

專業化驗有限公司

QUALITY PRO TEST-CONSULT LIMITED

Unit 10, 5/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong

Email: info@qualityprotest.com; Website: www.qualityprotest.com

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## REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Test Report No. : R-BC050055

Date of Issue : 17 May 2023

Page No. : 1 of 2

### PART A - CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited

Unit E, 12/F, Ford Glory Plaza 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong

### PART B - SAMPLE INFORMATION

Name of Equipment : HORIBA U-53  
 Manufacturer : HORIBA  
 Serial Number : PORBNFNT  
 Date of Received : 11 May 2023  
 Date of Calibration : 17 May 2023  
 Date of Next Calibration : 16 August 2023  
 Request No. : D-BC050055

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

Test Parameter	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

### PART D - CALIBRATION RESULT

#### (1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	4.14	0.14	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
16	17.5	1.5	Satisfactory
24	25.7	1.7	Satisfactory
32	32.3	0.3	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	9.66	-3.40	Satisfactory
20	19.52	-2.40	Satisfactory
30	30.20	0.67	Satisfactory

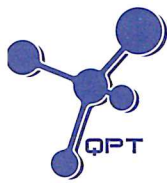
Tolerance of Salinity should be less than  $\pm 10.0$  (%)

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AUTHORIZED  
SIGNATORY:

LEE Chun-ning

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### (4) Dissolved oxygen

Expected Reading ( mg/L )	Display Reading ( mg/L )	Tolerance	Result
8.22	7.88	-0.34	Satisfactory
4.31	3.90	-0.41	Satisfactory
1.81	1.37	-0.44	Satisfactory
0.07	0.00	-0.07	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	0.00	--	Satisfactory
10	10.8	8.00	Satisfactory
20	20.0	0.00	Satisfactory
100	106	6.00	Satisfactory
800	811	1.40	Satisfactory

Tolerance of Turbidity 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 from 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 from relevant international standards.

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## REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

**Test Report No.** : R-BC080079  
**Date of Issue** : 25 August 2023  
**Page No.** : 1 of 2

### PART A - CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited  
 Unit E, 12/F, Ford Glory Plaza 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong

### PART B - SAMPLE INFORMATION

Name of Equipment : HORIBA U-53  
 Manufacturer : HORIBA  
 Serial Number : PPHNOMXY  
 Date of Received : 22 August 2023  
 Date of Calibration : 22 August 2023  
 Date of Next Calibration : 22 February 2023  
 Request No. : D-BC080079

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

Test Parameter	Reference Method
pH value	APHA 21e 4500-H <sup>+</sup> B
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 23e 4500-O G (Membrane Electrode Method)
Turbidity	APHA 21e 2130 B (Nephelometric Method)

### PART D - CALIBRATION RESULT

#### (1) pH value

Target (pH unit)	Display Reading (pH unit)	Tolerance	Result
4.00	4.16	0.16	Satisfactory
7.42	7.56	0.14	Satisfactory
10.01	9.92	-0.09	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
18	19.15	1.15	Satisfactory
28	27.79	-0.21	Satisfactory
37	36.58	-0.42	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	10.11	1.10	Satisfactory
20	21.27	6.35	Satisfactory
30	32.28	7.60	Satisfactory

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

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AUTHORIZED  
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### (4) Dissolved oxygen

Expected Reading ( mg/L )	Display Reading ( mg/L )	Tolerance	Result
7.50	7.88	0.38	Satisfactory
6.31	6.76	0.45	Satisfactory
1.11	1.29	0.18	Satisfactory
0.07	0.00	-0.07	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	0.98	--	Satisfactory
10	10.7	7.00	Satisfactory
20	20.7	3.50	Satisfactory
100	107	7.00	Satisfactory
800	807	0.90	Satisfactory

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

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