

ภาคผนวกที่ 4

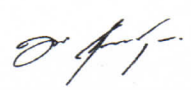
เอกสารสอบเทียบเครื่องมือ

Certificate No. : HIT-2522-0864

Page : 1 of 2

CERTIFICATE OF CALIBRATION

Equipment :	Advanced pH/ORP/Temperature Benchtop Meter		
Meter Model :	HI6221-02	Serial No. :	102180040111
Probe Model :	HI1053B	Serial No. :	1140205N
Resolution (pH) :	0.01	Resolution (mV) :	0.1
Manufacturer :	Hanna Instruments	Made in :	Romania
Condition As-Received :	New Product	Reference :	RE250928
Ambient Temperature :	(25 ± 2) °C	Relative Humidity :	(50 ± 15) % RH
Customer name :	SPECIAL LAB ENVI AND CONSULTANT CO., LTD. 47/91-93 Moo.3 , T. Tha-it, A. Pakkret, Nonthaburi 11120		
Received date :	21 May 2025		
Calibrate date :	26 May 2025		
Issue date :	26 May 2025		
Calibrated Location :	Hanna Instruments (Thailand) Ltd.		
Calibration Procedure :	This calibrator was conducted by using in-house: calibration procedure CP-01, CP-02 by using certified reference material (CRM).		

Calibrated by : ☒ Mr. Pichit PetthongApproved by : 

Mr. Anan Suwanchaisakul

Authorized Signatory



This certificate was certified only for the instrument we calibrated.

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

** This certificate may not be reproduced other than in full, except with the prior written **

approval of the head of Hanna Instrument (Thailand)

Condition of this calibration result

1. Reference Standard Instruments : This certification is traceable to the international unit of unit maintained through:

Instruments	Model	Serial No.	Certificate No.	Traceable
Documenting Process Calibrator	Fluke 753	43160061	25E299	Technology Promotion Association (Thailand-Japan)
Thermometer with sensor	HI98509	36943D	24T1281	
Digital Thermo-Hygrometer	HT-771SD	AI.07155	25H171	

2. Reference Standard Materials : pH calibration standard traceable thru CPA chem Ltd.

Buffer Solution	Manufacture	Certified Value	Lot Number	Exp. date
pH 4.0	CPA chem	$4.007 \pm 0.006 @ 25^{\circ}\text{C}$	1086537	26 April 2026
pH 7.0	CPA chem	$6.965 \pm 0.007 @ 25^{\circ}\text{C}$	1074440	8 February 2026
pH 10.0	CPA chem	$10.011 \pm 0.008 @ 25^{\circ}\text{C}$	1086538	26 April 2026

Calibration Result :

1. Performing standard curve by Simulator at: -177.5, 0.0, 177.5 mV

(Measurement Electrical Potential) After Adjust Result.

Unit Under Calibration	Nominal Value	Standard Voltage Input	Actual Reading		Uncertainty of Measurement ($\pm$ mV)
	pH	mV	pH	mV	
pH Meter S/N 102180040111	4.01	177.5	4.01	177.5	0.097
	7.01	0.0	7.01	0.0	0.058
	10.01	-177.5	10.01	-177.5	0.097

2. Performing three buffer standard curve by using buffer nominal : pH 4,7,10 After Adjustment.

Unit Under Calibration	Standard pH Buffer Solution	Actual Reading (pH)	Actual Reading (mV)	Uncertainty of Measurement ($\pm$ pH)
pH Electrode S/N 1140205N	4.007	4.01	181.4	0.011
	6.965	6.97	7.7	0.012
	10.011	10.01	-170.5	0.014

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

**** End of certificate ****



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 FAX. 0-2719-9484

Certificate of Testing

Cert.No.: 26TW31

Page.: 1 of 2

Equipment :	DO Meter
Manufacturer :	Hanna
Model :	HI98193
Serial No. :	09120032101
ID No. :	LB-Eq-014
Received Date :	02 February 2026
Test Date :	03 February 2026
Reference :	2602-0045WN-1
Submitted by :	Special Lab Envi And Consultant Co.,Ltd 47/91-93 Moo 3 Thambon Tha-it, Pakkret, Nonthaburi 11120
Laboratory Condition :	Temperature (25 ± 5) °C Humidity (50 ± 20) %
Test Procedure :	In - house method : CP-CH9 by Comparison Technique with Azide Modification Method
Tested by :	Walalak Sirithean
Approved by :	Approved Signatory
() Chakrit Waewwanjua () Ponpan Paipim (✓) Saithip Meangmai	
Issue Date :	03 February 2026



Cert.No.: 26TW31

Page.: 2 of 2

Condition of this result of calibration

1. Reference Standard Instruments :

This measurement result is traceable to the International System of Unit through the reference standards laboratory of Industrial Calibration Center, Technology Promotion Association (Thailand-Japan).

