

รายการใบรับรองสอบเทียบทวนสอบ เครื่องมือหลักประจำห้องปฏิบัติการวิเคราะห์

No.	Instrument/Equipment	Parameter	Manufacturer	Model/Serial No.	Calibrator	Certification No.	Date of Calibration	Due date of Calibration*	Remark
เครื่องมือสำหรับวิเคราะห์คุณภาพน้ำ									
1	pH Meter	pH	Mettler-Toledo	SeveEasy pH 1231155210	National Food Institute, Ministry of Industry, Thailand	2501844-001-01	24 Feb 25	23 Feb 26	-
2	pH Meter		Mettler-Toledo	SevenEasy 1230525212	DKSH Technology Limited	C07250197	9 Apr 25	8 Apr 26	-
3	BOD Incubator	Biochemical Oxygen demand (BOD)	Arco	UR-1320 / (UAE.WAT.018/2551)	Technology Promotion Association (Thailand-Japan)	25TM577	19 Mar 25	18 Mar 26	-
4	Analytical Balance (Readability 0.01 mg)	Suspended Solids Total Dissolved Solids	Mettler-Toledo	XSR205 DU / C009071872	National Food Institute, Ministry of Industry, Thailand	2502226-001-01	20 Mar 25	19 Mar 26	-
5	Hot Air Oven		Memmert	UF55 / B212.0411	Technology Promotion Association (Thailand-Japan)	25TM579	19 Mar 25	18 Mar 26	-
6	Digester Unit	Total Kjeldahl Nitrogen (TKN)	FOSS	2520 / 91794469	Foss South East Asia	Foss Customer Service Report	27 Jan 25	26 Jan 26	-
7	Distillation Unit (Kjeldahl Method)		FOSS TECATOR	KT200 / 91790524	Foss South East Asia	Foss Customer Service Report	27 Jan 25	26 Jan 26	-
8	Analytical Balance (Repeatability 0.1 mg)	Fat, Oil And Grease	Mettler-Toledo	XSR204 / C210685394	National Food Institute, Ministry of Industry, Thailand	2502226-002-01	20 Mar 25	19 Mar 26	-
9	Incubator	Escherichia coli (E. Coli) Total Coliform Bacteria	Binder	KB400 / 20220000000391	National Food Institute, Ministry of Industry, Thailand	2503287-002-01	5 Jun 25	4 Jun 26	-
10	Incubator		Memmert	IPP 260 / V618.0033	National Food Institute, Ministry of Industry, Thailand	2502229-003-01	19 Mar 25	18 Mar 26	-

รายการใบรับรองสอบเทียบทวนสอบ เครื่องมือหลักประจำห้องปฏิบัติการวิเคราะห์

No.	Instrument/Equipment	Parameter	Manufacturer	Model/Serial No.	Calibrator	Certification No.	Date of Calibration	Due date of Calibration*	Remark
เครื่องมือสำหรับวิเคราะห์คุณภาพน้ำ									
11	Incubator	Escherichia coli (E. Coli) Total Coliform Bacteria	Memmert	IN 75 / D317.0307	National Food Institute, Ministry of Industry, Thailand	2502229-005-01	19 Mar 25	18 Mar 26	-
12	Incubator		Memmert	IN 75 / D317.0305	National Food Institute, Ministry of Industry, Thailand	2502229-004-01	20 Mar 25	19 Mar 26	-
13	Water Bath		Memmert	WNE 14 / L421.0121	Technology Promotion Association (Thailand-Japan)	25TM502	19 Mar 25	18 Mar 26	-
14	Water Bath		Memmert	WNE 14 / L407.0756	Technology Promotion Association (Thailand-Japan)	25TM1037	8 Jul 25	7 Jul 26	-
15	Autoclave		ALP	CL-40L / 808763	National Food Institute, Ministry of Industry, Thailand	2502229-007-01	19 Mar 25	18 Mar 26	-
16	Autoclave		ALP	CL-40L / 810010	National Food Institute, Ministry of Industry, Thailand	2503287-001-01	5 Jun 25	4 Jun 26	

Due Date of Calibration* : Schedule the program once a year at least once a year.

Calibration Certificate

Certificate No.: 2501844-001-01
Client name: UNITED ANALYST AND ENGINEERING CONSULTANT CO.,LTD.
Address: 3 Soi Udumsuk 41, Sukhumvit Road,
Bangchack, Prakhong, Bangkok 10260

Page 1 of 5

Equipment: pH Meter
Manufacturer: METTLER TOLEDO
Model: SevenEasy pH
Serial No.: 1231155210
ID No.: UAE.WAT.010/2553
Order No.: 2501844
Operation No.: 2501844-001
Date of Receipt: 24 February 2025
Date of Calibration: 24 February 2025

The uncertainties are for a confidence probability of approximately 95%.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation Scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standards laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the National Food Institute.

F-CS-009 Revision: 01 Date: 20-04-65



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Calibration Report

Certificate No.: 2501844-001-01
Equipment: pH Meter
Resolution: 0.01 pH ; 1 mV
Manufacturer: METTLER TOLEDO
Model: SevenEasy pH
Serial No.: 1231155210
Type: Bench top
ID No.: UAE.WAT.010/2553

Date of Calibration: 24 February 2025 Page 2 of 5

Location: Chemical Calibration Laboratory, National Food Institute
Environment Condition: Ambient Temperature: (23.4 ± 1.5) °C Relative Humidity: (54 ± 3) %
Condition of Equipment: Good Condition
Condition of this Results of Calibration

- Calibration Method: W-CC-002 : In house method based on direct measurement by using standard voltage calibrator and certified reference material (CRM)
- Reference Standards / Certified Reference Material

Instruments	Serial / ID No.	Manufacturer	Certificate No.	Due Date
2.1 DC Voltage Calibrator	2709007	Fluke	24E1752	30 May 2025
2.2 Digital Thermometer	2709007	Fluke	2500376-002-01	29 October 2025
2.3 Thermo-Hygro Meter	NFI.BTH.013/23	testo	CC 670420-01	21 May 2025

Certified Reference Material	Lot.	Manufacturer	Ref N	Expire Date
2.4 pH buffer 4.008 (Primary pH buffer Solution)	1016435	CPAchem	PH216.L5	25 July 2026
2.5 pH buffer 6.865 (Primary pH buffer Solution)	949186	CPAchem	PH217.L5	30 November 2025
2.6 pH buffer 10.01 (Primary pH buffer Solution)	1016437	CPAchem	PH220.L5	25 July 2025
2.7 pH buffer 7.00 (Standard pH buffer Solution)	C03109	HACH LANGE GmbH	S11M004	16 October 2025
- This certification is traceable to The International System of Unit (SI Unit)
 - Instruments Ng.2.1 through NSC-TISI-TIS 17025 Laboratory Accreditation of Calibration No.0008
 - Instruments Ng.2.2 to 2.3 through NSC-TISI-TIS 17025 Laboratory Accreditation of Calibration No.0061
 - Certified Reference Material Ng.2.4 to 2.6 traceable to Primary measurement method- Harned cell using calibrated thermometer, barometer, and nanovoltmeter. The Standard Solution preparation and certified by CPAchem Ltd is accredited to ISO 17034 and ISO/IEC 17025
 - Certified Reference Material Ng.2.7 traceable to PTB Certificate Nr. PTB-PHQA-563/30504/23 and Certificate Nr. PTB-PHQB-555/30620/22 (PTB: Physikalisch-Technische Bundesanstalt, Braunschweig, Germany)
- This certificate was certified only for the instrument we calibrated.
- This result of calibration was found accurate as shown on date and place of calibration only.

F-CS-012 Revision: 01 Date: 20-04-65

Calibration Report

Certificate No.: 2501844-001-01
Equipment: pH Meter
Resolution: 0.01 pH ; 1 mV
Manufacturer: METTLER TOLEDO
Model: SevenEasy pH
Serial No.: 1231155210
Type: Bench top
ID No.: UAE.WAT.010/2553

Date of Calibration: 24 February 2025 Page 3 of 5

Calibration Results:
1. Calibration of pH Meter (Manual Temperature Compensation at 25 °C)

Nominal pH	DC Voltage Standard (mV)	Average Indicator Reading		Uncertainty (±mV)	Coverage Factor (k)
		mV	pH		
0	414.122	414	-0.01	0.58	2.00
2	295.815	296	1.99	0.58	2.00
4	177.463	178	4.00	0.58	2.00
6	59.160	59	6.00	0.58	2.00
7	0.001	0	7.00	0.58	2.00
8	-59.159	-59	8.00	0.58	2.00
10	-177.462	-177	10.00	0.58	2.00
12	-295.813	-296	12.00	0.58	2.00
14	-414.121	-414	14.00	0.58	2.00

2. Calibration of pH Meter with Electrode (Manual Temperature Compensation at 25 °C)

Equipment: pH Electrode
Type: Combined Electrode
Manufacturer: METTLER TOLEDO
Model: InLab Solids
Serial No.: 3065701
ID No.: N/A

Performance of Electrode system (Three-Point Calibration at pH 4, 7 and 10)

Certified Value @25 °C (pH)	Average Indicator Reading		Relative Slope (%)	Uncertainty (± pH)	Coverage Factor (k)
	pH	mV			
4.008	4.00	165	-	0.0071	2.00
7.001	7.00	-8	97.5	0.0086	2.00
10.010	10.01	-178	95.5	0.0083	2.00
6.876	6.88	0	-	0.0071	2.00

F-CS-012 Revision: 01 Date: 20-04-65



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Calibration Report

Certificate No.: 2501844-001-01
Equipment: Digital Thermometer with RTD (pH Meter)
Resolution: 0.1 °C
Model: SevenEasy pH
Serial No.: 1231155210
ID No.: UAE.WAT.010/2553
Manufacturer: METTLER TOLEDO

Date of Calibration: 24 February 2025 Page 4 of 5

Location: Chemical Calibration Laboratory, National Food Institute
Environment Condition: Ambient Temperature: 23.4 °C ± 1.0 °C
Relative Humidity: 55.1 % ± 1.7 %

Condition of this results of Calibration:

- Calibration Method :
 - In house method: W-TE-025 by comparison with standard thermometer.
 - The Calibration is determined by comparing with a known temperature from a standard resistance thermometer.
 - The temperature scale in use at this laboratory is the International Temperature scale of 1990 (ITS-90).
- Reference Standard Instrument:

Instrument	Model	Serial No.	Certificate No.	Due Date	Through
HANDHELD THERMOMETER	1523	2118154	PSL-T 0815/67	24-Jun-25	TISTR
Platinum Resistance Thermometer (PRT)	5627A	877332			

Support Equipment : - Low Temperature Bath (AMETEK RTC-187), Model: RTC-187C, S/N: 670930-00018

- This certificate is traceable to International System of Units (SI Units).
- This certificate was certified only for the instrument we calibrated.
- This result of calibration was found accurate as shown on date and place of calibration only.
- Condition of Calibrated item : Good
- Result of Calibration : ☒ Without adjustment ☐ After adjustment

F-CS-012 Revision: 01 Date: 20-04-65

Calibration Report

Certificate No.: 2501844-001-01
Equipment: Digital Thermometer with RTD (pH Meter)
Resolution: 0.1 °C Model: SevenEasy pH
Serial No.: 1231155210 ID No.: UAE.WAT.010/2553
Manufacturer: METTLER TOLEDO
Date of Calibration: 24 February 2025 Page 5 of 5

Calibration point: 20.0, 25.0 and 30.0 °C

Calibration result:

- The probe was immersed in liquid bath or dry bath to a minimum depth of 120 mm.
- Description of probe, model: N/A S/N: N/A
- Dimension of probe: Diameter 4 mm., Length 120 mm.,
- Sheath material: Stainless Steel

UUC* Reading (°C)	Standard Temperature (°C)	Correction Value (°C)	Uncertainty ± (°C)
20.1	20.001	0.1	0.099
25.1	25.002	0.1	0.099
30.1	30.003	0.1	0.099

Note

- UUC*: Unit Under Calibration

The report uncertainty of measurement was based on standard uncertainty multiplied by coverage factor k= 2, providing a level of approximately 95 %.

