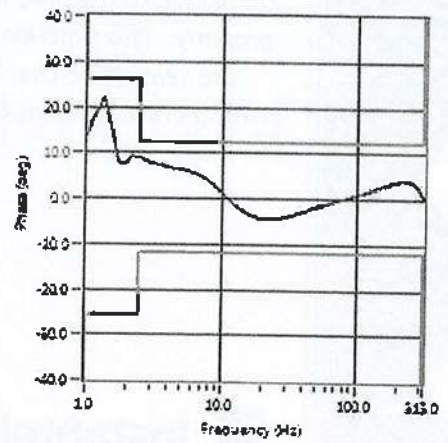
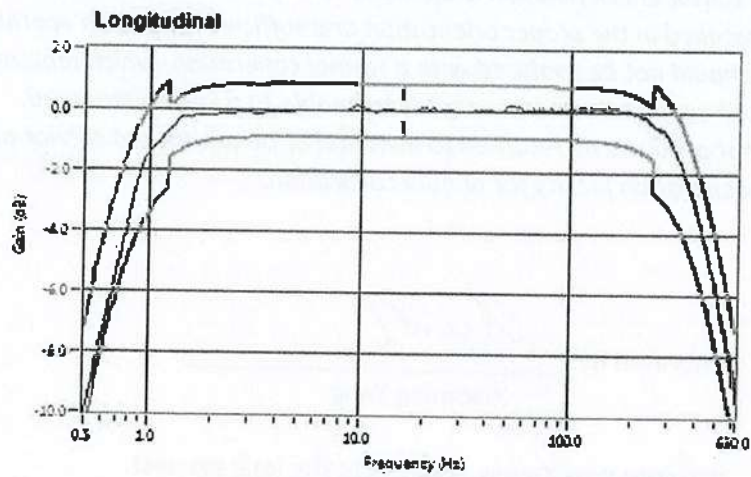
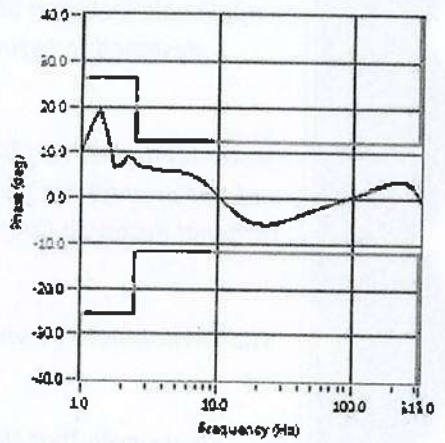
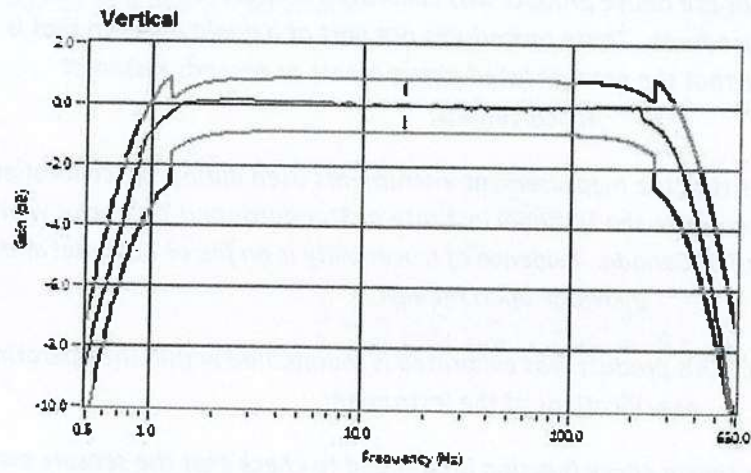
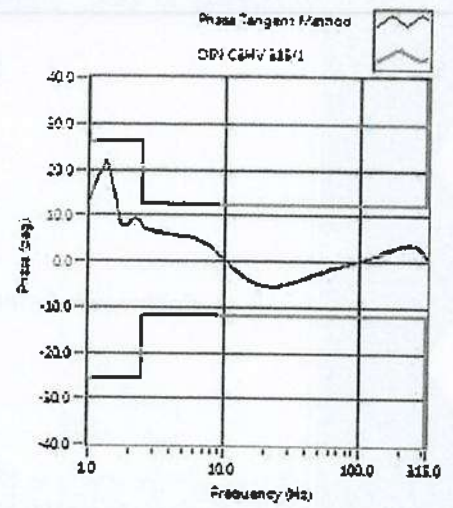
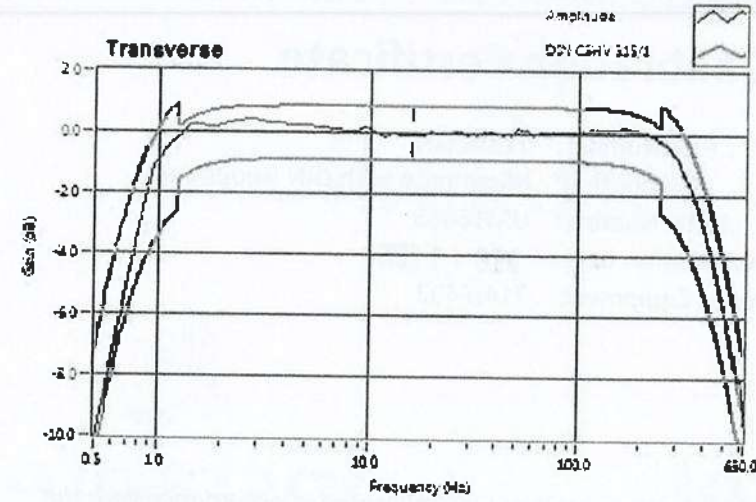


