

PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

MetryCo / Martha Rocio Rosas Montes

Calle Campos de Oriente No. 3525, Fracc. Urbivilla del Campo Ciudad Juárez, Chihuahua, México. C.P. 32575

(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):

Chemical, Mechanical, Mass, Force and Weighing Devices, Electrical, Thermodynamic, Time and Frequency and Dimensional 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 Initial Accreditation Date:

Issue Date:

Expiration Date:

April 19, 2018

April 26, 2024

June 30, 2026

Accreditation No.:

Certificate No.:

93827

L24-320

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

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



MetryCo / Martha Rocio Rosas Montes

Calle Campos de Oriente No. 3525, Fracc. Urbivilla del Campo Ciudad Juárez, Chihuahua, México. C.P. 32575 Contact Name: Martha Rocio Rosas Montes. Phone: 656 751 4004

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

Chemical

| Chemical | | | | |
|------------------------|--------------------|-----------------------|---------------------|--------------------|
| MEASURED | RANGE | CALIBRATION | CALIBRATION | CALIBRATION |
| INSTRUMENT, | (AND SPECIFICATION | AND MEASUREMENT | EQUIPMENT AND | MEASUREMENT METHOD |
| QUANTITY OR GAUGE | WHERE APPROPRIATE) | CAPABILITY EXPRESSED | REFERENCE | OR PROCEDURES USED |
| | ŕ | AS AN UNCERTAINTY (±) | STANDARDS USED | |
| pH Meter ^{FO} | 4 pH | 0.06 pH | pH Buffer Solutions | CENAM Technical |
| | 7 pH | 0.06 pH | | Guide |
| | 1 | 1. | | ASTM E70 |
| | 10 pH | 0.06 pH | | |

Mechanical

| Mechanical | | | | |
|--|---|--|--|---|
| MEASURED INSTRUMENT, QUANTITY OR GAUGE | RANGE (AND SPECIFICATION WHERE APPROPRIATE) | CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±) | CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED | CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED |
| Pressure Manometer ^{FO} | -12 psi to 300 psi | 0.025 % of reading | Druck DPI 610 | CENAM Technical |
| | 100 psi to 10 000 psi | 0.04 % of reading | 700G Precision Pressure Test Gauge | Guide |
| Torque Drives & Wrenches ^{FO} | 0.5 N·m to 56.5 N·m (5 lbf·in to 500 lbf·in) | 0.5 % of reading | Torque Transducers Dead Weight Torque Station | ISO 6789 |
| Indirect Verification | 40 HRB to 59 HRB | 0.9 HRB | Hardness Standard | ASTM E18 |
| Hardness Tester Machine ^{FO} | 60 HRB to 79 HRB | 0.7 HRB | Blocks | |
| Wiacillile | 80 HRB to 100 HRB | 0.5 HRB | | |
| | 25 HRC to 39 HRC | 0.6 HRC | | |
| | 40 HRC to 59 HRC | 1 HRC | 7 | |
| | 60 HRC to 70 HRC | 0.5 HRC | | |
| Safety and Relief Valve ^F | 0.1 mPa to 68.95 mPa | 6.9 kPa | Pressure Gauge Pattern: Fluke 2700 G-70M | CENAM Technical Guide |

Mass, Force and Weighing Devices

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|--|---|---|--|---|
| Scales and Balances Class III ^{FO} | 1 lb to 10 lb (Res.= 0.000 5 lb) | $(1 \times 10^{-4} + 1.8 \times 10^{-4} \text{Wt}) \text{ lb}$ | Test Weight Set Class F | OML R 76-1 |
| | 1 lb to 20 lb (Res.= 0.000 1 lb) | $(1 \times 10^{-4} + 2.34 \times 10^{-4} \text{Wt}) \text{ lb}$ | | |
| | 1 lb to 50 lb (Res.= 0.000 2 lb) | $(2 \times 10^{-4} + 1.12 \times 10^{-4} \text{Wt}) \text{ lb}$ | | |



