Issue date: 20 February 2025
Valid Until: -

NO: SAMM 760
(Issue 2, 20 February 2025 replacement
of SAMM 760 dated 07 August 2024)

LABORATORY LOCATION/ CENTRAL OFFICE:	PPCalibration Services Sdn. Bhd. No. 15, Medan Bukit Emas Pusat Perniagaan Bukit Emas 14000 Bukit Mertajam, Pulau Pinang , 14000, PULAU PINANG MALAYSIA
ACCREDITED SINCE :	20 FEBRUARY 2025
FIELD(S) OF CALIBRATION:	HEAT AND TEMPERATURE MASS PRESSURE DIMENSIONAL ELECTRICAL

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	PPCalibration Services Sdn. Bhd. No. 15, Medan Bukit Emas Pusat Perniagaan Bukit Emas 14000 Bukit Mertajam, Pulau Pinang , 14000, Pulau Pinang
FIELD(S) OF CALIBRATION :	HEAT & TEMPERATURE, MASS, PRESSURE, DIMENSIONAL, ELECTRICAL

SCOPE OF CALIBRATION : HEAT AND TEMPERATURE

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Instrument Calibrated/Measurement Parameter	**Range**	**Calibration and Measurement Capability Expressed as an Uncertainty (±)***	**Remarks**
Temperature & Relative Humidity Measuring Device	-40 °C to 50 °C 10 % to 90 % RH	0.3 °C 2.4 % RH	Calibrated by comparison with Standard Thermohygrometer and Standard Resistance Thermometer in Temperature & Humidity Chamber according to JIS B7306-1989 and CSIRO 'Temperature and Humidity Measurements' Course Book 3
Liquid In Glass Thermometer	0 °C 35 °C to 200 °C	0.3 °C 0.3 °C	Calibrated by comparison with Standard Resistance Thermometer in Temperature Liquid Bath according to ASTM E77- 98
Temperature Sensor With Indicator	0 °C to 200 °C 200 °C to 400 °C 400 °C to 660 °C	0.09 °C 0.43 °C 0.60 °C	Calibrated by comparison with Standard Resistance Thermometer in Temperature Block Calibrator with Reference to JIS C1602- 95, JIS C1604-97, JIS C1611-95 and JIS Z8710-93
Temperature Sensor	0 °C to 200 °C 200 °C to 400 °C 400 °C to 660 °C	0.3 °C 0.5 °C 0.7 °C	Calibrated by comparison with Standard Resistance Thermometer in Temperature Block Calibrator with Reference to JIS C1602- 95, JIS C1604-97, JIS C1611-95 and JIS Z8710-93

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Instrument Calibrated/Measurement Parameter	**Range**	**Calibration and Measurement Capability Expressed as an Uncertainty (±)***	**Remarks**
Temperature Measuring Device Pt100 Type K Type J Type S Type R Type T Type E Type N Type B	-100 °C to 800 °C -100 °C to 1300 °C -100 °C to 1200 °C 0 °C to 1700 °C 0 °C to 1700 °C -100 °C to 400 °C -100 °C to 950 °C -100 °C to 1200 °C 600 °C to 1800 °C	0.2 °C 0.2 °C 0.2 °C 0.7 °C 0.7 °C 0.2 °C 0.2 °C 0.2 °C 1.5 °C	Calibrated by electrical simulation using Temperature Calibrator and Reference Table ITS90

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SCOPE OF CALIBRATION : MASS

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty (±)*	Remarks
Standard Weight	1kg 2kg 5 kg 10 kg 20 kg	0.01 g 0.02 g 0.04 g 0.1g 0.2 g	Calibrated using standard weights and balances as mass comparators with general reference to OIML R111-1:2004(E).

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SCOPE OF CALIBRATION : PRESSURE

Instrument Calibrated/Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty (±)*	Remarks
Hydraulic	0 bar to 680 bar	0.2 bar	Calibrated using Standard Pressure Calibrator as standard with Reference to AS1349: 1986
Pneumatic	0 Pa to 1000 Pa 1001 Pa to 3700 Pa 3701 Pa to 6900 Pa 69 mbar to 500 mbar 0.5 bar to 2 bar 2 bar to 40 bar	0.7 Pa 2.4 Pa 39 Pa 0.04 mbar 1.1 mbar 0.01 bar	Calibrated using Standard Pressure Calibrator as standard with Reference to AS1349: 1986
Pressure Measuring Device Vacuum	-0.95 bar to -0.005 bar -500 Pa to 0 Pa	1.3 mbar 0.7 Pa	Calibrated using Standard Pressure Calibrator as standard with Reference to AS1349: 1986

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SCOPE OF CALIBRATION : DIMENSIONAL

Instrument Calibrated/Measurement Parameter	**Range**	**Calibration and Measurement Capability Expressed as an Uncertainty (±)***	**Remarks**
Feeler Gauge	Up to 1mm	3 µm	Calibrated using Gauge Block and Digital Indicator as standards according to BS 957: 2008
Micrometer (external Measurement)	Up to 25 mm 25 mm to 50 mm 50 m to 100 mm	2 µm 3 µm 3 µm	Calibrated using Gauge Block as standards according to JIS B 7502: 2016
Dial Gauge	Up to 25 mm	9 µm	Calibrated Using Indicator Calibration Tester as standards with Reference to JIS B 7503: 2017
Dial Test Indicator	Up to 0.28 mm 0.28 mm to 0.60 mm 0.60 mm to 1.0 mm	3 µm 4 µm 8 µm	Calibrated Using and Indicator Calibration Tester as standards with Reference to JIS B 7533:2015
Digital Displacement Indicator	Up to 50 mm	2 µm	Calibrated using Gauge Block as standards with Reference to JIS B 7536:1982
Dial Thickness Gauge	Up to 20 mm	8 µm	Calibrated using Gauge Block
Height Gauge	Up to 300 mm 300 mm to 600 mm	9 µm 11 µm	Calibrated using Caliper Checker, Dial Test Indicator and Tri-Square as standards with Reference to JIS B 7517: 2018
Caliper (external And Internal)	Up to 200 mm 200 mm to 400 mm 400mm to 600 mm	11 µm 12 µm 13 µm	Calibrated using Caliper Checker and Gauge Block as standards with Reference to JIS B 7507: 2016

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SCOPE OF CALIBRATION : ELECTRICAL

Instrument Calibrated/Measurement Parameter	**Range**	**Calibration and Measurement Capability Expressed as an Uncertainty (±)***	**Remarks**
Stopwatch	0 s to 10800 s	0.5s	Calibrated by Comparison with Standard Stopwatch according to NIST Stopwatch and Timer Calibration
Timer	0 s to 10800 s	0.5 s	Calibrated by Comparison with Standard Stopwatch according to NIST Stopwatch and Timer Calibration