



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

A.R. SERVICES
104-155 Main Street East, Suite 215
Grimsby, Ontario, CANADA L3M 1P2
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CALIBRATION

Valid To: May 31, 2019

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 calibrations¹:

I. Mechanical

Parameter/Equipment	Range	CMC ² (±)	Comments
Pressure ³ – Measuring Equipment	(0 to 15) psig	0.11 psi	Druck DPI 705
	(15 to 500) psig	1.2 psi	Crystal 500PSI021
	(0 to 10 000) psig	17 psi	Crystal 10kPSIXP21
Vacuum ³ – Measuring Equipment	(0 to -30) in·Hg	0.14 in·Hg	Druck DPI 705

II. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC ² (±)	Comments
Temperature – Instruments ³ (Electrical Simulation)	(-180 to 1760) °C	0.81 °C	Multifunction calibrator

III. Thermodynamics

Parameter/Equipment	Range	CMC ² (±)	Comments
Temperature Sensors ^{3,4} – Types RTD & T/C Types J, K, T T/C Types J, K, R, S, T	(-80 to 232) °C (232 to 1052) °C (1052 to 1300) °C	0.08 °C 1.5 °C 4.8 °C	Hart 1502A/Pt100 (385) Multifunction calibrator & ‘S’ T/C
Relative Humidity ³ – Measuring Equipment Measure	(11 to 90) % RH (11 to 90) % RH	2.8 % RH 2.8 % RH	Kaymont 2000/ Vaisala HM141/HMP 46 Vaisala HM141/HMP 46

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 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 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.



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 17025:2005 *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 8 January 2009).



Presented this 5th day of October 2017.

A handwritten signature in black ink, written over a horizontal line.

President and CEO
For the Accreditation Council
Certificate Number 2823.01
Valid to May 31, 2019

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