

CERTIFICATE OF ACCREDITATION

This is to attest that

ALQIMMA INSPECTION ESTABLISHMENT

KINGABDULAZIZ STREET AL MURJAN DIST. JEDDAH 23714, KINGDOM OF SAUDI ARABIA

Calibration Laboratory CL-257

has met the requirements of AC204, *IAS Accreditation Criteria for Calibration Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2017, *General requirements for the competence of testing and calibration laboratories*. This organization is accredited to provide the services specified in the scope of accreditation.

Effective Date June 20, 2023

Expiration Date February 1, 2025



President

International Accreditation Service, Inc.

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Accredited to ISO/IEC 17025:2017

Effective Date June 20, 2023

CALIBRATION AND MEASUREMENT CAPABILITY (CMC)*

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY ^{1,2} (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
	Dimer	nsional	
Vernier Calipers (Plan/ Dial/ Digital)	Up to 300 mm	9.0 µm	Using Gauge Blocks as per Calibration Procedure Number- LABP-002, based on DIN 862 and DIN 863
Micrometers (Plan/ Dial/ Digital)	Up to 100 mm 100 mm to 300 mm	4.5 μm 6.1 μm	Using Gauge Blocks as per Calibration Procedure Number- LABP-010, based on DIN 862 and DIN 863
Thickness Gauge	Up to 100 mm	7.6 µm	Using Gauge Blocks as per Calibration Procedure Number- LABP-031, based on NPL Guide No.40
Mold Blocks	Up to 300 mm	22 µm	Using Digital Caliper as per Calibration Procedure Number- LABP-016, based on NPL Guide No.40
Test Sieves	Up to 125 mm	51 μm	Using Digital Caliper as per Calibration Procedure Number-LABP-039, based on ASTM E11
Mechanical			
Weighing Balances	1 mg to 100 g 100 g to 1 kg 1 kg to 10 kg 10 kg to 24 kg 24 kg to 40 kg 40 kg to 500 kg	0.22 mg 7.2 mg 65 mg 77 mg 0.63 g 310 g	Using F1 Weights as per Calibration Procedure Number-LABP-036, based on SASO 524

^{*} If information in this CMC is presented in non-SI units, the conversion factors stated in NIST Special Publication 811 "Guide for the Use of the International System of Units (SI)" apply.

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MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY ^{1,2} (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)	
Safety Relief Valve	0 bar to 60 bar 60 bar to 100 bar 100 bar to 1000 bar	0.02 bar 0.12 bar 0.22 bar	Using Reference Pressure Gages as per Calibration Procedure Number-LABP- 026, based on API 526 and API 527	
Dial Pressure Gauges/ Pressure Chart Recorder/ Pressure Transmitters/ Digital Pressure Gauge	0 bar to 10 bar 10 bar to 30 bar 30 bar to 60 bar 60 bar to 1000 bar	6.7 mbar 8.7 mbar 1.4 mbar 0.65 bar	Using Reference Pressure Gauges as per Calibration Procedure Number-LABP- 022, based on BS/EN 837-1	
Vacuum Gauges	0 mm Hg to 750 mm Hg	4.7 mmHg	Using Reference Pressure Gauges using comparison method as per Calibration Procedure Number-LABP- 034, based on BS/EN 837-1	
	Theri	mal		
RTD/ Thermocouple /Temperature Transmitters / (Dial/Digital) Thermometer	-23 °C to 120 °C 120 °C to 650 °C	0.19 °C 0.20 °C	Using RTD's, Dry Block, RTD Thermometer, Multi-Function Calibrator, as per Calibration Procedure Number-LABP- 006, LABP-008 and LABP- 025, based on EURAMET CG-11 and EURAMET CG-08	
Incubators / Water Baths / Autoclaves / Ovens / Furnace	Ambient to 1500 °C	0.20 °C	Using RTD's, RTD Thermometer, Multi-Function Calibrator as per Calibration Procedure Number-LABP- 038/ LABP-035/ LABP-001/ LABP-019/ LABP-013. (Single Sensor Method), based on EURAMET CG-11, EURAMET CG-08 and ASTM E145	
Freezers/ Refrigerators	-80 °C to 0 °C	0.19 °C	RTDs, RTD Thermometer, Multi-Function Calibrator as per Calibration Procedure Number-LABP-037, based on EURAMET CG-11 and EURAMET CG-08	
Electrical – DC/LF				
DC Voltage – Generate ³	0 mV to 300 mV 0.3 V to 3 V 3 V to 30 V 30 V to 300 V 300 V to 1000 V	3.0 µV 15 µV 0.19 mV 2.4 mV 8.0 mV	Using Multi Product Calibrator as per Calibration Procedure Number-LABP-018, based on EURAMET CG-15	