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

Mass. Force and Weighing Devices

| MEASURED INSTRUMENT, QUANTITY OR GAUGE | RANGE (AND SPECIFICATION WHERE APPROPRIATE) | CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±) | CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED | CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED |
|--|--|---|--|---|
| Scales and Balances Class III ^{FO} | 1 lb to 100 lb (Res.= 0.001 lb) 50 lb to 500 lb (Res.= 0.05 lb) 500 lb to 5 000 lb (Res.= 1 lb) | $(1.1 \times 10^{-3} + 1.08 \times 10^{-4} \text{Wt}) \text{ lb}$ $(5.54 \times 10^{-2} + 5.25 \times 10^{-5} \text{Wt}) \text{ lb}$ $(1.14 + 3 \times 10^{-5} \text{Wt}) \text{ lb}$ | Test Weight Set Class F | OML R 76-1 |
| Force – Compression, Tension- Source and Measure ^{FO} | 1.1 N to 5 000 N | 0.2 % of reading | Test Weight Set Class F | ASTM E 617 ISO 376 ISO7500-1 |
| Mass Weight F1, F2, M1, M2, M3 ^{FO} | 1 g 2 g 5 g 10 g 20 g 50 g 100 g 200 g 500 g 1 kg 2 kg 5 kg 10 kg 20 kg 1 mg 2 mg 5 mg 10 mg 20 mg 500 mg 500 mg | 22 μg 25 μg 40 μg 43 μg 68 μg 80 μg 100 μg 200 μg 0.5 mg 1.1 mg 1.9 mg 5 mg 10 mg 21 mg 5 μg 5 μg 5 μg 5 μg 10 μg 10 μg | Double Substitution with Class E2 Weights, Balances & Mass Comparators | OIML R111 |



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Mass, Force and Weighing Devices

| mass, I offer alla Wel | Simily Devices | | | |
|----------------------------------|--------------------|---|------------------|-----------------|
| MEASURED | RANGE | CALIBRATION | CALIBRATION | CALIBRATION |
| INSTRUMENT, | (AND SPECIFICATION | AND MEASUREMENT | EQUIPMENT AND | MEASUREMENT |
| QUANTITY OR GAUGE | WHERE APPROPRIATE) | CAPABILITY EXPRESSED | REFERENCE | METHOD OR |
| | | AS AN UNCERTAINTY (±) | STANDARDS USED | PROCEDURES USED |
| Analytical Balances ^O | 1 mg to 20 g | $(1.35 \times 10^{-2} + 3.98 \times 10^{-6} \text{Wt}) \text{ mg}$ | Class E2 Weights | OIML R 76-1 |
| | (Res.= 0.01 mg) | | | |
| | 20 g to 500 g | $(1.15 \times 10^{-1} + 1.63 \times 10^{-6} \text{ Wt}) \text{ mg}$ | | |
| | (Res.= 0.1 mg) | | | |
| | 500 g to 2 kg | $(2.82 \times 10^{-1} + 1.62 \times 10^{-6} \text{Wt}) \text{ mg}$ | | |
| | (Res.= 0.5 mg) | | | |
| | 2 kg to 30 kg | $(1.17 \times 10^{-1} + 1.77 \times 10^{-6} \text{Wt}) \text{ mg}$ | | |
| | (Res.= 1 mg) | | | |

Time and Frequency

| Time and Trequency | 1 | | | | | |
|----------------------------|--------------------|-------|---------------|----------|---------------------|-----------------|
| MEASURED | RANGE | | CALIBRATI | ON | CALIBRATION | CALIBRATION |
| INSTRUMENT, | (AND SPECIFICATION | | AND MEASURE | EMENT | EQUIPMENT AND | MEASUREMENT |
| QUANTITY OR GAUGE | WHERE APPROPRIATE) | | CAPABILITY EX | PRESSED | REFERENCE | METHOD OR |
| | · | A | AS AN UNCERTA | INTY (±) | STANDARDS USED | PROCEDURES USED |
| Stopwatch and Time | 86 400 s | 0.3 s | 3 | | Digital Chronometer | NIST |
| Counters | | 4.3% | | | Traceable - Casio | Recommended |
| Fixed Points ^{FO} | | | | | | Practice Guide |
| | | | | | / | Special |
| | | | | | | Publication |
| | | | | 1 | | 960-12 |

