



CERTIFICATE OF CALIBRATION

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler, hereinafter ("HVS")

Equipment Calibrated:		Standard Equipment:	
Type:	Dust Monitor System	Type:	High Volume Sampler
Model:	OC-9200	Model:	TE 5170
Equipment No.:	A-06-03	Equipment No.:	A-01-75
Serial No.:	OC20210316224101	Serial No.:	3499
Sensitivity.:	0.001mg/m3	Tisch Calibration Orifice No.:	3864

Date of Calibration:	21-Oct-25
Validity of Calibration Record:	21-Dec-25

Calibration

Calibration Points:	Time Minutes	High Volume Sampler	Dust Monitor System
		Mass concentration [$\mu\text{g}/\text{m}^3$]	Mass concentration [$\mu\text{g}/\text{m}^3$]
		y Axis	x Axis
0	60	0	0
1	60	94.0	36.0
2	60	131.0	47.0
3	60	212.0	72.0
Average	60	109.3	38.8

With the aid of the mathematical model of Simple Linear Regression, the following values are calculated as:

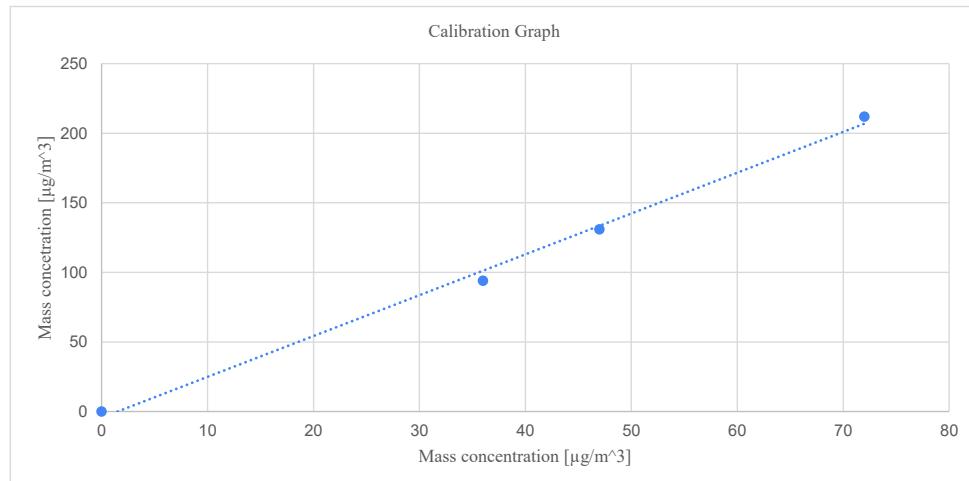
Slope:	2.93402292
Intercept:	-4.44338831
Correlation Coefficient:	0.99774903

If the correlation coefficient is green (ie larger than 0.90), then no recalibration is required

Scale factor (K):	2.9	(to one decimal point)
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Equation of line:

$$y(\text{HVS}) = 3.6x(\text{OC-9200})$$



In-house method in according to the instruction manual:

The OC-9200 was compared with a calibrated HVS; the result has been used to calculate the scale factor and correlation coefficient between the two equipment.
The filter papers are weighted by HOKLAS laboratory (HPCT Litimed)

Recorded by:	Signature:	Date:
Technical Officer (Wong Shing Kwai)		21-Oct-25
Checked by:	Signature:	Date:
Project Manager (Henry Leung)		21-Oct-25

CERTIFICATE OF CALIBRATION

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler, hereinafter ("HVS")

Equipment Calibrated:		Standard Equipment:	
Type:	Dust Monitor System	Type:	High Volume Sampler
Model:	OC-9200	Model:	TE 5170
Equipment No.:	A-06-03	Equipment No.:	A-01-75
Serial No.:	OC20210316224101	Serial No.:	3499
Sensitivity.:	0.001mg/m3	Tisch Calibration Orifice No.:	3864

Date of Calibration:	19-Dec-25
Validity of Calibration Record:	19-Feb-26

Calibration

Calibration Points:	Time Minutes	High Volume Sampler		Dust Monitor System	
		Mass concentration [$\mu\text{g}/\text{m}^3$]		Mass concentration [$\mu\text{g}/\text{m}^3$]	
		y Axis		x Axis	
	0	60	0	0	0
1	60	96.0		37.0	
2	60	135.0		49.0	
3	60	209.0		75.0	
Average	60	110.0		40.3	

With the aid of the mathematical model of Simple Linear Regression, the following values are calculated as:

