CERTIFICATE OF ACCREDITATION

This is to attest that

UNIVERSAL INSPECTION CO.LTD.

BLOCK NO.6, SHOP NO. A4, PLOT NO. 38
EAST AHMADI 60006, STATE OF KUWAIT

Calibration Laboratory CL-222

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 17, 2023

Expiration Date March 1, 2025

President

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SCOPE OF ACCREDITATION

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Accredited to ISO/IEC 17025:2017 *Effective Date January 17, 2023*

CALIBRATION AND MEASUREMENT CAPABILITY (CMC)*

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY[1,2] (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
Dimensional			
Vernier Caliper (Digital/Dial/Analog)	0 mm to 300 mm	73 µm	Using Caliper Checker &Length Bar as per JIS B 7507
Height Gauge (Digital/Analog)	0 mm to 300 mm	20 µm	Using Caliper Checker &Length Bar as per JIS B 7517
External Micrometer	0 mm to 25 mm 25 mm to 50 mm	2.6 µm 3.6 µm	Using Gauge Blocks & Length Bars as per BS 870
Dial Gauge (Digital/Analog)	0 mm to 25 mm	9.8 µm	Using Dial Gauge Calibrator as per JIS B 7503
Mechanical			
Torque Wrench	Up to 350 N·m 350 N·m to 900 N·m	5.8 N·m 36 N·m	Torque Wrench CalibrationSystem as per ISO 6789
Tachometer	Contact – Up to 12000 rpm Photo – Up to 12000 rpm	 1.3 rpm 1.8 rpm	Tachometer Calibrator as per ASTM F2046
Weighing Balance	1 mg to 500 mg 1 g to 200 g 1 kg 5 kg	0.09 mg 0.10 mg 0.12 g 0.49 g	Using F2 / M1 Class Weights as per OIML R 76
Pressure Gauge - Hydraulic	0 bar to 700 bar	6.0 bar	Reference Pressure gauge with HydraulicCalibration Pump as per MSL Technical guide

** 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)
Pressure Gauge - Pneumatic	0 bar to 5 bar	0.08 bar	High Pressure PneumaticCalibration Pump as per BS EN 837
Vacuum Gauge	0 bar to -0.95 bar	0.07 bar	Pressure Calibrator as per ISO 3567
Sound Level Meter(1 kHz)	94 dB 114 dB	1.1 dB 1.2 dB	Sound Level Calibrator as per ANSI S1.4
Thermal			
Thermocouple, Resistance Temperature Detector (RTD),Temperature Controller with Sensor, Temperature Indicator with Sensor, Temperature Recorder with Sensor, Digital Data Logger with Sensor, Thermometer with Sensor	-20 °C to 600 °C 600 °C to 1200 °C	0.89 °C 3.3 °C	Using Temperature Calibrator as per IEC 60751 & IEC 60584
Temperature bath, Oven, Furnace, Temperature Calibrator	-20 °C to 600 °C 600 °C to 1200 °C	0.73 °C 3.2 °C	Resistance Temperature Detector (RTD), S Type Thermocouple &Temperature Calibrator ASTM E145
Electrical Temperature Simulation – Measure[4] Thermocouples K- Type S- Type T-Type R-Type B-Type N-Type E-Type J-Type	 -160 °C to 1200 °C 170 °C to 1750 °C -130 °C to 400 °C 150 °C to 1750 °C 950 °C to 1800 °C -100 °C to 950 °C -190 °C to 1200 °C	 1.5 °C 2.3 °C 1.4 °C 2.3 °C 2.4 °C 1.2 °C 1.3 °C	Using Temperature Calibrator as per Euramet cg-11
Electrical Temperature Simulation – Generate[3] Thermocouples K- Type S- Type T-Type R-Type B-Type N-Type E-Type J-Type	 -160 °C to 1200 °C 170 °C to 1750 °C -130 °C to 400 °C 150 °C to 1750 °C 950 °C to 1800 °C -100 °C to 950 °C -190 °C to 1200 °C	 1.5 °C 2.4 °C 1.4 °C 2.4 °C 2.5 °C 1.1 °C 1.3 °C	

