



# PERRY JOHNSON LABORATORY ACCREDITATION, INC.

## Certificate of Accreditation

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

### ***BDC Calibration***

***Av. Gregorio Luperón #51, Los Restauradores, Santo Domingo 10137, República Dominicana***

*(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):

***Chemical, Dimensional, Electrical, Mass, Force, and Weighing Device,  
Mechanical, Optical, Thermodynamic, Time and Frequency  
(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:*

February 11, 2023

*Issue Date:*

February 11, 2023

*Expiration Date:*

June 30, 2025

*Accreditation No.:*

108843

*Certificate No.:*

L23-110

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.pjilabs.com](http://www.pjilabs.com)*



# Certificate of Accreditation: Supplement

## BDC Calibration

Av. Gregorio Luperón #51, Los Restauradores,  
Santo Domingo 10137, República Dominicana  
Contact Name: Mr. Franco Gigliore Phone: 809-338-8888

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

### Chemical

| MEASURED INSTRUMENT,<br>QUANTITY OR GAUGE | RANGE OR NOMINAL<br>DEVICE SIZE AS<br>APPROPRIATE | CALIBRATION AND<br>MEASUREMENT<br>CAPABILITY EXPRESSED<br>AS AN UNCERTAINTY ( $\pm$ ) | CALIBRATION<br>EQUIPMENT<br>AND REFERENCE<br>STANDARDS USED |
|---|---|---|---|
| pH Meter/Probe <sup>FO</sup>              | 4 pH to 10 pH                                     | 0.009 pH  | pH Standard Solutions<br>PR-CAL-021                         |
| Conductivity Meter/Probe <sup>FO</sup>    | 25 $\mu$ S/cm                                     | 0.62 $\mu$ S/cm   | Conductivity Standard<br>Solutions<br>PR-CAL-022            |
|   | 111.3 $\mu$ S/cm                                  | 0.97 $\mu$ S/cm   |   |
|   | 1015 $\mu$ S/cm                                   | 5.4 $\mu$ S/cm  |   |
|   | 1408 $\mu$ S/cm                                   | 6.9 $\mu$ S/cm  |   |
|   | 12.85 mS/cm                                       | 0.36 mS/cm  |   |
| Refractometers <sup>FO</sup>              | 1.355 n   | 0.000 29 n  | Refraction Standard Liquids<br>PR-CAL-024                   |
|   | 1.420 n   | 0.000 26 n  |   |
|   | 1.430 n   | 0.000 26 n  |   |
|   | 1.480 n   | 0.000 31 n  |   |
|   | 14.94 °Brix                                       | 0.15 °Brix  |   |
|   | 55.03 °Brix                                       | 0.11 °Brix  |   |
|   | 76.23 °Brix                                       | 0.092 °Brix   |   |
| Turbidity Meter/Probe <sup>FO</sup>       | 0.04 NTU  | 0.058 NTU   | Turbidity Standard Solutions<br>PR-CAL-040                  |
|   | 20 NTU  | 0.63 NTU  |   |
|   | 100 NTU   | 5.9 NTU   |   |
|   | 200 NTU   | 6.3 NTU   |   |
|   | 800 NTU   | 11 NTU  |   |
|   | 1 000 NTU   | 13 NTU  |   |
|   | 4 000 NTU   | 47 NTU  |   |



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### Dimensional

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|---|---|--|--|
| Calipers <sup>FO</sup>                  | 0.05 in to 8 in                             | $(289 + 9.73 \times 10^{-2}L) \mu\text{in}$                                  | Gage Blocks<br>PR-CAL-032                          |
|   | 8 in to 12 in                               | $(287 + 0.35L) \mu\text{in}$   |  |
|   | 12 in to 24 in                              | $(288 + 0.25L) \mu\text{in}$   |  |
| Micrometers <sup>FO</sup>               | 0.05 in to 1 in                             | $(3.92 + 2.4L) \mu\text{in}$   | Gage Blocks<br>PR-CAL-033                          |
|   | 1 in to 8 in                                | $(4.15 + 2.2L) \mu\text{in}$   |  |
| Indicators, dial, digital <sup>FO</sup> | 0.05 in to 6 in                             | $(119 + 1.9L) \mu\text{in}$  | Gage Blocks<br>PR-CAL-034                          |
| Rules <sup>FO</sup>                     | 0.05 in to 24 in                            | 0.009 in   | Master blocks<br>PR-CAL-035                        |
| Tapes <sup>FO</sup>                     | 0.05 in to 300 in                           | $(0.02 + 5.4 \times 10^{-4}L) \text{in}$                                     | Master blocks<br>PR-CAL-035                        |
| Pin gages <sup>FO</sup>                 | 0.011 in to 1 in                            | 105 $\mu\text{in}$   | Micrometer<br>PR-CAL-065                           |

