

High Precision Chemical Testing Ltd.

Rm 1904, Technology Park

18 On Lai Street, Shatin

NT, Hong Kong

Tel: +852 3841 4388 Website: <https://www.hpct.com.hk>

Report No. : 01521
Application No. : HP01314

Issue Date : 30 Apr 2026

Certificate of Calibration

Applicant : Cinotech Consultants Limited
RM 1710, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Sample Description : Submitted equipment stated to be YSI EXO1 Multi-parameter Sonde.

Equipment No.: : SW-08-19

Manufacturer: : YSI Incorporated, a Xylem brand

Other information :	Description:	Serial No.
	- EXO Optical DO Sensor, Ti	17A105025
	- EXO conductivity/Temperature Sensor, Ti	17A105120
	- EXO Turbidity Sensor, Ti	16J101124
	- EXO pH Sensor Assembly, Guarded, Ti	17B100258

Date Received : 29 Apr 2026

Test Period : 29 Apr 2026 to 30 Apr 2026

Test Requested : Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

Test Method : According to manufacturer instruction manual, APHA 23rd Ed 4500-O H

Test conditions : Room Temperature: 22-25 degree Celsius
Relative Humidity: 35-70%

Test Result : Refer to the test result(s) on page 2.

Remark : 1. Information of the sample description provided by the Applicant.
2. The results relate only to the items tested or calibrated.

For and on behalf of
HIGH PRECISION CHEMICAL TESTING LIMITED

Chan Hon Fai
Laboratory Director

High Precision Chemical Testing Ltd.

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Test Result : **Conductivity performance checking**

Expected Reading (mS/cm)	Instrument Readings (mS/cm)	Acceptance Criteria	Comment
146.9	149.2	140-154	Pass
1412	1410	1341-1483	Pass
6667	6675	6334-7000	Pass
12890	12887	12246-13535	Pass
58670	58618	55737-61604	Pass

Temperature performance checking

Expected Reading (°C)	Instrument Readings (°C)	Acceptance Criteria	Comment
10.0	10.433	10.0 ± 2.0	Pass
25.0	25.283	25.0 ± 2.0	Pass
35.0	35.146	35.0 ± 2.0	Pass

pH performance checking

Expected Reading (pH unit)	Instrument Readings (pH unit)	Acceptance Criteria	Comment
4.01	4.01	4.01 ± 0.2	Pass
7.00	7.02	7.00 ± 0.2	Pass
10.01	9.93	10.01 ± 0.2	Pass

D.O. performance checking

Expected Reading	Instrument Readings (mg/L)	Acceptance Criteria	Comment
0.00	0.66	--	--
8.26	8.08	±0.20	Pass

Turbidity performance checking

Expected Reading(NTU)	Instrument Readings (NTU)	Acceptance Criteria	Comment
0	0.06	--	--
5	5.03	4.5-5.5	Pass
50	48.50	45-55	Pass
100	98.75	90-110	Pass

Note : "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

- End of report -

Certificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator Date of Calibration 30-Mar-26
 Manufacturer: Sibata Scientific Technology LTD. Validity of Calibration Record 30-May-26
 Model No.: LD-5R
 Serial No.: 972779
 Equipment No.: SA-01-08 Sensitivity 0.001 mg/m3
 High Volume Sampler No.: A-01-03 Before Sensitivity Adjustment 744 CPM
 Tisch Calibration Orifice No.: 3864 After Sensitivity Adjustment 744 CPM

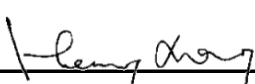
Calibration of 1 hr TSP		
Calibration Point	Laser Dust Monitor	HVS
	Mass Concentration ($\mu\text{g}/\text{m}^3$) X-axis	Mass concentration ($\mu\text{g}/\text{m}^3$) Y-axis
1	75.0	153.0
2	65.0	128.0
3	54.0	111.0
Average	64.7	130.7
By Linear Regression of Y on X Slope, mw = <u>1.9924</u> Intercept, bw = <u>1.8218</u> Correlation coefficient* = <u>0.9906</u>		
Set Correlation Factor		
Particulate Concentration by High Volume Sampler ($\mu\text{g}/\text{m}^3$)		130.7
Particulate Concentration by Dust Meter ($\mu\text{g}/\text{m}^3$)		64.7
Measuring time, (min)		60.0
Set Correlation Factor, SCF		
SCF = [K=High Volume Sampler / Dust Meter, ($\mu\text{g}/\text{m}^3$)]		<u>2.0</u>

