# Annex G1

# Calibration Certificates for Water Quality



Report No.

AJ090025

Date of Issue

07 September 2020

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

Sep 07, 2020

Date of Calibration

Sep 07, 2020

Date of Next Calibration(a)

Dec 06, 2020

# PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

<u>Parameter</u>

Reference Method

pH at 25°C

APHA 21e 4500-H<sup>+</sup> B

Dissolved Oxygen

APHA 21e 4500-O G APHA 21e 2510 B

Conductivity at 25°C 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 <sup>(e)</sup> (pH Unit)	Results
4.00	4.07	0.07	Satisfactory
7.42	7.45	0.03	Satisfactory
10.01	10.09	0.08	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	25.08	0.08	Satisfactory
40	39.90	-0.10	Satisfactory

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

#### ~ CONTINUED ON NEXT PAGE ~

# Remark(s): -

The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form 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 referenced to YSI product specifications.



Report No.

AJ090025

Date of Issue

07 September 2020

Page No.

2 of 2

# PART D - CALIBRATION RESULTS (Cont'd)

#### (3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.10	0.31	0.21	Satisfactory
1,21	1.13	-0.08	Satisfactory
3.30	3.11	-0.19	Satisfactory
6.81	7.06	0.25	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 (µS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
0.001	146.9	147.6	0.48	Satisfactory
0.01	1412	1462	3.54	Satisfactory
0.1	12890	12753	-1.06	Satisfactory
0.5	58670	59448	1.33	Satisfactory
1.0	111900	110661	-1.11	Satisfactory

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

#### (5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.92	-0.80	Satisfactory
20	19.88	-0.60	Satisfactory
30	29.79	-0.70	Satisfactory

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

## (6) Turbidity

Expected Reading (NTU)	Displayed Reading <sup>(f)</sup> (NTU)	Tolerance <sup>(g)</sup> (%)	Results
0	0.09		Satisfactory
10	9.92	-0.8	Satisfactory
20	19.89	-0.5	Satisfactory
100	98.46	-1.5	Satisfactory
800	795.37	-0.6	Satisfactory

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

<sup>~</sup> END OF REPORT ~

<sup>&</sup>quot;Displayed Reading" presents the figures 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.



Report No.

AJ090024

Date of Issue

07 September 2020

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

17H105557

Date of Received

Sep 07, 2020

Date of Calibration

Sep 07, 2020

Date of Next Calibration(a)

Dec 06, 2020

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

**Parameter** 

Reference Method

pH at 25°C

APHA 21e 4500-H<sup>+</sup> B APHA 21e 4500-O G

Dissolved Oxygen 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	4.04	0.04	Satisfactory
7.42	7.48	0.06	Satisfactory
10.01	10.10	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	25.07	0.07	Satisfactory
40	40.18	0.18	Satisfactory

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

#### ~ CONTINUED ON NEXT PAGE ~

#### Remark(s): -

(a) The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.

(b) The results relate only to the calibrated equipment as received

(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 referenced to YSI product specifications.

<sup>(</sup>e) The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.



Report No.

AJ090024

Date of Issue

07 September 2020

Page No.

2 of 2

# PART D - CALIBRATION RESULTS (Cont'd)

#### (3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.10	0.32	0.22	Satisfactory
1.21	1.11	-0.10	Satisfactory
3.30	3.12	-0.18	Satisfactory
6.81	7.10	0.29	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 (µS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
0.001	146.9	147.5	0.41	Satisfactory
0.01	1412	1458	3.26	Satisfactory
0.1	12890	12723	-1.30	Satisfactory
0.5	58670	59481	1.38	Satisfactory
1.0	111900	110537	-1.22	Satisfactory

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

## (5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.10	1.00	Satisfactory
20	19.84	-0.80	Satisfactory
30	29.85	-0.50	Satisfactory

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

#### (6) Turbidity

Expected Reading (NTU)	Displayed Reading <sup>(f)</sup> (NTU)	Tolerance <sup>(g)</sup> (%)	Results
0	0.11		Satisfactory
10	10.14	1.4	Satisfactory
20	19.72	-1.4	Satisfactory
100	103.38	3.4	Satisfactory
800	797.21	-0.3	Satisfactory

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

~ END OF REPORT ~

<sup>&</sup>quot;Displayed Reading" presents the figures 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.



Report No.

AJ070067

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21 July 2020

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 6920V2 (Multi-Parameters)

Manufacturer

YSI (a xylem brand)

Serial Number

0001C6A7

Date of Received

Jul 20, 2020

Date of Calibration

Jul 20, 2020

Date of Next Calibration<sup>(a)</sup>

Oct 19, 2020

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

<u>Parameter</u>

Reference Method

pH at 25°C Dissolved Oxygen APHA 21e 4500-H<sup>+</sup> B 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 <sup>(e)</sup> (pH Unit)	Results
4.00	4.01	0.01	Satisfactory
7.42	7.44	0.02	Satisfactory
10.01	10.10	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	10.03	0.03	Satisfactory
28	28.06	0.06	Satisfactory
48	47.90	-0.10	Satisfactory

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

#### ~ CONTINUED ON NEXT PAGE ~

Remark(s): -

(a) The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.

(b) The results relate only to the calibrated equipment as received

(e) 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 referenced to YSI product specifications.



Report No.

AJ070067

Date of Issue

21 July 2020

Page No.