<u>Instruments</u>	<u>ID No.</u>	<u>Certificate No.</u>	<u>Due Date</u>
1. Burette	130BU10	25CG1126	18 Mar 2027
2. Balance	110RC001	25MM316	02 July 2026

2. Standard Material :-

<u>Material</u>	<u>Manufacturer</u>	<u>Lot.No.</u>	<u>Assay</u>
Sodium Thiosulfate 5-Hydrate AR	KEMAUS	2203162447	99.6%

Result : **Dissolved Oxygen Meter Adjustment With Air 100 %**

Dissolved Oxygen Probe No.: KC1N8943T

Titration Method (Azide Modification Method) (mg/L)	DO Meter Reading (mg/L)	Standard Deviation (mg/L)
8.20	8.20	0.0045

This report was certified only for the instrument we tested. It is allowable to use for study
Intend to use for advertising and referral purpose is prohibited. This report may not be reproduced
other in full, without written approval of the laboratory

-o0o-



CALIBRATION CERTIFICATE

Date of Issue Jun 17, 2025

Cert No. 25/2478

Order No. 25060343

Customer SPECIAL LAB ENVI AND CONSULTANT CO., LTD.
47/91 Moo 3, Tha-It, Pakkert, Nonthaburi 11120

Place of Calibration Laboratory Room

Description Oven

Model UF30

Serial No. B123.0544

ID.No. LB-Eq-047

Date of Receipt Jun 16, 2025

Date of Calibration Jun 16, 2025

Environment

Temperature (Min) 29.4 °C (Max) 30.8 °C

Relative Humidity (Min) 48.7 %rh (Max) 52.6 %rh

Calibration Method

WI-17 : The reference thermometer was placed into the chamber and measurement was performed based on AS-2853.

The temperature scale in use at this laboratory is the International Temperature Scale of 1990.

Standard Equipment	Serial No.	Certificate No.	Due Date
1) Data Acquisition Switch Unit with Sensor	MY49007789	QR25-0353	30 Jan 2026

This certificate is traceable to SI unit.

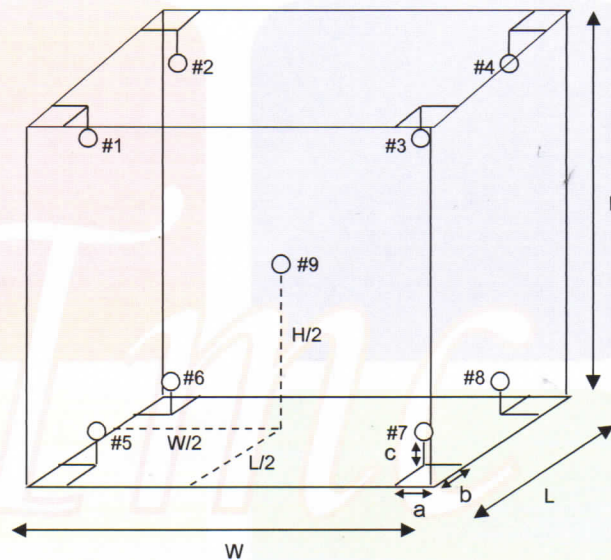
CALIBRATION CERTIFICATE

Date of Issue Jun 17, 2025

Cert No. 25/2478

Order No. 25060343

Results (without adjustment)



Position of reference thermometers were placed

Note.

- 1). Dimension (W x L x H) is 40 x 25 x 32 cm.
- 2). Stability - greatest one half of difference between max peak and min peak of each reference probe measured temperature obtained during the calibration interval.
- 3). 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. The reference sensor should preferably be located at the geometric center of the chamber.