### Electrical

| MEASURED INSTRUMENT, QUANTITY OR GAUGE        | RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE | CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ ) | CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED |
|---|---|--|--|
| Equipment to measure DC voltage <sup>FO</sup> | 1 mV to 75 mV                               | 0.025 % of reading + 12 $\mu\text{V}$  | Fluke 724<br>PR-CAL-026                            |
|   | 75 mV to 100 mV                             | 0.022 % of reading + 20 $\mu\text{V}$  |  |
|   | 0.1 V to 10 V                               | 0.020 % of reading + 6.2 mV  |  |
| Equipment to output DC voltage <sup>FO</sup>  | 1 mV to 90 mV                               | 0.021 % of reading + 20 $\mu\text{V}$  |  |
|   | 0.09 V to 30 V                              | 0.021 % of reading + 2 mV  |  |
| Equipment to output DC current <sup>FO</sup>  | 1 mA to 24 mA                               | 0.21 % of reading + 2 $\mu\text{A}$  |  |
| Equipment to Measure Resistance <sup>FO</sup> | 15 $\Omega$ to 400 $\Omega$                 | 101 m $\Omega$   |  |
|   | 400 $\Omega$ to 1 500 $\Omega$              | 504 m $\Omega$   |  |
|   | 1 500 $\Omega$ to 3 200 $\Omega$            | 1.0 $\Omega$   |  |
| Equipment to output Resistance <sup>FO</sup>  | 0.2 $\Omega$ to 400 $\Omega$                | 101 m $\Omega$   |  |
|   | 400 $\Omega$ to 1 500 $\Omega$              | 504 m $\Omega$   |  |
|   | 1 500 $\Omega$ to 3 200 $\Omega$            | 1.0 $\Omega$   |  |



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|--|---|---|--|
| Temperature Calibration,<br>Indication and Control<br>Equipment used with<br>Thermocouple Type B <sup>FO</sup> | 600 °C to 800 °C                                  | 2.2 °C  | Fluke 724<br>Electrical Simulation of<br>Thermocouple Output<br>PR-CAL-026 |
|  | 800 °C to 1 000 °C                                | 1.8 °C  |  |
|  | 1 000 °C to 1 800 °C                              | 1.4 °C  |  |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with<br>Thermocouple Type E <sup>FO</sup> | -200 °C to 0 °C                                   | 0.9 °C  |  |
|  | 0 °C to 950 °C                                    | 0.7 °C  |  |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with<br>Thermocouple Type J <sup>FO</sup> | -200 °C to 0 °C                                   | 1.0 °C  |  |
|  | 0 °C to 1 200 °C                                  | 0.7 °C  |  |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with<br>Thermocouple Type K <sup>FO</sup> | -200 °C to 0 °C                                   | 1.2 °C  |  |
|  | 0 °C to 1 370 °C                                  | 0.8 °C  |  |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with<br>Thermocouple Type L <sup>FO</sup> | -200 °C to 0 °C                                   | 0.85 °C   |  |
|  | 0 °C to 900 °C                                    | 0.7 °C  |  |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with<br>Thermocouple Type N <sup>FO</sup> | -200 °C to 0 °C                                   | 1.5 °C  |  |
|  | 0 °C to 1 300 °C                                  | 0.9 °C  |  |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with<br>Thermocouple Type R <sup>FO</sup> | -20 °C to 0 °C                                    | 2.5 °C  |  |
|  | 0 °C to 500 °C                                    | 1.8 °C  |  |
|  | 500 °C to 1 750 °C                                | 1.4 °C  |  |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with<br>Thermocouple Type S <sup>FO</sup> | -20 °C to 0 °C                                    | 2.5 °C  |  |
|  | 0 °C to 500 °C                                    | 1.8 °C  |  |
|  | 500 °C to 1 750 °C                                | 1.5 °C  |  |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with<br>Thermocouple Type T <sup>FO</sup> | -200 °C to 0 °C                                   | 1.2 °C  |  |
|  | 0 °C to 400 °C                                    | 0.8 °C  |  |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with<br>Thermocouple Type U <sup>FO</sup> | -200 °C to 0 °C                                   | 1.1 °C  |  |
|  | 0 °C to 400 °C                                    | 0.75 °C   |  |



