



# PERRY JOHNSON LABORATORY ACCREDITATION, INC.

## Certificate of Accreditation

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

***Certified Calibrations, Inc.***  
565-B Frederica Lane, Dunedin, FL 34698

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

**ISO/IEC 17025:2005**  
**& Meets the Requirements of ANSI/NC SL Z540.3-2006**

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 January 2009):

***Dimensional, Electrical, and Mechanical 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 Szerszen  
President/Operations Manager

Perry Johnson Laboratory  
Accreditation, Inc. (PJLA)  
755 W. Big Beaver, Suite 1325  
Troy, Michigan 48084

*Initial Accreditation Date:*

May 29, 2014

*Revision Date:*

July 8, 2015

*Issue Date:*

May 29, 2014

*Accreditation No.:*

74933

*Expiration Date:*

June 30, 2016

*Certificate No.:*

L14-143-R1

*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

## Certified Calibrations, Inc.

565-B Frederica Lane, Dunedin, FL 34698  
 Michael Reed Phone: 727-733-0093

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

### Dimensional

| 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 |
|----------------------------------------|---------------------------------------------|------------------------------------------------------------------------------|----------------------------------------------------|
| Gage Blocks <sup>F</sup>               | 0.1 in to 4 in                              | 6.4 $\mu$ m                                                                  | P&W Lab Master U306617<br>ASME B89-1.2M-1991       |

### 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 |
|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------|----------------------------------------------------|
| Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E <sup>FO</sup>           | -240 °C to -200 °C                          | 0.22 °C                                                                      | Transcat 4669T with Internal CJC<br>EA-10/11       |
|                                                                                                                 | -200 °C to -100 °C                          | 0.22 °C                                                                      |                                                    |
|                                                                                                                 | -100 °C to 850 °C                           | 0.22 °C                                                                      |                                                    |
|                                                                                                                 | 850 °C to 1 000 °C                          | 0.22 °C                                                                      |                                                    |
| Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J <sup>FO</sup>           | -210 °C to -180 °C                          | 0.26 °C                                                                      |                                                    |
|                                                                                                                 | -180 °C to -50 °C                           | 0.26 °C                                                                      |                                                    |
|                                                                                                                 | -50 °C to 500 °C                            | 0.26 °C                                                                      |                                                    |
|                                                                                                                 | 500 °C to 1 200 °C                          | 0.26 °C                                                                      |                                                    |
| Temperature Calibration, Indication and Control Equipment used with Thermocouple Type K <sup>FO</sup>           | -230 °C to -100 °C                          | 0.33 °C                                                                      |                                                    |
|                                                                                                                 | -100 °C to 1 050 °C                         | 0.33 °C                                                                      |                                                    |
|                                                                                                                 | 1050 °C to 1 371.1 °C                       | 0.33 °C                                                                      |                                                    |
| Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T <sup>FO</sup>           | -260 °C to -200 °C                          | 0.33 °C                                                                      |                                                    |
|                                                                                                                 | -200 °C to -50 °C                           | 0.33 °C                                                                      |                                                    |
|                                                                                                                 | -50 °C to 0 °C                              | 0.33 °C                                                                      |                                                    |
|                                                                                                                 | 0 °C to 400 °C                              | 0.33 °C                                                                      |                                                    |
| Temperature Calibration, Indication and Control Equipment used with RTD Type Pt 385 100 $\Omega$ <sup>FO</sup>  | -200 °C to -80 °C                           | 0.12 °C                                                                      | Altek Model 211 RTD Calibrator EA-10/11            |
|                                                                                                                 | -80 °C to 0 °C                              | 0.11 °C                                                                      |                                                    |
|                                                                                                                 | 0 °C to 100 °C                              | 0.12 °C                                                                      |                                                    |
|                                                                                                                 | 100 °C to 630 °C                            | 0.16 °C                                                                      |                                                    |
|                                                                                                                 | 630 °C to 800 °C                            | 0.25 °C                                                                      |                                                    |
| Temperature Calibration, Indication and Control Equipment used with RTD Type Pt 3916 100 $\Omega$ <sup>FO</sup> | -200 °C to -190 °C                          | 0.28 °C                                                                      |                                                    |
|                                                                                                                 | -190 °C to 80 °C                            | 0.11 °C                                                                      |                                                    |
|                                                                                                                 | -80 °C to 0 °C                              | 0.11 °C                                                                      |                                                    |
|                                                                                                                 | 0 °C to 100 °C                              | 0.10 °C                                                                      |                                                    |
|                                                                                                                 | 100 °C to 600 °C                            | 0.14 °C                                                                      |                                                    |
|                                                                                                                 | 600 °C to 630 °C                            | 0.30 °C                                                                      |                                                    |



