



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

S&J Carolina Scale Company
1236 Barkley Rd, Statesville, NC 28677

(Hereinafter called the Organization) and hereby declares that Organization is accredited in accordance with the recognized International Standard:

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):

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

	<i>Initial Accreditation Date:</i>	<i>Issue Date:</i>	<i>Expiration Date:</i>
<u>draft</u>	May 13, 2016	January 13, 2021	February 28, 2023
	<i>Accreditation No.</i>	<i>Certificate No.:</i>	
Tracy Szerszen President	91017	L21-15	

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

S&J Carolina Scale Company
 1236 Barkley Road, Statesville, NC 28677
 Contact Name: Kirk Lawton Phone: 704-838-6767

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
Calipers ^{FO}	0.005 in to 12 in	900 μ in	Gage Blocks AS1 SJC-010
	12 in to 36 in		
Micrometers ^{FO}	0.000 5 in to 24 in	90 μ in	
Dial & Digital Indicators ^{FO}	0.1 in to 1 in	95 μ in	
Height Gages ^{FO}	0.1 in to 24 in	900 μ in	Gage Block Set Surface Plate
Rules & Tapes ^{FO}	Up to 24 in	0.005 5 in	Gage Block AS1 SJC-018

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
Top Loaders ^{FO}	0.05 g to 20 kg (Res. = 0.01 g)	$(5.8 \times 10^{-3} + 2.22 \times 10^{-5} \text{Wt})$ kg	NIST Handbook 44 & Class F Weights
Bench Scales ^{FO}	0.001 lb to 10 lb (Res = 0.001 lb)	$(1.2 \times 10^{-3} + 4.72 \times 10^{-5} \text{Wt})$ lb	
	0.01 lb to 100 lb (Res = 0.01 lb)	$(1.16 \times 10^{-2} + 4.72 \times 10^{-5} \text{Wt})$ lb	
Floor Scales ^{FO}	2 lb to 2 000 lb (Res. = 0.5 lb)	$(5.77 \times 10^{-1} + 2.23 \times 10^{-5} \text{Wt})$ lb	
	2 lb to 5 000 lb (Res = 0.5 lb)	$(5.77 \times 10^{-1} + 4.78 \times 10^{-5} \text{Wt})$ lb	
	8 lb to 10 000 lb (Res = 2 lb)	$(2.309 2 + 2.73 \times 10^{-5} \text{Wt})$ lb	
	20 lb to 20 000 lb (Res = 5 lb)	$(5.773 1 + 2.23 \times 10^{-5} \text{Wt})$ lb	
Crane Scale ^{FO}	20 lb to 30 000 lb	$(1.15 + 8.35 \times 10^{-5} \text{Wt})$ lb	
Weighing Devices ^{FO}	0.0001 g to 350 g	$(2.00 \times 10^{-4} + 5.22 \times 10^{-6} \text{Wt})$ g	ASTM Class 2 Weights ASTM 898-13



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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
Pressure Gauges ^{FO}	5 psi to 2 500 psi	1.1 psi	Additel 680 10 K Pressure Gauge SJC-015
	2 500 psi to 5 000 pdi	1.2 psi	
	5 000 psi to 7 500 psi	1.3 psi	
	7 500 psi to 10 000 psi	1.4 psi	
Torque Wrenches ^{FO}	5 lbf-in to 150 lbf-in	1.2 % of reading	Snap-on TBT 600 150 lbf in Transducer 100 lbf. ft. transducer 600 lbf. ft. transducer
	5 lbf-ft to 100 lbf-ft	0.94 % of reading	
	100 lbf-ft to 600 lbf-ft	1.2 % of reading	
Tension and Compression ^{FO}	1 lbf to 1 000 lbf	0.22 lbf	S-Type Load Cell

Electrical

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
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type E ^{FO}	-200 °C to 0 °C	0.62 °C	Tegam 855 Thermometer/Calibrator SJC-019
	0 °C to 400 °C	0.61 °C	
Temperature Calibration, Indication and Control Equipment used with Thermocouple Type J ^{FO}	-200 °C to 0 °C	0.61 °C	Tegam 855 Thermometer/Calibrator SJC-019
	0 °C to 800 °C	0.62 °C	

Thermodynamic

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
LIG & Digital Thermometers Thermocouples ^{FO}	-20 °C to 420 °C	0.25 °C	Azonix Digital thermometer w/ Burns Engineering RTD Probe3925 NESLAB Endocal Bath Tegam 855 K, J, T, E
	-200 °C to 1372 °C	0.30 °C	



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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 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.
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 Wt represents weight in pounds or grams (including SI multiple and submultiple units) appropriate to the uncertainty statement.