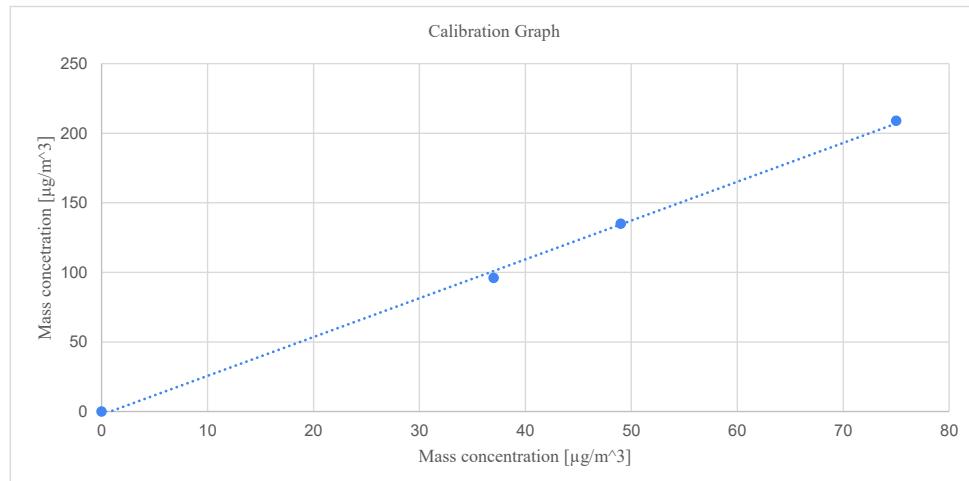
Slope:	2.78994768
Intercept:	-2.29539412
Correlation Coefficient:	0.99924834

If the correlation coefficient is green (ie larger than 0.90), then no recalibration is required

Scale factor (K):	2.8	(to one decimal point)
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Equation of line:

$$y(\text{HVS}) = 3.6x(\text{OC-9200})$$



In-house method in according to the instruction manual:

The OC-9200 was compared with a calibrated HVS; the result has been used to calculate the scale factor and correlation coefficient between the two equipment.
The filter papers are weighted by HOKLAS laboratory (HPCT Litimed)

Recorded by:	Signature:	Date:
Technical Officer (Wong Shing Kwai)		19-Dec-25
Checked by:	Signature:	Date:
Project Manager (Henry Leung)		19-Dec-25

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET



File No. MA20024/74/0012

Location. M-A3 - S.K.H Tsoi Kung Po Secondary School
 Date: 8-Oct-25 Next Due Date: 8-Dec-25 Operator: SK
 Equipment No.: A-01-74 Model No.: TE-5170 Serial No. 2204

Ambient Condition			
Temperature, Ta (K)	<u>303</u>	Pressure, Pa (mmHg)	<u>759.6</u>

Orifice Transfer Standard Information					
Serial No.	<u>3864</u>	Slope, mc	<u>0.05914</u>	Intercept, bc	<u>-0.02377</u>
Last Calibration Date:	<u>7-Jan-25</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	<u>7-Jan-26</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>15.6</u>	3.92	66.62	<u>9.4</u>	3.04
2	<u>12.3</u>	3.48	59.20	<u>8.2</u>	2.84
3	<u>9.4</u>	3.04	51.80	<u>6.5</u>	2.53
4	<u>5.6</u>	2.35	40.07	<u>3.5</u>	1.85
5	<u>3.2</u>	1.77	30.39	<u>1.7</u>	1.29

By Linear Regression of Y on X

Slope, mw = 0.0495 Intercept, bw = -0.1430
 Correlation coefficient* = 0.9923

*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 x Qstd + bw)² x (760 / Pa) x (Ta / 298) = 4.00

Remarks: _____

Conducted by: Wong Shing Kwai Signature: [Signature] Date: 8-Oct-25

Checked by: Henry Leung Signature: [Signature] Date: 8-Oct-25

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET



File No. MA20024/74/0013

Location. M-A3 - S.K.H Tsoi Kung Po Secondary School
 Date: 8-Dec-25 Next Due Date: 8-Feb-26 Operator: SK
 Equipment No.: A-01-74 Model No.: TE-5170 Serial No. 2204

Ambient Condition			
Temperature, Ta (K)	<u>303</u>	Pressure, Pa (mmHg)	<u>759.6</u>

Orifice Transfer Standard Information					
Serial No.	<u>3864</u>	Slope, mc	<u>0.05914</u>	Intercept, bc	<u>-0.02377</u>
Last Calibration Date:	<u>7-Jan-25</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	<u>7-Jan-26</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>15.5</u>	3.90	66.40	<u>9.5</u>	3.06
2	<u>12.2</u>	3.46	58.96	<u>8.1</u>	2.82
3	<u>9.3</u>	3.02	51.53	<u>6.4</u>	2.51
4	<u>5.7</u>	2.37	40.43	<u>3.6</u>	1.88
5	<u>3.3</u>	1.80	30.86	<u>1.8</u>	1.33