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|--|---|---|---|
| Temperature Calibration,<br>Indication and Control<br>Equipment used with<br>RTD Indicators / Detectors<br>Type Ni120, 120 $\Omega$ <sup>FO</sup>    | -80 °C to 260 °C                                  | 0.20 °C   | Fluke 724<br>Electrical Simulation of<br>RTD Output<br>PR-CAL-026 |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with<br>RTD Indicators / Detectors<br>Type Pt 385, 100 $\Omega$ <sup>FO</sup>   | -200 °C to 800 °C                                 | 0.33 °C   |   |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with<br>RTD Indicators / Detectors<br>Type Pt 392, 100 $\Omega$ <sup>FO</sup>   | -200 °C to 630 °C                                 | 0.30 °C   |   |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with<br>RTD Indicators / Detectors<br>Type Pt 385, 200 $\Omega$ <sup>FO</sup>   | -200 °C to 250 °C                                 | 0.20 °C   |   |
|  | 250 °C to 630 °C                                  | 0.80 °C   |   |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with<br>RTD Indicators / Detectors<br>Type Pt 385, 500 $\Omega$ <sup>FO</sup>   | -200 °C to 500 °C                                 | 0.30 °C   |   |
|  | 500 °C to 630 °C                                  | 0.40 °C   |   |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with<br>RTD Indicators / Detectors<br>Type Pt 385, 1 000 $\Omega$ <sup>FO</sup> | -200 °C to 630 °C                                 | 0.20 °C   |   |



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### Mass, Force, Weighing Devices

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|---|---|---|---|-------------------------------|
| Scales and balances <sup>FO</sup>   | 1 g to 100 g                                      | $(0.1 + 1.5 \times 10^{-3}Wt)$ mg   | OIML E2 weights<br>PR-CAL-020                                   |                               |
|   | 100 g to 200 g                                    | $(0.1 + 1.6 \times 10^{-3}Wt)$ mg   |   |                               |
|   | 200 g to 1 000 g                                  | $(-0.1 + 1.9 \times 10^{-3}Wt)$ mg  |   |                               |
|   |   | 1 000 g to 5 000 g  | $(0.1 + 1.9 \times 10^{-3}Wt)$ mg                               | OIML E2 weights<br>PR-CAL-020 |
|   |   | 5 000 g to 10 000 g   | $(0.2 + 1.9 \times 10^{-3}Wt)$ mg                               |                               |
|   |   | 10 kg to 20 kg  | $(0.6 + 1.8 \times 10^{-3}Wt)$ mg                               |                               |
|   |   | 20 kg to 40 kg  | $(-206 + 1.2 \times 10^{-2}Wt)$ mg                              |                               |
| Scales and weighing devices <sup>FO</sup>   | 40 kg to 300 kg                                   | $(8.8 + 9.3 \times 10^{-2}Wt)$ g  | ASTM 6 weights<br>PR-CAL-020                                    |                               |
|   | 300 kg to 1 600 kg                                | $(-46.5 + 0.26Wt)$ g  |   |                               |
| Mass Weights<br>ASTM Class 2, 3, 4, 5, 6 & 7<br>OIML Class F1, F2, M1,<br>M2 & M3<br>NIST Class F <sup>FO</sup> | 1 g   | 0.022 mg  | OIML E2 weight set<br>Balances<br>Mass Comparator<br>PR-CAL-051 |                               |
|   | 2 g   | 0.033 mg  |   |                               |
|   | 5 g   | 0.038 mg  |   |                               |
|   | 10 g  | 0.055 mg  |   |                               |
|   | 20 g  | 0.080 mg  |   |                               |
|   | 50 g  | 0.11 mg   |   |                               |
|   | 100 g   | 0.13 mg   |   |                               |
|   | 200 g   | 0.22 mg   |   |                               |
|   | 500 g   | 1 mg  |   |                               |
|   | 1 kg  | 1.2 mg  |   |                               |
|   | 2 kg  | 1.6 mg  |   |                               |
|   | 3 kg  | 1.8 mg  |   |                               |
|   | 5 kg  | 3.8 mg  |   |                               |
|   | 10 kg   | 7 mg  |   |                               |
| Mass Weights<br>NIST Class F, ASTM 5, 6 & 7 <sup>FO</sup>   | 20 kg   | 26 mg   | OIML E2 and F1 weights<br>Mass comparator<br>PR-CAL-051         |                               |
|   | 25 kg   | 31 mg   |   |                               |