Thermodynamic

| Thermodynamic | | | | |
|--|---|--|--|---|
| MEASURED INSTRUMENT, QUANTITY OR GAUGE | RANGE (AND SPECIFICATION WHERE APPROPRIATE) | CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±) | CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED | CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED |
| IR Thermometers ^{FO} | 10 °C to 400 °C | 1.4 °C | Omega Infrared | JIS C1612 |
| | (50 °F to 752 °F) | (34.52 °F) | Calibrator | |
| Temperature | -25 °C to 150 °C | 0.45 °C | Fluke Model 9142 | CENAM Technical |
| Measurement | | | Field Metrology | Guide |
| Instrument ^{FO} | | | Well | |
| Relative Humidity – | 14 % RH | 2 % RH | Hygrometer and Salt | |
| Measuring Equipment ^{FO} | 32 % RH | 2 % RH | Solutions | |
| Equipment | 72 % RH | 2 % RH | | |

Dimensional

| B III e II s c I w | | | | | | | |
|--------------------------------|--------------------|-----------------------------------|----------------|-----------------|---|--|--|
| MEASURED | RANGE | CALIBRATION | CALIBRATION | CALIBRATION | ĺ | | |
| INSTRUMENT, | (AND SPECIFICATION | AND MEASUREMENT | EQUIPMENT AND | MEASUREMENT | ĺ | | |
| QUANTITY OR GAUGE | WHERE APPROPRIATE) | CAPABILITY EXPRESSED | REFERENCE | METHOD OR | ĺ | | |
| | · | AS AN UNCERTAINTY (±) | STANDARDS USED | PROCEDURES USED | ĺ | | |
| Vernier Dial and | 1 mm to 500 mm | $(14 + 9 \times 10^{-3} L) \mu m$ | Gage Blocks | JIS B 7507 | ĺ | | |
| Digital Calipers ^{FO} | | | | | ĺ | | |



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Dimensional

| MEASURED INSTRUMENT, QUANTITY OR GAUGE Vernier Dial and | RANGE (AND SPECIFICATION WHERE APPROPRIATE) 500.01 mm to 1 200 mm | CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±) (7.15 + 7.86 X 10 ⁻³ L) µm | CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED Gage Blocks | CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED JIS B 7507 |
|--|--|--|--|--|
| Digital CalipersFO | | | | |
| Vernier Dial and | 1 mm to 500 mm | $(14 + 9 \times 10^{-3} L) \mu m$ | Gage Blocks | JIS B7517 |
| Digital Height Gages ^{FO} Micrometers ^{FO} | 500.01 mm to 1 200 mm | $(7.15 + 7.86 \times 10^{-3} L) \mu m$ | | |
| | 1 mm to 500 mm | $(1.66 + 3.3 \times 10^{-3} L) \mu m$ | Gage Blocks | JIS B 7502 |
| Metal Rules ^{FO} | 1 mm to 500 mm | $(45.8 + 0.3L) \mu m$ | Gage Blocks | JIS B 7516 |
| | 1 mm to 2 400 mm | $(58.85 + 1.58 \times 10^{-3} L) \mu m$ | Vision System with Mitutoyo Digital Proscale | |
| Dial and Digital Indicators ^{FO} | 5 mm to 60 mm | (1.56 + 0.001 8L) μm | Gage Blocks | ASME B89.1.10M |
| Test Indicators ^{FO} | 1 mm to 5 mm | (0.734 + 0.089L) µm | Gage Blocks | ASME B89.1.10M |
| Microscope X and Y Axis Linearity ^{FO} | 0.25 mm to 200 mm | 5 μm | Master Glass Reticle | JIS B 7184 |
| Microscope | 10 X | 0.05 % of magnification | Master Glass Reticle | JIS B 7184 |
| Magnification ^{FO} | 50 X | 0.05 % of magnification | | |
| | 100 X | 0.05 % of magnification | | |
| Thread Ring Pitch Diameter ^{FO} | 4 - 40 to 4 - 14 | (119.75 + 2.6L) μin | Master Plug Gage | ASME B1.2 ASME B1.20.2M |
| Thread Ring Minor Diameter ^{FO} | 4 - 40 to 4 -14 | (90.56 + 4.95L) μin | | |
| Cylindrical Diameter Outside and Limit Gages ^{FO} | 0.1 mm to 25 mm | 0.25 μm | Laser Scan Micrometer | ASME 89.1.5 CENAM Technical Guide |
| Thread Plug Major Diameter ^{FO} | 4 - 40 to 4 -14 | (35.3 + 17.45L) μin | Tree Wire Method | ASME B1.2 ASME B1.20.2M |
| Thread Plug Pitch Diameter ^{FO} | 4 - 40 to 4 -14 | (121 + 8.54L) μin | | |
| Surface Plate Flatness ^{FO} | 4 in to 60 in | 25 μin | Electronics Level | ASTM B89.3.7 |
| Surface Plate Repeat Reading ^{FO} | 0.002 in to 0.5 in | 40 μin | Digital Indicator | ASTM B89.3.7 |
| Optical Comparator ^{FO} X axis linearity Y axis linearity ^{FO} | 1 mm to 200 mm | 5 μm | Gage Blocks | JIS B 7184 |



