PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:

Calibración, Medición y Control Industrial Río Bravo, S.A. de C.V.
Calle 5 de Mayo #100, Col. Primero de Mayo
Rio Bravo, Tamaulipas, México C.P. 88940

(Hereinafter called the Organization) and hereby declares that Organization 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
(as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

Dimensional, Mechanical, Mass, Force and Weighing Devices, Thermodynamic, Chemical, Time and Frequency, Electrical, Optical and Acoustic Calibration

(As detailed in the supplement)

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen
President

Perry Johnson Laboratory Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325
Troy, Michigan 48084

Initial Accreditation Date:	*Issue Date:*	*Expiration Date:*
February 28, 2017	August 08, 2023	August 31, 2025

Accreditation No.:	*Certificate No.:*
94142	L23-608

The validity of this certificate is maintained through ongoing assessments based on a continuous accreditation cycle. The validity of this certificate should be confirmed through the PJLA website: www.pjlabs.com

Certificate of Accreditation: Supplement

Calibración, Medición y Control Industrial Río Bravo, S.A. de C.V.
Calle 5 de Mayo #100, Col. Primero de Mayo
Rio Bravo, Tamaulipas, México C.P. 88940
Contact Name: Luz Adriana Chapa Phone: 899-688-1670

Accreditation is granted to the facility to perform the following calibrations:

Dimensional

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Calipers[FO]	0.05 in to 24 in	(702 + 49.38L) µin	Gage Blocks and Check Master CENAM Technical Guide NMX-CH-002-IMNC
Height Gages[FO]	0.05 in to 24 in	(702 + 49.38L) µin	Gage Block set Grade 0 NMX-CH-141-IMNC
Micrometers[FO]	0.05 in to 20 in	(147.8 + 4L) µin	Gage Blocks NMX-CH-092-IMNC NMX-CH-149-IMNC CEM- DI-012 NMX-CH-099-IMNC
Dial Indicators[FO]	0.05 in to 4 in	(148.67 + 3.34L) µin	
Metallic Rule[FO]	0.02 in to 48 in	25 µin	
Depth Gages[FO]	0.05 in to 4 in (1.27 mm to 101.6 mm)	(500 + 5L) µin [(12.7 + 0.13L) µm]	
Depth Micrometers[FO]	0.05 in to 6 in	110 µin	
Outside Micrometers[FO]	0.05 in to 3 in	(50 + 3L) µin	
	3 in to 12 in	(60 + 12L) µin	
Caliper Checker[F]	25 mm to 150 mm	(1.1 + 0.011L) µmm	
Gage Block[FO]	0.05 in to 20 in	(3.1 + 1.9L) µin	Gage Block and Twin Head Comparator ANSI/ASME B89.1.9M
Bore Gages[FO]	0.7 in to 16 in	120 µin	Mitutoyo UDT-2 Dial Gage Tester and Ring Gages JIS B 7515
Surface Plates Repeat Measurement Only[O]	0.002 in	58 µin	Repeat-O-Meter NMX-CH-8512-2-IMNC
Protractor[FO]	0º to 90º	0.01º	Optical Comparator / Angle Blocks JIS B 7510
Video Measuring Machine[FO]	0.5 in to 8 in	220 µin	Gage Block Set, Angle Block Set and Ball Set CEM-DI-010
Optical Comparator X axis Linearity	12 mm	(116.89 + 2.9L) µin	
Y axis Linearity	12 mm	(116.89 + 2.9L) µin	
Optical Comparator Angularity[FO]	0º to 180º	0.1º	Angle Blocks CEM-DI-010
Optical Comparator Magnification[FO]	10X	0.03 %	Glass Standard CEM-DI-010
	20X	0.03 %	
	50X	0.04 %	

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Level[F]	0.2 in to 8 in	330 µin	Precision Level and Angle Blocks JIS B 7510
Radius Gage[F]	0.01 in to 1 in	350 µin	Optical Comparator CENAM Technical Guide
Angle Blocks[F]	0º to 180º	0.1º	
Plain Plug Gage[F]	0.05 in to 8 in	(20 + 2D) µin	Super Micrometer ASME B107
Plain Ring Gage[F]	0.05 in to 8 in	(60 + 2D) µin	Optical Comparator ISO 286 ISO594/1 DIN 7162
Thread Plug Gage Pitch Diameter[F]	0-80 to 6-56	(120 + 2D) µin	Super Micrometer with Thread Wire Set ASME B1.1
Thread Ring Gage Major Diameter[F]	0-80 to 8-16	650 µin	Comparation Master Plugs ASME B1.1
Laser Micrometer[FO]	0.1 in to 2 in	(35.5 + 8L) µin	Ping Gages Master XXX ANSI Z136.1214
Roughness Tester Ra (Fixed point)[F]	117 µin	0.76 µin	Roughness Standard ASME B46.1
Coating Thickness Gage[FO]	52.47 µm to 179.13 µm	1.2 µm	Coating Thickness Std. Comparison ISO 2178
Mesurement Tape[FO]	0.05 in to 300 in	$(0.2 + 5.4 \times 10^{-4}L)$ in	24 in of Gage Blocks NOM-046-SCFID
Digital Lenght Gage[O]	5 mm to 1 000 mm	$(0.03 + 7.6 \times 10^{-2}L)$ µm	Gage Block ASME B89.1.9
CMM Length Measurement Error[O]	150 mm to 1 000 mm	(3.19 + 0.01L) µm	Steel Blocks UNE-EN-ISO 10360-2
Microscope Scale Magnification[FO]	5 X	0.5 % of reading	Glass Scale Mitutoyo JIS B 7153
	10 X	0.5 % of reading	
	15 X	0.5 % of reading	
	20 X	0.5 % of reading	
	50 X	0.5 % of reading	

