



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Laboratorios Industriales de México
Rancho Santa Clara No. 2919, Fracc. Pradera Dorada,
Ciudad. Juárez, Chihuahua, México. C.P. 32610

(Hereinafter called the Organization) and hereby declares that Organization is accredited in accordance with the recognized International Standard:

ISO/IEC 17025:2005

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, Electrical, Mechanical, Chemical, Mass, Force and Weighing
Devices and Thermodynamic 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:

<i>Initial Accreditation Date:</i>	<i>Issue Date:</i>	<i>Expiration Date:</i>
May 20, 2008	June 16, 2018	August 31, 2020

Tracy Szerszen
President/Operations Manager

<i>Accreditation No.:</i>	<i>Certificate No.:</i>
48598	L18-277

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

Laboratorios Industriales de México

Rancho Santa Clara No. 2919, Fracc. Pradera Dorada
 Ciudad Juárez, Chihuahua, México C.P. 32610
 Contact Name: Jorge González. Phone: 656-289-3732

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

Electrical

MEASURED QUANTITY, INSTRUMENT OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type B ^{FO}	600 °C to 800 °C	1 °C	Fluke 743B Electrical Simulation of Thermocouples
	800 °C to 1 000 °C	0.85 °C	
	1 000 °C to 1 550 °C	0.82 °C	
	1 550 °C to 1 820 °C	0.84 °C	
Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type C ^{FO}	0 °C to 150 °C	0.8 °C	
	150 °C to 650 °C	0.75 °C	
	650 °C to 1 000 °C	0.8 °C	
	1 000 °C to 1 800 °C	1.02 °C	
	1 800 °C to 2 316 °C	1.5 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E ^{FO}	-250 °C to -100 °C	1.03 °C	
	-100 °C to -25 °C	0.63 °C	
	-25 °C to 350 °C	0.41 °C	
	350 °C to 650 °C	0.65 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J ^{FO}	-210 °C to -100 °C	0.75 °C	
	-100 °C to -30 °C	0.7 °C	
	-30 °C to 150 °C	0.6 °C	
	150 °C to 760 °C	0.75 °C	
	760 °C to 1 200 °C	0.57 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K ^{FO}	-200 °C to -100 °C	0.82 °C	
	-100 °C to -25 °C	0.65 °C	
	-25 °C to 120 °C	0.63 °C	
	120 °C to 1 000 °C	0.75 °C	
	1 000 °C to 1 372 °C	0.92 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type N ^{FO}	-200 °C to -100 °C	0.9 °C	
	-100 °C to -25 °C	0.7 °C	
	-25 °C to 120 °C	0.64 °C	
	120 °C to 410 °C	0.65 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type R ^{FO}	0 °C to 250 °C	1.1 °C	
	250 °C to 400 °C	0.85 °C	
	400 °C to 1 000 °C	0.83 °C	
	1 000 °C to 1 767 °C	0.91 °C	



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Temperature Calibration, Indication and Control Equipment used with Thermocouple Type S ^{FO}	0 °C to 250 °C	0.98 °C	Electrical Simulation of Thermocouples Fluke 743B	
	250 °C to 1 000 °C	0.86 °C		
	1 000 °C to 1 400 °C	0.88 °C		
	1 400 °C to 1 767 °C	0.97 °C		
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T ^{FO}	-250 °C to -150 °C	1.2 °C		
	-150 °C to 0 °C	0.72 °C		
	0 °C to 120 °C	0.63 °C		
	120 °C to 400 °C	0.61 °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	0.77 °C		
Temperature Calibration, Indication and Control Equipment used with RTD Type Pt 385, 100 Ω ^{FO}	-200 °C to -80 °C	0.63 °C		Electrical Simulation of RTD Output Fluke 743B
	-80 °C to 0 °C	0.61 °C		
	0 °C to 100 °C	0.85 °C		
	100 °C to 300 °C	0.62 °C		
	300 °C to 400 °C	0.64 °C		
	400 °C to 630 °C	0.64 °C		
Equipment to Measure AC Voltage Hi-Pot ^{FO}	1 Kv to 28 kV rms @ 60Hz	5 % of reading	Fluke 80k-40	
Equipment to Measure DC Voltage ^{FO} Hi-Pot	1 kV to 20 kV	5 % of reading		
	35 kV to 40 kV			
Equipment to Measure DC Voltage ^{FO}	20 Kv to 35 kV	0.04 % of reading	Fluke 743B	
	110 mV			
	1.1 V			
	11 V			
	110 V			
Equipment to Measure AC Voltage At the listed frequencies ^{FO}	300 V	0.055 % of reading		
	20 Hz to 40 Hz	1.1 V	2 % of reading	
	40 Hz to 500 Hz	11. V	0.5 % of reading	
	500 Hz to 1 kHz	110 V	2 % of reading	
	1 kHz to 5 kHz	300 V	10 % of reading	