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Dimensional

| Diffictional | | | | |
|--|---|--|--|---|
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| Optical Comparator Axis Squareness ^O | 90° | 0.1° | Gage Blocks | JIS B 7184 |
| Optical Comparators Angulatory ^O | 0° to 180° | 0.03° | Angle Blocks | |
| Optical Comparators | 10X | 0.05 % of reading | Master Glass Scale | |
| Magnification ^O | 20X | 0.05 % of reading | | |
| | 31.25X | 0.05 % of reading | | |
| Optical Comparators Angularity ^O | 30°, 45°, 60°, 90 | 0.1° | 981-103 Angle Plate | |
| Protractors ^{FO} | 1º to 180º | 0.3° | Gage Blocks/Sine Bar | PC-MDA01 |
| CMM Performance ^O | 25 mm to 1 500 mm | (0.001 + 0.005L) mm | Gage Block Grade K | ISO 10360 |
| Gage Block Set 1, 2 Grade ^F | 1.005 mm to 100 mm | (0.12 + 0.35L) mm | Gage Block Grade 0 | ASME B89 |

Electrical

| MEASURED INSTRUMENT, QUANTITY OR GAUGE | RANGE (AND SPECIFICATION WHERE APPROPRIATE) | CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±) | CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED | CALIBRA' MEASURE METHOD PROCEDURE |
|--|---|--|--|-----------------------------------|
| Equipment to Measure | | | Fluke 5520A | PC 0900 |
| AC Voltage | | | | |
| at the listed frequencies | -0 | | | |
| 10 Hz to 45 Hz | 33 V to 329.99 V | $1.5 \text{ mV/V} + 6600 \mu\text{V}$ | | |
| 1 kHz to 10 kHz | 33 V to 329.99 V | 0.8 mV/V + 15 mV | | |
| 10 kHz to 20 kHz | 33 V to 329.99 V | 0.9 mV/V + 33 mV | | |
| Equipment to Measure | | | | |
| AC Voltage | | | | |
| at the listed frequencies ¹ | FO | | | |
| 10 Hz to 45 Hz | 330 V to 1 020 V | $0.5 \text{ mV/V} + 80\ 000\ \mu\text{V}$ | | |
| 45 Hz to 10 kHz | 330 V to 1 020 V | 2 mV/V + 0.1 mV | | |
| 10 kHz to 20 kHz | 330 V to 1 020 V | 2 mV/V + 0.5 mV | | |
| Equipment to Measure | • | | | |
| AC Current | | | | |
| At the listed frequencies | FO | | | |
| 10 Hz to 20 Hz | 0.029 mA to 0.33 mA | $2.5 \text{ mA/A} + 0.15 \mu\text{A}$ | | |
| 20 Hz to 45 Hz | 0.029 mA to 0.33 mA | $1.3 \text{ mA/A} + 0.13 \mu\text{A}$ | | |
| 45 Hz to 1 kHz | 0.029 mA to 0.33 mA | $1.3 \text{ mA/A} + 0.13 \mu\text{A}$ | | |



