

PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

***Metrología y Pruebas S.A. de C.V.
Privada de Tecnológico No. 25 Col. Granjas
Nogales, Sonora México 84065***

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

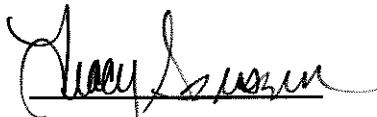
ISO/IEC 17025: 2005

This accreditation demonstrated technical competence for the following scope and the operation of a laboratory quality management system (as outlined by the joint ISO/IEC/JAF Communiqué dated June 18, 2005):

***Calibration of Dimensional, Mass, Time & Frequency, Voltage at High Frequency, Pressure, Humidity, High Frequency, Hardness Measuring Equipment, D.C. & A.C. Voltage, D.C. & A.C. Current, D.C. & A.C. Power, Resistance, Temperature Simulation, Shunt Resistance, Capacitance, Torque, Force, Temperature, Flow, Inductance, Acoustics, Air Flow, Light, Volume, Water Flow, Vacuum and Specific Gravity
(As detailed in the supplement)***

Such testing and/or calibration services shall only be offered at or from the address given above. 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:


President/Operations Manager

The validity of this certificate is mandated through ongoing surveillance.

Perry Johnson Laboratory
Accreditation, Inc. (PJLA)
26555 Evergreen, Suite 1325
Southfield, Michigan 48076

Initial Accreditation Date:
June 28, 2004

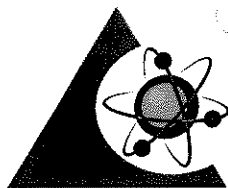
Accreditation No.:
45537

Issue Date:
August 19, 2008

Certificate No.:
L08-61

Expiration Date:
August 18, 2010

Page No.:
Page 1 of 8

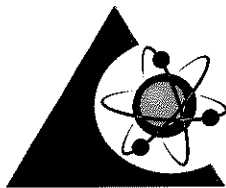


Certificate of Accreditation: Supplement

Metrología y Pruebas S.A. de C.V.
 Privada de Tecnológico No. 25 Col. Granjas
 Nogales, Sonora México 84065

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

CALIBRATION FIELD	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)
Mass	Dead weight	10 mg to 60 kg	1/3 of EMT
	Scales	1 g to 20 kg	0.02 mg
		20 to 500 kg	1.7 g
Time & Frequency	Measure Equipment	0.1 Hz to 600 MHz	0.000 000 5% of reading (0.005 ppm)
	Generate equipment	0.1 Hz to 1 300 MHz	
	High Frequency Voltage Generate Equipment	1 μ W to 10 mW 1 MHz to 10 GHz	1% of reading
	High Frequency Voltage Measure Equipment	5 mV to 5.5 V 50 kHz to 600 MHz	2% of reading
Dimensional		0.04 Vpp to 1.3 Vpp 50 kHz to 600 MHz	0.4% of reading
	Outside micrometers	Up to 609.6mm (24 in)	0.76 μ m (30 μ in)
	Depth Micrometers	Up to 609.6mm (24 in)	0.76 μ m (30 μ in)
	Dial and digital Indicators	Up to 101.6 mm (4 in)	0.25 μ m (10 μ in)
	Optical comparators	Up to 203.2 mm (8 in)	0.15 μ m (6 μ in)
	Height measuring equipment	Up to 609.6mm (24 in)	0.13 μ m (5 μ in)
	Graduate Rules and Flexometers	Up to 25 m (984 in) Grade 1 and 2 (JIS B 7512)	152.4 μ m (6 000 μ in)
	Gages Blocks Grade 1, 2 and 3 (FS)	Up to 25.4 mm (1 in)	0.06 μ m (2.3 μ in)
		25.4 mm to 50.8 mm (1 in < L \leq 2 in)	0.12 μ m (4.6 μ in)
		50.8 mm to 76.2 mm (2 in < L \leq 3 in)	0.15 μ m (5.7 μ in)
	Gages Blocks	76.2 mm to 101.6 mm (3 in < L \leq 4 in)	0.17 μ m (6.9 μ in)
		101.6 mm to 127.0 mm (4 in < L \leq 5 in)	0.20 μ m (8.1 μ in)
		127.0 mm to 152.9 mm (5 in < L \leq 6 in)	0.23 μ m (9.2 μ in)
	Pi n Gauges Plug Gauges	Up to 25.4 mm (1 in)	0.25 μ m (10 μ in)
		25.4 mm to 38.1 mm (1 in < L \leq 1.5 in)	
	Granite Surface Plates	1 828.8 mm X 3 687.6 mm (72 in X 44 in) Grade 0, 1 and 2 (JIS B 7513) Grade AA, A and B (FS)	0.25 μ m (10 μ in)
	CMM	Up to 609.6 mm (24 in)	0.25 μ m (10 μ in)