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Equipment to Measure DC Current ^{FO}	30 mA	0.025 % of reading	Fluke 743B
	110 mA	0.025 % of reading	
Equipment to Measure Resistance ^{FO}	11 Ω	0.05 % of reading + 50 m Ω	
	110 Ω	0.05 % of reading + 50 m Ω	
	1.1 k Ω	0.05 % of reading + 500 m Ω	
	11 k Ω	0.1 % of reading + 10 Ω	
Equipment to Measure Frequency ^{FO}	1 Hz to 109.99 Hz	0.05 Hz	
	110 Hz to 1 099.9 Hz	0.5 Hz	
	1.1 Hz to 10.999 kHz	5 Hz	
	11 kHz to 50 kHz	50 Hz	
Equipment to Output DC Voltage ^{FO}	0.01 mV to 329.999 9 mV	0.006 % of Output + 3 μ V	Fluke 5500A
	0.01 V to 3.299 999 V	0.005 % of Output + 5 μ V	
	0.01 V to 32.999 99 V	0.005 % of Output + 50 μ V	
	30 V to 329.999 9 V	0.005 5 % of Output + 500 μ V	
	100 V to 1 020 V	0.005 5 % of Output + 1 500 μ V	
Equipment to Measure DC Power (33 mV to 1 020 V) At the listed Ampere ^{FO}			
3.3 mA to 8.999 mA	0.000 11 W to 9 W	0.04 % of Output	
9 mA to 32.999 mA	0.00 3 W to 33 W	0.03 % of Output	
33 mA to 89.99 mA	0.011 W to 90 W	0.04 % of Output	
90 mA to 329.99 mA	0.03 W to 330 W	0.03 % of Output	
0.33 A to 0.899 99A	0.11 W to 900 W	0.08 % of Output	
0.9 A to 2.199 99 A	0.3 W to 3 000 W	0.06 % of Output	
4.5 A to 11 A	0.99 W to 11 000 W	0.09 % of Output	
2.2 A to 4.499 9 A	0.33 W to 6 000 W	0.12 % of Output	
Equipment to Measure DC Current ^{FO}	0.01 mA to 3.299 99 mA	0.013 % of Output + 0.05 μ A	
	0.01 mA to 32.999 9 mA	0.01 % of Output + 0.25 μ A	
	0.01 mA to 329.999 mA	0.01 % of Output + 3.3 μ A	
Equipment to Measure Ohms/ Resistance LCR Meter ^{FO}	1 Ω to 10.99 Ω	0.012 % of Output + 0.008 Ω	
	11 Ω to 32.999 Ω	0.012 % of Output + 0.015 Ω	
	33 Ω to 109.999 Ω	0.009 % of Output + 0.015 Ω	