----- End -----

F-CS-012 Revision: 01 Date: 20-04-65

2008 ถนนสุขุมวิท 35 ถนนสุขุมวิท แขวงคลองตัน เขตคลองเตย กรุงเทพมหานคร 10110
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Tel: +66(0) 2422 8688 Fax: +66(0) 2422 8545

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Certificate No.: C07250197 Page 2 of 3

Calibration Results:

pH Scale

Input (mV)	pH Meter Reading			Uncertainty of Measurement (mV)	Coverage Factor (k)
	(mV)	Error (mV)	(pH)		
414.12	414	-0.12	0.01	0.58	2.00
354.96	355	0.04	1.01	0.58	2.00
295.8	296	0.20	2.00	0.58	2.00
236.64	237	0.36	3.00	0.58	2.00
177.48	178	0.52	4.00	0.58	2.00
118.32	118	-0.32	5.00	0.58	2.00
59.16	59	-0.16	6.01	0.58	2.00
0	0	0.00	7.01	0.58	2.00
-59.16	-59	0.16	8.01	0.58	2.00
-118.32	-118	0.32	9.02	0.58	2.00
-177.48	-177	0.48	10.02	0.58	2.00
-236.64	-236	0.64	11.02	0.58	2.00
-295.8	-296	-0.20	12.02	0.58	2.00
-354.96	-355	-0.04	13.04	0.58	2.00
-414.12	-414	0.12	14.04	0.58	2.00

Certificate of Calibration

Equipment: pH METER Certificate No.: C07250197
Model: SevenEasy Issued Date: 9 April 2025
Serial No. (or ID.): 1230525212 (UAE.WAS.003/2553) Job No.: WO-00067415
Manufacturer: METTLER TOLEDO Page: 1 of 3
Electrode Serial No.: 1156883 Model: InLab Solids Brand: METTLER TOLEDO
Condition: In Condition

Customer: United Analyst and Engineering Consultant Co., Ltd.
3 Soi Udomsuk 41, Sukhumvit Road, Bangchak Sub-District,
Phra Khanong District, Bangkok, THAILAND 10260

Environment Condition: Temperature 23 °C ± 2 °C
Humidity 50 %RH ± 15 %RH

Calibration Place: Environment Laboratory, DKSH Technology Limited.
2533 Sukhumvit Road, Bangchak,
Phra Khanong, Bangkok 10260 Thailand

Calibration By: Mr.Pongpisut Suebchantha
Calibration Date: 8 April 2025

The Method used: In house method, CAL-WI-58, base on ASTM E 70-07

Traceability: This certificate is traceable to SI Units, Sample Test is assured through primary
measurement method Harned cell, through CPAchem Ltd. (ISO/IEC 17034) Certificate
No. 1034229, 980704, 1034231 And pH Scale traceable to the SI Units maintained
by National Institute of Metrology (NIMT), Thailand through Industrial Foundation
Electrical and Electronics Institute Certificate No. CA20240267EA



This certificate is issued the units of measurement according to the International System of Units (SI). It provides traceability of measurement to international
or national standard or other recognized national standard laboratories.
The measurement uncertainty stated is the expanded uncertainty which is obtained from the standard uncertainty multiplied by the coverage factor (k=2) to
provide a level of confidence of approximately 95%. It is determined in accordance with the Guide to Expression of Uncertainty in Measurement (GUM).
These results may be affected by deviations from specified conditions. The results relate only to the items tested, calibrated or sampled. The report shall not
be reproduced except in full without approval of DKSH Technology Limited.

บริษัท ดีเคเอสเอช เทคโนโลยี จำกัด
DKSH Technology Limited
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2533 Sukhumvit Road, Bangchak, Phra Khanong, Bangkok 10260
Phone: +66 2639 7000 Email: info.calibration@dksh.com Website: www.dksh.com/scientific-thailand

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CAL-FM-C07-14: 9 Apr 2024



Certificate No.: C07250197 Page 3 of 3

Practical slope and zero point*

The three-point calibration using three standard buffer solutions; pH 4.007 , pH 6.986 and pH 10.010
-During calibration, display of pH meter reading; pH 4.00 , pH 7.00 and pH 10.01
The practical slope of the pH electrode; 57.71 (mV/pH), 97.55%
The zero point of the pH electrode; 6.71 (pH)

Sample Test Results

Standard Buffer Solution (pH)	Unit Under Calibration (pH)	Difference (pH)	Uncertainty of Measurement (pH)	Coverage Factor (k)
4.007	4.00	-0.007	0.0070	2.00
6.986	7.00	0.014	0.0091	2.00
10.010	10.01	0.000	0.0074	2.00

* Calibration Marked " Not TISI Accredited " in this Certificate have been included for completeness.

The End of Certificate

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Equipment : BOD Incubator
Condition As-Received : Used Item
Reference : 2503-0437OC-1
Result of Calibration :- (*) Without Adjustment
Function of UUC* : Temperature Source
Fresh air setting : Close

Cert. No.: 25TM577
Page : 3 of 3

Calibration Point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Temperature stability (± °C)	Temperature uniformity (°C)	Overall Variation (°C)	Coverage Factor k
20.0	20.0	20.0	0.24	0.54	0.99	2

Calibration Point (°C)	Measured Temperature (°C)									Uncertainty (± °C)
	Position									
	1	2	3	4	5	6	7	8	9 (ref.)	
20.0	20.215	20.192	19.652	19.710	19.710	20.006	19.720	19.810	19.733	0.41

Average* : The average of 30 values in each position.
Temperature stability : One-half of the greatest maximum difference of measured temperature at any one sensor.
Temperature uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.
Overall Variation : The Difference of the maximum and minimum measured temperatures throughout observation.
UUC* : Unit Under Calibration
Note : The reported uncertainty of measurement was included stability and excluded uniformity .

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

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จุฬาลงกรณ์มหาวิทยาลัยเพื่อสถาบันอาหาร
ศูนย์บริการห้องปฏิบัติการอุตสาหกรรมอาหาร
Foundation for Industrial Development National Food Institute
Food Industrial Laboratory Service Center



Calibration Report

Certificate No.: 2502226-001-01
Equipment: Electronic Balance
Manufacturer: METTLER TOLEDO
Model: XSR205DU
Serial No.: C009071872
Capacity: 82 g / 220 g
Resolution: 0.00001 g / 0.0001 g
ID No.: UAE.WAO.012/2563

Date of Calibration: 20 March 2025 Page 2 of 4

Environment Condition: Ambient Temperature: 21.2 ± 0.6 °C Relative Humidity: 48 ± 3.5 %

Place of Calibration: 208 Balance Room, UNITED ANALYST AND ENGINEERING CONSULTANT CO.,LTD.

Condition of Equipment: Good Condition

Condition of This Results of Calibration:

1. Calibration Method: NFI Method W-MA-001 In-House Method based on UKAS Lab 14 : 2019

2. Reference Standards:

Reference Standard	Model	Serial No.	Calibrated By	Certificate No.	Due Date
Standard Weight Class E2	1mg to 200g	B505567572	TCS	M24041005	19 April 2025
Instrument	Model	Serial No.	Calibrated By	Certificate No.	Due Date
Thermo-Hygro Meter	608-H1	NFI.BTH 017/23	Quality Reborn	QR25-0542	10 February 2026

3. This certification is traceable to SI UNIT

4. This certificate was certified only for the instrument we calibrated.

5. This result of calibration was found accurate as shown on date and place of calibration only.

Calibration Results:

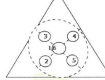
1. Repeatability of Reading:

Nominal Value (g)	Standard Deviation of Reading (g)
40	0.000052
80	0.000042
100	0.000000
200	0.000000

2. Off-Center Error:

A mass of 100 g was placed and moved to various position on pan.

The balance reading obtained is given in the table.



1	2	3	4	5	6	(Maximum Difference)
(g)	(g)	(g)	(g)	(g)	(g)	(g)
100.0001	100.0001	100.0001	100.0001	100.0001	100.0002	0.0001

F-CS-012 Revision: 01 Date: 20-04-65

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จุฬาลงกรณ์มหาวิทยาลัยเพื่อสถาบันอาหาร
ศูนย์บริการห้องปฏิบัติการอุตสาหกรรมอาหาร
Foundation for Industrial Development National Food Institute
Food Industrial Laboratory Service Center



Calibration Certificate

Certificate No.: 2502226-001-01
Client name: UNITED ANALYST AND ENGINEERING CONSULTANT CO.,LTD.
Address: 3 Soi Udomsuk 41, Sukhumvit Road, Bangchack, Prakhnong, Bangkok 10260

Page 1 of 4

Equipment: Electronic Balance

Manufacturer: METTLER TOLEDO

Model: XSR205DU

Serial No.: C009071872

ID No.: UAE.WAO.012/2563

Order No.: 2502226

Operation No.: 2502226-001

Date of Receipt: 19 March 2025

Date of Calibration: 20 March 2025

The uncertainties are for a confidence probability of approximately 95%

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation Scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standards laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the National Food Institute.