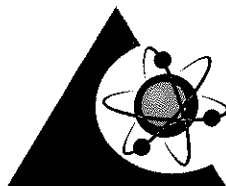


Certificate of Accreditation: Supplement

Metrología y Pruebas S.A. de C.V.
 Privada de Tecnológico No. 25 Col. Granjas
 Nogales, Sonora México 84065

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

CALIBRATION FIELD	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)
Dimensional (Continued)	Thread Rings (Metric)	1.3 mm to 200 mm	100 μ m
	Thread Rings (Standard)	1.27mm to 152.4 mm (0.05in to 6 in)	100 μ m (3 937 μ in)
	Coating Thickness Measure Equipment	Up to 6.35 mm (0.25 in)	100 μ m (3 937 μ in)
Acoustic	Sound Generate and Measure	50 dB to 140 dB (100 Hz to 20 kHz)	1.5 dB
Electrical	DC Voltage at Electrical Fields Generate and Measure Equipment Electrostatics	1 000 V to 10 000 V	5 % of reading
		DC Voltage Generate and Measure	10 mV to 100mV
	DC Voltage Generate and Measure	0.10 V to 1 V	0.000 8% of reading
		1 V to 10 V	0.000 9% of reading
		10 V to 100 V	0.001% of reading
		100 V to 1 020 V	0.001% of reading
		1 020 V to 100 000 V	2% of reading
		DC Current Generate and Measure	10 nA to 100 nA
	DC Current Generate and Measure	100 nA to 1 μ A	0.006% of reading
		1 μ A to 10 μ A	0.003% of reading
		10 μ A to 100 μ A	0.002 8% of reading
		100 μ A to 1 mA	0.002 5% of reading
		1 mA to 10 mA	0.002 5% of reading
		10 mA to 100 mA	0.004% of reading
		100 mA to 1 A	0.012% of reading
		1 A to 11 A	0.06% of reading
	DC Current Measure	11 A to 60 A	0.12% of reading
		DC Current Generate	11 A to 100 A
	AC Voltage Generate and Measure 10 mV to 100 mV @	40 Hz to 1kHz	0.01% of reading
		1 kHz to 20 kHz	0.02% of reading
20 kHz to 50 kHz		0.03% of reading	

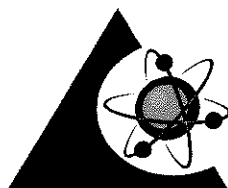


Certificate of Accreditation: Supplement

Metrología y Pruebas S.A. de C.V.
 Privada de Tecnológico No. 25 Col. Granjas
 Nogales, Sonora México 84065

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

CALIBRATION FIELD	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)
Electrical	AC Voltage Generate and Measure 100 mV to 1 V @	40 Hz to 1kHz	0.01% of reading
		1 kHz to 20 kHz	0.02% of reading
		20 kHz to 50 kHz	0.03% of reading
		50 kHz to 100 kHz	0.08% of reading
	AC Voltage Generate and Measure 1 V to 10 V @	40 Hz to 1 kHz	0.01% of reading
		1 kHz to 20 kHz	0.02% of reading
		20 kHz to 50 kHz	0.03% of reading
		50 kHz to 100 kHz	0.08% of reading
	AC Voltage Generate and Measure 10 V to 100 V @	40 Hz to 1 kHz	0.02% of reading
		1 kHz to 20 kHz	0.02% of reading
	AC Voltage Generate and Measure 100 V to 1020 V @	40 Hz to 1 kHz	0.04% of reading
	AC Voltage Generate and Measure 100 V to 700 V @	40 Hz to 1 kHz	0.15% of reading
		1 kHz to 10 kHz	0.073% of reading
	AC Voltage Generate and Measure 1 020 V to 60 000 V @	60 Hz	2% of reading
	AC Current Generate and Measure 1 mA to 10 mA @	45 Hz to 100 Hz	0.08% of reading
		100 Hz to 1 kHz	0.05% of reading
AC Current Generate and Measure 10 mA to 100 mA @	45 Hz to 100 Hz	0.08% of reading	
	100 Hz to 1 kHz	0.05% of reading	
AC Current Generate and Measure 100 mA to 1 A @	45 Hz to 100 Hz	0.10% of reading	
	100 Hz to 1 kHz	0.12% of reading	
AC Current Generate and Measure 1 A to 10 A @	60 Hz	0.12% of reading	
AC Current Measure 11 A to 50 A @	60 Hz	0.6% of reading	
AC Current Generate 11 A to 100 A @	60 Hz	0.6% of reading	
AC Current Measure 11 A to 550 A @	60 Hz	0.35% of reading	

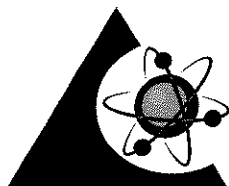


Certificate of Accreditation: Supplement

Metrología y Pruebas S.A. de C.V.
 Privada de Tecnológico No. 25 Col. Granjas
 Nogales, Sonora México 84065

