

Certificate of Calibration - Wind Monitoring Station

Description: Yau Lai Estate, Bik Lai House

Manufacturer: <u>Davis Instruments</u>

Model No.: Davis7440

Serial No.: <u>MC01010A44</u>

Equipment No.: SA-03-04

Date of Calibration <u>17-Aug-2024</u>

Next Due Date <u>17-Feb-2025</u>

1. Performance check of Wind Speed

Wind Sp	peed, m/s	Difference D (m/s)
Wind Speed Reading (V1)	Anemometer Value (V2)	D = V1 - V2
0.0	0.0	0.0
1.5	1.6	-0.1
2.5	2.3	0.2
4.0	4.0	0.0

2. Performance check of Wind Direction

Wind Di	rection (°)	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



RECALIBRATION DUE DATE:

January 15, 2025

Certificate of Calibration

Calibration Certification Information

Cal. Date: January 15, 2024

Rootsmeter S/N: 438320

Ta: 294

°K

Operator: Jim Tisch

Pa: 755.4

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	1.4380	3.3	2.00
2	3	4	1	1.0270	6.4	4.00
3	5	6	1	0.9180	8.0	5.00
4	7	8	1	0.8750	8.9	5.50
5	9	10	1	0.7230	12.9	8.00

	Data Tabulation										
Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right) \left(\frac{Tstd}{Ta}\right)}$		Qa	$\sqrt{\Delta H (Ta/Pa)}$						
(m3)	(x-axis)	(y-axis)	Va	(x-axis)	(y-axis)						
1.0031	0.6975	1.4195	0.9956	0.6924	0.8823						
0.9989	0.9727	2.0075	0.9915	0.9655	1.2477						
0.9968	1.0858	2.2444	0.9894	1.0778	1.3950						
0.9956	1.1378	2.3539	0.9882	1.1294	1.4631						
0.9903	1.3697	2.8390	0.9829	1.3595	1.7645						
	m=	2.11196		m=	1.32248						
QSTD	b=	-0.05043	QA	b=	-0.03134						
	r=	0.99998	4 .	r=	0.99998						

	Calculatio	ns			
Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	Va=	ΔVol((Pa-ΔP)/Pa)		
Qstd=	Vstd/∆Time	Qa=	Qa = Va/ΔTime		
	For subsequent flow ra	te calculatio	ns:		
Qstd=	$1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$	Qa=	$1/m\left(\left(\sqrt{\Delta H(Ta/Pa)}\right)-b\right)$		

Standard Conditions								
Tstd:	298.15 °K							
Pstd:	760 mm Hg							
	Key							
ΔH: calibrate	or manometer reading (in H2O)							
ΔP: rootsme	ter manometer reading (mm Hg)							
	solute temperature (°K)							
Pa: actual ba	rometric pressure (mm Hg)							
b: intercept	b: intercept							
m: slope	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

Tisch Environmental, Inc. 145 South Miami Avenue Village of Cleves, OH 45002

www.tisch-env.com

TOLL FREE: (877)263-7610 FAX: (513)467-9009

5-POINT CALIBRATION DATA SHEET



File No. MA16034/05/0049

Project No.	AM1 - Tin Hau	Temple					
Date:	Date: 14-Aug-		Next Due Date:		14-Oct-24		SK
Equipment No.:	A-0	1-05		G:		Serial No.	10599
			Ambient C	ondition			
Temperatu	re, Ta (K)	302.2	Pressure, Pa			754.8	
0 : 1	N		fice Transfer Star			. 1	0.05010
Serial Last Calibra		3864 15-Jan-24	Slope, mc	0.05976 nc x Ostd + bo	Intercept $c = [\Delta H \times (Pa/760)]$		-0.05018
Next Calibra		13-Jan-24 14-Jan-25			$(Pa/760) \times (298/7)$		
			Calibration of T	ΓSP Sampler			
Calibration		Or	fice			HVS	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	(0) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water		50) x (298/Ta)] ^{1/2} '-axis
1	13.2		3.60	61.01	8.7		2.92
2	10.4		3.19	54.24	6.4		2.50
3	7.5	,	2.71	46.19	4.4		2.08
5	5.3		2.28 1.74	38.96 30.00	2.8 1.5		1.66
Slope , mw = Correlation	coefficient < 0.99	0.	9994	Intercept, bw	-0.463	31	
			Set Point Ca	alculation			
From the Regres	eld Calibration C sion Equation, th et Point; $W = (m)$	e "Y" value acco			98/Ta)] ^{1/2}		
Remarks: Conducted by:	Wong Sh	ing Kwai	Signature:	K	<u></u>	Date: _	14-Aug-24
Checked by:	Henry	Leung	Signature:	-lem	y day	Date:	14-Aug-24

