



INTERNATIONAL
ACCREDITATION
SERVICE®

CERTIFICATE OF ACCREDITATION

This is to attest that

FAHUD FIRST TRADING & SERVICES LLC

PLOT 90, KARSHA INDUSTRIAL AREA
NIZWA 611, SULTANATE OF OMAN

Calibration Laboratory CL-244

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 October 30, 2023

Expiration Date October 1, 2025



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

President

Visit www.iasonline.org for current accreditation information.

SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

3060 Saturn Street, Suite 100, Brea, California 92821, U.S.A. | www.iasonline.org

FAHUD FIRST TRADING & SERVICES LLC

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Accredited to ISO/IEC 17025:2017

Effective Date October 30, 2023

CALIBRATION AND MEASUREMENT CAPABILITY (CMC)*

| MEASURED QUANTITY or DEVICE TYPE CALIBRATED | RANGE | UNCERTAINTY ^{1,2} (±) | CALIBRATION METHOD OR PROCEDURE, STANDARD EQUIPMENT (OPTIONAL) |
|--|---|---|--|
| Dimensional | | | |
| All Types of Calipers (Digital, Vernier, Dial) | 0 mm to 600 mm | 11 µm | F1-OPS-SOP-04, Based on ASME B89.1.14.2018 by Gauge Block Set and Caliper Checker |
| External Micrometer | 0 mm to 25 mm 0 mm to 100 mm | 2 µm 10 µm | F1-OPS-SOP-15, Based on ISO 3611:2010 by Gauge Block Set |
| Dial Gauges/Thickness Gauges (Digital & Analogue) | 0 mm to 30 mm | 0.8 µm | F1-OPS-SOP-16, Based on ASME B89.1.10M by Gauge Block Set |
| Mechanical | | | |
| Hand Torque Tools/Torque Wrench/Torque Screw Drivers | 1.5 N·m to 30 N·m | 0.9 % | F1-OPS-SOP-10, Based on ISO 6789 by Torque Transducer |
| Hand Torque Tools/Torque Wrench | 30 N·m to 1000 N·m 1000 N·m to 1500 N·m | 1.5 % 0.9 % | F1-OPS-SOP-10, Based on ISO 6789 by Torque Transducer |
| Balance (analogue and digital) | 0 g to 200 g 0 kg to 1 kg 0 kg to 20 kg 0 kg to 100 kg 0 kg to 150 kg | 0.5 mg 5.5 mg 1.2 g 15 g 55 g | Standard Weight (E2 & F1 Class) As per OIML R 76-1 & Standard Weight (M1 Class) as per OIML R 47 Reference Procedure: F1-OPS-SOP-39 |

* 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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|---|---|--------------------------------|---|
| Hydraulic Pressure – Pressure Indicating Devices (Mechanical & Electronic) | 1 bar to 1200 bar | 0.12 % | F1-OPS-SOP-03, Based on BS 837-1/ EURAMET cg-17 v.2 / DKD-R 6-1 by Dead Weight Tester, Digital Pressure Gauge |
| Pressure relief valves | | | F1-OPS-SOP-07, Based on API RP 576 and comparison with Digital Pressure Gauge |
| Pneumatic | 0.2 bar to 70 bar | 0.85 % | |
| Hydraulic | 1 bar to 700 bar | 0.23 % | |
| Pneumatic Pressure – Pressure Indicating Devices (Mechanical & Electronic) | 0 bar to 70 bar | 30 mbar | F1-OPS-SOP-08, DKD-R 6-1 Digital Pressure Gauge and Pneumatic Hand Pump |
| Vacuum Pressure – Pressure Indicating Devices (Mechanical & Electronic) | -0.8 bar to 0 bar | 67 mbar | F1-OPS-SOP-09, DKD-R 6-1 by Digital Vacuum Gauge and Pneumatic Hand Pump |
| Thermal | | | |
| Freezer/Chiller (Single Sensor Method) | -20 °C to 20 °C | 0.6 °C | F1-OPS-SOP-11, Based on DKD-R 5-7 by PRT Sensor with Digital Readout |
| Oven/Incubator/Chamber (Single Sensor Method) | Ambient to 250 °C | 0.75 °C | F1-OPS-SOP-12, Based on DKD-R 5-7 by PRT Sensor with Digital Readout |
| Liquid Bath (Single Sensor Method) | Ambient to 100 °C | 0.93 °C | F1-OPS-SOP-13 by PRT Sensor with Digital Readout |
| Furnace (Single Sensor Method) | 50 °C to 600 °C 600 °C to 950 °C | 0.75 °C 3.5 °C | F1-OPS-SOP-14, Based on DKD-R 5-7 by PRT and Thermocouple Sensor with Digital Readout |
| Furnace (Multi Sensor Method) | 50 °C to 600 °C 600 °C to 1000 °C | 6.8 °C 6.8 °C | F1-OPS-SOP-14, Based on DKD-R 5-7 by PRT and Thermocouple Sensor with Digital Readout |
| Temperature Indicator with PRT Sensor/ transmitters/ temperature chart recorders/temperature gauge | 40 °C to 250 °C 250 °C to 500 °C | 0.75 °C 1.1 °C | F1-OPS-SOP-05, DKD R-5-1 by PRT and Thermocouple Sensor with Digital Readout |
| Transmitters/temperature chart recorders/ temperature gauge/ thermocouples with temperature Indicator | 40 °C to 250 °C 250 °C to 500 °C 500 °C to 950 °C | 0.75 °C 0.75 °C 3.4 °C | F1-OPS-SOP-05, DKD R-5-1 by PRT and Thermocouple Sensor with Digital Readout |

