Issue date: 12 August 2025
Valid Until: -

NO: SAMM 407
(Issue 2, 12 August 2025 replacement
of SAMM 407 dated 12 August 2025)

LABORATORY LOCATION/ CENTRAL OFFICE:	Trescal (Malaysia) Sdn. Bhd., Perak No. 23-23A, Tasek Mutiara 2 Pusat Perdagangan Tasek Mutiara 31400 Ipoh, Perak , 31400, PERAK MALAYSIA
ACCREDITED SINCE :	12 AUGUST 2025
FIELD(S) OF CALIBRATION:	HEAT & TEMPERATURE MASS PRESSURE DIMENSIONAL

This laboratory has demonstrated its technical competence to operate in accordance with MS ISO/IEC 17025:2017 (ISO/IEC 17025:2017).

This laboratory's fulfillment of the requirements of ISO/IEC 17025 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025 are written in language relevant to laboratory operations and operate generally in accordance with the principles of ISO 9001 (see Joint ISO-ILAC-IAF Communiqué dated April 2017).

*** The uncertainty covered by the CMC is expressed as the expanded uncertainty corresponding to a coverage probability of approximately 95 % and have a coverage factor of k=2 unless stated otherwise.**

CENTRAL LOCATION	Trescal (Malaysia) Sdn. Bhd., Perak No. 23-23A, Tasek Mutiara 2 Pusat Perdagangan Tasek Mutiara 31400 Ipoh, Perak , 31400, Perak
FIELD(S) OF CALIBRATION :	HEAT & TEMPERATURE, MASS, PRESSURE, DIMENSIONAL

SCOPE OF CALIBRATION : HEAT & TEMPERATURE

Instrument Calibrated/Measurement Parameter	**Range**	**Calibration and Measurement Capability Expressed as an Uncertainty (±)***	**Remarks**
Temperature Sensor Pt 100	0 °C 30 °C to 200 °C 200 °C to 400 °C	0.2 °C 0.3 °C 0.5 °C	Comparison with Pt100 reference in liquid bath and temperature block calibrator

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Instrument Calibrated/Measurement Parameter	**Range**	**Calibration and Measurement Capability Expressed as an Uncertainty (±)***	**Remarks**
Temperature Sensor Thermocouple	0 °C 30 °C to 200 °C 200 °C to 400 °C	0.2 °C 0.6 °C 0.7 °C	Comparison with Pt100 reference in liquid bath and temperature block calibrator
Temperature Sensor Temperature Gauge	0 °C 30 °C to 200 °C 200 °C to 400 °C	0.3 °C 0.5 °C 0.6 °C	Comparison with Pt100 reference in liquid bath and temperature block calibrator
Temperature Sensor With Indicator Pt 100	0 °C 30 °C to 200 °C 200 °C to 400 °C	0.1 °C 0.3 °C 0.5 °C	Comparison with Pt100 reference in liquid bath and temperature block calibrator
Temperature Sensor With Indicator Thermocouple	0 °C 30 °C to 200 °C 200 °C to 400 °C	0.1 °C 0.6 °C 0.7 °C	Comparison with Pt100 reference in liquid bath and temperature block calibrator
Temperature Measuring Device (by Electrical Simulation) A) Type K	-200 °C to -100 °C -100 °C to 1300 °C	1.2 °C 0.2 °C	Calibrated by electrical simulation using calibrator and reference table ITS 90
Temperature Measuring Device (by Electrical Simulation) B) Type J	-200 °C to 1200 °C	0.3 °C	Calibrated by electrical simulation using calibrator and reference table ITS 90
Temperature Measuring Device (by Electrical Simulation) C) Pt 100	-200 °C to 850 °C	0.2 °C	Calibrated by electrical simulation using calibrator and reference table ITS 90

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SCOPE OF CALIBRATION : MASS

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty (±)*	Remarks
Standard Weight	2 kg 5 kg 10 kg 20 kg 25 kg	0.2 g 0.2 g 0.2 g 0.2 g 0.2 g	Calibrated by using standard weights and weighing comparator

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SCOPE OF CALIBRATION : PRESSURE

Instrument Calibrated/Measurement Parameter	**Range**	**Calibration and Measurement Capability Expressed as an Uncertainty (±)***	**Remarks**
Pressure Measuring Device A) Hydraulic	0 bar to 300 bar 300 bar to 700 bar	0.07 bar 0.13 bar	Calibrated by using test gauge
Pressure Measuring Device B) Pneumatic	0 bar to 0.005 bar 0.005 bar to 0.01 bar 0.01 bar 0.03 bar 0.03 bar to 0.05 bar 0 bar to 30 bar	0.004 mbar 0.006 mbar 0.02 mbar 0.04 mbar 0.005 bar	Calibrated by using test gauge
Pressure Measuring Device C) Vacuum	-0.9 bar to 0 bar	0.002 bar	Calibrated by using test gauge

