



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ALDINGER COMPANY DBA SERVO INNOVATIONS, LLC
2560 S Patterson Rd
Wayland, MI 49348
Matthew Shaw Phone: 423 617-9006

CALIBRATION

Valid To: February 28, 2027

Certificate Number: 2444.01

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the organization's compliance with R205 – A2LA's Calibration Program Requirements), accreditation is granted to this laboratory to perform the following calibrations^{1, 5}:

I. Dimensional

Parameter/Equipment	Range	CMC ² (±)	Comments
Calipers ³	Up to 12 in	270 µin	Caliper checker
Micrometers ³	Up to 1 in	120 µin	Gage blocks
Height Gage ³	Up to 12 in	270 µin	Caliper checker

II. Electrical – DC & Low Frequency

Parameter/Equipment	Range	CMC ^{2, 4, 6} (±)	Comments
DC Voltage – Generate ³	Up to 35 V	0.46 %	Power supply
DC Voltage – Measure ³	Up to 30 V	0.14 %	Precision multimeter

III. Fluid Quantities

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Liquid Flow Meters ³	(5 to 50) gpm	0.38 %	Reference flowmeter

IV. Mechanical

Parameter/Range	Frequency	CMC ^{2,4} (±)	Comments
Accelerometers- Sensitivity Magnitude ³ (1-10 000) mV/g	(10 to 20) Hz (>20 to 100) Hz >100 Hz to 2.5 kHz (>2.5 to 5) kHz	4.3 % 4.2 % 4.2 % 5 %	Reference accelerometer, DAQ

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Force Devices ³ – Force – Compression	(0.0010 to 20) lbf Up to 112 lbf Up to 500 lbf Up to 2000 lbf Up to 5000 lbf (5000 to 10 000) lbf (10 000 to 20 000) lbf (20 000 to 50 000) lbf (50 000 to 100 000) lbf (100 000 to 200 000) lbf (200 000 to 400 000) lbf (200 000 to 600 000) lbf	0.11 % 0.018 % 0.09 % 0.029 % 0.043 % 0.069 % 0.19 % 0.05 % 0.13 % 0.11 % 0.17 % 0.22 %	Calibrated items include, but not limited to, load cells, hydraulic actuators, tensile testers and dynamometers Mass standards, precision load cells

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Force Devices ³ (cont.) –			Calibrated items include, but not limited to, load cells, hydraulic actuators, tensile testers and dynamometers
Force – Tension	Up to 110 lbf Up to 500 lbf Up to 2000 lbf Up to 5000 lbf (5000 to 10 000) lbf (5000 to 20 000) lbf (20 000 to 50 000) lbf (50 000 to 100 000) lbf (100 000 to 200 000) lbf (200 000 to 400 000) lbf	0.013 % 0.09 % 0.057 % 0.094 % 0.069 % 0.10 % 0.09 % 0.09 % 0.16 % 0.26 %	Mass standards, precision load cells
Torque	Up to 500 lbf·in Up to 1000 lbf·in (500 to 20 000) lbf·in (20 000 to 100 000) lbf·in (100 000 to 300 000) lbf·in (300 000 to 1 200 000) lbf·in	0.11 % 0.099 % 0.08 % 0.25 % 0.048 % 0.072 %	Torque arms, mass standards and precision load cells
Displacement	UP to 40 in	0.005 in	LVDT w/Indicator
Angle	(0 to 360) °	0.28°	Rotary encoder
Speed	(6 to 8299) rpm (8299 to 24 999) rpm (25 000 to 99 000) rpm	3.1 rpm 6.9 rpm 15 rpm	Tachometer
Velocity	Up to 2 in/s (2 to 600) in/s	0.22 in/s 0.035 in/s	Stopwatch LVDT w/datalogger
Pressure	Up to 300 psi (300 to 1500) psi (1500 to 10 000) psi	0.13 % 0.11 % 0.12 %	Reference pressure gauges

V. Thermodynamics

Parameter/Equipment	Range	CMC ² (±)	Comments
Temperature ³ – Thermocouple Simulation B, E, J, K, N, R, S, T	(-10 to 122) °C	0.42 °C	Thermoelectric calibrator
Temperature Probe ³	(-10 to 110) °C	0.42 °C	Drywell

¹ This laboratory offers commercial calibration service and field calibration service.

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. 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, % is defined as the percentage of full scale unless otherwise noted.

⁵ Fluke This scope meets A2LA's *P112 Flexible Scope Policy*.

⁶ The stated measured values are determined using the indicated instrument (see Comments). This capability is suitable for the calibration of the devices intended to measure or generate the measured value in the ranges indicated. CMCs are expressed as either a specific value that covers the full range or as a fraction/percentage of the reading plus a fixed floor specification.



Accredited Laboratory

A2LA has accredited

ALDINGER COMPANY DBA SERVO INNOVATIONS, LLC

Wayland, MI

for technical competence in the field of

Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This laboratory also meets 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 April 2017).



Presented this 19th day of March 2027.

A blue ink signature of Mr. Trace McInturff.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2444.01
Valid to February 28, 2027

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