + 20 µV (2)	
50 kHz to 100 kHz		0.08 % + 20 µV (2)	
100 kHz to 300 kHz		0.3 % + 100 µV (2)	
300 kHz to 1 MHz		1.0 % + 100 µV (2)	
1 MHz to 2 MHz		1.5 % + 100 µV (2)	
1 Hz to 40 Hz	1 V to 10 V	0.007 % + 0.4 mV (2)	
40 Hz to 1 kHz		0.007 % + 0.2 mV (2)	
1 kHz to 20 kHz		0.014 % + 0.2 mV (2)	
20 kHz to 50 kHz		0.03 % + 0.2 mV (2)	
50 kHz to 100 kHz		0.08 % + 0.2 mV (2)	
100 kHz to 300 kHz		0.3 % + 1 mV (2)	
300 kHz to 1 MHz		1.0 % + 1 mV (2)	
1 MHz to 2 MHz		1.5 % + 1 mV (2)	
1 Hz to 40 Hz	10 V to 100 V	0.02 % + 4 mV (2)	
40 Hz to 1 kHz		0.02 % + 2 mV (2)	
1 kHz to 20 kHz		0.02 % + 4 mV (2)	
20 kHz to 50 kHz		0.035 % + 2 mV (2)	
50 kHz to 100 kHz		0.12 % + 2 mV (2)	
100 kHz to 300 kHz		0.4 % + 10 mV (2)	
300 kHz to 1 MHz		1.5 % + 10 mV (2)	

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Table 1: Laboratory Calibration and Measurement Capability			
Parameter/Subdivision	Range	CMC	Comments
AC Voltage – Measurement (Continued)			
1 Hz to 40 Hz	100 V to 700 V	0.04 % + 40 mV (2)	Agilent 3458A
40 Hz to 1 kHz		0.04 % + 20 mV (2)	
1 kHz to 20 kHz		0.06 % + 20 mV (2)	
20 kHz to 50 kHz		0.12 % + 20 mV (2)	
50 kHz to 100 kHz		0.30 % + 20 mV (2)	
50 Hz to 5 kHz	700 V to 30 kV	0.55 % rdg (1)	Ross Engineering VD30-12.5Y-A-LB-AL & Fluke 87
AC Voltage Generation			
10 Hz to 10 kHz	0 mV to 0.12 V	0.02 % + 12 µV (2)	Valhalla Scientific 2703
10 Hz to 30 kHz		0.03 % + 24 µV (2)	
30 kHz to 100 kHz		0.05 % + 60 µV (2)	
10 Hz to 30 kHz	0.12 V to 1.2 V	0.02 % + 120 µV (2)	
30 kHz to 100 kHz		0.03 % + 360 µV (2)	
10 Hz to 30 kHz	1.2 V to 12.0 V	0.02 % + 1 200 µV (2)	
30 kHz to 100 kHz		0.03 % + 3 600 µV (2)	
10 Hz to 30 kHz	12 V to 120 V	0.02 % + 12 mV (2)	
30 kHz to 100 kHz		0.05 % + 36 mV (2)	
10 Hz to 1 kHz	120 V to 1 200 V	0.03 % + 360 mV (2)	
DC Resistance – Measurement	0.0 Ω to 10.0 Ω	0.001 8 % + 50 µΩ (2)	Agilent 3458A
	10.0 Ω to 100.0 Ω	0.001 5 % + 0.5 mΩ (2)	
	100.0 Ω to 1.0 kΩ	0.001 3 % + 0.5 mΩ (2)	
	1.0 kΩ to 10.0 kΩ	0.001 3 % + 5 mΩ (2)	
	10.0 kΩ to 100.0 kΩ	0.001 3 % + 50 mΩ (2)	
	100.0 kΩ to 1.0 MΩ	0.001 8 % + 2 Ω (2)	
	1.0 MΩ to 10.0 MΩ	0.005 3 % + 100 Ω (2)	
	10.0 MΩ to 100.0 MΩ	0.050 % + 1 kΩ (2)	
	100.0 MΩ to 1.0 GΩ	0.500 % + 10 kΩ (2)	

