PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Chant Engineering Co. Inc.

59 Industrial Drive, New Britain, PA 18901

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

ISO/IEC 17025:2005
& Meets the Requirements of ANSI/NCSL Z540.1-1994

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):

Force 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/Operations Manager

Initial Accreditation Date:	*Issue Date:*	*Expiration Date:*
January 16, 2016	January 20, 2018	March 31, 2020

Accreditation No.:	*Certificate No.:*
87679	L18-35

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.pjlabs.com

Certificate of Accreditation: Supplement

Chant Engineering Co. Inc.
59 Industrial Drive, New Britain, PA 18901
Contact Name: Jules Dirienzo Phone: 215-230-4260

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 (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Force – Tension – Source and Measure [FO]	1 000 lbf to 10 000 lbf (4 448 N to 44 482 N)	0.35 % of reading	8601-01 Tension Load cell with indicator ASTM E-4 Z540-1 AS-2193 ISO-7500
	6 000 lbf to 60 000 lbf (26 689 N to 266 893 N)	0.41 % of reading	8601-02 Tension Load cell with indicator ASTM E-4 Z540-1 AS-2193 ISO-7500
	60 000 lbf to 600 000 lbf (266 893 N to 2 668 932 N)	0.43 % of reading	8601-03 Tension Load cell with indicator ASTM E-4 Z540-1 AS-2193 ISO-7500
	500 lbf to 5 000 lbf (2 224 N to 22 241 N)	0.54 % of reading	8602-01 Tension Load cell with indicator ASTM E-4 Z540-1 AS-2193 ISO-7500
	6 000 lbf to 60 000 lbf (26 689 N to 266 893 N)	0.39 % of reading	8602-03 Tension Load cell with indicator ASTM E-4 Z540-1 AS-2193 ISO-7500
	35 000 lbf to 350 000 lbf (155 688 N to 1 556 877 N)	0.18 % of reading	8602-04 Tension Load cell with indicator ASTM E-4 Z540-1 AS-2193 ISO-7500

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Force – Tension – Source and Measure [FO]	6 000 lbf to 60 000 lbf (26 689 N to 266 893 N)	0.059 % of reading	8603-02 Tension Load cell with indicator ASTM E-4 Z540-1 AS-2193 ISO-7500
	60 000 lbf to 600 000 lbf (266 893 N to 2 668 932 N)	0.47 % of reading	8603-03 Tension Load cell with indicator ASTM E-4 Z540-1 AS-2193 ISO-7500
	150 000 lbf to 1 500 000 lbf (667 233 N to 6 672 330 N)	0.78 % of reading	8604-01 Tension Load cell with indicator ASTM E-4 Z540-1 AS-2193 ISO-7500
Force – Compression – Source and Measure [FO]	150 000 lbf to 1 600 000 lbf (667 233 N to 7 117 152 N)	0.18 % of reading	8604-01 Compression Load cell with indicator ASTM E-4 Z540-1 AS-2193 ISO-7500

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.

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

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.