



INTERNATIONAL  
ACCREDITATION  
SERVICE®

# CERTIFICATE OF ACCREDITATION

*This is to attest that*

**AL YUSR INTERNATIONAL LLC**

GHALA AL SANIAH  
BOUSHER, MUSCAT GOVERNORATE, 130, OMAN

**Calibration Laboratory CL-139**

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 June 20, 2022

Expiration Date April 1, 2025



A handwritten signature in black ink, reading 'Raj Nathan'.

**President**

Visit [www.iasonline.org](http://www.iasonline.org) for current accreditation information.

# SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

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## AL YUSR INTERNATIONAL LLC

[www.alyusroman.com](http://www.alyusroman.com)

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*Accredited to ISO/IEC 17025:2017*

*Effective Date June 20, 2022*

### CALIBRATION AND MEASUREMENT CAPABILITY (CMC)\*

MEASURED QUANTITY or DEVICE TYPE CALIBRATED	RANGE	UNCERTAINTY <sup>1,2</sup> (±)	CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL)
<b>Dimensional</b>			
Length - Precision Gages Dial Gauges	0 mm to 50 mm 0 mm to 100 mm	0.01 mm 0.01 mm	Gauge Block Set P11/IC/WI-07.03
Micrometers	0 mm to 25 mm	0.01 mm	Gauge Block Set P11/IC/WI-07.02
Calipers	0 mm to 800 mm	0.01 mm	Gauge Block Set P11/IC/WI-07.01
Angle (Angle protractor)	0° to 360°	0.04°	Angle gauge block set P11/IC/WI-44.00
Thickness (Thickness Gauge)	0 µm to 5000 µm	0.01 mm	Thickness standards (Shims / Films/ Slip Gauge) P11/IC/WI-19.00
Sieves	100 µm to 100 mm	0.09 mm	Vernier Caliper Image Measuring Instrument P11/IC/WI-33.00
Depth/ Height Gauges	0 mm to 300 mm 300 mm to 1000 mm	0.01 mm	Gauge Blocks Standard Rods P11/IC/WI-07.15
<b>Mechanical</b>			
Mass - Balances and Scales	0 g to 220 g 0 kg to 5 kg 0 kg to 35 kg 0 kg to 2000 kg	0.8 mg 0.24 g 0.6 g 1 g	OIML Class E2 Mass Pieces OIML Class E2 Mass Pieces OIML Class F1 Mass Pieces OIML Class M1 Mass Pieces P11/IC/WI-08.01

\* 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.

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Standard weights	1 mg 2 mg 5 mg 10 mg 20 mg 50 mg 100 mg 200 mg 500 mg 1 g 2 g 5 g 10 g 20 g 50 g 100 g 200 g 500 g 1 kg 2 kg 5 kg 10 kg 20 kg	0.02 mg 0.02 mg 0.02 mg 0.02 mg 0.02 mg 0.02 mg 0.03 mg 0.03 mg 0.04 mg 0.04 mg 0.05 mg 0.07 mg 0.08 mg 0.1 mg 0.12 mg 0.2 mg 0.4 mg 2 mg 2 mg 4 mg 10 mg 103 mg 200 mg	Mass Comparator OIML Class E2 standard weights OIML Class F1 Standard weights P11/IC/WI-08.04
Hydraulic Pressure – Gauges	0 bar to 700 bar 0 bar to 1200 bar 0 bar to 2000 bar	0.05 % + 0.01 bar 0.05 % + 0.01 bar 0.03 % + 0.01 bar	Dead Weight Tester 480 Dead Weight Tester 580 Dead Weight Tester A200M P11/IC/WI-02.00
Hydraulic Pressure - Recorders	0 bar to 700 bar 0 bar to 1200 bar 0 bar to 2000 bar	0.05 % + 0.01 bar 0.05 % + 0.01 bar 0.03 % + 0.01 bar	Dead Weight Tester 480 Dead Weight Tester 580 Dead Weight Tester A200M P11/IC/WI-02.08
Pneumatic Pressure – Gauges	0 bar to 2 bar -1 bar to 20 bar	0.05 % + 0.002 bar 0.03 % + 0.002 bar	Pressure Calibrator – 718 30G Pressure Calibrator – DPI 610 P11/IC/WI-02.08
Pneumatic Pressure – Pressure Relief Valves	0 bar to 150 bar 0 bar to 400 bar	0.25 % + 0.01 bar 0.6 % + 0.01 bar	Reference Pressure Gauge P11/IC/WI-02.04
Transmitter (Pressure)	0 bar to 2000 bar	0.03 % + 0.01 bar	Dead Weight Tester 480 Dead Weight Tester 580 Dead Weight Tester A200M P11/IC/WI-02.06
Force - Tension	0 kN to 100 kN 0 kN to 150 kN	1 % + 3 N 0.5 % + 3 N	Load Cell P11/IC/WI-06.03 P11/IC/WI-06.09
Force - Compression	0 kN to 300 kN 0 kN to 3000 kN	0.9 % + 3 N 1 % + 3 N	Load Cell P11/IC/WI-06.02 P11/IC/WI-06.09

