



ACCREDITATION CERTIFICATE

LB-CAL-062

Emirates International Accreditation Centre

has accredited

**EMIRATES METROLOGY INSTITUTE OF ABU DHABI QUALITY AND
CONFORMITY COUNCIL**

Centre of Excellence for Applied Research and Training (CERT)

881 Sultan Bin Zayed The First Street

Abu Dhabi-United Arab Emirates

In accordance with the requirements of

ISO/IEC 17025:2017

General requirements for the competence of testing and calibration laboratories

to undertake the calibration in the attached accreditation scope

This Accreditation is invalid without the attached accreditation scope and shall remain in force within the validity period printed below, subject to continuing compliance with the requirements of the accreditation criteria.

Validity: 31-05-2021 to 14-02-2024

Initial Accreditation Date: 15-02-2018




CHIEF EXECUTIVE OFFICER
APPROVAL



Accreditation Scope

LB-CAL-062

Emirates Metrology Institute of Abu Dhabi Quality and Conformity Council

Centre of Excellence for Applied Research and Training (CERT)

881 Sultan Bin Zayed The First Street, Abu Dhabi- United Arab Emirates

Date: 31-05-2021

Valid to: 14-02-2024

Accreditation History			
Scope	Issue No.	Details	Date
Time and Frequency	5	Renewal accreditation	31-05-2021
Mass	5		
Temperature	5		
Dimension	5		
Volume	5		
Density	5		
Humidity	4		
Electrical			
Force			
Time and Frequency	4	Certificate validity (29/09/2019 to 14/02/2021) was expanded for 6 months, Transition to ISO/ IEC 17025:2017 and to comply with the new accreditation number format	15-02-2021
Mass	4		
Temperature	4		
Dimension	4		
Volume	4		
Density	4		
Humidity	3		
Electrical			
Force			
Time and Frequency	3	Extension in scope	29/03/2020
Mass	3	Modification in CMC Values	
Temperature	3	Extension in scope and Modification in CMC Values	
Dimension	3	Modification in CMC Values	
Volume	3		
Density	3		

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Accreditation History			
Scope	Issue No.	Details	Date
Time and Frequency	2	First issuance under the name of EIAC (which was formerly known as DAC)	29/09/2019
Mass and Balance			
Temperature			
Dimension			
Humidity			
Electrical			
Density			
Volume			
Force			

Accreditation Scope

Time and Frequency Calibration

LB-CAL-062

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Issue no.: 05

Date: 31-05-2021

Valid to: 14-02-2024

Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Local frequency standard	CP-E-01	1 MHz	2.1×10^{-11}	Laboratory
		5 MHz		
		10 MHz		
General frequency source	CP-E-01	1 MHz to 350 MHz	3×10^{-11}	Laboratory
Frequency counter	CP-E-09	1 MHz	1.4×10^{-12}	
		5 MHz		
		10 MHz		
Time Interval – Stopwatches and timers	CP-E-13	20 minutes to 100 hours	0.48 s	Laboratory
Time Interval – Local clock	CP-E-15	24 hours	1.3 s	

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Time and Frequency Calibration

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Time scale difference - Local clock vs. UTC	CP-E-15	± 5 minutes	0.8 s	Laboratory
Non-contact tachometer	Procedure CP-E-27 Calibration of Non Contact Tachometers	30.000 rpm to 99.999 rpm	0.001 rpm	Laboratory
		100.00 rpm to 999.99 rpm	0.01 rpm	
Non-contact tachometer	Procedure CP-E-27 Calibration of Non Contact Tachometers	1,000.0 rpm to 9,999.9 rpm	0.1 rpm	Laboratory
		10,000 rpm to 99,999 rpm	1 rpm	
		100,000 rpm to 199,800 rpm	10 rpm	
Frequency meter	Procedure CP-E-09 Calibration of Frequency Counters	1 kHz to 350 MHz	2.9×10^{-7}	

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Accreditation Scope

Mass Calibration

LB-CAL-062

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Mass/ Mass Standards	CP-M-02 "Calibration of Mass Standards" and CP- M-03 "Weighing Designs"	500 kg	4.9 g	Laboratory
		200 kg	1.9 g	
		100 kg	0.25 g	
		50 000 g	80 mg	
		20 000 g	10 mg	
		10 000 g	1.6 mg	
		5 000 g	0.80 mg	
		2 000 g	0.30 mg	
		1 000 g	0.16 mg	
		500 g	0.080 mg	
		200 g	0.030 mg	