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2008 ๒๕๕๓๒๕๖๓๒๕๖๔ ๒๕๖๕ ๒๕๖๖ ๒๕๖๗ ๒๕๖๘ ๒๕๖๙ ๒๕๗๐ ๒๕๗๑ ๒๕๗๒ ๒๕๗๓ ๒๕๗๔ ๒๕๗๕ ๒๕๗๖ ๒๕๗๗ ๒๕๗๘ ๒๕๗๙ ๒๕๘๐ ๒๕๘๑ ๒๕๘๒ ๒๕๘๓ ๒๕๘๔ ๒๕๘๕ ๒๕๘๖ ๒๕๘๗ ๒๕๘๘ ๒๕๘๙ ๒๕๙๐ ๒๕๙๑ ๒๕๙๒ ๒๕๙๓ ๒๕๙๔ ๒๕๙๕ ๒๕๙๖ ๒๕๙๗ ๒๕๙๘ ๒๕๙๙ ๒๖๐๐ ๒๖๐๑ ๒๖๐๒ ๒๖๐๓ ๒๖๐๔ ๒๖๐๕ ๒๖๐๖ ๒๖๐๗ ๒๖๐๘ ๒๖๐๙ ๒๖๑๐ ๒๖๑๑ ๒๖๑๒ ๒๖๑๓ ๒๖๑๔ ๒๖๑๕ ๒๖๑๖ ๒๖๑๗ ๒๖๑๘ ๒๖๑๙ ๒๖๒๐ ๒๖๒๑ ๒๖๒๒ ๒๖๒๓ ๒๖๒๔ ๒๖๒๕ ๒๖๒๖ ๒๖๒๗ ๒๖๒๘ ๒๖๒๙ ๒๖๓๐ ๒๖๓๑ ๒๖๓๒ ๒๖๓๓ ๒๖๓๔ ๒๖๓๕ ๒๖๓๖ ๒๖๓๗ ๒๖๓๘ ๒๖๓๙ ๒๖๔๐ ๒๖๔๑ ๒๖๔๒ ๒๖๔๓ ๒๖๔๔ ๒๖๔๕ ๒๖๔๖ ๒๖๔๗ ๒๖๔๘ ๒๖๔๙ ๒๖๕๐ ๒๖๕๑ ๒๖๕๒ ๒๖๕๓ ๒๖๕๔ ๒๖๕๕ ๒๖๕๖ ๒๖๕๗ ๒๖๕๘ ๒๖๕๙ ๒๖๖๐ ๒๖๖๑ ๒๖๖๒ ๒๖๖๓ ๒๖๖๔ ๒๖๖๕ ๒๖๖๖ ๒๖๖๗ ๒๖๖๘ ๒๖๖๙ ๒๖๗๐ ๒๖๗๑ ๒๖๗๒ ๒๖๗๓ ๒๖๗๔ ๒๖๗๕ ๒๖๗๖ ๒๖๗๗ ๒๖๗๘ ๒๖๗๙ ๒๖๘๐ ๒๖๘๑ ๒๖๘๒ ๒๖๘๓ ๒๖๘๔ ๒๖๘๕ ๒๖๘๖ ๒๖๘๗ ๒๖๘๘ ๒๖๘๙ ๒๖๙๐ ๒๖๙๑ ๒๖๙๒ ๒๖๙๓ ๒๖๙๔ ๒๖๙๕ ๒๖๙๖ ๒๖๙๗ ๒๖๙๘ ๒๖๙๙ ๒๗๐๐ ๒๗๐๑ ๒๗๐๒ ๒๗๐๓ ๒๗๐๔ ๒๗๐๕ ๒๗๐๖ ๒๗๐๗ ๒๗๐๘ ๒๗๐๙ ๒๗๑๐ ๒๗๑๑ ๒๗๑๒ ๒๗๑๓ ๒๗๑๔ ๒๗๑๕ ๒๗๑๖ ๒๗๑๗ ๒๗๑๘ ๒๗๑๙ ๒๗๒๐ ๒๗๒๑ ๒๗๒๒ ๒๗๒๓ ๒๗๒๔ ๒๗๒๕ ๒๗๒๖ ๒๗๒๗ ๒๗๒๘ ๒๗๒๙ ๒๗๓๐ ๒๗๓๑ ๒๗๓๒ ๒๗๓๓ ๒๗๓๔ ๒๗๓๕ ๒๗๓๖ ๒๗๓๗ ๒๗๓๘ ๒๗๓๙ ๒๗๔๐ ๒๗๔๑ ๒๗๔๒ ๒๗๔๓ ๒๗๔๔ ๒๗๔๕ ๒๗๔๖ ๒๗๔๗ ๒๗๔๘ ๒๗๔๙ ๒๗๕๐ ๒๗๕๑ ๒๗๕๒ ๒๗๕๓ ๒๗๕๔ ๒๗๕๕ ๒๗๕๖ ๒๗๕๗ ๒๗๕๘ ๒๗๕๙ ๒๗๖๐ ๒๗๖๑ ๒๗๖๒ ๒๗๖๓ ๒๗๖๔ ๒๗๖๕ ๒๗๖๖ ๒๗๖๗ ๒๗๖๘ ๒๗๖๙ ๒๗๗๐ ๒๗๗๑ ๒๗๗๒ ๒๗๗๓ ๒๗๗๔ ๒๗๗๕ ๒๗๗๖ ๒๗๗๗ ๒๗๗๘ ๒๗๗๙ ๒๗๘๐ ๒๗๘๑ ๒๗๘๒ ๒๗๘๓ ๒๗๘๔ ๒๗๘๕ ๒๗๘๖ ๒๗๘๗ ๒๗๘๘ ๒๗๘๙ ๒๗๙๐ ๒๗๙๑ ๒๗๙๒ ๒๗๙๓ ๒๗๙๔ ๒๗๙๕ ๒๗๙๖ ๒๗๙๗ ๒๗๙๘ ๒๗๙๙ ๒๘๐๐ ๒๘๐๑ ๒๘๐๒ ๒๘๐๓ ๒๘๐๔ ๒๘๐๕ ๒๘๐๖ ๒๘๐๗ ๒๘๐๘ ๒๘๐๙ ๒๘๑๐ ๒๘๑๑ ๒๘๑๒ ๒๘๑๓ ๒๘๑๔ ๒๘๑๕ ๒๘๑๖ ๒๘๑๗ ๒๘๑๘ ๒๘๑๙ ๒๘๒๐ ๒๘๒๑ ๒๘๒๒ ๒๘๒๓ ๒๘๒๔ ๒๘๒๕ ๒๘๒๖ ๒๘๒๗ ๒๘๒๘ ๒๘๒๙ ๒๘๓๐ ๒๘๓๑ ๒๘๓๒ ๒๘๓๓ ๒๘๓๔ ๒๘๓๕ ๒๘๓๖ ๒๘๓๗ ๒๘๓๘ ๒๘๓๙ ๒๘๔๐ ๒๘๔๑ ๒๘๔๒ ๒๘๔๓ ๒๘๔๔ ๒๘๔๕ ๒๘๔๖ ๒๘๔๗ ๒๘๔๘ ๒๘๔๙ ๒๘๕๐ ๒๘๕๑ ๒๘๕๒ ๒๘๕๓ ๒๘๕๔ ๒๘๕๕ ๒๘๕๖ ๒๘๕๗ ๒๘๕๘ ๒๘๕๙ ๒๘๖๐ ๒๘๖๑ ๒๘๖๒ ๒๘๖๓ ๒๘๖๔ ๒๘๖๕ ๒๘๖๖ ๒๘๖๗ ๒๘๖๘ ๒๘๖๙ ๒๘๗๐ ๒๘๗๑ ๒๘๗๒ ๒๘๗๓ ๒๘๗๔ ๒๘๗๕ ๒๘๗๖ ๒๘๗๗ ๒๘๗๘ ๒๘๗๙ ๒๘๘๐ ๒๘๘๑ ๒๘๘๒ ๒๘๘๓ ๒๘๘๔ ๒๘๘๕ ๒๘๘๖ ๒๘๘๗ ๒๘๘๘ ๒๘๘๙ ๒๘๙๐ ๒๘๙๑ ๒๘๙๒ ๒๘๙๓ ๒๘๙๔ ๒๘๙๕ ๒๘๙๖ ๒๘๙๗ ๒๘๙๘ ๒๘๙๙ ๒๙๐๐ ๒๙๐๑ ๒๙๐๒ ๒๙๐๓ ๒๙๐๔ ๒๙๐๕ ๒๙๐๖ ๒๙๐๗ ๒๙๐๘ ๒๙๐๙ ๒๙๑๐ ๒๙๑๑ ๒๙๑๒ ๒๙๑๓ ๒๙๑๔ ๒๙๑๕ ๒๙๑๖ ๒๙๑๗ ๒๙๑๘ ๒๙๑๙ ๒๙๒๐ ๒๙๒๑ ๒๙๒๒ ๒๙๒๓ ๒๙๒๔ ๒๙๒๕ ๒๙๒๖ ๒๙๒๗ ๒๙๒๘ ๒๙๒๙ ๒๙๓๐ ๒๙๓๑ ๒๙๓๒ ๒๙๓๓ ๒๙๓๔ ๒๙๓๕ ๒๙๓๖ ๒๙๓๗ ๒๙๓๘ ๒๙๓๙ ๒๙๔๐ ๒๙๔๑ ๒๙๔๒ ๒๙๔๓ ๒๙๔๔ ๒๙๔๕ ๒๙๔๖ ๒๙๔๗ ๒๙๔๘ ๒๙๔๙ ๒๙๕๐ ๒๙๕๑ ๒๙๕๒ ๒๙๕๓ ๒๙๕๔ ๒๙๕๕ ๒๙๕๖ ๒๙๕๗ ๒๙๕๘ ๒๙๕๙ ๒๙๖๐ ๒๙๖๑ ๒๙๖๒ ๒๙๖๓ ๒๙๖๔ ๒๙๖๕ ๒๙๖๖ ๒๙๖๗ ๒๙๖๘ ๒๙๖๙ ๒๙๗๐ ๒๙๗๑ ๒๙๗๒ ๒๙๗๓ ๒๙๗๔ ๒๙๗๕ ๒๙๗๖ ๒๙๗๗ ๒๙๗๘ ๒๙๗๙ ๒๙๘๐ ๒๙๘๑ ๒๙๘๒ ๒๙๘๓ ๒๙๘๔ ๒๙๘๕ ๒๙๘๖ ๒๙๘๗ ๒๙๘๘ ๒๙๘๙ ๒๙๙๐ ๒๙๙๑ ๒๙๙๒ ๒๙๙๓ ๒๙๙๔ ๒๙๙๕ ๒๙๙๖ ๒๙๙๗ ๒๙๙๘ ๒๙๙๙ ๓๐๐๐ ๓๐๐๑ ๓๐๐๒ ๓๐๐๓ ๓๐๐๔ ๓๐๐๕ ๓๐๐๖ ๓๐๐๗ ๓๐๐๘ ๓๐๐๙ ๓๐๑๐ ๓๐๑๑ ๓๐๑๒ ๓๐๑๓ ๓๐๑๔ ๓๐๑๕ ๓๐๑๖ ๓๐๑๗ ๓๐๑๘ ๓๐๑๙ ๓๐๒๐ ๓๐๒๑ ๓๐๒๒ ๓๐๒๓ ๓๐๒๔ ๓๐๒๕ ๓๐๒๖ ๓๐๒๗ ๓๐๒๘ ๓๐๒๙ ๓๐๓๐ ๓๐๓๑ ๓๐๓๒ ๓๐๓๓ ๓๐๓๔ ๓๐๓๕ ๓๐๓๖ ๓๐๓๗ ๓๐๓๘ ๓๐๓๙ ๓๐๔๐ ๓๐๔๑ ๓๐๔๒ ๓๐๔๓ ๓๐๔๔ ๓๐๔๕ ๓๐๔๖ ๓๐๔๗ ๓๐๔๘ ๓๐๔๙ ๓๐๕๐ ๓๐๕๑ ๓๐๕๒ ๓๐๕๓ ๓๐๕๔ ๓๐๕๕ ๓๐๕๖ ๓๐๕๗ ๓๐๕๘ ๓๐๕๙ ๓๐๖๐ ๓๐๖๑ ๓๐๖๒ ๓๐๖๓ ๓๐๖๔ ๓๐๖๕ ๓๐๖๖ ๓๐๖๗ ๓๐๖๘ ๓๐๖๙ ๓๐๗๐ ๓๐๗๑ ๓๐๗๒ ๓๐๗๓ ๓๐๗๔ ๓๐๗๕ ๓๐๗๖ ๓๐๗๗ ๓๐๗๘ ๓๐๗๙ ๓๐๘๐ ๓๐๘๑ ๓๐๘๒ ๓๐๘๓ ๓๐๘๔ ๓๐๘๕ ๓๐๘๖ ๓๐๘๗ ๓๐๘๘ ๓๐๘๙ ๓๐๙๐ ๓๐๙๑ ๓๐๙๒ ๓๐๙๓ ๓๐๙๔ ๓๐๙๕ ๓๐๙๖ ๓๐๙๗ ๓๐๙๘ ๓๐๙๙ ๓๑๐๐ ๓๑๐๑ ๓๑๐๒ ๓๑๐๓ ๓๑๐๔ ๓๑๐๕ ๓๑๐๖ ๓๑๐๗ ๓๑๐๘ ๓๑๐๙ ๓๑๑๐ ๓๑๑๑ ๓๑๑๒ ๓๑๑๓ ๓๑๑๔ ๓๑๑๕ ๓๑๑๖ ๓๑๑๗ ๓๑๑๘ ๓๑๑๙ ๓๑๒๐ ๓๑๒๑ ๓๑๒๒ ๓๑๒๓ ๓๑๒๔ ๓๑๒๕ ๓๑๒๖ ๓๑๒๗ ๓๑๒๘ ๓๑๒๙ ๓๑๓๐ ๓๑๓๑ ๓๑๓๒ ๓๑๓๓ ๓๑๓๔ ๓๑๓๕ ๓๑๓๖ ๓๑๓๗ ๓๑๓๘ ๓๑๓๙ ๓๑๔๐ ๓๑๔๑ ๓๑๔๒ ๓๑๔๓ ๓๑๔๔ ๓๑๔๕ ๓๑๔๖ ๓๑๔๗ ๓๑๔๘ ๓๑๔๙ ๓๑๕๐ ๓๑๕๑ ๓๑๕๒ ๓๑๕๓ ๓๑๕๔ ๓๑๕๕ ๓๑๕๖ ๓๑๕๗ ๓๑๕๘ ๓๑๕๙ ๓๑๖๐ ๓๑๖๑ ๓๑๖๒ ๓๑๖๓ ๓๑๖๔ ๓๑๖๕ ๓๑๖๖ ๓๑๖๗ ๓๑๖๘ ๓๑๖๙ ๓๑๗๐ ๓๑๗๑ ๓๑๗๒ ๓๑๗๓ ๓๑๗๔ ๓๑๗๕ ๓๑๗๖ ๓๑๗๗ ๓๑๗๘ ๓๑๗๙ ๓๑๘๐ ๓๑๘๑ ๓๑๘๒ ๓๑๘๓ ๓๑๘๔ ๓๑๘๕ ๓๑๘๖ ๓๑๘๗ ๓๑๘๘ ๓๑๘๙ ๓๑๙๐ ๓๑๙๑ ๓๑๙๒ ๓๑๙๓ ๓๑๙๔ ๓๑๙๕ ๓๑๙๖ ๓๑๙๗ ๓๑๙๘ ๓๑๙๙ ๓๒๐๐ ๓๒๐๑ ๓๒๐๒ ๓๒๐๓ ๓๒๐๔ ๓๒๐๕ ๓๒๐๖ ๓๒๐๗ ๓๒๐๘ ๓๒๐๙ ๓๒๑๐ ๓๒๑๑ ๓๒๑๒ ๓๒๑๓ ๓๒๑๔ ๓๒๑๕ ๓๒๑๖ ๓๒๑๗ ๓๒๑๘ ๓๒๑๙ ๓๒๒๐ ๓๒๒๑ ๓๒๒๒ ๓๒๒๓ ๓๒๒๔ ๓๒๒๕ ๓๒๒๖ ๓๒๒๗ ๓๒๒๘ ๓๒๒๙ ๓๒๓๐ ๓๒๓๑ ๓๒๓๒ ๓๒๓๓ ๓๒๓๔ ๓๒๓๕ ๓๒๓๖ ๓๒๓๗ ๓๒๓๘ ๓๒๓๙ ๓๒๔๐ ๓๒๔๑ ๓๒๔๒ ๓๒๔๓ ๓๒๔๔ ๓๒๔๕ ๓๒๔๖ ๓๒๔๗ ๓๒๔๘ ๓๒๔๙ ๓๒๕๐ ๓๒๕๑ ๓๒๕๒ ๓๒๕๓ ๓๒๕๔ ๓๒๕๕ ๓๒๕๖ ๓๒๕๗ ๓๒๕๘ ๓๒๕๙ ๓๒๖๐ ๓๒๖๑ ๓๒๖๒ ๓๒๖๓ ๓๒๖๔ ๓๒๖๕ ๓๒๖๖ ๓๒๖๗ ๓๒๖๘ ๓๒๖๙ ๓๒๗๐ ๓๒๗๑ ๓๒๗๒ ๓๒๗๓ ๓๒๗๔ ๓๒๗๕ ๓๒๗๖ ๓๒๗๗ ๓๒๗๘ ๓๒๗๙ ๓๒๘๐ ๓๒๘๑ ๓๒๘๒ ๓๒๘๓ ๓๒๘๔ ๓๒๘๕ ๓๒๘๖ ๓๒๘๗ ๓๒๘๘ ๓๒๘๙ ๓๒๙๐ ๓๒๙๑ ๓๒๙๒ ๓๒๙๓ ๓๒๙๔ ๓๒๙๕ ๓๒๙๖ ๓๒๙๗ ๓๒๙๘ ๓๒๙๙ ๓๓๐๐ ๓๓๐๑ ๓๓๐๒ ๓๓๐๓ ๓๓๐๔ ๓๓๐๕ ๓๓๐๖ ๓๓๐๗ ๓๓๐๘ ๓๓๐๙ ๓๓๑๐ ๓๓๑๑ ๓๓๑๒ ๓๓๑๓ ๓๓๑๔ ๓๓๑๕ ๓๓๑๖ ๓๓๑๗ ๓๓๑๘ ๓๓๑๙ ๓๓๒๐ ๓๓๒๑ ๓๓๒๒ ๓๓๒๓ ๓๓๒๔ ๓๓๒๕ ๓๓๒๖ ๓๓๒๗ ๓๓๒๘ ๓๓๒๙ ๓๓๓๐ ๓๓๓๑ ๓๓๓๒ ๓๓๓๓ ๓๓๓๔ ๓๓๓๕ ๓๓๓๖ ๓๓๓๗ ๓๓๓๘ ๓๓๓๙ ๓๓๔๐ ๓๓๔๑ ๓๓๔๒ ๓๓๔๓ ๓๓๔๔ ๓๓๔๕ ๓๓๔๖ ๓๓๔๗ ๓๓๔๘ ๓๓๔๙ ๓๓๕๐ ๓๓๕๑ ๓๓๕๒ ๓๓๕๓ ๓๓๕๔ ๓๓๕๕ ๓๓๕๖ ๓๓๕๗ ๓๓๕๘ ๓๓๕๙ ๓๓๖๐ ๓๓๖๑ ๓๓๖๒ ๓๓๖๓ ๓๓๖๔ ๓๓๖๕ ๓๓๖๖ ๓๓๖๗ ๓๓๖๘ ๓๓๖๙ ๓๓๗๐ ๓๓๗๑ ๓๓๗๒ ๓๓๗๓ ๓๓๗๔ ๓๓๗๕ ๓๓๗๖ ๓๓๗๗ ๓๓๗๘ ๓๓๗๙ ๓๓๘๐ ๓๓๘๑ ๓๓๘๒ ๓๓๘๓ ๓๓๘๔ ๓๓๘๕ ๓๓๘๖ ๓๓๘๗ ๓๓๘๘ ๓๓๘๙ ๓๓๙๐ ๓๓๙๑ ๓๓๙๒ ๓๓๙๓ ๓๓๙๔ ๓๓๙๕ ๓๓๙๖ ๓๓๙๗ ๓๓๙๘ ๓๓๙๙ ๓๔๐๐ ๓๔๐๑ ๓๔๐๒ ๓๔๐๓ ๓๔๐๔ ๓๔๐๕ ๓๔๐๖ ๓๔๐๗ ๓๔๐๘ ๓๔๐๙ ๓๔๑๐ ๓๔๑๑ ๓๔๑๒ ๓๔๑๓ ๓๔๑๔ ๓๔๑๕ ๓๔๑๖ ๓๔๑๗ ๓๔๑๘ ๓๔๑๙ ๓๔๒๐ ๓๔๒๑ ๓๔๒๒ ๓๔๒๓ ๓๔๒๔ ๓๔๒๕ ๓๔๒๖ ๓๔๒๗ ๓๔๒๘ ๓๔๒๙ ๓๔๓๐ ๓๔๓๑ ๓๔๓๒ ๓๔๓๓ ๓๔๓๔ ๓๔๓๕ ๓๔๓๖ ๓๔๓๗ ๓๔๓๘ ๓๔๓๙ ๓๔๔๐ ๓๔๔๑ ๓๔๔๒ ๓๔๔๓ ๓๔๔๔ ๓๔๔๕ ๓๔๔๖ ๓๔๔๗ ๓๔๔๘ ๓๔๔๙ ๓๔๕๐ ๓๔๕๑ ๓๔๕๒ ๓๔๕๓ ๓๔๕๔ ๓๔๕๕ ๓๔๕๖ ๓๔๕๗ ๓๔๕๘ ๓๔๕๙ ๓๔๖๐ ๓๔๖๑ ๓๔๖๒ ๓๔๖๓ ๓๔๖๔ ๓๔๖๕ ๓๔๖๖ ๓๔๖๗ ๓๔๖๘ ๓๔๖๙ ๓๔๗๐ ๓๔๗๑ ๓๔๗๒ ๓๔๗๓ ๓๔๗๔ ๓๔๗๕ ๓๔๗๖ ๓๔๗๗ ๓๔๗๘ ๓๔๗๙ ๓๔๘๐ ๓๔๘๑ ๓๔๘๒ ๓๔๘๓ ๓๔๘๔ ๓๔๘๕ ๓๔๘๖ ๓๔๘๗ ๓๔๘๘ ๓๔๘๙ ๓๔๙๐ ๓๔๙๑ ๓๔๙๒ ๓๔๙๓ ๓๔

