

Appendix D

Copies of Calibration Certificates for Water Quality Monitoring



專業化驗有限公司

QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : BA040092
Date of Issue : 22 April 2021
Page No. : 1 of 2

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House,
Yu Chui Court, Shatin
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment : YSI ProDSS (Multi-Parameters)
Manufacturer : YSI (a xylem brand)
Serial Number : 16H104234
Date of Received : Apr 22, 2021
Date of Calibration : Apr 22, 2021
Date of Next Calibration^(a) : Jul 21, 2021

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H ⁺ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS^(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading ^(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
4.00	3.98	-0.02	Satisfactory
7.42	7.40	-0.02	Satisfactory
10.01	9.92	-0.09	Satisfactory

Tolerance of pH should be less than ± 0.20 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
10	10.02	0.02	Satisfactory
25	24.00	-1.00	Satisfactory
40	40.00	0.00	Satisfactory

Tolerance limit of temperature should be less than ± 2.0 (°C)

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Remark(s): -

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


LEE Chun-ning, Desmond
Senior Chemist



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PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.15	0.27	0.12	Satisfactory
1.88	1.92	0.04	Satisfactory
5.79	5.79	0.00	Satisfactory
8.49	8.42	-0.07	Satisfactory

Tolerance limit of dissolved oxygen should be less than ± 0.50 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading ($\mu\text{S}/\text{cm}$)	Displayed Reading ($\mu\text{S}/\text{cm}$)	Tolerance (%)	Results
0.001	146.9	145.3	-1.09	Satisfactory
0.01	1412	1331	-5.74	Satisfactory
0.1	12890	12364	-4.08	Satisfactory
0.5	58670	56724	-3.32	Satisfactory
1.0	111900	109210	-2.40	Satisfactory

Tolerance limit of conductivity should be less than ± 10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.18	1.80	Satisfactory
20	20.25	1.25	Satisfactory
30	30.04	0.13	Satisfactory

Tolerance limit of salinity should be less than ± 10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0.00	--	Satisfactory
10	10.10	1.0	Satisfactory
20	20.14	0.7	Satisfactory
100	107.6	7.6	Satisfactory
800	790	-1.3	Satisfactory

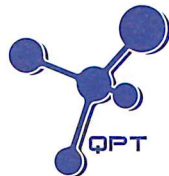
Tolerance limit of turbidity should be less than ± 10.0 (%)

~ END OF REPORT ~

Remark(s): -

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : BA050076
Date of Issue : 21 May 2021
Page No. : 1 of 2

PART A – CUSTOMER INFORMATION

Enovative Environmental Service Ltd.
Flat 2207, Yu Fun House,
Yu Chui Court, Shatin
New Territories, Hong Kong
Attn: Mr. Thomas WONG

PART B – DESCRIPTION

Name of Equipment : YSI ProDSS (Multi-Parameters)
Manufacturer : YSI (a xylem brand)
Serial Number : 16H104233
Date of Received : May 20, 2021
Date of Calibration : May 20, 2021
Date of Next Calibration^(a) : Aug 19, 2021

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H ⁺ B
Dissolved Oxygen	APHA 21e 4500-O G
Conductivity at 25°C	APHA 21e 2510 B
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS^(b,c)

(1) pH at 25°C

Target (pH unit)	Displayed Reading ^(d) (pH Unit)	Tolerance ^(e) (pH Unit)	Results
4.00	4.03	0.03	Satisfactory
7.42	7.44	0.02	Satisfactory
10.01	9.98	-0.03	Satisfactory

Tolerance of pH should be less than ± 0.20 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
10	10.05	0.05	Satisfactory
25	24.96	-0.04	Satisfactory
50	49.92	-0.08	Satisfactory

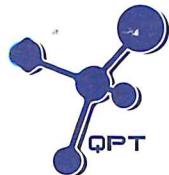
Tolerance limit of temperature should be less than ± 2.0 (°C)

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PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.01	0.30	0.29	Satisfactory
1.30	1.20	-0.10	Satisfactory
4.34	4.44	0.10	Satisfactory
7.53	7.60	0.07	Satisfactory

Tolerance limit of dissolved oxygen should be less than ± 0.50 (mg/L)

(4) Conductivity at 25°C

Conc. of KCl (M)	Expected Reading ($\mu\text{S/cm}$)	Displayed Reading ($\mu\text{S/cm}$)	Tolerance (%)	Results
0.001	146.9	152.8	4.02	Satisfactory
0.01	1412	1452	2.83	Satisfactory
0.1	12890	12834	-0.43	Satisfactory
0.5	58670	58016	-1.11	Satisfactory
1.0	111900	110890	-0.90	Satisfactory

Tolerance limit of conductivity should be less than ± 10.0 (%)

(5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.89	-1.10	Satisfactory
20	20.51	2.55	Satisfactory
30	29.87	-0.43	Satisfactory

Tolerance limit of salinity should be less than ± 10.0 (%)

(6) Turbidity

Expected Reading (NTU)	Displayed Reading ^(f) (NTU)	Tolerance ^(g) (%)	Results
0	0.11	--	Satisfactory
10	10.08	0.80	Satisfactory
20	19.33	-3.35	Satisfactory
100	97.88	-2.12	Satisfactory
800	813.47	1.68	Satisfactory

Tolerance limit of turbidity should be less than ± 10.0 (%)

~ END OF REPORT ~

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