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MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY ^{1,2} (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
DC Voltage – Measure ⁴	0 mV to 100 mV 100 mv to 1 V 1 V to 10 V 10 V to 100 V 100 V to 1000 V	2.6 µV 0.03 mV 0.31 mV 3.1 mV 0.02 V	Using Precision Multimeter as per Calibration Procedure number-LABP-018, NICT Journal-vol63no1-02-03
DC Current – Generate ³	0 μA to 300 μA 0 mA to 3 mA 0 mA to 30 mA 0 mA to 300 mA 0 A to 1 A 0 A to 2 A 0 A to 3 A 0 A to 10 A 0 A to 20 A 0 A to 1000 A	0.01 µA 0.08 µA 0.76 µA 7.5 µA 50 µA 0.11 mA 0.25 mA 0.81 mA 2.4 mA 0.58 A	Using Multi Product Calibrator / Coil (50 Turns) as per Calibration Procedure Number-LABP-018, based on EURAMET CG-15
DC Current – Measure ⁴	0 μA to 100 μA 100 μA to 500 μA 500 uA to 1 mA 1 mA to 10 mA 10 mA to 100 mA 100 mA to 1 A 1 A to 6 A 6 A to 12 A	0.01 µA 0.08 µA 0.09 µA 0.78 µA 8.3 µA 0.051 mA 0.84 mA 2.5 mA	Using Precision Multimeter as per Calibration Procedure Number-LABP-018, NICT Journal-vol63no1-02-03
DC Resistance – Generate ³	0 Ω to 100 Ω 100 Ω to 1 kΩ 1 kΩ to 10 kΩ 10 kΩ to 100 kΩ 100 kΩ to 1 MΩ 1 MΩ to 10 MΩ 10 MΩ to 100 MΩ 100 MΩ to 1 GΩ	1.6 m Ω 8.0 m Ω 80 m Ω 0.81 Ω 15 Ω 0.29 k Ω 15 k Ω 0.61 M Ω	Using Multi Product Calibrator as per Calibration Procedure Number-LABP- 018, based on EURAMET CG-15
DC Resistance – Measure ⁴	0 Ω to 100 Ω 100 Ω to 1 kΩ 1 kΩ to 10 kΩ 10 kΩ to 100 kΩ 100 kΩ to 1 MΩ 1 MΩ to 10 MΩ 10 MΩ to 100 MΩ 100 MΩ to 1 GΩ	$\begin{array}{c} \text{1.7 m}\Omega \\ \text{8.1 m}\Omega \\ \text{80 m}\Omega \\ \text{0.83 }\Omega \\ \text{0.16 k}\Omega \\ \text{0.32 k}\Omega \\ \text{15 k}\Omega \\ \text{0.63 M}\Omega \end{array}$	Using Precision Multimeter as per Calibration Procedure Number-LABP-018, NICT Journal-vol63no1-02-03
AC Voltage – Generate ³	0 mV to 100 mV (10 Hz to 500 kHz) 0 V to 1 V (10 Hz to 500 kHz)	0.06 mV 0.41 mV	Using Multi Product Calibrator as per Calibration Procedure Number-LABP-018, based on EURAMET CG-15
	0 V to 10 V (10 Hz to 100 kHz)	4.1 mV	

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MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY ^{1,2} (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
AC Voltage – Generate ³ (continued)	0 V to 100 V (45 Hz to 100 kHz)	20 mV	Using Multi Product Calibrator as per Calibration Procedure Number-LABP-018, based on EURAMET CG-15
	0 V to 1000 V (45 Hz to 10 kHz)	0.11 V	
AC Voltage – Measure ⁴	0 mV to 100 mV (3 Hz to 300 kHz)	0.21 mV	Using Precision Multimeter as per Calibration Procedure Number-LABP-018, NICT
	100 mV to 1 V (10 Hz to 300 kHz)	0.31 mV	Journal-vol63no1-02-03
	1 V to 10 V (10 Hz to 300 kHz)	3.0 mV	
	10 V to 100 V (10 Hz to 300 kHz)	0.03 mV	
	100 V to 750 V (10 Hz to 300 kHz)	0.30 V	
AC Current – Generate ³	30 μA to 100 μA (10 Hz to 30 kHz)	0.05 μΑ	Using Multi Product Calibrator / (50 T coil) as per Calibration Procedure Number-LABP-018, based on EURAMET CG-15
	0 mA to 1 mA (10 Hz to 30 kHz)	0.41 μΑ	
	0 mA to 100 mA (10 Hz to 30 kHz)	0.03 mA	
	0 A to 1 A (10 Hz to 10 kHz)	0.31 mA	
	0 A to 2 A (10 Hz to 10 kHz)	0.61 mA	
	0 A to 10 A (45 Hz to 5 kHz)	4.2 mA	
	0 A to 20 A (45 Hz to 5 kHz)	0.01 A	
	0 A to 1000 A (@ 60 Hz)	0.59 A	
AC Current – Measure ⁴ at 3 Hz to 10 kHz	3 μA to 100 μA 1 μA to 1 mA 1 mA to 10 mA 10 mA to 100 mA 100 mA to 500 mA	0.06 μA 0.47 μA 8.0 μA 0.08 mA 0.31 mA	Using Precision Multimeter as per calibration Procedure Number-LABP-018, NICT Journal-vol63no1-02-03