Calibration Report

Certificate No.: 2502226-001-01
Equipment: Electronic Balance
Manufacturer: METTLER TOLEDO
Model: XSR205DU
Resolution: 0.00001 g / 0.0001 g
Serial No.: C009071872
ID No.: UAE.WAO.012/2563
Capacity: 82 g / 220 g

Date of Calibration: 20 March 2025 Page 4 of 4

Calibration Results: (Continued)

Calibration Range: >80-200 g

Calibration Adjustment: Internal Calibration

3. Departure from Nominal Value: (Range: >80 - 200 g ; Resolution: 0.0001 g)

Nominal Value (g)	Standard Value (g)	Average Reading (g)	Correction (g)	Uncertainty (± g)	Coverage Factor k
90	90.00010	90.0002	-0.0001	0.00015	2.00
100	100.00006	100.0001	0.0000	0.00016	2.00
110	110.00007	110.0001	0.0000	0.00017	2.00
120	120.00009	120.0002	-0.0001	0.00018	2.00
130	130.00010	130.0002	-0.0001	0.00019	2.00
140	140.00013	140.0002	-0.0001	0.00019	2.00
150	150.00009	150.0002	-0.0001	0.00021	2.00
160	160.00010	160.0002	-0.0001	0.00022	2.00
170	170.00012	170.0002	-0.0001	0.00023	2.00
200	200.00013	200.0002	-0.0001	0.00028	2.00

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k , providing a level of confidence of approximately 95 %.

----- End -----

F-CS-012 Revision: 01 Date: 20-04-65

2008 ๒๕๕๑-๒๕๕๒ ๓๖ หมู่๑๓ตำบลบ้านดอน อำเภอเมืองสุราษฎร์ธานี ๘๐๐๐๐
2008 Soi 35, Arun Amarin Road, Bang Yi Khan Subdistrict, Bang Phli District, Bangkok 10700, Thailand.
Tel : +66(0) 2422 8668 Fax : +66(0) 2422 8545

เอกสารไม่ควบคุม



nfi-cert

Certificate of Calibration

Cert. No.: 25TM579
Page : 1 of 3

Equipment : Hot Air Oven
Manufacturer : Memmert
Model : UF 55
Serial No. : B212.0411
ID No. : UAE.WAO.005/2556

Submitted by : United Analyst and Engineering Consultant Co.,Ltd.
3 Soi Udomsuk 41, Sukhumvit Road,
Bangchak, Phrakhanong,
Bangkok 10260

Location : Lab Floor 2

Received Order : 19 March 2025
Calibration Date : 19 March 2025
Ambient Temperature : (26 ± 10) °C
Relative Humidity : (50 ± 30) %
AC Line Voltage : (220 ± 22) V

(✓) Kunchit Promprat

Issue Date : 27 March 2025

The Uncertainties are for a confidence probability of approximately 95%

This certificate may not be reproduced other than in full, except with the prior written Approval of the head of Corporate Services 3 : Equipment Calibration and Testing Services.

เอกสารไม่ควบคุม



Equipment : Hot Air Oven
Condition As-Received : Used Item
Reference : 2503-0437OC-3

Cert. No.: 25TM579
Page : 2 of 3

Procedure Used :-

Calibration were conducted using calibration procedure CP-OT02 based on TLAS G-20 according to direct measurement method with Data Acquisition which connected with Resistance Temperature Detector (RTD) and Thermocouple Type T.

The temperature scale used was based on ITS-90.

