SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

A.R. SERVICES
35 Cheval Drive
Grimsby, Ontario, CANADA L3M 4N2
Jeff Stackhouse Phone: 905 309 5990

CALIBRATION

Valid To: May 31, 2025 Certificate Number: 2823.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations[1, 6]:

I. Mechanical

Parameter/Equipment	Range	CMC[2, 5] (±)	Comments
Pressure[3] – Measuring Equipment Pneumatic (<= 200 psig) Hydraulic (> 200 psig)	(0 to 15) psig (15 to 500) psig (0 to 2500 psig) (2500 to 5000) psig (0 to 5000 psig) (5000 to 10 000) psig	0.18 psi 0.64 psi 3.6 psi 6.6 psi 6.7 psi 14 psi	Druck DPI 705 Crystal 500 psi XP2i Crystal 5 kpsi XP2i Crystal 10 kpsi XP2i
Vacuum[3] – Measuring Equipment	(0 to -30) inHg	0.13 inHg	Druck DPI 705

II. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC[2, 5] (±)	Comments
Temperature[3] – Instruments (Electrical Simulation) – Thermocouple Devices (Type E, J, K, N, R, S, T)	(-100 to 1500) °C	0.61 °C	Multifunction calibrator
Temperature[3] – Instruments (Electrical Simulation) – RTD Devices	(-180 to 316) °C	0.03 °C	Multifunction calibrator

III. Thermodynamics

Parameter/Equipment	Range	CMC[2, 5] (±)	Comments
Temperature Sensors[3, 4] –			
Types RTD & T/C Types J, K, T	(-80 to 232) °C	0.3 °C	Hart 1502A/Pt100 (385) readout & temperature probe
Relative Humidity[3] –			
Measuring Equipment	(11 to 89) % RH (89 to 90) % RH	2.0 % RH 2.8 % RH	Humidity chamber and Vaisala humidity probe & readout
Measure (Chambers)	(11 to 89) % RH (89 to 90) % RH	2.0 % RH 2.8 % RH	Vaisala humidity probe & readout

[1] This laboratory offers commercial 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] The CMC stated is for one or more of the thermocouple types that the calibrator is capable of performing. See measurement uncertainty budgets for the "CMC" for a specific thermocouple type. It is also important to note that the "CMC" stated on each calibration certificate, reflects the applicable uncertainty for the customer's thermocouple type.

[5] The type of instrument or material being calibrated is defined by the parameter. This indicates the laboratory is capable of calibrating instruments that measure or generate the values in the ranges indicated for the listed measurement parameter.

[6] This scope meets A2LA's *P112 Flexible Scope Policy.*

Accredited Laboratory

A2LA has accredited

A.R. SERVICES

Grimsby, Ontario, CANADA

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 1st day of January 2024.

Mr. Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 2823.01
Valid to May 31, 2025

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