CALIBRATION CERTIFICATE

Date of Issue Jun 17, 2025

Cert No. 25/2478

Order No. 25060343

Results (without adjustment)

Cal Point (°C)	UUC Setting (°C)	UUC Reading (°C)	Reference Thermometer (°C)		Stability $\pm$ (°C)	Uniformity (°C)	Uncertainty $\pm$ (°C)
104.0	104.0	104.0	Position 1	104.381	0.062	0.911	0.36
			Position 2	103.624			
			Position 3	103.718			
			Position 4	103.628			
			Position 5	103.579			
			Position 6	103.557			
			Position 7	103.569			
			Position 8	103.587			
			Position 9	103.513			

Cal Point (°C)	UUC Setting (°C)	UUC Reading (°C)	Reference Thermometer (°C)		Stability $\pm$ (°C)	Uniformity (°C)	Uncertainty $\pm$ (°C)
150.0	150.0	150.0	Position 1	150.997	0.115	1.597	0.50
			Position 2	149.610			
			Position 3	149.802			
			Position 4	149.659			
			Position 5	149.570			
			Position 6	149.512			
			Position 7	149.500			
			Position 8	149.743			
			Position 9	149.471			



CALIBRATION CERTIFICATE

Date of Issue Jun 17, 2025

Cert No. 25/2478

Order No. 25060343

Results (without adjustment)

Cal Point (°C)	UUC Setting (°C)	UUC Reading (°C)	Reference Thermometer (°C)		Stability ±(°C)	Uniformity (°C)	Uncertainty ±(°C)
180.0	180.0	180.0	Position 1	181.288	0.079	1.994	0.57
			Position 2	179.511			
			Position 3	179.762			
			Position 4	179.572			
			Position 5	179.506			
			Position 6	179.420			
			Position 7	179.327			
			Position 8	179.840			
			Position 9	179.353			

The stability and uniformity were taken into account in the measurement uncertainty stated.

The above results are valid exclusively for calibration samples as mentioned in this report.

This reported expanded uncertainty was based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with ONAC requirements.

APPROVED SIGNATORY :

D.M.

☐ MR. PRAJUCKPETCH THONGSOOKCHOTE

☒ MR. DAMRONG MULSING

☐ MR. JATURAPAT THONGSOOKCHOTE



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.: 25CH644

Page.: 1 of 3

Equipment : pH Meter
Manufacturer : Horiba
Model : LAQUAact-PH130
Serial No. : D08C0004
ID No. : -
Condition As-Received: Used Item
Received Date : 02 June 2025
Calibration Date : 05 June 2025
Reference : 2506-0035WN-1
Submitted by : Special Lab Envi And Consultant Co.,Ltd
47/91-93 Moo 3 Thambon Tha-it, Pakkret
Nonthaburi 11120

Ambient Temperature : (25 ± 2.5) °C
Relative Humidity : (50 ± 15) %
Calibration Procedure : In - house method :
- CP-CH5 by direct measurement with DC voltage standard and direct measurement with certified reference material (CRM)
- CP-CH8 by comparison with temperature standard

Calibrated by : Khit Ruttanaprapachai

Approved by : _____
Approved Signatory

() Chakrit Waewwanjua
() Ponpan Paipim
(✓) Saithip Meangmai

Issue Date : 6 June 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.



Cert.No.: 25CH644

Page.: 2 of 3

Condition of this calibration result

1. Reference Standard Instrument

<u>Instrument</u>	<u>Serial No.</u>	<u>ID No.</u>	<u>Cert. No.</u>	<u>Due Date</u>
1) Document Process Calibrator	43160066	130RC092	25E1217	17 Apr 2026
2) Ref. Standard Thermometer	2188080	130RC044	24I1022	16 Sep 2025

- This measurement result is traceable to SI through Technology Promotion Association (Thailand - Japan)

2. Certified Reference Materials : The measurement results are traceable to SI through CPA chem Ltd.,
ANSI-ASQ National Accreditation Board, Accredited No. AR-1835

<u>Buffer Solution</u>	<u>Manufacturer</u>	<u>Lot No.</u>	<u>Exp. date</u>
pH 4.007	CPA chem	1066665	18 Jan 2027
pH 6.865	CPA chem	940103	02 Nov 2025
pH 9.180	CPA chem	1066668	18 Jan 2026

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

Calibration Results

Function : mV Measurement

Performing standard curve by Document Process Calibrator at pH (4,7,9)

Unit Under Calibration	Nominal Value	Standard Voltage Input	Actual Reading		Uncertainty of Measurement (±mV)	Coverage factor <i>k</i>
	pH	mV	mV	pH		
pH Meter S/N.: D08C0004	4.00	177.48	177	4.00	0.58	2.00
	6.86	8.28	8	6.86	0.58	2.00
	9.18	-128.97	-129	9.18	0.58	2.00