Condition of this result of calibration

1. Reference standard instrument:-

Instrument	Serial No.	Cert. No.	Traceable	Due Date
1) Data Acquisition	MY44073381	24LM73	TPA	18 May 2025

2. This certificate is valid only to the item calibrated on date and place of calibration.

3. This certification is traceable to the International System of Unit.

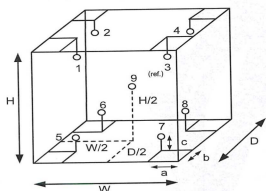
Remark : TPA : Technology Promotion Association (Thailand - Japan)

Result of Calibration :- (*) Without Adjustment

Function of UUC* : Temperature Source

Fresh air setting : Close

Environment during calibration		
	Beginning	Finished
Temp. (°C)	27	28
REL.Humid. (%)	49	55
AC Supply (Volt)	221	224



Probe Installation Details :
a = 5.0 cm
b = 5.0 cm
c = 5.0 cm
Dimension of Chamber :
D = 0.50 m
W = 0.80 m
H = 0.75 m
Capacity = 0.30 m³

Ref. Std. ID No.: @ Calibration Point	
Position :	(120,180) °C (104) °C
1	23-01TC-01 1RTD-2/1
2	23-01TC-02 1RTD-2/2
3	23-01TC-03 22-01RTD-03
4	23-01TC-04 1RTD-2/4
5	23-01TC-05 1RTD-2/5
6	23-01TC-06 1RTD-2/6
7	23-01TC-07 23-01RTD-07
8	23-01TC-08 1RTD-2/8
9 (ref.)	23-01TC-09 23-01RTD-09



Equipment : Hot Air Oven
Condition As-Received : Used Item
Reference : 2503-0437OC-3
Result of Calibration :- (*) Without Adjustment
Function of UUC* : Temperature Source
Fresh air setting : Close

Cert. No.: 25TM579
Page : 3 of 3

Calibration Point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Temperature stability (± °C)	Temperature uniformity (°C)	Overall Variation (°C)	Coverage Factor k
104.0	104.0	104.0	0.040	0.43	0.78	2
120.0	120.0	120.0	0.64	1.3	1.6	2
180.0	180.0	180.0	0.49	1.5	1.8	2

Calibration Point (°C)	Measured Temperature (°C)									Uncertainty (± °C)
	1	2	3	4	5	6	7	8	9 (ref.)	
104.0	104.335	104.135	104.363	104.317	103.649	103.738	104.179	104.229	104.025	0.42
120.0	119.575	119.366	119.807	119.905	118.994	119.194	119.888	119.994	120.064	1.1
180.0	180.286	179.510	180.401	180.551	179.281	179.463	180.196	180.451	180.374	1.2

Average* : The average of 30 values in each position.

Temperature stability : One-half of the greatest maximum difference of measured temperature at any one sensor.

Temperature uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.

Overall Variation : The Difference of the maximum and minimum measured temperatures throughout observation.

UUC* : Unit Under Calibration

Note : The reported uncertainty of measurement was included stability and excluded uniformity .

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k , providing a level of confidence of approximately 95 %.

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เอกสารไม่ควบคุม

เอกสารไม่ควบคุม

FOSS

Customer Service Report

FOSS South East Asia
3388 Sirinrat Building, 25th - 26th Floor, Unit No. 3388/90,
Rama IV Road, Klongton, Klongtoey, Bangkok, Thailand 10110

Report No.: 13320

Customer: UAE

Address: Bangkok

Serial: 91794469

Date: Jun 27, 2025
Job No.: 11676
Instrument: DT2520

Travel To Customer (Hrs)	Labour (Hrs)	Travel From Customer (Hrs)
09:00	13:00	15:00
10:00	2	

Job Type	
Application	Special
Distributor	Courtesy Visit
Digital Service	PMA Onboarding
Internal	Warranty
Investigate	Sales Support
Installation	Quote
Repair	Remote
Health Check Visit	

PMA Type	Smartcare	Smartcare Pro	Fossicare
Smartcare Advance			
Fossicare Pro			

Details of Work / Test	
- PM	
+ Visual Check	
- No damage	-ok
- No corrosion	-ok
- Function Check	
- Set Temp / Time	
- Set Control	
- Change unit °C / °F	
- Km / heating 20°C → 420°C	
* T24 Auto 114 (LS)	

Instrument Ready for Use: OK

Part No.	Batch	Description	Qty
60078330		FOSS PM Kit, Digestor R20 per, 12 months	1

Signed FOSS
Name
Email

*Remark: เอกสารไม่ควบคุม

FOSS

Customer Service Report

FOSS South East Asia
3388 Sirinrat Building, 25th - 26th Floor, Unit No. 3388/90,
Rama IV Road, Klongton, Klongtoey, Bangkok, Thailand 10110

Report No.: 13319

Customer: UAE

Address: Bangkok

Serial: 91790524

Date: Jun 27, 2025
Job No.: 11675
Instrument: KT200

Travel To Customer (Hrs)	Labour (Hrs)	Travel From Customer (Hrs)
09:00	10:00	13:00
10:00	1	3

Job Type	
Application	Special
Distributor	Courtesy Visit
Digital Service	PMA Onboarding
Internal	Warranty
Investigate	Sales Support
Installation	Quote
Repair	Remote
Health Check Visit	

PMA Type	Smartcare	Smartcare Pro	Fossicare
Smartcare Advance			
Fossicare Pro			

Details of Work / Test	
- PM	
+ Visual Check	
- No leak	-ok
- have damage on heater & main switch	-not ok
+ 100% heater 100% main switch	-ok
+ 100% PM kit * 1 set	-ok
+ Function Check	
- Power on OFF	-ok
- Alarm	-ok
- Steam	-ok
- Condenser	-ok

Instrument Ready for Use: OK

Part No.	Batch	Description	Qty
10069465	11.06.2024	FOSS PM kit KT200 filter Analyser / 2100	1
10003512	29.03.2024	Heating element Steam	1
15630111	19.10.2022	Unit for 1595kmt + 2 for	1

Signed FOSS
Name
Email

*Remark: เอกสารไม่ควบคุม



มูลนิธิสถาบันอาหาร
Foundation for Industrial Development National Food Institute
Food Industrial Laboratory Service Center



Calibration Certificate

Certificate No.: 2502226-002-01
Client name: UNITED ANALYST AND ENGINEERING CONSULTANT CO., LTD.
Address: 3 Soi Udomsuk 41, Sukhumvit Road,
Bangchack, Prakhnong, Bangkok 10260

Page 1 of 4

Equipment: Electronic Balance

Manufacturer: METTLER TOLEDO

Model: XSR205DU

Serial No.: C210685394

ID No.: UAE.WAO.010/2565

Order No.: 2502226

Operation No.: 2502226-002

Date of Receipt: 19 March 2025

Date of Calibration: 20 March 2025



The uncertainties are for a confidence probability of approximately 95%

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation Scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standards laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the National Food Institute.

FCS-009 Revision: 01 Date: 20-04-65

2008 2502226-002-01 35 น. 11.06.2024 10700 เอกสารไม่ควบคุม
2008 2502226-002-01 35 น. 11.06.2024 10700 เอกสารไม่ควบคุม
2008 2502226-002-01 35 น. 11.06.2024 10700 เอกสารไม่ควบคุม
Tel: +66(0) 2422 8588 Fax: +66(0) 2422 8545



มูลนิธิสถาบันอาหาร
Foundation for Industrial Development National Food Institute
Food Industrial Laboratory Service Center



Calibration Report

Certificate No.: 2502226-002-01
Equipment: Electronic Balance
Manufacturer: METTLER TOLEDO
Model: XSR205DU
Resolution: 0.00001 g / 0.0001 g
Serial No.: C210685394
ID No.: UAE.WAO.010/2565
Capacity: 82 g / 220 g

Page 2 of 4

Date of Calibration: 20 March 2025

Environment Condition: Ambient Temperature: 21.2 ± 0.6 °C Relative Humidity: 48 ± 3.5 %

Place of Calibration: 208 Balance Room, UNITED ANALYST AND ENGINEERING CONSULTANT CO., LTD.

Condition of Equipment: Good Condition

Condition of This Results of Calibration:

1. Calibration Method: NFI Method W-MA-001 In-House Method based on UKAS Lab 14 : 2019

2. Reference Standards:

Reference Standard Model Serial No. Calibrated By Certificate No. Due Date

Standard Weight Class E2 1mg to 200g 8505567572 TCS M24041005 19 April 2025

Instrument Model Serial No. Calibrated By Certificate No. Due Date

Thermo-Hygro Meter 608-H1 NFI.8TH 017/23 Quality Reborn QR25-0542 10 February 2026

3. This certification is traceable to SI UNIT

4. This certificate was certified only for the instrument we calibrated.

5. This result of calibration was found accurate as shown on date and place of calibration only.

Calibration Results:

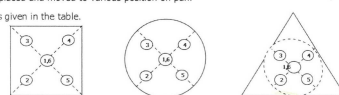
1. Repeatability of Reading:

Nominal Value (g)	Standard Deviation of Reading (g)
40	0.0000042
80	0.0000042
100	0.0000000
200	0.0000000

2. Off-Center Error:

A mass of 100 g was placed and moved to various position on pan.

The balance reading obtained is given in the table.



1	2	3	4	5	6	(Maximum Difference)
(g)	(g)	(g)	(g)	(g)	(g)	(g)
100.0001	100.0001	100.0001	100.0001	100.0001	100.0001	0.0000

FCS-012 Revision: 01 Date: 20-04-65

2008 2502226-002-01 35 น. 11.06.2024 10700 เอกสารไม่ควบคุม
2008 2502226-002-01 35 น. 11.06.2024 10700 เอกสารไม่ควบคุม
2008 2502226-002-01 35 น. 11.06.2024 10700 เอกสารไม่ควบคุม
Tel: +66(0) 2422 8588 Fax: +66(0) 2422 8545

Calibration Report

Certificate No.: 2502226-002-01
Equipment: Electronic Balance
Manufacturer: METTLER TOLEDO
Model: XSR205DU
Resolution: 0.00001 g / 0.0001 g
Serial No.: C210685394
ID No.: UAE.WAO.010/2565
Capacity: 82 g / 220 g

Date of Calibration: 20 March 2025 Page 3 of 4

Calibration Results: (Continued)

Calibration Range: 0-80 g

Calibration Adjustment: Internal Calibration

3. Departure from Nominal Value: (Range: 0 - 82 g ; Resolution: 0.00001 g)

Nominal Value (g)	Standard Value (g)	Average Reading (g)	Correction (g)	Uncertainty (± g)	Coverage Factor k
Unload	0.000000	0.00000	0.00000	0.0000087	2.00
0.001	0.001003	0.00100	0.00000	0.0000090	2.00
0.005	0.005002	0.00501	-0.00001	0.0000092	2.00
0.01	0.010003	0.01002	-0.00002	0.0000089	2.00
0.05	0.049996	0.05001	-0.00001	0.0000096	2.00
0.1	0.100011	0.10002	-0.00001	0.000011	2.00
0.5	0.500016	0.50004	-0.00002	0.000014	2.00
1	1.000003	1.00005	-0.00005	0.000016	2.00
2	2.000023	2.00006	-0.00004	0.000017	2.00
5	5.000015	5.00006	-0.00005	0.000020	2.00
10	10.000009	10.00005	-0.00004	0.000026	2.00
20	20.000030	20.00007	-0.00004	0.000037	2.00
30	30.000039	30.00009	-0.00005	0.000050	2.00
50	50.000028	50.00008	-0.00005	0.000068	2.00
80	80.000067	80.00013	-0.00006	0.00011	2.00

F-CS-012 Revision: 01 Date: 20-04-65

2008 ซอย 35, ถนนสุขุมวิท แขวงบางนา เขตคลองเตย กรุงเทพมหานคร 10700
2008 Soi 35, Arun Amarin Road, Bang Yi Khan Subdistrict, Bang Phai District, Bangkok 10700, Thailand
Tel: +66(0) 2422 8588 Fax: +66(0) 2422 8545



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Calibration Report

Certificate No.: 2502226-002-01
Equipment: Electronic Balance
Manufacturer: METTLER TOLEDO
Model: XSR205DU
Resolution: 0.00001 g / 0.0001 g
Serial No.: C210685394
ID No.: UAE.WAO.010/2565
Capacity: 82 g / 220 g

Date of Calibration: 20 March 2025 Page 4 of 4

Calibration Results: (Continued)

Calibration Range: >80-200 g

Calibration Adjustment: Internal Calibration

3. Departure from Nominal Value: (Range: >80 - 200 g ; Resolution: 0.0001 g)

Nominal Value (g)	Standard Value (g)	Average Reading (g)	Correction (g)	Uncertainty (± g)	Coverage Factor k
90	90.00010	90.0002	-0.0001	0.00015	2.00
100	100.00006	100.0001	0.0000	0.00016	2.00
110	110.00007	110.0002	-0.0001	0.00017	2.00
120	120.00009	120.0002	-0.0001	0.00018	2.00
130	130.00010	130.0002	-0.0001	0.00019	2.00
140	140.00013	140.0002	-0.0001	0.00019	2.00
150	150.00009	150.0002	-0.0001	0.00021	2.00
160	160.00010	160.0002	-0.0001	0.00022	2.00
170	170.00012	170.0002	-0.0001	0.00023	2.00
200	200.00013	200.0002	-0.0001	0.00028	2.00

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k , providing a level of confidence of approximately 95 %.

