SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005
& ANSI/NCSL Z540-1-1994

JLW INSTRUMENTS, INC
14 N. Peoria Street, Suite B101
Chicago, IL 60607
Linda Center Phone: 312 666 0595

CALIBRATION

Valid To: May 31, 2019 Certificate Number: 1753.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations[1]:

I. Mechanical

Parameter/Equipment	Range	CMC[2, 4] (±)	Comments
Force[3] – Measuring Equipment			
Force Gauges & Load Sensors	(0 to 20) lbf (40 to 60) lbf (80 to 120) lbf (140 to 160) lbf 180 lbf 200 lbf	0.01 % 0.02 % 0.03 % 0.04 % 0.05 % 0.06 %	Class F weights
Tension	(2 to 25) lbf (25 to 200) lbf (200 to 500) lbf (500 to 5500) lbf	0.005 lbf + 0.008 % 0.004 lbf + 0.058 % 0.043 lbf + 0.12 % 0.22 lbf + 0.009 %	Reference load cell with display
Compression	(1 to 25) lbf (25 to 200) lbf (200 to 500) lbf (500 to 5500) lbf	0.003 lbf + 0.047 % 0.028 lbf + 0.006 % 0.046 lbf + 0.010 % 0.23 lbf + 0.12 %	Reference load cell with display
Hydraulic Grip Pinch Gauges	(5 to 100) lbf	0.14 lbf + 0.008 % 0.20 lbf + 0.093 %	Reference load cell with display

5202 Presidents Court, Suite 220 | Frederick, MD 21703-8515 | Phone: 301 644 3248 | Fax: 240 454 9449 | www.A2LA.org

Parameter/Equipment	Range	CMC[2, 4] (±)	Comments
Force & Material Testing Machines[3] –			
Force Gauges & Load Sensors:			
Tension	(2 to 25) lbf (25 to 200) lbf (200 to 500) lbf (500 to 5500) lbf	0.005 lbf + 0.008 % 0.004 lbf + 0.058 % 0.043 lbf + 0.12 % 0.22 lbf + 0.009 %	Reference load cell with display
Compression	(1 to 25) lbf (25 to 200) lbf (200 to 500) lbf (500 to 5500) lbf	0.003 lbf + 0.047 % 0.028 lbf + 0.006 % 0.046 lbf + 0.010 % 0.23 lbf + 0.12 %	Reference load cell with display
Crosshead Distance	(0 to 24) in	0.00022 + 0.00024*D* in	High resolution travel encoder (*D = distance)*
Crosshead Speed	(0.06 to 30) in/min (31 to 80) in/min	0.031 in/min 0.036 in/min	
Pressure – Measuring Equipment			
Hydraulic Gages	(0 to 1000) psi (1000 to 15 000) psi	0.021 % + 0.11 psi 0.025 % + 0.79 psi	Ametek deadweight tester
Pneumatic Gages	(-12 to -3) psi (0 to 30) psi	0.025 % of full scale 0.018 %	Jofra pressure calibrator

[1] This laboratory offers commercial calibration and field calibration services.

[2] Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMCs represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.

[3] Field calibration service is available for this calibration and this laboratory meets A2LA *R104 – General Requirements: Accreditation of Field Testing and Field Calibration Laboratories* for these calibrations. Please note the actual measurement uncertainties achievable on a customer's site can normally be expected to be larger than the CMC found on the A2LA Scope. Allowance must be made for aspects such as the environment at the place of calibration and for other possible adverse effects such as those caused by transportation of the calibration equipment. The usual allowance for the actual uncertainty introduced by the item being calibrated, (e.g. resolution) must also be considered and this, on its own, could result in the actual measurement uncertainty achievable on a customer's site being larger than the CMC.

[4] In the statement of CMC, all percentages are to be read as percent of reading unless otherwise noted.

Accredited Laboratory

A2LA has accredited

JLW INSTRUMENTS, INC.

Chicago, IL

for technical competence in the field of

Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets the requirements of ANSI/NCSLI Z540-1-1994 and R205 – Specific Requirements: Calibration Laboratory Accreditation Program. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009*).

Presented this 31st day of July 2017.

President and CEO
For the Accreditation Council
Certificate Number 1753.01
Valid to May 31, 2019

For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.