



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Precision Weighing, Inc.
1949 Evans Rd, Cary, NC 27513

(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):

Field & Laboratory Calibration of Weighing Devices & Pipettes
(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: *Issue Date:* *Expiration Date:*
May 19, 2012 March 10, 2016 June 30, 2018

Tracy Szerszen
President/Operations Manager

Accreditation No.: *Certificate No.:*
67071 L16-105

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



Certificate of Accreditation: Supplement

Precision Weighing, Inc.

1949 Evans Road, Cary, NC 27513
Tom Shamblee Phone: 919-678-0077

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

Mechanical

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
Pipettes ^{FO}	0.5 μ L to 2 μ L	0.042 μ L	Gravimetric Analysis
	2 μ L to 10 μ L	0.083 μ L	
	4 μ L to 20 μ L	0.059 μ L	
	20 μ L to 100 μ L	0.36 μ L	
	40 μ L to 200 μ L	0.65 μ L	
	200 μ L to 1 000 μ L	2.7 μ L	
	1 000 μ L to 5 000 μ L	5.3 μ L	
	2 mL to 10 mL	6.9 μ L	

Weighing Devices

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
Microbalance ^{FO} Resolution 0.000 000 1 g	1 mg to 2 g	0.004 982 mg	Class 1 Weights
Microbalance ^{FO} Resolution 0.000 001 g	1 mg to 5 g	0.008 498 mg	
Semi-Micro Balance ^{FO} Resolution 0.000 01 g	1 mg to 210 g	0.000 130 g	
Analytical Balance ^{FO} Resolution 0.000 1 g	1 mg to 235 g	0.000 153 g	
Top- Landing ^{FO} Resolution 0.001 g	1 mg to 620 g	0.001 729 g	
Top Loading ^{FO} Resolution 0.01 g	10 mg to 6 200 g	0.010 390 g	
Top Loading ^{FO} Resolution 0.1 g	100 mg to 34 000 g	0.113 891 g	
Platform Scale ^{FO} Resolution 1 g	1 g to 34 000 g	0.632 572 g	
Platform Scale ^{FO} Resolution 50 g	50 g to 150 kg	31.667 552 g	Class 4 Weights Class F Weights



Certificate of Accreditation: Supplement

Precision Weighing, Inc.

1949 Evans Road, Cary, NC 27513
Tom Shamblee Phone: 919-678-0077

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

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^F would mean that the laboratory performs this calibration at its fixed location.
4. The presence of a superscript O means that the laboratory performs calibration of the indicated parameter onsite at customer locations. Example: Outside Micrometer^O would mean that the laboratory performs this calibration onsite at the customer's 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.



Certificate of Accreditation: Supplement

Precision Weighing, Inc.

1949 Evans Road, Cary, NC 27513
Tom Shamblee Phone: 919-678-0077

Accreditation is granted to the facility to perform the following calibrations

7. The term D represents diameter in inches or millimeters as appropriate to the uncertainty statement.
8. The term DL represents diagonal length in inches or millimeters as appropriate to the uncertainty statement.

Note that Diameter and Diagonal both use the same designation "D". This is not a problem unless a laboratory is accredited for both however the usage is common and should be retained when possible and modified in the few cases where a laboratory is accredited for both. In those cases continue to use D for diameter and use DL for Diagonal Length. This note is intended for internal office use only and is to be removed during preparation of draft documents.

9. The term L represents length in inches or millimeters as appropriate to the uncertainty statement.
10. The term P represents pressure in units appropriate to the uncertainty statement.
11. The term R represents radius in inches or millimeters as appropriate to the uncertainty statement.
12. The term T represents temperature in °C or °F as appropriate to the uncertainty statement.
13. The term T represents torque in N•m (including SI multiple and submultiple units) for the international system of units (the SI) or ozf•in, lbf•in and lbf•ft for the USC system of units.

Note that temperature and torque both use the same designation "T". This is not a problem unless a laboratory is accredited for both however the usage is common and should be retained when possible and modified in the few cases where a laboratory is accredited for both. In those cases continue to use T for temperature and use Tr for torque. This note is intended for internal office use only and is to be removed during preparation of draft documents.

14. The term Wt represents weight in pounds or grams (including SI multiple and submultiple units) appropriate to the uncertainty statement.
15. The term "X" preceded by a number represents the number of times a lense system magnifies an image relative to its actual size. CMC stated as "% of magnification" represents the CMC of magnification expressed as a percentage of the total magnification.