



THE HASHEMITE KINGDOM OF
JORDAN

Accreditation Unit

Annex (1)

Updated on 29/04/2024

To the Accreditation Certificate No. **JAS Cal. - 009** Dated **21-02-2023**

For Metrology Professionals LLC (MetrologyPro) / Amman

In the fields of Calibration of:

Pressure, Temperature, Mass and Balance, Torque, Conductivity meter, pH meter,
Sound Level Meters, Volume, Rotational Speed and Time Permanent & On-Site

Measurand	Measuring Range	Calibration and measurement Capability (CMC) ^a	Calibration Methods/ Standards/ Remarks	
Pressure (Calibration Location: Metro Lab/Permanent & On-Site)				
Pressure /Vacuum Meter	-350 mbar ≤ X ≤ 350 mbar	0.5 mbar	Metpro_WI_029 Version No. (7) Date (7/7/2022)	
	-1 bar < X ≤ 40 bar	0.03 bar		
	40 bar < X ≤ 400 bar	0.5 bar		
Temperature (Calibration Location: Metro Lab/ Permanent & On-Site)				
Resistance Thermometers/ RTD with indicator / Data Loggers	-40 ≤ X ≤ 160 °C	0.2 °C	METPRO_WI_032, version No. (6), Date (1/11/2023).	
	160 °C < X ≤ 420 °C	0.3 °C	METPRO_WI_049, version No. (6), Date (1/11/2023).	
Thermocouple Thermometers	-40 °C ≤ X ≤ 160 °C	0.2 °C	MetPro_WI_040, version No. (4) Date (7/7/2022)	
	160 °C < X ≤ 400 °C	0.4 °C		
	400 °C < X ≤ 660 °C	0.6 °C		
Temperature block calibrator	-95 °C ≤ X ≤ 160 °C	0.25 °C	Metpro_WI_042 Version No. (5), Date 1/10/2023	
Mass (Calibration Location: Metro Lab/ Permanent & On-Site)				
Non-Automatic weighing instruments Using class E2 standard weights	0.001g < X ≤ 83g	0.26mg	Metpro_WI_027, Version No. (09) (٢٠٢٣/١٠/٤) Date	
	83g < X ≤ 320g	3 mg		
Non-Automatic weighing instruments Using class F1 standard weights	320g < X ≤ 1000g	8 mg		
	1000g < X ≤ 3000g	13 mg		
	3000g < X ≤ 6000g	60 mg		
	6000g < X ≤ 10000g	113 mg		
10 kg < X ≤ 20 kg	0.247g			
Non-Automatic weighing instruments Using class M1 standard weights	20 kg < X ≤ 200 kg	12g		
Conventional Class M1,M2, & M3	1mg	0.05 mg		Metpor_WI_028Version No. (06) Date (٢٠٢٢/٧/٧)
	2 mg	0.06 mg		
	5 mg	0.06 mg		
	10 mg	0.08 mg		
	20 mg	0.1 mg		
	50 mg	0.12 mg		
	100 mg	0.16 mg		
	200 mg	0.2 mg		
	500 mg	0.25 mg		
	1 g	0.3 mg		
	2 g	0.4 mg		
	5 g	0.5 mg		
	10 g	0.6 mg		
	20 g	0.8 mg		
	50 g	1.0 mg		
	100 g	1.6 mg		
	200 g	3.0 mg		
	500 g	8.0 mg		
	1 kg	16 mg		
	2 kg	30 mg		
5 kg	80 mg			
10 kg	0.16 g			



Measurand	Measuring Range	Calibration and measurement Capability (CMC) ^a	Calibration Methods/ Standards/ Remarks
	20 kg	0.3 g	
Torque (Calibration Location: Metro lab/ Permanent)			
Torque measurement	11 N.m < X ≤ 113 N.m	2.2 %	METPRO_WI_047, Version No. (6), Date (7/7/2022)
	113 N.m < X ≤ 1016 N.m	1.8 %	
Chemical (Calibration Location: Metro lab/ Permanent)			
Conductivity meter	147 µS/cm	5.0 µS/cm	METPRO_WI_066, version No. (3), Date (7/7/2022).
PH Meter/ Probe	4 pH	0.05 PH	METPRO_WI_066, version No. (3), Date.(٢٠٢٢/٧/٧)
	7 pH		
	10 pH		
Sound Level Meters (Calibration Location: Metro lab /Permanent)			
Sound level meter	94 dB	0.70 dB	,METPRO_WI_013 version No. (3), Date.(٢٠٢٢/٧/٧)
	114 dB		
Volume (Calibration Location: Metro lab / Permanent)			
Pipettes	100 µL ≤ X ≤ 1000 µL	0.6 µL	METPRO_WI_050, Version No. (03), Date 7/7/2022
	1 mL < X ≤ 100ml	1.2 µL	
Volumetric flask	Up to 20 L	0.11 L	
Rotational Speed (Calibration Location: Metro lab/ Permanent & On-Site)			
Rotational speed (RPM)	60 RPM – 900 RPM	0.23 RPM	METPRO_WI_011, version No.(5), Date (7/7/2022)
	901 RPM – 9000 RPM	1.5 RPM	
Time (Calibration Location: Metro lab/ Permanent & On-Site)			
Timer	Up to 60 sec	0.73 sec	Metpro_WI_05, Version 6, Date: 16/6/2023
	1 min to 60 min	0.018 min	
	1 hr to 24 hr	0.05 hr	
Stopwatch	Up to 1 hr	0.75 s	
	1 hr to 24 hr	3 s	

