CERTIFICATE OF ACCREDITATION

This is to attest

QATAR CALIBRATION SERVICES W.L.L.

QP WEST SERVICES AREA GHUWAIRIYA, ST. IR#1
DOHA, QATAR

Calibration Laboratory CL-178

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 January 6, 2025

IAS ACCREDITED

International Accreditation Service
Issued under the authority of IAS management

Visit www.iasonline.org for current accreditation information.

SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

3060 Saturn Street, Suite 100, Brea, California 92821, U.S.A. | www.iasonline.org

QATAR CALIBRATION SERVICES W.L.L.

www.qcal.com.qa

Contact Name Biju Davis **Contact Phone** +974-40331741

Accredited to ISO/IEC 17025:2017 *Effective Date January 6, 2025*

CALIBRATION AND MEASUREMENT CAPABILITY (CMC)*

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY[1,2] (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
Dimensional			
Digital Caliper	0 mm to 150 mm 0 mm to 300 mm	0.018 mm 0.02 mm	Using Grade '0' Metric Gauge Block set - Direct Method (BS 887)
Micrometer	0 mm to 25 mm	0.004 mm	Using Grade '0' Metric Gauge Block set - Direct Method (BS 870)
Dial Gauge / Indicator	0 mm to 25 mm	0.003 mm	Using Dial Calibration Tester - Comparison Method (BS 907)
Orifice Plate			Comparison method (ISO 5167)
Bore Diameter	12 mm to 1000 mm	0.013 mm	Grade'0' Metric gauge block set, Digimatic indicator
Bevel Angle	Up to 180°	5’	Digital protractor
Edge Thickness	0 mm to 25 mm	0.014 mm	Digital Depth Micrometer
Plate Thickness	0 mm to 25 mm	0.006 mm	Digital Micrometer
Plate Flatness	25 mm to 1000 mm	0.011 mm	Tool makers straight edges, Feeler Gauges
Concentricity	0 mm to 500 mm	0.26 mm	Vernier caliper
Orifice Edge Sharpness/Radius	0 mm to 1 mm	0.008 mm	Pin gauge, Foil impression tool, Microscope with still video camera
Plate Surface Roughness	0.00066 mm to 0.003 mm	0.1 µm	Roughness standard with surface roughness tester

** 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.*

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY[1,2] (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
Mechanical			
Air Pressure	15 mbar to 1000 mbar	0.2 mbar	Budenberg 551, Mass set (DKD R 6-1)
Air Pressure[5]	0.5 bar to 26 bar	3 mbar	Budenberg 554, Mass set (DKD R 6-1)
	15 mbar to 1 bar	1 mbar	Beamex MC5 Calibrator (DKD R 6-1)
	1 bar to 20 bar 20 bar to 30 bar	8 mbar 15 mbar	Beamex MC5 Calibrator (DKD R 6-1)
Hydraulic Pressure	1 bar to 60 bar 60 bar to 1400 bar	7 mbar 0.3 bar	Budenberg 580 VHX Mass set (DKD R 6-1)
Hydraulic Pressure[5]	1 bar to 60 bar 60 bar to 600 bar	6 mbar 0.6 bar	Beamex MC5 Calibrator Beamex External Pressure module (DKD R 6-1)
Differential Pressure	10 mbar to 1000 mbar at 0 bar to 200 bar static pressure	0.07 mbar	Budenberg 5501, Mass set (DKD R 6-1)
Manual Torque Wrench	1 N m to 30 N m 30 N·m to 70 N·m 70 N·m to 140 N·m 140 N·m to 300 N·m 300 N·m to 600 N·m 600 N·m to 900 N·m 900 N·m to 1200 N·m	1.3 N·m 1 N·m 1.9 N·m 3.7 N·m 12 N·m 20 N·m 24 N·m	Norbar Pro-test 1500 Torque Tester (ISO 6789-1)
Pipette	0.2 mL to 1 mL 1 mL to 10 mL 10 mL to 20 mL	14 µL 22 µL 38 µL	Weighing balance with 0.1 mg readability (ISO 8655-6)
Anemometer	0.5 m/s to 5 m/s	7 %	Rotating vane Anemometer, Comparison method
Weighing Balances and Scales[6]	1 g to 10 g 10 g to 100 g 100 g to 1 kg 1 kg to 30 kg 30 kg to 100 kg 100 kg to 300 kg	0.6 mg 0.62 mg 1.1 g 6 g 80 g 0.15 kg	OIML Class E2 weights OIML Class E2 weights OIML Class F2 weights OIML Class M1 weights OIML Class M2 weights OIML Class M2 weights - Direct method (OIML R76)