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Electrical

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|---|---|--|--|---|
| Equipment to Measure | | | Fluke 5520A | PC 0900 |
| AC Current | | | | |
| At the listed frequencies FO | 10000 1 000 | 1 4 4 4 1 0 15 4 | | |
| 1 kHz to 5 kHz | 0.029 mA to 0.33 mA | $4 \text{ mA/A} + 0.15 \mu\text{A}$ | | |
| 5 kHz to 10 kHz | 0.029 mA to 0.33 mA | $13 \text{ mA/A} + 0.15 \mu\text{A}$ | | |
| Equipment to Measure AC Current At the listed frequencies FO | | | | |
| 10 Hz to 20 Hz | 0.33 mA to 3.29 mA | $2 \text{ mA/A} + 0.3 \mu\text{A}$ | | |
| 20 Hz to 45 Hz | 0.33 mA to 3.29 mA | $1 \text{ mA/A} + 0.3 \mu\text{A}$ | | |
| 45 Hz to 1 kHz | 0.33 mA to 3.29 mA | $1 \text{ mA/A} + 0.3 \mu\text{A}$ | | |
| 1 kHz to 5 kHz | 0.33 mA to 3.29 mA | $2 \text{ mA/A} + 0.3 \mu\text{A}$ | | |
| 5 kHz to 10 kHz | 0.33 mA to 3.29 mA | $6 \text{ mA/A} + 0.3 \mu\text{A}$ | | |
| Equipment to Measure AC Current At the listed frequencies ^{FO} | | | | |
| 10 Hz to 20 Hz | 3.3 mA to 32.99 mA | $2 \text{ mA/A} + 3 \mu\text{A}$ | | |
| 20 Hz to 45 Hz | 3.3 mA to 32.99 mA | $1 \text{ mA/A} + 3 \mu\text{A}$ | | |
| 45 Hz to 1 kHz | 3.3 mA to 32.99 mA | $0.9 \text{ mA/A} + 3 \mu\text{A}$ | | |
| 1 kHz to 5 kHz | 3.3 mA to 32.99 mA | $2 \text{ mA/A} + 3 \mu\text{A}$ | | |
| 5 kHz to 10 kHz | 3.3 mA to 32.99 mA | $6 \text{ mA/A} + 3 \mu\text{A}$ | | |
| Equipment to Measure AC Current At the listed frequencies FO | | | | |
| 10 Hz to 20 Hz | 33 mA to 329.99 mA | $2 \text{ mA/A} + 30 \mu\text{A}$ | | |
| 20 Hz to 45 Hz | 33 mA to 329.99 mA | $1 \text{ mA/A} + 30 \mu\text{A}$ | | |
| 45 Hz to 1 kHz | 33 mA to 329.99 mA | $0.9 \text{ mA/A} + 30 \mu\text{A}$ | | |
| 1 kHz to 5 kHz | 33 mA to 329.99 mA | $2 \text{ mA/A} + 30 \mu\text{A}$ | | |
| 5 kHz to 10 kHz | 33 mA to 329.99 mA | 6 mA/A + 30 μA | | |
| Equipment to Measure AC Current At the listed frequencies FO | | | | |
| 10 Hz to 45 Hz | 0.33 A to 2.19 A | $2 \text{ mA/A} + 300 \mu\text{A}$ | | |
| 45 Hz to 1 kHz | 0.33 A to 2.19 A | $1 \text{ mA/A} + 300 \mu\text{A}$ | | |
| 1 kHz to 5 kHz | 0.33 A to 2.19 A | 14 mA/A + 0.5 mA | | |