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### Mechanical

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|---|---|---|---|
| Pressure Gauges,<br>Vacuum Gauges <sup>FO</sup>   | -14 psig to 0.2 psig                                | 0.023 psig  | ADT681 and pneumatic<br>pump<br>PR-CAL-037  |
|   | 0.2 psig to 60 psig                                 | 0.023 psig  |   |
|   | 60 psig to 180 psig                                 | 0.039 psig  |   |
|   | 180 psig to 240 psig                                | 0.054 psig  |   |
|   | 240 psig to 300 psig                                | 0.064 psig  |   |
| Differential Pressure Gauges,<br>Pressure Gauges, <sup>FO</sup>                               | 0.3 hPa to 400 hPa                                  | 0.1 hPa   | Testo 526-2 and pneumatic<br>pump<br>PR-CAL-037   |
|   | 400 hPa to 800 hPa                                  | 0.13 hPa  |   |
|   | 800 hPa to 1 200 hPa                                | 0.18 hPa  |   |
|   | 1 200 hPa to 1 600 hPa                              | 0.25 hPa  |   |
|   | 1 600 hPa to 2 000 hPa                              | 0.39 hPa  |   |
| Differential Pressure Gauges<br>Pressure Gauges <sup>FO</sup>                                 | -10 in H <sub>2</sub> O to + 10 in H <sub>2</sub> O | 0.005 6 in H <sub>2</sub> O   | ADT681 and pneumatic<br>pump<br>PR-CAL-037  |
| Anemometers, Air Velocity<br>Meters <sup>FO</sup>   | 0.5 m/s to 14 m/s                                   | 3.4 % of reading  | Reference Air Velocity Meter<br>Testo 420 PR-CAL-053  |
| Fume Hoods, Laminar Flow<br>Hoods, Biosafety Cabinets,<br>Air velocity only <sup>FO</sup>     | 0.5 m/s to 14 m/s                                   | 3.4 % of reading  | Reference Air Velocity Meter<br>Testo 420 PR-CAL-056  |
| Pipettes, Burettes, Dispensers<br><sup>FO</sup>   | 0.25 $\mu$ L to 20 $\mu$ L                          | 0.08 $\mu$ L  | Gravimetric method<br>reference to mass<br>balances and OIML Class E2<br>mass standards, Analytical<br>Balance.<br>PR-CAL-049 |
|   | 20 $\mu$ L to 100 $\mu$ L                           | 0.094 $\mu$ L   |   |
|   | 100 $\mu$ L to 200 $\mu$ L                          | 0.12 $\mu$ L  |   |
|   | 200 $\mu$ L to 500 $\mu$ L                          | 0.21 $\mu$ L  |   |
|   | 500 $\mu$ L to 1 000 $\mu$ L                        | 0.35 $\mu$ L  |   |
|   | 1 000 $\mu$ L to 2 500 $\mu$ L                      | 0.8 $\mu$ L   |   |
|   | 2 500 $\mu$ L to 5 000 $\mu$ L                      | 1.6 $\mu$ L   |   |
|   | 5 000 $\mu$ L to 10 000 $\mu$ L                     | 2.5 $\mu$ L   |   |
|   | 10 000 $\mu$ L to 20 000 $\mu$ L                    | 5.1 $\mu$ L   |   |
|   | 20 000 $\mu$ L to 50 000 $\mu$ L                    | 16 $\mu$ L  |   |
|   | 50 000 $\mu$ L to 100 000 $\mu$ L                   | 28 $\mu$ L  |   |
| Tachometer – Optical and<br>Mechanical<br>Rotational measurement<br>Centrifuges <sup>FO</sup> | 5 rpm to 99.999 rpm                                 | $(6.5 \times 10^{-4} + 9.4 \times 10^{-5}R)$ rpm                                      | Comparison to Standard<br>Tachometer PLT200<br>PR-CAL-046   |
|   | 100 rpm to 999.99 rpm                               | $(4.5 \times 10^{-3} + 9.6 \times 10^{-5}R)$ rpm                                      |   |
|   | 1 000 rpm to 9 999.9                                | $(3.2 \times 10^{-2} + 9.7 \times 10^{-5}R)$ rpm                                      |   |
|   | 10 000 rpm to 99 999                                | $(1.3 + 2.3 \times 10^{-6}R)$ rpm   |   |
|   | 100 000 rpm to 200 000 rpm                          | $(11 + 4.0 \times 10^{-6}R)$ rpm  |   |