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Mechanical

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Air Flow Meter[FO]	25 L/min to 800 L/min	0.1 L/min	Digital Air Flow Calibrator D 8528 CEM ME-008
Vacuum Gage[FO]	Up to 29 inHg	0.25 inHg	PV 350 CENAM Technical Guide NOM-013-SCFI
Torque Wrench and Screw Driver[FO]	0.5 lbf·in to 100 lbf·in	2.5 % of reading	Digital Torque Analyzer ISO 6789-2
Torque Wrench[FO]	50 lbf·in to 1 000 lbf·in	5.5 % of reading	Torque Analyzer ISO 6789-2
Torque Analyzer[FO]	25 lbf·in to 250 lbf·in	3 % of reading	Electrotork III Weight Class F ISO 6789-2
Indirect Verification of Rockwell Hardness Tester HRB[FO]	40 HRB to 59 HRB	1.1 HRB	ASTM E18-08A and Calibrated Rockwell Hardness Test Blocks
	60 HRB to 90 HRB	0.66 HRB	
	91 HRB to 100 HRB	0.46 HRB	
Indirect Verification of Rockwell Hardness Tester HRC[FO]	20 HRC to 39 HRC	0.38 HRC	
	40 HRC to 59 HRC	0.34 HRC	
	60 HRC to 70 HRC	0.31 HRC	
Direct Verification of Durometer Hardness Tester[FO] Types: A, B, C, D, E, DO, O, M			ASTMD-2240
Extension at Zero Reading	2.46 mm to 2.54 mm	4.5 µm	Video Measuring Machine
Indentor Shape (Not all parameters apply to all Durometer Types)			
Identor Diameter		4.5 µm	
Indentor Tip Diameter		4.5 µm	
Indentor Tip Radius		4.5 µm	
Indentor Tip Angle[F]		0.1°	ASTMD-2240 Analytical Balance
Verification of Durometer Spring Type A, B, E & O[F]	0.55 N to 8.05 N	1.2 N	
Verification of Durometer Spring Type C, D & DO[F]	4.445 N to 44.45 N	0.8 N	

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Pressure Differential[F]	0.1 mBar to 500 mBar	0.002 5 mBar	Calibrator 510 CEM-ME-020 NOM-013-SCFI
Multi-Air Leak Tester[F]	0.1 psig to 300 psig	0.027 psi	Druck DPI CENAM Technical Guide NOM-013-SCFI
Pressure Gauge[F]	30 psi to 300 psi	1 psi	PV 350 CENAM Technical Guide NOM-013-SCFI
Pressure Gauge, Pressure Trasmiter and Transducer[F]	100 psi to 1 000 psi	6 psi	ASHCROFT Portable Gauge Tester CENAM Technical Guide NOM-013-SCFI
	1 001 psi to 2 000 psi	15 psi	
	2 001 psi to 5 000 psi	30 psi	
	5 001 psi to 10 000 psi	60 psi	ASHCROFT Portable Gauge Tester EURAMET CG-3 NOM-013-SCFI
Anemometers, Air Velocity Meter[F]	0.4 m/s to 30 m/s	0.05 m/s	Reference Anemometer Air Tunnel Internal Calibration Procedure CAM/PRO/CAL-035
Volumetric Measurement (Metallic Graduated Neck for Liquids)[F]	2 000 mL to 20 000 mL	0.7 % of reading	Analytical Balance Thermometer ASTM E-542-01
Volumetric Instruments (Pipettes, Burettes)[F]	0.1 mL to 10 mL	0.3 % of reading	Analytical Balance ASTM E-542-01
	10 mL to 100 mL	0.3 % of reading	

Mass, Force and Weighing Devices

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Force Tension and Compression Machine - Source and Measure[FO]	0.5 lbf to 20 000 lbf	4.2 lbf	Load Cell NMX-CH-7500-1-IMNC
Balances[FO]	1 lb to 10 lb (Res.= 0.005 lb)	$(5.8 \times 10^{-3} + 1.27 \times 10^{-5}Wt)$ lb	Weight Set Class F Euramet-cg-18
	1 lb to 20 lb (Res.= 0.005 lb)	$(5.8 \times 10^{-3} + 2.34 \times 10^{-5}Wt)$ lb	

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Mass, Force and Weighing Devices

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Balance[FO]	1 g to 500 g (Res. 1 mg)	$(2 \times 10^{-4} + 2.54 \times 10^{-6}\text{Wt})$ g	Class 1 Weights Euramet-cg-18
Balance and Scales[FO]	100 g to 5 000 g (Res.= 0.2 g)	$(2.09 \times 10^{-1} + 7.93 \times 10^{-5}\text{Wt})$ g	Class M1 Weights Euramet-cg-18
	5.000 2 kg to 10 kg (Res.= 1 g)	$(9.71 \times 10^{-1} + 6.5 \times 10^{-5}\text{Wt})$ g	
	10.001 kg to 20 kg (Res.= 2 g)	$(1.88 + 7.21 \times 10^{-5}\text{Wt})$ g	
	20.02 kg to 100 kg (Res.= 10 g)	$(4.94 + 6.22 \times 10^{-5}\text{Wt})$ g	
	100.01 kg to 200 kg (Res.= 20 g)	$(8.58 + 8.97 \times 10^{-5}\text{Wt})$ g	
	200.02 kg to 500 kg (Res.= 50 g)	$(219 + 5.85 \times 10^{-5}\text{Wt})$ g	
	500.05 kg to 5 000 kg (Res.= 500 g)	$(0.494 + 6.22 \times 10^{-5}\text{Wt})$ kg	
Weight Class F[FO]	1 lb	42 µlb	Master Weight Weight Class 1 CNM ME-012
	2 lb	59 µlb	
	5 lb	150 µlb	
	10 lb	320 µlb	
	20 lb	610 µlb	
	50 lb	1 500 µlb	
Analytical Balances[FO]	1 mg to 200 g	$(0.013 + 3 \times 10^{-3}\text{Wt})$ mg	Weight Class 1 Euramet-cg-18

Time and Frequency

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Stopwatch and Timers[FO]	2 s to 86 400 s	35 ms/h	Stopwatch Casio NIST 960-12
Speed Controller[FO]	5 rpm to 199 990 rpm	0.025 % of reading	Pocket Laser Tach Monarch PLT200 EMC 2004/108
Tachometers[FO]	100 rpm to 12 600 rpm	0.5 % of reading	Digistrobe Ametek JIS B 6501
Equipment to Measure Frequency[FO]	1 Hz to 1 MHz	10 Hz	Universal Counter CENAM Technical Guide
	1 MHz to 10 MHz	62 Hz	
	10 MHz to 25 MHz	610 Hz	

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Time and Frequency

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Function Generator, Signal Generator / Period[FO]	10 ns to 10 s	2 x 10^{-9} Hz/Hz	Universal Counter CENAM Technical Guide
Time Interval Counter Universal Counter[FO]	1 ns to 86 400 s	2 x 10^{-10} s/s	