Frequency Response of UM16055



รับรองสำเนาถูกต้อง
ผู้จัดการฝ่ายควบคุมคุณภาพ

CAL

Calibratech Co.,Ltd.

7/106-7 Moo 2, Sukhprachasan 3 Rd., Bangpood, Pakkred, Nonthaburi 11120.

Tel.(02) 964-6211 Fax.(02) 964-5155, e-mail : calibratech.cal@yahoo.com, calibratech.cal@hotmail.com



Certificate of Calibration

Certificate No. : 63-200067-1

Page : 1 of 2

Submitted by : Envilab Co., Ltd.

536 Soi Bangkhac7, Bangkhac, Bangkok 10160

Equipment : Electronic Balance

Manufacturer : Sartorius

Model : SECURA125-IS

Serial No. : 0034606552

ID No. : ELABBALANCEN05

Capacity : 120 g

Resolution : 0.00001 g

Environment : On site calibration was carried out at the Laboratory, Envilab Co., Ltd.

Ambient Temperature : (22.7 to 23.3) °C

Relative Humidity : (60.7 to 65.3) %

Air Pressure : 1012.0 mbar

Date of Calibration : 03 March 2020

Date of Issue : 07 March 2020

Calibrated by : Akaradath Thippichai

Calibration Method : In-house method CAL-M2001 based on UKAS Publication ref : LAB 14
Edition 5, July 2015

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

Standard Weights

<u>ID No.</u>	<u>Cert. No.</u>	<u>Due Date</u>	<u>Traceability</u>
E261-E2624	C02192873	14 Nov 2020	National Institute of Metrology (Thailand), (NIMT)

Approved by :

(Surachai Promthong)

Laboratory Manager

The Uncertainties are for a confidence probability of approximately 95%

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CAL-F0031-03



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NSC-TISI-TIS 17025
CALIBRATION 0030

Certificate of Calibration

Certificate No. : 63-420039-3

Page : 1 of 2

Submitted by : Envilab Co., Ltd.
536 Soi Bangkhac 7, Bangkhac, Bangkok 10160

Equipment : pH Meter (Pocket)
pH meter

Manufacturer : Eutech **Model :** pHTestr 30
Range : N/A **pH** **Resolution :** 0.01 pH
Serial No. : 2771961 **ID No. :** ELABPHTEST3012