----- End -----

F-CS-012 Revision: 01 Date: 20-04-65

2008 ซอย 35, ถนนสุขุมวิท แขวงบางนา เขตคลองเตย กรุงเทพมหานคร 10700
2008 Soi 35, Arun Amarin Road, Bang Yi Khan Subdistrict, Bang Phai District, Bangkok 10700, Thailand
Tel: +66(0) 2422 8588 Fax: +66(0) 2422 8545



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Calibration Certificate

Certificate No.: 2503287-002-01
Client name: UNITED ANALYST AND ENGINEERING CONSULTANT CO.,LTD.
Address: 3 Soi Udomsuk 41, Sukhumvit Road,
Bangchack, Prakhnong, Bangkok 10260

Page 1 of 3

Equipment: CHAMBER (Incubator)

Manufacturer: BINDER

Model: KB 400

Serial No.: 20220000000391

ID No.: UAE.MIC.029/2565

Order No.: 2503287

Operation No.: 2503287-002

Date of Receipt: 5 June 2025

Date of Calibration: 5 June 2025

The uncertainties are for a confidence probability of approximately 95 %.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standards laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the National Food Institute.

F-CS-009 Revision: 01 Date: 20-04-65

2008 ซอย 35, ถนนสุขุมวิท แขวงบางนา เขตคลองเตย กรุงเทพมหานคร 10700
2008 Soi 35, Arun Amarin Road, Bang Yi Khan Subdistrict, Bang Phai District, Bangkok 10700, Thailand
Tel: +66(0) 2422 8588 Fax: +66(0) 2422 8545



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Calibration Report

Certificate No.: 2503287-002-01
Equipment: CHAMBER (Incubator)
Model: KB 400
Resolution: 0.1 °C
Serial No.: 20220000000391
ID No.: UAE.MIC.029/2565
Manufacturer: BINDER

Date of Calibration: 5 June 2025 Page 2 of 3

Location: Room 302 Microbiology Laboratory, UNITED ANALYST AND ENGINEERING CONSULTANT CO.,LTD.
Environment Condition: Ambient Temperature (18 ± 1) °C
Relative Humidity (53 ± 6) %
Line Voltage (230 ± 5) Volt

Condition of this results of Calibration:

- This instrument was calibrated by insert 13 standard thermometer into its chamber and calibration according to W-TE-014 Based on TLAS G-20-1/02-08 (E): Guidelines for Calibration and Checks of Temperature Controlled Enclosures.
- The temperature scale used was based on ITS - 90.
- All data show below were final values and the initial data may be obtained upon request.
- Reference Standard Instrument :

Instrument	Model	Serial No./ID No.	Certificate No.	Due Date	Through
Digital Thermometer with sensor	34972A RTD	MY59003377 CH#101-203 / RTD#101-203	2501168-001-01	13 January 2026	NATIONAL FOOD INSTITUTE

- This certificate is traceable to International System of Units (SI Units).
- This certificate was certified only for the instrument we calibrated.
- This result of calibration was found accurate as shown on date and place of calibration only.
- Condition of Calibrated Item : Good

UUC Description :
Time of Record 1 Hour 9 Minute At 35.0 °C
Fresh air Damper
- Open Position -
X Close Fan 100%
- Not Available

7. Result of Calibration : X Without adjustment After adjustment

F-CS-012 Revision: 01 Date: 20-04-65

2008 ซอย 35, ถนนสุขุมวิท แขวงบางนา เขตคลองเตย กรุงเทพมหานคร 10700
2008 Soi 35, Arun Amarin Road, Bang Yi Khan Subdistrict, Bang Phai District, Bangkok 10700, Thailand
Tel: +66(0) 2422 8588 Fax: +66(0) 2422 8545



nfi.go.th

Calibration Report

Certificate No.: 2503287-002-01
Equipment: CHAMBER (Incubator)
Model: KB 400 Serial No.: 2022000000391
Resolution: 0.1 °C ID No.: UAE.MIC.029/2565
Manufacturer: BINDER

Date of Calibration: 5 June 2025

Page 3 of 3

Calibration point: 35.0 °C

Calibration result:

Calibration Condition	Temperature (°C)	Relative Humidity (%)	Line Voltage (Volt)
MIN	17.4	48	225.0
MAX	18.5	59	235.0

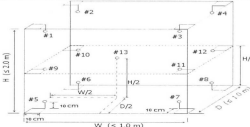


Table 1 : Reporting of Temperature

Calibration point (°C)	Measured Temperature (°C) @ Sensor No. (Sensor No.13 is REF)													Uncertainty ± (°C)
	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	
35.0	35.08	35.11	35.01	35.13	35.17	35.09	34.98	34.89	35.15	35.05	35.06	34.89	35.06	0.27

Table 2 : Reporting of Characterization Result

UUC* Setting (°C)	UUC* Reading (°C)			Temperature Stability ± (°C)	Temperature Uniformity (°C)	Overall Variation (°C)
	MIN	MAX	Average			
35.0	35.0	35.1	35.0	0.038	0.17	0.34

Note The quoted uncertainty include " Stability " and " Loading effect (20% of Temp Uniformity) "

UUC* = Unit Under Calibration

Stability = One-half of the greatest maximum difference of measured temperatures at any one sensors, for at least half an hour after reaching steady state.

Uniformity = The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time.

Overall Variation = The difference of the maximum and minimum measured temperatures throughout observation time.

The report uncertainty of measurement was based on standard uncertainty multiplied by coverage factor k= 2, providing a level of confidence of approximately 95 %.

----- End -----

F-C5-012 Revision: 01 Date: 20-04-65

Calibration Certificate

Certificate No.: 2502229-003-01
Client name: UNITED ANALYST AND ENGINEERING CONSULTANT CO.,LTD.
Address: 3 Soi Udomsuk 41, Sukhumvit Road, Bangchack, Prakanhong, Bangkok 10260

Page 1 of 3

Equipment: CHAMBER (Incubator)

Manufacturer: MEMMERT

Model: IPP260

Serial No.: V618.0033

ID No.: UAE.MIC.021/2561

Order No.: 2502229

Operation No.: 2502229-003

Date of Receipt: 19 March 2025

Date of Calibration: 19 March 2025

The uncertainties are for a confidence probability of approximately 95 %.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standards laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the National Food Institute.

F-C5-009 Revision: 01 Date: 20-04-65

Calibration Report

Certificate No.: 2502229-003-01
Equipment: CHAMBER (Incubator)
Model: IPP260 Serial No.: V618.0033
Resolution: 0.1 °C ID No.: UAE.MIC.021/2561
Manufacturer: MEMMERT

Date of Calibration: 19 March 2025

Page 2 of 3

Location: 302, UNITED ANALYST AND ENGINEERING CONSULTANT CO.,LTD.

Environment Condition:
Ambient Temperature (23.0 ± 1) °C
Relative Humidity (59 ± 1) %
Line Voltage (223 ± 3) Volt

Condition of this results of Calibration:

- This instrument was calibrated by insert 9 standard thermometer into its chamber and calibration according to W-TE-014 Based on TLAS G-20-1/02-08 (E): Guidelines for Calibration and Checks of Temperature Controlled Enclosures.
 - The temperature scale used was based on ITS - 90.
 - All data show below were final values and the initial data may be obtained upon request.

2. Reference Standard Instrument :

Instrument	Model	Serial No./ID No.	Certificate No.	Due Date	Through
Digital Thermometer with sensor	34972A	MYS7003188	TE 670486-01	8 June 2025	NATIONAL FOOD INSTITUTE
	RTD	CH#301-309/RTD#301-309			

3. This certificate is traceable to International System of Units (SI Units).

4. This certificate was certified only for the instrument we calibrated.

5. This result of calibration was found accurate as shown on date and place of calibration only.

6. Condition of Calibrated item : Good

UUC Description :

Time of Record 1 Hour 9 Minute At 22.0 and 25.0 °C

Fresh air Damper
- Open Position -
X Close Fan -
- Not Available

7. Result of Calibration : X Without adjustment After adjustment

Certificate No.: 2502229-003-01
Equipment: CHAMBER (Incubator)
Model: IPP260 Serial No.: V618.0033
Resolution: 0.1 °C ID No.: UAE.MIC.021/2561
Manufacturer: MEMMERT

Date of Calibration: 19 March 2025

Page 3 of 3

Calibration point: 22.0 and 25.0 °C

Calibration result:

Calibration Condition	Temperature (°C)	Relative Humidity (%)	Line Voltage (Volt)
MIN	22.7	58	220.0
MAX	23.3	60	225.0

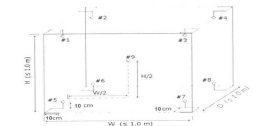


Table 1 : Reporting of Temperature

Calibration point (°C)	Measured Temperature (°C) @ Sensor No. (Sensor No.9 is REF)									Uncertainty ± (°C)
	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	
22.0	22.18	22.18	22.16	22.19	21.94	21.95	21.96	21.98	22.08	0.27
25.0	25.51	25.32	25.29	25.34	25.05	25.02	25.04	25.09	25.15	0.27

Table 2 : Reporting of Characterization Result

UUC* Setting (°C)	UUC* Reading (°C)			Stability ± (°C)	Uniformity (°C)	Overall Variation (°C)
	MIN	MAX	Average			
22.0	22.0	22.0	22.0	0.026	0.14	0.29
25.0	25.0	25.0	25.0	0.035	0.36	0.55

Note The quoted uncertainty include " Stability " and " Loading effect (20% of Temp Uniformity) "

UUC* = Unit Under Calibration

Stability = One-half of the greatest maximum difference of measured temperatures at any one sensors, for at least half an hour after reaching steady state.

Uniformity = The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time.

Overall Variation = The difference of the maximum and minimum measured temperatures throughout observation time.

The report uncertainty of measurement was based on standard uncertainty multiplied by coverage factor k= 2, providing a level of confidence of approximately 95 %.

----- End -----

F-C5-012 Revision: 01 Date: 20-04-65

F-C5-012 Revision: 01 Date: 20-04-65

Calibration Certificate

Certificate No.: 2502229-005-01
Client name: UNITED ANALYST AND ENGINEERING CONSULTANT CO.,LTD.
Address: 3 Soi Udomsuk 41, Sukhumvit Road,
Bangchack, Prakhonong, Bangkok 10260

Page 1 of 3

Equipment: CHAMBER (Incubator)
Manufacturer: MEMMERT
Model: IN75
Serial No.: D317.0307
ID No.: UAE.MIC.023/2561
Order No.: 2502229
Operation No.: 2502229-005
Date of Receipt: 19 March 2025
Date of Calibration: 19 March 2025

The uncertainties are for a confidence probability of approximately 95 %.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standards laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the National Food Institute.

F-CS-009 Revision: 01 Date: 20-04-65

เอกสารไม่ควบคุม

Calibration Report

Certificate No.: 2502229-005-01
Equipment: CHAMBER (Incubator)
Model: IN75 **Serial No.:** D317.0307
Resolution: 0.1 °C **ID No.:** UAE.MIC.023/2561
Manufacturer: MEMMERT

Date of Calibration: 19 March 2025

Page 2 of 3

Location: 302, UNITED ANALYST AND ENGINEERING CONSULTANT CO.,LTD.
Environment Condition: Ambient Temperature (20.9 ± 1) °C
Relative Humidity (59 ± 1) %
Line Voltage (223 ± 3) Volt

Condition of this results of Calibration:

- This instrument was calibrated by insert 9 standard thermometer into its chamber and calibration according to W-TE-014 Based on TLAS G-20-1/02-08 (E): Guidelines for Calibration and Checks of Temperature Controlled Enclosures.
- The temperature scale used was based on ITS - 90.
- All data show below were final values and the initial data may be obtained upon request.

2. Reference Standard Instrument :

Instrument	Model	Serial No./ID No.	Certificate No.	Due Date	Through
Digital Thermometer with sensor	34972A	MYS7003188	TE 670486-01	8 June 2025	NATIONAL FOOD INSTITUTE
	RTD	CH#101-109/ RTD#101-109			

- This certificate is traceable to International System of Units (SI Units).
- This certificate was certified only for the instrument we calibrated.
- This result of calibration was found accurate as shown on date and place of calibration only.