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Mass/ Mass Standards	CP-M-02 "Calibration of Mass Standards" and CP-M-03 "Weighing Designs"	100 g	0.016 mg	Laboratory
		50 g	0.010 mg	
		20 g	0.0080 mg	
		10 g	0.0060 mg	
		5 g	0.0050 mg	
		2 g	0.0040 mg	
		1 g	0.0030 mg	
		0.5 g	0.0025 mg	
		0.2 g	0.0020 mg	
		0.1 g	0.0016 mg	
		0.05 g	0.0012 mg	
		0.02 g	0.0010 mg	
		0.01 g	0.0010 mg	
		0.005 g	0.0010 mg	
		0.002 g	0.0010 mg	
0.001 g	0.0010 mg			

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Mass/ Electronic Balances	CP-M-01 "Calibration of NAWI's", Weights are available in OIML Classes: • E2: 1 mg to 5 kg; max grouped load 11.11 kg. • F1: 1 mg to 50 kg; max grouped load 171.1 kg	170 kg	740 mg	Customers Premises
		100 kg	660 mg	
		50 kg	140 mg	
		20 kg	46 mg	
		10 kg	25 mg	
		5 kg	3.8 mg	
		2 kg	1.5 mg	
		1 kg	0.76 mg	
		500 g	0.38 mg	
		200 g	0.15 mg	
		100 g	0.078 mg	
		50 g	0.046 mg	
		20 g	0.038 mg	
10 g	0.031 mg			

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Mass/Electronic Balances	CP-M-01 "Calibration of NAWI's", Weights are available in OIML Classes: • E2: 1 mg to 5 kg; max, grouped load 11.11 kg. • F1: 1 mg to 50 kg; max , grouped load 171.1 kg	5 g	0.024 mg	Customers Premises
		2 g	0.018 mg	
		1 g	0.015 mg	
		500 mg	0.012 mg	
		200 mg	0.010 mg	

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Temperature Calibration

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Resistance thermometers with display unit	Comparison with platinum resistance thermometer in bath. EMI procedure: CP-T-01	-80 °C to 80 °C	0.015 °C	Laboratory
		>80 °C to 150 °C	0.020 °C	
		>150 °C to 250 °C	0.025 °C	
	Comparison with platinum resistance thermometer in a block calibrator. EMI procedure: CP-T-01	>250 °C to 400 °C	0.6 °C to 0.8 °C	
Thermocouples with display unit	Comparison with platinum resistance thermometer in bath EMI procedure: CP-T-01	-80°C to 150°C	0.2°C	Laboratory
		>150°C to 250°C	0.4°C	

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Thermocouples with display unit	Comparison with platinum resistance thermometer in a block calibrator EMI procedure: CP-T-01	>250 °C to 400°C	0.6 °C to 0.8 °C	Laboratory
Temperature Block Calibrators	Comparison with platinum resistance thermometer. EMI procedure: CP-T-03	-30 °C to 400 °C	0.2 °C	Laboratory
Platinum Resistance thermometers	Comparison with platinum resistance thermometers in bath. EMI procedure: CP-T-04	-80°C to 80°C	0.01°C	Laboratory
		>80°C to 150°C	0.015°C	
		>150°C to 250°C	0.02°C	

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Platinum Resistance thermometers	Comparison with platinum resistance thermometers in Zn fixed point. EMI procedure: CP-T-04	419.527°C (Zn fixed point)	0.005°C	Laboratory
Air Temperature Sensors	Comparison with reference thermometer in an air chamber. EMI procedure: CP-T-01	10 °C to 70 °C	0.10°C to 0.30°C	Laboratory
SPRT Calibration at Fixed points	Triple point of mercury. EMI procedure: CP-T-10	234.3156 K	0.6 mK	Laboratory
	Triple point of water. EMI procedure: CP-T-10	0.01 °C	0.3 mK	

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
SPRT Calibration at Fixed points	Ga melting point. EMI procedure: CP-T-10	29.7646 °C	0.6 mK	Laboratory
	In freezing point. EMI procedure: CP-T-10	156.5985 °C	1.7 mK	
	Sn freezing point. EMI procedure: CP-T-10	231.928 °C	1.6 mK	
	Zn freezing point. EMI procedure: CP-T-10	419.527 °C	1.9 mK	
	Al freezing point. EMI procedure: CP-T-10	660.323 °C	16 mK (7.0)	
SPRT Calibration at Fixed Point Sub-Ranges	Fixed points Hg to H ₂ O EMI procedure: CP-T-10	234.3156 K to 273.16 K	0.7 mK	Laboratory

