SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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CALIBRATION

Valid To: March 31, 2027 Certificate Number: 6163.01

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, 4]:

I. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC[2] (±)	Comments[5]
Controllers (Current, RTD, PRT, Thermocouples)[3] – Electrical Simulation			
PRT:			
Pt 100	(-190 to 0) °C (0 to 200) °C (200 to 400) °C (400 to 600) °C	0.25 °C 0.21 °C 0.24 °C 0.28 °C	Calibrator Scandura, EURAMET cg-11
Pt 1000	(-190 to 0) °C (0 to 400) °C (400 to 600) °C	0.23 °C 0.26 °C 0.30 °C	
Thermocouples:			
Type J	(-200 to 200) °C (200 to 500) °C (500 to 1190) °C	0.24 °C 0.27 °C 0.31 °C	
Type K	(-200 to 0) °C (0 to 500) °C (500 to 1360) °C	0.33 °C 0.27 °C 0.34 °C	

Parameter/Equipment	Range	CMC[2] (±)	Comments[5]
Controllers (Current, RTD, PRT, Thermocouples)[3] – Electrical Simulation (cont)			
Thermocouples:			
Type R	(600 to 1000) °C (1000 to 1500) °C (1500 to 1730) °C	0.39 °C 0.43 °C 0.46 °C	Calibrator Scandura, EURAMET cg-11
Type S	(600 to 800) °C (800 to 1200) °C (1200 to 1730) °C	0.42 °C 0.39 °C 0.41 °C	
Type T	(-180 to 200) °C (200 to 400) °C	0.24 °C 0.29 °C	
Current Controller	(1 to 4) mA (4 to 8) mA (8 to 16) mA (16 to 20) mA	0.000 41 mA 0.000 47 mA 0.0012 mA 0.0022 mA	

II. Mechanical

Parameter/Equipment	Range	CMC[2, 6] (±)	Comments[5]
Pressure & Vacuum – Measuring Equipment[3]			
Pneumatic Pressure	(0 to 0.15) MPa (0.15 to 2.1) MPa (2.1 to 4) MPa (4 to 6) MPa (6 to 7) MPa	0.23 kPa 0.62 kPa 3.8 kPa 4.5 kPa 5.0 kPa	Pressure transducer, OIML/R 101, EA 10/17
Hydraulic Pressure	(2.1 to 4) MPa (4 to 6) MPa (6 to 8) MPa (8 to 10) MPa (10 to 20) MPa (20 to 30) MPa (30 to 40) MPa (40 to 50) MPa (50 to 60) MPa	3.8 kPa 4.5 kPa 5.0 kPa 5.2 kPa 11 kPa 13 kPa 17 kPa 20 kPa 22 kPa	
Absolute	(0 to 20) kPa (20 to 80) kPa (80 to 120) kPa (120 to 160) kPa (160 to 200) kPa	0.15 kPa 0.20 kPa 0.24 kPa 0.27 kPa 0.31 kPa	

Parameter/Equipment	Range	CMC[2, 6, 7] (±)	Comments[5]
Pressure & Vacuum – Measuring Equipment[3] (cont)			
Vacuum	(-90 to 0) kPa	0.24 kPa	Pressure transducer, OIML/R 101, EA 10/17
Switch/Safety Valve	(0.2 to 2) MPa	0.7 %	
Balances[3]	Up to 25 kg R = 0.000 001 g R = 0.000 01 g R = 0.0001 g R = 0.001 g R > 0.001 g	 10R 4R 2R 1.4R 1R	Weights Class E2, F1, (OIML R111), OIML/R 76, USP 41
Mass	1 g to 0.5 kg (> 0.5 to 2.0) kg (> 2.0 to 20 kg	1.3 g 1.5 g 1.7 g	Weighing

III. Thermodynamics

Parameter/Equipment	Range	CMC[2, 6] (±)	Comments[5]
Temperature – Measuring Equipment			
Thermocouples	(-80 to 0) °C (0 to 100) °C (100 to 250) °C (250 to 400) °C (400 to 750) °C (750 to 1000) °C (1000 to 1200) °C	0.21 °C 0.26 °C 0.35 °C 1.2 °C 2.7 °C 3.0 °C 4.8 °C	SPRT PRT standards, ASTM E644, ASTM E1137, ASTM E220
RTD (PRT) Probes Mechanical & Electrical Indicators	(-80 to -1) °C 0 °C (0 to 100) °C (100 to 250) °C	0.11 °C 0.098 °C 0.11 °C 0.25 °C	

Parameter/Equipment	Range	CMC[2, 6] (±)	Comments[5]
Climatic Chambers[3] (Furnaces, Freezers, Incubators) Including Uniformity	(-80 to 100) °C (100 to 250) °C (250 to 400) °C (400 to 750) °C (750 to 1000) °C (1000 to 1200) °C	0.12 °C 0.25 °C 1.4 °C 2.8 °C 3.2 °C 4.9 °C	DKD R-5-7, PRT standards, thermocouples, data loggers
Relative Humidity[3] – Measuring Equipment	(10 to 95) % RH	1.7 % RH	Humidity calibrator

[1] This laboratory offers commercial calibration service 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. 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] This scope meets A2LA's *P112 Flexible Scope Policy*.

[5] Calibration can be also performed to manufacturer or specific customer requirements.

[6] 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.

[7] In the statement of CMC, percentages are percentages of reading, unless otherwise indicated; R is the resolution of the device under test.

Accredited Laboratory

A2LA has accredited

ELCON

Yavne, ISRAEL

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 2nd day of January 2025.

Trace McInturff, Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 6163.01
Valid to March 31, 2027

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