



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Quality Comparator Service
1316 Yellowood Court, Rock Hill, SC 29732

(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 April 2017):

***Calibration of Digital and Mechanical Optical Comparators,
Vision Measuring Systems and Microscopes***
(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

Initial Accreditation Date:

February 5, 2010

Issue Date:

April 12, 2018

Expiration Date:

April 12, 2020

Extension Date:

April 30, 2020

Accreditation No.:

59166

Certificate No.:

L18-174

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

Quality Comparator Service

1316 Yellowood Court, Rock Hill, SC
 Contact Name: Kevin Winsch Phone: 803-329-5123

Accreditation is granted to the facility to 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
Optical Comparator Linear X & Y ^o	1.27 mm to 304.88 mm (0.05 in to 12 in)	13 μ m (494 μ in)	Glass Master
Squareness of X axis to Y axis ^o	Horizontal displacement in μ m at 3 in Y axis travel	51 μ m	
Magnification ^o	5X	0.02X	
	10X	0.02X	
	20X	0.02X	
	25X	0.01X	
	31.25X	0.01X	
	50X	0.01X	
	62.5X	0.01X	
	100X	0.01X	
200X	0.01X		
Vision Measuring System Linear X & Y ^o	1.27 mm to 304.88 mm (0.05 in to 12 in)	13 μ m (494 μ in)	Gage Blocks
Squareness of X axis to Y axis ^o	Horizontal displacement in μ m at 3 in Y axis travel	51 μ m	
Linear Z ^o	25.4 mm to 177 mm (1 in to 7 in)	13 μ m (510 μ in)	Glass Master
Microscope Linear X & Y ^o	1.27 mm to 304.88 mm (0.05 in to 12 in)	12 μ m (462 μ in)	

1. The CMC (Calibration and Measurement Capability) stated for calibrations included on this scope of accreditation represent the smallest measurement uncertainties attainable by the laboratory when performing a more or less routine calibration of a nearly ideal device under nearly ideal conditions. It is 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 ^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.



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Accreditation is granted to the facility to the following calibrations:

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 "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.

