



JD Calibraciones

Certificado de calibración

Juan Daniel Padilla de la Sancha/JD Calibraciones, Agustín Millán #130, Granjas
Valle de Guadalupe, Ecatepec Edo. de México, 55270, tel. 01 (55) 4999 4110.
Acreditación ISO/IEC 17025:2005 #93752 por Perry Johnson
Laboratory Accreditation Inc.



PJLA
Calibration

1. Cliente

Spectralab Instrumentación

2. Dirección del cliente

Calle Chimalpopoca No.76 Col. Arenal 2a Sección CP15680,
Venustiano Carranza, CDMX

3. Método y procedimiento utilizado

Calibración de termómetros de lectura directa

4. Datos del instrumento a calibrar (IBC)

Marca	Taylor	ID del cliente	Taylor 9834 20-0127
Modelo	9834	Resolución	0.1 °C
Serie	ND	Alcance	-40 a 250 °C
Fecha de recepción	22/01/2020	Fecha de calibración	23/01/2020

5. Condiciones ambientales

Temperatura 20.6 °C Humedad relativa 50%

6. Datos del patrón utilizado

Patrón	Precision Plus Thermometer	Resolución	0.01 °C
No serie	D18120931	Identificación	Inv #38
Alcance	-50 a 200 °C	Exactitud & incertidumbre	0.05 & 0.03 °C

7. Resultado de la calibración

Indicación del patrón °C	Indicación del IBC °C	Error del IBC °C	Incertidumbre expandida ± °C
31.7	31.3	-0.4	1.2
36.8	36.2	-0.6	1.2
44.7	44.2	-0.5	1.2

La incertidumbre combinada "U" se expresa con un factor de cobertura $k=2$ que corresponde aproximadamente a un nivel de confianza del 95%. Se calcula con base en la guía para la expresión de incertidumbre en los resultados de las mediciones (NMX-CH-140-IMNC-2002).

"Los resultados de calibración publicados en este certificado se obtuvieron utilizando equipo capaz de producir resultados trazables al CENAM y a través del CENAM al Sistema Internacional de Unidades (SI)".

8. Próxima calibración (indicada por el cliente)

Fecha de próxima calibración Enero 2021

Autorizado por: Gerente/Daniel Padilla

Fecha de emisión: 23/01/2020





PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Juan Daniel Padilla de la Sancha / JD Calibraciones

***Agustín Millán #130, Col. Granjas Valle de Guadalupe
Ecatepec, Estado de México, México C.P. 55270***

*(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):

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 Szaerszen
President/Operations Manager

Perry Johnson Laboratory
Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325
Troy, Michigan 48064

Initial Accreditation Date:

April 14, 2017

Issue Date:

April 06, 2019

Expiration Date:

July 31, 2021

Accreditation No.:

93752

Certificate No.:

L19-204

*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.pjlab.com*



Certificate of Accreditation: Supplement

Juan Daniel Padilla de la Sancha/JD Calibraciones
Avenida México 5130, Col. Granjas Valle de Guadalupe
Buenos Aires, Estado de México, México C.P. 55170
Contact Name: Juan Daniel Padilla de la Sancha Phone: 556-350-2447

Accreditation is granted to the facility to perform the following calibration(s):

MEASUREMENT QUANTITY OR RANGE	RANGE OF NOMINAL VALUE SIZE AS REQUESTED	UNCERTAINTY	EQUIPMENT
Liquid in Glass Thermometers ¹	-15 °C to 375 °C	0.1 °C	Liquid Bath, Dry Block, Filler, High, Thermocouples, Reference Thermometers and Calibration VAI10 Precision Plus Thermometers, CENAM Technical Guide
Infrared Temperature Instruments ²	15 °C to 100 °C	1.5 °C	Blackbody Target, Thermocouples USB, Reference Thermometers and Calibration VAI10 Precision Plus Thermometers, CENAM Technical Guide
Infrared Temperature Instruments ²	0 °C	1.5 °C	Ice Bath, Black Body, Thermocouples USB, Reference Thermometers and Calibration VAI10 Precision Plus Thermometers, CENAM Technical Guide
Thermo-Hygrometers Fixed Points Humidity Only ³	35 % RH 45 % RH 55 % RH 65 % RH 75 % RH	3 % RH 3 % RH 3 % RH 3 % RH 3 % RH	Salt Chamber, and Humidity Thermo-Hygrometers 6500, CENAM Technical Guide
Temperature Thermometers - Liquid Reading ⁴	-15 °C to 375 °C	0.1 °C	Thermocouples, Dry Well, 1000, Filler, 1000, Borel C.C. 2.54 Chamber, Zurich Cold Chamber, Thermocouples USB, Reference Thermometers, Omega C.T. 1660, Calibration VAI10 Precision Plus Thermometers, CENAM Technical Guide
Temperature Measurement Thermocouple Type E ⁵	-15 °C to 375 °C	0.1 °C	Thermocouples USB, Reference Thermometers, Omega C.T. 1660, Calibration VAI10 Precision Plus Thermometers, CENAM Technical Guide
Temperature Measurement Thermocouple Type K ⁵	-15 °C to 375 °C	0.1 °C	Thermocouples USB, Reference Thermometers, Omega C.T. 1660, Calibration VAI10 Precision Plus Thermometers, CENAM Technical Guide
Temperature Measurement Thermocouple Type N ⁵	-15 °C to 375 °C	0.1 °C	Thermocouples USB, Reference Thermometers, Omega C.T. 1660, Calibration VAI10 Precision Plus Thermometers, CENAM Technical Guide
Temperature Measurement Thermocouple Type J ⁵	-15 °C to 375 °C	0.1 °C	Thermocouples USB, Reference Thermometers, Omega C.T. 1660, Calibration VAI10 Precision Plus Thermometers, CENAM Technical Guide