Thermodynamic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Bimetallic Thermometer[FO]	-15 °C to 30 °C	2.5 °C	Temperature Bath NMX-CH-064-IMNC
	30 °C to 90 °C	2.5 °C	
	90 °C to 800 °C	2.5 °C	
	-20 °C to 500 °C	0.5 °C	Fischer Scientific ISO Temp NMX-CH-064-IMNC
Chart Recorders, Term-Hygrometers, Humidity Meters[FO]	10 % RH to 90 % RH	2.3 % of reading	Humidity Calibration Salts CEM TH-007
Infrared Thermometer[FO]	-50 °C to 500 °C	0.95 °C	Black Body CEM TH-002

Chemical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Viscosity Ford Cup[FO] No .2,3,4,5	10 mm^2/s to 1 200 mm^2/s	1.8 % of reading	Standard Oil ASTM D 445-06 ASTM D 4052
Viscosity Zahn[FO] No. 1, 2, 3, 4, 5	5 mm^2/s to 1 840 mm^2/s	0.3 % of reading	
pH Meter[FO]	4 pH	0.012 pH	Buffer Solution Standard NMX-AA-008-SFCI
	7 pH	0.012 pH	
	10 pH	0.012 pH	
Refractometer[F]	12 Brix to 50 Brix	0.12 Brix	Refraction Solutions NMX-F-316-SCFI
Conductivity Meters[FO]	84 µS	0.94 µS	Conductivity Standards Solutions CENAM Technical Guide
	1 413 µS	6.5 µS	
	12 880 µS	6 µS	

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Electrical

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Equipment to Measure DC Voltage[FO]	Up to 329.999 mV	23 µV	Fluke 5500A INM Calibration Guide Euramet-cg-15
	Up to 3.29999 V	0.017 mV	
	Up to 32.9999 V	1.7 mV	
	30 V to 329.999 V	19 mV	
	100 V to 1 020 V	58 mV	
Equipment to Measure DC Current[FO]	Up to 3.2 99 99 mA	0.5 mA	
	Up to 32 99 99 mA	3.6 µA	
	Up to 329.999 mA	36 µA	
	Up to 2.19 999 A	0.7 mA	
	Up to 11 A	6.9 mA	
Equipment to Measure Resistance[FO]	Up to 10.99 Ω	9.3 mΩ	
	11 Ω to 32.999 Ω	19 mΩ	
	33 Ω to 109.999 Ω	25 mΩ	
	110 Ω to 329.999 Ω	46 mΩ	
	330 Ω to 1 099.99 Ω	0.15 Ω	
	1.1 kΩ to 3.299 99 kΩ	0.36 Ω	
	3.3 kΩ to 10.999 9 kΩ	1.5 Ω	
	11 kΩ to 32.999 9 kΩ	3.6 Ω	
	33 kΩ to 109.999 kΩ	18 Ω	
	110 k Ω to 329.999 k Ω	46 Ω	
	330 kΩ to 1 099.99 kΩ	0.24 kΩ	
	1.1 MΩ to 3.29 99 MΩ	0.56 KΩ	
	3.3 MΩ to 10.999 9 MΩ	7.1 kΩ	
	11 MΩ to 32.999 MΩ	36 kΩ	
	33 MΩ to 109.99 MΩ	0.57 MΩ	
	110 MΩ to 330 MΩ	1.7 MΩ	
Equipment to Measure AC Voltage At the listed frequencies[FO]			
10 Hz to 45 Hz	1 mV to 32.999 mV	0.14 mV	
45 Hz to 10 kHz	1 mV to 32.999 mV	73 µV	
10 kHz to 20 kHz	1 mV to 32.999 mV	89 µV	
20 kHz to 50 kHz	1 mV to 32.999 mV	0.11 mV	

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Equipment to Measure AC Voltage At the listed frequencies[FO]			Fluke 5500A INM Calibration Guide Euramet-cg-15
10 Hz to 45 Hz	33 mV to 329.99 mV	0.9 mV	
45 Hz to 10 kHz	33 mV to 329.99 mV	0.18 mV	
10 kHz to 20 kHz	33 mV to 329.99 mV	0.36 mV	
20 kHz to 50 kHz	33 mV to 329.99 mV	0.6 mV	
50 kHz to 100 kHz	33 mV to 329.99 mV	0.99 mV	
100 kHz to 500 kHz	33 mV to 329.99 mV	2.6 mV	
Equipment to Measure AC Voltage At the listed frequencies[FO]			
10 Hz to 45 Hz	0.33 V to 3.299 9 V	5.3 mV	
45 Hz to 10 kHz	0.33 V to 3.299 9 V	1.1 mV	
10 kHz to 20 kHz	0.33 V to 3.299 9 V	2.7 mV	
20 kHz to 50 kHz	0.33 V to 3.299 9 V	4.9 mV	
50 kHz to 100 kHz	0.33 V to 3.299 9 V	9.9 mV	
100 kHz to 500 kHz	0.33 V to 3.299 9 V	20 mV	
Equipment to Measure AC Voltage At the listed frequencies[FO]			
10 Hz to 45 Hz	3.3 V to 32.999 V	53 mV	
45 Hz to 10 kHz	3.3 V to 32.999 V	17 mV	
10 kHz to 20 kHz	3.3 V to 32.999 V	30 mV	
20 kHz to 50 kHz	3.3 V to 32.999 V	70 mV	
50 kHz to 100 kHz	3.3 V to 32.999 V	99 mV	
Equipment to Measure AC Voltage At the listed frequencies[FO]			
45 Hz to 1 kHz	330 V to 1 000 V	0.58 V	
1 kHz to 5 kHz	330 V to 1 000 V	2.5 V	
5 kHz to 10 kHz	330 V to 1 000 V	2.5 V	
Equipment to Measure AC Current At the listed frequencies[FO]			
10 Hz to 20 Hz	29 µA to 329.99 µA	0.99 µA	

