ACCREDITATION SCHEME FOR

LABORATORIES

Singapore Accreditation Council

Number : **LA-2003-0278-C**

Date of Issue : **26 March 2024**

Date of Expiry : **25 March 2028**

Certificate of Accreditation

This certifies that

ISOLAB (Singapore) Pte Ltd
2 Joo Koon Circle
@ Level 2
Singapore 629031

is accredited by the Singapore Accreditation Council to

ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories

within the field/programme of

Calibration & Measurement

for the specific scope as detailed in the attached schedule.

On behalf of the Singapore Accreditation Council
Tan Kai Hoe
Chairman

This Certificate is awarded subject to the organisation's compliance with the stated criteria and terms and conditions laid down by the Singapore Accreditation Council.

This is an electronically generated certificate, hence does not require a signature.

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SINGAPORE LABORATORY ACCREDITATION SCHEME

Accredited Laboratory SAC-SINGLAS

Schedule

ISOLAB (Singapore) Pte Ltd
2, Joo Koon Circle
@ Level 2
Singapore 629031

Certificate No. : LA-2003-0278-C

Issue No. : 29

Date : 09 March 2026

Expiry of Certificate : 25 March 2028

Field of Testing: Calibration and Measurement

MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
A. Temperature Calibration		
A1. Resistance temperature Devices Indicators	STCP-001 (Rev. 5)	
-200 °C to 200 °C		0.01 °C
200 °C to 850 °C		0.01 °C
A2. Resistance temperature Devices Simulators	STCP-001 (Rev. 5)	
-200 °C to 850 °C		0.01 °C
A3. Thermocouple Simulators	STCP-002 (Rev. 6)	
Type E		
-270 °C to -150 °C		0.18 °C
-150 °C to -100 °C		0.18 °C
-100 °C to 0 °C		0.14 °C
0 °C to 200 °C		0.14 °C
200 °C to 1000 °C		0.10 °C
Type J		
-210 °C to -150 °C		0.17 °C
-150 °C to -100 °C		0.13 °C
-100 °C to 0 °C		0.13 °C
0 °C to 1200 °C		0.10 °C

MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
Type K		
-270 °C to -150 °C		0.3 °C
-150 °C to -100 °C		0.14 °C
-100 °C to 0 °C		0.13 °C
0 °C to 900 °C		0.11 °C
900 °C to 1372 °C		0.12 °C
Type N		
-270 °C to -150 °C		0.19 °C
-150 °C to -100 °C		0.13 °C
-100 °C to 100 °C		0.10 °C
100 °C to 200 °C		0.10 °C
200 °C to 1300 °C		0.10 °C
Type R		
-50 °C to 100 °C		0.40 °C
100 °C to 400 °C		0.30 °C
400 °C to 600 °C		0.20 °C
600 °C to 900 °C		0.20 °C
900 °C to 1768 °C		0.20 °C
Type S		
-50 °C to 100 °C		0.30 °C
100 °C to 200 °C		0.30 °C
200 °C to 400 °C		0.20 °C
400 °C to 700 °C		0.20 °C
700 °C to 1768 °C		0.20 °C
Type T		
-270 °C to -150 °C		0.20 °C
-150 °C to -100 °C		0.13 °C
-100 °C to 0 °C		0.12 °C
0 °C to 200 °C		0.10 °C
200 °C to 400 °C		0.10 °C
Type B		
200 °C to 600 °C		0.5 °C
600 °C to 1700 °C		0.3 °C

MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
A4. Thermocouple Indicators	STCP-002 (Rev. 6)	
Type E		
-200 °C to -150 °C		0.16 °C
-150 °C to -100 °C		0.12 °C
-100 °C to 0 °C		0.08 °C
0 °C to 200 °C		0.07 °C
200 °C to 1000 °C		0.07 °C
Type J		
-210 °C to -150 °C		0.17 °C
-150 °C to -100 °C		0.14 °C
-100 °C to 100 °C		0.12 °C
100 °C to 1200 °C		0.11 °C
Type K		
-200 °C to -150 °C		0.21 °C
-150 °C to -100 °C		0.17 °C
-100 °C to 0 °C		0.13 °C
0 °C to 1000 °C		0.13 °C
1000 °C to 1372 °C		0.20 °C
Type N		
-270 °C to -150 °C		0.19 °C
-150 °C to -100 °C		0.13 °C
-100 °C to -50 °C		0.13 °C
-50 °C to 300 °C		0.13 °C
300 °C to 1300 °C		0.10 °C
Type R		
-50 °C to 100 °C		0.4 °C
100 °C to 400 °C		0.4°C
400 °C to 600 °C		0.4 °C
600 °C to 900 °C		0.33 °C
900 °C to 1768 °C		0.3 °C

	MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
	Type S		
	-50 °C to 100 °C		0.4 °C
	100 °C to 200 °C		0.3 °C
	200 °C to 400 °C		0.2 °C
	400 °C to 700 °C		0.2 °C
	700 °C to 1100 °C		0.2 °C
	1100 °C to 1768 °C		0.2 °C
	Type T		
	-200 °C to -150 °C		0.12 °C
	-150 °C to -100 °C		0.10 °C
	-100 °C to 0 °C		0.10 °C
	0 °C to 200 °C		0.07 °C
	200 °C to 400 °C		0.07 °C
	Type B		
	200 °C to 600 °C		0.5 °C
	600 °C to 1700 °C		0.3 °C
A5.	**Resistance Temperature Detectors without Display**	STCP-003 (Rev.6)	
	-100 °C to -80 °C		0.15 °C
	-80 °C to 0 °C		17 mK (0.017 °C)
	0 °C to 40 °C		9 mK (0.009 °C)
	40 °C to 250 °C		17 mK (0.017 °C)
	250 °C to 550 °C		0.41°C
A6.	**Thermocouple Sensor without Display (in-house)**	STCP-004 (Rev.7)	
	Type E		
	-100 °C to -80 °C		0.2 °C
	-80 °C to 20 °C		0.4 °C
	20 °C to 24 °C		2.4 µV
	24 °C to 250 °C		0.4 °C

MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
Type J		
-80 °C to 0 °C		0.6 °C
0 °C to 20 °C		0.5 °C
20 °C to 24 °C		1.9 µV
24 °C to 250 °C		0.5 °C
250 °C to 500 °C		0.6 °C
500 °C to 1000 °C		0.7 °C
Type K		
-100 °C to -80 °C		0.2 °C
-80 °C to 0 °C		0.3 °C
0 °C to 20 °C		0.3 °C
20 °C to 40 °C		1.8 µV
40°C to 250 °C		0.3 °C
250 °C to 500 °C		0.5 °C
500 °C to 1000 °C		1.0 °C
1000 °C to 1290 °C		2.0 °C
Type N		
-100 °C to -80 °C		0.2 °C
-80 °C to 0 °C		0.3 °C
0 °C to 20 °C		0.3 °C
20 °C to 40 °C		1.4 µV
40°C to 200 °C		0.3 °C
200 °C to 400 °C		0.5 °C
400 °C to 1000 °C		1.0 °C
1000 °C to 1290 °C		2.0 °C
Type R		
0 °C to 20 °C		0.5 °C
20 °C to 24 °C		1.1 µV
24 °C to 500 °C		0.5 °C
500 °C to 1000 °C		1.0 °C
1000 °C to 1290 °C		2.0 °C

	MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
	Type S		
	0 °C to 20 °C		0.9 °C
	20 °C to 40 °C		1.2 µV
	40°C to 350 °C		0.9 °C
	350 °C to 1100 °C		1.0 °C
	1100 °C to 1290 °C		2.0 °C
	Type T		
	-100 °C to -80 °C		0.19 °C
	-80 °C to 0 °C		0.3 °C
	0 °C to 20 °C		0.2 °C
	20 °C to 24 °C		1.0 µV
	24 °C to 260 °C		0.2 °C
	Type B		
	22 °C		0.6 µV
A7.	**Digital Indicator with RTD Sensor**	STCP-005 (Rev.7)	
	-100 °C to -80 °C		0.15°C
	-80 °C to -40 °C		15 mK (0.015°C)
	-40 °C to 0 °C		15 mK (0.015°C)
	0 °C to 40 °C		9 mK (0.009°C)
	40 °C to 250 °C		15 mK (0.015°C)
	250 °C to 550 °C		0.41 °C
A8.	**Digital Indicator with Base Metal Thermocouple**	STCP-005 (Rev.7)	
	-100 °C to -80 °C		0.22 °C
	-80 °C to 20 °C		0.3 °C
	20 °C to 250 °C		0.2 °C
	250 °C to 500 °C		0.7 °C
	500 °C to 700 °C		1.2 °C
	700 °C to 900 °C		1.5 °C
	900 °C to 1290 °C		1.7 °C

MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
A9. Digital Indicator with Noble Metal Thermocouple	STCP-005 (Rev.7)	
0 °C to 250 °C		0.4 °C
250 °C to 500 °C		0.6 °C
500 °C to 1000 °C		1.5 °C
1000 °C to 1100 °C		2.2 °C
1100 °C to 1290 °C		2.8 °C
A10a. Temperature & Humidity Instruments (In-house)	STCP-006 (Rev.7)	
Dew Point (-40 °C to 60 °C)		0.3 °C
Temperature		
-40 °C to 0 °C		0.18 °C
0 °C to 50 °C		0.08 °C
50 °C to 100 °C		0.22 °C
Temperature and Humidity		
(10 ~ 23) °C @ (10 to 30) % relative humidity		0.2 °C / 0.9 % relative humidity
(10 ~ 23) °C @ (30 to 75) % relative humidity		0.2 °C / 1.1 % relative humidity
(10 ~ 23) °C @ (75 to 95) % relative humidity		0.2 °C / 1.3 % relative humidity
(23 ~ 30) °C @ (10 to 30) % relative humidity		0.2 °C / 0.5 % relative humidity
(23 ~ 30) °C @ (30 to 75) % relative humidity		0.2 °C / 0.9 % relative humidity
(23 ~ 30) °C @ (75 to 95) % relative humidity		0.2 °C / 1.5 % relative humidity
(30 ~ 60) °C @ (10 to 30) % relative humidity		0.2 °C / 0.7 % relative humidity
(30 ~ 60) °C @ (30 to 75) % relative humidity		0.2 °C / 1.0 % relative humidity
(30 ~ 60) °C @ (75 to 95) % relative humidity		0.2 °C / 1.3 % relative humidity

	MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
A10b.	**Temperature & Humidity Instruments (On-site) – System SAT (System Accuracy Test) Calibration**	STCP-006 (Rev.7)	
	15 °C to 35 °C		(0.3 to 0.4) °C
	(30 to 80) % relative humidity		(1.8 to 2.0) % relative humidity
	Dew Point (-20 °C to 60 °C)		0.3 °C
A11.	**Temperature Enclosures (In-house and on-site)**	STCP-007 (Rev.7)	
	Liquid Nitrogen -195.8 °C		0.8 °C
	-100 °C to -80 °C		1.3 °C
	-80 °C to -40 °C		0.9 °C
	-40 °C to 100 °C		0.4 °C
	100 °C to 350 °C		1.2 °C
	350 °C to 1290 °C		3.9 °C
	115 °C to 135°C Autoclaves and Pressurized Enclosures		0.3 °C
A12a.	**Digital Indicator with RTD Sensor (On-site)**	STCP-008 (Rev.7)	
	-100 °C to -60 °C		0.15 °C
	-60 °C to 0 °C		0.11 °C
	0 °C to 100 °C		0.06 °C
	100 °C to 200 °C		0.2 °C
	200 °C to 300 °C		0.3 °C
	300 °C to 500 °C		0.5 °C
A12b.	**Digital Indicator with RTD & SAT (System Accuracy Test) Method (On-site)**		
	-30 °C to 0 °C		0.1 °C
	0 °C to 40 °C		21 mK (0.021 °C)
	40 °C to 100 °C		0.08 °C

	MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
A13.	**Digital Indicator with Base Metal Thermocouple Sensor (On-Site)**	STCP-008 (Rev.7)	
	-100 °C to 0 °C		0.2 °C
	0 °C to 100 °C		0.3 °C
	100 °C to 200 °C		0.5 °C
	200 °C to 300 °C		0.6 °C
	300 °C to 500 °C		0.8 °C
	500 °C to 1000 °C		0.8 °C
A14.	**Digital RTD Indicators (On-Site)**	STCP-009 (Rev.6)	
	-200 °C to 550 °C		0.1 °C
A15.	**Thermocouple Display Devices (On-Site)**	STCP-010 (Rev.5)	
	Type E		
	-200 °C to 0 °C		0.3 °C
	0 °C to 1000 °C		0.5 °C
	Type J		
	-200 °C to 800 °C		0.5 °C
	Type K		
	-200 °C to 1200 °C		0.4 °C
	Type N		
	-200 °C to 1200 °C		0.5 °C
	Type T		
	-200 °C to 0 °C		0.3 °C
	0 °C to 400 °C		0.2 °C
	Type R		
	0 °C to 500 °C		0.6 °C
	500 °C to 1300 °C		0.5 °C

	MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)	
	Type S			
	0 °C to 500 °C		0.6 °C	
	500 °C to 1300 °C		0.3 °C	
A16.	**Temperature Transmitter with RTD Sensor (In-house & On-site) site)**	STCP-011 (Rev.7)		
			In-house	On-site
	-100 °C to -80 °C		0.15 °C	0.15 °C
	-80 °C to 250 °C		17 mK (0.017°C)	0.2 °C
	250 °C to 550 °C		0.41 °C	0.6 °C
A17.	**Temperature Transmitter with Base Metal Thermocouple Sensor (In-house & On-site)**	STCP-011 (Rev.7)		
			In-house	On-site
	-100 °C to -80 °C		0.21 °C	0.21 °C
	-80 °C to 200 °C		0.4 °C	0.6 °C
	200 °C to 1000 °C		0.5 °C	0.8 °C
	1000 °C to 1200 °C		1.0 °C	-
A18.	**Radiation Thermometers** (Maximum Spot size: 50mm with minimum distance: 200mm)	STCP-012 (Rev.6)		
	-10 °C to 50 °C	ε = 1.00	0.3 °C	
	50 °C to 100 °C	ε = 1.00	0.25 °C	
	100 °C to 300 °C	ε = 1.00	1.8 °C	
	300 °C to 400 °C	ε = 1.00	2.3 °C	
	400 °C to 700 °C	ε = 1.00	2.8 °C	
	-10 °C to 50 °C	ε = 0.90 to 0.99	0.5 °C	
	50 °C to 350 °C	ε = 0.90 to 0.99	0.8 °C	
	350 °C to 700 °C	ε = 0.90 to 0.99	3.7 °C	

MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED				METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
A19.	Liquid-In-Glass (LIG) Thermometer			STCP-013 (Rev. 6)	
	Type of Immersion	Min. LIG Graduation (°C)	Max. LIG Graduation (°C)	Temperature Range (°C)	
(i)	Total Immersion	0.01	1.0	-80 to -40	0.2 °C
(ii)	Total Immersion	0.01	1.0	-40 to 0	0.1 °C
(iii)	Total Immersion	0.01	1.0	0 to 200	0.1 °C
(iv)	Total Immersion	0.01	1.0	200 to 250	0.3 °C
(v)	Partial Immersion	0.01	1.0	-80 to -40	0.4 °C
(vi)	Partial Immersion	0.01	1.0	-40 to 0	0.3 °C
(vii)	Partial Immersion	0.01	1.0	0 to 150	0.5 °C
(viii)	Partial Immersion	0.01	1.0	150 to 200	0.6 °C
(ix)	Partial Immersion	0.01	1.0	200 to 250	0.8 °C
A20.	**Temperature and Humidity Enclosures (In-house & On-site)**			STCP-014 (Rev. 6)	
	(5 ~ 10) °C @ (10 to 55) % relative humidity				0.3 °C / 0.6 % relative humidity
	(5 ~ 10) °C @ (55 to 70) % relative humidity				0.3 °C / 1.3 % relative humidity
	(5 ~ 10) °C @ (70 to 95) % relative humidity				0.3 °C / 1.7 % relative humidity
	(10 ~ 23) °C @ (10 to 55) % relative humidity				0.3 °C / 0.9 % relative humidity
	(10 ~ 23) °C @ (55 to 70) % relative humidity				0.2 °C / 1.0 % relative humidity
	(10 ~ 23) °C @ (70 to 95) % relative humidity				0.2 °C / 1.4 % relative humidity

MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
(23 ~ 40) °C @ (10 to 55) % relative humidity		0.3 °C / 0.8 % relative humidity
(23 ~ 40) °C @ (55 to 70) % relative humidity		0.3 °C / 1.2 % relative humidity
(23 ~ 40) °C @ (70 to 95) % relative humidity		0.3 °C / 1.5 % relative humidity
(40 ~ 60) °C @ (10 to 55) % relative humidity		0.3 °C / 1.5 % relative h3midity
(40 ~ 60) °C @ (55 to 90) % relative humidity		0.3 °C / 1.8 % relative h3midity
(40 ~ 60) °C @ (90 to 95) % relative humidity		0.3 °C / 2.2 % relative humidity
A21. Sensor Calibration Using Fixed Point		
(a) Triple Point of Water (0.01 °C)	STCP-015 (Rev. 4)	1 mK (0.001°C)
(b) Gallium Melting Point (29.7646 °C)	STCP-016 (Rev. 4)	2 mK (0.002°C)
A22. Multi-Holed Temperature Bath Calibration (Dry-Blocks & Liquid Baths)	STCP-017 (Rev. 4)	
Radial and Axial Test		
-40 °C to 250 °C		0.1 °C to 0.4 °C
250 °C to 1100 °C		2.6 °C to 3.8 °C
1100 °C to 1295 °C		4.7 °C
Loading, Stability and Deviation Test		
-40 °C to 250 °C		0.1 °C
250 °C to 1100 °C		1.8 °C to 3.4 °C
1100 °C to 1295 °C		4.0 °C

	MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
A23.	**Calibration of PRTs, RTDs and Thermocouples Using Liquid Nitrogen Fixed Point (N_2) (In-house & On-site)**		
	At -195.798 °	STCP-019 (Rev.1)	13 mK (0.013 °C)
A24.	**Calibration of Surface Temperature Probe and Surface Hot Plate Profiling And Temperature Mapping of Hot Block (In-house & On-site)**	STCP-020 (Rev. 1)	
	(a) Surface Temperature Probe		
	50 °C to 100 °C		1.1 °C
	100 °C to 300 °C		1.3 °C
	(b) Surface Hot Plate Profiling		
	Stability & Uniformity: (50 to 100) °C		1.3 °C
	Stability & Uniformity: (100 to 300) °C		2.7 °C
	(c) Temperature Mapping of Hot Block		
	30 °C to 150 °C		(0.8 to 1.4) °C
A25.	**Temperature Dial Gauges, Bimetallic and Capillary Thermometers (In-house & On-site)**	STCP-021 (Rev. 1)	
	0 °C to 100 °C		0.5 °C
	100 °C to 400 °C		1.5 °C
A26.	**Sensor Calibration Using Fixed Point**		
	• Standard RTD/PRT Sensors		
	(a) Indium Freezing Point (156.5985 °C)	STCP-022 (Rev. 1)	3 mK (0.003 °C)
	(b) Zinc Freezing Point (419.527 °C)	STCP-023 (Rev. 1)	3 mK (0.003 °C)
	(c) Tin Freezing Point (231.928 °C)	STCP-024 (Rev. 1)	3 mK (0.003 °C)

MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
B. Mechanical calibration (Pressure)		
B1. Analogue Pressure Gauges (In-house) (-0.9 to 1100) bar	SPCP-001 (Rev. 8)	
(a) Analogue Pressure Gauges		
-0.9 bar to 0 bar		5 mbar
0 mbar to 1000 mbar		1.1 mbar
1000 mbar to 35 bar		0.04 bar
35 bar to 70 bar		0.14 bar
70 bar to 1100 bar		0.7 bar
(b) Manometers / Differential Manometers / Magnehelic Pressure Gauges		
-500 Pascal to 0 Pascal		6 Pascal
0 Pascal to 250 Pascal		3 Pascal
250 Pascal to 500 Pascal		5 Pascal
500 Pascal to 1000 Pascal		5 Pascal
1 kilo-Pascal to 2.5 kilo-Pascal		0.028 kilo-Pascal
B2. Digital Pressure Indicators (-0.9 to 1100) bar **(In-house)** (-0.9 to 700) bar **(On-site)**	SPCP-002 (Rev. 8)	
(a) Digital Pressure Indicators **(In-house)**		
-0.9 bar to 0 bar		0.5 mbar
0 mbar to 1000 mbar		0.1 mbar
1 bar to 10 bar		1.8 mbar
10 bar to 35 bar		4.6 mbar
35 bar to 70 bar		0.013 bar
70 bar to 350 bar		0.04 bar
350 bar to 700 bar		0.12 bar
700 bar to 1100 bar		0.2 bar

MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
(b) Digital Manometers / Differential Digital Manometers and Low pressure Digital Indicators **(<u>in-house</u> / <u>On-site</u>)**	SPCP-002 (Rev. 8)	
-500 Pascal to 0 Pascal		3 Pascal
0 Pascal to 250 Pascal		3 Pascal
250 Pascal to 500 Pascal		3 Pascal
500 Pascal to 1000 Pascal		3 Pascal
1 kilo-Pascal to 2.5 kilo-Pascal		0.01 kilo-Pascal
(c) Digital Pressure Indicators **(On-site)**	SPCP-002 (Rev. 8)	
-0.9 bar to 0 bar		0.01 bar
0 to 10 bar		0.01 bar
10 bar to 35 bar		0.02 bar
35 bar to 70 bar		0.03 bar
70 bar to 350 bar		0.3 bar
350 bar to 700 bar		0.3 bar
B3. Pressure Transmitters	**SPCP-003 (Rev.8)**	
(a) (-0.9 bar to 1100 bar) **(<u>In-house</u>)**		
-0.9 bar to 0 bar		1 mbar
0 mbar to 1000 mbar		0.4 mbar
1 bar to 35 bar		0.01 bar
35 bar to 350 bar		0.11 bar
350 bar to 1100 bar		0.3 bar
(b) (-0.9 bar to 700.0 bar) (**<u>On-site</u>**)	SPCP-003 (Rev.8)	
-0.9 bar to 0 bar		8 mbar
0 mbar to 35 bar		0.06 bar
35 bar to 700 bar		0.2 bar
(c) Low Pressure Transmitters **(<u>in-house</u> / <u>On-site</u>)**	SPCP-003 (Rev.8)	
-500 Pascal to 0 Pascal		3 Pascal
0 Pascal to 250 Pascal		3 Pascal
~~>~~250 Pascal to 500 Pascal		3 Pascal
~~>~~500 Pascal to 1000 Pascal		6 Pascal
1 kilo-Pascal to 2.5 kilo-Pascal		0.026 kilo-Pascal

MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
B4. Analogue Pressure Gauges (<u>On-site</u>) (-0.9 to 1100) bar	SPCP-004 (Rev. 8)	
(a) Analogue Pressure Gauges **(<u>On-site</u>)**	SPCP-004 (Rev. 8)	
-0.9 bar to 0 bar		0.005 bar
0 bar to 20 bar		0.02 bar
20 bar to 350 bar		0.7 bar
350 bar to 700 bar		1.3 bar
(b) Manometers / Differential Manometers / Magnehelic Pressure Gauges (**<u>On-site</u>**)	SPCP-004 (Rev. 8)	
-500 Pascal to 0 Pascal		6 Pascal
0 Pascal to 250 Pascal		5 Pascal
250 Pascal to 500 Pascal		6.5 Pascal
500 Pascal to 1000 Pascal		8 Pascal
1 kilo-Pascal to 2.5 kilo-Pascal		0.028 kilo-Pascal
B5. Absolute Pressure Instruments (In-house)	SPCP-005 (Rev. 9)	
a. Liquid Media		
(1.0 to 100) bar absolute		0.02 bar absolute
(100 to 1100) bar absolute		0.17 bar absolute
b. Gas Media		
i. (0.1 to 1.2) bar absolute		0.0006 bar absolute
ii. (1.2 to 35) bar absolute		0.001 bar absolute
iii. (35 to 70) bar absolute		0.0056 bar absolute
c. Absolute Pressure Instrument (On-site) Gas media	SPCP-005 (Rev. 9)	
(0.1 to 4) bar absolute		3 mbar absolute

MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
C. Electrical Calibration (Stopwatches and Timers)	LDCP-005 (Rev. 6)	
C1. Stopwatches (In-house)		
a. Analogue Stopwatches	Ref: Universal Counter **or**	
5 s to 86400 s	Stopwatch	1.2 s
b. Digital Stopwatches		
1 s to 86400 s	Ref: Universal Counter	0.04 s
c. Digital Stopwatches		
1 s to 900 s	Ref: Stopwatch	0.06 s
900 s to 1800 s		0.07 s
1800 s to 2700 s		0.07 s
2700 s to 3600 s		0.08 s
3600 s to 28800 s		0.39 s
C2. Stopwatches (On-site)		
a. Analogue Stopwatches	Ref: Universal Counter **or**	
5 s to 86400 s	Stopwatch	1.2 s
b. Digital Stopwatches		
1 s to 86400 s	Ref: Universal Counter	0.04 s
c. Digital Stopwatches		
1 s to 3600 s	Ref: Stopwatch	0.08 s
3600 s to 28800 s		0.39 s
C3. Timers (In-house)		
a. Analogue Timers	Ref: Universal Counter **or**	
5 s to 28800 s	Stopwatch	1.2 s
b. Digital Timers	Ref: Universal Counter	
1 s to 5 s		0.04 s
5 s to 28800 s		0.06 s

MEASURED QUANTITIES/ INSTRUMENTS/RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
C4. Timers (On-site)		
a. Analogue Timers	Ref: Universal Counter **or**	
5 s to 28800 s	Stopwatch	1.7 s
b. Digital Timers		
0.5 s to 5 s	Ref: Stopwatch	0.08 s
5 s to 3600 s		0.10 s
3600 s to 28800 s		0.40 s

- CMC is expressed as an expanded uncertainty estimated at a level of confidence of approximately 95 %

Approved Signatories:

Mr. Gerald Quek Teck Thye - For A3 to A9, A12, A12b, A13, A15 to A17, A19, A21(a), A21(b), A23, A24 A25 and A26 only.

Mr. Shetty A. Jagadeesh - For A1, A2, A10 to A13, A18, A20, A22, A23, A24, A25, A26, B and C only.

Mr. Thanish Nagappan - For all items

Mr Raja Venkadesh - A1, A2, A3, A4, A11, A12, A13, A14, A15, A16, A17, A20 & A25

Mr Kulanthavelu Venkatesh - A1, A2, A3, A4, A11, A12, A13, A14, A15, A16, A17, A20 & A25

Note :

This laboratory is accredited in accordance with the recognised International Standard ISO/IEC 17025. A laboratory's fulfilment 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. 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.