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SPRT Calibration at Fixed Point Sub-Ranges	Fixed points H2O to Ga EMI procedure: CP-T-10	0.01 °C to 29.746 °C	0.7 mK	Laboratory
	Fixed points Ga to In EMI procedure: CP-T-10	29.7646 °C to 156.5985 °C	1.8 mK	
	Fixed points In to Sn EMI procedure: CP-T-10	156.5985 °C to 231.928 °C	2.0 mK	
	Fixed points Sn to Zn EMI procedure: CP-T-10	231.928 °C to 419.527 °C	3.0 mK	
	Fixed points Zn to Al EMI procedure: CP-T-10	419.527 °C to 660.323 °C	3 mK to 16 mK	
Calibration of Climatic Chambers	DKD-R 5-7. EMI procedure: CP-T-05	-40 °C to 140 °C	0.2 °C	Customer's Premises

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Calibration of Autoclaves	EMI procedure: CP-T-06	110 °C to 140 °C	0.2 °C	Customer's Premises
Base metal thermocouples	Comparison calibration in baths and furnaces. EMI procedure: CP-T-07	-70 °C to 250 °C	0.2 °C to 0.4 °C	Laboratory
		>250 °C to 1100 °C	0.6 °C to 1.3 °C	
Noble metal thermocouples	Comparison calibration in baths and furnaces. EMI procedure: CP-T-07	-50 °C to 250 °C	0.2 °C to 0.4°C	Laboratory
		>250 °C to 1100 °C	0.6 °C to 1.0 °C	

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Accreditation Scope

Humidity Calibration

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Calibration of dew point meters for relative humidity	Calibration in chamber of humidity generator. EMI procedure: CP-T-02	10%rh to 95 %rh at air temperature from 10°C to 45°C	0,3%rh to 1,0 %rh	Laboratory
		10%rh to 95%rh at air temperature from 45°C to 70°C	0,4%rh to 1,6 %rh	
Calibration of relative humidity meters for relative humidity	Calibration in chamber of humidity generator EMI procedure: CP-T-02	10%rh to 95%rh at air temperature from 10°C to 45°C	0,4%rh to 1,1 %rh	Laboratory
		10%rh to 95%rh at air temperature from 45°C to 70°C	0,5%rh to 1,7 %rh	
Calibration of Climatic Chambers, Humidity Measurements	According to DKD-R 5-7 EMI procedure: CP-T-05	10 %rh to 90 %rh at air temperature from 10°C to 50°C	0.6 %rh to 1.5 %rh	Customer's Premises

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Dimensional Calibration

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Gauge blocks: millimeter (Steel, Tungsten carbide and Ceramic)	Measurement of central length by interferometry. Measured twice, wrung to a platen by each of the two measuring faces in turn, and the mean of these two measurements stated on the certificate. Procedure used: EMI Procedure no.: CP-D-09 ISO 3650: 1998	Grades K, and 0 0.5 mm to 100 mm	Q [25 nm, 0.7×10^{-6} L]	Laboratory

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The notation $Q[a, bL]$ stands for the root-sum-square of the terms between brackets: $Q[a, bL] = [a^2 + (b \cdot L)^2]^{1/2}$

Where L is the measurement length, expressed in the same units as the term "a" or converted into to the same unit after multiplying with term "b".

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Long gauge blocks: millimetre (Steel, Tungsten carbide and Ceramic)	Measurement of central length by interferometry. Measured twice, wrung to a platen by each of the two measuring faces in turn, and the mean of these two measurements stated on the certificate. Procedure used: EMI Procedure no.: CP-D-09 ISO 3650: 1998	Grades K, and 0 100 mm to 300 mm	Q [37 nm, 0.7×10^{-6} L]	Laboratory

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The notation Q[a, bL] stands for the root-sum-square of the terms between brackets: $Q[a, bL] = [a^2 + (b \cdot L)^2]^{1/2}$

Where L is the measurement length, expressed in the same units as the term "a" or converted into to the same unit after multiplying with term "b".