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY[1,2] (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
Provers – Volume Determination[5]	18.627 L (5 USG) 57.6 L 75.7 L (20 USG) 284 L (75 USG) 378.54 L (100 USG) 757.08 L (200 USG) 15 L to 300 L 300 L to 600 L 600 L to 1300 L 1300 L to 3000 L	0.035 % 0.025 % 0.025 % 0.025 % 0.025 % 0.25 % 0.04 % 0.045 % 0.045 % 0.06 %	Proving Tank of ranges 5 USG,20 USG,75 USG,100 USG and 200 USG used in combinations (API 4.9.2)
Force Gauge	50 N to 2000 N	0.3 %	Using Dead weights and calibrated hangers (ASTM E74)
Thermal			
Thermometer[5]	-50 °C to 125 °C 125 °C to 250 °C 250 °C to 650 °C	0.038 °C 0.35 °C 1.1 °C	Isotech TTI – 7, Isotech Millik Digital Temperature Indicator used with PRT Probes – Comparison method
Temperature Source[5]	-50 °C to 125 °C 125 °C to 250 °C 250 °C to 650 °C	0.13 °C 0.35 °C 1.1 °C	Isotech TTI – 7, Isotech Millik Digital Temperature Indicator used with PRT Probes – Direct method
RTD[5]	-50 °C to 125 °C 125 °C to 250 °C 250 °C to 650 °C	0.07 °C 0.4 °C 1.2 °C	Isotech TTI – 7, Isotech Millik Digital Temperature Indicator used with PRT Probes – Comparison method
Thermocouple[5]	-50 °C to 125 ˚C 125 °C to 250 °C 250 °C to 650 °C	0.8 °C 0.8 °C 1.4 °C	Isotech TTI – 7, Isotech Millik Digital Temperature Indicator used with PRT Probes – Comparison method
Infrared Thermometer	300 °C to 1200 °C	5.0 °C	Using Black Body Source – Direct method
Temperature Indicators and Simulators by Electrical Simulation[5] TC Type B TC Type E TC Type J TC Type K TC Type L	 600 °C to 1820 °C -250 °C to 1000 °C -210 °C to 1200 °C -200 °C to 1372 °C -200 °C to 900 °C	1.2 °C	Using MFC 5520A Direct method

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY[1,2] (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
Temperature Indicators and Simulators by Electrical Simulation[5] (cont'd.)			Using MFC 5520A Direct method
TC Type N	-200 °C to 1300 °C		
TC Type R	0 °C to 1767 °C		
TC Type S	0 °C to 1767 °C		
TC Type T	-250 °C to 400 °C		
TC Type U	-200 °C to 600 °C		
Temperature Indicators by Electrical Simulation[5]		0.8 °C	Using MFC 5520A Direct method
RTD Type Pt 100, 385	-200 °C to 800 °C		
RTD Type Pt 500, 385	-200 °C to 630 °C		
RTD Type Pt 100, 3926	-200 °C to 630 °C		
RTD Type Pt 200, 385	-200 °C to 630 °C		
RTD Type Pt 1000, 385	-200 °C to 630 °C		
RTD Type Ni 120, 672	-80 °C to 260 °C		
RTD Type Cu10, 427	-80 °C to 260 °C		
Electrical – DC/LF			
DC Voltage Generate[3, 5]	0 mV to 330 mV 0.33 V to 3.3 V 3.3 V to 33 V 33 V to 330 V 330 V to 1000 V	4 µV 40 µV 0.5 mV 6 mV 35 mV	Euramet CG-15 Fluke 5520 A Calibrator
AC Voltage Generate[3, 5] @ 50 Hz	33 mV to 330 mV 0.33 V to 3.3 V 3.3 V to 33 V 33 V to 330 V 330 V to 1020 V	25 µV 0.2 mV 2 mV 20 mV 0.3 V	Euramet CG-15 Fluke 5520 A Calibrator
DC Current Generate[3, 5]	0 mA to 3.3 mA 3.3 mA to 33 mA 33 mA to 330 mA 0.33 A to 1.1 A 1.1 A to 11 A	0.5 µA 1.5 µA 9.8 µA 0.2 mA 1.5 mA	Euramet CG-15 Fluke 5520 A Calibrator