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Table 1: Laboratory Calibration and Measurement Capability			
Parameter/Subdivision	Range	CMC	Comments
DC Resistance – Generation	0.001 Ω	0.305 5 μΩ (1, 5)	L&N 4223
	0.01 Ω	0.152 8 μΩ (1, 5)	L&N 4222
	0.1 Ω	1.528 μΩ (1, 5)	L&N 4221
	1.0 Ω	1.405 μΩ (1, 5)	L&N 4210
	10.0 Ω	100.665 μΩ (1, 5)	L&N 4025–B
	100.0 Ω	1 006.65 μΩ (1, 5)	L&N 4030–B
	1.0 kΩ	10.0 665 mΩ (1, 5)	L&N 4035–B
	10 kΩ	100.665 mΩ (1, 5)	L&N 4040–B
	100 kΩ	1026.32 mΩ (1, 5)	L&N 4045–B
	1.0 MΩ	20.1329 Ω (1, 5)	L&N 4050–B
	1.0 MΩ to1.0 GΩ	0.1 % (2)	Biddle 72–6346–1
	1.0 GΩ to100 GΩ	0.5 % (2)	Biddle 72–6346–1
DC Current – Measurement			
	100 nA to 1 μA	0.002 5 % + 40 pA (2)	Agilent 3458A
	1 μA to 10 μA	0.002 5 % + 100 pA (2)	
	10 μA to 100 μA	0.002 5 % + 80 pA (2)	
	100 μA to 1 mA	0.002 5 % + 0.5 nA (2)	
	1 mA to 10 mA	0.002 5 % + 5 nA (2)	
	10 mA to 100 mA	0.004 % + 50 nA (2)	
	100 mA to 1 A	0.012 % + 1 μA (2)	
	1.0 A to 150 A	0.004 62 A/A (1)	Agilent 3458A Multimeter & Biddle 601453
	150 A to 2,000 A	3 % (2)	Simpson Switchboard Shunts
DC Current – Generation			
	100 nA to 1 μA	0.002 5 % + 40 pA (8)	Agilent 3458A, Transmille 3041A
	1 μA to 10 μA	0.002 5 % + 100 pA (8)	
	10 μA to 100 μA	0.002 5 % + 80 pA (8)	
	100 μA to 1 mA	0.002 5 % + 0.5 nA (8)	
	1 mA to 10 mA	0.002 5 % + 5 nA (8)	
	10 mA to 2 A	0.002 5 % + 50 nA (8)	
	2 A to 100 A	0.004 62 A/A (1)	Agilent 3458A, Fluke 335A, Valhalla Scientific 2555A, Biddle 601453
	(Current Clamps)		
	10 to 16.4999 ADC	0.150 A/A (1)	Agilent 3458A, Transmille 3041A, Fluke 5500A/Coil
	16.5 to 150 ADC	0.021 A/A (1)	
	150 to 1 025 ADC	0.010 A/A (1)	

