

PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:

Modern Surveying Calibration & Testing Labs

6, Main Gazna Road, Erbil, Kurdistan Iraq

(Hereinafter called the Organization) and hereby declares that Organization is accredited in accordance with the recognized International Standard:

ISO/IEC 17025:2017

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

Mass, Force & Weighing, Time & Frequency, Dimensional, Mechanical, Electrical, Thermodynamic and Chemical Devices (As detailed in the supplement)

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen President

Perry Johnson Laboratory Accreditation, Inc. (PJLA) 755 W. Big Beaver, Suite 1325Troy, Michigan 48084 Initial Accreditation Date:

Issue Date:

Expiration Date:

September 17, 2020

November 11, 2022

December 31, 2024

Accreditation No.:

Certificate No.:

106457

L22-797



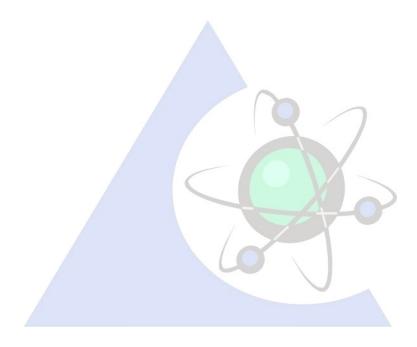
Issue: 10/10

Certificate of Accreditation: Supplement ISO/IEC 17025:2005 and DoD-ELAP

Laboratory Name 8100 Address Drive, City, ST 99999

Accreditation is granted to the facility to perform the following testing:

The validity of this certificate is maintained through ongoing assessments based on a continuous accreditation cycle. The validity of this certificate should be confirmed through the PJLA website: www.pjlabs.com





Modern Surveying Calibration & Testing Labs

6, Main Gazna Road, Erbil, Kurdistan, Iraq Contact Name: Charanjith PR Phone: +964 7517596829

Accreditation is granted to the facility to perform the following calibrations:

Mechanical

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Pressure Gauge Differential Pressure Indicator Pressure Sensors Pressure Transducer Pressure Transmitter ^{FO}	Up to 1 000 mBar	0.001 %	Automated Pressure Calibrator-Additel- ADT761-D Standard Pressure Gauge/ Modules Fluke & Additel MSL/CP/P/04 Based on DKD-R-6-1
	1 Bar to 40 Bar	0.002 5 %	Automated Pressure Calibrator Additel- ADT761-HA Standard Pressure Gauge/ Modules Fluke & Additel MSL/CP/P/04 Based on DKD-R-6-1
	40 Bar to 200 Bar	0.005 %	Pressure Balance DH- Budenberg - CPB 5800 Standard Pressure Gauge/ Modules Fluke & Additel MSL/CP/P/04 Based on DKD-R-6-1
Pressure Gauge Differential Pressure Indicator Pressure Sensors Pressure Transducer Pressure Transmitter ^{FO}	200 Bar to 1 200 bar	0.006 %	Pressure Balance DH- Budenberg - CPB 5800 Standard Pressure Gauge/ Modules Fluke & Additel MSL/CP/P/04 Based on DKD-R-6-1
Vacuum Gauges Vacuum Transducer Vacuum Transmitters Vacuum Sensors ^{FO}	-900 mBar to -0.00 mBar	0.001 %	Automated Pressure Calibrator-Additel- ADT761-D Standard Pressure Gauge/ Modules Fluke & Additel MSL/CP/P/04 Based on DKD-R-6-1