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Equipment to Measure AC Current At the listed frequencies[FO]			Fluke 5500A INM Calibration Guide Euramet-cg-15
20 Hz to 45 Hz	29 µA to 329.99 µA	0.56 µA	
45 Hz to 1 kHz	29 µA to 329.99 µA	0.69 µA	
1 kHz to 5 kHz	29 µA to 329.99 µA	1.5 µA	
Equipment to Measure AC Current At the listed frequencies[FO]			
10 Hz to 20 Hz	330 mA to 3 299. 9 mA	6.9 µA	
20 Hz to 45 Hz	330 mA to 3 299. 9 mA	3.6 µA	
45 Hz to 1 kHz	330 mA to 3 299. 9 mA	3.6 µA	
1 kHz to 5 kHz	330 mA to 3 299. 9 mA	6.9 µA	
Equipment to Measure AC Current At the listed frequencies[FO]			
10 Hz to 20 Hz	3.3 mA to 32.999 mA	76 µA	
20 Hz to 45 Hz	3.3 mA to 32.999 mA	42 µA	
45 Hz to 1 kHz	3.3 mA to 32.999 mA	33 µA	
1 kHz to 5 kHz	3.3 mA to 32.999 mA	76 µA	
Equipment to Measure AC Current At the listed frequencies[FO]			
10 Hz to 20 Hz	33 mA to 329.99 mA	76 mA	
20 Hz to 45 Hz	33 mA to 329.99 mA	46 mA	
45 Hz to 1 kHz	33 mA to 329.99 mA	33 mA	
1 kHz to 5 kHz	33 mA to 329.99 mA	76 mA	
Equipment to Measure AC Current At the listed frequencies			
10 Hz to 45 Hz	0.33 A to 2.199 9 A	4.8 mA	
45 Hz to 1 kHz	0.33 A to 2.199 9 A	2.6 mA	
Equipment to Measure AC Current At the listed frequencies[FO]			
45 Hz to 65 Hz	2.2 A to 11 A	8.6 mA	
65 Hz to 500 Hz	2.2 A to 11 A	13 mA	

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Equipment to Output AC Voltage At the listed frequencies[FO]			Fluke 8845A CENAM Technical Guide
1 Hz to 10 Hz	20 mV to 199.99 mV	160 µV/V + 14 µV	
10 Hz to 40 Hz	20 mV to 199.99 mV	130 µV/V + 8 µV	
40 Hz to 100 Hz	20 mV to 199.99 mV	110 µV/V + 8 µV	
100 Hz to 2 kHz	20 mV to 199.99 mV	105 µV/V + 2 µV	
2 kHz to 10 kHz	20 mV to 199.99 mV	105 µV/V + 4 µV	
10 kHz to 30 kHz	20 mV to 199.99 mV	305 µV/V + 8 µV	
30 kHz to 299 kHz	20 mV to 199.99 mV	705 µV/V + 20 µV	
Equipment to Output AC Voltage At the listed frequencies[FO]			
1 Hz to 10 Hz	200 mV to 1.999 9 V	140 µV/V + 120 µV	
10 Hz to 40 Hz	200 mV to 1.999 9 V	105 µV/V + 20 µV	
40 Hz to 100 Hz	200 mV to 1.999 9 V	85 µV/V + 20 µV	
100 Hz to 2 kHz	200 mV to 1.999 9 V	65 µV/V + 20 µV	
2 kHz to 10 kHz	200 mV to 1.999 9 V	85 µV/V + 20 µV	
10 kHz to 30 kHz	200 mV to 1.999 9 V	205 µV/V + 40 µV	
30 kHz to 299 kHz	200 mV to 1.999 9 V	505 µV/V + 200 µV	
Equipment to Output AC Voltage At the listed frequencies[FO]			
1 Hz to 10 Hz	2 V to 19.999 V	140 µV/V + 1.2 mV	
10 Hz to 40 Hz	2 V to 19.999 V	105 µV/V + 200 µV	
40 Hz to 100 Hz	2 V to 19.999 V	85 µV/V + 200 µV	
100 Hz to 2 kHz	2 V to 19.999 V	65 µV/V + 200 µV	
2 kHz to 10 kHz	2 V to 19.999 V	85 µV/V + 200 µV	
10 kHz to 30 kHz	2 V to 19.999 V	205 µV/V + 400 µV	
30 kHz to 299 kHz	2 V to 19.999 V	505 µV/V + 2 mV	
Equipment to Output AC Voltage At the listed frequencies[FO]			
1 Hz to 10 Hz	20 V to 199.99 V	140 µV/V + 12 mV	
10 Hz to 40 Hz	20 V to 199.99 V	105 µV/V + 2 mV	

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Equipment to Output AC Voltage At the listed frequencies[FO]			Fluke 8845A CENAM Technical Guide
40 Hz to 100 Hz	20 V to 199.99 V	85 µV/V + 2 mV	
100 Hz to 2 kHz	20 V to 199.99 V	65 µV/V + 2 mV	
2 kHz to 10 kHz	20 V to 199.99 V	85 µV/V + 2 mV	
10 kHz to 30 kHz	20 V to 199.99 V	205 µV/V + 4 mV	
30 kHz to 299 kHz	20 V to 199.99 V	505 µV/V + 20 mV	
Equipment to Output AC Voltage At the listed frequencies[FO]			
1 Hz to 10 Hz	200 V to 749 V	140 µV/V + 74 mV	
10 Hz to 40 Hz	200 V to 749 V	110 µV/V + 20 mV	
40 Hz to 10 KHz	200 V to 749 V	95 µV/V + 21 mV	
10 KHz to 30 kHz	200 V to 749 V	205 µV/V + 42 mV	
30 kHz to 100 kHz	200 V to 749 V	510 µV/V + 0.21 V	
Equipment to Output DC Voltage[FO]	100 mV to 1.99 V	3 µV/V + 0.4 µV	
	2 V to 19.99 V	3 µV/V + 4 µV	
	20 V to 199.99 V	4.5 µV/V + 40 µV	
	200 V to 1 000 V	4.5 µV/V + 500 µV	
Equipment to Output AC Current At the listed frequencies[FO]			
1 Hz to 10 Hz	199.99 mA to 1.999 9 mA	290 µA/A + 0.2 µA	
10 Hz to 10 kHz	199.99 mA to 1.999 9 mA	280 µA/A + 0.2 µA	
10 kHz to 30 kHz	199.99 mA to 1.999 9 mA	650 µA/A + 0.2 µA	
30 kHz to 100 kHz	199.99 mA to 1.999 9 mA	4 000 µA/A + 0.2 µA	
Equipment to Output AC Current At the listed frequencies[FO]			
1 Hz to 10 Hz	2 mA to 19.999 mA	290 µA/A + 2 µA	
10 Hz to 10 kHz	2 mA to 19.999 mA	280 µA/A + 2 µA	
10 kHz to 30 kHz	2 mA to 19.999 mA	650 µA/A + 2 µA	
30 kHz to 100 kHz	2 mA to 19.999 mA	4 000 µA/A + 2 µA	

