PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

QS Equipos de Calidad S. de R.L. de C.V.

Av. Manuel Gómez Morin Ext 871 Int. 109, Col. Cipreses
Ciudad Juárez, Chihuahua, México. C.P. 32459

and hereby declares that the Organization is accredited in accordance with the recognized International Standard:

ISO/IEC 17025:2017

Whereby, technical competence has been confirmed for the associated scope supplement, in the fields of:

Dimensional, Mechanical, Mass, Force and Weighing Devices Calibration

(As detailed in the supplement)

Accreditation claims for conformity assessment activities shall only be made from the addresses referenced within this certificate and shall apply solely to those activities identified in the related scope. This Accreditation is granted subject to the Accreditation Body rules governing the Accreditation referred to above, and the Organization hereby commits to observing and complying with those rules in their entirety.

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:*
March 03, 2024	February 22, 2026	April 30, 2028

Accreditation No.:	*Certificate No.:*
122181	L26-191

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

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Av. Manuel Gómez Morin Ext 871 Int. 109, Col. Cipreses
Ciudad Juárez, Chihuahua, México. C.P. 32459
Contact Name: Abraham Quiñonez Phone: 656-700-1106

Accreditation is granted to the facility to perform the following conformity assessment activities:

FIELD OF CALIBRATION	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	EXPANDED MEASUREMENT UNCERTAINTY (±) [1]	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED	FLEX CODE	LOCATION OF ACTIVITY
Dimensional	Caliper	5 mm to 610 mm	$(6.92 \times 10^{-3} + 2.2 \times 10^{-5}L)$ mm	Gage Block Grade 0	JIS B 7507	F1, F2	F, O
Dimensional	Micrometer	5 mm to 610 mm	$(3.87 \times 10^{-3} + 2.6 \times 10^{-5}L)$ mm	Gage Block Grade 0	JIS B 7502	F1, F2	F, O
Dimensional	Height Gage Linear Gage	5 mm to 610 mm	$(6.92 \times 10^{-3} + 2.2 \times 10^{-5}L)$ mm	Gage Block Grade 0	JIS B 7517	F1, F2	F, O
Dimensional	Dial Indicator	1 mm to 50 mm	$(5.56 \times 10^{-4} + 2.3 \times 10^{-5}L)$ mm	Indicator Calibrator	JIS B 7533	F1, F2	F, O
Dimensional	Plug Gage Pin Gage	0.001 mm to 50 mm	$(4.31 \times 10^{-4} + 2.4 \times 10^{-5}L)$ mm	Laser Micrometer	ANSI/ASME B1.2	F1, F2	F, O
Dimensional	Rule	1 mm to 10 000 mm	$(7.04 \times 10^{-1} + 6 \times 10^{-6}L)$ mm	Steel Rule Reticule	JIS B 7516	F1, F2	F, O
Dimensional	Tape Measure	1 mm to 10 000 mm	$(7.04 \times 10^{-1} + 6 \times 10^{-6}L)$ mm	Steel Rule Reticule	JIS B 7512	F1, F2	F, O
Dimensional	Thread Plug Gage	0.001 mm to 50 mm	$(6.12 \times 10^{-4} + 2.2 \times 10^{-5}L)$ mm	Digital Micrometer Three Wire	ANSI/ASME B1.2	F1, F2	F, O
Dimensional	Profiles Projector (X Axis Linearity)	0.2 mm to 300 mm	$(5.26 + 2.04^{-4}L)$ µm	Glass Scale Gage Block	JIS B 7184	F1, F2	F, O
Dimensional	Profiles Projector (Y Axis Linearity)	0.2 mm to 300 mm	$(5.26 + 2.04^{-4}L)$ µm	Glass Scale Gage Block	JIS B 7184	F1, F2	F, O
Dimensional	Vision System (X Axis Linearity)	0.2 mm to 300 mm	$(3.2 \times 10^{-3} + 2.3 \times 10^{-5}L)$ mm	Crystal Reticule	JIS B 7184	F1, F2	O
Dimensional	Vision System (Y Axis Linearity)	0.2 mm to 300 mm	$(3.2 \times 10^{-3} + 2.3 \times 10^{-5}L)$ mm	Crystal Reticule	JIS B 7184	F1, F2	O
Dimensional	Vision System (Z Axis Linearity)	0.2 mm to 300 mm	$(3.2 \times 10^{-3} + 2.3 \times 10^{-5}L)$ mm	Crystal Reticule	JIS B 7184	F1, F2	O
Dimensional	Profiles Projector (Magnification)	5X	0.007 6 %	Glass Scale	JIS B 7512	F1, F2	O

