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 17025:2017
& Meets the Requirements of ANSI/NCSL Z540

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, 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

Initial Accreditation Date:	*Issue Date:*	*Expiration Date:*
May 29, 2014	June 26, 2022	September 30, 2024

Accreditation No:	*Certificate No:*
74933	L22-465

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.pjlabs.com

Certificate of Accreditation: Supplement

Certified Calibrations, Inc.
565-B Frederica Lane, Dunedin, FL 34698
Contact Name: Ms. Jenny 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 (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Gage Blocks [F]	0.1 in to 4 in	6.4 µin	P&W Lab Master U306617 Grand Master Gage Block Set Federal Grade 1 ASME B89-1.2M

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E [FO]	-240 ˚C to -200 °C	0.22 °C	Altek 322-1 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 [FO]	-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 [FO]	-230 ˚C to -100 °C	0.33 °C	
	-100 ˚C to 1 050 °C	0.33 °C	
	1 050 ˚C to 1 371.1 °C	0.33 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type T [FO]	-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 100Ω [FO]	-200 ˚C to -80 °C	0.12 ˚C	Altek Model 211 RTD 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 100Ω [FO]	-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

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Temperature Calibration, Indication and Control Equipment used with RTD Type Pt 3902 100Ω FO	-190 ˚C to 80 °C	0.14 °C	Altek Model 211 RTD 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, Indication and Control Equipment used with RTD Type Pt 3926 100Ω FO	-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	
	800 ˚C to 860 °C	0.20 °C	
Temperature Calibration, Indication and Control Equipment used with RTD Type Pt 375 1000Ω FO	-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, Indication and Control Equipment used with RTD Type Cu 4274 10Ω FO	-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, Indication and Control Equipment used with RTD Type Ni 672 120Ω FO	-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, Indication and Control Equipment used with RTD Type Ni 5801 110Ω FO	-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 [FO]	0.15 psi to 36 psi	0.05 psi	Omega PCL 33 or Crystal is33 ASME B40.1
	15 psi to 3 000 psi	4.1 psi	
Vacuum Gages [F]	-28 inHg to -0.25 inHg	0.08 inHg	
Torque Tools [F] (Hand Torque Tools and Torque Testers)	5 ozf•in to 50 ozf•in	0.12 ozf•in	Ametek TC 6000-1 Florida Eagle 5.9687 Torque Wheel 1 g to 2kg Class F Test Weights 101 lbs. Class 6 weight Set ASME B107.300
	5 lbf•in to 50 lbf•in	0.12 lbf•in	Ametek TC 6000-12 Florida Eagle 5.9687 Torque Wheel 1 g to 2kg Class F Test Weights 101 lbs. Class 6 weight Set ASME B107.300
	10 lbf•in to 100 lbf•in	0.12 lbf•in	Ametek TC 6000-16 Florida Eagle 5.9687 Torque Wheel 1 g to 2kg Class F Test Weights 101 lbs. Class 6 weight Set ASME B107.300
	101 lbf•in to 1 000 lbf•in	2.1 lbf•in	CDI 10002-I-DTT Florida Eagle 5.9687 Torque Wheel 1 g to 2kg Class F Test Weights 101 lbs. Class 6 weight Set ASME B107.300

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

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3. common practice in the procedure for many calibrations but by its definition it does not constitute calibration of zero capacity.

4. 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.

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.