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Equipment to Measure Ohms/ Resistance LCR Meter ^{FO}	110 Ω to 329.999 Ω	0.009 % of Output + 0.015 Ω	Fluke 5500A
	330 Ω to 1.099 99 k Ω	0.009 % of Output + 0.06 Ω	
	1.1 Ω to 3.299 99 k Ω	0.009 % of Output + 0.06 Ω	
	3.3 k Ω to 10.999 9 k Ω	0.009 % of Output + 0.6 Ω	
	11 k Ω to 32.999 9 k Ω	0.009 % of Output + 0.6 Ω	
	33 k Ω to 109.999 k Ω	0.011 % of Output + 6 Ω	
	110 k Ω to 329.999 k Ω	0.012 % of Output + 6 Ω	
	330 k Ω to 1.0999 9 M Ω	0.015 % of Output + 55 Ω	
	1.1 M Ω to 3.299 99 M Ω	0.015 % of Output + 55 Ω	
3.3 M Ω to 10.999 9 M Ω	0.06 % of Output + 550 Ω		
Equipment to Measure AC Voltage – Sinewave At the listed frequencies ^{FO}			
10 Hz to 45 Hz	1 mV to 32.999 mV	0.35 % of Output + 20 μ V	
45 Hz to 10 kHz	1 mV to 32.999 mV	0.15 % of Output + 20 μ V	
10 kHz to 20 kHz	1 mV to 32.999 mV	0.2 % of Output + 20 μ V	
20 kHz to 50 kHz	1 mV to 32.999 mV	0.25 % of Output + 20 μ V	
50 kHz to 100 kHz	1 mV to 32.999 mV	0.35 % of Output + 33 μ V	
100 kHz to 500 KHz	1 mV to 32.999 mV	1 % of Output + 60 μ V	
Equipment to Measure AC Voltage – Sinewave At the listed frequencies ^{FO}			
10 Hz to 45 Hz	33 mV to 329.999 mV	0.25 % of Output + 50 μ V	
45 Hz to 10 kHz	33 mV to 329.999 mV	0.05 % of Output + 20 μ V	
10 kHz to 20 kHz	33 mV to 329.999 mV	0.1 % of Output + 20 μ V	
20 kHz to 50 kHz	33 mV to 329.999 mV	0.16 % of Output + 40 μ V	
50 kHz to 100 kHz	33 mV to 329.999 mV	0.24 % of Output + 170 μ V	
100 kHz to 500 KHz	33 mV to 329.999 mV	0.7 % of Output + 330 μ V	
Equipment to Measure AC Voltage – Sinewave At the listed frequencies ^{FO}			
10 Hz to 45 Hz	0.33 V to 3.299 99 V	0.15 % of Output + 250 μ V	
45 Hz to 10 kHz	0.33 V to 3.299 99 V	0.03 % of Output + 60 μ V	
10 to 20 kHz	0.33 V to 3.299 99 V	0.08 % of Output + 60 μ V	
20 to 50 kHz	0.33 V to 3.299 99 V	0.14 % of Output + 300 μ V	



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Equipment to Measure AC Voltage – Sinewave At the listed frequencies ^{FO}			Fluke 5500A
50 to 100 kHz	0.33 V to 3.299 99 V	0.24 % of Output + 1 700 μ V	
100 to 500 KHz	0.33 V to 3.299 99 V	0.5 % of Output + 3 300 μ V	
Equipment to Measure AC Voltage – Sinewave At the listed frequencies ^{FO}			Fluke 5500A
10 Hz to 45 Hz	3.3 V to 32.999 9 V	0.15 % of Output + 2 500 μ V	
45 Hz to 10 kHz	3.3 V to 32.999 9 V	0.04 % of Output + 600 μ V	
10 kHz to 20 kHz	3.3 V to 32.999 9 V	0.08 % of Output + 2 600 μ V	
20 kHz to 50 kHz	3.3 V to 32.999 9 V	0.19 % of Output + 5 000 μ V	
50 kHz to 100 kHz	3.3 V to 32.999 9 V	0.24 % of Output + 17 000 μ V	
100 kHz to 500 Hz	3.3 V to 32.999 9 V	0.15 % of Output + 2 500 μ V	
Equipment to Measure AC Voltage – Sinewave At the listed frequency ^{FO}			Fluke 5500A
10 Hz to 45 Hz	33 V to 329.999 V	0.05 % of Output + 6.6 mV	
45 Hz to 10 kHz	33 V to 329.999 V	0.08 % of Output + 15 mV	
Equipment to Measure AC Voltage – Sinewave At the listed frequencies ^{FO}			Fluke 5500A
45 Hz to 1 kHz	33 V to 1 020 V	0.05 % of Output + 80 mV	
1 kHz to 5 kHz	33 V to 1 020 V	0.2 % of Output + 100 mV	
Equipment to Measure AC Current – Sinewave At the listed frequencies ^{FO}			Fluke 5500A
10 Hz to 20 Hz	0.029 mA to 0.329 99 mA	0.25 % of Output + 0.15 μ A	
20 Hz to 45 Hz	0.029 mA to 0.329 99 mA	0.125 % of Output + 0.15 μ A	
45 Hz to 1 kHz	0.029 mA to 0.329 99 mA	0.125 % of Output + 0.25 μ A	
1 kHz to 5 kHz	0.029 mA to 0.329 99 mA	0.4 % of Output + 0.15 μ A	
5 kHz to 10 kHz	0.029 mA to 0.329 99 mA	1.25 % of Output + 0.15 μ A	