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Dimensional	Profiles Projector (Magnification)	10X	0.007 6 %	Glass Scale	JIS B 7512	F1, F2	O
Dimensional	Profiles Projector (Magnification)	20X	0.007 6 %	Glass Scale	JIS B 7512	F1, F2	O
Dimensional	Profiles Projector (Magnification)	50 X	0.007 6 %	Glass Scale	JIS B 7512	F1, F2	O
Dimensional	Profiles Projector (Magnification)	100 X	0.007 6 %	Glass Scale	JIS B 7512	F1, F2	O
Dimensional	Profiles Projector (Angularity)	0.5° to 360°	0.01°	Gage Block Reticula Angular	JIS B 7512	F1, F2	O
Dimensional	Surface Plates (Repeat Measurement)	12 in to 160 in (Diagonal)	$(3.4 \times 10^{-4} + 3 \times 10^{-6}L)$ in	Planekator Starret with Indicator	JIS B 7513	F1, F2	O
Dimensional	Roughness Meter (Ra)	1 µm to 10 µm	$(5.9 \times 10^{-1} + 1 \times 10^{-6}L)$ µm	Ra Roughness Master Mitutoyo	ISO 4287	F1, F2	F, O
Mechanical	Indirect Verifications of Hardness tester HRC	10 HRC to 30 HRC	0.44 HRC	Test Blocks	ISO-6508-2	F1, F2	O
Mechanical	Indirect Verifications of Hardness tester HRC	35 HRC to 55 HRC	0.34 HRC	Test Blocks	ISO-6508-2	F1, F2	O
Mechanical	Indirect Verifications of Hardness tester HRC	60 HRC to 70 HRC	0.33 HRC	Test Blocks	ISO-6508-2	F1, F2	O
Mechanical	Indirect Verifications of Hardness Tester HRBW	10 HRB to 50 HRB	0.44 HRB	Test Blocks	ISO-6508-2	F1, F2	O

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Mechanical	Indirect Verifications of Hardness Tester HRBW	60 HRB to 80 HRB	0.31 HRB	Test Blocks	ISO-6508-2	F1, F2	O
Mechanical	Indirect Verifications of Hardness Tester HRBW	85 HRB to 100 HRB	0.5 HRB	Test Blocks	ISO-6508-2	F1, F2	O
Mechanical	Torque Meter (Clockwise and Counterclockwise)	0.28 N•m to 2.82 N•m	$(3.8 \times 10^{-3} + 7.34 \times 10^{-2}T)$ N•m	Torque Tester	ISO 6789 NMX-CH-6789-IMNC	F1, F2	F, O
Mechanical	Torque Meter (Clockwise and Counterclockwise)	2.82 N•m to 28.2 N•m	$(7.81 \times 10^{-2} + 5.63 \times 10^{-3}T)$ N•m	Torque Tester	ISO 6789 NMX-CH-6789-IMNC	F1, F2	F, O
Mechanical	Torque Meter (Clockwise and Counterclockwise)	33.9 N•m to 338.9 N•m	$(1.04 \times 10^{-1} + 9.62 \times 10^{-4}T)$ N•m	Torque Tester	ISO 6789 NMX-CH-6789-IMNC	F1, F2	F, O
Mass, Force and Weighing Devices	Force Machines, Dynamometer (Compression and Tension)	15 lbf to 100 lbf	$(2.7 \times 10^{-2} + 3.6 \times 10^{-3}F)$ lbf	Load Cells	NMX-CH-7500-1 IMNC	F1, F2	O
Mass, Force and Weighing Devices	Force Machines, Dynamometer (Compression and Tension)	100 lbf to 1 000 lbf	$(1.61 \times 10^{-1} + 1.64 \times 10^{-3}F)$ lbf	Load Cells	NMX-CH-7500-1 IMNC	F1, F2	O
Mass, Force and Weighing Devices	Analytical Balance	1 mg to 1 000 g (Res.= 0.000 1 g)	0.96 mg	Weight Class E2	CENAM Technical Guide	F1, F2	O

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Mass, Force and Weighing Devices	Balance	1 mg to 5 kg (Res.= 0.01 g)	27 mg	Weight Class F1	CENAM Technical Guide	F1, F2	O
Mass, Force and Weighing Devices	Scales	5 kg to 570 kg (Res. = 0.1 kg)	0.11 kg	Weight Class M1	CENAM Technical Guide	F1, F2	O

1. The CMC (Calibration and Measurement Capability) is expressed in terms of measurement instrument/aspect being calibrated, range, expanded measurement uncertainty, equipment, and method/procedure. The expanded measurement uncertainty 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 measurement uncertainty included on this scope 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 laboratory's range of calibration capability for all disciplines for which it is 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. Location of activity:

Location Code	Location
F	Conformity assessment activity is performed at the CAB's fixed facility
O	Conformity assessment activity is performed onsite at the CAB's customer location

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Accreditation is granted to the facility to perform the following conformity assessment activities:

4. Measurement uncertainties obtained for calibrations performed at customer sites can be expected to be larger than the measurement uncertainties obtained at the laboratory's 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 laboratory's fixed location.

5. The term L represents length in inches or millimeters as appropriate to the uncertainty statement.

6. The term T represents torque in N•m (including SI multiple and submultiple units) for the International System of Units (the SI) or ozf•in, lbf•in and lbf•ft for the USC system of units.

7. The term F represents Force in N (including SI multiple and submultiple units) for the international system of units (the SI) or pound-force (lbf) for USC system of units as appropriate to the uncertainty statement. The term Q represents Flow Rate in L/min including SI multiple and submultiple units) as appropriate to the uncertainty statement.

8. Flex Codes

F0: When no flexibility is identified. There are no changes to items calibrated, characteristics identified or versions of methods except for updating to the most recent version of a standard method after verification.
F1: The laboratory has the capability to introduce a new instrument, quantity, or gauge for an accredited calibration method.
F2: The laboratory has the capability to introduce the newest revision of an accredited authoritative standard method (with no modifications) identified on the scope
F3: The laboratory has the capability to introduce a new revision of an accredited non-standard method using the same technology or technique identified on the scope
F4: The laboratory has the capability to introduce a validated method that is equivalent to an accredited method (using the same Calibration Equipment or Reference Standards identified on the scope for the same parameter, component, or analyte identified on the line item of the scope.