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|--|---|--|---|
| Viscosity Meters and Cups <sup>FO</sup>  | 1.033 Pa·s                                  | 0.005 9 Pa·s   | Viscosity Standard Fluids<br>PR-CAL-025   |
|  | 43.670 Pa·s                                 | 0.011 Pa·s   |   |
|  | 67.810 Pa·s                                 | 0.016 Pa·s   |   |
| Volumetric Ware/ Equipment <sup>FO</sup> | 1 mL to 20 mL                               | (44 + 2.5V) $\mu$ L  | Gravimetric method<br>reference to mass<br>balances and OIML E2 weights<br>PR-CAL-050           |
|  | 20 mL to 200 mL                             | (55 + 2V) $\mu$ L  |   |
|  | 200 mL to 1 000 mL                          | (282 + 0.8V) $\mu$ L   |   |
|  | 1 000 mL to 10 000 mL                       | (51 + 1V) $\mu$ L  | Gravimetric method<br>reference to mass<br>balances and OIML E2 and<br>F1 weights<br>PR-CAL-050 |
|  | 10 000 mL to 40 000 mL                      | (-182 + 1.1V) $\mu$ L  |   |
| Hydrometers <sup>FO</sup>                | 0.6 SG to 1.25 SG                           | 0.000 11 SG  | Standard Hydrometer<br>PR-CAL-028   |
| Density meters <sup>FO</sup>             | 0.838 3 g/mL                                | 0.000 17 g/mL  | Density Standards<br>PR-CAL-028   |
|  | 0.981 3 g/mL                                |  |   |

### Optical

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|--|---|--|---|
| IR Spectrometers at the listed wavelengths <sup>FO</sup> | 539.41 cm x 10 <sup>-1</sup>                | 1.42 cm x 10 <sup>-1</sup>   | Standard reference filter<br>NIST SRM 1921b<br>PR-CAL-062 |
|  | 841.79 cm x 10 <sup>-1</sup>                | 0.72 cm x 10 <sup>-1</sup>   |   |
|  | 906.63 cm x 10 <sup>-1</sup>                | 0.22 cm x 10 <sup>-1</sup>   |   |
|  | 1 028.27 cm x 10 <sup>-1</sup>              | 0.18 cm x 10 <sup>-1</sup>   |   |
|  | 1 069.22 cm x 10 <sup>-1</sup>              | 0.52 cm x 10 <sup>-1</sup>   |   |
|  | 1 154.50 cm x 10 <sup>-1</sup>              | 0.12 cm x 10 <sup>-1</sup>   |   |
|  | 1 582.98 cm x 10 <sup>-1</sup>              | 0.08 cm x 10 <sup>-1</sup>   |   |
|  | 1 601.29 cm x 10 <sup>-1</sup>              | 0.12 cm x 10 <sup>-1</sup>   |   |
|  | 1 942.97 cm x 10 <sup>-1</sup>              | 0.66 cm x 10 <sup>-1</sup>   |   |
|  | 2 849.48 cm x 10 <sup>-1</sup>              | 0.30 cm x 10 <sup>-1</sup>   |   |
|  | 3 001.20 cm x 10 <sup>-1</sup>              | 0.13 cm x 10 <sup>-1</sup>   |   |
|  | 3 025.99 cm x 10 <sup>-1</sup>              | 0.32 cm x 10 <sup>-1</sup>   |   |
|  | 3 060.16 cm x 10 <sup>-1</sup>              | 0.17 cm x 10 <sup>-1</sup>   |   |
| 3 082.26 cm x 10 <sup>-1</sup>                           | 0.14 cm x 10 <sup>-1</sup>                  |  |   |