Cert.No.: 25CH644

Page.: 3 of 3

Calibration Results

Function : pH Measurement

Performing three buffers standard curve by using buffer nominal pH (4,7,9)

Unit Under Calibration	Standard pH Buffer Solution	Actual pH Reading	Actual mV Reading (mV)	Uncertainty of pH Measurement ($\pm$)	Coverage factor k
pH Electrode S/N.: 988E0098	4.007	4.02	146	0.0086	2.05
	6.865	6.87	-16	0.043	2.65
	9.180	9.20	-135	0.045	2.65

Function : Temperature Measurement

(*) Without adjustment

This equipment was connected with Temperature Probe;

- Model : 9651

- Serial No. : 988E0098

Dimension of probe

- Length : 100 mm.

- Diameter : 16 mm.

- Immersion Depth : 90 mm.

Calibration Point (°C)	Standard Temperature (°C)	UUC* Reading (°C)	Error (°C)	Uncertainty of measurement ($\pm$ °C)	Coverage factor k
25.0	25.005	25.0	-0.005	0.13	2.00
30.0	30.004	30.0	-0.004	0.13	2.00
40.0	40.004	40.0	-0.004	0.13	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 %.

-o0o-



BECTHAI BANGKOK EQUIPMENT & CHEMICAL CO., LTD.
99/9 Moo 2, Maha Sawat, Phutthamonthon, Nakhon Pathom. 73170. Thailand.
Tel: +66 3424 5299 Fax: +66 3424 5250
E-mail: bkk@becthai.com Website: www.becthai.com



Certificate No. : CAL-25-504

Page : 1 of 3

CERTIFICATE OF CALIBRATION

Equipment	:	Spectrophotometer
Manufacturer	:	Merck
Model	:	Prove 100
Serial No.	:	1809112938
ID No.	:	LB-Eq-031
Customer	:	Special Lab Envi And Consultant Co.,Ltd.
	:	47/91-93 Moo 3, Tambol Tait ,
	:	Amphur Pakrad, Nonthaburi, 11120
Location	:	Becthai Laboratory
Date of Receipt	:	8 August 2025
Date of Calibration	:	13 August 2025
Date of Issue	:	13 August 2025
Ambient Temperature	:	(25±10) °C
Relative Humidity	:	(60±20) %
Condition As-Received	:	Used Item

Calibrated by

Ms. Bussayamas Noppakhun

Calibration Engineer

Approved by

(Ms. Jintana Sangthaijaroenlap)

Calibration Manager

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

This certificate may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laborator

Indicated values are valid for the state of the Spectrophotometer at the time of calibration only.



BECTHAI BANGKOK EQUIPMENT & CHEMICAL CO., LTD.
99/9 Moo 2, Maha Sawat, Phutthamonthon, Nakhon Pathom. 73170. Thailand.
Tel: +66 3424 5299 Fax: +66 3424 5250
E-mail: bkk@becthai.com Website: www.becthai.com



Certificate No. : CAL-25-504

Page : 2 of 3

CALIBRATION REPORT

Conditions of this result of calibration

1. Reference Standard Material :

<u>Material</u>	<u>Model</u>	<u>Serial No.</u>	<u>Cert.No.</u>	<u>Due date</u>
Holmium Glass Filter	RM-HG	24563	128818	3 February 2027
Neutral Density Filter	RM-1N2N3N	24568	128830	3 February 2027

2. Traceability : This certification is traceable to the International System of Unit maintained at;

The Starna Scientific Ltd. Accredited Calibration Laboratory No. 0659.

3. Method of calibration :

The calibration procedure was carried out according to ASTM E275-08 (2022) and ASTM E925-09 (2014).

4. Result of calibration :

(☒) without adjustment (☐) after adjustment

5. Equipment Specifications:

Spectral Bandwidth : 4 nm
Data Interval : 1 nm
Scan Speed : N/A nm/min



Certificate No. : CAL-25-504

Page : 3 of 3

CALIBRATION REPORT

Wavelength Calibration

Certified Values of Reference Material	Nominal Value (nm)	UUC*Reading (nm)	Error (nm)	Uncertainty of Measurement ($\pm$ nm)	k Factor
418.48	418.48	418	-0.48	0.59	2.00
536.90	536.90	537	0.10	0.59	2.00
637.94	637.94	638	0.06	0.59	2.00

