



# PERRY JOHNSON LABORATORY ACCREDITATION, INC.

## Certificate of Accreditation

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

### ***Quality Control Solutions, Inc.***

**43339 Business Park Drive, Suite #101, Temecula, CA 92590**

*(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 Mass 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:*

March 26, 2007

*Issue Date:*

December 29, 2017

*Expiration Date:*

December 31, 2019

*Accreditation No.:*

59397

*Certificate No.:*

L17-563

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.pjilabs.com](http://www.pjilabs.com)*



# Certificate of Accreditation: Supplement

## Quality Control Solutions, Inc.

43339 Business Park Drive, Suite #101, Temecula, CA 92590  
 Contact name: Louis Todd Phone: 951-676-1616

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
Dial Indicator <sup>FO</sup>	Up to 2 in	(79 + 7L) $\mu$ in	Comparison to Gage Blocks, Vision System
Height Gages <sup>FO</sup>	Up to 60 in	(562 + 20L) $\mu$ in	
Calipers <sup>FO</sup>	Up to 36 in	(340 + 39L) $\mu$ in	
ID Micrometer <sup>FO</sup>	1.5 in to 12 in	(98 + 12L) $\mu$ in	
Depth Micrometer <sup>FO</sup>	Up to 12 in	(96 + 9L) $\mu$ in	
OD Micrometer <sup>FO</sup>	Up to 4 in	(53 + 6L) $\mu$ in	
	4 in to 12 in	(68 + 8L) $\mu$ in	
Laser Micrometer <sup>FO</sup>	0.01 in to 1 in	33 $\mu$ in	Master Pins
	0.01 in to 2 in	49 $\mu$ in	
Plain Plug Gages <sup>FO</sup>	0.01 in to 2 in	(30 + 5D) $\mu$ in	Laser Micrometer
Linear Graduated Glass Stages (Error of indication) <sup>FO</sup>	0.000 01 in to 24 in	(90 + 16L) $\mu$ in	Vision System, Laser
Pin Gages <sup>FO</sup>	0.01 in to 2 in	(30 + 5D) $\mu$ in	Laser Micrometer
Optical Comparator <sup>FO</sup>	Stage travel: Up to 24 in Magnification: 5, 10, 20, 25, 31, 0.25, 50, 62.5, 100, 200 x	(130 + 15L) $\mu$ in  0.005 % of Magnification	Glass Scale/Mag Scale/ Glass Grid or Laser
Vision <sup>FO</sup>	Up to 96 in each axis	(14 + 17L) $\mu$ in	
Microscopes Tool Makers Scopes Measuring Scopes <sup>FO</sup>	Magnification 0.3 x to 2 500 x Stage travel Up to 24 in	0.005 % of Magnification  (14 + 17L) $\mu$ in	
Feeler Gages <sup>FO</sup>	0.001 in to 0.2 in	26 $\mu$ in	Vision System with Probe
Radius Gage <sup>FO</sup>	0.01 in to 1 in	(95 + 10R) $\mu$ in	Vision System
Squares <sup>FO</sup>	0.01 in to 12 in	130 $\mu$ in	
Gage Blocks <sup>FO</sup>	0.1 in to 8 in	(2 + 3L) $\mu$ in	Comparison to Gage Blocks
CMM Linear Accuracy <sup>FO</sup>	Up to 120 in	(41 + 10L) $\mu$ in	Laser/Scale, Ball Bar
Surface Plates - Flatness <sup>FO</sup>	4 in to 96 in	(81 + 1.3L) $\mu$ in	Autocollimator, Electronic level, Laser
Surface Plates - Repeat Reading <sup>FO</sup>	0.002 in	26 $\mu$ in	Repeat-o-Meter
Rules / Scales <sup>FO</sup>	0.1 in to 96 in	0.029 $\mu$ in	Vision System
Ring Gage (Plain) <sup>FO</sup>	0.2 in to 10 in	(54 + 5L) $\mu$ in	Vision / Touch Probe
Universal Length Measuring - ID <sup>FO</sup>	Up to 120 in	(7 + 5L) $\mu$ in	Gage Blocks & Laser
Universal Length Measuring - OD <sup>FO</sup>			



