

Quality And Accreditation Institute

Centre for International Accreditation



Certificate of Accreditation

Master Labs for Technical Testing, Inspection, and Calibration Services

Shop No. 68, Building No. 1981, Road No. 1527, Block 115,
Hidd, Kingdom of Bahrain

has been assessed and accredited in accordance with the Standard
ISO/IEC 17025:2017

“General Requirements for the Competence of Testing and Calibration Laboratories”
In the field of
Calibration

*This certificate remains valid for the Scope of Accreditation as specified
in the annexure subject to continued compliance to the above standard &
any other requirements specified by QAI.*



QAI/CIA/CL/2024/0004

(Date of First Accreditation: 05 February 2024)

Valid from: 24 October 2026

Valid until: 23 October 2028

Dr. Bhupendra Kumar Rana
Chief Executive Officer

Prof. Vikram Kumar
Chair, CIA



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Electro-Technical Discipline (Alternating & Direct Current)				
Sl. No.	Measurand or Reference Material/ Type of Instrument or Material to be Calibrated or Measured/ Quantity Measured/ Instrument	Calibration or Measurement Method or Procedure	Measurement Range and Additional Parameters Where Applicable (Range and Frequency)	*Calibration and Measurement Capability (CMC) ($\pm$)
At Permanent and Site Facility				
1.	DC Voltage Source	Using Standard Multifunction Calibrator by Direct method	10mV-200mV	0.08 mV
2.			>200mV-20V	0.008 V
3.			>20V-200V	0.08 V
4.			>200V-1000V	0.58 V
5.	AC Voltage Source @ 50Hz & 1KHZ)	Using Standard Multifunction Calibrator by Direct method	10mV-200mV	0.21 mV
6.			>200mV-20V	0.021 V
7.			>20V-200V	0.081 V
8.			>200V-1000V	0.61 V
9.	DC Current Source	Using Standard Multifunction Calibrator by Direct method	0.2mA-20mA	0.07 mA
10.			>20mA-200mA	1.6 mA
11.			>200mA-2A	0.021 A
12.			>2A-10A	0.015 A
13.			>10A-1000A	7.2 A



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14.	AC Current Source @ 50Hz & 1KHz)	Using Standard Multifunction Calibrator by Direct method	0.2mA-20mA	0.096 mA
15.			>20mA-200mA	1.4 mA
16.			>200mA-2A	0.012 A
17.			>2A-10A	0.076 A
18.			>10A-1000A	7.6 A
19.	DC Resistance Source	Using Decade Resistance box by Direct method	1 Ω - 100 Ω	0.08 Ω
20.			>100 Ω - 1k Ω	0.76 Ω
21.			>1k Ω - 10k Ω	5.8 Ω
22.			>10k Ω - 100k Ω	7.7 Ω
23.			>100k Ω - 1M Ω	0.001 M Ω
24.			>1M Ω - 10M Ω	0.008 M Ω
25.			>10M Ω - 100M Ω	0.76 M Ω



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26.	DC Voltage Measure	Using Digital Multimeter & Clamp meter by Direct method	1mV-200mV	0.076 mV
27.			>200mV-20V	0.008 V
28.			>20V-200V	0.058 V
29.			>200V-1000V	0.58 V
30.	AC Voltage Measure @ 60Hz	Using Digital Multimeter & Clamp meter by Direct method	1V-10V	1.25 mV
31.			>10V-100V	0.031 V
32.			>100V-750V	0.58 V
33.	DC Current Measure	Using Digital Multimeter & Clamp meter by Direct method	0.2mA-200mA	0.08 mA
34.			>200mA-2A	0.006 A
35.			>2A-10A	0.007 A
36.			>10A-1000A	0.58 A



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37.	AC Current Measure @ 60Hz	Using Digital Multimeter & Clamp meter by Direct method	0.2mA-200mA	0.08 mA
38.			>200mA-2A	0.008 A
39.			>2A-10A	0.015 A
40.			>10A-1000A	0.58 A
41.	DC Resistance Measure	Using Digital Multi meter by Direct method	1 Ω to 100 Ω	0.04 Ω
42.			>100 Ω to 1k Ω	0.0004 K Ω
43.			>1k Ω to 100k Ω	0.0049 K Ω
44.			>100k Ω to 1M Ω	0.018 M Ω
45.			>1M Ω to 100M Ω	0.49 M Ω



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Thermal Discipline- Temperature				
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At Permanent and Site Facility				
1.	Oven/Incubator/Furnace/ Furnace/ Chiller & Freezer of indicator with sensor	Using RTD Probe with Indicator by comparison method.	-30°C to 600°C	0.59 °C
2.	Digital thermometer/ RTD/ Thermocouple/ Temperature Transmitter/Recorder with sensor	Using Dry Block Calibrator by Direct method	-10°C to 150°C	0.64 °C
			>150°C to 600°C	0.65 °C