Photometric Calibration for Visible

Wavelength (nm)	Certified Values of Reference Material (A)	UUC* Reading (A)	Error (A)	Uncertainty of Measurement ($\pm$ A)	k Factor
420.0	Zero	0.000	0.0000	0.0028	2.00
	0.5834	0.583	-0.0004	0.0045	2.00
	0.7246	0.724	-0.0006	0.0045	2.00
	1.0361	1.034	-0.0021	0.0045	2.00
440.0	Zero	0.000	0.0000	0.0028	2.00
	0.5663	0.567	0.0007	0.0045	2.00
	0.7103	0.710	-0.0003	0.0045	2.00
	1.0154	1.015	-0.0004	0.0045	2.00
465.0	Zero	0.000	0.0000	0.0028	2.00
	0.5256	0.526	0.0004	0.0045	2.00
	0.6679	0.669	0.0011	0.0045	2.00
	0.9541	0.955	0.0009	0.0045	2.00
546.1 (546.0)	Zero	0.000	0.0000	0.0028	2.00
	0.522	0.521	-0.0010	0.0045	2.00
	0.6938	0.693	-0.0008	0.0045	2.00
	0.9918	0.991	-0.0008	0.0045	2.00
590.0	Zero	0.000	0.0000	0.0028	2.00
	0.5563	0.555	-0.0013	0.0045	2.00
	0.7504	0.749	-0.0014	0.0045	2.00
	1.0735	1.072	-0.0015	0.0045	2.00
635.0	Zero	0.000	0.0000	0.0028	2.00
	0.5641	0.563	-0.0011	0.0045	2.00
	0.7305	0.729	-0.0015	0.0045	2.00
	1.0444	1.043	-0.0014	0.0045	2.00

Remark : Each individual filter is measured against the empty filter holder (blank) used to zero the Spectrophotometer.

Note:

UUC* : Unit Under Calibration

- End of Report -

Certificate of Calibration

Certificate No. : 68-410119-1

Page : 1 of 2

Submitted by : Special Lab Envi and Consultant Co., Ltd.
47/91-93 Moo 3, Tambol Tha-It, Pakkret, Nonthaburi 11120

Equipment : Digital Thermo-Hygrometer

Manufacturer : Testo Model : 608-H1
Range Temperature : 0 °C to 50 °C Resolution : 0.1 °C
Range Humidity : 10 %R.H. to 95 %R.H. Resolution : 0.1 %R.H.
Serial No. : 2083236817 ID No. : LB-Eg-042

Environment : Ambient Temperature : (23 ± 2) °C
Relative Humidity : (50 ± 15) %

Date of Received : 05 August 2025

Date of Calibration : 11 August 2025

Date of Issue : 11 August 2025

Calibrated by : Chortip Samchusri

Calibration Method : This instrument was calibrated by In-house method comparison technique CAL-M4013 by compared with standard probe sensor humidity/temperature into humidity/temperature chamber.

Reference Standard Instruments : This certification is traceable to the International System of Units

Digital Indicator with Standard Probe Temp&Hum

ID No.	Cert. No.	Due Date	Traceability
400034 & 400035	SG-H-00599/68	02 Jan 2026	Success Gateway Co., Ltd., Accredited by TISI Calibration No.0268

Approved by :



(Permpoon Chanpu)

Supervisor

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 Calibratech Co.,Ltd.



Certificate of Calibration

Certificate No. : 68-410119-1

Page : 2 of 2

UUC Condition As-Received : Good

Result of Calibration : Without Adjustment

Function : Temperature measurement

Reference Humidity @ 50 %R.H.

Standard Temperature (°C)	UUC Reading (°C)	Correction (°C)	Uncertainty (± °C)
25.00	24.9	0.1	0.46

Result of Calibration : Without Adjustment

Function : Humidity measurement

Reference Temperature @ 25 °C

Standard Humidity (%R.H.)	UUC Reading (%R.H.)	Correction (%R.H.)	Uncertainty (± %R.H.)
50.0	57.6	-7.6	2.2

Remark

UUC : Unit Under Calibration

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

This reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95%

- o0o -



Certificate of Calibration

Certificate No. : 68-210329-1

Page : 1 of 2

Submitted by : Special Lab Envi and Consultant Co., Ltd.
47/91-93 Moo 3, Tambol Tha-It, Pakkret, Nonthaburi 11120

