



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Willrich Precision Instrument Company
80 Broadway, Cresskill, NJ 07626

*(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):

Dimensional 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:

Initial Accreditation Date:

October 09, 2017

Issue Date:

October 09, 2017

Expiration Date:

January 31, 2020

Accreditation No.:

93289

Certificate No.:

L17-426

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

Willrich Precision Instrument Company

80 Broadway, Cresskill, NJ 07626

Contact Name: George Chitos Phone: 201-567-1411

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
Optical Comparators ^o XY Linearity	Up to 12"	100 μ m + 7.27 μ m/in	Glass Scale (Lengths, Diameters, Angles, and Magnification) and WPI_OC13
Vision Systems ^o X, Y, & Z	15" x 15" (381mm x 381mm)	100 μ m + 8.47 μ m/in	Glass Scales and Work Instructions WPI_VS13
Dimensional Measurement Inspection Fixtures, Functional Fit Gages, & Customer parts inspected per Print ^F	20" x 28" x 15" (CMM Volume)	350 μ m + 1.04 μ m/in	Coordinate Measuring Machine and WPI777

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
Indirect Verification of Rockwell and Rockwell Superficial Hardness Testers ^o	60 HRA to 70 HRA	0.27 HRA	Indirect verification per ASTM Designation E18-16, Willrich Precision WI: WPI_HR13 and Hardness Test Block Masters
	70 HRA to 80 HRA	0.17 HRA	
	80 HRA to 90 HRA	0.15 HRA	
	40 HRBW to 60 HRBW	0.36 HRBW	
	60 HRBW to 80 HRBW	0.26 HRBW	
	80 HRBW to 90 HRBW	0.38 HRBW	
	20 HRC to 40 HRC	0.41 HRC	
	40 HRC to 60 HRC	0.32 HRC	
	660 HRC to 70 HRC	0.31 HRC	
	70 HR15N to 75 HR15N	0.43 HR15N	
	75 HR15N to 85 HR15N	0.41 HR15N	
	85 HR15N to 95 HR15N	0.50 HR15N	
	40 HR30N to 60 HR30N	0.35 HR30N	
60 HR30N to 75 HR30N	0.46 HR30N		
75 HR30N to 85 HR30N	0.54 HR30N		

- 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.



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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. 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.