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Thermodynamic

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Dry Block Calibrators ^F	-40 °C to 140 °C	0.039 °C	Fluke Black Stack 1560 with
	140 °C to 300 °C	0.078 °C	modules
	300 °C to 400 °C	0.12 °C	2560,2561,2562,2565 & 2566, SPRT Fluke 5698 PRTs
	400 °C to 650 °C	0.16 °C	Fluke-5626 & Fluke- 5628,EURAMET Calibration Guide No.13
Infrared Thermometers: ^F	-30 °C	2 °C	Portable Infrared Calibrator-
	-25 °C	1.8 °C	Fluke 9133 ASTM E2847
	-20 °C	1.6 °C	ASTM E2047
	-10 °C	1.1 °C	
	-5 °C	0.94 °C	
	0 °C	0.72 °C	
	23 °C	0.31 °C	
	50 °C	0.67 °C	
	75 °C	1.1 °C	
	100 °C	1.5 °C	
	125 °C	1.9 °C	
	150 °C	2.3 °C	
Temperature Chamber ^{FO}	-40 °C to -18 °C	0.58 °C	Fluke-2638A Hydra Series III
System Accuracy Test	-18 °C to 0 °C	0.58 °C	Data Acquisition System DATA Logger
	0 °C to 8 °C	0.58 °C	Rotronics-HL-20D High
	8 °C to 45 °C	0.1 °C	Temperature Data Logger-
	45 °C to 100 °C	0.1 °C	Madgetech-Hi Temp 140
	100 °C to 250 °C	0.13 °C	Thermocouple Wire- PRT Sensor
Temperature Chamber ^{FO}	-40 °C to -18 °C	0.96 °C	BS EN 60068-3-5
Thermal Uniformity Survey	-18 °C to 0 °C	2.1 °C	
	0 °C to 8 °C	2.1 °C	
	8 °C to 45 °C	0.14 °C	
	45 °C to 100 °C	0.21 °C	
	100 °C to 250 °C	0.32 °C	



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Digital Thermometer with	-40 °C to 0 °C	0.046 °C	PRT Fluke 5626 & 5628,
RTD and/or	0 °C to 50 °C	0.046 °C	Black Stack Thermometer Read Out –
Thermocouple ^{FO}	50 °C to 100 °C	0.057 °C	Fluke-1560 SPRT Module Fluke- 2560. High -Temp
	100 °C to 175 °C	0.074 °C	PRT Module Fluke-2561
	175 °C to 250 °C	0.076 °C	Precision Thermocouple Module -Fluke-
	250 °C to 400 °C	0.16 °C	2565 Precision Baths: Fluke 6331, 7381,
	400 °C to 600 °C	0.2 °C	Multi-function Calibrator Wika-
			CTM9100-150 Metrology Wells: Fluke 9170, 9173 Type S Thermocouple Standard-Fluke 5650 MSL/CP/T/05

Dimensional

Issue: 11/2022

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Outside Micrometer ^F	Up to 25 mm Resolution: 0.001 mm Up to 25 mm Resolution: 0.01 mm	(2.6 + 0.12 L) μm (5.8+0.05 L) μm	Gauge Block Set-Mitutoyo- 516-106-10 Gauge Block Set-Tesa BS:870
Inside Micrometer ^F	Up to 25 mm Resolution: 0.01 mm	(6.5 + 0.15 L) μm	Gauge Block Set-Mitutoyo- 516-106-10 Gauge Block Set-Tesa BS:959
Depth Micrometer ^F	Up to 25 mm Resolution: 0.01 mm	$(5.8 + 0.01 \text{ L}) \mu\text{m}$	Gauge Block Set-Tesa BS:6468
Calipers (Vernier, Dial & Digital) ^{FO}	Up to 600 mm Resolution 0.01 mm Up to 300 mm Resolution 0.02 mm Up to 600 mm Resolution 0.05 mm	(6.1 + 0.3 L) μm (11 + 0.22 L) μm (28 + 0.08 L) μm	Caliper checker Mitutoyo- 515-556-2 BS:887
Measuring Tapes ^F Steel Ruler ^F	Up to 30 m Up to 1000 mm	(580 + 0.12 L) μm 580 μm	Measuring Scale & Tape Calibration System Octagon MSTC-1000 OIML: R 35-1 OIML: R 35-2
Indicator (Dial/Digital) ^F	Up to 100 mm	бμт	Dial Indication Tester- Mitutoyo 170- 102-12 Gauge Block Set-Tesa MSL/CP/D/07 Based on BS EN ISO 463
Ultrasonic Thickness Gauge ^F	2.5 mm to 20 mm	10 μm	Five Step Block ASTM-E317



