

Report No. : 221149WA232370A



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Report on Calibration of HORIBA Multifunction Meter**Information Supplied by Client**

Client : ENVIROTECH SERVICE COMPANY
Client's address : RM712, 7/F, MY LOFT, 9 HOI WING ROAD, TUEN MUN, N.T.,
HONG KONG

Calibration Item

Description : Multifunctional Meter
Manufacturer : HORIBA
Model : U-53
Serial No. : -
Equipment No. : FXMONLLF

Laboratory Information

Lab. sample ID : WA232370/1
Date sample received : 19/10/2023
Date of calibration : 01/11/2023
Next calibration date : 31/01/2024
Test method used : In-house comparison method

Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.

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Results :
D. Temperature calibration

Temperature, °C			
Thermometer reading	Measured	Deviation (°C)	Maximum acceptable Deviation (°C)
20.0	20.14	+0.14	±2.0

E. Turbidity calibration

Turbidity, N.T.U.			
Theoretical	Measured	Deviation (%)	Maximum acceptable Deviation (%)
4	4.09	+2.3	±10.0
40	40.6	+1.5	
80	80.3	+0.38	
400	404	+1.0	
800	801	+0.13	

F. Conductivity calibration

Conductivity, µS/cm			
Theoretical	Measured	Deviation (%)	Maximum acceptable Deviation (%)
147	151	+2.7	±10.0
1408	1420	+0.52	
6668	6450	-3.3	
12860	12920	+0.47	
24820	25200	+1.5	

Remarks: This report is to supersede our former report 221149WA232370.

 Certified by : 
 Approved Signatory : CHAN Hoi Yan, Winnie
 Assistant Manager

 Date : 1-12-2013
**** End of Report ****
Note : This report refers only to the sample(s) tested and the result(s) applied to the sample(s) as received.



REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT: MR K.W.FAN
CLIENT: ENVIROTECH SERVICES CO.
ADDRESS: RM 712, 7/F, MY LOFT,
9 HOI WING ROAD, TUEN MUN, N.T. HK

WORK ORDER: HK2402727
SUB-BATCH: 0
LABORATORY: HONG KONG
DATE RECEIVED: 17-Jan-2024
DATE OF ISSUE: 24-Jan-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-53]

Serial No./ Equipment No.: [KP23RRSM]/ [N/A]

Date of Calibration: 23-January-2024

Ms. Lin Wai Yu, Iris
Assistant Manager - Inorganics

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



WORK ORDER: HK2402727
SUB-BATCH: 0
DATE OF ISSUE: 24-Jan-2024
CLIENT: ENVIROTECH SERVICES CO.

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [HORIBA]/ [U-53]
Serial No./ Equipment No.: [KP23RRSM]/ [N/A]
Date of Calibration: 23-January-2024 Date of Next Calibration: 23-April-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	160	+8.9
6667	7060	+5.9
12890	12600	-2.2
58670	52900	-9.8
	Tolerance Limit (%)	± 10.0

Dissolved Oxygen

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.10	3.23	+0.13
4.63	4.68	+0.05
8.31	8.34	+0.03
	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	3.96	-0.04
7.0	6.99	-0.01
10.0	9.89	-0.11
	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.

Ms. Lin Wai Yu, Iris
Assistant Manager - Inorganics

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WORK ORDER: HK2402727
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DATE OF ISSUE: 24-Jan-2024
CLIENT: ENVIROTECH SERVICES CO.

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [HORIBA]/ [U-53]
Serial No./ Equipment No.: [KP23RRSM]/ [N/A]
Date of Calibration: 23-January-2024 Date of Next Calibration: 23-April-2024

PARAMETERS:

Turbidity

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.01	--
40	39.3	-1.8
80	80.8	+1.0
400	400	+0.0
800	810	+1.3
	Tolerance Limit (%)	±10.0

Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.01	--
10	10.30	+3.0
20	19.07	-4.7
30	28.20	-6.0
	Tolerance Limit (%)	±10.0

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Assistant Manager - Inorganics

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CLIENT: ENVIROTECH SERVICES CO.

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [HORIBA]/ [U-53]
Serial No./ Equipment No.: [KP23RRSM]/ [N/A]
Date of Calibration: 23-January-2024 Date of Next Calibration: 23-April-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)
11.5	12.90	+1.4
20.5	21.05	+0.6
41.5	41.73	+0.2
	Tolerance Limit (°C)	±2.0

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Assistant Manager - Inorganics