Issue: 04/2019

This supplement is in conjunction with certificate #119-204

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Avenida México 5130, Col. Granjas Valle de Guadalupe
Buenos Aires, Estado de México, México C.P. 55170
Contact Name: Juan Daniel Padilla de la Sancha Phone: 556-350-2447

Accreditation is granted to the facility to perform the following calibration(s):

MEASUREMENT QUANTITY OR RANGE	RANGE OF NOMINAL VALUE SIZE AS REQUESTED	UNCERTAINTY	EQUIPMENT
Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type E ⁶	-200 °C to 950 °C	1 °C	Electrical Simulation, Thermocouple, Thermocouple Calibration VAI10 Precision Plus Thermometers, CENAM Technical Guide
Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type E ⁶	-200 °C to 1200 °C	1 °C	Electrical Simulation, Thermocouple, Thermocouple Calibration VAI10 Precision Plus Thermometers, CENAM Technical Guide
Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type K ⁶	-200 °C to 1375 °C	1 °C	Electrical Simulation, Thermocouple, Thermocouple Calibration VAI10 Precision Plus Thermometers, CENAM Technical Guide
Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type J ⁶	-200 °C to 400 °C	1 °C	Electrical Simulation, Thermocouple, Thermocouple Calibration VAI10 Precision Plus Thermometers, CENAM Technical Guide
Equipment to Measure DC Voltage ⁷	Up to 4000 mV 1 V to 1000 V	0.002 % of reading + 0.14 mV 0.002 % of reading + 0.00054 V	Electrical Simulation, Model, G6000A, CENAM Technical Guide
Equipment to Measure DC Current ⁷	0.2 A to 20 A 2 mA to 20 mA 20 µA to 400 µA	0.15 % of reading + 0.00004 A 0.17 % of reading + 0.00004 A 0.17 % of reading + 0.00004 A	Electrical Simulation, Model, G6000A, CENAM Technical Guide
Equipment to Measure AC Voltage ⁸	Up to 4000 mV 1 V to 1000 V	0.50 % of reading + 0.19 mV 0.002 % of reading + 0.00004 V	Electrical Simulation, Model, G6000A, CENAM Technical Guide
Equipment to Measure AC Current ⁸	0.2 A to 20 A 2 mA to 20 mA	0.003 % of reading + 0.00004 A 0.56 % of reading + 0.17 mV	Electrical Simulation, Model, G6000A, CENAM Technical Guide
Equipment to Measure Resistance ⁹	0.1 Ω to 20 Ω 0.1 Ω to 20 Ω 0.1 Ω to 20 Ω 0.1 Ω to 20 Ω 0.1 Ω to 20 Ω 0.1 Ω to 20 Ω	0.90 % of reading + 0.00058 Ω 1.1 % of reading + 0.00058 Ω 0.90 % of reading + 0.00058 Ω 1.3 % of reading + 0.00058 Ω 1.3 % of reading + 0.00058 Ω 1.3 % of reading + 0.00058 Ω	Electrical Simulation, Model, G6000A, CENAM Technical Guide
Equipment to Measure Current by Clamp Meter ⁹	Up to 200 A 200 A to 600 A 600 A to 1000 A	0.6 % of reading + 0.00005 A 1.3 % of reading + 0.00005 A 1.6 % of reading + 0.00005 A	Electrical Simulation, Model, G6000A, CENAM Technical Guide

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Accreditation is granted to the facility to perform the following calibration(s):

- The CMC (Calibration and Measurement Capability) stated for calibration included on this scope of accreditation represents the smallest measurement uncertainty estimated by the laboratory when performing a measurement calibration on a newly calibrated device under nearly ideal conditions. It is typically expressed as 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.
- The laboratory's 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 reference. Verification of an indicated value of zero is the absence of a standard is common practice in the procedure for many calibrations and for no solution is direct measurement calibration of zero capacity.
- The presence of a superscript (P) means that the laboratory performs calibration of the indicated parameter at its fixed location. Example: Osmotic Microsensor^P would mean that the laboratory performs this calibration at its fixed location.
- The presence of a superscript (C) means that the laboratory performs calibration of the indicated parameter both at its fixed location and onsite at customer locations. Example: Osmotic Microsensor^C would mean that the laboratory performs this calibration at its fixed location and onsite at customer locations.
- 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.