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Table 1: Laboratory Calibration and Measurement Capability			
Parameter/Subdivision	Range	CMC	Comments
AC Current – Measurement			
10 Hz to 20 Hz	0 µA to 100 µA	0.40 % + 30 nA (2)	Agilent 3458A
20 Hz to 45 Hz	0 µA to 100 µA	0.15 % + 30 nA (2)	
45 Hz to 100 Hz	0 µA to 100 µA	0.06 % + 30 nA (2)	
100 Hz to 5 kHz	0 µA to 100 µA	0.06 % + 30 nA (2)	
10 Hz to 20 Hz	100 µA to 1 mA	0.40 % + 0.2 µA (2)	
20 Hz to 45 Hz	100 µA to 1 mA	0.15 % + 0.2 µA (2)	
45 Hz to 100 Hz	100 µA to 1 mA	0.06 % + 0.2 µA (2)	
100 Hz to 5 kHz	100 µA to 1 mA	0.03 % + 0.2 µA (2)	
10 Hz to 20 Hz	1 mA to 10 mA	0.40 % + 2 µA (2)	
20 Hz to 45 Hz	1 mA to 10 mA	0.15 % + 2 µA (2)	
45 Hz to 100 Hz	1 mA to 10 mA	0.06 % + 2 µA (2)	
100 Hz to 5 kHz	1 mA to 10 mA	0.03 % + 2 µA (2)	
10 Hz to 20 Hz	10 mA to 100 mA	0.40 % + 20 µA (2)	
20 Hz to 45 Hz	10 mA to 100 mA	0.16 % + 20 µA (2)	
45 Hz to 100 Hz	10 mA to 100 mA	0.08 % + 20 µA (2)	
100 Hz to 5 kHz	10 mA to 100 mA	0.10 % + 20 µA (2)	
10 Hz to 20 Hz	100 mA to 1.0 A	0.40 % + 0.2 mA (2)	
20 Hz to 45 Hz	100 mA to 1.0 A	0.16 % + 0.2 mA (2)	
45 Hz to 100 Hz	100 mA to 1.0 A	0.08 % + 0.2 mA (2)	
100 Hz to 5 kHz	100 mA to 1.0 A	0.10 % + 0.2 mA (2)	
45 Hz to 1 kHz	1.0 A to 100 A	0.001 160 A/A (1)	Agilent 3458A & Valhalla Scientific 2575A
10 kHz	1.0 A to 10.0 A	0.001 172 A/A (1)	
	10.0 A to 100 A	0.057 735 A/A (1)	
AC Current – Generate			
20 Hz to 100 Hz	100 µA to 100 A	0.004 6 A/A (1)	Agilent 3458A & Transmille 3041A
100 Hz to 400 Hz	100 µA to 100 A	0.006 9 A/A (1)	
400 Hz to 1.0 kHz	100 µA to 100 A	0.010 4 A/A (1)	
Current Clamps			
45 Hz to 65 Hz	10 to 16.4999 ADC	0.010 5 A/A (1)	Agilent 3458A, Transmille 3041A, Fluke

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Table 1: Laboratory Calibration and Measurement Capability			
Parameter/Subdivision	Range	CMC	Comments
AC Current – Measurement			
10 Hz to 20 Hz	0 µA to 100 µA	0.40 % + 30 nA (2)	Agilent 3458A
20 Hz to 45 Hz	0 µA to 100 µA	0.15 % + 30 nA (2)	
45 Hz to 100 Hz	0 µA to 100 µA	0.06 % + 30 nA (2)	
100 Hz to 5 kHz	0 µA to 100 µA	0.06 % + 30 nA (2)	
10 Hz to 20 Hz	100 µA to 1 mA	0.40 % + 0.2 µA (2)	
20 Hz to 45 Hz	100 µA to 1 mA	0.15 % + 0.2 µA (2)	
45 Hz to 100 Hz	100 µA to 1 mA	0.06 % + 0.2 µA (2)	
100 Hz to 5 kHz	100 µA to 1 mA	0.03 % + 0.2 µA (2)	
10 Hz to 20 Hz	1 mA to 10 mA	0.40 % + 2 µA (2)	
20 Hz to 45 Hz	1 mA to 10 mA	0.15 % + 2 µA (2)	
45 Hz to 100 Hz	1 mA to 10 mA	0.06 % + 2 µA (2)	
100 Hz to 5 kHz	1 mA to 10 mA	0.03 % + 2 µA (2)	
10 Hz to 20 Hz	10 mA to 100 mA	0.40 % + 20 µA (2)	
20 Hz to 45 Hz	10 mA to 100 mA	0.16 % + 20 µA (2)	
45 Hz to 100 Hz	10 mA to 100 mA	0.08 % + 20 µA (2)	
100 Hz to 5 kHz	10 mA to 100 mA	0.10 % + 20 µA (2)	
10 Hz to 20 Hz	100 mA to 1.0 A	0.40 % + 0.2 mA (2)	
20 Hz to 45 Hz	100 mA to 1.0 A	0.16 % + 0.2 mA (2)	
45 Hz to 100 Hz	100 mA to 1.0 A	0.08 % + 0.2 mA (2)	
100 Hz to 5 kHz	100 mA to 1.0 A	0.10 % + 0.2 mA (2)	
45 Hz to 1 kHz	1.0 A to 100 A	0.001 160 A/A (1)	Agilent 3458A & Valhalla Scientific 2575A
10 kHz	1.0 A to 10.0 A	0.001 172 A/A (1)	
	10.0 A to 100 A	0.057 735 A/A (1)	
AC Current – Generate			
20 Hz to 100 Hz	100 µA to 100 A	0.004 6 A/A (1)	Agilent 3458A & Transmille 3041A
100 Hz to 400 Hz	100 µA to 100 A	0.006 9 A/A (1)	
400 Hz to 1.0 kHz	100 µA to 100 A	0.010 4 A/A (1)	