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SCOPE OF CALIBRATION : DIMENSIONAL

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty (±)*	Remarks
Caliper (internal & External)	0 mm to 300 mm	0.006 mm	Calibrated by using caliper checker and gauge block with reference JIS B 7507:2016
Micrometer (external)	0 mm to 75 mm 75 mm to 150 mm 150 mm to 200 mm	0.002 mm 0.003 mm 0.004 mm	Calibrated by using gauge block with reference JIS B 7502:2016

SITE LOCATION (HQ)	1. CATEGORY I
FIELD(S) OF CALIBRATION :	HEAT & TEMPERATURE,MASS,PRESSURE

SCOPE OF CALIBRATION : HEAT & TEMPERATURE

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques	Remarks
Temperature Sensor Pt 100	0 °C 30 °C to 200 °C 200 °C to 400 °C	0.2 °C 0.4 °C 0.5 °C	Comparison with Pt100 reference in liquid bath and temperature block calibrator
Temperature Sensor Thermocouple	0 °C 30 °C to 200 °C 200 °C to 400 °C	0.2 °C 0.6 °C 0.7 °C	Comparison with Pt100 reference in liquid bath and temperature block calibrator
Temperature Sensor Temperature Gauge	0 °C 30 °C to 200 °C 200 °C to 400 °C	0.3 °C 0.5 °C 0.6 °C	Comparison with Pt100 reference in liquid bath and temperature block calibrator

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques	Remarks
Temperature Sensor With Indicator Pt 100	0 °C 30 °C to 200 °C 200 °C to 400 °C	0.1 °C 0.4 °C 0.5 °C	Comparison with Pt100 reference in liquid bath and temperature block calibrator
Temperature Sensor With Indicator Thermocouple	0 °C 30 °C to 200 °C 200 °C to 400 °C	0.1 °C 0.6 °C 0.7 °C	Comparison with Pt100 reference in liquid bath and temperature block calibrator
Temperature Measuring Device (by Electrical Simulation) A) Type K	-200 °C to -100 °C -100 °C to 1300 °C	1.2 °C 0.2 °C	Calibrated by electrical simulation using calibrator and reference table ITS 90
Temperature Measuring Device (by Electrical Simulation) B) Type J	-200 °C to 1200 °C	0.3 °C	Calibrated by electrical simulation using calibrator and reference table ITS 90
Temperature Measuring Device (by Electrical Simulation) C) Pt 100	-200 °C to 850 °C	0.2 °C	Calibrated by electrical simulation using calibrator and reference table ITS 90
Temperature Controlled Enclosure	-40 °C to 250 °C 250 °C to 600 °C 600 °C to 1300 °C	0.6 °C 1.7 °C 3.2 °C	Calibrated by using temperature recorder with thermocouple
Humidity Chamber @ 25 °c	5 °C to 60 °C 30 %rh to 95 %rh	0.6 °C 2.2 %rh	Calibrated by using temperature recorder with thermocouple and Data Logger

SCOPE OF CALIBRATION : MASS

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques	Remarks
Balance	Up to 200 g 200 g to 1000 g 1 kg to 5 kg 5 kg to 10 kg 10 kg to 20 kg 20 kg to 50 kg 50 kg to 100 kg 100 kg to 300 kg	0.7 mg 6 mg 0.03 g 0.07 g 5 g 10 g 0.02 kg 0.05 kg	Calibrated by using standard weights

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SCOPE OF CALIBRATION : PRESSURE

Material / Product Tested	Type Of Test / Properties Measured / Range Of Measurement	Standard Test Methods / Equipment / Techniques	Remarks
Pressure Measuring Device A) Hydraulic	0 bar to 300 bar 300 bar to 700 bar	0.07 bar 0.13 bar	Calibrated by using test gauge
Pressure Measuring Device B) Pneumatic	0 bar to 0.005 bar 0.005 bar to 0.01 bar 0.01 bar 0.03 bar 0.03 bar to 0.05 bar 0 bar to 30 bar	0.004 mbar 0.006 mbar 0.02 mbar 0.04 mbar 0.005 bar	Calibrated by using test gauge
Pressure Measuring Device C) Vacuum	-0.9 bar to 0 bar	0.002 bar	Calibrated by using test gauge