# Appendix D. Calibration Certificates

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專業化驗有限公司

# **REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION**

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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 :	S/N: 16H104233
Date of Received :	02 June 2023
Date of Calibration :	02 June 2023
Date of Next Calibration :	01 September 2023
Request No. :	D-BC060025

# PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

<u>Test Parameter</u>	Reference Method
pH value	APHA 21e 4500 H <sup>+</sup>
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	4.07	0.07	Satisfactory
7.42	7.49	0.07	Satisfactory
10.01	10.09	0.08	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
10	10.0	0.0	Satisfactory
25	25.0	0.0	Satisfactory
45	45.0	0.0	Satisfactory

Tolerance of Temperature should be less than  $\pm\,2.0$  (  $^{\circ}C$  )

# (3) Salinity

Expected Reading (g/L)	Display Reading (g/L)	Tolerance (%)	Result
10	10.09	0.90	Satisfactory
20	20.38	1.90	Satisfactory
30	30.33	1.10	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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# **REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION**

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### (4) Dissolved oxygen

Expected Reading ( mg/L )	Display Reading ( mg/L )	Tolerance	Result
7.12	7.15	0.03	Satisfactory
4.61	4.39	-0.22	Satisfactory
1.57	1.27	-0.30	Satisfactory
0.16	0.56	0.40	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	9.84	-1.60	Satisfactory
20	20.11	0.50	Satisfactory
100	107.60	7.60	Satisfactory
800	798.22	-0.20	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	148.7	1.23	Satisfactory
1412	1491	5.59	Satisfactory
12890	12677	-1.65	Satisfactory
58670	59440	1.31	Satisfactory
111900	113112	1.08	Satisfactory

Tolerance of Conductivity should be less than  $\pm$  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 in this report 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. Date of Issue Page No. : R-BC060026 : 06 June 2023 : 1 of 2

# **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 :	S/N: 21K101468
Date of Received :	02 June 2023
Date of Calibration :	02 June 2023
Date of Next Calibration :	01 September 2023
Request No. :	D-BC060026

# PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

<u>Test Parameter</u>	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	4.07	0.07	Satisfactory
7.42	7.52	0.10	Satisfactory
10.01	10.11	0.10	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
10	10.0	0.0	Satisfactory
25	25.0	0.0	Satisfactory
45	45.0	0.0	Satisfactory

Tolerance of Temperature should be less than  $\pm\,2.0$  (  $^{\circ}C$  )

# (3) Salinity

Expected Reading (g/L)	Display Reading ( g/L )	Tolerance (%)	Result
10	10.10	1.00	Satisfactory
20	20.26	1.30	Satisfactory
30	30.29	0.97	Satisfactory

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

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# **REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION**

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### (4) Dissolved oxygen

Expected Reading ( mg/L )	Display Reading ( mg/L )	Tolerance	Result
7.12	7.10	-0.02	Satisfactory
4.61	4.35	-0.26	Satisfactory
1.57	1.24	-0.33	Satisfactory
0.16	0.54	0.38	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	9.91	-0.90	Satisfactory
20	20.09	0.40	Satisfactory
100	105.37	5.40	Satisfactory
800	799.11	-0.10	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	147.9	0.68	Satisfactory
1412	1499	6.16	Satisfactory
12890	13208	2.47	Satisfactory
58670	59326	1.12	Satisfactory
111900	112987	0.97	Satisfactory

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

#### Remark(s)

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