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Torque Torque Wrenches	0.1 N·m to 25 N·m 0.1 N·m to 150 N·m 0.1 N·m to 1500 N·m 0.1 N·m to 6000 N·m	1 % 1 % 1.2 % 1 %	Torque Analyzer P11/IC/WI-09.00
Volume	Up to 100 µL 100 µL to 300 µL 300 µL to 1 mL 1 mL to 5 mL 5 mL to 220 mL	1 µL 3 µL 10 µL 0.05 mL 0.08 mL	Analytical Balance Ohaus P11/IC/WI-28.00 P11/IC/WI-28.01 P11/IC/WI-28.02
Sound Level Meter	94 dB & 114 dB (1 kHz)	0.5 dB	Acoustic Calibrator P11/IC/WI-31.00
<b>Thermal</b>			
Electrical Temperature Simulation (Thermocouples)			Fluke 5520A Calibrator P11/IC/WI-03.05
Type J	-210 °C to 1200 °C	0.3 °C	
Type K	-200 °C to 1372 °C	0.4 °C	
Type T	-250 °C to 400 °C	0.7 °C	
RTD	-35 °C to 600 °C	0.4 °C	RTD probe Dry block Calibrator P11/IC/WI-03.09
Temperature Thermocouples	-35 °C to 150 °C 40 °C to 650 °C 650 °C to 1200 °C	0.4 °C 0.4 °C 3.2 °C	Dry Block Calibrator P11/IC/WI-03.07
Digital Thermometers	-35 °C to 150 °C 40 °C to 650 °C 650 °C to 1200 °C	0.4 °C 0.7 °C 3.2 °C	Dry Block Calibrator P11/IC/WI-03.06
Humidity (Hygrometer/ Humidity Meter)	10 %RH to 90 %RH	1.8 %	Thermo hygrometric Transmitter Temperature Humidity Control Chamber P11/IC/WI-11.00
Mechanical (Dial) Thermometers	-35 °C to 150 °C 40 °C to 650 °C 650 °C to 1200 °C	0.4 °C 0.7 °C 3.2 °C	Dry Block Calibrator P11/IC/WI-03.02
Infrared Thermometers	-25 °C to 165 °C 500 °C to 1200 °C	0.2 % 0.6 %	Black Body P11/IC/WI-03.13