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Equipment to Measure AC Current – Sinewave At the listed frequencies ^{FO}			Fluke 5500A
10 Hz to 20 Hz	0.33 mA to 3.299 9 mA	0.2 % of Output + 0.3 μ A	
20 Hz to 45 Hz	0.33 mA to 3.299 9 mA	0.1 % of Output + 0.3 μ A	
45 Hz to 1 kHz	0.33 mA to 3.299 9 mA	0.1 % of Output + 0.3 μ A	
1 kHz to 5 kHz	0.33 mA to 3.299 9 mA	0.2 % of Output + 0.3 μ A	
5 kHz to 10 kHz	0.33 mA to 3.299 9 mA	0.6 % of Output + 0.3 μ A	
Equipment to Measure AC Current – Sinewave At the listed frequencies ^{FO}			
10 Hz to 20 Hz	3.3 mA to 33 mA	0.6 % of Output + 3 μ A	
20 Hz to 45 Hz	3.3 mA to 33 mA	0.9 % of Output + 3 μ A	
45 Hz to 1 kHz	3.3 mA to 33 mA	0.6 % of Output + 3 μ A	
1 kHz to 5 kHz	3.3 mA to 33 mA	0.4 % of Output + 3 μ A	
5 kHz to 10 kHz	3.3 mA to 33 mA	0.9 % of Output + 3 μ A	
10 kHz to 20 kHz	3.3 mA to 33 mA	0.9 % of Output + 3 μ A	
Equipment to Measure AC Current – Sinewave At the listed frequencies ^{FO}			
10 Hz to 20 Hz	33 mA to 329.99 mA	0.6 % of Output + 30 μ A	
20 Hz to 45 Hz	33 mA to 329.99 mA	0.9 % of Output + 30 μ A	
45 Hz to 1 kHz	33 mA to 329.99 mA	0.6 % of Output + 30 μ A	
1 kHz to 5 kHz	33 mA to 329.99 mA	0.4 % of Output + 30 μ A	
5 kHz to 10 kHz	33 mA to 329.99 mA	0.9 % of Output + 30 μ A	
10 kHz to 20 kHz	33 mA to 329.99 mA	0.9 % of Output + 30 μ A	
Equipment to Measure AC Current – Sinewave At the listed frequencies ^{FO}			
10 Hz to 45 Hz	0.33 A to 2.199 99 A	0.2 % of Output + 300 μ A	
45 Hz to 1 kHz	0.33 A to 2.199 99 A	0.1 % of Output + 300 μ A	
1 kHz to 5 kHz	0.33 A to 2.199 99 A	0.75 % of Output + 300 μ A	
Equipment to Measure AC Current – Sinewave At the listed frequencies ^{FO}			
45 Hz to 65 Hz	2.2 A to 11 A	0.06 % of Output + 2 000 μ A	