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Equipment to Output AC Current At the listed frequencies[FO]			Fluke 8845A INM Calibration Guide Euramet-cg-15
1 Hz to 10 Hz	20 mA to 199.99 mA	290 µA/A + 20 µA	
10 Hz to 10 kHz	20 mA to 199.99 mA	250 µA/A + 20 µA	
10 kHz to 30 kHz	20 mA to 199.99 mA	600 µA/A + 20 µA	
Equipment to Output AC Current At the listed frequencies[FO]			
1 Hz to 10 Hz	200 mA to 1.999 999 A	600 µA/A + 200 µA	
10 Hz to 10 kHz	200 mA to 1.999 999 A	700 µA/A + 200 µA	
10 kHz to 30 kHz	200 mA to 1.999 999 A	1 500 µA/A + 200 µA	
Equipment to Output AC Current At the listed frequencies[FO]			
10 Hz to 2 kHz	19.999 A	700 µA/A + 2 mA	
2 kHz to 10 kHz	19.999 A	0.25 % of reading + 2 mA	
Equipment to Output DC Current[FO]	19.99 µA to 199.99 µA	12 µA/A + 0.4 nA	
	199.99 µA to 1.99 mA	12 µA/A + 4 nA	
	2 mA to 19.99 mA	13 µA/A + 40 nA	
	19.99 mA to 199.99 mA	36 µA/A + 0.8 µA	
	200 mA to 1.99 A	170 µA/A + 16 µA	
	2 A to 9.99 A	380 µA/A + 400 µA	
Equipment to Output Frequency[FO]	20 Hz to 1 MHz	0.01 % of reading	
Equipment to Output Resistance[FO]	0.2 Ω to 1.99 Ω	15 µΩ/Ω + 4 µΩ	
	1.99 Ω to 19.99 Ω	9 µΩ/Ω + 14 µΩ	
	20 Ω to 199.99 Ω	7.5 µΩ/Ω + 50 µΩ	
	200 Ω to 1.99 kΩ	7.5 µΩ/Ω + 500 µΩ	
	2 kΩ to 19.99 kΩ	7.5 µΩ/Ω + 0.005 Ω	
	20 kΩ to 199.99 kΩ	7.5 µΩ/Ω + 0.05 Ω	
	200 kΩ to 1.99 MΩ	8.5 µΩ/Ω + 1 Ω	
	2 MΩ to 19.99 MΩ	15 µΩ/Ω + 100 Ω	
	20 MΩ to 99.99 MΩ	60 µΩ/Ω + 10 kΩ	

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Hy-Pot Source AC and DC[FO]	0.5 KV to 5KV	1 % of reading	Multimeter Fluke 8845A High Voltage Probe IEC 61010.1
Equipment to Measure DC Voltage[FO]	1 mV to 320 mV	4.2 µV	Wavetek 9000 Calibrator INM Calibration Guide Euramet-cg-15
	0.32 V to 3.2 V	42 µV	
	3.2 V to 32 V	420 µV	
	32 V to 320 V	4.5 mV	
	320 V to 1 050 V	20 mV	
Equipment to Measure AC Voltage At the listed frequencies[FO]			
10 Hz to 3 kHz	1 mV to 320 mV	190 µV	
3 kHz to 10 kHz	1 mV to 320 mV	210 µV	
10 kHz to 30 kHz	1 mV to 320 mV	310 µV	
30 kHz to 50 kHz	1 mV to 320 mV	1.6 mV	
50 kHz to 100 kHz	1 mV to 320 mV	1.2 mV	
Equipment to Measure AC Voltage At the listed frequencies[FO]			
10 Hz to 3 kHz	320 mV to 3.2 V	1.7 mV	
3 kHz to 10 kHz	320 mV to 3.2 V	1.8 mV	
10 kHz to 30 kHz	320 mV to 3.2 V	2.8 mV	
30 kHz to 50 kHz	320 mV to 3.2 V	15 mV	
50 kHz to 100 kHz	320 mV to 3.2 V	110 mV	
Equipment to Measure AC Voltage At the listed frequencies[FO]			
10 Hz to 3 kHz	3.2 V to 32 V	17 mV	
3 kHz to 10 kHz	3.2 V to 32 V	25 mV	
10 kHz to 30 kHz	3.2 V to 32 V	35 mV	
30 kHz to 50 kHz	3.2 V to 32 V	66 mV	
50 kHz to 100 kHz	3.2 V to 32 V	170 mV	

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Equipment to Measure AC Voltage At the listed frequencies[FO]			Wavetek 9000 Calibrator INM Calibration Guide Euramet-cg-15
10 Hz to 3 kHz	32 V to 105 V	56 mV	
3 kHz to 10 kHz	32 V to 105 V	82 mV	
10 kHz to 30 kHz	32 V to 105 V	120 mV	
30 kHz to 50 kHz	32 V to 105 V	220 mV	
50 kHz to 100 kHz	32 V to 105 V	550 mV	
Equipment to Measure AC Voltage At the listed frequencies[FO]			
40 Hz to 100 Hz	105 V to 320 V	210 mV	
100 Hz to 1 kHz	105 V to 320 V	210 mV	
1 kHz to 3 kHz	105 V to 320 V	320 mV	
3 kHz to 10 kHz	105 V to 320 V	340 mV	
10 kHz to 20 kHz	105 V to 320 V	500 mV	
20 kHz to 30 kHz	105 V to 320 V	630 mV	
Equipment to Measure AC Voltage At the listed frequencies[FO]			
40 Hz to 100 Hz	320 V to 800 V	540 mV	
100 Hz to 1 kHz	320 V to 800 V	540 mV	
1 kHz to 3 kHz	320 V to 800 V	820 mV	
3 kHz to 10 kHz	320 V to 800 V	860 mV	
10 kHz to 20 kHz	320 V to 800 V	1.3 V	
20 kHz to 30 kHz	320 V to 800 V	1.7 V	
Equipment to Measure AC Voltage At the listed frequencies[FO]			
40 Hz to 100 Hz	800 V to 1 050 V	1.5 V	
100 Hz to 1 kHz	800 V to 1 050 V	1.5 V	
1 kHz to 3 kHz	800 V to 1 050 V	1.8 V	
3 kHz to 10 kHz	800 V to 1 050 V	1.9 V	
10 kHz to 20 kHz	800 V to 1 050 V	1.9 V	