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|--|---|--|--|---|
| Equipment to Measure AC Current At the listed frequencies FO | | | Fluke 5520A | PC 0900 |
| 10 Hz to 45 Hz | 2.2 A to 11 A | 0.6 mA/A + 2 000 μA | | |
| 45 Hz to 1 kHz | 2.2 A to 11 A | 1 mA/A + 2 000 μA | | |
| 1 kHz to 5 kHz | 2.2 A to 11 A | $3.3 \text{ mA/A} + 2000 \mu\text{A}$ | | |
| Equipment to Measure DC Voltage ^{FO} | 3.299 mV to 329.999 9 mV | 60 μ V/V + 3 μV | | |
| | 0.032 9 V to 3.299 999 V | 50 μ V/V + 5 μV | | |
| | 0.329 V to 32.999 99 V | $50 \mu V/V + 50 \mu V$ | | |
| | 100 V to 1 020 V | $55 \mu V/V + 500 \mu V$ | | |
| | 100 V to 1 000 V | 55 μ V/V + 1 500 μV |) | |
| Equipment to Measure | 0.032 9 mA to 3.299 99 mA | $130 \mu A/A + 0.05 \mu A$ | | |
| DC Current ^{FO} | 0.329 9 mA to 32.999 9 mA | $100 \mu A/A + 0.25 \mu A$ | | |
| | 3.29 mA to 329.999 mA | $100 \mu A/A + 3.3 \mu A$ | | |
| | 0.021 9 A to 2.199 99 A | 300 μ A/A + 44 μA | | |
| | 0.11 A to 11 A | 600 μ Α/Α + 330 μΑ | | |
| Equipment to Measure Resistance ^{FO} | 0.009 121 Ω to 10.99 Ω | $110 \mu\Omega/\Omega + 0.008 \Omega$ | Fluke 5520A | PC 1005 |
| | 11 Ω to 32.99 Ω | 120 μ Ω / Ω + 0.015 Ω | | |
| | 33 Ω to 109.99 Ω | $90 \mu\Omega/\Omega + 0.015 \Omega$ | | |
| | 110 Ω to 329.99 Ω | $90 \mu\Omega/\Omega + 0.015 \Omega$ | - | |
| | 330 Ω to 1.09 kΩ | $90 \mu\Omega/\Omega + 0.006 \Omega$ | | |
| | $1.1 \text{ k}\Omega$ to $3.29 \text{ k}\Omega$ | $90 \mu\Omega/\Omega + 0.006 \Omega$ | | |
| | $3.3 \text{ k}\Omega$ to $10.99 \text{ k}\Omega$ | $90 \ \mu\Omega/\Omega + 0.006 \ \Omega$ | - | |
| | 11 kΩ to 32.99 kΩ | $90 \ \mu\Omega/\Omega + 0.006 \ \Omega$ | | |
| | 33 kΩ to 109.99 kΩ | $110 \mu\Omega/\Omega + 6 \Omega$ | - | |
| | 110 kΩ to 329.99 kΩ | 120 μ Ω / Ω + 6 Ω | | |
| | 330 kΩ to 1.099 MΩ | $150 \mu\Omega/\Omega + 55 \Omega$ | | |
| | 1.1 MΩ to 3.29 MΩ | $150 \mu\Omega/\Omega + 55 \Omega$ | | |
| | 3.3 MΩ to 10.99 MΩ | 600 μΩ/Ω + 550 Ω | | |
| | 11 MΩ to 32.99 MΩ | $1 \text{ M}\Omega/\Omega + 550 \Omega$ | | |
| | 33 MΩ to 109.99 MΩ | $5 \text{ M}\Omega/\Omega + 5.5 \text{ k}\Omega$ | | |
| | 110 MΩ to 330 MΩ | $5 \text{ M}\Omega/\Omega + 16.5 \text{ k}\Omega$ | 1 | |