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Equipment to Measure AC Current – Sinewave At the listed frequencies ^{FO}			Fluke 5500A
65 Hz to 500 Hz	2.2 A to 11 A	0.1 % of Output + 2 000 μ A	
500 Hz to 1 kHz	2.2 A to 11 A	0.33 % of Output + 2 000 μ A	
Equipment to Measure Capacitance LCR Meter ^{FO}	0.33 μ F to 0.499 9 μ F	0.5 % of Output + 0.01 μ F	
	0.5 μ F to 1.099 9 μ F	0.5 % of Output + 0.01 μ F	
	1.1 μ F to 3.299 9 μ F	0.5 % of Output + 0.01 μ F	
	3.3 μ F to 10.999 μ F	0.5 % of Output + 0.01 μ F	
	11 μ F to 32.999 μ F	0.25 % of Output + 0.1 μ F	
	33 μ F to 109.99 μ F	0.25 % of Output + 0.1 μ F	
	110 μ F to 329.99 μ F	0.25 % of Output + 0.3 μ F	
	0.33 μ F to 1.099 9 μ F	0.25 % of Output + 1 μ F	
	1.1 μ F to 3.299 9 μ F	0.35 % of Output + 3 μ F	
	3.3 μ F to 10.999 μ F	0.35 % of Output + 10 μ F	
	11 μ F to 32.999 μ F	0.4 % of Output + 30 μ F	
	33 μ F to 109.99 μ F	0.5 % of Output + 100 μ F	
	110 μ F to 329.99 μ F	0.7 % of Output + 300 μ F	
330 μ F to 1.1 mF	1 % of Output + 300 μ F		
Equipment to Measure AC Frequency Generators ^{FO}	45 Hz to 1 kHz	0.05 % of Output	Fluke PM6680B
	1 kHz to 10 kHz	0.2 % of Output	
	10 kHz to 20 kHz	0.25 % of Output	
	20 kHz to 50 kHz	0.25 % of Output	
Equipment to Measure AC Oscilloscopes ^{FO}	10 kHz to 50 kHz	0.2 % of Output	Fluke 5500A

Mechanical

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Pressure Gages ^{FO}	68.95 Pa to 68 947.57 kPa	0.5 % of reading	Fluke 743B (ANSI/ASME B40.100) Druck DPI0610 PV411



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Torque Analyzer ^F	0.044 N·m to 11.298 N·m	2 % of reading	Wheel Mass Class F
Torque Transducer ^F	0.044 N·m to 11.298 N·m	2 % of reading	
Torque Wrenches ^F	0.044 N·m to 11.298 N·m	2 % of reading	
	0.44 N·m to 500 N·m (0.098 lbf to 112 lbf)	0.2 % of reading	Digital Torque Wrench Tester ANJ-500
Direct Verification of Durometer Hardness Tester Types A, B, C, D, O			ASTM D2240
Durometer Indentor Spring Types A, B, E & O ^F	0.55 N to 8.05 N	0.7 N	Load Cell
Indirect Verification of Rockwell Hardness Testers HRB ^O	20 HRB to 59 HRB 60 HRB to 84 HRB 85 HRB to 100HRB	1.05 HRB 0.72 HRB 0.55 HRB	Standardized Test Blocks ASTM E 18
Indirect Verification of Rockwell Hardness Testers HRC ^O	20 HRC to 34 HRC 35 HRC to 59 HRC 60 HRC to 70 HRC	0.5 HRC 0.4 HRC 0.35 HRC	
Indirect Verification of Rockwell Hardness Testers HR30N ^O	42 HR30N to 54 HR30N 55 HR30N to 76 HR30N 77 HR30N to 82 HR30N	0.55 HR30N 0.4 HR30N 0.35 HR30N	

Mass, Force, and Weighing Devices

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Balances Class I & II ^O	1 mg to 500 mg (Res.= 0.1 mg)	0.16 mg	Class 1
Scales Class III ^O	0.1 kg to 1 kg (Res.= 0.002 gr)	0.026 g	Class 6
Scales and Platforms Class III ^O	1 kg to 150 kg (Res.= 0.02 kg)	0.12 kg	Class F
	151 kg to 1 500 kg (Res.= 0.2 kg)	($2.25 \times 10^{-1} + 4.3 \times 10^{-5}W_t$) kg	
Verification of Testing Machines in Tension and Compression ^O	1 N to 889 N (1 lbf to 200 lbf)	0.1 % of reading	Class F Weights
	88.9 N to 4.41 kN (20 lbf to 1 000 lbf)	0.5 N (0.11 lbf)	Calibration Load Cell
	889.6 N to 44.13 kN (200 lbf to 10 000 lbf)	3.8 N (0.85 lbf)	