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### Electrical

| 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 |
|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------|
| Temperature Calibration,<br>Indication and Control<br>Equipment used with RTD<br>Type Pt 3902 100 $\Omega$ <sup>FO</sup> | -190 °C to 80 °C                                  | 0.14 °C                                                                               | Altek Model 211 RTD<br>Calibrator EA-10/11                  |
|                                                                                                                          | -80 °C to 0 °C                                    | 0.14 °C                                                                               |                                                             |
|                                                                                                                          | 0 °C to 260 °C                                    | 0.15 °C                                                                               |                                                             |
|                                                                                                                          | 260 °C to 600 °C                                  | 0.15 °C                                                                               |                                                             |
|                                                                                                                          | 600 °C to 630 °C                                  | 0.21 °C                                                                               |                                                             |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with RTD<br>Type Pt 3926 100 $\Omega$ <sup>FO</sup> | -200 °C to -80 °C                                 | 0.11 °C                                                                               |                                                             |
|                                                                                                                          | -80 °C to 0 °C                                    | 0.11 °C                                                                               |                                                             |
|                                                                                                                          | 0 °C to 100 °C                                    | 0.11 °C                                                                               |                                                             |
|                                                                                                                          | 100 °C to 400 °C                                  | 0.14 °C                                                                               |                                                             |
|                                                                                                                          | 400 °C to 800 °C                                  | 0.16 °C                                                                               |                                                             |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with RTD<br>Type Pt 375 1000 $\Omega$ <sup>FO</sup> | -180 °C to 80 °C                                  | 0.87 °C                                                                               |                                                             |
|                                                                                                                          | -80 °C to 100 °C                                  | 0.82 °C                                                                               |                                                             |
|                                                                                                                          | 100 °C to 200 °C                                  | 0.82 °C                                                                               |                                                             |
|                                                                                                                          | 200 °C to 275 °C                                  | 0.82 °C                                                                               |                                                             |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with RTD<br>Type Cu 4274 10 $\Omega$ <sup>FO</sup>  | -200 °C to -80 °C                                 | 0.82 °C                                                                               |                                                             |
|                                                                                                                          | -80 °C to 0 °C                                    | 0.82 °C                                                                               |                                                             |
|                                                                                                                          | 0 °C to 100 °C                                    | 0.82 °C                                                                               |                                                             |
|                                                                                                                          | 100 °C to 200 °C                                  | 0.82 °C                                                                               |                                                             |
|                                                                                                                          | 200 °C to 250 °C                                  | 0.82 °C                                                                               |                                                             |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with RTD<br>Type Ni 672 120 $\Omega$ <sup>FO</sup>  | -80 °C to 0 °C                                    | 0.12 °C                                                                               |                                                             |
|                                                                                                                          | 0 °C to 100 °C                                    | 0.12 °C                                                                               |                                                             |
|                                                                                                                          | 100 °C to 275 °C                                  | 0.12 °C                                                                               |                                                             |
|                                                                                                                          | 275 °C to 315 °C                                  | 0.17 °C                                                                               |                                                             |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with RTD<br>Type Ni 5801 110 $\Omega$ <sup>FO</sup> | -100 °C to 0 °C                                   | 0.13 °C                                                                               |                                                             |
|                                                                                                                          | 0 °C to 100 °C                                    | 0.12 °C                                                                               |                                                             |
|                                                                                                                          | 100 °C to 275 °C                                  | 0.13 °C                                                                               |                                                             |
|                                                                                                                          | 275 °C to 315 °C                                  | 0.19 °C                                                                               |                                                             |



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### Mechanical

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| Pressure Gages <sup>FO</sup>           | 0.15 psi to 36 psi                          | 0.05 psi                                                                     | Omega PCL 33<br>ASME B40.1                         |
|                                        | 15 psi to 3 000 psi                         | 4.1 psi                                                                      |                                                    |
| Vacuum Gages <sup>F</sup>              | -28 inHg to -0.25 inHg                      | 0.08 inHg                                                                    |                                                    |
| Torque Tools <sup>F</sup>              | 5 ozf•in to 50 ozf•in                       | 0.12 ozf•in                                                                  | Ametek TC 6000-1<br>ASME B107.14-1994              |
|                                        | 5 lbf•in to 50 lbf•in                       | 0.12 lbf•in                                                                  | Ametek TC 6000-12<br>ASME B107.14-1994             |
|                                        | 87 lbf•in to 870 lbf•in                     | 2.1 lbf•in                                                                   | McMecmecin TWC-3<br>ASME B107.14-1994              |

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 F means that the laboratory performs calibration of the indicated parameter at its fixed location. Example: Outside Micrometer<sup>F</sup> would mean that the laboratory performs this calibration at its fixed location.
4. 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<sup>FO</sup> would mean that the laboratory performs this calibration at its fixed location and onsite at customer locations.
5. 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.