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Table 1: Laboratory Calibration and Measurement Capability			
Parameter/Subdivision	Range	CMC	Comments
AC Current - Generate (Continued)			
Current Clamps			
45 Hz to 65 Hz	10.0 to 16.4999 ADC	0.010 5 A/A (1)	Agilent 3458A, Transmille 3041A, Fluke 5500A/Coil
45 Hz to 65 Hz	16.5 to 150 ADC	0.012 7 A/A (1)	
45 Hz to 65 Hz	150 to 1 025 ADC	0.116 6 A/A (1)	
65 Hz to 440 Hz	10 to 16.4999 ADC	0.014 9 A/A (1)	
65 Hz to 448 Hz	16.5 to 150 ADC	0.017 1 A/A (1)	
65 Hz to 440 Hz	150 to 1 025 ADC	0.023 6 A/A (1)	
Capacitance - Measurement			
	1.0 pF to 1.2 nF	0.2 % (2)	ESI 293
	1.2 nF to 120 µF	0.1 % (2)	
	120 µF to 1 200 µF	0.2 % (2)	
Capacitance - Generation	10 pF @ 1 kHz	0.013 5 pF (1, 5)	GenRad Standard Capacitors
	100 pF @ 1 kHz	0.036 6 pF (1, 5)	
	1 000 pF @ 1 kHz	0.073 6 pF (1, 5)	
	10 000 pF@ 1 kHz	0.736 3 pF (1, 5)	
	100 000 pF @ 1 kHz	7.363 1 pF (1, 5)	
	1.0 µF @ 1 kHz	0.000 074 µF (1, 5)	
	1.0 µF - 10 µF @ 1 kHz	0.038 µF (1)	
Inductance – Measurement			
	1.0 µH to 12.0 µH	0.2 % (2)	
	12.0 µH to 120 H	0.1 % (2)	ESI 2 ESI 29393
	120 H to 1 200 H	0.2 % (2)	
Inductance – Generation	100 µH @ 1 kHz	0.288 9 µH (1)	GenRad 1482 Series Inductors
	1 mH @ 1 kHz	2.889 µH (1)	
	10 mH @ 1 kHz	28.89 µH (1)	
	100 mH @ 1 kHz	288.9 µH (1)	
	1 H @ 1 kHz	288 9 µH (1)	
	100 µH @ 1 kHz	0.288 9 µH (1)	