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Chemical Discipline- Chemical Equipment/Devices				
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At Permanent Facility				
1.	Conductivity Meter	Using Standard Conductivity solution by Direct method	1.414 mS/cm	0.01 mS/cm
			12.83 mS/cm	0.688 mS/cm
At Site Facility				
2.	Spectrophotometer (Absorbance calibration)	Using Standard Test Filter by Direct method	0.9965 to 1.0867 Abs	0.07 Abs



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Mechanical Discipline- Dimension				
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At Permanent Facility				
1.	Test Sieve	ISO 3310-1:2016	1 mm to 150 mm	33 μ m

Mechanical Discipline- Acoustics				
Sl. No.	Measurand or Reference Material/ Type of Instrument or Material to be Calibrated or Measured/ Quantity Measured/ Instrument	Calibration or Measurement Method or Procedure	Measurement Range and Additional Parameters Where Applicable (Range and Frequency)	*Calibration and Measurement Capability (CMC) ($\pm$)
At Permanent Facility				
1.	Sound Level Meter	ANSI S1.4:1983	94 dB & 114 dB (1 kHz)	1.3 dB



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Mechanical Discipline- Acceleration & Speed				
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At Permanent Facility				
1.	Non-Contact Tachometer	Comparison Method	2700 RPM to 10000 RPM 10000 RPM to 59500 RPM	0.07 % Rdg. 0.07 % Rdg.
At Site Facility				
2.	Centrifuge Rotational Speed (Non-contact)	Comparison	100 to 999 RPM	0.05%
			999 to 90000 RPM	0.21%



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Mechanical Discipline- Volume				
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At Permanent Facility				
1.	Micropipette, Syringes, Pycnometers, Pipette & Burette	ISO 8655 – 6:2022 ISO 4787: 2021	200 μ l to 1 ml	0.01 ml
2.			1 ml to 10 ml	0.08 ml
3.			10ml to 50 ml	0.16ml
4.	Volumetric Cylinder, Beaker, Flask	ISO 4787: 2021	1 ml to 10 ml	0.08 ml
5.			10 ml to 150 ml	0.45ml



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Mechanical Discipline- Mass				
Sl. No.	Measurand or Reference Material/ Type of Instrument or Material to be Calibrated or Measured/ Quantity Measured/ Instrument	Calibration or Measurement Method or Procedure	Measurement Range and Additional Parameters Where Applicable (Range and Frequency)	*Calibration and Measurement Capability (CMC) ($\pm$)
At Permanent Facility				
1.	Mass -Weights	OIML-R -111-1	100 mg (M2 and coarser)	0.14 mg
2.			200 mg (M2 and coarser)	0.14 mg
3.			500 mg (M1 and coarser)	0.21 mg
4.			1 g (M1 and coarser)	0.20 mg
5.			2g (M1 and coarser)	0.20 mg
6.			5 g (M1 and coarser)	0.14 mg
7.			10 g (M1 and coarser)	0.14 mg
8.			20 g (M1 and coarser)	0.20 mg
9.			50 g (M1 and coarser)	0.14 mg
10.			100 g (M1 and coarser)	0.26 mg
11.			200 g (M1 and coarser)	0.50 mg
12.			500 g (M3 and coarser)	8.0 mg



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Mechanical Discipline- Mass				
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13.	Mass -Weights	OIML-R -111-1	1 kg (M2 and coarser)	50.0 mg
14.			2 kg (M2 and coarser)	40.0 mg
15.			5 kg (M2 and coarser)	60 mg
16.			10 kg (M2 and coarser)	156 mg
At Site Facility				
17.	Analytical Balance, Precision Balance, Digital Balance (Class II)	OIML-R-76-1	1 mg to 500 mg	0.68 mg
			>500 mg to 200 g	5.80 mg
18.	Digital Balance, Platform Balance (Class II)	OIML-R-76-1	>200 g to 10 kg	0.10 g
19.	Digital Balance, Platform Balance (Class III)		>10 kg to 30 kg	0.11 g
20.	Platform Balance, Batching Plants (Class III)		>30 kg to 200 kg	9.6 g



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Mechanical Discipline- Pressure & Vacuum				
Sl. No.	Measurand or Reference Material/ Type of Instrument or Material to be Calibrated or Measured/ Quantity Measured/ Instrument	Calibration or Measurement Method or Procedure	Measurement Range and Additional Parameters Where Applicable (Range and Frequency)	*Calibration and Measurement Capability (CMC) ($\pm$)
At Permanent Facility				
1.	Pressure Gauges, Chart Recorder	DKD R6-1: 2006 OIML R-101, BS EN 60873-2	0 to 10 bar	0.29 bar
			>10 to 150 bar	0.59 bar
			>150 to 500 bar	0.85 bar
			>500 to 1500 bar	0.85 bar
2.	Pressure calibrator, Pressure Transmitters	Euramet gc-17	0 to 10 bar	0.15 bar
			>10 to 150 bar	0.38 bar
			>150 to 600 bar	2.04 bar
3.	Pressure Relief Valve, Pressure Switches	DKD R6-1: 2006 OIML R 101, BS EN 60873-2	0 to 10 bar	0.09 bar
			>10 to 150 bar	0.59 bar
			>150 to 600 bar	0.85 bar