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Equipment to Measure DC	Up to 330 mV	25 μV/V + 1 μV	Multi-Product Calibrator -
Voltage ^{FO}	0.33 V to 3.3 V	$14 \mu V/V + 2 \mu V$	Fluke 5522A
	3.3 V to 30 V	$9 \mu V/V + 20 \mu V$	MSL/CP/E/01
	30 V to 330 V	12 μV/V + 150 μV	
	330 V to 1000 V	$12 \mu\text{V/V} + 1.5 \text{mV}$	
Equipment to Measure AC	Up to 33 mV @	600 μV/V + 6 μV	Multi-Product Calibrator -
Voltage ^{FO}	45 Hz to 1 kHz	120 7777 0 77	Fluke 5522A
	33 mV to 330 mV @	120 μV/V + 8 μV	MSL/CP/E/01
	45 Hz to 1 kHz 0.33 V to 3.3 V @	82 μV/V + 160 μV	
	45 Hz to 1 kHz	02 μ ν/ ν 1 100 μ ν	
	3.3 V to 33 V @	55 μV/V + 600 μV	
	45 Hz to 1 kHz		
	33 V to 330 V @	$65 \mu V/V + 2 000 \mu V$	
	45 Hz to 1 kHz 330 V to 1000 V @	00 1/0/ 10 -1/	
	45 Hz to 1 kHz	$90 \mu\text{V/V} + 10 \text{mV}$	
Equipment to Measure DC	100 μA to 330 μA	$4 \mu A/A + 0.02 \mu A$	Multi-Product Calibrator -
Current ^{FO}	0.33 mA to 3.3 mA	$25 \mu\text{A/A} + 0.05 \mu\text{A}$	Fluke 5522A
	3.3 mA to 33 mA	25 μΑ/Α + 0.25 μΑ	MSL/CP/E/01
	33 mA to 330 mA	$25 \mu A/A + 2.5 \mu A$	
	0.33 A to 1.1 A	41 μΑ/Α + 40 μΑ	
	1.1 A to 3 A	50 μΑ/Α + 40 μΑ	
	3 A to 11 A	470 μΑ/Α + 750 μΑ	
	11 A to 20 A	800 μΑ/Α + 1500 μΑ	
Clamp - On Meters to	10 A to 16.5 A	0.19 % + 1.6 mA	Multi-Product Calibrator -
Measure DC Current ^{FO}	16.5 A to 150 A	0.19 % + 12 mA	Fluke 5522A
	150 A to 1 000 A	0.19 % + 39 mA	Fluke 5500A (Coil) MSL/CP/E/01
Clamp - On Meters to	10 A to 16.5 A @	0.22 % + 2.33 mA	Multi-Product Calibrator -
Measure AC Current ^{FO}	45 Hz to 1 kHz	0.00 % 40.00	Fluke 5522A
	16.5 A to 150 A @	0.22 % + 19.38 mA	Fluke 5500A (Coil)
	45 Hz to 1 kHz 150 A to 1 000 A @	0.22 % + 69.77 mA	TIUNE JJOUM (COII)
	45Hz to 1 kHz	0.22 /0 1 07.77 HILL	MSL/CP/E/01