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Table 1: Laboratory Calibration and Measurement Capability			
Parameter/Subdivision	Range	CMC	Comments
Phase Angle Measurement			
V/V	10 mV to 630 VRMS		Clarke Hess 6000A
	5 Hz to 2 kHz	0.02° (2)	
	>2 kHz to 5 kHz	0.03° (2)	
	>5 kHz to 10 kHz	0.04° (2)	
	>10 kHz to 50 kHz	0.05° (2)	
	>50 kHz to 1 MHz	f (in kHz) x 0.001° (2)	
V/I	10 mV to 630 VRMS / 1 A to 10 A		Clarke Hess 6000A & 610
	5 Hz to 1 kHz	0.025° (1)	
	1 kHz to 100 kHz	0.020° + [5 m° + 50 m° (f kHz)] (1)	
V/I	10 mV to 630 VRMS / 10 A to 100 A		Clarke Hess 6000A & 650
	5 Hz to 100 Hz	0.025° (1)	
	100 Hz to 500 Hz	0.030° (1)	
	500 Hz to 1 kHz	0.080° (1)	
Avionics VOR Bearing	30 Hz/30 Hz	0.050° (2)	IFR CS-360
Phase Angle Generation			
V/V	50 Hz to 8 kHz	0.150° (2)	Dytronics 410 & Clarke Hess 6000A
V/I	300 V / 25 A @ 50/60 Hz	0.200° (1)	Multi-Amp Epoch-I, Clarke Hess 6000A & 610/650
V/I	10 mV to 630 VRMS / 1 A to 10 A		Clarke Hess 6000A & 610
	5 Hz to 1 kHz	0.025° (1)	
	1 kHz to 100 kHz	0.020° + [5 m° + 50 m° (f kHz)] (1)	

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Table 1: Laboratory Calibration and Measurement Capability			
Parameter/Subdivision	Range	CMC	Comments
Humidity Measurement			
	0 to 90 % RH.	1.0 % RH [2]	Vaisala HM70 Humidity & Temperature Meter with HMP77 Probe
	90 to 100 % RH @ +15 to +25 °C	1.7 % RH [2]	
Humidity Generation			
	11.3 % @ 20 °C	1.0 % RH [1]	Certified Reference Salts
	33.3 % @ 20 °C	1.0 % RH [1]	
	75.5 % @ 20 °C	1.4 % RH [1]	
	97.6 % @ 20 °C	1.5 % RH [1]	
Mass Measurement	1 mg to 10 g – in 1-2-5 steps	0.303 mg [1]	Fisher Scientific Class "S" Weights & Voland 200
	20 g	0.301 mg [1]	Troemner Ultra Class Weights & Voland 200
	50 g	0.301 mg [1]	
	100 g	0.303 mg [1]	
	200 g	0.316 mg [1]	
	300 g	0.320 mg [1]	
	500 g	0.323 mg [1]	
	1 kg	0.378 mg [1]	
	1 kg to 10 kg	0.025 % [2]	Fluke 2030 Reference Pressure Gauge
Mass Generation	1 mg to 10 g – in 1-2-5 steps	0.041 8 mg [1, 4, 5]	Fisher Scientific Class "S" Weights
	20 g	0.017 mg [2, 4, 5]	Troemner Ultra Class Weights
	50 g	0.024 mg [2, 4, 5]	
	100 g	0.044 mg [2, 4, 5]	
	200 g	0.100 mg [2, 4, 5]	
	500 g	0.120 mg [2, 4, 5]	
	1 kg	0.230 mg [2, 4, 5]	

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Table 1: Laboratory Calibration and Measurement Capability			
Parameter/Subdivision	Range	CMC	Comments
Mass – Generation (Continued)	2 kg 3 kg 5 kg 10 kg 10 kg to 50 kg	2.500 mg (2, 4, 5) 3.800 mg (2, 4, 5) 6.000 mg (2,4, 5) 13.00 mg (2,4, 5) 15.00 mg (2,4, 5)	Troemner Ultra Class weights
Pressure Measurement	17 inHg to 34 inHg (Barometric)	0.015% Rdg (2)	Mensor CPG2300
	-15 psi to 0 psi 0 to +30 psi	0.007 5 psi (2) 0.006 0 psi (2)	Fluke 2030-BG200K
	30 psi to 500 psi	0.100 psi (2)	Fluke 2030-BG3.5M
	10 000 psi to 15 000 psi	3.0 psi (2)	Additel Reference Pressure Gauge
Pressure Generation	0 to 4 in H_2O	0.002 in H_2O (2)	Additel Reference Pressure Gauge
	0 to -15 psi (Vacuum) 0 to +30 psi	0.007 5 psi (2) 0.006 0 psi (2)	Fluke 2030-BG200K
	30 psi to 500 psi	0.100 psi (2)	Fluke 2030-BG3.5M
	1 000 psi to 10 000 psi	2.000 psi (2)	Fluke 2030-BG70M
	10 000 psi to 15 000 psi	3.0 psi (2)	Additel Reference Pressure Gauge

