

Issue No: 2/ Issue Date: 01.12.2021  
File Manager: Hamza Khan

## Calibration Laboratory Accreditation No. ACL 0015

is accredited by the GCC Accreditation Center (GAC) in accordance with the recognized International Standard ISO/IEC 17025:2017, "General requirements for the competence of testing and calibration laboratories"

National Metrology- Laboratory	
Address. 3 <sup>rd</sup> Floor, Bahrain Financial Harbour, P.O. Box 5479Manama, Kingdom of Bahrain, Ministry of Industry, Commerce and Tourism	Contact: Ali Alhayki Tel: 009731754074 Fax: 17530730 Email: aalhayki@moic.gov.bh Web Address: <a href="http://www.moic.gov.bh">www.moic.gov.bh</a>

### Locations where calibration activities covered by the above Accreditation Standard are undertaken

1- address 3<sup>rd</sup> Floor, Bahrain Financial Harbour, P.O. Box 5479Manama, Kingdom of Bahrain, Ministry of Industry, Commerce and Tourism

### For the following scope:

#### Scope:

#### 1. Calibration

## 10.15 Scope of Accreditation

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- 1.11 Masses
- 1.12 Weighing devices
- 1.13 Volumetric equipment
- 1.20 Pressure and vacuum measuring devices
- 1.80 Calibration of temperature measuring equipment

Scope details are as follows:

### ***Calibration field 1: Mass***

## 10.15 Scope of Accreditation

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Measurand	Measuring Range	CMC Expressed as an Expanded Uncertainty (k = 2) **	Method (standard/guide + internal procedure)	Type of Instrument or Material	Permanent lab (P) / Client-site (S) *
Conventional Mass	1 mg	0.003 mg	OIML R 111-1 (2004) + Internal procedure Q.W 804	Standard weights	P
	2 mg	0.003 mg			
	5 mg	0.003 mg			
	10 mg	0.003 mg			
	20 mg	0.003 mg			
	50 mg	0.004 mg			
	100 mg	0.005 mg			
	200 mg	0.006 mg			
	500 mg	0.008 mg			
	1 g	0.010 mg			
	2 g	0.012 mg			
	5 g	0.016 mg			
	10 g	0.020 mg			
	20 g	0.025 mg			
	50 g	0.03 mg			
	100 g	0.05 mg			
	200 g	0.10 mg			
	500 g	0.25 mg			
	1 kg	0.5 mg			
	2 kg	1.0 mg			
5 kg	2.5 mg				
10 kg	5.0 mg				
20 kg	0.3 g				
200 kg	0.1 kg				
500 kg	0.25 kg				

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### Calibration field 2: NAMI

Measurand	Measuring Range	CMC Expressed as an Expanded Uncertainty (k = 2) **	Method (standard/guide + internal procedure)	Type of Instrument or Material	Permanent lab (P) / Client-site (S) *
Conventional Mass	1 mg to 50 g	0.1 mg	GSO OIML R76-1 + Internal procedure Q.W.803	Non-Automatic Weighing Instruments	S
	> 50 g to 200 g	0.3 mg			
	> 200 g to 2000 g	3 mg			
	> 2 kg to 10 kg	15 mg			
	> 10 kg to 30 kg	30 mg			
	> 30 kg to 100 kg	5 g			
	>100 kg to 2000 kg	0.2 kg			
	> 2 t to 10 t	10 kg			
	> 10 t to 30 t	30 kg			
	> 30 t to 50 t	50 kg		Weighing Bridges	

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**CALIBRATION**

ISO/IEC 17025:2017

No. ACL 0015

### Calibration field 3: Volume

Measurand	Measuring Range	CMC Expressed as an Expanded Uncertainty (k = 2) **	Method (standard/guide + internal procedure)	Type of Instrument or Material	Permanent lab (P) / Client-site (S) *
Volume	10 ml to 100 ml	5 $\mu$ l	Gravimetric Method GSO ISO 4787 + Internal procedures Q.W.810 & Q.W.811	Pipettes / Burettes / Measuring Flasks, Cylinder glass/Plastic/metallic wares of content type	P
	> 100 ml to 1000 ml	0.2 ml			
	> 1000 ml to 5000 ml	0.5 ml			
	> 5000 ml to 10000 ml	6 ml			

### Calibration field 4: Pressure

Measurand	Measuring Range	CMC Expressed as an Expanded Uncertainty (k = 2) **	Method (standard/guide + internal procedure)	Type of Instrument or Material	Permanent lab (P) / Client-site (S) *
Relative Pressure	(5 to 35) kPa	0.13 kPa	GSO OIML R16 + Internal procedure Q.W.809	Sphygmomanometer (Mercury/Digital) Pressure Measuring Instruments	P / S

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**Calibration field 5: Temperature**

Measurand	Measuring Range	CMC Expressed as an Expanded Uncertainty (k = 2) **	Method (standard/guide + internal procedure)	Type of Instrument or Material	Permanent lab (P) / Client-site (S) *
Temperature	(0 to 32) °C	0.04 °C	GSO OIML R7 GSO OIML R115 GSO OIML R114 + Internal procedure Q.W.812	Thermometers (Digital and Clinical)	P / S
	(32 to 42) °C	0.03 °C			
	(42 to 60) °C	0.06 °C			

\*: Put only 'P', 'S' or 'P and S'

\*\*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. CMC's 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.

**Note:** the text in blue indicates the new scope OR update in the Edition of a method in this issue of the scope of accreditation.

## 10.15 Scope of Accreditation

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### Log of Suspended Scopes:

Measurand	Measuring Range	CMC Expressed as an Expanded Uncertainty (k = 2) **	Method (standard/guide + internal procedure)	Type of Instrument or Material	Permanent lab (P) / Client-site (S) *	Date Suspended	Date Reinstated

### Log of Withdrawn Scopes:

Measurand	Measuring Range	CMC Expressed as an Expanded Uncertainty (k = 2) **	Method (standard/guide + internal procedure)	Type of Instrument or Material	Permanent lab (P) / Client-site (S) *	Date Withdrawn

**END**

This conformity assessment body (CAB) is recorded as issuing GAC accredited certificates to organizations in the countries listed below. This list is current at the time of issue of this schedule.

United Arab Emirates	Bahrain	Saudi Arabia	Oman	Qatar	Kuwait	Yemen