PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Acro Instrument Company

1121 Coolidge Ave. National City, CA 91950

(Hereinafter called the Organization) and hereby declares that Organization is accredited

ISO/IEC 17025:2017

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):

Chemical, Dimensional, Electrical, Mechanical, Thermodynamic and Mass, Force, and Weighing Devices 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:

Tracy Szerszen
President

Perry Johnson Laboratory Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325
Troy, Michigan 48084

Initial Accreditation Date:	*Issue Date:*	*Expiration Date:*
September 06, 2021	September 08, 2023	November 30, 2025
Revision Date:	*Accreditation No.:*	*Certificate No.:*
September 17, 2024	80432	L23-671-R1

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.pjlabs.com

Certificate of Accreditation: Supplement

Acro Instrument Company
1121 Coolidge Ave. National City, CA 91950
Contact Name: Mr. Randy Penrose Phone: 619-474-7068

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

Chemical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Gas Detector [FO]	Hydrogen Sulfide 25 ppm (H2S)	0.2 % of Reading	Ideal Calibration Gas 58DAL-0063	A.I. 21A1-5-001-1
	Carbon Monoxide 100 ppm (CO)			
	Methane 50% (LEL)			
	Oxygen 18% (O2)			
	Nitrogen Balance (N)			
	Isobutylene 100 ppm (C4H8)		Nor Lab P1055100PA	
Conductivity Meter [FO]	0.56 µS	0.62 µS/cm	Certified Conductivity Reference Solutions A.I.	21A1-10-001-1
	9.12 µS	0.62 µS/cm		
	1 411 µS	4.6 µS/cm		
pH Tester [FO]	4.01 pH	0.03 pH	Certified pH Reference Solutions	A.I. 21A1-10-002-
	7.00 pH	0.03 pH		
	10.01 pH	0.05 pH		

Dimensional

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Calipers Vernier, Dial [FO]	Up to 12 in	(385 + 3.46 L) µin	Gage Block Set Standard Rod Set Setting Ring Gage Surface Plate	33K6-4-552-1
	12 to 36 in	(1.97 + 6.67 L) µin		
Calipers – Digital [FO]	Up to 12 in	(88 + 1.46 L) µin		
	12 to 36 in	(1.97 + 6.67 L) µin		
Height Gauges – Vernier, Dial [FO]	Up to 12 in	(585 + 2.14 L) µin		33K6-4-3445-1
	12 to 36 in	(1.97 + 6.67 L) µin		
Height Gauges – Digital [FO]	Up to 12 in	(124 + 3.74 L) µin		
	12 to 36 in	(1.97 + 6.67 L) µin		
Indicators – Dial [FO]	Up to 4 in	(389 + 3.34 L) µin	Gage Block Set Surface Plate	33K6-4-889-1
Indicators – Digital [FO]		(116 + 4.62 L) µin		
Micrometers [FO]	Up to 12 in	(8.25 + 1.38 L) µin	Gage Block Set Standard Rod Set Surface Plate	33K6-4-15-1
	12 in to 36 in	(1.97 + 6.67 L) µin		
Dial Calipers [FO]	Up to 12 in	(385 + 3.46 L) µin	Gage Blocks Setting Ring Gage	33K6-4-552-1
Digital Calipers [FO]		(88 + 1.46 L) µin		