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Vernier Dial and Digital Calipers ^F	0.05 in to 20 in (1.27 mm to 508 mm)	(547 + 9L) μ in [(14 + 0.009L) μ m]	Set Block Gage
Micrometers ^F	0.05 in to 20 in (1.27 mm to 508 mm)	(286 + 17.1L) μ in [(7.3 + 0.017 1L) μ m]	
Vernier Dial and Digital Height Gages ^F	0.05 in to 20 in (0 mm to 508 mm)	(547 + 9L) μ in [(14 + 0.009L) μ m]	
Metal Rules ^F	0.039 in to 20 in maximum	0.013 in	Rule Master Stage Micrometer/Comparator & Reticle
Surface Plates ^O	10 in to 72 in Diagonal	(57.87 + 2.57L) μ in	Autocollimator Repeat Reading Fixture
Dial Indicators ^F	0.05 in to 20 in (1.27 mm to 508 mm)	130 μ in (3.3 μ m)	Set Block Gage
Plain Limit Gages ^F	0.01 in to 2 in (0.25 mm to 50.80 mm)	25 μ in (0.64 μ m)	Laser Micrometer Zygo
Thread Plug Gages ^F (Straight Thread Pitch)	M 0.6-0.9 mm to M 1 - 1.75 mm	0.05 mm	Screw Micrometer Pitch Master Combo
Thread Ring Gages (Straight Thread Pitch)	M 0.6- 0.9 mm to M 1 - 1.75 mm	0.05 mm	
Measuring Projectors ^O	0.01 in to 10 in (0.025 mm to 25.4 mm)	2 200 μ in (56 μ m)	Glass Scale
Measuring Microscopes ^O	0.01 in to 4 in (0.25 mm to 101.6 mm)	580 μ in (15 μ m)	
Gages Block Grade 0, 1, 2 ^F	0.05 in to 4 in	(5.92 + 1.78 L) μ in	Starrett 715 Amplifier JIS B 7506
Precision Level ^F	180°	1°	Master Level JIS B 7510
Optical Comparators ^O X Axis Linearity Y Axis Linearity	0.05 in to 12 in	(143 + 17.5L) μ in	Stage Micrometer/ Comparator & Reticle/ Gage Block Set
Optical Comparators Magnification ^O	10X	0.03 %	
	20X	0.03 %	
	31.25X	0.03 %	
Optical Comparators Squarness ^O	90°	0.1°	
Optical Comparators Angularity ^O	0° to 360°	0.1°	Angle Plate Set/ Reticle
Video Measurement System ^O X Axis Linearity Y Axis Linearity	0.05 in to 12 in maximum	(143 + 17.5L) μ in	Stage Micrometer/ Comparator & Reticle/ Gage Block Set



Certificate of Accreditation: Supplement

Laboratorios Industriales de México

Rancho Santa Clara No. 2919, Fracc. Pradera Dorada
Ciudad Juárez, Chihuahua, México C.P. 32610
Contact Name: Jorge González. Phone: 656-289-3732

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

Dimensional

MEASURED QUANTITY, INSTRUMENT OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Video Measurement System Angularity ^O	0° to 360°	0.1°	Angle Plate Set/ Reticle
Video Measurement System Magnification ^O	10X	0.03 %	Stage Micrometer/ Comparator & Reticle/Gage Block Set
	20X	0.03 %	
	31.25X	0.03 %	
Video Measurement System Squareness ^O	90°	0.1°	
Protactors ^O	1° to 180°	0.3°	Angle Plate Set/ Reticle
Trumeter-Odometers ^O	1 m to 100 m	0.5 % of reading	Direct Measure-Totalizer Counter

Chemical

MEASURED QUANTITY, INSTRUMENT OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
pH Meters ^{FO}	4 pH to 10 pH	0.07 pH	pH Standard Solution
Conductivity Meters ^{FO}	3 μ S/cm to 12 880 μ S/cm	($8.65 \times 10^{-1} + 1.16 \times 10^{-2}$ S) μ S/cm	Conductivity Solution
Humidity Hygrometers ^F	33 % RH to 75 % RH	3 % RH	Aqueous Solutions ASTM E104-02

Thermodynamic

MEASURED QUANTITY, INSTRUMENT OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Infrared Temperature Measuring Devices ^{FO}	20 °C to 50 °C	0.5 °C	Black Body Wahl HSICBB-P

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.



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

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.
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 L represents length in inches or millimeters as appropriate to the uncertainty statement.
8. The term Wt represents weight in pounds or grams (including SI multiple and submultiple units) appropriate to the uncertainty statement.
9. The term S represents conductivity in $\mu\text{S}/\text{cm}$ or S/m as appropriate to the uncertainty statement.