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|--|---|--|--|---|
| Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J ^{FO} | -210 °C to -100 °C | 0.27 °C | Fluke 5520A Electrical Simulation of Thermocouple Output | PC TTC 01 |
| | -100 °C to -30 °C | 0.16 °C | | |
| | -30 °C to 150 °C | 0.14 °C | | |
| | 150 °C to 760 °C | 0.17 °C | | |
| | 760 °C to 1 200 °C | 0.23 °C | | |
| Temperature Calibration, | -200 °C to -100 °C | 0.33 °C | | |
| Indication and Control | -100 °C to -25 °C | 0.18 °C | | |
| Equipment used with Thermocouple Type K ^{FO} | -25 °C to 120 °C | 0.16 °C | | |
| Thermocoupie Type IX | 120 °C to 1 000 °C | 0.26 °C | | |
| | 1 000 °C to 1 372 °C | 0.4 °C | | |
| Equipment to Output Capacitance At the listed frequencies ^{FO} | | | Fluke 5520A | PC 0101 PC 1000 |
| 50 Hz to 1 kHz | 1.1 nF to 3.299 9 nF | 5 pF/nF + 0.01 nF | | |
| 50 Hz to 1 kHz | 3.3 nF to 10.999 nF | 5 pF/nF + 0.01 nF | | |
| 50 Hz to 1 kHz | 11 nF to 32.999 nF | 2.5 pF/nF + 0.1 nF | | |
| 50 Hz to 1 kHz | 33 nF to 109.99 nF | 2.5 pF/nF + 0.1 nF | | |
| 50 Hz to 1 kHz | 110 nF to 329.99 nF | 2.5 pF/nF + 0.3 nF | | |
| 50 Hz to 1 kHz | 0.33 μF to 1.099 9 μF | $2.5 \text{ nF/}\mu \text{ F} + 1 \text{ nF}$ | | |
| 50 Hz to 1 kHz | 1.1 μF to 3.299 9 μF | $3.5 \text{ nF/}\mu \text{ F} + 3 \text{ nF}$ | | |
| Equipment to Output Capacitance At the listed frequencies ^{FO} | | | | PC 0101 PC 1000 |
| 50 Hz to 400 Hz | 3.3 μF to 10.999 μF | $3.5 \text{ nF/}\mu \text{ F} + 10 \text{ nF}$ | | |
| 50 Hz to 400 Hz | 11 μF to 32.999 μF | $4 \text{ nF/} \mu \text{ F} + 30 \text{ nF}$ | | |
| Equipment to Output Capacitance At the listed frequencies ^{FO} | , | | | |
| 50 Hz to 200 Hz | 33 μF to 109.99 μF | $5 \text{ nF/}\mu\text{F} + 100 \text{ nF}$ | | |
| Equipment to Output Capacitance At the listed frequencies ^{FO} | | | | |
| 50 Hz to 100 Hz | 110 μF to 329.99 μ F | $7 \text{ nF/}\mu\text{F} + 300 \text{ nF}$ | | |
| 50 Hz to 100 Hz | 330 μF to 1.1 mF | $10 \ \mu F/mF + 300 \ nF$ | | |



MetryCo / Martha Rocio Rosas Montes

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

Electrical

| Bicultur | | | | | | |
|---------------------------|--------------------|-----------------------|----------------|-------------|--|--|
| MEASURED | RANGE | CALIBRATION | CALIBRATION | CALIBRATION | | |
| INSTRUMENT, | (AND SPECIFICATION | AND MEASUREMENT | EQUIPMENT AND | MEASUREMENT | | |
| QUANTITY OR GAUGE | WHERE APPROPRIATE) | CAPABILITY EXPRESSED | REFERENCE | METHOD OR | | |
| | | AS AN UNCERTAINTY (±) | STANDARDS USED | PROCEDURES | | |
| | | | | USED | | |
| Equipment to Measure | 0 kV to 6 kV | 70 V | Fluke 289 / | PC 0900, | | |
| AC/DC High Voltage | | | Fluke 80K-6 | PC 0700 | | |
| Up to 60 Hz ^{FO} | | | | | | |

- 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.
- 5. 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.
- 6. The term L represents length in inches or millimeters as appropriate to the uncertainty statement.
- 7. The term Wt represents weight in pounds or grams (including SI multiple and submultiple units) appropriate to the uncertainty statement.