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Accreditación ISO/IEC 17025:2005



El certificado de calibración que tienes en tus manos, emitido por JD Calibraciones, es válido en el territorio Nacional. Está respaldado por una acreditación otorgada por PERRY JONHSON LABORATORY ACREDITATION INC. (PJLA), uno de los cuerpos de acreditación mas prestigiados a nivel nacional e internacional, así como por el acuerdo internacional ILAC-MRA. Este acuerdo da a nuestras calibraciones la misma validez que los laboratorios acreditados por otros cuerpos por ejemplo en (México), UKAS (Inglaterra), a2La (EU), etc. A continuación se muestra la documentación que respalda lo indicado:

ilac

ILAC MUTUAL RECOGNITION ARRANGEMENT

SIGNATORIES

U.S. B. Calibration and Engineering Services of the U.S. Army Research Administration, AFRL-MS

Accreditation Body: U.S. Army Research Administration, AFRL-MS

Person: [Signature]

Scope and date: Testing per ISO 17025 and ISO 17026 - 17 November 2005

Authorized Representative: [Signature]

Signature: [Signature]

Date: 22 October 2012

Chairman, ILAC Arrangement Council: [Signature]

Signature: [Signature]

Date: 25 October 2012

ilac

ILAC MUTUAL RECOGNITION ARRANGEMENT

SIGNATORIES

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Accreditation Body: U.S. Army Research Administration, AFRL-MS

Person: [Signature]

Scope and date: Testing per ISO 17025 and ISO 17026 - 17 November 2005

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Signature: [Signature]

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Signature: [Signature]

Date: 22 October 2012

Chairman, ILAC Arrangement Council: [Signature]

Signature: [Signature]

Date: 25 October 2012

Estos documentos fundamentan la validez de nuestras calibraciones y certificados por lo cual no dude en presentarlos ante cualquier, inspección, auditoría, autoridad, etc.

Trazabilidad del laboratorio

Termworks USB Reference Thermometer serie 34961521

1. Centro Nacional de Metrología (CONMETRO) - Centro NIM
2. NIST, termómetro de platino (Pt-1000) NIST-412
3. EYALAB, termómetro de resistencia de platino (Pt-100) NIST-412
4. NIST, termómetro de resistencia de platino (Pt-100) NIST-412
5. NIST, termómetro de resistencia de platino (Pt-100) NIST-412
6. NIST, termómetro de resistencia de platino (Pt-100) NIST-412

Fecha de actualización: 01/01/2019

1

Trazabilidad del laboratorio

Termworks Precision Plus Thermometer serie D18120931

1. Centro Nacional de Metrología (CONMETRO) - Centro NIM
2. NIST, termómetro de platino (Pt-1000) NIST-412
3. EYALAB, termómetro de resistencia de platino (Pt-100) NIST-412
4. NIST, termómetro de resistencia de platino (Pt-100) NIST-412
5. NIST, termómetro de resistencia de platino (Pt-100) NIST-412

Fecha de actualización: 01/04/2019

3

Trazabilidad del laboratorio

Termworks USB Reference Thermometer serie 35041521

1. Centro Nacional de Metrología (CONMETRO) - Centro NIM
2. NIST, termómetro de platino (Pt-1000) NIST-412
3. EYALAB, termómetro de resistencia de platino (Pt-100) NIST-412
4. NIST, termómetro de resistencia de platino (Pt-100) NIST-412
5. NIST, termómetro de resistencia de platino (Pt-100) NIST-412
6. NIST, termómetro de resistencia de platino (Pt-100) NIST-412

Fecha de actualización: 8/12/2018

2

Trazabilidad del laboratorio

Termworks VA710 Calibrator Serie VA170320119

1. Centro Nacional de Metrología (CONMETRO) - Centro NIM
2. NIST, termómetro de platino (Pt-1000) NIST-412
3. EYALAB, termómetro de resistencia de platino (Pt-100) NIST-412
4. NIST, termómetro de resistencia de platino (Pt-100) NIST-412
5. NIST, termómetro de resistencia de platino (Pt-100) NIST-412

Fecha de actualización: 07/02/2019

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