

Schedule

Issue date: 8 December 2023
Valid until: 23 November 2028



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SCOPE OF CALIBRATION: TEMPERATURE

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(±)*	Remarks
Temperature Measuring Device	-20 °C to 50 °C	0.2° C	Calibrated using Temperature Recorder, PRT, Humidity Chamber and Thermo hygrometer
Relative Humidity Measuring Device	20 %RH to 95 %RH	2 %RH	
Liquid-In-Glass Thermometer (Total & Partial Immersion)	-30 °C to 0 °C 0 °C to 250 °C 250 °C to 400 °C	0.03 °C 0.04 °C 0.11 °C	Calibrated using Resistance Thermometer Display & PRT, Temperature Recorder, Constant Stirred Low Temperature Liquid Bath, Constant Stirred High Temperature Liquid Bath, Metal Block Bath and Ice Point
Temperature Sensor (Thermocouple, PRT, Mechanical Thermometer & Thermistor)	-80 °C to -50 °C -50 °C to -30°C -30 °C to 0 °C 0 °C to 250 °C 250 °C to 400 °C 400 °C to 660 °C 660 °C to 800 °C 800 °C to 1,000 °C 1,000 °C to 1,200 °C	0.08 °C 0.06 °C 0.03 °C 0.04 °C 0.11 °C 0.13 °C 2.1 °C 3.1 °C 4.0 °C	Calibrated using Resistance Thermometer Display & PRT, Type R Thermocouple, Temperature Recorder, Constant Stirred Low Temperature Liquid Bath, Constant Stirred High Temperature Liquid Bath, Temperature Block Calibrator and Ice Point

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SCOPE OF CALIBRATION: TEMPERATURE

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(\pm)*	Remarks
Temperature Block Calibrator	-80 °C to -50 °C -50 °C to 660 °C 660 °C to 1,200 °C	0.06 °C 0.01 °C 2.7 °C	Calibrated using PRT, Thermocouple Type R and Temperature Display with reference to EA- 10/13:1999
Liquid Bath	-50 °C to 300 °C	0.01 °C	
Temperature Indicating Device Resistance Type PT100	-200 °C to 850 °C	0.1 °C	Calibrated by electrical simulation using Calibrator and Ice point
Thermocouple Type			
K	-270 °C to -100 °C -100 °C to 1,370 °C	1.5 °C 0.1 °C	
J	-210 °C to 1,200 °C	0.1 °C	
T	-270 °C to -100 °C -100 °C to 400 °C	0.5 °C 0.1 °C	
E	-270 °C to -100 °C -100 °C to 1,000 °C	0.3 °C 0.1 °C	
R	0 °C to 500 °C 500 °C to 1,760 °C	0.4 °C 0.1 °C	
S	0 °C to 500 °C 500 °C to 1,760 °C	0.4 °C 0.1 °C	
N	-100 °C to 1,300 °C	0.1 °C	

SCOPE OF CALIBRATION: TEMPERATURE

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(\pm)*	Remarks
Temperature Calibrator Resistance Type PT100	-200 °C to 850 °C	0.1 °C	Calibrated by electrical measurement using Multimeter and Ice Point with reference to ITS 90:1990
JPT100	-200 °C to 500 °C	0.1 °C	
Thermocouple Type K	-270 °C to -100 °C	1.5 °C	
	-100 °C to 1,370 °C	0.1 °C	
J	-210 °C to 1,200 °C	0.1 °C	
T	-270 °C to -100 °C	0.5 °C	
	-100 °C to 400 °C	0.1 °C	
E	-270 °C to -100 °C	0.3 °C	
	-100 °C to 1,000 °C	0.1 °C	
N	-270 °C to -100 °C	1.5 °C	
	-100 °C to 1,300 °C	0.1 °C	
B	600 °C to 1,820 °C	0.3 °C	
	0 °C to 500 °C	0.4 °C	
R	500 °C to 1,760 °C	0.2 °C	
	0 °C to 500 °C	0.4 °C	
S	500 °C to 1,760 °C	0.2 °C	
Radiation Thermometer	-20 °C to 150 °C	0.45 °C	Calibrated using Temperature Recorder, Thermocouple, Single Blackbody Calibrator and Cyclops Spherical Blackbody Source with reference to ASTM E 1256:2017
	150 °C to 200 °C	0.86 °C	
	200 °C to 400 °C	1.4 °C	
	400 °C to 600 °C	1.9 °C	
	600 °C to 800 °C	2.7 °C	
	800 °C to 1,000 °C	3.4 °C	
	1,000 °C to 1,200 °C	4.7 °C	

Signatories:

1. Seah Leong Ho
2. Mohamad Azlan bin Mohamed Aris

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SCOPE OF CALIBRATION: TEMPERATURE

SITE: CATEGORY I

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(\pm)*	Remarks
Temperature Sensor (Thermocouple, PRT, Mechanical Thermometer & Thermistor)	-30 °C to 30 °C 30 °C to 650 °C	0.051 °C 0.17 °C	Calibrated using Resistance Thermometer Display & PRT, Temperature Recorder, Constant Stirred Temperature Liquid Bath, Constant Stirred High Temperature Liquid Bath, Temperature Block Calibrator and Ice Point
Temperature Controlled Enclosure	-80 °C to -20 °C -20 °C to 250 °C 250 °C to 800 °C 800 °C to 1,000 °C 1,000 °C to 1,200 °C	0.6 °C 1 °C 2 °C 3 °C 5 °C	Calibrated using Temperature Recorder, PRT and Thermocouple with reference to AS 2853:1986
Liquid Bath	-30 °C to 300 °C	0.1 °C	Calibrated using Temperature Recorder, PRT, Thermocouple and Barometer with reference to AS 2853:1986
Humidity Controlled Enclosure	30 %RH to 98 %RH	5 %RH	



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SCOPE OF CALIBRATION: TEMPERATURE**SITE: CATEGORY I**

Instrument Calibrated/ Measurement Parameter	Range	Calibration and Measurement Capability Expressed as an Uncertainty(\pm)*	Remarks
Temperature Indicating Device Resistance Type PT100 JPT100	-200 °C to 650 °C -200 °C to 500 °C	0.1 °C 0.1 °C	Calibrated by electrical simulation using Calibrator and Ice Point
Thermocouple Type K	-270 °C to -100 °C -100 °C to 1,370 °C	1.5 °C 1 °C	
J	-210 °C to 1,200 °C	1 °C	
T	-270 °C to 400 °C	1 °C	
E	-270 °C to 1,000 °C	1 °C	
R	0 °C to 1,760 °C	1 °C	
S	0 °C to 1,760 °C	1 °C	
N	-100 °C to 1,300 °C	1 °C	

Signatories:

1. **Seah Leong Ho**
2. **Mohd Safiee bin Ngadirin**