Environment : On site calibration was carried out at the Laboratory Envilab Co., Ltd.
Ambient Temperature : (25.0 to 26.5)°C
Relative Humidity : (45 to 55) %

Date of Calibration : 24 March 2020

Date of Issue : 25 March 2020

Calibrated by : Bunjerd Masri

Calibration Method : In-house method CAL-M4201 direct measurement by using certified reference material (CRM)

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

Standard Buffer Solution

pH	Cert. No.	Exp. Date	Traceability
4.003	280319	29 Jul 2020	National Institute of Metrology Thailand (NIMT)
7.025	280119	29 Jul 2020	National Institute of Metrology Thailand (NIMT)
10.008	080719	29 Jul 2020	National Institute of Metrology Thailand (NIMT)

Approved by :

(Bunjerd Masri)

Supervisor

The Uncertainties are for a confidence probability of approximately 95%

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CAL-F0031-03



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Certificate of Calibration

Certificate No. : 63-420039-3

Page : 2 of 2

Result of Calibration :

UUC Condition As-Received : Good

Function : pH meter with electrode

Performing a three - buffer standard curve using buffer nominal pH (4,7,10)

Adjustment Curve at nominal pH	Standard Buffer (pH)	UUC Reading (pH)	Correction (pH)	Uncertainty (± pH)
4, 7, 10	4.003	4.01	0.00	0.025
	7.025	7.01	0.01	0.025
	10.008	10.01	0.00	0.070

Remark

1 UUC : Unit Under Calibration

2 pH meter does not have voltage mode because the plug can not BNC socket

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%

0/0

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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

Cert.No.: 20TW59

Page.: 1 of 2

Certificate of Testing

Equipment :	DO Meter
Manufacturer :	HANNA
Model :	HI 98194
Serial No. :	02440121991
ID No. :	ELABHI98194N01
Received Date :	16 March 2020
Test Date :	16 March 2020
Reference :	2003-0660DN-1
Submitted by :	B.Food Products International Ltd. 39 M.5, Saraburi -Romsak Road, Chongsarika, Pattananikhom, Lopburi 10520
Laboratory Condition :	Temperature (25 ± 5) °C Humidity (50 ± 20) %
Test Procedure :	In - house method : CP-CH9 by Comparison Technique with Azide Modification Method
Calibrated by :	Walalak Sirthean

Approved by :


Approved Signatory

- () Pornthippa Tameyakul
() Malee Butkruea
() Ponpan Paipim
() Saithip Meangmai

Issue Date :

17 March 2020



Envilab Co.,Ltd.


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B 0228285



Cert.No.: 20TW59

Page.: 2 of 2

Result : Dissolved Oxygen Meter Adjustment With Air 100 %

Dissolved Oxygen Probe No.: K3548358

Titration Method (Azide Modification Method) (mg/L)	DO Meter Reading (mg/L)	Standard Deviation (mg/L)
8.10	8.10	0.0045

This report was certified only for the instrument we tested. It is allowable to use for study the system efficiency, The environmental impact control and present to organization it may concerned. 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

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ผู้จัดการฝ่ายควบคุมคุณภาพ

Certificate of Calibration

Certificate No. : 63-400052-2

Page : 1 of 2

Submitted by : Envilab Co., Ltd.
536 Soi Bangkhac 7, Bangkhac, Bangkok 10160

Equipment : Air Chamber (Refrigerator)
Manufacturer : The Cool **Model :** ALEX-2PT
Range : N/A °C **Resolution :** 0.1 °C
Serial No. : 60204-005-02044 **ID No. :** ELABREFRIGEN01

Environment : On site calibration was carried out at the Laboratory, Envilab Co., Ltd.
Ambient Temperature : (25.5 to 26.0) °C
Relative Humidity : (45 to 55) %
Line Voltage : (224.0 to 225.0) V