Equipment : Weight

Manufacturer : LS

Material : Stainless Steel

Weight size : 1 g

ID No. : LB-Eq-034

Assumed density of weight : 7950 kg / m³

Assumed Air density : 1.2 kg / m³

Environment : Ambient Temperature : (20 ± 2) °C

Relative Humidity : (50 ± 10) %

Air Pressure : 1010.0 mbar

Date of Received : 05 August 2025

Date of Calibration : 18 August 2025

Date of Issue : 18 August 2025

Calibrated by : Wuttichai Swatphong

Calibration Method : In-house method CAL-M2101 based on OIML R 111-1 : 2004(E)

Reference Standard Instruments : This certification is traceable to the International System of Units

Standard Weights

ID No.	Cert. No.	Due Date	Traceability
E2413-E2425	MM-0044-25	11 Apr 2028	National Institute of Metrology (Thailand), (NIMT)

Approved by :



(Satja Sangkhum)

Supervisor

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 Calibratech Co.,Ltd.



Certificate of Calibration

Certificate No. : 68-210329-1

Page : 2 of 2

Result of Calibration : Without Adjustment

UUC Condition As-Received : Good

No.	Nominal Value	Id.Mark	Conventional mass Value		Measuring Uncertainty
1	1 g	none	1 g	-0.061 mg	$\pm$ 0.023 mg

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

This reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95%

- o0o -

CAL



Certificate of Calibration

Certificate No. : 68-210329-2

Page : 1 of 2

Submitted by : Special Lab Envi and Consultant Co., Ltd.
47/91-93 Moo 3, Tambol Tha-It, Pakkret, Nonthaburi 11120

Equipment : Weight

Manufacturer : LS

Material : Stainless Steel

Weight size : 100 g

ID No. : LB-Eq-035

Assumed density of weight : 7950 kg / m³

Assumed Air density : 1.2 kg / m³

Environment : Ambient Temperature : (20 ± 2) °C

Relative Humidity : (50 ± 10) %

Air Pressure : 1009.8 mbar

Date of Received : 05 August 2025

Date of Calibration : 18 August 2025

Date of Issue : 18 August 2025

Calibrated by : Wuttichai Swatphong

Calibration Method : In-house method CAL-M2101 based on OIML R 111-1 : 2004(E)

Reference Standard Instruments : This certification is traceable to the International System of Units

Standard Weights

ID No.	Cert. No.	Due Date	Traceability
E2413-E2425	MM-0044-25	11 Apr 2028	National Institute of Metrology (Thailand), (NIMT)

Approved by :


(Satja Sangkhun)

Supervisor

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 Calibratech Co.,Ltd.



Certificate of Calibration

Certificate No. : 68-210329-2

Page : 2 of 2

Result of Calibration : Without Adjustment

UUC Condition As-Received : Good

No.	Nominal Value	Id.Mark	Conventional mass Value		Measuring Uncertainty
1	100 g	none	100 g	-0.06 mg	$\pm$ 0.11 mg

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

This reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95%

- o0o -

CAL



Certificate of Calibration

Certificate No. : 68-210329-3

Page : 1 of 2

Submitted by : Special Lab Envi and Consultant Co., Ltd.
47/91-93 Moo 3, Tambol Tha-It, Pakkret, Nonthaburi 11120

Equipment : Weight
Manufacturer : LS Material : Stainless Steel
Weight size : 200 g
ID No. : LB-Eq-036
Assumed density of weight : 7950 kg / m³
Assumed Air density : 1.2 kg / m³

Environment : Ambient Temperature : (20 ± 2) °C
Relative Humidity : (50 ± 10) %
Air Pressure : 1009.8 mbar

Date of Received : 05 August 2025

Date of Calibration : 18 August 2025

Date of Issue : 18 August 2025

Calibrated by : Wuttichai Swatphong

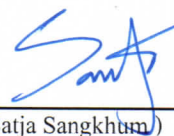
Calibration Method : In-house method CAL-M2101 based on OIML R 111-1 : 2004(E)

Reference Standard Instruments : This certification is traceable to the International System of Units

Standard Weights

ID No.	Cert. No.	Due Date	Traceability
E2420	C02250960	06 Jun 2028	National Institute of Metrology (Thailand), (NIMT)

Approved by :



(Satja Sangkhun)

Supervisor

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 Calibratech Co.,Ltd.



Certificate of Calibration

Certificate No. : 68-210329-3

Page : 2 of 2

Result of Calibration : Without Adjustment

UUC Condition As-Received : Good

No.	Nominal Value	Id.Mark	Conventional mass Value		Measuring Uncertainty
1	200 g	none	200 g	-0.11 mg	$\pm$ 0.17 mg

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

This reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95%

- o0o -

CAL