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Dial gauges	For determining error of indicated displacement Measurement with universal length measuring machine Procedure used: EMI procedure no.: CP-D-02 ISO 463: 2006	up to 50 mm (Resolution: 0.001 mm)	2 µm	Laboratory
		50 mm to 100 mm (Resolution: 0.001 mm)	3 µm	
Gauge blocks: millimetre (Steel)	Measurement of central length by mechanical comparison. Procedure used: EMI procedure no.: CP-D-03 ISO 3650: 1998	0.5 mm to 100 mm	$Q[80 \text{ nm}, 1.1 \times 10^{-6} L]$	Laboratory

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The notation $Q[a, bL]$ stands for the root-sum-square of the terms between brackets: $Q[a, bL] = [a^2 + (b \cdot L)^2]^{1/2}$

Where L is the measurement length, expressed in the same units as the term "a" or converted into to the same unit after multiplying with term "b".

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Gauge blocks: millimeter (Ceramic)	Measurement of central length by mechanical comparison with K grade steel blocks Procedure used: EMI procedure no.: CP-D-03 ISO 3650: 1998	0.5 mm to 100 mm	Q[80 nm, 1.93×10^{-6} L]	Laboratory

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Where L is the measurement length, expressed in the same units as the term "a" or converted into to the same unit after multiplying with term "b".

Accreditation Scope

Dimensional Calibration

LB-CAL-062

**Emirates Metrology Institute of Abu Dhabi Quality and Conformity Council
Centre of Excellence for Applied Research and Training (CERT)
881 Sultan Bin Zayed The First Street, Abu Dhabi- United Arab Emirates**

Issue no.: 05

Date: 31-05-2021

Valid to: 14-02-2024

Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
External micrometers	For determining error of indicated size Comparison with reference gauge block Comparison with universal length measuring machine Procedure used: EMI procedure no.: CP-D-01 ISO 3611: 2010	0 mm to 25 mm (Resolution: 0.001 mm)	2 µm	Laboratory
		25 mm to 75 mm (Resolution: 0.001 mm)	2 µm	
		75 mm to 175 mm (Resolution: 0.001 mm)	3 µm	

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
External cylinder Plain plug gauges (parallel) and Pin gauges	Comparison with reference gauge block using universal length measuring machine. Procedure used: EMI Procedure no.: CP-D-07 EURAMET cg-6 Version 2.0 (03/2011)	1 mm to 80 mm diameter	0.80 µm	Laboratory
Internal cylinder Plain ring gauges (parallel)	Comparison with reference ring gauge using universal length measuring machine Procedure used: EMI Procedure no.: CP-D-08 EURAMET cg-6 Version 2.0 (03/2011)	10 mm to 50 mm diameter	0.70 µm	Laboratory

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Callipers (Verniers, Digitals)	For determining error of indicated size Comparison with calliper checker and gauge blocks (for calipers with Vernier scale). Procedure used: EMI procedure no.: CP-D-04 (Resolution : 0.01 mm) ISO 13385-1: 2011	Up to 600 mm (Resolution: 0.01 mm)	(0.012 mm + 13×10 ⁻⁶ L)	Laboratory

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Height gauges (analog, digital)	For determining error of indicated vertical size Comparison with calliper checker Procedure used: EMI Procedure no.: CP-D-05 (Resolution: 0.01 mm) ISO 13225: 2012	Up to 600 mm (Resolution: 0.01 mm)	$(0.011 \text{ mm} + 9 \times 10^{-6} \text{ L})$	Laboratory

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Angle gauges	Measurement of included angle by Comparison using primary encoder. Procedure used: EMI Procedure no.: CP-D-15	Up to 90°	0.6"	Laboratory

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Angle indicating instruments (clinometers)	For determining error of indicated inclination angle Comparison to primary encoder in vertical orientation Procedure used: EMI procedure no.: CP-D-16 (resolution 0.01°)	Up to 90° (Resolution: 0.01°)	0.02°	Laboratory

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Long gauge blocks	Measurement of central length by mechanical comparison to same nominal size long gauge blocks using universal length measuring machine Procedure used: EMI procedure no.: CP-D-06 ISO 3650:1998	125 mm to 500 mm	Q [0.16 μm , 1.9×10^{-6} L]	Laboratory

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Gauge block comparator	For determining error of indicated displacement Mechanical comparison to gauge block couples Procedure used: EMI procedure no.: CP-D-12 EURAMET cg-2 Version 2.0 (03/2011) (Previously EA-10/02)	0.5 mm to 100 mm	0.05 μm	Laboratory

