



ANNEX F1

CALIBRATION CERTIFICATES FOR
SURFACE WATER QUALITY MONITORING
EQUIPMENT



ALS Technichem (HK) Pty Ltd

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR IVAN LEUNG	WORK ORDER:	HK2410348
CLIENT:	ALS TECHNICHEM (HK) PTY LTD	SUB-BATCH:	0
ADDRESS:	11/F., CHUNG SHUN KNITTING CENTRE, 1-3 WING YIP STREET, KWAI CHUNG, N.T.	LABORATORY:	HONG KONG
		DATE RECEIVED:	15-Mar-2024
		DATE OF ISSUE:	20-Mar-2024

GENERAL COMMENTS

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the laboratory or quoted from relevant international standards.

The "Next Calibration Date" is recommended according to best practice principle as practised by the laboratory or quoted from relevant international standards.

The validity of equipment/ meter performance only applies to the result(s) stated in the report.

This report superseded any previous report(s) with same work order number.

EQUIPMENT INFORMATION

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client.

Equipment Type: Multifunctional Meter

Service Nature: Performance Check

Scope: Conductivity, Dissolved Oxygen, pH Value, Turbidity, Salinity and Temperature

Brand Name/ Model No.: [HORIBA]/ [U-52G]

Serial No./ Equipment No.: [AWE7D2V4]/ [N/A]

Date of Calibration: 19-March-2024

Ms. Lin Wai Yu, Iris
Assistant Manager - Inorganics

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Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [HORIBA]/ [U-52G]
Serial No./ Equipment No.: [AWE7D2V4]/ [N/A]
Date of Calibration: 19-March-2024 Date of Next Calibration: 19-June-2024

PARAMETERS:

Conductivity

Method Ref: APHA (23rd edition), 2510B

Expected Reading ($\mu\text{S}/\text{cm}$)	Displayed Reading ($\mu\text{S}/\text{cm}$)	Tolerance (%)
146.9	151	+2.8
6667	6520	-2.2
12890	12500	-3.0
58670	53500	-8.8
	Tolerance Limit (%)	± 10.0

Dissolved Oxygen

Method Ref: APHA (23rd edition), 4500O: G

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.28	2.26	-0.02
5.88	5.82	-0.06
7.30	7.36	+0.06
	Tolerance Limit (mg/L)	± 0.20

pH Value

Method Ref: APHA (23rd edition), 4500H: B

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.0	3.92	-0.08
7.0	6.95	-0.05
10.0	10.03	+0.03
	Tolerance Limit (pH unit)	± 0.20

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

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PARAMETERS:

Turbidity

Method Ref: APHA (23rd edition), 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	4.3	+7.5
40	38.0	-5.0
80	79.8	-0.3
400	376	-6.0
800	769	-3.9
	Tolerance Limit (%)	±10.0

Salinity

Method Ref: APHA (23rd edition), 2520B

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.01	--
10	9.34	-6.6
20	18.40	-8.0
30	27.47	-8.4
	Tolerance Limit (%)	±10.0

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Brand Name/ Model No.: [HORIBA]/ [U-52G]
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Date of Calibration: 19-March-2024 Date of Next Calibration: 19-June-2024

PARAMETERS:

Temperature

Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
9.0	10.61	+1.6
25.0	25.63	+0.6
44.0	43.62	-0.4
	Tolerance Limit (°C)	±2.0

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