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MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY ^{1,2} (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
AC Current – Measure ⁴ at 3 Hz to 10 kHz (continued)	500 mA to 1 A 1 A to 6 A 6 A to 12 A	0.62 mA 4.8 mA 0.01 A	Using Precision Multimeter as per calibration Procedure Number-LABP-018, NICT Journal-vol63no1-02-03
Electrical Simulation of Thermocouples – Generate ³ and Measure ⁴			Using Multi Product Calibrator (with TC measuring option) as per calibration Procedure Number-LABP-018, based on EURAMET CG-11
Туре В	0 °C to 1750 °C	Generate: 0.12 °C Measure: 0.18 °C	
Type C	0 °C to 2050 °C	Generate: 0.12 °C Measure: 0.18 °C	
Type E	-250 °C to 1000 °C	Generate: 0.09 °C Measure: 0.18 °C	
Type J	-210 °C to 1200 °C	Generate: 0.12 °C Measure: 0.18 °C	
Type K	-250 °C to 1370 °C	Generate: 0.12 °C Measure: 0.18 °C	
Type N	-250 °C to 1250 °C	Generate: 0.12 °C Measure: 0.18 °C	
Type S	0 °C to 1600 °C	Generate: 0.12 °C Measure: 0.18 °C	
Туре Т	-250 °C to 400 °C	Generate: 0.09 °C Measure: 0.18 °C	
Capacitance – Generate ^{3,5}	0 pF to 225.0 pF (0 Hz to 5 kHz)	0.6 pF	Using Multi Product Calibrator as per Calibration Procedure Number-LABP- 018, based on EURAMET CG-15
	0 pF to 300.0 pF (0 Hz to 1 kHz)	0.63 pF	
	0 pF to 1 nF (0 Hz to 1 kHz)	0.81 pF	
	0 pF to 10 nF (0 Hz to 1 kHz)	5.0 pF	
	0 pF to 30 nF (0 Hz to 1 kHz)	15 pF	

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MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY ^{1,2} (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)	
Capacitance – Generate ^{3,5} continued	0 pF to 100 nF (0 Hz to 1 kHz)	0.05 nF	Using Multi Product Calibrator as per Calibration Procedure Number-LABP- 018, based on EURAMET CG-15	
	0 pF to 300 nF (0 Hz to 1 kHz)	0.12 nF		
	0 μF to 3 μF (0 Hz to 100 Hz)	1.5 nF		
	0 μF to 10 μF (0 Hz to 100 Hz)	6.0 nF		
	0 μF to 30 μF (0 Hz to 100 Hz)	0.03 μF		
	0 μF to 100 μF (0 Hz to 50 Hz)	0.15 μF		
	0 μF to 300 μF (0 Hz to 50 Hz)	0.37 μF		
	0 mF to 3 mF (0 Hz to 6 Hz)	3.6 µF		
	0 mF to 30 mF (0 Hz to 0.6 Hz)	0.05 mF		
	0 mF to 100 mF (0 Hz to 0.2 Hz)	0.12 mF		
Capacitance – Measure ⁴	0.5 nF to 1 nF 1 nF to 10 nF 10 nF to 100 nF 100 nF to 1 μF 1 μF to 10 μF	0.82 pF 0.51 nF 4.3 pF 0.42 nF 0.62 nF	Using Precision Multimeter as per Calibration Procedure Number-LABP-018, NICT Journal-vol63no1-02-03	
Chemical/Gas				
pH Meters (Fixed Values)	4 pH 7 pH 10 pH	0.06 pH 0.06 pH 0.06 pH	Using Certified Reference Buffer Solutions as per Calibration Procedure Number-LABP-020, based on EQ-01-08 and ASTM D 1293	
Conductivity Meter (Fixed Values)	100 μS/cm 1417 μS/cm 3900 μS/cm	1.4 % 1.4 % 1.4 %	Using Certified Reference Solutions as per Calibration Procedure Number-LABP- 004, based on ASTM D 1125	
Multi Gas Detectors	CH ₄ : 50 %LEL, O ₂ : 20.9 %,	2.1 %	Using Certified Standard Span Calibration Gases as	

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MEASURED QUANTITY or DEVICE TYPE CALIBRATED		(±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
	H ₂ S: 25 ppm CO: 100 ppm		per Calibration Procedure Number- LABP-017, based on BS EN 60079-29-2

¹The uncertainty covered by the Calibration and Measurement Capability (CMC) is expressed as the expanded uncertainty having a coverage probability of approximately 95 %. It is the smallest measurement uncertainty that a laboratory can achieve within its scope of accreditation when performing calibrations of a best existing device. The measurement uncertainty reported on a calibration certificate may be greater than that provided in the CMC due to the behavior of the calibration item and other factors that may contribute to the uncertainty of a specific calibration.

²When uncertainty is stated in relative terms (such as percent, a multiplier expressed as a decimal fraction or in scientific notation), it is in relation to instrument reading or instrument output, as appropriate, unless otherwise indicated.

³Capability is suitable for the calibration of measuring devices in the stated ranges.

⁴Capability is suitable for the calibration of devices intended to generate the indicated quantity in the stated ranges.

⁵Stated uncertainties are valid for the ranges of frequencies given, but the actual frequency applied by the calibrator may be dependent on the measurement device under calibration.