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

CALIBRATION FIELD	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)
Electrical	DC Power Measure 33 mV to 1 020 V @	3.3 mA to 9 mA	0.04% of reading
		9 mA to 33 mA	0.03% of reading
		33 mA to 90 mA	0.04% of reading
		90 mA to 330 mA	0.03% of reading
		0.33 A to 0.9 A	0.08% of reading
		0.9 A to 2.2 A	0.06% of reading
		2.2 A to 4.5 A	0.12% of reading
		4.5 A to 11 A	0.09% of reading
		11 A to 100 A	0.5% of reading
	AC Power Measure 45 Hz to 65 Hz P.F. = 1 33 mV to 330 mV @	0.9 A to 2.2 A	0.25% of reading
		2.2 A to 4.5 A	0.35% of reading
		4.5 A to 11 A	0.25% of reading
	AC Power Measure 45 Hz to 65 Hz P.F. = 1 330 mV to 700 V @	0.9 A to 2.2 A	0.15% of reading
		2.2 A to 4.5 A	0.20% of reading
		4.5 A to 11 A	0.15% of reading
	AC Power Measure 60 Hz P.F. = 1 50 V to 260 V @	12 A to 50 A	0.8% of reading
	AC Power Measure 45 Hz to 65 Hz P.F. = 0.7 33 mV to 330 mV @	0.9 A to 2.2 A	0.37% of reading
		2.2 A to 4.5 A	0.44% of reading
		4.5 A to 11 A	0.37% of reading
	AC Power Measure 45 Hz to 65 Hz P.F. = 0.8 33 mV to 330 mV @	0.9 A to 2.2 A	0.32% of reading
		2.2 A to 4.5 A	0.40% of reading
		4.5 A to 11 A	0.31% of reading
	AC Power Measure 45 Hz to 65 Hz P.F. = 0.9 33 mV to 330 mV @	0.9 A to 2.2 A	0.28% of reading
		2.2 A to 4.5 A	0.37% of reading
4.5 A to 11 A		0.28% of reading	
AC Power Measure 45 Hz to 65 Hz P.F. = 0.7 330 mV to 700 mV @	0.9 A to 2.2 A	0.31% of reading	
	2.2 A to 4.5 A	0.33% of reading	
	4.5 A to 11 A	0.31% of reading	
AC Power Measure 45 Hz to 65 Hz P.F. = 0.8 330 mV to 700 mV @	0.9 A to 2.2 A	0.25% of reading	
	2.2 A to 4.5 A	0.28% of reading	
	4.5 A to 11 A	0.25% of reading	

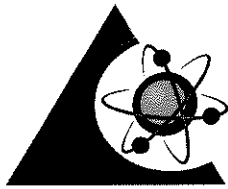


Certificate of Accreditation: Supplement

Metrología y Pruebas S.A. de C.V.
 Privada de Tecnológico No. 25 Col. Granjas
 Nogales, Sonora México 84065

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

CALIBRATION FIELD	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)
Electrical	AC Power Measure 45 Hz to 65 Hz P.F. = 0.9 330 mV to 700 mV @	0.9 A to 2.2 A	0.20% of reading
		2.2 A to 4.5 A	0.24% of reading
		4.5 A to 11 A	0.20% of reading
	Generation and Resistance Measuring Equipment	1 Ω to 10 Ω @ 10 mA	0.002% of reading
		10 Ω to 100 Ω @ 1 mA	0.001 7% of reading
		100 Ω to 1 k Ω @ 1 mA	0.001% of reading
		1 k Ω to 10 k Ω @ 100 μ A	0.001% of reading
		10 k Ω to 100 k Ω @ 50 μ A	0.001% of reading
		100 k Ω to 1 M Ω @ 5 μ A	0.001 7% of reading
		1M Ω to 10 M Ω @ 500 nA	0.006% of reading
		10 M Ω to 100 M Ω @ 500 nA	0.05% of reading
	Resistance Measuring Equipment	100 M Ω to 1G Ω @ 50 nA	0.5% of reading
		1 M Ω @ 1 A to 50 A	0.09% of reading
		10 M Ω @ 1 A to 50 A	0.09% of reading
		100 M Ω @ 1 A to 10 A	0.09% of reading
	Generation and Resistance Measuring Equipment	1 Ω @ 0.1 A to 1 A	0.09% of reading
		1 M Ω to 1 G Ω @ 1 000 V	0.08% of reading
		1 G Ω to 1 T Ω @ 1 000 V to 10 000 V	2% of reading
		DC electrical Resistance Shunt Resistance	1 m Ω to 1 Ω @ 1 A to 50 A
	AC electrical Resistance at 60 Hz Shunt Resistance	1 Ω @ 100 mA	0.18% of reading
		1 m Ω to 1 Ω @ 1 A to 60 A	0.25% of reading
	Capacitance Measure	100 pf to 1.1 mf @ 100 Hz to 10 kHz	0.1% of reading
	Capacitance Generate	1.0 pf to 10 000 pf @ 10 kHz to 10 MHz	0.3% of reading
0.1 pf to 10.0 mf @ 60 Hz to 10 kHz		0.1% of reading	
Inductance Measuring Equipment	100 mH	0.5% of reading	
	2 H	0.1% of reading	