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|---|---|--|---|
| Spectrophotometer to measure Absorbance<br>At the wavelengths 250 nm to 635 nm <sup>FO</sup>    | 0.030 Abs                                   | 0.002 4 Abs  | Neutral Density Filters<br>NIST 2031a<br>PR-CAL-038 |
|   | 0.50 Abs                                    | 0.004 2 Abs  |   |
|   | 1.0 Abs                                     | 0.004 7 Abs  |   |
| Spectrophotometer to measure Transmittance<br>At the wavelengths 250 nm to 635 nm <sup>FO</sup> | 93 T%                                       | 0.51 T%  |   |
|   | 31 T%                                       | 0.31 T%  |   |
|   | 10 T%                                       | 0.11 T%  |   |
| Spectrophotometer to output light at fixed point wavelengths <sup>FO</sup>                      | 240 nm to 640 nm                            | 0.17 nm  | Holmium Oxide Glass<br>PR-CAL-038                   |

### Thermodynamic

| MEASURED INSTRUMENT, QUANTITY OR GAUGE   | RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE | CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY ( $\pm$ ) | CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED                                   |
|--|---|--|--|
| Temperature Measurement Devices <sup>FO</sup>  | -200 °C to -21 °C                           | 0.031 °C   | PRT Thermometer<br>PR-CAL-029, PR-CAL-030,<br>PR-CAL-031<br>Liquid Bath<br>Dry Block |
|  | -20 °C to 200 °C                            | 0.028 °C   |  |
|  | 200 °C to 420 °C                            | 0.11 °C  |  |
| Temperature Measurement “System Accuracy”, Oven, Heaters, Incubators, Furnaces, Chambers, Moisture Analyzers <sup>FO</sup> | -200 °C to 1 000 °C                         | 1.2 °C   | Fluke 724 with Thermocouple<br>PR-CAL-042, PR-CAL-047                                |
| Equipment to Measure and Output Relative Humidity <sup>FO</sup>  | 5 % RH to 95 % RH                           | 1.0 % RH   | Vaisala HMP75<br>Humidity Chamber<br>PR-CAL-023                                      |
| IR Thermometers, Pyrometers <sup>FO</sup>  | 30 °C to 60 °C                              | 1.1 % of reading   | Blackbody Calibrator with PRT<br>Thermometer<br>PR-CAL-039                           |
|  | 60 °C to 100 °C                             | 1.2 % of reading   |  |
|  | 100 °C to 500 °C                            | 1.3 % of reading   |  |



# Certificate of Accreditation: Supplement

## BDC Calibration

Av. Gregorio Luperón #51, Los Restauradores,  
Santo Domingo 10137, República Dominicana  
Contact Name: Mr. Franco Gigliore Phone: 809-338-8888

*Accreditation is granted to the facility to perform the following testing:*

### Time and Frequency

| MEASURED INSTRUMENT,<br>QUANTITY OR GAUGE      | RANGE OR NOMINAL<br>DEVICE SIZE AS<br>APPROPRIATE | CALIBRATION AND<br>MEASUREMENT<br>CAPABILITY EXPRESSED<br>AS AN UNCERTAINTY ( $\pm$ ) | CALIBRATION<br>EQUIPMENT<br>AND REFERENCE<br>STANDARDS USED |
|--|---|---|---|
| Equipment to Output<br>Frequency <sup>FO</sup> | 5 Hz to 99.99 kHz                                 | 0.11 % of reading + 0.02<br>Hz  | Fluke 117<br>PR-CAL-026                                     |
|  | 100 Hz to 999 Hz                                  | 0.11 % of reading + 0.2<br>Hz   |   |
|  | 1 kHz to 9,999 kHz                                | 0.11 % of reading + 2 Hz  |   |
|  | 10 kHz to 99.99 kHz                               | 0.11 % of reading + 20 Hz   |   |
| Stopwatch <sup>FO</sup>                        | 1 hr to 3 hr                                      | 0.12 s  | Master Stopwatch<br>PR-CAL-027                              |
|  | 3 hr to 10 hr                                     | 0.23 s  |   |
| Process timers <sup>FO</sup>                   | 300 s to 9 000 s                                  | 0.13s   |   |

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 FO means that the laboratory performs testing of the indicated parameter both at its fixed location and onsite at customer locations. Example: Outside Micrometer<sup>FO</sup> would mean that the laboratory performs this testing at its fixed location and onsite at customer locations.
4. 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.
5. The term R represents rotational velocity in rpm as appropriate to the uncertainty statement.
6. The term V represents volume in units appropriate to the uncertainty statement.
7. The term Wt represents weight in pounds or grams (including SI multiple and submultiple units) appropriate to the uncertainty statement.
8. The term L represents length in inches or millimeters as appropriate to the uncertainty statement.