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Furnaces, Ovens, Incubators, Stirred Water baths, Fridges and Freezers	- 40 °C to 150 °C 40 °C to 650 °C 650 °C to 1600 °C	1 °C 1 °C 5 °C	PT 100 with Readout (single point calibration) Type S/K Thermocouple with Readout (single point calibration) P11/IC/WI-03.10 P11/IC/WI-03.08 P11/IC/WI-03.11 P11/IC/WI-03.14 P11/IC/WI-03.14
Autoclave	0 °C to 150 °C 0 bar to 100 bar	0.4 °C 0.08 bar	PT 100 with Readout Pressure Calibrator – DPI 610 Dead Weight Tester 480 Dead Weight Tester 580 Dead Weight Tester A200M P11/IC/WI-52.00
Transmitter (Temperature)	0 °C to 200 °C	0.6 °C	Dry Block Calibrator Oil bath P11/IC/WI-03.16
<b>Electrical – DC/LF</b>			
DC Voltage – Source <sup>3</sup>	0 mV to 330 mV 330 mV to 3.3 V 3.3 V to 33 V 33 V to 330 V 330 V to 1000 V	20 µV/V + 1 µV 11 µV/V + 2 µV 12 µV/V + 20 µV 18 µV/V + 150 µV 18 µV/V + 1500 µV	Fluke 5520A Calibrator P11/IC/WI-04.00
DC Voltage – Measure <sup>4</sup>	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	50 µV/V + 4 µV 40 µV/V + 7 µV 35 µV/V + 50 µV 45 µV/V + 60 µV 45 µV/V + 100 µV	Fluke 8845A Multimeter P11/IC/WI-04.00
AC Voltage – Source <sup>3</sup>	33 mV to 330 mV (45 Hz to 20 kHz)  330 mV to 3.30 V (45 Hz to 20 kHz)  3.3 V to 33 V (45 Hz to 20 kHz)  33 V to 330 V (45 Hz to 20 kHz)  330 V to 1000 V (45 Hz to 20 kHz)  33 mV to 330 mV (45 Hz to 10 kHz)	160 µV/V + 8 µV  190 µV/V + 60 µV  240 µV/V + 600 µV  250 µV/V + 6 mV  300 µV/V + 10 mV  0.06 % + 300 µV	Fluke 5520A Calibrator P11/IC/WI-04.00

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AC Voltage – Measure <sup>4</sup>	100 mV to 1 V (10 Hz to 20 kHz)	0.6 mV	Fluke 8845A Multimeter P11/IC/WI-04.00		
	1 V to 10 V (10 Hz to 20 kHz)	0.01 V			
	10 V to 100 V (10 Hz to 20 kHz)	0.11 V			
	100 V to 750 V (45 Hz to 10 kHz)	0.8 V			
DC Current – Source <sup>3</sup>	0 µA to 300 µA 0.3 mA to 3.3 mA 3.3 mA to 33 mA	150 µA/A + 0.2 µA 100 µA/A + 0.5 µA 100 µA/A + 0.25 µA	Fluke 5520A Calibrator P11/IC/WI-04.00		
	33 mA to 330 mA 330 mA to 3 A 3 A to 11 A	100 µA/A + 2.5 µA 380 µA/A + 40 µA 500 µA/A + 0.5 mA			
	DC Current - Measure <sup>4</sup>	0 µA to 100 µA 0.1 mA to 1 mA 1 mA to 10 mA 10 mA to 100 mA 100 mA to 3 A 3 A to 10 A		500 µA/A + 25 nA 500 µA/A + 50 nA 500 µA/A + 2 µA 500 µA/A + 50 µA 500 µA/A + 0.2 mA 0.15 % + 0.8 mA	Fluke 8845A Multimeter P11/IC/WI-04.00
		AC Current – Source <sup>3</sup>		30 µA to 330 µA (45 Hz to 1 kHz)	
0.33 µA to 330 µA (45 Hz to 1 kHz)			0.125 % + 0.15 µA		
0.330 mA to 3.3 mA (45 Hz to 1 kHz)			0.04 % + 2 µA		
3.3 mA to 33 mA (45 Hz to 1 kHz)	0.04 % + 20 µA				
33 mA to 330 mA (45 Hz to 1 kHz)	0.05 % + 100 µA				
0.33 A to 1 A (45 Hz to 1 kHz)	0.06 % + 100 µA				
1 A to 3 A (45 Hz to 1 kHz)	0.08 % + 2 mA				
3 A to 10 A (45 Hz to 1 kHz)	0.13 % + 5 mA				