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (HPCT Limited)

Calibrated by: 
 Technical Officer (Wong Shing Kwai)

Approved by: 
 Project Manager (Henry Leung)

Certificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator Date of Calibration 16-Apr-26
 Manufacturer: Sibata Scientific Technology LTD. Validity of Calibration Record 16-Jun-26
 Model No.: LD-5R
 Serial No.: 4X7585
 Equipment No.: SA-01-15 Sensitivity 1 CPM = 0.001 mg/m³
 High Volume Sampler No.: A-01-03 Before Sensitivity Adjustment 669 CPM
 Tisch Calibration Orifice No.: 3864 After Sensitivity Adjustment 669 CPM

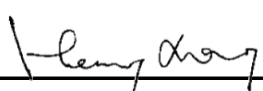
Calibration of 1 hr TSP		
Calibration Point	Laser Dust Monitor	HVS
	Mass Concentration (µg/m ³) X-axis	Mass concentration (µg/m ³) Y-axis
1	70.0	104.0
2	44.0	70.0
3	36.0	54.0
Average	50.0	76.0
By Linear Regression of Y on X Slope, mw = <u>1.4304</u> Intercept, bw = <u>4.4810</u> Correlation coefficient* = <u>0.9958</u>		
Set Correlation Factor		
Particulate Concentration by High Volume Sampler (µg/m ³)		76.0
Particulate Concentration by Dust Meter (µg/m ³)		50.0
Measureing time, (min)		60.0
Set Correlation Factor, SCF SCF = [K=High Volume Sampler / Dust Meter, (µg/m ³)] <u>1.5</u>		

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (HPCT Litimed)

Calibrated by: 
 Technical Officer (Wong Shing Kwai)

Approved by: 
 Project Manager (Henry Leung)

Certificate of Calibration

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler

Description: Digital Dust Indicator Date of Calibration 16-Apr-26
 Manufacturer: Sibata Scientific Technology LTD. Validity of Calibration Record 16-Jun-26
 Model No.: LD-5R
 Serial No.: 4X7586
 Equipment No.: SA-01-16 Sensitivity 1 CPM = 0.001 mg/m³
 High Volume Sampler No.: A-01-03 Before Sensitivity Adjustment 744 CPM
 Tisch Calibration Orifice No.: 3864 After Sensitivity Adjustment 744 CPM

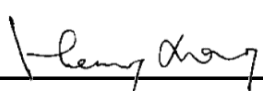
Calibration of 1 hr TSP		
Calibration Point	Laser Dust Monitor	HVS
	Mass Concentration (µg/m ³) X-axis	Mass concentration (µg/m ³) Y-axis
1	75.0	108.0
2	56.0	75.0
3	36.0	53.0
Average	55.7	78.7
By Linear Regression of Y on X Slope, mw = <u>1.4075</u> Intercept, bw = <u>0.3138</u> Correlation coefficient* = <u>0.9916</u>		
Set Correlation Factor		
Particulate Concentration by High Volume Sampler (µg/m ³)		78.7
Particulate Concentration by Dust Meter (µg/m ³)		55.7
Measuring time, (min)		60.0
Set Correlation Factor, SCF SCF = [K=High Volume Sampler / Dust Meter, (µg/m ³)] <u>1.4</u>		

In-house method in according to the instruction manual:

The Dust Monitor was compared with a calibrated High Volume Sampler and The result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

Those filter papers are weighted by HOKLAS laboratory (HPCT Limited)

Calibrated by: 
 Technical Officer (Wong Shing Kwai)

Approved by: 
 Project Manager (Henry Leung)

