

## Appendix F Water Quality Equipment Calibration Certificate



專業化驗有限公司  
QUALITY PRO TEST-CONSULT LIMITED

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## REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : BA070063  
Date of Issue : 16 July 2021  
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### PART A – CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited  
Unit C, 11/F, Ford Glory Plaza  
37-39 Wing Hong Street  
Cheung Sha Wan, Kowloon, Hong Kong  
Attn: Mr. Nelson TSUI

### PART B – DESCRIPTION

Name of Equipment : Multi Water Quality Checker U-53  
Manufacturer : Horiba  
Serial Number : L20550GA  
Date of Received : Jul 12, 2021  
Date of Calibration : Jul 14, 2021  
Date of Next Calibration<sup>(a)</sup> : Oct 13, 2021

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

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H <sup>+</sup> B
Dissolved Oxygen	APHA 21e 4500-O G
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<sup>(b,e)</sup>

#### (1) pH at 25°C

Target (pH unit)	Displayed Reading <sup>(d)</sup> (pH Unit)	Tolerance <sup>(e)</sup> (pH Unit)	Results
4.00	4.04	0.04	Satisfactory
7.42	7.46	0.04	Satisfactory
10.01	10.17	0.16	Satisfactory

Tolerance of pH should be less than  $\pm 0.20$  (pH unit)

#### (2) Temperature

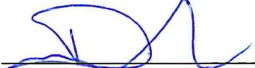
Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
18.5	19.62	1.12	Satisfactory
29	30.10	1.10	Satisfactory
36	36.26	0.26	Satisfactory

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

~ CONTINUED ON NEXT PAGE ~

#### Remark(s) :-

- <sup>(a)</sup> The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted from relevant international standards.  
<sup>(b)</sup> The results relate only to the calibrated equipment as received  
<sup>(c)</sup> The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.  
<sup>(d)</sup> "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.  
<sup>(e)</sup> 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
1.80	1.41	-0.39	Satisfactory
3.86	3.71	-0.15	Satisfactory
6.07	6.50	0.43	Satisfactory
7.81	8.01	0.20	Satisfactory

Tolerance limit of dissolved oxygen should be less than  $\pm 0.50$  (mg/L)

#### (4) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.85	-1.50	Satisfactory
20	20.31	1.55	Satisfactory
30	31.54	5.13	Satisfactory

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

#### (5) Turbidity

Expected Reading (NTU)	Displayed Reading <sup>(f)</sup> (NTU)	Tolerance <sup>(g)</sup> (%)	Results
0	0.00	--	Satisfactory
10	10.40	4.0	Satisfactory
20	19.20	-4.0	Satisfactory
100	97.90	-2.1	Satisfactory
800	829.00	3.6	Satisfactory

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

~ END OF REPORT ~

**Remark(s): -**

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

<sup>(g)</sup> 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.



## REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

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### PART A – CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited  
Unit C, 11/F, Ford Glory Plaza  
37-39 Wing Hong Street  
Cheung Sha Wan, Kowloon, Hong Kong  
Attn: Mr. Nelson TSUI

### PART B – DESCRIPTION

Name of Equipment : Multi Water Quality Checker U-53  
Manufacturer : Horiba  
Serial Number : UHB5F2BB  
Date of Received : Jul 28, 2021  
Date of Calibration : Aug 04, 2021  
Date of Next Calibration<sup>(a)</sup> : Nov 03, 2021

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

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H <sup>+</sup> B
Dissolved Oxygen	APHA 21e 4500-O G
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.
Oxidation-Reduction Potential	APHA 22e 2580 B

### PART D – CALIBRATION RESULTS<sup>(b,c)</sup>

#### (1) pH at 25°C

Target (pH unit)	Displayed Reading <sup>(d)</sup> (pH Unit)	Tolerance <sup>(e)</sup> (pH Unit)	Results
4.00	4.04	0.04	Satisfactory
7.42	7.46	0.04	Satisfactory
10.01	10.06	0.05	Satisfactory

Tolerance of pH should be less than  $\pm 0.20$  (pH unit)

#### (2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
16	15.53	-0.47	Satisfactory
25	24.69	-0.31	Satisfactory
30.5	30.29	-0.21	Satisfactory

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

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#### Remark(s): -

- <sup>(a)</sup> The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.  
<sup>(b)</sup> The results relate only to the calibrated equipment as received  
<sup>(c)</sup> The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.  
<sup>(d)</sup> "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.  
<sup>(e)</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.