Date of Calibration : 05 February 2020

Date of Issue : 07 February 2020

Calibrated by : Pempon Chanpu

Calibration Method : CAL-M4004, TLAS G-20
 The temperature scale used was based on ITS-90

Reference Standard Instruments : This certification is traceable to the International System of Units
 Standard Digital Thermometer with Thermocouple probe

ID No.	Cert. No.	Due Date	Traceability
400029 & 400032	62-400454-1	27 Mar 2020	National Institute of Metrology Thailand (NIMT)

Approved by :

(Bunjerd Masri)
 Supervisor

The Uncertainties are for a confidence probability of approximately 95%

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Certificate of Calibration

Certificate No. : 63-400052-2

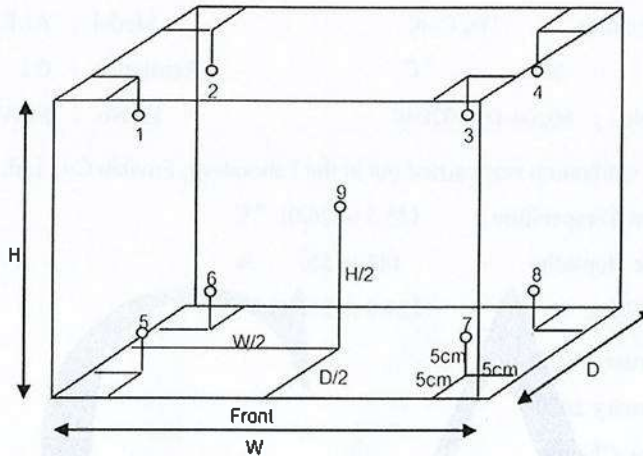
Page : 2 of 2

Result of Calibration : Without Adjustment

UUC Condition As-Received : Good

Function : Temperature measurement

This instrument was setting air ventilation at position 0 (close)



Inside of Chamber

W = 0.11 m

D = 0.65 m

H = 2.00 m

Capacity = 0.14 m³

Test Point (°C)	Setting Temperature (°C)	Indicating Temperature (°C)	Measured Temperature (°C) @ Sensor No.									Uncertainty (± °C)
			1	2	3	4	5	6	7	8	9	
4.0	4.0	4.0	4.9	4.4	4.0	3.8	4.7	4.9	3.6	3.6	4.0	0.83

Test Point (°C)	Setting Temperature (°C)	Indicating Temperature (°C)	Measured Uniformity (°C)	Measured Stability (°C)	Overall Variation (°C)
4.0	4.0	4.0	1.0	0.5	2.3

Remark The uncertainty is not combine uniformity of the air chamber

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%

- 000 -

B-5

Certificate of Calibration

Certificate No. : 62-400530-2

Page : 1 of 2

Submitted by : Envilab Co., Ltd.

536 Soi Bangkhac 7, Bangkhac, Bangkok 10160

Equipment : Air Chamber (Incubator)

Manufacturer : M-LAB

Model : BIC-140

Range : N/A °C

Resolution : 0.1 °C

Serial No. : 100613-1

ID No. : ELABBODICT140L

Environment : On site calibration was carried out at the Laboratory, Envilab Co., Ltd.

Ambient Temperature : (25.5 to 26.4) °C

Relative Humidity : (54 to 58) %

Line Voltage : (224.0 to 226.0) V

Date of Calibration : 16 October 2019

Date of Issue : 18 October 2019

Calibrated by : Bunjerd Masri

Calibration Method : CAL-M4004, TLAS G-20

The temperature scale used was based on ITS-90

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

Standard Digital Thermometer with Thermocouple probe

ID No.	Cert. No.	Due Date	Traceability
400022 & 400023	62-400448-1	28 Feb 2020	National Institute of Metrology Thailand (NIMT)

Approved by :



(Bunjerd Masri)

Supervisor

The Uncertainties are for a confidence probability of approximately 95%

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