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Equipment to Measure DC Current	1 µA to 320 µA	96 nA	Wavetek 9000 Calibrator INM Calibration Guide Euramet-cg-15
	0.32 mA to 3.2 mA	620 nA	
	3.2 mA to 32 mA	6.2 mA	
	32 mA to 320 mA	70 µA	
	0.32 A to 3.2 A	2.4 mA	
	3.2 A to 10.5 A	7.5 mA	
	10.5 A to 20 A	18 mA	
Equipment to Measure AC Current At the listed frequencies[FO]			
40 Hz to 3 kHz	1 µA to 32 µA	1.1 µA	
3 kHz to 10 kHz	1 µA to 32 µA	2.2 µA	
10 kHz to 20 kHz	1 µA to 32 µA	7.1 µA	
20 kHz to 30 kHz	1 µA to 32 µA	11 µA	
Equipment to Measure AC Current At the listed frequencies[FO]			
40 Hz to 3 kHz	32 µA to 320 µA	665 nA	
3 kHz to 10 kHz	32 µA to 320 µA	1.5 µA	
10 kHz to 20 kHz	32 µA to 320 µA	3 µA	
20 kHz to 30 kHz	32 µA to 320 µA	4.8 µA	
Equipment to Measure AC Current At the listed frequencies[FO]			
40 Hz to 3 kHz	0.32 mA to 3.2 mA	3.5 µA	
3 kHz to 10 kHz	0.32 mA to 3.2 mA	4.9 µA	
10 kHz to 20 kHz	0.32 mA to 3.2 mA	9.5 µA	
20 kHz to 30 kHz	0.32 mA to 3.2 mA	15 µA	
Equipment to Measure AC Current At the listed frequencies[FO]			
40 Hz to 3 kHz	3.2 mA to 32 mA	33 µA	
3 kHz to 10 kHz	3.2 mA to 32 mA	42 µA	

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Equipment to Measure AC Current At the listed frequencies[FO]			Wavetek 9000 Calibrator INM Calibration Guide Euramet-cg-15
10 kHz to 20 kHz	3.2 mA to 32 mA	84 µA	
20 kHz to 30 kHz	3.2 mA to 32 mA	120 µA	
Equipment to Measure AC Current At the listed frequencies[FO]			
40 Hz to 3 kHz	32 mA to 320 mA	350 µA	
3 kHz to 10 kHz	32 mA to 320 mA	440 µA	
10 kHz to 20 kHz	32 mA to 320 mA	830 µA	
20 kHz to 30 kHz	32 mA to 320 mA	1 mA	
Equipment to Measure AC Current At the listed frequencies[FO]			
10 Hz to 3 kHz	0.32 A to 3.2 A	4.5 mA	
3 kHz to 10 kHz	0.32 A to 3.2 A	11 mA	
Equipment to Measure AC Current At the listed frequencies[FO]			
10 Hz to 3 kHz	3.2 A to 10 A	31 mA	
3 kHz to 10 kHz	3.2 A to 10 A	65 mA	
Equipment to Measure AC Current At the listed frequencies[FO]			
10 Hz to 3 kHz	10.5 A to 20 A	50 mA	
3 kHz to 10 kHz	10.5 A to 20 A	160 mA	
Equipment to Measure Resistance[FO]	0.001 Ω to 40 Ω	38 MΩ	
	40 MΩ to 400 Ω	130 MΩ	
	0.4 MΩ to 4 kΩ	800 MΩ	
	4 MΩ to 40 kΩ	10 Ω	
	40 MΩ to 400 kΩ	110 Ω	
	0.4 MΩ to 4 MΩ	2.5 kΩ	
	4 MΩ to 40 MΩ	70 kΩ	
	40 MΩ to 400 MΩ	1.5 MΩ	

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Equipment to Output Frequency[FO]	0.05 Hz to 10 MHz	290 Hz	Wavetek 9000 Calibrator INM Calibration Guide Euramet-cg-15 CENAM Technical Guide
Equipment to Output Capacitance[FO]	0.5 nF to 4 nF	33 pF	
	4 nF to 40 nF	190 pF	
	40 nF to 400 nF	1.7 nF	
	400 nF to 4 µF	22 nF	
	4 µF to 40 µF	260 µF	
	40 µF to 400 µF	2.7 µF	
	400 µF to 4 mF	26 µF	
	4 mF to 40 mF	540 µF	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type B[FO]	600 °C to 800 °C	2.2 °C	Multiproduct Calibrator Omega CL25 Electrical Simulation of Thermocouple Output Euramet-cg-11 NMX-CH-064-IMNC
	800 °C to 1 000 °C	1.7 °C	
	1 000 °C to 1 820 °C	1.5 °C	
	600 °C to 800 °C	2.2 °C	
	1 800 °C to 2 316 °C	3.2 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E[FO]	-250 °C to -200 °C	2.2 °C	Multiproduct Calibrator Electrical Simulation of Thermocouple Output Euramet-cg-11 NMX-CH-064-IMNC
	-200 °C to -100 °C	1 °C	
	600 °C to 1 000 °C	0.8 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J[FO]	1 400 °C to 1 767 °C	1.9 °C	
	210 °C to 100 °C	1.2 °C	
	100 °C to 400 °C	0.6 °C	
	400 °C to 1 200 ° C	1 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K[FO]	210 °C to 100 °C	1.2 °C	
	100 °C to 400 °C	0.6 °C	
	4 00 °C to 1 200 ° C	1 °C	
	1 200 °C to 1 372 °C	1.2 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type N[FO]	-200 °C to -100 °C	1.7 °C	
	-100 °C to 900 °C	1 °C	
	900 °C to 1 300 °C	1.1 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type R[FO]	-20 °C to 0 °C	3 °C	
	0 °C to 100 °C	2.3 °C	
	100 °C to 1 767 °C	1.7 °C	