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY[1,2] (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
DC Current Generate3, 5 (continued)	11 A to 20 A	18 mA	Euramet CG-15 Fluke 5520 A Calibrator
AC Current Generate[3, 5] @ 50 Hz	33 µA to 3.3 mA 3.3 mA to 330 mA 0.33 A to 1.1 A 1.1 A to 11 A 11 A to 20 A	4 µA 12 µA 2 mA 15 mA 23 mA	Euramet CG-15 Fluke 5520 A Calibrator
Resistance Generate[3, 5]	0 Ω to 11 Ω 11 Ω to 33 Ω 33 Ω to 110 Ω 110 Ω to 330 Ω 330 Ω to 1.1 kΩ 1.1 kΩ to 3.3 kΩ 3.3 kΩ to 11 kΩ 11 kΩ to 33 kΩ 33 kΩ to 110 kΩ 110 kΩ to 330 kΩ 330 kΩ to 1.1 MΩ 1.1 MΩ to 3.3 MΩ 3.3 MΩ to 11 MΩ	2.2 mΩ 2.5 mΩ 5.1 mΩ 20 mΩ 20 mΩ 0.1 Ω 0.5 Ω 0.95 Ω 4.1 Ω 13 Ω 85 Ω 570 Ω 1.9 kΩ	Euramet CG-15 Fluke 5520 A Calibrator
DC Current Generate into Toroidal Type Clampmeter[5]	10 A to 15 A 15 A to 150 A 150 A to 1000 A	0.3 A 0.8 A 3.2 A	Comparison method Fluke 5520 A Calibrator
DC Current Generate into Non-Toroidal Type Clampmeter[5]	10 A to 15 A 15 A to 150 A 150 A to 1000 A	0.3 A 1.2 A 6.3 A	Comparison method Fluke 5520 A Calibrator
AC Current Generate into Toroidal Type Clampmeter[5] @ 45 Hz to 65 Hz	10 A to 15 A 15 A to 150 A 150 A to 1000 A	0.3 A 1.1 A 4.2 A	Comparison method Fluke 5520 A Calibrator
AC Current Generate into Non-Toroidal Type Clampmeter[5] @ 45 Hz to 65 Hz	10 A to 15 A 15 A to 150 A 150 A to 1000 A	0.32 A 1.4 A 7.5 A	Comparison method Fluke 5520 A Calibrator
DC Voltage Measure[4, 5]	0.1 V to 1 V 1 V to 10 V 10 V to 100 V 100 V to 1000 V	15 µV 0.2 mV 1.7 mV 45 mV	Direct method Agilent 3458 A Digital Multimeter
AC Voltage Measure[4, 5] @ 50 Hz	1 mV to 100 mV 0.1 V to 1 V 1 V to 10 V 10 V to 100 V 100 V to 700 V	0.015 mV 0.15 mV 1.7 mV 32 mV 0.4 V	Direct method Agilent 3458 A Digital Multimeter

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY[1,2] (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
DC Current Measure[4, 5]	5 µA to 10 µA 10 µA to 100 µA 0.1 mA to 1 mA 1 mA to 10 mA 10 mA to 100 mA 0.1 A to 1 A	1 nA 4.2 nA 40 nA 0.41 µA 6.2 µA 0.2 mA	Direct method Agilent 3458 A Digital Multimeter
AC Current Measure[4,5] @ 50 Hz	100 µA 1 mA 10 mA 100 mA 1 A	0.14 µA 0.8 µA 0.025 mA 0.3 mA 2.8 mA	Direct method Agilent 3458 A Digital Multimeter
DC Resistance Measure[4, 5]	10 Ω 100 Ω 1 kΩ 10 kΩ 100 kΩ 1 MΩ 10 MΩ 100 MΩ 1 GΩ	0.32 mΩ 2.4 mΩ 16 mΩ 21 mΩ 1.6 Ω 29 Ω 750 Ω 0.07 MΩ 7.3 MΩ	Direct method Agilent 3458 A Digital Multimeter
Frequency Measure[4, 5]	1 Hz to 100 Hz 100 Hz to 1 kHz 1 kHz to 10 kHz 10 kHz to 100 kHz 100 kHz to 3 MHz 3 MHz to 10 MHz	4.6 mHz 115 mHz 1.2 Hz 31 Hz 850 Hz 1.2 kHz	Direct method Agilent 3458 A Digital Multimeter
Frequency Generate[3,5]	1 Hz to 10 Hz 10 Hz to 100 Hz 100 Hz to 1 kHz 1 kHz to 10 kHz 10 kHz to 100 kHz 100 kHz to 1 MHz 1 MHz to 2 MHz	7 mHz 60 mHz 80 mHz 750 mHz 7 Hz 80 Hz 750 Hz	Euromet CG-15 Fluke 5520 A Calibrator
Electrical Energy meter Active/Reactive 1 Phase/3 Phase[5]	58 V to 254 V (P-N) 100 V to 440 V (P-P) 0.05 A to 12 A 0.5 - 1 - 0.5 PF Lead/lag 0.15 kWh to 9.15 kWh	0.10 %	Comparison method Zera MT 320 Portable Reference Standard
Chemical/Gas			
pH Meter[5]	4.00 pH 7.00 pH 10.00 pH	0.03 pH 0.031 pH 0.041 pH	Using Standard buffer solutions – Direct Method
Conductivity meter[5]	84 µS/cm 1413 µS/cm 12.88 mS/cm	0.8 µS/cm 15 µS/cm 0.14 mS/cm	Using Standard buffer solutions – Direct Method

[1]The 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.

[2]When 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.

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

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

[5]Also available as site calibration. Note that actual measurement uncertainties achievable at a customer's site may normally be expected to be larger than the uncertainties listed on this Scope of Accreditation.

[6]Available as Site calibration only