a) The reported CMCs are expressed at approximately the 95 % level of confidence, 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.

List of employees in the laboratory who are technically responsible for issuing the calibration certificates in the scope of accreditation:

1. Mohammed Hourani: Technical Manager- Technical Engineer.
2. Muath Madi: Quality Manager- Deputy of Technical Manager
3. Fouad Alremawi: Senior Technical Engineer.
4. Nour Saleh: Quality Engineer .



Annex (2)
Issued on: 29-10-2024

To the Accreditation Certificate No. **JAS Cal. - 009** Dated **21-02-2023**

For **Metrology Professionals LLC (Metrology pro)/Amman**

Scope of Accreditation

Calibration of Mass, Humidity, Dimension and Electrical Quantity (Measuring, Sourcing)
(Permanent and On-site)

Measurand	Measuring Range	Calibration and measurement Capability (CMC) ^a	Calibration Methods/ Standards/ Remarks
Humidity (Calibration Location: Metro Lab/ Permanent and on –Site)			
Calibration of Data logger and Hygrometer	5% RH to 95% RH	0.88 %RH (Reading)	METPRO_WI_049 Version No. (6) Date 1/11/2023
Mass (Calibration Location: Metro Lab/ Permanent)			
Calibration of Conventional Mass Class F1 and F2	1 mg to 50 mg >50 mg to 2 g >2 g to 5 g >5 g to 50 g >50 g to 200 g >200 g to 500 g >500 g to 2 kg 5 kg 10 kg	0.015 mg 0.021 mg 0.038 mg 0.08 mg 0.22 mg 0.86 mg 0.96 mg 6.3 mg 8.4 mg	METPRO_WI_028 Version No. (6) Date 7/7/2022
Dimension (Calibration Location: Metro Lab/ Permanent)			
Calibration of Caliper	Up to 300 mm	0.01 mm	METPRO_WI_043 Version No. (6) Date 9/5/2023
Calibration of Micrometer	Up to 25 mm	0.002 mm	METPRO_WI_048 Version No. (8) Date 9/5/2023
Calibration of Dial Gauge	Up to 25 mm	0.011 mm	METPRO_WI_046 Version No. (5) Date 7/7/2022
Calibration of Ruler	Up to 1000 mm	0.76 mm	METPRO_WI_045 Version No. (5) Date 7/7/2022
Calibration of Angel	15° to 90°	0.4°	METPRO_WI_071 Version No. (2) Date 7/7/2022



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Measurand	Measuring Range	Calibration and measurement Capability (CMC) ^a	Calibration Methods/ Standards/ Remarks
Electrical Quantity (Calibration of measuring devices using comparison method (Calibration Location: Metro Lab/ Permanent))			
AC Voltage (@ 50 Hz)	Up to 100 mV	0.15 mV	Metpro_WI_030 Version No.7 based on EURAMET cg- 15 Guidelines on the Calibration of Digital Multimeters (V.03) and NABAL 129 4. Electro-Technical Calibration.
	>100 mV to 1 V	0.0034 V	
	>1 V to 10 V	0.012 V	
	>10 V to 100 V	0.14 V	
	>100 V to 750 V	0.99 V	
AC Voltage (@ 1 kHz)	Up to 100 mV	0.19 mV	
	>100 mV to 1 V	0.0037 V	
	>1 V to 10 V	0.015 V	
	>10 V to 100 V	0.19 V	
	>100 V to 750 V	2 V	
DC Voltage	Up to 100 mV	0.015 mV	
	>100 mV to 1 V	0.0032 V	
	>1 V to 10 V	0.0047 V	
	>10 V to 100 V	0.0097 V	
	>100 V to 1000 V	0.1 V	
AC Current (@ 50 Hz)	Up to 400 mA	1.1 mA	
	>400 mA to 3 A	0.013 A	
	>3 A to 10 A	0.033 A	
	>10 A to 100 A	0.15 A	
	>100 A to 300 A	0.16 A	



