# **Appendix E. Calibration Certificates**



Email: info@qualityprotest.com; Website: www.qualityprotest.com Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No.

: R-BB120079

Date of Issue

: 20 December 2022

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#### PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd.

Flat 2207, Yu Fun House Yu Chui Court, Shatin

New Territories (HK) Hong Kong

**PART B - SAMPLE INFORMATION** 

Name of Equipment:

YSI ProDSS (Multi-Parameters)

Manufacturer:

YSI (a xylem brand)

Serial Number:

16H104234

Date of Received:

20 December 2022

Date of Calibration:

20 December 2022

Date of Next Calibration:

19 March 2023

Request No.:

D-BB120079

#### PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

**Test Parameter** 

Reference Method

pH value

APHA 21e 4500 H+

Temperature

Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March

2008: Working Thermometer Calibration Procedure

Salinity

APHA 21e 2520 B

Dissolved oxygen

APHA 21e 4500 O

Turbidity

APHA 21e 2130 B

Conductivity

APHA 21e 2510 B

#### PART D - CALIBRATION RESULT

# (1) pH value

Target ( pH unit )	Display Reading (pH unit)	Tolerance	Result
4.00	4.08	0.08	Satisfactory
7.42	7.36	-0.06	Satisfactory
10.01	9.85	-0.16	Satisfactory

Tolerance of pH value should be less than  $\pm 0.2$  (pH unit)

# (2) Temperature

Reading of Ref. thermometer ( °C )	Display Reading ( °C )	Tolerance	Result
15	14.9	-0.1	Satisfactory
30	30.0	0.0	Satisfactory
45	49.9	4.9	Satisfactory

Tolerance of Temperature should be less than  $\pm 2.0$  ( °C )

# (3) Salinity

Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	9.92	-0.80	Satisfactory
20	20.19	0.95	Satisfactory
30	29.88	-0.40	Satisfactory

Tolerance of Salinity should be less than  $\pm 10.0$  (%)

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AUTHORIZED SIGNATORY:

> LEE Chun-ning Assistant Manager (Chemical Testing)



Unit 10, 5/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong Email: info@qualityprotest.com; Website: www.qualityprotest.com Tel: (852) 3956 8717; Fax: (852) 3956 3928

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#### (4) Dissolved oxygen

Expected Reading ( mg/L )	Display Reading ( mg/L )	Tolerance	Result
9.37	9.62	0.25	Satisfactory
7.08	6.80	-0.28	Satisfactory
4.84	4.40	-0.44	Satisfactory
3.10	2.91	-0.19	Satisfactory

Tolerance of Dissolved oxygen should be less than  $\pm$  0.5 ( mg/L )

#### (5) Turbidity

Expected Reading (NTU)	Display Reading (NTU)	Tolerance (%)	Result
. 0	0.10		Satisfactory
10	9.82	-1.84	Satisfactory
20	19.84	-0.84	Satisfactory
100	98.80	-1.24	Satisfactory
800	797.46	-0.34	Satisfactory

Tolerance of Turbidity should be less than  $\pm$  10.0 (%)

#### (6) Conductivity

Expected Reading ( μS/cm at 25°C )	Display Reading	Tolerance (%)	Result
146.9	150.1	2.18	Satisfactory
1412	1389	-1.63	Satisfactory
12890	13089	1.54	Satisfactory
58670	59635	1.64	Satisfactory
111900	110417	-1.33	Satisfactory

Tolerance of Conductivity should be less than ± 10.0 (%)

#### Remark(s)

- 'The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.
- ·The results relate only to the calibrated equipment as received
- The performance of the equipment stated is checked with independent reference material and results compared against a calibrated secondary source.
- "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.
- 'The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.

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# REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No.

: R-BB120080

**Date of Issue** 

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#### PART A - CUSTOMER INFORMATION

Enovative Environmental Service Ltd.

Flat 2207, Yu Fun House Yu Chui Court, Shatin

New Territories (HK) Hong Kong

### PART B - SAMPLE INFORMATION

Name of Equipment:

YSI ProDSS (Multi-Parameters)

Manufacturer:

YSI (a xylem brand)

Serial Number:

17E100747

Date of Received

20 December 2022

Date of Calibration :

20 December 2022

Date of Next Calibration :

19 March 2023

Request No.:

D-BB120080

#### PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

**Test Parameter** 

Reference Method

pH value

APHA 21e 4500 H+

Temperature

Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March

2008: Working Thermometer Calibration Procedure

Salinity

APHA 21e 2520 B

Dissolved oxygen

APHA 21e 4500 O

Turbidity

APHA 21e 2130 B

Conductivity

APHA 21e 2510 B

# **PART D - CALIBRATION RESULT**

#### (1) pH value

Target ( pH unit )	Display Reading ( pH unit ) Tolerance		Result
4.00	4.02	0.02	Satisfactory
7.42	7.45	0.03	Satisfactory
10.01	10.06	0.05	Satisfactory

Tolerance of pH value should be less than  $\pm 0.2$  (pH unit)

## (2) Temperature

Reading of Ref. thermometer (°C)	Display Reading (°C)	Tolerance	Result
15	14.9	-0.1	Satisfactory
30	30.0	0.0	Satisfactory
45	49.9	4.9	Satisfactory

Tolerance of Temperature should be less than  $\pm 2.0$  ( °C )

#### (3) Salinity

(c) summing	li .		
Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	9.94	-0.60	Satisfactory
20	20.21	1.05	Satisfactory
30	30.20	0.67	Satisfactory

Tolerance of Salinity should be less than  $\pm$  10.0 (%)

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AUTHORIZED SIGNATORY:

LEE Chun-ning
Assistant Manager (Chemical Testing)

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#### (4) Dissolved oxygen

Expected Reading ( mg/L )	Display Reading ( mg/L )	Tolerance	Result
9.37	9.60	0.23	Satisfactory
7.08	6.64	-0.44	Satisfactory
4.84	4.48	-0.36	Satisfactory
3.10	2.81	-0.29	Satisfactory

Tolerance of Dissolved oxygen should be less than  $\pm$  0.5 ( mg/L )

# (5) Turbidity

Expected Reading (NTU)	Display Reading (NTU)	Tolerance (%)	Result
0	0.10		Satisfactory
10	9.85	-1.50	Satisfactory
20	19.77	-1.20	Satisfactory
100	99.16	-0.80	Satisfactory
800	796.62	-0.40	Satisfactory

Tolerance of Turbidity should be less than  $\pm 10.0$  (%)

#### (6) Conductivity

Expected Reading ( μS/cm at 25°C )	Display Reading	Tolerance ( % )	Result
146.9	151.2	2.93	Satisfactory
1412	1366	-3.26	Satisfactory
12890	13610	5.59	Satisfactory
58670	56516	-3.67	Satisfactory
111900	111612	-0.26	Satisfactory

Tolerance of Conductivity should be less than  $\pm$  10.0 (%)

# Remark(s)

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- ·The results relate only to the calibrated equipment as received
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