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Equipment to Measure AC	29 μA to 330 μA @	$0.12 \% + 0.1 \mu A$	Multi-Product Calibrator -
Current ^{FO}	45 Hz to1 kHz		Fluke 5522A
	0.33 mA to 3.3 mA @	$0.11 \% + 0.15 \mu A$	
	45Hz to 1 kHz		MSL/CP/E/01
	3.3 mA to 33 mA @	$0.048 \% + 2 \mu A$	
	45 Hz to 1 kHz 33 mA to 330 mA @	0.05 % + 20 μA	
	45 Hz to 1 kHz	0.03 % + 20 μΑ	
	0.33 A to 1.1 A @	0.06 % + 0.1 mA	
	45 Hz to 1 kHz	0.00 % 1 0.1 1111	
	1.1 A to 3 A @	0.08 + 0.1 mA	
	45 Hz to 1 kHz		
	3 A to 11 A @	0.09 % + 2 mA	
	45 Hz to 1 kHz		
	11 A to 20 A @	0.2 % + 5 mA	
En language A. Maria	45 Hz to 1 kHz	0.61 % + 0.01 · E	M. Id. Dood at Callington
Equipment to Measure Capacitance ^F	0.19 nF to 0.3999 nF	0.61 % + 0.01 nF	Multi-Product Calibrator - Fluke 5522A
Сарастансе	0.4 nF to 1.099 9 nF	0.58 % + 0.01 nF	1 Tuke 332211
	1.1 nF to 3.299 9 nF	0.58 % + 0.01 nF	MSL/CP/E/01
	3.3 nF to 10.999 9 nF	0.30 % + 0.01 nF	
	11 nF to 32.999 9 nF	0.30 % + 0.1 nF	
	33 nF to 109.999 nF	0.30 % + 0.1 nF	
	110 nF to 329.999 nF	0.30 % + 0.3 nF	
	0.33 μF to 1.0999 9 μF	0.30 % + 1 nF	
	1.1 μF to 3.299 99 μF	0.30 % + 3 nF	
	3.3 μF to 10.999 9 μF	0.30 % + 10 nF	
	11 μF to 32.999 9 μF	0.47 % + 30 nF	1
	33 μF to 109.999 μF	0.54 % + 100 nF	
	110 μF to 329.999 μF	0.52 % + 300 nF	
	0.33 mF to 1.099 99 mF	0.52 % + 1 μF	
	1.1 mF to 3.299 99 mF	0.52 % + 3 μF	
	3.3 mF to 10.999 9 mF	0.52 % + 10 μF	
	11 mF to 32.999 9 mF	0.87 % + 30 μF	
	33 mF to 110 mF	1.3 % + 100 μF	



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Equipment to Measure	1 mΩ	0.000 1 mΩ	Burster- 1240 Calibration
Resistance (Fixed Points) ^F	10 mΩ	0.001 mΩ	Resistor
	100 mΩ	0.01 mΩ	MSL/CP/E/01
	1 Ω	0.000 011 Ω	Fluke 742 A Resistance
	10 Ω	0.001 Ω	Standards
	100 Ω	0.01 Ω	MSL/CP/E/01
	1 ΚΩ	0.000 08 ΚΩ	Wight Cive of
	10 ΚΩ	0.000 8 ΚΩ	
	1 ΜΩ	0.008 ΚΩ	
	10 ΜΩ	$0.002~\mathrm{M}\Omega$	
Equipment to Measure	0.1 Ω to 11 Ω	$0.006 \% + 0.5 \text{ m}\Omega$	Multi-Product Calibrator -
Resistance ^F	11 Ω to 33 Ω	0.001 % + 1 mΩ	Fluke 5522A
	33 Ω to 110 Ω	$0.001 \% + 4 \text{ m}\Omega$	MSL/CP/E/01
	110 Ω to 330 Ω	$0.001 \% + 4 \text{ m}\Omega$	11102/01/2/01
	0.33 KΩ to 1.1 KΩ	$0.001 \% + 4 \text{ m}\Omega$	
	1.1 KΩ to 3.3 KΩ	$0.001 \% + 4 \text{ m}\Omega$	
	3.3 KΩ to 11 KΩ	0.001 % + 1 Ω	
	11 KΩ to 33 KΩ	$0.08 \% + 4 \Omega$	
	33 KΩ to 110 KΩ	$0.001 \% + 4 \Omega$	
	110 KΩ to 330 KΩ	0.001 % + 11 Ω	
	$0.33~\mathrm{M}\Omega$ to $1.1~\mathrm{M}\Omega$	0.001 % + 36 Ω	
	$1.1~\mathrm{M}\Omega$ to $3.3~\mathrm{M}\Omega$	$0.006 \% + 0.2 \text{ k}\Omega$	
	$3.3~\mathrm{M}\Omega$ to $11~\mathrm{M}\Omega$	$0.036 \% + 1.5 \text{ k}\Omega$	<u>k</u>
	11 MΩ to 33 MΩ	$0.1 \% + 8.3 \text{ k}\Omega$	
	$33 \text{ M}\Omega$ to $110 \text{ M}\Omega$	$0.01 \% + 55 \text{ k}\Omega$	
	110 MΩ to 330 MΩ	$0.01 \% + 0.1 M\Omega$	
	$330~\mathrm{M}\Omega$ to $1~100~\mathrm{M}\Omega$	$0.74 \% + 0.1 \text{ M}\Omega$	
Equipment to Measure	10 μH to 10 mH	1 % + 1.5 μH	Programmable Inductance
Inductance ^F @ 1 kHz	10 mH to 100 mH	1 % + 1.5 μH	Substituter IET Labs- PLS -1492
₩ I KΠZ	100 mH to 1 H	2 % + 1.5 μH	1D1 Laus- FL3 -1492
	1 H to 10 H	2 % + 1.5 μH	MSL/CP/E/01



