SINGAPORE LABORATORY ACCREDITATION SCHEME

Accredited Laboratory SAC-SINGLAS

Schedule

WIKA Instrumentation Pte Ltd
13 Kian Teck Crescent
Singapore 628878

Certificate No. : LA-2015-0604-C

Issue No. : 7

Date : 30 May 2022

FIELD OF TESTING : Calibration and Measurement

MEASURED QUANTITIES / INSTRUMENTS / RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
A. Temperature		
1. Analogue Temperature Gauge	TP-T-01 ver 6.0	
-20 °C to 100 °C		0.3 °C
100 °C to 250 °C		0.5 °C
250 °C to 350 °C		1.3 °C
350 °C to 500 °C		3.0 °C
2. RTD, with and without Indicator	TP-T-02 ver 6.0 TP-T-03 ver 6.0	
-196 °C (liquid nitrogen)		0.03 °C
-80 °C to -40 °C		0.06 °C
-40 °C to 0 °C		0.05 °C
0 °C (ice-point)		0.02 °C
0 °C to 100 °C		0.03 °C
100 °C to 200 °C		0.05 °C
200 °C to 300 °C		0.06 °C
300 °C to 400 °C		0.08 °C
400 °C to 500 °C		0.49 °C
3. Temperature Sensor with Transmitter	TP-T-05 ver 1.0	
-196 °C (liquid nitrogen)		0.11 °C
-80 °C to -40 °C		0.14 °C
-40 °C to -10 °C		0.13 °C
-10 °C to 40 °C		0.03 °C
40 °C to 200 °C		0.13 °C
200 °C to 300 °C		0.52 °C
300 °C to 500 °C		0.53 °C

Schedule

Accredited Laboratory SAC-SINGLAS

Certificate No. : LA-2015-0604-C Issue No. : 7

Date : 30 May 2022 Page : 2 of 4

MEASURED QUANTITIES / INSTRUMENTS / RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
4. Thermocouple, with and without Indicators (Type K, E, J, T, N, R, S)	TP-T-02 ver 6.0 & TP-T-04 ver 7.0	
-196 °C (liquid nitrogen)		0.39 °C
-80 °C to 0 °C		0.25 °C
0 °C to 100 °C		0.20 °C
100 °C to 200 °C		0.25 °C
200 °C to 350 °C		0.37 °C
350 °C to 450 °C		0.45 °C
450 °C to 500 °C		0.77 °C
500 °C to 800 °C		1.5 °C
800 °C to 1000 °C		1.8 °C
1000 °C to 1200 °C		3.7 °C
5. Liquid-In-Glass (LIG) Thermometer (Graduation: 1°C)	TP-T-06 ver1.0	
a) -80 °C to 250 °C (Total Immersion)		0.39 °C
b) -80 °C to 250 °C (Partial Immersion)		0.40 °C
6. Temperature Simulation (Measure and Source mode)	TP-T-07 ver1.0	
a) Thermocouple Simulator/Indicator		
i. Type K (-200 to 1372) °C		0.61 °C
ii. Type E (-250 to 1000) °C		0.68 °C
iii. Type J (-210 to 1200) °C		0.53 °C
iv. Type T (-250 to 400) °C		0.87 °C
v. Type N (-200 to 1300) °C		0.84 °C
vi. Type R (0 to 1767) °C		0.97 °C
vii. Type S (0 to 1767) °C		0.86 °C
b) RTD Simulator/Indicator -200 °C to 800 °C		0.28°C

Certificate No. : LA-2015-0604-C Issue No. : 7

Date : 30 May 2022 Page : 3 of 4

MEASURED QUANTITIES / INSTRUMENTS / RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
B. Mechanical		
(Analogue Pressure Gauge, Digital Pressure Gauge & Pressure Transmitter)	TP-P-01 ver 7.0, TP-P-02 ver 7.0 TP-P-03 ver 7.0	
1. Absolute Pressure		
(0.72 to 20) psi abs		0.00071 psi abs
(> 20 to 50) psi abs		0.0018 psi abs
(> 50 to 80) psi abs		0.0029 psi abs
(> 80 to 116) psi abs		0.0042 psi abs
(> 116 to 232) psi abs		0.0117 psi abs
(> 232 to 300) psi abs		0.0160 psi abs
(> 300 to 377) psi abs		0.0261 psi abs
(> 377 to 740) psi abs		0.0377 psi abs
(> 740 to 1465) psi abs		0.0783 psi abs
(> 1465 to 10015) psi abs		0.54 psi abs
2. Barometric Pressure		
(8 to 17) psi abs		0.0006 psi abs
3. Gauge Pressure		
(-1 to -0.17) bar		0.000067 bar
(> -0.17 to 0.17) bar		0.000014 bar
(> 0.17 to 0.62) bar		0.000023 bar
(> 0.62 to 0.8) bar		0.000054 bar
(> 0.8 to 1.6) bar		0.000072 bar
(> 1.6 to 5) bar		0.00017 bar
(> 5 to 7) bar		0.00027 bar
(> 7 to 10) bar		0.00036 bar
(> 10 to 25) bar		0.0014 bar
(> 25 to 50) bar		0.0027 bar
(> 50 to 100) bar		0.0052 bar
(> 100 to 140) bar		0.02 bar
(> 140 to 350) bar		0.04 bar
(> 350 to 700) bar		0.08 bar
(> 700 to 1000) bar		0.17 bar
(> 1000 to 1600) bar		0.26 bar
(> 1600 to 2000) bar		0.50 bar
(> 2000 to 5000) bar		0.72 bar

Schedule

Accredited Laboratory SAC-SINGLAS

Certificate No. : LA-2015-0604-C Issue No. : 7

Date : 30 May 2022 Page : 4 of 4

MEASURED QUANTITIES / INSTRUMENTS / RANGE TO BE CALIBRATED	METHOD	CALIBRATION AND MEASUREMENT CAPABILITY (CMC*)
4. Air Data Test Set (0.8 to 31.6) inHg *(Absolute)* (-1,500 to 80,000) feet		0.0012 inHg abs
(0 to 50) inHg *(Differential)* (0 to 850) knot		0.0018 inHg

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

Approved signatory

Mr. Bernard Lim - All Scopes.

Mr. Chong Yong Kai - All Scopes.

Note :

This laboratory is accredited in accordance with the recognised International Standard ISO/IEC 17025:2017. A laboratory's fulfilment of the requirements of ISO/IEC 17025:2017 means the laboratory meets both the technical competence requirements and **management system requirements** that are necessary for it to consistently deliver technically valid calibration results. The **management system requirements** In ISO/IEC 17025:2017 (Section 4) are written in language relevant to laboratory operations and meet the principles of ISO 9001:2015 **Quality Management Systems — Requirements** and are aligned with its pertinent requirements.