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

Electrical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Equipment to Output AC Voltage [FO] (45 Hz to 1 kHz)	Up to 33 mV	0.021 % of Reading	Fluke 5080A	A.I. 21A1-4-001-1
	33 mV to 330 mV	0.03 % of Reading		
	Up to 3.3 V	0.27 % of Reading		
	3.3 V to 33 V	0.015 % of Reading		
	33 V to 102 V	0.021 % of Reading		
	102 V to 330 V	0.035 % of Reading		
	330 V to 1 020 V	0.028 % of Reading		
Equipment to Output DC Voltage [FO]	Up to 330 mV	0.027 % of Reading		
	330 mV to 3.3 V	0.036 % of Reading		
	3.3 V to 33 V	0.039 % of Reading		
	10 V to 102 V	0.019 % of Reading		
	30 V to 330 V	0.03 % of Reading		
	330 V to 1 020 V	0.003 % of Reading		
Equipment to Output AC Current [FO] (45 Hz to 1 kHz)	Up to 330 µA	0.1 % of Reading		
	.33 mA to 3.3 mA	0.064 % of Reading		
	3.3 mA to 33 mA	0.003 7 % of Reading		
	33 mA to 330 mA	0.003 2 % of Reading		
	0.33 A to 3 A	0.01 % of Reading		
	3.3 A to 20.5 A	0.076 % of Reading		
Equipment to Output DC Current [FO]	Up to 330 µA	0.01 % of Reading		
	330 µA to 3.3 mA	0.003 % of Reading		
	3.3 mA to 33 mA	0.045 % of Reading		
	33 mA to 330 mA	0.002 % of Reading		
	.33 A to 3 A	0.031 % of Reading		
	3 A to 20.5 A	0.075 % of Reading		
Equipment to Output Resistance [FO]	Up to 190 Ω	0.063 % of Reading		
	1 kΩ to 190 kΩ	0.089 % of Reading		
	1 MΩ to 190 MΩ	0.058 % of Reading		
Equipment to Measure DC Voltage [FO]	Up to 1 000 mV	0.001 3 % of Reading	Fluke 45	
	3 V to 30 V	0.006 6 % of Reading		
	300 V to 1 000 V	0.009 7 % of Reading		
Equipment to Measure AC Voltage [FO] (45 Hz to 1 kHz)	Up to 300 mV	0.2 % of Reading		
	3 V to 30 V	0.028 % of Reading		
	300 V to 750 V	0.011 % + 0.22 V		

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Electrical

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Equipment to Measure Resistance [FO]	Up to 300 Ω	0.13 % of Reading	Fluke 45	A.I. 21A1-4-001-1
	300 Ω to 3 kΩ	0.003 7 % of Reading		
	30 kΩ to 300 kΩ	0.013 % of Reading		
	3 MΩ to 300 MΩ	0.044 % of Reading		
Equipment to Measure AC Current [FO] 45 Hz to 1 kHz	Up to 30 mA	0.014 % of Reading		
	30 mA to 100 mA	0.017 % of Reading		
	1 A to 10 A	0.11 % of Reading		
Equipment to Measure DC Current [FO]	Up to 30 mA	0.000 34 % of Reading		
	30 mA to 100 mA	0.018 % of Reading		
	1 A to 10 A	0.069 % of Reading		

Mechanical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Vacuum Gauge [FO]	-30 inHg to 0 psi	0.011 % of Reading	Ametek IS33	A.I. 21A1-1-002-1
Pressure Gauge [FO]	Up to 36 psi	0.011 % of Reading		A.I. 21A1-1-001-1
	36 psi to 5 000 psi	0.035 % of Reading		
	1 000 psig to 10 000 psig	0.015 % + 0.66 psig	Fluke 700G31	
	10 000 psig to 30 000 psig	0.043 % + 9.00 psig	Additel ADT680	
Differential Pressure Gauge [FO]	Up to 36 psi	0.011 % of Reading	Ametek IS33	A.I. 21A1-1-004-1
	36 psi to 5 000 psi	0.035 % of Reading		
Torque Wrench [FO]	30 lbf·ft to 600 lbf·ft	0.81 % + 0.14 lbf·ft	Digitool Solutions SPT-6004	A.I. 21A1-2-001-1
	600 lbf·ft to 2000 lbf·ft	0.63 % of Reading	AWS QCMF-2000	

Thermodynamic

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Temperature Sensor [FO]	50 °C to 650 °C	0.001 7 % + 0.51°C	Fluke 9141	A.I. 21A1-3-001-1
Infrared Thermometer [FO]	122 °F to 932 °F	0.34 % + .09 °F	Reed BX-500	A.I. 21A1-3-002-1
Temperature Sensor/Indicator [FO]	-200 °C to 1 370 °C	0.038 % + 0.1 °C	Fluke 724	A.I. 21A1-3-001-1
Environmental Chambers [FO]	-40 °F to 169 °F	0.28 % + 0.01 °F	Onset Hobo UX100-003	
	Up to 99 % RH	2.7 % of Reading+0.15 %		

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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 (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Balances [FO]	1 g to 180 g	0.01 % + 0.000 5 g	Class 7 Weights	NAVAIR 17-20MM-18

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.

4. The presence of a superscript O means that the laboratory performs calibration of the indicated parameter onsite at customer locations.

1. 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.