6. Condition of Calibrated item : Good

UUC Description :

Time of Record 1 Hour 9 Minute At 41.0 °C
Fresh air Damper ☒ Open Position ☐
☒ Close Fan ☐
☐ Not Available

- Result of Calibration : ☒ Without adjustment ☐ After adjustment

F-CS-012 Revision: 01 Date: 20-04-65

เอกสารไม่ควบคุม

Calibration Report

Certificate No.: 2502229-005-01
Equipment: CHAMBER (Incubator)
Model: IN75 **Serial No.:** D317.0307
Resolution: 0.1 °C **ID No.:** UAE.MIC.023/2561
Manufacturer: MEMMERT

Date of Calibration: 19 March 2025

Page 3 of 3

Calibration point: 41.0 °C

Calibration result:

Calibration Condition	Temperature (°C)	Relative Humidity (%)	Line Voltage (Volt)
MIN	20.6	58	220.0
MAX	21.2	60	225.0

Table1 : Reporting of Temperature

Calibration point (°C)	Measured Temperature (°C) @ Sensor No. (Sensor No.9 is REF)									Uncertainty ± (°C)
	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	
41.0	41.78	41.48	41.56	41.50	41.11	41.05	40.87	41.00	41.06	0.34

Table 2 : Reporting of Characterization Result

UUC* Setting (°C)	UUC* Reading (°C)			Stability ± (°C)	Uniformity (°C)	Overall Variation (°C)
	MIN	MAX	Average			
41.0	41.0	41.0	41.0	0.12	0.72	1.1

Note The quoted uncertainty include " Stability " and " Loading effect (20% of Temp Uniformity) "

UUC* = Unit Under Calibration

Stability = One-half of the greatest maximum difference of measured temperatures at any one sensors, for at least half an hour after reaching steady state.

Uniformity = The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time.

Overall Variation = The difference of the maximum and minimum measured temperatures throughout observation time.

The report uncertainty of measurement was based on standard uncertainty multiplied by coverage factor k= 2, providing a level of confidence of approximately 95 %.

----- End -----

F-CS-012 Revision: 01 Date: 20-04-65

เอกสารไม่ควบคุม

Calibration Certificate

Certificate No.: 2502229-004-01
Client name: UNITED ANALYST AND ENGINEERING CONSULTANT CO.,LTD.
Address: 3 Soi Udomsuk 41, Sukhumvit Road,
Bangchack, Prakhonong, Bangkok 10260

Page 1 of 3

Equipment: CHAMBER (Incubator)

Manufacturer: MEMMERT

Model: IN75

Serial No.: D317.0305

ID No.: UAE.MIC.022/2561

Order No.: 2502229

Operation No.: 2502229-004

Date of Receipt: 19 March 2025

Date of Calibration: 20 March 2025

The uncertainties are for a confidence probability of approximately 95 %.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standards laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the National Food Institute.

F-CS-012 Revision: 01 Date: 20-04-65

เอกสารไม่ควบคุม

Calibration Report

Certificate No.: 2502229-004-01
Equipment: CHAMBER (Incubator)
Model: IN75 Serial No.: D317.0305
Resolution: 0.1 °C ID No.: UAE.MIC.022/2561
Manufacturer: MEMMERT
Date of Calibration: 20 March 2025 Page 2 of 3

Location: 302, UNITED ANALYST AND ENGINEERING CONSULTANT CO.,LTD.
Environment Condition: Ambient Temperature (28.8 ± 1) °C
Relative Humidity (59 ± 1) %
Line Voltage (223 ± 3) Volt

Condition of this results of Calibration:

- This instrument was calibrated by insert 9 standard thermometer into its chamber and calibration according to W-TE-014 Based on TLAS G-20-1/02-08 (E): Guidelines for Calibration and Checks of Temperature Controlled Enclosures.
- The temperature scale used was based on ITS - 90.
- All data show below were final values and the initial data may be obtained upon request.

2. Reference Standard Instrument :

Instrument	Model	Serial No./ID No.	Certificate No.	Due Date	Through
Digital Thermometer with sensor	34972A	MY57003188	TE 670486-01	8 June 2025	NATIONAL FOOD INSTITUTE
	RTD	CH#101-109/ RTD#101-109			

- This certificate is traceable to International System of Units (SI Units).
- This certificate was certified only for the instrument we calibrated.
- This result of calibration was found accurate as shown on date and place of calibration only.
- Condition of Calibrated Item : Good

UUC Description :

Time of Record 1 Hour 9 Minute At 41.5 °C
Fresh air Damper ☐ Open Position ☐
☒ Close Fan ☒
☐ Not Available

- Result of Calibration : ☒ Without adjustment ☐ After adjustment

F-CS-012 Revision: 01 Date: 20-04-65

2008 ๒๕๕๑-๒๕๕๒ ๓๕ หมู่๑๕ตำบลบ้านใหม่ อำเภอมะนัง จังหวัดยะลา
2008 Soi 35, Arun Amarn Road, Bang Yi Khan Subdistrict, Bang Phlat District, Bangkok 10700, Thailand
Tel +66(0) 2422 8588 Fax +66(0) 2422 8545

เอกสารไม่ควบคุม



Calibration Report

Certificate No.: 2502229-004-01
Equipment: CHAMBER (Incubator)
Model: IN75 Serial No.: D317.0305
Resolution: 0.1 °C ID No.: UAE.MIC.022/2561
Manufacturer: MEMMERT
Date of Calibration: 20 March 2025 Page 3 of 3

Calibration point: 41.5 °C

Calibration result:

Calibration Condition	Temperature (°C)	Relative Humidity (%)	Line Voltage (Volt)
MIN	28.6	58	220.0
MAX	28.9	60	225.0

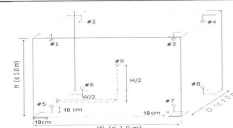


Table 1 : Reporting of Temperature

Calibration point (°C)	Measured Temperature (°C) @ Sensor No. (Sensor No.9 is REF)									Uncertainty ± (°C)
	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	
41.5	41.50	41.39	41.45	41.40	41.69	41.35	41.29	41.32	41.34	0.27

Table 2 : Reporting of Characterization Result

UUC* Setting (°C)	UUC* Reading (°C)			Stability ± (°C)	Uniformity (°C)	Overall Variation (°C)
	MIN	MAX	Average			
41.5	41.5	41.5	41.5	0.023	0.34	0.44

Note The quoted uncertainty include " Stability " and " Loading effect (20% of Temp Uniformity) "

UUC* = Unit Under Calibration

Stability = One-half of the greatest maximum difference of measured temperatures at any one sensors, for at least half an hour after reaching steady state.

Uniformity = The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time.

Overall Variation = The difference of the maximum and minimum measured temperatures throughout observation time.

The report uncertainty of measurement was based on standard uncertainty multiplied by coverage factor of confidence of approximately 95 %.

----- End -----

F-CS-012 Revision: 01 Date: 20-04-65

2008 ๒๕๕๑-๒๕๕๒ ๓๕ หมู่๑๕ตำบลบ้านใหม่ อำเภอมะนัง จังหวัดยะลา
2008 Soi 35, Arun Amarn Road, Bang Yi Khan Subdistrict, Bang Phlat District, Bangkok 10700, Thailand
Tel +66(0) 2422 8588 Fax +66(0) 2422 8545

เอกสารไม่ควบคุม



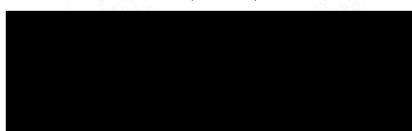
TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250
TEL.0-2717-3000-29 FAX.0-2719-9484



Certificate of Calibration

Cert. No.: 25TM502
Page : 1 of 3

Equipment : Water Bath
Manufacturer : Memmert
Model : WNE 14
Serial No. : L421.0121
ID No. : UAE.MIC.007/2558
Submitted by : United Analyst and Engineering Consultant Co.,Ltd.
3 Soi Udomsuk 41, Sukhumvit Road,
Bangchak, Phrakhanong,
Bangkok 10260
Location : Microbiology Laboratory (302)
Received Order : 19 March 2025
Calibration Date : 19 March 2025
Ambient Temperature : (26 ± 10) °C
Relative Humidity : (50 ± 30) %
AC Line Voltage : (220 ± 22) V



() Sumrit Injar
(✓) Kunchit Promprat

Issue Date : 27 March 2025

The Uncertainties are for a confidence probability of approximately 95%

This certificate may not be reproduced other than in full, except with the prior written Approval of the head of Corporate Services 3 : Equipment Calibration and Testing Services.

เอกสารไม่ควบคุม



Equipment : Water Bath
Condition As-Received : Used Item
Reference : 2503-04360C-2
Procedure Used :-

Cert. No.: 25TM502
Page : 2 of 3

Calibration were conducted using in-house calibration procedure CP-OT04 Based on ASTM E715 according to direct measurement method with Data Acquisition which connected with Industrial Platinum Resistance Thermometer (IPRT).

The temperature scale used was based on ITS-90.

Condition of this result of calibration

- Reference standard instrument:-

- | Instrument | Serial No. | Cert. No. | Traceable | Due Date |
|----------------------|------------|-----------|-----------|-------------|
| 1) Data Acquisition | MY57013823 | 23LM71 | TPA | 12 May 2025 |
- This certificate is valid only to the item calibrated on date and place of calibration.
- This certification is traceable to the International System of Unit.

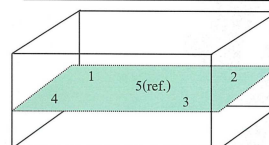
Remark : TPA : Technology Promotion Association (Thailand - Japan)

Result of Calibration :- (*) Without Adjustment

Function of UUC* : Temperature Source

Heat transfer medium used : Water

	Environmental		AC Voltage Supply
	(°C)	(%R.H.)	(Volt)
Beginning of Calibration	25	54	219
Finished of Calibration	23	52	220



Front

Position :	Ref. Std. S/N.:
1	4804539-006
2	4804539-007
3	4804539-008
4	4804539-009
5(ref.)	4804539-010

เอกสารไม่ควบคุม



Equipment : Water Bath
Condition As-Received : Used Item
Reference : 2503-0436OC-2
Result of Calibration :- (*) Without Adjustment
Function of UUC* : Temperature Source

Cert. No.: 25TM502
Page : 3 of 3

Calibration point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Average* Standard Reading (°C)					Uncertainty (± °C)
			1	2	3	4	5 (ref.)	
44.5	44.5	44.5	44.462	44.474	44.483	44.499	44.479	0.15

Calibration point (°C)	Uniformity (°C)	Stability (± °C)	Coverage Factor <i>k</i>
44.5	0.092	0.047	2

Average* : The average of 30 values in each position.
Uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.
Stability : One-half of the greatest maximum difference of measured temperature at any one probe.
UUC* : Unit Under Calibration
Note : The reported uncertainty of measurement was included stability and excluded uniformity.

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor *k*, providing a level of confidence of approximately 95 %.

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เอกสารไม่ควบคุม



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG BANGKOK 10250
TEL.0-2717-3000-29 FAX.0-2719-9484



Certificate of Calibration

Cert. No.: 25TM1037
Page : 1 of 3

Equipment : Water Bath
Manufacturer : Memmert
Model : WNB 14
Serial No. : L407.0756
ID No. : UAE.MIC.024/2550
Submitted by : United Analyst and Engineering Consultant Co.,Ltd.
3 Soi Udomsuk 41, Sukhumvit Road,
Bangchak, Phrakhanong,
Bangkok 10260
Location : Microbiology Laboratory
Received Order : 07 July 2025
Calibration Date : 07 - 08 July 2025
Ambient Temperature : (26 ± 10) °C
Relative Humidity : (50 ± 30) %
AC Line Voltage : (220 ± 22) V

() Suwit Imjai
(✓) Kunchit Promprat

Issue Date : 14 July 2025

The Uncertainties are for a confidence probability of approximately 95%

This certificate may not be reproduced other than in full, except with the prior written Approval of the head of Corporate Services 3: Equipment Calibration and Testing Services.