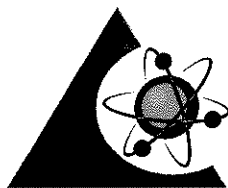


Certificate of Accreditation: Supplement

Metrología y Pruebas S.A. de C.V.
 Privada de Tecnológico No. 25 Col. Granjas
 Nogales, Sonora México 84065

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

CALIBRATION FIELD	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)
Thermodynamic	Temperature Measure Thermocouple Type J	-210°C to 1 200°C	0.14°C
	Temperature Measure Thermocouple Type K	-200°C to 1 372°C	0.16°C
	Temperature Measure Thermocouple Type T	-250°C to 400°C	0.14°C
	Temperature Measure RTD Pt 385 100 Ω	-200°C to 800°C	0.05°C
	Temperature Generate Thermocouple Type J	-50°C to 1200°C	0.09°C
	Temperature Generate Thermocouple Type K	-50°C to 1200°C	0.13°C
	Temperature Generate Thermocouple Type T	-50°C to 400°C	0.07°C
	Temperature Generate RTD Pt 385 100 Ω	0°C to 600°C	0.03°C
	Thermometers Pt resistance Thermocouples and Liquid in Glass Thermometers	-30°C to 400°C	0.07 °C
	Relative Humidity Measuring Equipment	@ 32.8% RH	0.3% of reading
		@ 75.3% RH	0.3% of reading
Mechanical	Force Tension and Compression Tools, Transducers and Measuring Equipment	0.1 N to 5.5 N	0.3% of reading
		5.6 N to 84 N	0.25% of reading
		73 N to 2.5 kN	0.20% of reading
		2.5 kN to 44.5 kN	0.20% of reading
		44.5 kN to 222.4 kN	0.30% of reading
	Relative Pressure Generate and Measure	222.4 kN to 445 kN	0.22% of reading
		0 Pa to 500 Pa	1% Maximum Scale
		0 kPa to 4.2 MPa	0.05% of reading
		4.2 kPa to 21 MPa	0.05% of reading
	Absolute Pressure Generate and Measure	21 MPa to 69 MPa	0.1% of reading
		0 psi to 30 psi (0 kPa to 207 kPa)	0.5% Maximum Scale
Air Flow Measuring Equipment	Up to 300 sl/min	2.0% of reading	



Certificate of Accreditation: Supplement

Metrología y Pruebas S.A. de C.V.
 Privada de Tecnológico No. 25 Col. Granjas
 Nogales, Sonora México 84065

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

CALIBRATION FIELD	MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	BEST MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)
Mechanical	Torque Tools, Transducers and Measuring Equipment	0.005 Nm to 1 Nm	0.5% of reading
		0.9 Nm to 20 Nm	0.3% of reading
		7.4 Nm to 500 Nm	0.6% of reading
		Up to 678 Nm	0.42% of reading
	Hardness Shore A & B	0.55 N to 8.05 N	0.5% of reading
	Hardness Shore C & D	0.0 N to 44.45 N	0.5% of reading
	Rockwell Hardness Testing Machines	20 HRA to 88 HRA	1 HRA
		20 HRB to 100 HRB	1 HRB
		20 HRC to 70 HRC	1 HRC
		70 HR15N to 91 HR15N	1 HR15N
		42 HR30N to 80 HR30N	1 HR30N
		20 HR45N to 70 HR45N	1 HR45N
		73 HR15T to 93 HR15T	1 HR15T
		43 HR30T to 82 HR30T	1 HR30T
		12 HR45T to 72 HR45T	1 HR45T
	Microhardness Knoop	236 units to 278 units	2% of reading
	Microhardness Vickers	697 units to 266 units	2% of reading
	Light Intensity Meters	2 000 lux to 50 000 lux	5% of reading
	Volumetric Recipients Test Tubes Hasty glasses Pipettes Burettes Syringes	Up to 15 000 ml	0.002% of reading (20 ppm)
	Water Flow Measuring Equipment	Up to 20 l/min	0.5% of reading
Vacuum meters	-103.42 kPa to 0 kPa (-15 psi to 0 psi)	0.2% of reading	
Chemical	Specific Gravity Hydrometer	0.62 SG to 3.00 SG	0.3% of reading