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY[1,2] (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
Electrical – DC/LF			
DC Voltage Source[3]	0 µV to 20 mV 20 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 240 V 240 V to 1000 V	0.48 mV 2.3 mV 0.03 V 0.03 V 0.70 V 5.8 V	Multifunction Calibrator CLARKE- HESS 8080 Euramet cg-15
AC Voltage Source[3] (60 Hz)	0 mV to 20 mV 20 mV to 200 mV 200 mV to 2 V 2 V to 20 V 20 V to 240 V 240 V to 1000 V	12 µV 0.003 V 0.001 V 0.01 V 0.15 V 2.0 V	
DC Current Source[3]	1 µA to 200 µA 200 µA to 2 mA 2 mA to 20 mA 20 mA to 200 mA 200 mA to 2 A 2 A to 10 A 10 A to 20 A	12 µA 12 mA 0.78 mA 0.01 A 0.02 A 0.04 A 0.06 A	
AC Current Source[3] (50 Hz)	1 µA to 200 µA 200 µA to 2 mA 2 mA to 20 mA 20 mA to 200 mA 200 mA to 2 A 2 A to 10 A 10 A to 20 A	12 µA 0.17 mA 1.2 mA 12 mA 0.13 A 1.2 A 1.2 A	
DC Resistance Source[3]	1 Ω to 100 Ω 100 Ω to 1 kΩ 1 kΩ to 10 kΩ 10 kΩ to 100 kΩ 100 kΩ to 1 MΩ 1 MΩ to 50 MΩ 50 MΩ to 100 MΩ	0.04 Ω 0.02 kΩ 0.11 kΩ 0.15 kΩ 0.03 MΩ 0.58 MΩ 1.6 MΩ	
DC Voltage Measure[4]	0 mV to 100 mV 100 mV to 1 V 1 V to 10 V 10 V to 100 V 100 V to 1000 V	0.31 mV 0.03 V 0.03 V 0.04 V 0.07 V	Precision Multimeter Fluke 8846A as per Euramet cg-15

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY[1,2] (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
AC Voltage Measure[4] (60 Hz)	0 mV to 100 mV 100 mV to 1 V 1 V to 10 V 10 V to 100 V 100 V to 1000 V	53 µV 0.43 mV 0.02 V 0.43 V 4.6 V	Precision Multimeter Fluke 8846A as per Euramet cg-15
DC Current Measure[4]	0 µA to 100 µA 100 µA to 1 mA 0 mA to 10 mA 10 mA to 100 mA 100 mA to 400 mA 400 mA to 1 A 1 A to 3 A 3 A to 10 A	5.8 µA 10 µA 8.2 mA 0.02 mA 20 mA 0.03 A 0.04 A 0.06 A	
AC Current Measure[4] (60 Hz)	0 µA to 100 µA 100 µA to 1 mA 1 mA to 10 mA 10 mA to 100 mA 100 mA to 400 mA 400 mA to 1 A 1 A to 3 A 3 A to 10 A	5.8 µA 0.16 mA 0.57 mA 12 mA 58 mA 0.06 A 0.57 A 1.2 A	
DC Resistance Measure[4]	1 Ω to 100 Ω 1 kΩ to 10 kΩ 10 kΩ to 100 kΩ 100 kΩ to 1 MΩ 1 MΩ to 10 MΩ 10 MΩ to 50 MΩ 50 MΩ to 100 MΩ	3.4 Ω 1.3 kΩ 14 kΩ 0.01 MΩ 0.03 MΩ 0.58 MΩ 1.2 MΩ	
DC Current Clamp Meter	20 A to 1000 A	4.2 A	Multifunction Calibrator CLARKE-HESS 8080 & Current Coil 140-50 using Clamp Meter (ComparisonMethod)
AC Current Clamp Meter	20 A to 1000 A	3.5 A	

[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.