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Equipment to Output AC	1 μA to 200 μA @	0.054 % + 20 nA	Reference Multimeter
Current ^F	45 Hz to 1 KHz		Fluke -8508A
	0.2 mA to 2 mA @	$0.032 \% + 0.2 \mu A$	MGL /GD/E/01
	45 Hz to 1 KHz	0.022.07	MSL/CP/E/01
	2 mA to 20 mA @ 45 Hz to 1 KHz	$0.033 \% + 2 \mu A$	
	20 mA to 200 mA @	0.031 % + 20 μA	†
	45 Hz to 1 KHz	0.031 /0 1 20 μ/1	
	0.2 A to 2 A @	0.063 % + 0.2 mA	1
	45 Hz to 1 KHz		
	2 A to 20 A @	0.84 % + 2 mA]
	45 Hz to 1 KHz		
Equipment to Output DC	1 μA to 200 μA	42 μA/A + 0.023 μA	Reference Multimeter
Current ^F	0.2 mA to 2 mA	26 μΑ/Α + 0.003 μΑ	Fluke -8508A
	2 mA to 20 mA	$28 \mu A/A + 0.03 \mu A$	MSL/CP/E/01
	20 mA to 200 mA	$28 \mu A/A + 0.03 \mu A$	1/102/01/2/01
	0.2 A to 2 A	$220 \mu\text{A/A} + 0.02 \mu\text{A}$	1
	2 A to 20 A	0.48 mA/A + 0.4 mA	
Equipment to Output AC	1 mv to 200 mv @	0.011 % + 0.002 mV	Reference Multimeter
Voltage ^F	45 Hz to 1 kHz		Fluke -8508A
	0.2 V to 2 V @	$0.0086 \% + 20 \mu\text{V}$	
	45 Hz to 1 kHz		MSL/CP/E/01
	2 V to 20 V @	0.0086 % + 0.2 mV	
	45 Hz to 1 kHz	0.000 % 2 11	4
	20 V to 200 V @	0.009 % + 2 mV	
	45 Hz to 1 kHz 200 V to 1 000 V @	0.011 % + 2 mV	-
		0.011 % + 2 mV	
Equipment to Output DC	45 Hz to 1kHz 1 mv to 200 mv	$10 \mu\text{V/V} + 0.07 \mu\text{V}$	Reference Multimeter
Voltage ^F	0.2 V to 2 V	$5 \mu V/V + 1.4 \mu V$	Fluke -8508A
•	2 V to 20 V	$5 \mu V/V + 40 \mu V$	-
	20 V to 200 V	$8 \mu V/V + 36 \mu V$	MSL/CP/E/01
	200 V to 1 000 V	$8 \mu V/V + 30 \mu V$ $10 \mu V/V + 0.49 \text{ mV}$	-
Equipment to Output		0.12 %	Progision DI C Digitaridas
Equipment to Output Inductance ^F	100 μH to 1 mH 1 mH to 1 H		Precision RLC Digibridge
		0.035 %	IET Labs- 1693
	1 H to 5 H	0.014 %	
	5 H to 10 H	0.25 %	MSL/CP/E/01