LEE Chun-ning  
Senior Chemist



## REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

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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
1.49	1.24	-0.25	Satisfactory
4.31	4.14	-0.17	Satisfactory
6.02	5.81	-0.21	Satisfactory
8.32	8.17	-0.15	Satisfactory

Tolerance limit of dissolved oxygen should be less than  $\pm 0.50$  (mg/L)

#### (4) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	10.31	3.10	Satisfactory
20	20.55	2.75	Satisfactory
30	31.14	3.80	Satisfactory

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

#### (5) Turbidity

Expected Reading (NTU)	Displayed Reading <sup>(f)</sup> (NTU)	Tolerance <sup>(g)</sup> (%)	Results
0	0.09	--	Satisfactory
10	9.68	-3.2	Satisfactory
20	19.5	-2.5	Satisfactory
100	97.4	-2.6	Satisfactory
800	792	-1.0	Satisfactory

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

#### (6) Oxidation-Reduction Potential

Expected Reading (mV)	Displayed Reading (mV)	Tolerance (mV) <sup>(g)</sup>	Results
229	230	+1	Satisfactory

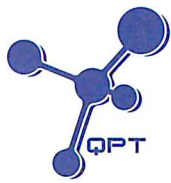
Tolerance limit of Oxidation-Reduction Potential should be less than  $\pm 10$  (mV)

~ END OF REPORT ~

#### Remark(s): -

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

<sup>(g)</sup> 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.



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## REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : BA070064  
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### PART A – CUSTOMER INFORMATION

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Cheung Sha Wan, Kowloon, Hong Kong  
Attn: Mr. Nelson TSUI

### PART B – DESCRIPTION

Name of Equipment : Multi Water Quality Checker U-53  
Manufacturer : Horiba  
Serial Number : S2A98W8H  
Date of Received : Jul 12, 2021  
Date of Calibration : Jul 14, 2021  
Date of Next Calibration<sup>(a)</sup> : Oct 13, 2021

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

<u>Parameter</u>	<u>Reference Method</u>
pH at 25°C	APHA 21e 4500-H <sup>+</sup> B
Dissolved Oxygen	APHA 21e 4500-O G
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<sup>(b,c)</sup>

#### (1) pH at 25°C

Target (pH unit)	Displayed Reading <sup>(d)</sup> (pH Unit)	Tolerance <sup>(e)</sup> (pH Unit)	Results
4.00	4.12	0.12	Satisfactory
7.42	7.47	0.05	Satisfactory
10.01	10.07	0.06	Satisfactory

Tolerance of pH should be less than  $\pm 0.20$  (pH unit)

#### (2) Temperature

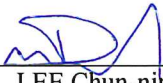
Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
17	18.70	1.70	Satisfactory
30	30.84	0.84	Satisfactory
35	35.91	0.91	Satisfactory

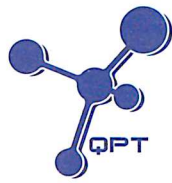
Tolerance limit of temperature should be less than  $\pm 2.0$  (°C)

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#### Remark(s): -

- <sup>(a)</sup> The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.  
<sup>(b)</sup> The results relate only to the calibrated equipment as received  
<sup>(c)</sup> The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.  
<sup>(d)</sup> "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.  
<sup>(e)</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

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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
1.80	2.27	0.47	Satisfactory
3.86	3.63	-0.23	Satisfactory
6.07	6.56	0.49	Satisfactory
7.81	8.20	0.39	Satisfactory

Tolerance limit of dissolved oxygen should be less than  $\pm 0.50$  (mg/L)

#### (4) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.85	-1.50	Satisfactory
20	20.37	1.85	Satisfactory
30	30.67	2.23	Satisfactory

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

#### (5) Turbidity

Expected Reading (NTU)	Displayed Reading <sup>(f)</sup> (NTU)	Tolerance <sup>(g)</sup> (%)	Results
0	0.00	--	Satisfactory
10	9.17	-8.3	Satisfactory
20	19.90	-0.5	Satisfactory
100	101.00	1.0	Satisfactory
800	879.00	9.9	Satisfactory

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

~ END OF REPORT ~

**Remark(s): -**

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

<sup>(g)</sup> 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.