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET



File No. MA16034/03/0059

Project No. AM3 - Yau Lai Estate, Bik Lai House

Date: 10-Apr-26 Next Due Date: 10-Jun-26 Operator: SK

Equipment No.: A-01-03 Model No.: GS2310 Serial No. 10379

Ambient Condition			
Temperature, Ta (K)	<u>299.7</u>	Pressure, Pa (mmHg)	<u>757.5</u>

Orifice Transfer Standard Information					
Serial No.	<u>3864</u>	Slope, mc	<u>0.05980</u>	Intercept, bc	<u>-0.04908</u>
Last Calibration Date:	<u>7-Jan-26</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	<u>7-Jan-27</u>	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	ΔW (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<u>13.7</u>	<u>3.68</u>	<u>62.44</u>	<u>8.7</u>	<u>2.94</u>
2	<u>11.1</u>	<u>3.32</u>	<u>56.28</u>	<u>6.2</u>	<u>2.48</u>
3	<u>7.5</u>	<u>2.73</u>	<u>46.41</u>	<u>4.1</u>	<u>2.02</u>
4	<u>5.4</u>	<u>2.31</u>	<u>39.51</u>	<u>2.6</u>	<u>1.61</u>
5	<u>3.1</u>	<u>1.75</u>	<u>30.13</u>	<u>1.2</u>	<u>1.09</u>

By Linear Regression of Y on X

Slope, mw = 0.0559 Intercept, bw = -0.5988

Correlation coefficient* = 0.9983

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation	
From the TSP Field Calibration Curve, take Qstd = 43 CFM	
From the Regression Equation, the "Y" value according to	
$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$	
Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ <u>3.29</u>	

Remarks: _____

Conducted by: Wong Shing Kwai Signature: [Signature] Date: 10-Apr-26

Checked by: Henry Leung Signature: [Signature] Date: 10-Apr-26



Certificate of Calibration

Calibration Certification Information

Cal. Date: January 7, 2026 **Rootsmer S/N:** 438320 **Ta:** 294 °K
Operator: Jim Tisch **Pa:** 749.0 mm Hg
Calibration Model #: TE-5025A **Calibrator S/N:** 3864

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4310	3.2	2.00
2	3	4	1	1.0260	6.4	4.00
3	5	6	1	0.9150	7.9	5.00
4	7	8	1	0.8730	8.8	5.50
5	9	10	1	0.7200	12.8	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)}$ (y-axis)
0.9947	0.6951	1.4135	0.9957	0.6958	0.8860
0.9905	0.9654	1.9990	0.9915	0.9663	1.2530
0.9885	1.0803	2.2349	0.9895	1.0814	1.4009
0.9873	1.1309	2.3440	0.9883	1.1320	1.4693
0.9819	1.3638	2.8270	0.9829	1.3652	1.7720
QSTD	m=	2.11337	QA	m=	1.32336
	b=	-0.04919		b=	-0.03083
	r=	0.99993		r=	0.99993

Calculations

Vstd= $\Delta Vol / ((Pa - \Delta P) / Pstd) (Tstd / Ta)$	Va= $\Delta Vol / ((Pa - \Delta P) / Pa)$
Qstd= $Vstd / \Delta Time$	Qa= $Va / \Delta Time$
For subsequent flow rate calculations:	
Qstd= $1/m \left(\left(\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)} \right) - b \right)$	Qa= $1/m \left(\left(\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)} \right) - b \right)$

Standard Conditions

Tstd:	298.15 °K
Pstd:	760 mm Hg
Key	
ΔH: calibrator manometer reading (in H2O)	
ΔP: rootsmeter manometer reading (mm Hg)	
Ta: actual absolute temperature (°K)	
Pa: actual barometric pressure (mm Hg)	
b: intercept	
m: slope	

RECALIBRATION

US EPA recommends annual recalibration per 1998
 40 Code of Federal Regulations Part 50 to 51,
 Appendix B to Part 50, Reference Method for the
 Determination of Suspended Particulate Matter in
 the Atmosphere, 9.2.17, page 30