



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Soluciones Ingenieriles Cano S.A.S. de C.V. (MECANOLAB)

***Privada Balcones del Rey No. 124, Int. B, Col. Balcones Coloniales
Querétaro, Querétaro, México. C.P. 76140***

*(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, Time and Frequency Mass, Force and Weighing Devices,
Thermodynamic and Electrical 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:

December 17, 2019

Issue Date:

January 14, 2024

Expiration Date:

February 28, 2026

Accreditation No.:

100026

Certificate No.:

L24-45

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.pjllabs.com*



Certificate of Accreditation: Supplement

Soluciones Ingenieriles Cano S.A.S. de C.V. (MECANOLAB)

Privada Balcones del Rey No. 124, Int. B, Col. Balcones Coloniales

Querétaro, Querétaro, México. C.P. 76140

Contact Name: Jose Antonio Cano López Phone: 442-604-7850

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

Dimensional

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION OR MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Outside Micrometers ^F	1 mm to 1 000 mm	$(1.4 + 1.4 \times 10^{-4}L) \mu\text{m}$	Grade 1 Gage Blocks	NMX-CH-093-IMNC
Calipers ^F	1 mm to 1 000 mm	$(7.23 + 7.5 \times 10^{-5}L) \mu\text{m}$	Grade 1 Gage Blocks	NMX-CH-002-IMNC
Height Gages ^F	1 mm to 1 000 mm	$(2.2 + 0.7 \times 10^{-6}L) \mu\text{m}$	Grade 1 Gage Blocks	JIS B 7517
Dial Indicators ^F	0.5 mm to 50 mm	$(2.3 + 3.1 \times 10^{-4}L) \mu\text{m}$		
Optical Comparator and 2D Digital Vision Systems X axis linearity Y axis linearity ^O	0.5 mm to 190 mm	$(3.3 + 1.8 \times 10^{-3}L) \mu\text{m}$	Grade 1 Gage Blocks	JIS B 7184

Mechanical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION OR MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Pressure Manometers ^F	0.5 psi to 5 psi	0.045 psi	Pressure Calibrator MG1-5-A-9V-R	DKD-R 6-1
	6 psi to 60 psi	0.045 psi	Pressure Calibrator 80.D500.60	
	30 psi to 300 psi	0.22 psi	Pressure Calibrator SSI MGA-300-A-9V-R	
	100 psi to 1 000 psi	1.2 psi	Pressure Calibrator DG2551N1NAM02L1000#	
	1 000 psi to 10 000 psi	6.3 psi	Pressure Calibrator 80.D500.10000	
Vacuum Gauges ^F	-23 inHg to -3 inHg	0.18 inHg	Vacuum Calibrator	
Torque Tools ^F	0.9 N·m to 300 N·m	1 % of reading	Torque Transducer	Euramet cg-14 V.01
Micro Pipettes ^F	1 uL to 1 000 uL	0.2 % of reading	Analytical Balance	ISO 8655-2
Pipettes ^F	1 mL to 200 mL	0.4 % of reading	Analytical Balance	ISO 4787
Cylinders Graduated, Volumetric Flask, Special Containers ^F	200 mL to 20 000 mL	0.6 % of reading	Digital Scale	

Time and Frequency

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION OR MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Timers ^F	Up to 3 600 s	0.5 s	Stopwatch	NIST 960-12



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Mass, Force and Weighing Devices

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION OR MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Analytical Balance and Weighing Devices ^O	1 mg to 500 g (Res.= 0.000 1 g)	0.058 mg	Class F1 Weights	SIM MWG7 cg-01 / v.00
	500 g to 200 kg (Res.= 0.001 kg)	0.58 g	Class M1 Weights	
Mass Weights Class OIML F2 ^F	1 g	0.1 mg	Mass Weights Class OIML F1	Technical Guide CENAM
	2 g	0.11 mg		
	5 g	0.13 mg		
	10 g	0.16 mg		
	20 g	0.19 mg		
	50 g	0.22 mg		
	100 g	0.35 mg		
	200 g	0.22 mg		
Mass Weights Class OIML M2 and M3 ^F	500 g	0.017 g	Mass Weights Class OIML M1	
	1 kg	0.034 g		
	2 kg	0.066 g		
	5 kg	0.17 g		
	10 kg	0.34 g		
	20 kg	0.67 g		