By Linear Regression of Y on X

Slope, mw = 0.0494 Intercept, bw = -0.1344
 Correlation coefficient* = 0.9941

*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 x Qstd + bw)² x (760 / Pa) x (Ta / 298) = 4.03

Remarks: _____

Conducted by: Wong Shing Kwai Signature: [Signature] Date: 8-Dec-25

Checked by: Henry Leung Signature: [Signature] Date: 8-Dec-25



RECALIBRATION

DUE DATE:

January 7, 2026

Certificate of Calibration

Calibration Certification Information

Cal. Date:	January 7, 2025	Rootsmeter S/N:	438320	Ta:	293	°K
Operator:	Jim Tisch			Pa:	759.0	mm Hg
Calibration Model #:	TE-5025A	Calibrator S/N: 3864				

Run	Vol. Init (m ³)	Vol. Final (m ³)	ΔVol. (m ³)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H ₂ O)
1	1	2	1	1.4590	3.2	2.00
2	3	4	1	1.0360	6.4	4.00
3	5	6	1	0.9160	8.0	5.00
4	7	8	1	0.8800	8.8	5.50
5	9	10	1	0.7270	12.7	8.00

Data Tabulation

Vstd (m ³)	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)
1.0114	0.6932	1.4252	0.9958	0.6825	0.8787
1.0071	0.9721	2.0156	0.9916	0.9571	1.2427
1.0050	1.0971	2.2535	0.9895	1.0802	1.3893
1.0039	1.1408	2.3635	0.9884	1.1232	1.4572
0.9987	1.3737	2.8505	0.9833	1.3525	1.7574
QSTD		m= 2.08969		m= 1.30853	
QSTD		b= -0.02374		b= -0.01464	
QSTD		r= 0.99985		r= 0.99985	

Calculations

$$Vstd = \Delta Vol \left(\frac{(Pa - \Delta P)}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)$$

$$Va = \Delta Vol \left(\frac{(Pa - \Delta P)}{Pa} \right)$$

$$Qstd = Vstd / \Delta Time$$

$$Qa = Va / \Delta Time$$

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

Certificate of Calibration - Wind Monitoring Station

Description: M-A3 - S.K.H Tsoi Kung Po Secondary School

Model No.: C-OC-9200-wind

Serial No.: OC20210316224101

Equipment No.: A-06-03

Date of Calibration 20-Jun-2025

Next Due Date 20-Dec-2025

1. Performance check of Wind Speed

Wind Speed, m/s		Difference D (m/s)
Wind Speed Reading (V1)	Anemometer Value (V2)	$D = V1 - V2$
0.0	0.0	0.0
2.0	2.2	-0.2
3.0	3.2	-0.2
4.0	4.2	-0.2

2. Performance check of Wind Direction

Wind Direction (°)		Difference D (°)
Wind Direction Reading (W1)	Marine Compass Value (W2)	$D = W1 - W2$
0	0	0.0
90	90	0.0
180	180	0.0
270	270	0.0

Test Specification:

1. Performance Wind Speed Test - The wind meter was on-site calibrated against the anemometer

2. Performance Wind Direction Test - The wind meter was on-site calibrated against the marine compass at four direction

Calibrated by:



Wong Shing Kwai

Approved by:



Henry Leung

Certificate of Calibration - Wind Monitoring Station

Description: M-A3 - S.K.H Tsoi Kung Po Secondary School

Model No.: C-OC-9200-wind

Serial No.: OC20210316224101

Equipment No.: A-06-03

Date of Calibration 19-Dec-2025

Next Due Date 19-Jun-2026

1. Performance check of Wind Speed

Wind Speed, m/s		Difference D (m/s)
Wind Speed Reading (V1)	Anemometer Value (V2)	$D = V1 - V2$
0.0	0.0	0.0
2.0	2.1	-0.1
3.0	3.0	0.0
4.0	4.1	-0.1

2. Performance check of Wind Direction

Wind Direction (°)		Difference D (°)
Wind Direction Reading (W1)	Marine Compass Value (W2)	$D = W1 - W2$
0	0	0.0
90	90	0.0
180	180	0.0
270	270	0.0

Test Specification:

1. Performance Wind Speed Test - The wind meter was on-site calibrated against the anemometer

2. Performance Wind Direction Test - The wind meter was on-site calibrated against the marine compass at four direction

Report No. : 01074

Issue Date : 19 Mar 2025

Application No. : HP00912

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 Integrating Sound Level Meter.