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|---|--|---|--|
| Electrical – DC/LF | | | |
| DC Voltage - Source ³ | 1.0 mV to 200.0 mV 200.0 mV to 2.0 V 2.0 V to 20.0 V 20.0 V to 200.0 V 200.0 V to 1000.0 V | 0.58 % 0.005 % 0.004 % 0.004 % 0.006 % | Based on Euramet cg-15, By Multiproduct Calibrator |
| DC Current - Source ³ | 0.01 uA to 200.0 uA 200.0 uA to 2 mA 2 mA to 20 mA 20 mA to 200 mA 200 mA to 2 A 2 A to 20 A 20 A to 1000 A | 0.047 % 0.032 % 0.009 % 0.012 % 0.036 % 0.30 % 0.60 % | Based on Euramet cg-15, By Multiproduct Calibrator |
| AC Voltage - Source ³ | 1 mV to 100.0 mV (10 Hz to 1 kHz) (1 kHz to 20 kHz) 100 mV to 200 mV (10 Hz to 1 kHz) (1 kHz to 20 kHz) 200.0 mV to 2.0 V (10 Hz to 1 kHz) (1 kHz to 50 kHz) 2.0 V to 20.0 V (10 Hz to 20 kHz) 20.0 V to 200.0 V (30 Hz to 20 kHz) 200.0 V to 1000.0 V (30 Hz to 10 kHz) | 3.0 % 2.5 % 0.1 % 0.26 % 0.09 % 0.54 % 0.12 % 0.45 % 0.21 % | Based on Euramet cg-15, By Multiproduct Calibrator |
| AC Current - Source ³ | 2.5 uA to 200.0 uA (10 Hz to 1 kHz) 200.0 uA to 2 mA (10 Hz to 1 kHz) 2 mA to 200 mA (10 Hz to 1 kHz) 200 mA to 2 A (10 Hz to 1 kHz) | 0.27 % 0.14 % 0.13 % 0.34 % | Based on Euramet CG-15, By Multiproduct Calibrator |

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|--|--|--|--|
| AC Current - Source ³ (continued) | 2 A to 20.0 A (10 Hz to 1 kHz) | 0.31% | Based on Euramet cg-15, By Multiproduct Calibrator |
| | 20 A to 1000 A (50 Hz) | 0.15 % | |
| DC Resistance - Source ³ | 0.2 Ω 1 Ω 10 Ω 100 Ω 1 kΩ 10 kΩ 100 kΩ 1 MΩ 10 MΩ 100 MΩ | 6.0 mΩ 6.0 mΩ 7.0 mΩ 12 mΩ 0.13 Ω 0.94 Ω 9.3 Ω 0.10 kΩ 4.0 kΩ 0.60 MΩ | 2-wire method, based on Euramet cg-15, By Multiproduct Calibrator |
| | 100 mΩ, 1 Ω 10 Ω 100 Ω 1 kΩ 10 kΩ 100 kΩ | 6.2 mΩ 7.0 mΩ 14 mΩ 0.63 Ω 0.94 Ω 9.4 Ω | |
| Capacitance - Source ³ (@ 1 kHz) | 1 nF 10 nF 20 nF 50 nF 100 nF 1 μF 10 μF | 6.0 pF 40 pF 0.10 nF 0.20 nF 0.30 nF 10 nF 0.10 μF | Based on Euramet cg-15, By Multiproduct Calibrator |
| Frequency- Source ³ | 1 Hz up to 100 Hz 100 Hz up to 1 kHz 1 kHz up to 10 kHz 10 kHz up to 20 kHz 20 kHz up to 50 kHz 50 kHz up to 100 kHz 100 kHz up to 1 MHz 1 MHz up to 10 MHz | 0.3 mHz 0.58 Hz 0.60 Hz 0.63 Hz 1.0 Hz 1.3 Hz 21 Hz 33 Hz | Based on Euramet cg-15, By Multiproduct Calibrator |
| High Voltage-Measure ⁴ AC High Voltage @ 50 Hz | 1 kV to 5 kV 5 kV to 28 kV | 12 % 6.0 % | Using HV Divider with Digital Multimeter by direct method. Reference Procedure: F1-OPS-SOP-23 |
| High Voltage-Measure ⁴ DC High Voltage | 1 kV to 5 kV 5 kV to 40 kV | 6.1 % 3.6 % | Using HV Divider with Digital Multimeter by direct method. Reference Procedure: F1-OPS-SOP-23 |

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|---|----------------------------------|-----------------------------------|--|
| Welding Machine | | | |
| Voltage DC (Measure) ⁴ | 1 V to 1000 V | 0.05 % | Using Digital multimeter by direct method. Reference Procedure: F1-OPS-SOP-42 |
| AC Current (Measure at 50 Hz) ⁴ | 10 A to 100 A 100 A to 1000 A | 5.6 % 2.3 % | Digital Clamp Meter by Direct Method Reference Procedure: F1-OPS-SOP-42 |
| DC Current Measure ⁴ | 10 A to 100 A 100 A to 1000 A | 5.0 % 1.7 % | Digital Clamp Meter by Direct Method Reference Procedure: F1-OPS-SOP-42 |

¹The 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.

²When 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.

³Capability is suitable for the calibration of measuring devices in the stated ranges.

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