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AC Current - Measure <sup>4</sup>	10 mA to 100 mA (45 Hz to 1 kHz)	0.15 % + 6 µA	Fluke 8845A Multimeter P11/IC/WI-04.00
	100 mA to 1 A (45 Hz to 1 kHz)	0.1 % + 40 µA	
	1 A to 3 A (45 Hz to 1 kHz)	0.1 % + 400 µA	
	3 A to 10 A (45 Hz to 1 kHz)	0.15 % + 6 mA	
DC Resistance – Source <sup>3</sup>	50 µΩ to 200 µΩ 0.5 mΩ to 2 mΩ 5 mΩ to 20 mΩ 50 mΩ to 200 mΩ 0.5 mΩ to 2 Ω	0.9 % 0.6 % 0.3 % 0.2 % 0.2 %	Ductor Standard Resistors P11/IC/WI-05.00
	0 Ω to 10.999 Ω 11 Ω to 32.999 Ω 33 Ω to 109.999 Ω 110 Ω to 329.999 Ω 0.33 kΩ to 1.09999 kΩ 1.1 kΩ to 3.29999 kΩ 3.3 kΩ to 10.9999 kΩ 11 kΩ to 32.9999 kΩ 33 kΩ to 109.999 kΩ 110 kΩ to 329.999 kΩ 0.33 MΩ to 1.09999 MΩ 1.1 MΩ to 3.29999 MΩ 3.3 MΩ to 10.9999 MΩ 11 MΩ to 32.9999 MΩ 33 MΩ to 109.999 MΩ 110 MΩ to 329.999 MΩ 100 MΩ to 900 MΩ 1 GΩ to 9 GΩ 10 GΩ to 90 GΩ 0 Ω to 10 Ω 10 Ω to 100 Ω 0.1 kΩ to 1 kΩ	40 µΩ/Ω + 0.01 Ω 30 µΩ/Ω + 0.015 Ω 28 µΩ/Ω + 0.015 Ω 28 µΩ/Ω + 0.02 Ω 28 µΩ/Ω + 0.02 Ω 28 µΩ/Ω + 0.2 Ω 28 µΩ/Ω + 0.1 Ω 28 µΩ/Ω + 1 Ω 28 µΩ/Ω + 2 Ω 32 µΩ/Ω + 10 Ω 32 µΩ/Ω + 10 Ω 60 µΩ/Ω + 150 Ω 130 µΩ/Ω + 250 Ω 250 µΩ/Ω + 2.5 kΩ 500 µΩ/Ω + 3 kΩ 0.3 % + 100 kΩ 1 % 1 % 5 % 0.01 % + 4 mΩ 0.01 % + 10 mΩ 0.01 % + 100 mΩ	
DC Resistance – Measure <sup>4</sup>	1 kΩ to 10 kΩ 10 kΩ to 100 kΩ 0.1 MΩ to 1 MΩ	0.01 % + 1 Ω 0.01 % + 10 Ω 0.01 % + 100 Ω	Fluke 8845A Multimeter P11/IC/WI-05.00
	1 MΩ to 10 MΩ 10 MΩ to 100 MΩ 0.001 GΩ to 1 GΩ	0.04 % + 1 kΩ 0.8 % + 10 kΩ 0.3 %	
Capacitance – Source <sup>3</sup>	1 nF to 300 nF @1 kHz 1 uF to 30 uF @ 100 Hz	0.4 % 0.6 %	Fluke 5520A Calibrator P11/IC/WI-05.00

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	100 uF to 1 mF @ 50 Hz	0.6 %	
Capacitance – Measure <sup>4</sup> (50 Hz)	10 nF to 1 mF 1 nF to 3 mF	1 % 0.2 %	Fluke 87V DMM, Time 5075 Digital Multimeter P11/IC/WI-05.00
<b><i>Time and Frequency</i></b>			
Stopwatch	0.01 s to 7200 s	55 ms	Stopwatch P11/IC/WI-41.00
Rotational speed – Contact/ Non-contact tachometer	60 rpm to 60000 rpm	0.01 % + 1 rpm	Tachometer Calibrator P11/IC/WI-31.00

<sup>1</sup>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.

<sup>2</sup>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.

<sup>3</sup>Capability is suitable for the calibration of measuring devices in the stated ranges.

<sup>4</sup>Capability is suitable for the calibration of devices intended to generate the indicated quantity in the stated ranges.