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Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T[FO]	-200 °C to -250 °C	2.7 °C	Multiproduct Calibrator Electrical Simulation of Thermocouple Output Euramet-cg-11 NMX-CH-064-IMNC
	-200 °C to 0 °C	1.1 °C	
	0 °C to 400 °C	0.6 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type U[FO]	-200 °C to 0 °C	1.1 °C	
	0 °C to 600 °C	0.6 °C	
Wrist Strap[F]	675 kΩ to 11.5 MΩ	0.2 Ω	Decade Box ANSI ESD S1.1 ANSI ESD SP9.2
Foot Wear[O]	675 kΩ to 120 MΩ	1.8 Ω	
Equipment to Measure DC voltage[FO]	1 mV to 100 mV	0.000 9 % of reading + 0.3 µV	HP 3458A CENAM Technical Guide
	100 mV to 1 V	0.000 8 % of reading + 0.3 µV	
	1 V to 10 V	0.000 8 % of reading + 0.5 µV	
	10 V to 100 V	0.001 % of reading + 30 µV	
	100 V to 1 000 V	0.001 % of reading + 0.1 mV	
Equipment to Measure AC Voltage At the listed frequencies AC Band ≤ 2 MHz[FO]			
1 Hz to 40 Hz	Up to 10 mV	0.03 % of reading + 0.03 mV	
40 Hz to 1 kHz	Up to 10 mV	0.02 % of reading + 0.011 mV	
1 kHz to 20 kHz	Up to 10 mV	0.03 % of reading + 0.011 mV	
20 kHz to 50 kHz	Up to 10 mV	0.1 % of reading + 0.011 mV	
50 kHz to 100 kHz	Up to 10 mV	0.5 % of reading + 0.011 mV	
100 kHz to 300 kHz	Up to 10 mV	4 % of reading + 0.02 mV	
Equipment to Measure AC Voltage At the listed frequencies AC Band ≤ 2 MHz[FO]			
1 Hz to 40 Hz	100 mV to 10 V	0.007 % of reading + 0.004 V	
40 Hz to 1 kHz	100 mV to 10 V	0.007 % of reading + 0.002 V	
1 kHz to 20 k Hz	100 mV to 10 V	0.014 % of reading + 0.002 V	
20 kHz to 50 kHz	100 mV to 10 V	0.03 % of reading + 0.002 V	
50 kHz to 100 kHz	100 mV to 10 V	0.08 % of reading + 0.002 V	
100 kHz to 300 kHz	100 mV to 10 V	0.3 % of reading + 0.01 V	
300 kHz to 1 MHz	100 mV to 10 V	1 % of reading + 0.01 V	
1 MHz to 2 MHz	100 mV to 10 V	1.5 % of reading + 0.01 V	

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Equipment to Measure AC Voltage At the listed frequencies AC Band ≤ 2 MHz[FO]			HP 3458A CENAM Technical Guide
1 Hz to 40 Hz	10 V to 100 V	0.02 % of reading + 0.04 V	
40 Hz to 1 kHz	10 V to 100 V	0.02 % of reading + 0.02 V	
1 kHz to 20 k Hz	10 V to 100 V	0.02 % of reading + 0.02 V	
20 kHz to 50 kHz	10 V to 100 V	0.035 % of reading + 0.02 V	
50 kHz to 100 kHz	10 V to 100 V	0.12 % of reading + 0.02 V	
100 kHz to 300 kHz	10 V to 100 V	0.4 % of reading + 0.1 V	
300 kHz to 1MHz	10 V to 100 V	1.5 % of reading + 0.1 V	
Equipment to Measure AC Voltage At the listed frequencies AC Band ≤ 2 MHz[FO]			
1 Hz to 40 Hz	100 V to 1 000 V	0.04 % of reading + 0.4 V	
40 Hz to 1 kHz	100 V to 1 000 V	0.04 % of reading + 0.2 V	
1 kHz to 20 kHz	100 V to 1 000 V	0.06 % of reading + 0.2 V	
20 kHz to 50 kHz	100 V to 1 000 V	0.12 % of reading + 0.2 V	
50 kHz to 100 kHz	100 V to 1 000 V	0.3 % of reading + 0.2 V	
Equipment to Measure AC Voltage At the listed frequencies AC Band ≤ 2 MHz[FO]			
45 Hz to 100 kHz	Up to 10 mV	0.09 % of reading + 0.06 mV	
100 kHz to 1 MHz	Up to 10 mV	1.2 % of reading + 0.05 mV	
1 MHz to 4 MHz	Up to 10 mV	7 % of reading + 0.07 mV	
4 MHz to 8 MHz	Up to 10 mV	20 % of reading + 0.08 mV	
Equipment to Measure AC Voltage At the listed frequencies AC Band ≤ 2 MHz[FO]			
45 Hz to 100 kHz	100 mV to 10 V	0.09 % of reading + 0.06 V	
100 kHz to 1 MHz	100 mV to 10 V	2 % of reading + 0.05 V	
1 MHz to 4 MHz	100 mV to 10 V	4 % of reading + 0.07 V	

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Equipment to Measure AC Voltage At the listed frequencies AC Band ≤ 2 MHz[FO]			HP 3458A CENAM Technical Guide
4 MHz to 8 MHz	100 mV to 10 V	4 % of reading + 0.08 V	
8 MHz to 10 MHz	100 mV to 10 V	15 % of reading + 0.01 V	
Equipment to Measure AC Voltage At the listed frequencies AC Band ≤ 2 MHz[FO]			
45 Hz to 100 kHz	10 V to 100 V	0.12 % of reading + 0.02 V	
45 Hz to 100 kHz	100 V to 1 000 V	0.3 % of reading + 1 V	
Equipment to Output AC Current At the listed frequencies[FO]			
10 Hz to 20 Hz	Up to 100 µA	0.4 % of reading + 0.03 µA	
20 Hz to 45 Hz	Up to 100 µA	0.15 % of reading + 0.03 µA	
45 Hz to 100 Hz	Up to 100 µA	0.06 % of reading + 0.03 µA	
100 Hz to 5 kHz	Up to 100 µA	0.06 % of reading + 0.03 µA	
Equipment to Output AC Current At the listed frequencies[FO]			
10 Hz to 20 Hz	1 mA to 100 mA	0.4 % of reading + 0.02 mA	
20 Hz to 45 Hz	1 mA to 100 mA	0.15 % of reading + 0.02 mA	
45 Hz to 100 Hz	1 mA to 100 mA	0.06 % of reading + 0.02 mA	
100 Hz to 5 kHz	1 mA to 100 mA	0.03 % of reading + 0.02 mA	
5 kHz to 20 kHz	1 mA to 100 mA	0.06 % of reading + 0.02 mA	
20 kHz to 50 kHz	1 mA to 100 mA	0.4 % of reading + 0.04 mA	
50 kHz to 100 kHz	1 mA to 100 mA	0.55 % of reading + 0.15 mA	
Equipment to Output AC Current At the listed frequencies[FO]			
10 Hz to 20 Hz	100 mA to 1 A	0.4 % of reading + 0.2 mA	
20 Hz to 45 Hz	100 mA to 1 A	0.16 % of reading + 0.2 mA	
45 Hz to 100 Hz	100 mA to 1 A	0.08 % of reading + 0.2 mA	