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
1-D measuring Machine (Universal Length Measuring Machine)	For determining error of indicated size/displacement Mechanical comparison to gauge block Procedure used: EMI procedure no.: CP-D-13	0 to 100 mm	Q [0.062 μm , 1.3×10^{-6} L]	Laboratory

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Accreditation Scope

Density Calibration

LB-CAL-062

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Solid Density Standard at 20°C Mass: 1 kg	CP-V-05 "Solid density by Hydrostatic weighing" Hydrostatic weighing (comparison to reference silicon sphere SP-1)	2330 kg/m ³	1.5 kg/m ³	laboratory
Density of solid at 20°C Mass: 20g to 30g	CP-V-05 "Solid density by Hydrostatic weighing" Hydrostatic weighing with use of volume comparator	2300 kg/m ³ to 2800 kg/m ³	1 kg/ m ³	

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Density Calibration

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Density of solid at 20°C Mass: 1g to 1kg Density: 7900 kg/m ³ to 8400 kg/m ³	CP-V-05 "Solid density by Hydrostatic weighing" Hydrostatic weighing with use of volume comparator	1g	60 kg/m ³	Laboratory
		2 g	30 kg/m ³	
		5 g	15 kg/m ³	
		10 g	8 kg/m ³	
		20 g	5 kg/m ³	
		50 g	3 kg/m ³	
		100 g	2.5 kg/m ³	

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Density of solid at 20°C Mass: 1g to 1kg Density: 7900 kg/m ³ to 8400 kg/m ³	CP-V-05 "Solid density by Hydrostatic weighing" Hydrostatic weighing with use of volume comparator	200 g	2 kg/m ³	Laboratory
		500 g	2 kg/m ³	
		1 kg	1.5 kg/m ³	
Density of Liquid at 20°C	CP-V-04 Hydrostatic weighing with use of glass sinker of appr. . ca. 25g mass	680 kg/m ³ to 1200 kg/m ³	0.86 kg/m ³ to 1.3 kg/m ³	Laboratory

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Accreditation Scope

Electrical Calibration

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Solid state DC voltage standards	Procedure CP-E-03	10 V	7.3 μ V	Laboratory
		1.018V	2.6 μ V	
DC resistance standards	Procedure CP-E-02 <i>R = measured resistance value</i>	100 m Ω	0.43X10 ⁻⁶ R	
		1 Ω	0.43X10 ⁻⁶ R	
		10 Ω	0.43X10 ⁻⁶ R	
		25 Ω	0.49X10 ⁻⁶ R	
		100 Ω	0.49X10 ⁻⁶ R	
		1 k Ω	0.54X10 ⁻⁶ R	
		10 k Ω	0.57X10 ⁻⁶ R	
DC resistance Calibration of Resistor Decades	Procedure CP-E-23 <i>R = measured resistance value</i>	0.1 Ω /step	0.05 m Ω	
		1 Ω /step	50X10 ⁻⁶ R	
		10 Ω /step	10X10 ⁻⁶ R	
		100 Ω /step	7.0X10 ⁻⁶ R	
		1 k Ω /step	7.0X10 ⁻⁶ R	

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
DC resistance Calibration of Instruments	Procedure CP-E-14 Procedure CP-E-16	0 Ω	3.0 μΩ	Laboratory
		1 Ω	3.8 μΩ	
		10 Ω	9.1 μΩ	
		25 Ω	32 μΩ	
DC resistance Calibration of Instruments	Procedure CP-E-14 Procedure CP-E-16	100 Ω	0.10 mΩ	
		200 Ω	0.26 mΩ	
		400 Ω	0.52 mΩ	
DC resistance ratio	Procedure CP-E-12 Bridge Procedure CP-E-12 Range Extender	0.1:1 to 10:1	0.08X10 ⁻⁶	
		10:01	2.9X10 ⁻⁶	
		100:01:00	5.8X10 ⁻⁶	
		1000:01:00	10X10 ⁻⁶	
DC current Calibration of Sources	Procedure CP-E-22 <i>I = measured current value</i>	10 μA to 0.3 mA	3.0 nA	
		>0.3 mA to 100 mA	10X10 ⁻⁶ /	
		>100 mA to 1 A	15X10 ⁻⁶ /	