5-POINT CALIBRATION DATA SHEET



File No. MA16034/05/0050

Project No.	AM1 - Tin Hau	Temple					
Date:	14-0	ct-24	Next Due Date:	14-	Dec-24	Operator:	SK
Equipment No.:	A-0	1-05	Model No.:	GS	S2310	Serial No.	10599
			Ambient C	ondition			
Temperatur	re, Ta (K)	301	Pressure, Pa			760.2	
•	<u>'</u>		,				
		Or	ifice Transfer Star	ndard Informa	ntion		
Serial	No.	3864	Slope, mc	0.05976	Intercept	t, bc	-0.05018
Last Calibra	tion Date:	15-Jan-24	1	nc x Qstd + bo	$c = [\Delta H \times (Pa/760)]$	$(298/Ta)^{1/2}$	1
Next Calibra	ation Date:	14-Jan-25		$Qstd = \{ [\Delta H \ x] \}$	(Pa/760) x (298/7	Γa)] ^{1/2} -bc} / m	c
	-						
			Calibration of	ΓSP Sampler			
Calibration		Oı	fice			HVS	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	60) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water		50) x (298/Ta)] ^{1/2} -axis
1	13.1		3.60	61.11	8.6		2.92
2	10.3		3.19	54.28	6.6	,	2.56
3	7.4		2.71	46.14	4.4	,	2.09
4	5.2		2.27	38.81	2.7		1.64
5	3.0		1.72	29.68	1.5		1.22
Slope, mw = Correlation o	coefficient* =		.9989	Intercept, bw	-0.450	06	
			Set Point Ca	alculation			
From the TSP Fig From the Regress		e "Y" value acce		(Pa/760) x (29	98/Ta)] ^{1/2}		
Therefore, Se	et Point; W = (m	w x Qstd + bw)	² x (760 / Pa) x (7	Γa / 298) =	3.71		
Remarks:							
			<u> </u>	, X	<u></u> 火-		
Conducted by:	Wong Sh	ang Kwai	Signature:	1 0		Date:	14-Oct-24
Checked by:	Henry	Leung	Signature:	- lem	7 Xmy	Date:	14-Oct-24