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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
Machining Center			
Linear Accuracy <sup>FO</sup>	Up to 120 in	(0.3+1.4L) $\mu$ in	Laser
Straightness <sup>FO</sup>	Up to 120 in	(0.3 + 0.3L) $\mu$ in	Laser
Flatness <sup>FO</sup>	Up to 120 in	(26 + 0.3L) $\mu$ in	Electronic Levels
Squareness <sup>FO</sup>	0.000 1 in to 0.01 in	(10 + 0.12L) $\mu$ in	Laser
Positional Capability (combined XYZ axis) <sup>FO</sup>	0.000 01 in to 0.01 in	(1.5 + 0.36L) $\mu$ in	ISO 230-2, ASME B5.54, 7.3; B5.57, 8.4
Spindle Analysis			
Total Error <sup>FO</sup>	0.000 01 in to 0.01 in	(3.5 + 0.36L) $\mu$ in	ASME B89.3.4 Turning: ISO 230-7, 5.5; ASME B5.57, 7.5.3; Milling: ISO 230-7, 5.4; ASME B5.54, 7.5.3; ASME B5.57, 7.6.4
Synchronous (Roundness) <sup>FO</sup>	0.000 01 in to 0.01 in	(3.5 + 0.36L) $\mu$ in	Turning: ISO 230-7, 5.5; ASME B5.57, 7.5.3 Milling: ISO 230-7, 5.4; ASME B5.54, 7.5.3; ASME B5.57, 7.6.4
Asynchronous (Surface Roughness) <sup>FO</sup>	0.000 01 in to 0.01 in	(3.5 + 0.36L) $\mu$ in	ASME: B89-3-4, A-7.3 • Turning: ISO 230-7, 5.5; ASME B5.57, 7.5.3 • Milling: ISO 230-7, 5.4; ASME B5.54, 7.5.3; ASME B5.57, 7.6.4



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

### Mass Force and 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
Class 1, Scales <sup>FO</sup>	1 mg to 200 g	$(1.16 \times 10^{-3} + 3.00 \times 10^{-3} \text{ Wt}) \text{ g}$	ASTM Class 1 weights
Class 2, Scales <sup>FO</sup>	1 mg to 500 g	$(1.16 \times 10^{-3} + 2.73 \times 10^{-3} \text{ Wt}) \text{ g}$	ASTM Class 1 weights
Class 3, Scales <sup>FO</sup>	0.001 lb to 50 lb	$(1.16 + 2.73 \times 10^{-5} \text{ Wt}) \text{ lb}$	Class F NIST weights
Force Gauge/ Load Cells <sup>FO</sup>	01 gf to 50 gf	0.01% full scale	ASTM Class 1 weights
	0.02 gf to 100 gf	0.02% full scale	
	0.05 gf to 250 gf	0.04% full scale	
	0.2 gf to 1 000 gf	0.05% full scale	
	0.001 lb to 5 lb	0.03% full scale	NIST Class F
	0.01 lb to 50 lb	0.06% full scale	
	0.1 lb to 500 lb	0.09% full scale	Master Load Cell
	0.5 lb to 1 000 lb	0.11% full scale	
1 lb to 1 500 lb	0.50% full scale		

- 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.
- 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.
- The term L represents length in inches or millimeters appropriate to the uncertainty statement.
- The term D represents diameter in inches or millimeters appropriate to the uncertainty statement.
- The term R represents radius in inches or millimeters appropriate to the uncertainty statement.
- The term Wt represents weight in grams or pounds appropriate to the uncertainty statement.
- 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<sup>FO</sup> would mean that the laboratory performs this calibration at its fixed location and onsite at customer locations.