เอกสารไม่ควบคุม



Equipment : Water Bath
Condition As-Received : Used Item
Reference : 2507-0147OC-2
Procedure Used :-

Cert. No.: 25TM1037
Page : 2 of 3

Calibration were conducted using in-house calibration procedure CP-OT04 Based on ASTM E715 according to direct measurement method with Data Acquisition which connected with Industrial Platinum Resistance Thermometer (IPRT).

The temperature scale used was based on ITS-90.

Condition of this result of calibration

1. Reference standard instrument:-

Instrument	Serial No.	Cert. No.	Traceable	Due Date
1) Data Acquisition	MY49023932	24LM119	TPA	27 Jul 2025

2. This certificate is valid only to the item calibrated on date and place of calibration.

3. This measurement result is traceable to the International System of Unit maintained through :

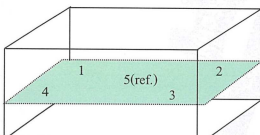
Remark : TPA : Technology Promotion Association (Thailand - Japan)

Result of Calibration :- (*) Without Adjustment

Function of UUC* : Temperature Source

Heat transfer medium used : Water

	Environmental		AC Voltage Supply
	(°C)	(%R.H.)	
Beginning of Calibration	27	78	228
Finished of Calibration	27	65	229



Front

Position :	Ref. Std. ID No.:
1	70RC207
2	70RC208
3	70RC209
4	70RC352
5(ref.)	70RC353



Equipment : Water Bath
Condition As-Received : Used Item
Reference : 2507-0147OC-2
Result of Calibration :- (*) Without Adjustment
Function of UUC* : Temperature Source

Cert. No.: 25TM1037
Page : 3 of 3

Calibration point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Average* Standard Reading (°C)					Uncertainty (± °C)
			1	2	3	4	5 (ref.)	
44.5	45.3	45.3	44.491	44.464	44.480	44.497	44.485	0.15
45.0	45.8	45.8	44.959	44.936	44.957	44.970	44.957	0.15

Calibration point (°C)	Uniformity (°C)	Stability (± °C)	Coverage Factor <i>k</i>
44.5	0.071	0.049	2
45.0	0.080	0.053	2

Average* : The average of 30 values in each position.

Uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.

Stability : One-half of the greatest maximum difference of measured temperature at any one probe.

UUC* : Unit Under Calibration

Note : The reported uncertainty of measurement was included stability and excluded uniformity.

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor *k*, providing a level of confidence of approximately 95 %.

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เอกสารไม่ควบคุม

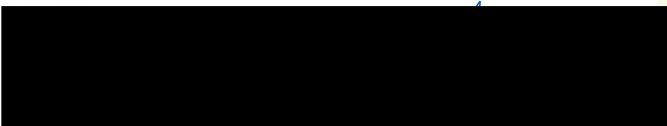
เอกสารไม่ควบคุม

Calibration Certificate

Certificate No.: 2502229-007-01
Client name: UNITED ANALYST AND ENGINEERING CONSULTANT CO.,LTD.
Address: 3 Soi Udomsuk 41, Sukhumvit Road,
Bangchack, Prakhonong, Bangkok 10260

Page 1 of 3

Equipment: Autoclave
Manufacturer: ALP
Model: CL-40L
Serial No.: 808763
ID No.: UAE.MIC.026/2563
Order No.: 2502229
Operation No.: 2502229-007
Date of Receipt: 19 March 2025
Date of Calibration: 19 March 2025



The uncertainties are for a confidence probability of approximately 95 %.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standards laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the National Food Institute.

F-CS-009 Revision: 01 Date: 20-04-65

Calibration Report

Certificate No.: 2502229-007-01
Equipment: Autoclave
Model: CL-40L **Serial No.:** 808763
Resolution: 0.1 °C **ID No.:** UAE.MIC.026/2563
Manufacturer: ALP
Date of Calibration: 19 March 2025

Page 2 of 3

Location: LABORATORY, UNITED ANALYST AND ENGINEERING CONSULTANT CO.,LTD.
Environment Condition: Ambient Temperature (23 ± 1) °C
Relative Humidity (60 ± 5) %
Line Voltage (225 ± 1) Volt

Condition of this results of Calibration:

- This instrument was calibrated by insert 3 standard Data loggers with RTD into its autoclave and calibration according to W-TE-018 based on BS 2646-1:2021, Autoclaves for sterilization in laboratories
Part 1: Design, construction, safety and performance - Specification.
- The temperature scale used was based on ITS - 90.
- All data show below were final values and the initial data may be obtained upon request.
- Reference Standard Instrument :

Instrument	Model	Serial No.	Certificate No.	Due Date	Through
Digital Thermometer with RTD (Data Logger)	HiTemp140-PT	S35646	TE 670370-01	23-Mar-25	NATIONAL FOOD INSTITUTE
	HiTemp140-PT	S33753	TE 670371-01	23-Mar-25	NATIONAL FOOD INSTITUTE
	HiTemp140-PT	S29973	TE 670372-01	23-Mar-25	NATIONAL FOOD INSTITUTE

- This certificate is traceable to International System of Units (SI Units).
- This certificate was certified only for the instrument we calibrated.
- This result of calibration was found accurate as shown on date and place of calibration only.
- This standard does not apply to sterilizers or disinfectors used for medical, dental, pharmaceutical.
- Condition of Calibrated item : Good
UUC Description : Setting program function sterilization : STERILIZE/NORMAL
Time of sterilization 15 Minute At 115.0 and 121.0 °C
- Result of Calibration : ☒ Without adjustment
☐ After adjustment

F-CS-012 Revision: 01 Date: 20-04-65

Calibration Report

Certificate No.: 2502229-007-01
Equipment: Autoclave
Model: CL-40L **Serial No.:** 808763
Resolution: 0.1 °C **ID No.:** UAE.MIC.026/2563
Manufacturer: ALP
Date of Calibration: 19 March 2025

Page 3 of 3

Calibration point: 115.0 and 121.0 °C

Calibration result:

Calibration Condition	Temperature (°C)	Relative Humidity (%)	Line Voltage (Volt)
Min	22.0	55	224
Max	24.0	65	226

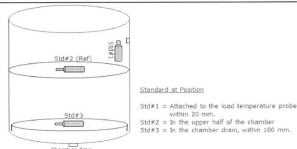


Table 1 : Reporting of Temperature

Calibration Point (°C)	Measured Temperature (°C) @ Sensor No. (Sensor No.2 is REF)			Uncertainty ± (°C)
	Std.# 1	Std.# 2 (Ref)	Std.# 3	
115.0	115.32	115.46	115.22	0.64
121.0	121.31	121.53	121.31	0.64

Table 2 : Reporting of Characterization Result

UUC* Setting (°C)	UUC* Reading				Stability ± (°C)	Uniformity (°C)	Overall Variation (°C)
	Min (°C)	Max (°C)	Average (°C)	MPa			
115.0	115.0	115.1	115.0	0.08	0.11	0.12	0.26
121.0	121.0	121.1	121.0	0.12	0.13	0.15	0.29

Note

The quoted uncertainty include " Stability " and " Loading effect (20% of Uniformity) "

UUC* = Unit Under Calibration

Stability = One-half of the greatest maximum difference of measured temperatures at any one sensors, for at least half an hour after reaching steady state.

Uniformity = The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time.

Overall Variation = The difference of the maximum and minimum measured temperatures throughout observation time.

The report uncertainty of measurement was based on standard uncertainty multiplied by coverage factor k=2, providing a level of confidence of approximately 95 %.

----- End -----

F-CS-012 Revision: 01 Date: 20-04-65

Calibration Certificate

Certificate No.: 2503287-001-01
Client name: UNITED ANALYST AND ENGINEERING CONSULTANT CO.,LTD.
Address: 3 Soi Udomsuk 41, Sukhumvit Road,
Bangchack, Prakhonong, Bangkok 10260

Page 1 of 3

Equipment: Autoclave
Manufacturer: ALP
Model: CL-40L
Serial No.: 810010
ID No.: UAE.MIC.032/2565
Order No.: 2503287
Operation No.: 2503287-001
Date of Receipt: 5 June 2025
Date of Calibration: 5 June 2025

The uncertainties are for a confidence probability of approximately 95 %.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standards laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the National Food Institute.

F-CS-009 Revision: 01 Date: 20-04-65

Calibration Report

Certificate No.: 2503287-001-01
Equipment: Autoclave
 Model: CL-40L Serial No.: 810010
 Resolution: 1 °C ID No.: UAE.MIC.032/2565
 Manufacturer: ALP
Date of Calibration: 5 June 2025 Page 2 of 3

Location: Room 301 Media Preparation, UNITED ANALYST AND ENGINEERING CONSULTANT CO.,LTD.
Environment Condition: Ambient Temperature (26 ± 1) °C
 Relative Humidity (55 ± 5) %
 Line Voltage (230 ± 5) Volt

Condition of this results of Calibration:

- This instrument was calibrated by insert 3 standard Data loggers with RTD into its autoclave and calibration according to W-TE-018 based on BS 2646-1:2021, Autoclaves for sterilization in laboratories
 Part 1: Design, construction, safety and performance - Specification.
 - The temperature scale used was based on ITS - 90.
 - All data show below were final values and the initial data may be obtained upon request.

2. Reference Standard Instrument :

Instrument	Model	Serial No.	Certificate No.	Due Date	Through
Digital Thermometer with RTD (Data Logger)	HiTemp140-PT	T20627	NC-25-03-18-181	11-Mar-26	MADGETECH, INC.
	OM-CP-HITEMP-140	R56916	2502081-002-01	11-Mar-26	NATIONAL FOOD INSTITUTE
	PRTemp140	R38546	2501835-001-01	22-Feb-26	NATIONAL FOOD INSTITUTE

- This certificate is traceable to International System of Units (SI Units).
- This certificate was certified only for the instrument we calibrated.
- This result of calibration was found accurate as shown on date and place of calibration only.
- This standard does not apply to sterilizers or disinfectors used for medical, dental, pharmaceutical.
- Condition of Calibrated item : Good
 UUC Description : Setting program function sterilization : STERILIZE/NORMAL
 Time of sterilization 20 Minute At 115 and 121 °C
- Result of Calibration : ☒ Without adjustment
☐ After adjustment

FCS-012 Revision: 01 Date: 20-04-65



Calibration Report

Certificate No.: 2503287-001-01
Equipment: Autoclave
 Model: CL-40L Serial No.: 810010
 Resolution: 1 °C ID No.: UAE.MIC.032/2565
 Manufacturer: ALP
Date of Calibration: 5 June 2025 Page 3 of 3

Calibration point: 115 and 121 °C

Calibration result:

Calibration Condition	Temperature (°C)	Relative Humidity (%)	Line Voltage (Volt)
Min	25.8	50	225
Max	26.8	59	235

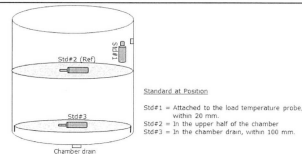


Table1 : Reporting of Temperature

Calibration Point (°C)	Measured Temperature (°C) @ Sensor No. (Sensor No.2 is REF)			Uncertainty ± (°C)
	Std.# 1	Std.# 2 (Ref)	Std.# 3	
115	115.46	115.43	115.42	0.70
121	121.59	121.54	121.51	0.70

Table 2 : Reporting of Characterization Result

UUC* Setting (°C)	UUC* Reading				Stability ± (°C)	Uniformity (°C)	Overall Variation (°C)
	Min (°C)	Max (°C)	Average (°C)	MPa			
115	115	115	115	0.08	0.24	0.17	0.50
121	121	121	121	0.12	0.24	0.19	0.52

Note

The quoted uncertainty include " Stability " and " Loading effect (20% of Uniformity)"
 UUC* = Unit Under Calibration
 Stability = One-half of the greatest maximum difference of measured temperatures at any one sensors, for at least half an hour after reaching steady state.
 Uniformity = The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time.
 Overall Variation = The difference of the maximum and minimum measured temperatures throughout observation time.
 The report uncertainty of measurement was based on standard uncertainty multiplied by coverage factor k= 2, providing a level of confidence of approximately 95 %.

----- End -----

FCS-012 Revision: 01 Date: 20-04-65

