PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Technical Center, Kistler Japan Co., Ltd.

3F, Benex S-3, 3-20-8 Shinyokohama, Kohoku-ku, Yokohama-shi, Kanagawa 222-0033

(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):

Calibration of accelerometer and load cell
(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 10, 2020	September 10, 2020	December 31, 2022

Accreditation No.:	*Certificate No.:*
106641	L20-528

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

PJLA

Technical Center, Kistler Japan Co., Ltd.
3F, Benex S-3, 3-20-8 Shinyokohama, Kohoku-ku, Yokohama-shi, Kanagawa 222-0033
Contact Name: Masayuki Yamamoto Phone: 045-471-8621

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

Acoustic

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
Accelerometer [F]	Voltage sensitivity: mV/(m/s²) Accelerometer output ≧ 0.01 mV		'Accelerometer Calibration Procedure' (CM-002) On the basis of: ISO16063-21 (vibration type) CS18MF (SPEKTRA) Reference standard accelerometer
	20 Hz to 1 kHz	0.70 % of reading	
	1 kHz to 5 kHz	1.5 % of reading	
	5 kHz to 10 kHz	2.5 % of reading	
	Charge sensitivity: pC/(m/s²) Accelerometer output ≧ 1 pC		
	20 Hz to 1 kHz	0.70 % of reading	
	1 kHz to 5 kHz	1.5 % of reading	
	5 kHz to 10 kHz	2.5 % of reading	

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
Load Cell [F]	Force		'Load Cell Calibration Procedure' (CM-003) On the basis of: Dakks-DKD-R 3.3:2010 Calibration Measuring Device Z050 THW (ZwickRoell) Reference standard load cell
	100 N compression	0.72 % of reading	
	200N compression	0.44 % of reading	
	500 N compression	0.38 % of reading	
	1 000 N compression	0.36 % of reading	
	2 000 N compression	0.35 % of reading	
	5 000 N compression	0.33 % of reading	
	10 000 N compression	0.37 % of reading	
	20 000 N compression	0.37 % of reading	
	50 000 N compression	0.33 % of reading	
	Moment		
	400 Nm compression	0.43 % of reading	
	680 Nm compression	0.45 % of reading	
	900 Nm compression	0.43 % of reading	

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Contact Name: Masayuki Yamamoto Phone: 045-471-8621

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 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.
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.