CERTIFICATE OF ACCREDITATION

Table 1: Laboratory Calibration and Measurement Capability			
Parameter/Subdivision	Range	CMC	Comments
Temperature - Generation			
	0.010 °C	0.117 60 °C (1)	Hart Scientific 1521, Hart Scientific 5619-9 & Ice Bath
	-25 °C to 375 °C		Fluke 9103, Hart Scientific 1521 & Hart Scientific 5619-9
	50.0 °C	0.25 °C (2)	
	100.0 °C	0.25 °C (2)	
	375.0 °C	0.50 °C (2)	
	375 °C to 600 °C	2.69 °C (1)	Omega Type K Thermocouple, Agilent 3458A, Hart Scientific 1521 & Hart Scientific 5619-9
	(Infrared) 35 °C to 500°C		Fluke 4181
	35 °C	0.35 °C (2)	
	100 °C	0.50 °C (2)	
	200 °C	0.70 °C (2)	
	350 °C	1.20 °C (2)	
	500 °C	1.60 °C (2)	
Time & Frequency-Measurement	DC to 20 GHz	$<3 \times 10^{-12} \pm 1$ lsd (1)	Fluke 910 GPS-Controlled Frequency Standard & Various Frequency Locked Electronic Counters
Generation	10.0 MHz	$<2 \times 10^{-12}$ (2)	Fluke 910 GPS-Controlled Frequency Standard
	DC to 20 GHz	$<3 \times 10^{-12} \pm 1$ lsd (1)	Fluke 910 GPS-Controlled Frequency Standard & Various Frequency Locked Generators
Stopwatches/Timers	0 -- 96 hr	38 mS (1))	Fluke 910 GPS-Controlled Frequency Standard with Frequency Locked Synthesizer and Electronic Counter

CERTIFICATE OF ACCREDITATION

Table 1: Laboratory Calibration and Measurement Capability			
Parameter/Subdivision	Range	CMC	Comments
Torque Measurement	0 to 50 lb·in	0.5 % of Reading [2]	Torque wheel & weights
	2 lb·in to 7500 lb·ft	0.25 % of Reading [2]	AWS MTMDP
Torque Generation	0 to 50 lb·in	0.25 % of Reading [2]	AWS Torque wheel & weights
	25 lb·in to 750 lb·ft	0.25 % of Reading [2]	AWS MTMDP
Hardness Generation	Rockwell Scale	0.2 RHC [2]	Certified Reference Hardness Standards
	Durometer – A & B	2.0 [2]	
pH Generation	4 – 7 – 10 pH	0.011 pH [2]	Certified Reference Buffer Solutions

[1] CMC calculated by combining relevant sources of uncertainty. See relevant *Uncertainty Budget.*

[2] CMC based on the manufacturer's specifications of equipment shown in comments.

[3] CMC based on high voltage probe specification. Error contributed by other standard(s) is not significant.

[4] CMC equal to mass in air calibration value vs. reference density 8000 kg ^{m3}.

[5] CMC equals actual value equal to reported value of standard.

[6] CMC based on apparent mass in air vs. material of density 8000 g ^{cm3}.

[7] CMC based on specifications of Agilent 3458A Multimeter.

[8] CMC based on specifications of Agilent 3458A Multimeter. Transmille 3041A Calibrator used as a source only.

[9] In the statement of CMC, *L* is the numerical value of the nominal length of the device measured in inches or meters.