



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Environmental Test Systems, Inc.
209 Turner Avenue, Berthoud, CO 80513

(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 January 2009):

***Laboratory & Field Calibration of Electrical, Mechanical,
& Thermodynamic 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:

Initial Accreditation Date:

April 12, 2009

Issue Date:

April 24, 2017

Expiration Date:

August 31, 2019

Accreditation No:

64265

Certificate No:

L17-168

Tracy Szerszen
President/Operations Manager

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.pjllabs.com



Certificate of Accreditation: Supplement

Environmental Test Systems, Inc.

209 Turner Avenue, Berthoud, CO 80513
 Contact Name: Scott Ohde Phone: 970-532-3144

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

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 Output DC Voltage ^{FO}	100 mV	0.123 mV	Fluke 754	
	1 V	0.016 V		
	15 V	0.016 V		
Equipment to Measure DC Voltage ^{FO}	100 mV	0.052 V		
	3 V	0.001 3 V		
	30 V	0.001 4 V		
Equipment to Measure DC Current ^{FO}	30 mA	0.031 mA		
Equipment to Output DC Current ^{FO}	21 mA	0.059 mA		
Temperature Calibration, Indication, and Control Equipment used with RTD Pt 385, 100 Ω ^{FO}	-199 °C to 800 °C	0.14 °C		Electrical Simulation of RTD Output Fluke 754
	-199 °C to 630 °C	0.14 °C		
Temperature Calibration, Indication and Control Equipment, used with Thermocouple Type J ^{FO}	-199 °C to -100 °C	0.37 °C	Electrical Simulation of Thermocouple Output Fluke 754	
	-100 °C to 800 °C	0.27 °C		
	800 °C to 1 200 °C	0.37 °C		
Temperature Calibration, Indication and Control Equipment, used with Thermocouple Type K ^{FO}	-199 °C to -100 °C	0.48 °C		
	-100 °C to 1 370 °C	0.37 °C		
Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type T ^{FO}	-250 °C to -200 °C	1.1 °C		
	-200 °C to 0 °C	0.48 °C		
	0 °C to 400 °C	0.38 °C		
Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type B ^{FO}	600 °C to 800 °C	1.2 °C		
	800 °C to 1 820 °C	0.94 °C		
Temperature Calibration, Indication, and Control Equipment used with Thermocouple Type R ^{FO}	0 °C to 100 °C	1.3 °C		
	0 °C to 1 767 °C	1.1 °C		



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

Mechanical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Pressure ^{FO}	-14 psi to 200 psi	0.15 psi	Fluke 754 with Fluke 700 PD7

Thermodynamic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Equipment to Measure Humidity ^{FO}	5 % RH to 95 % RH	0.95 % of RH of range	Vaisala HMP77/HMI70
Equipment to Measure Temperature ^{FO}	-70 °C to 170 °C	0.18 °C	Vaisala HMP77/HMI70 Fluke 754
Equipment to Measure Temperature ^{FO}	-200 °C to 600 °C	0.15 °C	Fluke 5609-12/ 1502A
Equipment to Measure Temperature ^{FO}	35 °C to 375 °C	0.15 °C	Fluke 9100S Dry Block Calibrator

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 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.
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.