Certificate of Accreditation: Supplement

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Rio Bravo, Tamaulipas, México. C.P. 88940
Contact Name: Luz Adriana Chapa. Phone: 899-688-1670

Accreditation is granted to the facility to perform the following calibrations:

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Output AC Current At the listed frequencies[FO]			HP 3458A CENAM Technical Guide
100 Hz to 5 kHz	100 mA to 1 A	0.1 % of reading + 0.2 mA	
5 kHz to 20 kHz	100 mA to 1 A	0.3 % of reading + 0.2 mA	
20 kHz to 50 kHz	100 mA to 1 A	1 % of reading + 0.4 mA	
Equipment to Measure Resistance[FO]	Up to 10 Ω	0.001 5 % of reading + 50 µΩ	
	Up to 100 Ω	0.001 2 % of reading + 500 µΩ	
	Up to 1 kΩ	0.001 % of reading + 500 µΩ	
	Up to 10 kΩ	0.001 % of reading + 5 mΩ	
Equipment to Measure Resistance[FO]	Up to 100 kΩ	0.001 % of reading + 50 mΩ	
	Up to 1 MΩ	0.001 5 % of reading + 2 Ω	
	Up to 10 MΩ	0.005 % of reading + 100 Ω	
	Up to 100 MΩ	0.05 % of reading + 1 KΩ	
	Up to 1Ω	0.5 % of reading + 10 KΩ	
Equipment to Measure DC Voltage[FO]	Up to 100 mV	0.000 9 % of reading + 0.3 µV	
	100 mV to 1 V	0.000 8 % of reading + 0.3 µV	
	1 V to 10 V	0.000 8 % of reading + 0.5 µV	
	10 V to 100 V	0.001 % of reading + 30 µV	
	100 V to 1 000 V	0.001 % of reading + 0.1 mV	
Equipment to Measure DC Current[FO]	Up to 100 µA	0.000 2 % of reading + 5 pA	
	100 µA to 1 µA	0.000 2 % of reading + 5 pA	
	1 µA to 10 µA	0.000 2 % of reading + 10 pA	
	10 µA to 100 µA	0.000 2 % of reading + 100 pA	
	100 µA to 1 mA	0.000 2 % of reading + 1 µA	
	1 mA to 10 mA	0.000 2 % of reading + 10 µA	
	10 mA to 100 mA	0.000 2 % of reading + 100 µA	
	100 mA to 1 A	0.000 2 % of reading + 2 µA	
	1 A to 3 A	0.12 % of reading + 0.6 mA	
Equipment to Output AC Current At the listed frequencies 50 Hz to 500 Hz[FO]	1 A to 10 A	1.3 % of reading + 10 mA	Fluke 45 CENAM Technical Guide

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Accreditation is granted to the facility to perform the following calibrations:

Optical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Light Meter^{FO}	11 Lux to 5 393 Lux	1.2 Lux	Light Master EXTECH 407026 Comparison CENAM Technical Guide CNM-MFO-PT-004

Acoustic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Sound Level Meter^{FO}	94 dB to 114 dB	0.28 dB	Sound Level Calibrator Accurate Convenient OIML R102

1. The CMC (Calibration and Measurement Capability) stated for calibrations included on this scope of accreditation represents the smallest measurement uncertainty attainable by the laboratory when performing a more or less routine calibration of a nearly ideal device under nearly ideal conditions. It is typically expressed at a confidence level of 95 % using a coverage factor *k* (usually equal to 2). The actual measurement uncertainty associated with a specific calibration performed by the laboratory will typically be larger than the CMC for the same calibration since capability and performance of the device being calibrated and the conditions related to the calibration may reasonably be expected to deviate from ideal to some degree.
2. The laboratories range of calibration capability for all disciplines for which they are accredited is the interval from the smallest calibrated standard to the largest calibrated standard used in performing the calibration. The low end of this range must be an attainable value for which the laboratory has or has access to the standard referenced. Verification of an indicated value of zero in the absence of a standard is common practice in the procedure for many calibrations but by its definition it does not constitute calibration of zero capacity.
3. The presence of a superscript F means that the laboratory performs calibration of the indicated parameter at its fixed location. Example: Outside Micrometer^{F} would mean that the laboratory performs this calibration at its fixed location.
4. The presence of a superscript O means that the laboratory performs calibration of the indicated parameter onsite at customer locations. Example: Outside Micrometer^{O} would mean that the laboratory performs this calibration onsite at the customer's location.
5. The presence of a superscript FO means that the laboratory performs calibration of the indicated parameter both at its fixed location and onsite at customer locations. Example: Outside Micrometer^{FO} would mean that the laboratory performs this calibration at its fixed location and onsite at customer locations.

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Accreditation is granted to the facility to perform the following calibrations:

6. Measurement uncertainties obtained for calibrations performed at customer sites can be expected to be larger than the measurement uncertainties obtained at the laboratories fixed location for similar calibrations. This is due to the effects of transportation of the standards and equipment and upon environmental conditions at the customer site which are typically not controlled as closely as at the laboratories fixed location.
7. The term D represents diameter in inches or millimeters as appropriate to the uncertainty statement.
8. The term L represents length in inches or millimeters as appropriate to the uncertainty statement.
9. The term Wt represents weight in pounds or grams (including SI multiple and submultiple units) appropriate to the uncertainty statement.