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	>300 A to 1000 A	0.17 A		
AC Current (@ 1 kHz)	Up to 400 mA	0.97 mA		
	>400 mA to 3 A	0.024 A		
	>3 A to 10 A	0.052 A		
AC Current (@ 400 Hz)	>10 A to 100 A	0.15 A		
	>100 A to 300 A	0.15 A		
DC Current	Up to 100 μ A	0.13 μ A		
	>100 μ A to 400 mA	0.25 mA		
	>400 mA to 3A	0.0054 A		
	>3A to 10 A	0.019 A		
	>10 A to 200 A	0.058 A		
	>200 A to 400 A	0.059 A		
Electrical Quantity (Calibration of Measuring Device using Direct Method) (Calibration Location: Metro Lab/ Permanent)				
Resistance (4-wire)	Up to 10 Ω	0.58 Ω		Metpro_WI_030 Version No.7 based on EURAMET cg- 15 Guidelines on the Calibration of Digital Multimeters (V.03) and NABAL 129 4. Electro-Technical Calibration
	>10 Ω to 100 Ω	0.59 Ω		
	>100 Ω to 1 k Ω	0.0036 k Ω		
	>1 k Ω to 10 k Ω	0.012 k Ω		
	>10 k Ω to 100 k Ω	0.018 k Ω		
Resistance (2-wire)	>100 k Ω to 1 M Ω	0.0034 M Ω		
	>1 M Ω to 10 M Ω	0.046 M Ω		
	>10 M Ω to 100 M Ω	3.4 M Ω		



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Measurand	Measuring Range	Calibration and measurement Capability (CMC) ^a	Calibration Methods/ Standards/ Remarks
	>100 MΩ to 900 MΩ	6.2 MΩ	
Frequency	100 Hz	0.0044 Hz	
	10 kHz	0.042 kHz	
	100 kHz	0.0054 kHz	
	300 kHz	0.0085 kHz	
	700 kHz	0.017 kHz	
	1 MHz	0.0059 kHz	
Electrical Quantity (Calibration of Sourcing Device using Direct Method) (Calibration (Location: on –Site))			
Active power (@ 50 HZ)	Up to 750 kW	0.08kW	Metpro_WI_030 Version No.7 based on EURAMET cg- 15 Guidelines on the Calibration of Digital Multimeters (V.03) and NABAL 129 4. Electro-Technical Calibration
Reactive power (@ 50 HZ)	Up to 750 kVAr	0.019 kVAr	
Apparent power (@ 50 HZ)	Up to 750 kVA	0.11 kVA	
Power Factor	Up to 1	0.024 PF	
Electrical power Consumption	Up to 9999 kWh	2.1 kWh	
Electrical Quantity (Calibration of Sourcing Device using Direct Method) (Calibration (Location: Metro Lab/ Permanent and on –Site))			
Frequency	Up to 60 MHZ	0.0078 MHZ	Metpro_WI_030 Version No.7 based on EURAMET cg- 15 Guidelines on the Calibration of Digital Multimeters (V.03) and NABAL 129 4. Electro-Technical Calibration
Resistance (4-wire)	1 Ω	0.58 Ω	
	10 Ω	0.58 Ω	
	100 Ω	0.58 Ω	
	1 kΩ	0.58 kΩ	
	10 kΩ	0.58 kΩ	



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	1 M Ω	0.58 M Ω	
	10 M Ω	0.59 M Ω	
	100 M Ω	1.3 M Ω	
DC Voltage	100 mV	0.038 mV	
	1 V	0.0033 V	
	10 V	0.0044 V	
	100 V	0.036 V	
	1000 V	0.37 V	
AC Voltage (10 Hz - 20 kHz)	100 mV	0.16 mV	
	1 V	0.0035 V	
	10 V	0.011 V	
	100 V	0.13 V	
	1000 V	1.2 V	
DC Current	100 μ A	0.13 μ A	
	1 mA	0.0087 mA	
	10 mA	0.012 mA	
	100 mA	0.14 mA	
	1 A	0.0034 A	
	3 A	0.0053 A	
	10 A	0.019A	



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AC Current (10 Hz - 5kHz)	100 μ A	0.18 μ A	Digital Multimeters (V.03) and NABAL 129 4. Electro-Technical Calibration
	1 mA	0.093 mA	
	10 mA	0.026 mA	
	100 mA	0.19 mA	
	1 A	0.0042 A	
	3 A	0.011 A	
	10 A	0.025 A	

a) The reported CMCs are expressed at approximately the 95 % level of confidence, 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.

List of employees in the laboratory who are technically responsible for issuing the calibration certificates in the scope of accreditation:

1. Mohammed Hourani: Technical Manager- Technical Engineer.
2. Muath Madi: Quality Manager- Deputy of Technical Manager
3. Fouad Alremawi: Senior Technical Engineer.
4. Nour Saleh: Quality Engineer.
5. Ayman Harasis- Technical Engineer.
6. Saad Alrahamneh- Technical Engineer
7. Lina Shaban- Technical Engineer
8. Malak Abo Irshaid- Technical Engineer
9. Bashar Abo Akleh- Technical Engineer
10. Abdullah Abu Samhadaneh- Technical Engineer