Issue date: 3 April 2017
Valid until: 28 February 2019

MS ISO/IEC 17025

NO: SAMM 760
(Issue 2, 3 April 2017 replacement
of SAMM 760 dated 29 February 2016)

LABORATORY LOCATION:
(PERMANENT LABORATORY)

PPCALIBRATION SERVICES SDN. BHD.
NO. 15, MEDAN BUKIT EMAS
PUSAT PERNIAGAAN BUKIT EMAS
14000 BUKIT MERTAJAM,
PULAU PINANG
MALAYSIA

This laboratory accredited under *Skim Akreditasi Makmal Malaysia* (SAMM) meets the requirements of MS ISO/IEC 17025:2005 'General requirements for competence of testing and calibration laboratories'. This Malaysian Standards is identical with ISO/IEC 17025:2005 published by the International Organization for Standardization (ISO).

*** The expanded uncertainties are based on an estimated confidence probability of approximately 95% and have a coverage factor of *k*=2 unless stated otherwise.**

FIELD OF CALIBRATION: HEAT AND TEMPERATURE

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Temperature Sensor	0 °C to 200 °C 200 °C to 400 °C 400 °C to 660 °C	0.04 °C 0.18 °C 0.31 °C	Calibrated by comparison with Standard Resistance Thermometer in Temperature Block Calibrator according to JIS C1602-95, JIS C1605-97, JIS C1611-95 and JIS Z8710-93
Temperature Measuring Device			
PT100	-100 °C to 800 °C	0.2 °C	
Type K	-100 °C to 1300 °C	0.2 °C	
Type J	-100 °C to 1200 °C	0.2 °C	
Type S	0 °C to 1700 °C	0.7 °C	
Type R	0 °C to 1700 °C	0.7 °C	
Type T	-100 °C to 400 °C	0.2 °C	
Type E	-100 °C to 950 °C	0.2 °C	
Type N	-100 °C to 1200 °C	0.2 °C	

	Calibrated by electrical simulation using Temperature Calibrator and Reference Table ITS90 according to JIS C1601-83 and JIS C1603-83

Issue date: 3 April 2017
Valid until: 28 February 2019

MS ISO/IEC 17025

NO: SAMM 760
(Issue 2, 3 April 2017 replacement
of SAMM 760 dated 29 February 2016)

FIELD OF CALIBRATION: HEAT AND TEMPERATURE

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Temperature and Relative Humidity Measuring Device	-40 °C to 50 °C 25 %RH to 90 %RH	0.2 °C 2.2 %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

Signatories:

1. Faten Maisarah binti Mohamad Nor
2. Mohd Muhaimie bin Mustafa

Issue date: 3 April 2017
Valid until: 28 February 2019

MS ISO/IEC 17025

NO: SAMM 760
(Issue 2, 3 April 2017 replacement
of SAMM 760 dated 29 February 2016)

FIELD OF CALIBRATION: **HEAT AND TEMPERATURE**

SITE CALIBRATION: **CATEGORY I**

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Temperature Sensor	0 °C to 200 °C 200 °C to 400 °C 400 °C to 660 °C	0.04 °C 0.18 °C 0.31 °C	Calibrated by comparison with Standard Resistance Thermometer in Temperature Block Calibrator according to JIS C1602-95, JIS C1605-97, JIS C1611-95 and JIS Z8710-93
Temperature Measuring Device PT100 Type K Type J Type S Type R Type T Type E Type N	 -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	 0.2 °C 0.2 °C 0.2 °C 0.7 °C 0.7 °C 0.2 °C 0.2 °C 0.2 °C	Calibrated by electrical simulation using Temperature Calibrator and Reference Table ITS90 according to JIS C1601-83 and JIS C1603-83
Temperature Controlled Enclosure	-40 °C to 200 °C 200 °C to 650 °C 650 °C to 800 °C 800 °C to 1000 °C 1000 °C to 1200 °C	0.6 °C 1.4 °C 2.1 °C 3.2 °C 4.1 °C	Calibrated using Standard Temperature Recorder with Thermocouple according to AS 2853-1986

Issue date: 3 April 2017
Valid until: 28 February 2019

MS ISO/IEC 17025

NO: SAMM 760
(Issue 2, 3 April 2017 replacement
of SAMM 760 dated 29 February 2016)

FIELD OF CALIBRATION: **HEAT AND TEMPERATURE**

SITE CALIBRATION: **CATEGORY I**

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Humidity Chamber	5 °C to 50 °C 20 %RH to 95 %RH	0.3 °C 2.4 %RH	Calibrated using Standard Temperature Recorder with Thermocouple and Data Logger according to AS 2853-1986 and CSIRO 'Temperature and Humidity Measurements' Course Book 3

Signatories:

1. Faten Maisarah binti Mohamad Nor
2. Mohd Muhaimie bin Mustafa

Issue date: 3 April 2017
Valid until: 28 February 2019

MS ISO/IEC 17025

NO: SAMM 760
(Issue 2, 3 April 2017 replacement
of SAMM 760 dated 29 February 2016)