Thermodynamic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION OR MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Temperature Chamber ^O	-50 °C to 1 200 °C	0.55 °C	Calibrator with Thermocouple Type K	AMS 2750 E AIAG CQI-9 IEC 60068
Direct Reading Thermometer ^F	-20 °C to 500 °C	0.48 °C	Calibrator with Thermocouple Type K	NOM-011-SCFI
Hygrometer ^F	11 % RH to 97 % RH	1.2 % RH	Testo 175H1 Salt Solutions with Chamber	AMS2750
Infrared Temperature Measuring Instrument ^F	30 °C to 300 °C	0.69	Mecanolab Calibrator	ASTM E2847



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Electrical

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Equipment to Output DC Current ^F	1 mA to 10 mA	0.000 45 mA	HP 34401A and Clamp Meter	NMX-CH-131/1-SCFI NMX-CH-110/1-SCFI NMX-CH-131/2-SCFI
	0.1 A to 1 A	0.005 4 mA		
	1 A to 3 A	0.000 045 A		
	3 A to 600 A	0.059 A		
Equipment to Output AC Current At the listed frequencies 10 Hz to 20 kHz ^F	1 mA to 10 mA	0.000 45 mA	HP 34401A and High Tension Tip 100 M Ω	
	0.1 A to 1 A	0.005 4 mA		
	1 A to 3 A	0.000 045 A		
	3 A to 600 A	0.059 A		
Equipment to Output DC Voltage ^F	1 mV to 100 mV	0.005 9 mV	HP 34401A and High Tension Tip 100 M Ω	
	0.1 V to 1V	0.000 009 6 V		
	1 V to 10 V	0.000 19 V		
	10 V to 100 V	0.001 1 V		
	100 V to 1000 V	0.015 V		
	1 000 V to 32 000 V	320 V		
Equipment to Output AC Voltage At the listed frequencies 10 Hz to 20 kHz ^F	1 mV to 100 mV	0.005 9 mV	HP 34401A and High Tension Tip 100 M Ω	
	0.1 V to 1V	0.000 009 6 V		
	1 V to 10 V	0.000 19 V		
	10 V to 100 V	0.001 1 V		
	100 V to 750 V	0.015 V		
	1 000 V to 32 000 V	320 V		
Equipment to Output Resistance ^F	1 Ω to 100 Ω	0.098 Ω	Resistance Standard Decade Box	Euramet cg-15
	0.1 k Ω to 1 k Ω	0.000 098 k Ω		
	1 k Ω to 10 k Ω	0.000 13 k Ω		
	10 k Ω to 100 k Ω	0.001 3 k Ω		
	0.1 M Ω to 1 M Ω	0.000 01 M Ω		
	1 M Ω to 10 M Ω	0.000 13 M Ω		
	10 M Ω to 100 M Ω	0.004 2 M Ω		
Equipment to Measure Resistance ^F	0.001 Ω to 1 k Ω	0.01 % of reading	Resistance Standard Decade Box	Euramet cg-15
	1 k Ω to 10 k Ω	0.1 % of reading		
	10 k Ω to 11 M Ω	1 % of reading		
Equipment to Measure DC Voltage ^F	1 μ V to 1000 V	0.01 % of reading	Voltage Reference Source	NMX-CH-131/1-SCFI



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Equipment to Measure DC Current ^F	0.01 mA to 10 A	10 mA	Power Source and process calibrator SPS3010U 3 ½ Digits	NMX-CH-131/1-SCFI

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. 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.