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Electrical

Issue: 11/2022

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Equipment to Output	$1 \text{ m}\Omega$ to 2Ω	0.002 % Rdg	Reference Multimeter
Resistance ^F	2 Ω to 20 Ω	0.002 % Rdg	Fluke -8508A
	20 Ω to 200 Ω	0.000 9 % Rdg	MSL/CP/E/01
	0.2 KΩ to 2 KΩ	0.001 % Rdg	
	$2 \text{ k}\Omega$ to $20 \text{ K}\Omega$	0.001 % Rdg	
	20 KΩ to 200 KΩ	0.001 % Rdg	1
	$0.2~\mathrm{M}\Omega$ to $2~\mathrm{M}\Omega$	0.001 % Rdg	1
	$2 \text{ M}\Omega$ to $20 \text{ M}\Omega$	0.003 % Rdg	
	20 MΩ to 200 MΩ	0.009 % Rdg	
	$0.2~\mathrm{G}\Omega$ to $2~\mathrm{G}\Omega$	0.1 % Rdg	
Equipment to Output	1 pF to 10 pF	0.37 % + 0.002 pF	Precision RLC Digibridge
Capacitance F	10 pF to 100 pF	0.014 % + 0.003 pF	ET Labs- 1693
@ 1 kHz	100 pF to 1 000 pF	0.007 % + 0.01 pF	MSL/CP/E/01
	1 nF to 10 nF @ 1 kHz	0.010 % + 0.08 pF	WIGE/CITE/OI
	10 nF to 100 nF @ 1 kHz	0.016 % Rdg	1
	100 nF to 1 000 nF	0.01 % Rdg	
	1 μF to 10 μF @ 1 kHz	0.01 % Rdg	
	10 μF to 100 μF @ 1 kHz	0.008 % Rdg	=
	100 μF to 1000 μF	0.02 % Rdg	1
	1 000 μF to 10 000 μF	0.10 % Rdg	1
Calibration of	-210 °C to -100 °C	0.21 °C	Multi-Product Calibrator -
Temperature Indicators	-100 °C to -30 °C	0.12 °C	Fluke 5522A
and Simulators by Electrical Simulation and	-30 °C to 150 °C	0.08 °C	EURAMET cg-11
Measurement (Type J) ^F	150 °C to 760 °C	0.12 °C	Ectamizates 11
	760 °C to 1 200 °C	0.18 °C	1
Calibration of	-200 °C to -100 °C	0.25 °C	Multi-Product Calibrator -
Temperature Indicators	-100 °C to -25 °C	0.12 °C	Fluke 5522A
and Simulators by Electrical Simulation and	-25 °C to 120 °C	0.09 °C	EURAMET cg-11
Measurement (Type K) ^F	120 °C to 1 000 °C	0.19 °C	
	1 000 °C to 1 372 °C	0.57 °C	1
Calibration of	0 °C to 250 °C	0.21 °C	Multi-Product Calibrator -
Temperature Indicators	250 °C to 400 °C	0.27 °C	Fluke 5522A
and Simulators by Electrical Simulation and	400 °C to 1 000 °C	0.35 °C	EURAMET cg-11
Measurement (Type R) ^F	1 000 °C to 1 767 °C	0.47 °C	1