FIELD OF CALIBRATION: PRESSURE

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Pressure Measuring Device			
1. Vacuum	-0.95 bar to 0 bar	0.02 bar	Calibrated using Standard Pressure Calibrator according to AS1349: 1986
2. Pneumatic	0 bar to 69 mbar	0.012 mbar	
	0 bar to 500 mbar	0.028 mbar	
	0 bar to 50 bar	0.02 bar	
3. Hydraulic	0 bar to 680 bar	0.2 bar	

FIELD OF CALIBRATION: PRESSURE

SITE CALIBRATION: CATEGORY I

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Pressure Measuring Device			
1. Vacuum	-0.95 bar to 0 bar	0.02 bar	Calibrated using Standard Pressure Calibrator according to AS1349: 1986
2. Pneumatic	0 bar to 69 mbar	0.012 mbar	
	0 bar to 500 mbar	0.028 mbar	
	0 bar to 50 bar	0.02 bar	
3. Hydraulic	0 bar to 680 bar	0.2 bar	

Signatories:

1. Faten Maisarah binti Mohamad Nor
2. Mohd Muhaimie bin Mustafa

Issue date: 3 April 2017
Valid until: 28 February 2019

MS ISO/IEC 17025

NO: SAMM 760
(Issue 2, 3 April 2017 replacement
of SAMM 760 dated 29 February 2016)

FIELD OF CALIBRATION: MASS

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Standard Weight	1 kg	0.1 g	Calibrated using Standard Weight and Balance as comparator according to OIML R111-1 2004 (E)
	2 kg	0.1 g	
	5 kg	0.1 g	
	10 kg	0.3 g	
	20 kg	1.5 g	

Signatories:

1. Faten Maisarah binti Mohamad Nor
2. Mohd Muhaimie bin Mustafa

Issue date: 3 April 2017
Valid until: 28 February 2019

MS ISO/IEC 17025

NO: SAMM 760
(Issue 2, 3 April 2017 replacement
of SAMM 760 dated 29 February 2016)

FIELD OF CALIBRATION: **MASS**

SITE CALIBRATION: **CATEGORY I**

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Balance	Up to 220 g	0.5 mg	Calibrated using Standard Weight as standards according to ASTM E898-88
	Up to 500 g	1.2 mg	
	Up to 1000 g	0.003 g	
	Up to 6200 g	0.02 g	
	Up to 20 kg	0.0002 kg	
	Up to 60 kg	0.0007 kg	
	Up to 100 kg	0.003 kg	
	Up to 150 kg	0.008 kg	

Signatories:

1. Faten Maisarah binti Mohamad Nor
2. Mohd Muhaimie bin Mustafa

Issue date: 3 April 2017
Valid until: 28 February 2019

MS ISO/IEC 17025

NO: SAMM 760
(Issue 2, 3 April 2017 replacement
of SAMM 760 dated 29 February 2016)

FIELD OF CALIBRATION: DIMENSIONAL

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Caliper (External and Internal)	Up to 200 mm 200 mm to 400 mm 400 mm to 600 mm	11 µm 12 µm 13 µm	Calibrated using Caliper Checker and Gauge Block as standards according to JIS B7507: 1993
Height Gauge	Up to 300 mm 300 mm to 600 mm	12 µm 13 µm	Calibrated using Caliper Checker, Dial Test Indicator and Tri-Square as standards according to JIS B7517: 1993
Dial Thickness Gauge	Up to 20 mm	8 µm	Calibrated using Gauge Block as standards according to JIS B7503: 2011
Digital Indicator	Up to 50 mm	2 µm	Calibrated using Gauge Block as standards according to JIS B7503: 2011
Dial Test Indicator	Up to 0.28 mm (Graduation: 0.002 mm) 0.50 mm to 1.0 mm (Graduation: 0.01 mm)	3 µm 9 µm	Calibrated using Gauge Block and Indicator Calibration Tester as standards according to JIS B7533: 1990
Dial Gauge	Up to 25 mm (Graduation: 0.01 mm)	9 µm	Calibrated using Gauge Block and Indicator Calibration Tester as standards according to JIS B7503: 2011

Issue date: 3 April 2017
Valid until: 28 February 2019

MS ISO/IEC 17025

NO: SAMM 760
(Issue 2, 3 April 2017 replacement
of SAMM 760 dated 29 February 2016)

FIELD OF CALIBRATION: **DIMENSIONAL**

SITE CALIBRATION: **CATEGORY I**

SCOPE OF ACCREDITATION:

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Profile Projector / Measuring Microscope	0 mm to 300 mm	0.004 mm	Calibrated using Glass Scale as standards according to JIS B7184: 1999

Signatories:

1. Faten Maisarah binti Mohamad Nor
2. Mohd Muhaimie bin Mustafa