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DC current Calibration of Sources	Procedure CP-E-22 <i>I = measured current value</i>	>1 A to 10 A	17×10^{-6} /	Laboratory
		>10 A to 150 A	20×10^{-6} /	
AC power Calibration of power meters	Procedure CP-E-30	1 V to 500 V 0.125 A to 120 A 40 Hz to 400 Hz Power factor 0 to 1	Active power 25 μ W/ VA Reactive power 25 μ var/ VA	
AC energy Calibration of energy meters	Procedure CP-E-31	30 V to 490 V 4 m A to 120 A 45 Hz to 65 Hz Power factor 0 to 1	Active energy 260 μ Wh/VAh Reactive energy 260 μ varh/Vah	

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Accreditation Scope

Force Calibration

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Force/ Force Proving Instruments (tension and compression modes)	Calibration of force proving instruments in accordance with EN ISO 376:2011 increasing and decreasing forces	100 kN to 5000 kN	0.05% of indicated value	Laboratory
		50 kN to 100 kN	0.1% of indicated value	

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Volume Calibration

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Volume of Liquids Piston operated volumetric apparatus (pipettes, dispensers)	CP-V-01 "Gravimetric Calibration of piston operated pipetes" Fixed and variable volume single and multi-channel Manual or automatic piston operated pipettes using gravimetric method: - 1 volume (fixed volume pipettes) - 3 volumes (variable volume pipettes) -10 readings As specified in ISO 8655- 6:2002	10 µl	0.024 µl	Laboratory
		20 µl	0.028 µl	
		50 µl	0.046 µl	
		100 µl	0.083 µl	
		200 µl	0.17 µl	
		500 µl	0.41 µl	
		1000 µl	2.1 µl	
		2000 µl	5 µl	
		5000 µl	8 µl	
		10000 µl	17 µl	
Volumetric glassware One-mark flasks	CP-V-02 "Gravimetric Calibration of Volumetric Glassware"	10 ml	0.023 ml	Laboratory
		20 ml	0.033 ml	
		50 ml	0.047 ml	

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Volumetric glassware One-mark flasks	CP-V-02 "Gravimetric Calibration of Volumetric Glassware"	100 ml	0.064 ml	Laboratory
		200 ml	0.087 ml	
		500 ml	0.13 ml	
		1000 ml	0.19 ml	
Volumetric glassware Graduated measuring cylinders	CP-V-02 "Gravimetric Calibration of Volumetric Glassware"	10 ml	0.070 ml	Laboratory
		20 ml	0.12 ml	
		50 ml	0.21 ml	
		100 ml	0.38 ml	
		200 ml	0.60 ml	
		500 ml	0.84 ml	
		1000 ml	1.5 ml	
		2000 ml	2.5 ml	
Volumetric glassware Pipettes	CP-V-02 "Gravimetric Calibration of Volumetric Glassware"	1 ml	0.0060 ml	Laboratory
		2 ml	0.0060 ml	
		5 ml	0.012 ml	
		10 ml	0.018 ml	
		25 ml	0.040 ml	

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Accreditation Scope

Volume Calibration

LB-CAL-062

Emirates Metrology Institute of Abu Dhabi Quality and Conformity Council

Centre of Excellence for Applied Research and Training (CERT)

881 Sultan Bin Zayed The First Street, Abu Dhabi- United Arab Emirates

Issue no.: 05

Date: 31-05-2021

Valid to: 14-02-2024

Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Volumetric glassware Burettes	CP-V-02 "Gravimetric Calibration of Volumetric Glassware"	10 ml	0.020 ml	Laboratory
		25 ml	0.020 ml	
		50 ml	0.040 ml	Laboratory
		100 ml	0.070 ml	
Metallic prover vessels	CP-V-03 "Gravimetric Calibration of Prover Vessels"	5 L to 100 L	0.10%	Laboratory

* Calibration and Measurement Capability (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. Calibration and Measurement Capabilities 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.

Accreditation Scope

Force Calibration

LB-CAL-062

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Calibration Field/ Measuring Quality	Calibration Method	Range and Specification	Calibration Measurement Capability (CMC)*	Location
Force/ Force Proving Instruments (tension and compression modes)	Calibration of force proving instruments in accordance with EN ISO 376:2011 increasing and decreasing forces	100 kN to 5000 kN	0.05% of indicated value	Laboratory
		50 kN to 100 kN	0.1% of indicated value	

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