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Electrical

MEASURED INSTRUMENT,	RANGE OR NOMINAL	CALIBRATION AND	CALIBRATION
QUANTITY OR GAUGE	DEVICE SIZE AS	MEASUREMENT	EQUIPMENT
	APPROPRIATE	CAPABILITY EXPRESSED	AND REFERENCE
		AS AN UNCERTAINTY (±)	STANDARDS USED
Calibration of	0 °C to 250 °C	0.38 °C	Multi-Product Calibrator -
Temperature Indicators and Simulators by	250 °C to 1 000 °C	0.29 °C	Fluke 5522A
Electrical Simulation and	1 000 °C to 1 400 °C	0.41 °C	EURAMET cg-11
Measurement (Type S) ^F	1 400 °C to 1 767 °C	0.49 °C	

Time & Frequency

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Timer, Stopwatches & Chart Speed ^{FO}	10 s to 36 000 s	0.04 s	Timer/Counter/Analyzer: 300MHz-Tektronix-FCA3100 NIST 960-12 Special Publication

Mass, Force and Weighing Device

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE OR NOMINAL DEVICE SIZE AS APPROPRIATE	CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED
Vertical Cylindrical Tank ^O	100 m ³ to 50 000 m ³	0.1 % of volume	Total station Measuring Tape Dipping Tape Ultrasonic Thickness Gauge ISO 7507-1 & ISO 7507-2



Modern Surveying Calibration & Testing Labs

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Accreditation is granted to the facility to perform the following calibrations:

Chemical

Chemical			
MEASURED INSTRUMENT,	RANGE OR NOMINAL	CALIBRATION AND	CALIBRATION
QUANTITY OR GAUGE	DEVICE SIZE AS	MEASUREMENT	EQUIPMENT
	APPROPRIATE	CAPABILITY EXPRESSED	AND REFERENCE
		AS AN UNCERTAINTY (±)	STANDARDS USED
Density Meter ^{FO}	0.65 g/cm3 to 1.8 g/cm3	0.000 1 g/cm ³	Density Standard Solution
			MSL-CP-A-02

- 1. The CMC (Calibration and Measurement Capability) stated for calibrations included on this scope of accreditation represents the smallest measurement uncertainty attainable by the laboratory when performing a more or less routine calibration of a nearly ideal device under nearly ideal conditions. It is typically expressed at a confidence level of 95 % using a coverage factor k (usually equal to 2). The actual measurement uncertainty associated with a specific calibration performed by the laboratory will typically be larger than the CMC for the same calibration since capability and performance of the device being calibrated and the conditions related to the calibration may reasonably be expected to deviate from ideal to some degree.
- 2. The laboratories range of calibration capability for all disciplines for which they are accredited is the interval from the smallest calibrated standard to the largest calibrated standard used in performing the calibration. The low end of this range must be an attainable value for which the laboratory has or has access to the standard referenced. Verification of an indicated value of zero in the absence of a standard is common practice in the procedure for many calibrations but by its definition it does not constitute calibration of zero capacity.
- 3. The presence of a superscript F means that the laboratory performs calibration of the indicated parameter at its fixed location. Example: Outside Micrometer^F would mean that the laboratory performs this calibration at its fixed location.
- 4. The presence of a superscript FO means that the laboratory performs calibration of the indicated parameter both at its fixed location and onsite at customer locations. Example: Outside Micrometer^{FO} would mean that the laboratory performs this calibration at its fixed location and onsite at customer locations.
- 5. Measurement uncertainties obtained for calibrations performed at customer sites can be expected to be larger than the measurement uncertainties obtained at the laboratories fixed location for similar calibrations. This is due to the effects of transportation of the standards and equipment and upon environmental conditions at the customer site which are typically not controlled as closely as at the laboratories fixed location.
- 6. The term L represents length in meter.

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7. The term T represents temperature in °C or °F as appropriate to the uncertainty statement.