Equipment No.: : N-12-03

Manufacturer: : BSWA Technology

Other information :	Model No.	BSWA 308
	Serial No.	570188
	Microphone No.	570608

Date Received : 17 Mar 2025

Test Period : 18 Mar 2025 to 18 Mar 2025

Test Requested : Performance checking for Sound Level Meter

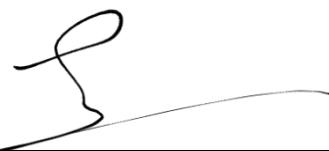
Test Method : The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard and instrument which are recommended by the manufacturer, or equivalent.

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 result(s) relate only to the items tested or calibrated.

For and on behalf of
HIGH PRECISION CHEMICAL TESTING LIMITED



Lee Wai Kit
Laboratory Manager

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. : 01074

Issue Date : 19 Mar 2025

Application No. : HP00912

Certificate of Calibration

Measuring equipment

Measuring equipment	Description	Sound Calibrator
	Manufacturer	Brüel & Kjær
	Model No.	TYPE 4231
	Serial No.	2326353
	Equipment No.	N-02-01

Test Result :

Reference value, dB	Indication value, dB	Deviation, dB	Allowed deviation, dB
94.0	93.9	- 0.1	± 1.5
114.0	114.0	± 0.0	± 1.5

Note : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
2. The indication value was obtained from the average of ten replicated measurement.

- End of report -

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. : 01075

Issue Date : 19 Mar 2025

Application No. : HP00913

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 Integrating Sound Level Meter.

Equipment No.: : N-12-04

Manufacturer: : BSWA Technology

Other information	Model No.	BSWA 308
	Serial No.	580238
	Microphone No.	570605

Date Received : 17 Mar 2025

Test Period : 18 Mar 2025 to 18 Mar 2025

Test Requested : Performance checking for Sound Level Meter

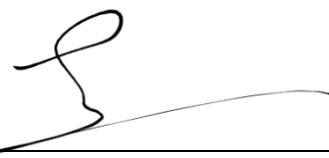
Test Method : The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard and instrument which are recommended by the manufacturer, or equivalent.

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 result(s) relate only to the items tested or calibrated.

For and on behalf of
HIGH PRECISION CHEMICAL TESTING LIMITED

A handwritten signature in black ink, appearing to read 'Lee Wai Kit', is written over a horizontal line. The signature is fluid and cursive.

Lee Wai Kit
Laboratory Manager

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. : 01075

Issue Date : 19 Mar 2025

Application No. : HP00913

Certificate of Calibration

Measuring equipment

Measuring equipment	Description	Sound Calibrator
	Manufacturer	Brüel & Kjær
	Model No.	TYPE 4231
	Serial No.	2326353
	Equipment No.	N-02-01

Test Result :

Reference value, dB	Indication value, dB	Deviation, dB	Allowed deviation, dB
94.0	94.2	+ 0.2	± 1.5
114.0	114.1	+ 0.1	± 1.5

Note : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
2. The indication value was obtained from the average of ten replicated measurement.

- End of report -

Report No. : 01015

Issue Date : 04 Feb 2025

Application No. : HP00868

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 Sound Level Calibrator.

Equipment No.: : N-16-02

Manufacturer: : Hangzhou Aihua Instruments Co., Ltd.

Other information :

Model No.	AWA6021A
Serial No.	1023064

Date Received : 28 Jan 2025

Test Period : 03 Feb 2025 to 04 Feb 2025

Test Requested : Performance checking for Sound Level Calibrator

Test Method : The Sound Level Meter and Calibrator has been calibrated in accordance with the documented procedures and using standard and instrument which are recommended by the manufacturer, or equivalent.

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 result(s) relate only to the items tested or calibrated.**

For and on behalf of
HIGH PRECISION CHEMICAL TESTING LIMITED



Lee Wai Kit
Laboratory Manager

Report No. : 01015

Issue Date : 04 Feb 2025

Application No. : HP00868

Certificate of Calibration

Measuring equipment

:	Description	Sound Calibrator
	Manufacturer	Brüel & Kjær
	Model No.	TYPE 4231
	Serial No.	2326353
	Equipment No.	N-02-01

Description	Sound Meter
Manufacturer	SVANTEK
Model No.	SVAN 977
Serial No.	92677
Microphone No.	10352
Equipment No.	N-14-01

Test Result :

Reference value, dB	Indication value, dB	Deviation, dB	Allowed deviation, dB
94.0	94.2	+ 0.2	± 0.3
114.0	114.3	+ 0.3	± 0.5

Note : 1. "Instrument Readings" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.
2. The indication value was obtained from the average of ten replicated measurement.

- End of report -