2 of 2

## PART D - CALIBRATION RESULTS (Cont'd)

# (3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.10	0.32	0.22	Satisfactory
1.89	2.02	0.13	Satisfactory
4.51	4.24	-0.27	Satisfactory
6.90	7.12	0.22	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 (µS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
0.001	146.9	147.9	0.68	Satisfactory
0.01	1412	1453	2.90	Satisfactory
0.1	12890	12360	-4.11	Satisfactory
0.5	58670	58122	-0.93	Satisfactory
1.0	111900	110812	-0.97	Satisfactory

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

## (5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.01	0.10	Satisfactory
20	20.11	0.55	Satisfactory
30	30.28	0.93	Satisfactory

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

## (6) Turbidity

Expected Reading (NTU)	Displayed Reading <sup>(f)</sup> (NTU)	Tolerance <sup>(g)</sup> (%)	Results
0	0.18		Satisfactory
10	10.12	1.2	Satisfactory
20	20.19	1.0	Satisfactory
100	103.98	4.0	Satisfactory
800	795.11	-0.6	Satisfactory

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

<sup>~</sup> END OF REPORT ~

<sup>(1) &</sup>quot;Displayed Reading" presents the figures shown on item under calibration/ checking regardless of equipment precision or significant figures.

<sup>(8)</sup> 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

Report No. : AJ100092

Date of Issue : 23 October 2020

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 6920V2 (Multi-Parameters)

Manufacturer : YSI (a xylem brand)

Serial Number : 0001C6A7

Date of Received : Oct 22, 2020

Date of Calibration : Oct 22, 2020

Date of Next Calibration(a) : Jan 21, 2021

# PART C - REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter<br/>pH at 25°CReference MethodDissolved OxygenAPHA 21e 4500-H\* BConductivity at 25°CAPHA 21e 2510 BSalinityAPHA 21e 2520 BTurbidityAPHA 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 <sup>(e)</sup> (pH Unit)	Results
4.00	4.02	0.02	Satisfactory
7.42	7.46	0.04	Satisfactory
10.01	10.13	0.12	Satisfactory

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

# (2) Temperature

Reading of Ref. thermometer	Displayed Reading (°C)	Tolerance (°C)	Results
10	10.03	0.03	Satisfactory
20	20.08	0.08	Satisfactory
45	45.20	0.20	Satisfactory

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

#### ~ CONTINUED ON NEXT PAGE ~

#### Remark(s): -

- The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.
- (b) The results relate only to the calibrated equipment as received
- The results relate only to the equipment date 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.
- (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 referenced to YSI product specifications.



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# REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No.

AJ100092

Date of Issue

23 October 2020

Page No.

2 of 2

# PART D - CALIBRATION RESULTS (Cont'd)

# (3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.16	0.34	0.18	Satisfactory
3.19	3.48	0.29	Satisfactory
6.20	6.45	0.25	Satisfactory
8.10	8.23	0.13	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 (µS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
0.001	146.9	154.7	5.31	Satisfactory
0.01	1412	1477	4.60	Satisfactory
0.1	12890	12815	-0.58	Satisfactory
0.5	58670	57692	-1.67	Satisfactory
1.0	111900	110899	-0.89	Satisfactory

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

## (5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.14	1.40	Satisfactory
20	20.24	1.20	Satisfactory
30	30.59	1.97	Satisfactory

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

# (6) Turbidity

Expected Reading (NTU)	Displayed Reading <sup>(f)</sup> (NTU)	Tolerance <sup>(g)</sup> (%)	Results
0	0.1	(222)	Satisfactory
10	9.9	-1.0	Satisfactory
20	20.3	1.5	Satisfactory
100	105.8	5.8	Satisfactory
800	795.6	-0.5	Satisfactory

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

~ END OF REPORT ~

 <sup>&</sup>quot;Displayed Reading" presents the figures 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



Report No.

AJ090026

Date of Issue

07 September 2020

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 6920V2 (Multi-Parameters)

Manufacturer

YSI (a xylem brand)

Serial Number

00019CB2

Date of Received

Sep 07, 2020

Date of Calibration

Sep 07, 2020

Date of Next Calibration(a)

Dec 06, 2020

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

**Parameter** 

Reference Method

pH at 25°C

APHA 21e 4500-H+ B APHA 21e 4500-O G

Dissolved Oxygen 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 <sup>(e)</sup> (pH Unit)	Results
4.00	4.01	0.01	Satisfactory
7.42	7.45	0.03	Satisfactory
10.01	10.02	0.01	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	10.08	0.08	Satisfactory
28	25.11	0.11	Satisfactory
48	39.98	-0.02	Satisfactory

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

#### ~ CONTINUED ON NEXT PAGE ~

#### 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 referenced to YSI product specifications.



Report No.

AJ090026

Date of Issue

07 September 2020

Page No.

## PART D - CALIBRATION RESULTS (Cont'd)

## (3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.10	0.33	0.23	Satisfactory
1.21	1.08	-0.13	Satisfactory
3.30	3.13	-0.17	Satisfactory
6.81	7.12	0.31	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 (μS/cm)	Displayed Reading (μS/cm)	Tolerance (%)	Results
0.001	146.9	147.7	0.54	Satisfactory
0.01	1412	1482	4.96	Satisfactory
0.1	12890	12791	-0.77	Satisfactory
0.5	58670	59432	1.30	Satisfactory
1.0	111900	110533	-1.22	Satisfactory

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

#### (5) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results	
10	9.96	-0.40	Satisfactory	
20	19.88	-0.60	Satisfactory	
30	29.82	-0.60	Satisfactory	

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

## (6) Turbidity

Expected Reading (NTU)	Displayed Reading <sup>(f)</sup> (NTU)	Tolerance <sup>(g)</sup> (%)	Results
0	0.1	(88)	Satisfactory
10	9.9	-1.0	Satisfactory
20	20.1	0.5	Satisfactory
100	99.2	-0.8	Satisfactory
800	796.6	-0.4	Satisfactory

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

~ END OF REPORT ~

<sup>&</sup>quot;Displayed Reading" presents the figures 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.