5-POINT CALIBRATION DATA SHEET



File No. MA16034/08/0049

Project No.	AM2 - Sai Tso V	Van Recreation	Ground				
Date:	te: 14-Aug-24 uipment No.: A-01-08		Next Due Date:	14-	Oct-24	Operator:	SK
Equipment No.:			Model No.:	G	S2310	Serial No.	1287
			Ambient C	Condition			
Temperatur	re, Ta (K)	302.2	Pressure, Pa			754.8	
		0	· · · · · · · · · · · · · · · · · · ·		-49		
Serial	No.	3864	Slope, mc	0.05976	Intercept	t. bc	-0.05018
Last Calibra		15-Jan-24		•	$c = [\Delta H \times (Pa/760)]$		
Next Calibra		14-Jan-25			(Pa/760) x (298/7		
	•						
			Calibration of	TSP Sampler			
Calibration		Or	fice	1		HVS	
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	(50) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water		50) x (298/Ta)] ^{1/2} 7 -axis
1	13.3		3.61	61.23	8.4		2.87
2	10.2		3.16	53.73	6.2		2.46
3	7.5		2.71	46.19	4.3		2.05
4	5.2		2.26	38.60	2.7		1.63
5	3.0		1.71	29.52	1.5		1.21
Slope, mw = Correlation C *If Correlation C			.9993	-	-0.375		
			Set Point C	alculation			
From the TSP Fig	eld Calibration C	urve, take Qstd					
From the Regress	sion Equation, th	e "Y" value acco	ording to				
		m.v. v. ($\mathbf{pstd} + \mathbf{bw} = [\Delta \mathbf{W}]$	· (Do/760) ··· (20	10/Ta)1 ^{1/2}		
		IIIW X ($\mathbf{y}\mathbf{s}\mathbf{t}\mathbf{u} + \mathbf{b}\mathbf{w} = \mathbf{L}\mathbf{\Delta}\mathbf{w} \mathbf{x}$	(Fa/700) X (2)	90/1a)]		
Therefore, Se	et Point; W = (m	w x Qstd + bw)	² x (760 / Pa) x ('	Ta / 298) =	3.66		
Remarks:							
•							
•							
				10	- [
Conducted by:	Wong Sh	ing Kwai	Signature:	\(\(\' \' \)		Date:	14-Aug-24
				1 -	y Xvoy	_	
Checked by:	Henry	Leung	Signature:	-lem	y don	Date:	14-Aug-24
			- -	7	1		

5-POINT CALIBRATION DATA SHEET



File No. MA16034/08/0050

Project No.	AM2 - Sai Tso V	Wan Recreation (Ground				
Date:	14-Oct-24		Next Due Date:	Next Due Date: 14-Dec-24		Operator:	SK
Equipment No.:	A-0	1-08	Model No.:	GS	S2310	Serial No.	1287
			Ambient C	ondition			
Temperatur	re, Ta (K)	301	Pressure, Pa			760.2	
•				· <u> </u>			
	Ī	Ori	fice Transfer Star	ndard Informa	ation	T	
Serial	No.	3864	Slope, mc	0.05976	Intercept		-0.05018
Last Calibra	ation Date:	15-Jan-24			$c = [\Delta H \times (Pa/760)]$		
Next Calibra	ation Date:	14-Jan-25		$Qstd = \{ [\Delta H \ x]$	(Pa/760) x (298/7	Γa)] ^{1/2} -bc} / m	<u>ic</u>
			Calibration of	ISP Sampler		TTYC	
Calibration	ΔH (orifice),		fice	Qstd (CFM)	ΔW (HVS), in.	HVS	60) x (298/Ta)] ^{1/2}
Point	in. of water	[ΔH x (Pa/76	0) x $(298/Ta)$] ^{1/2}	X - axis	of water		00) x (298/1a)] Z -axis
1	13.2	3	3.62	61.34	8.3		2.87
2	10.1		3.16	53.76	6.1		2.46
3	7.4	2	2.71	46.14	4.2		2.04
4	5.1	2	2.25	38.45	2.6		1.60
5	3.0	1	1.72	29.68	1.5		1.22
Slope , mw = Correlation	0.0527 coefficient* =	0.	9 990	Intercept, bw	-0.380	03	
*If Correlation C	Coefficient < 0.99	00, check and rec	alibrate.				
			Set Point Ca	alculation			
From the TSP Fi	eld Calibration C	Curve, take Qstd =	= 43 CFM				
From the Regres	sion Equation, th	e "Y" value acco	ording to				
			$\mathbf{std} + \mathbf{bw} = [\Delta \mathbf{W} \ \mathbf{x}]$	(Do/740) (24	10/Ta)11/2		
		mw x Q	stu + DW = [ΔW X	(Fa/700) X (2)	20/1a)]		
Therefore, Se	et Point; W = (m	$w \times Qstd + bw$	² x (760 / Pa) x (7	Γa / 298) =	3.59		
Remarks:							
				,	1		
Conducted by:	Wong Sh	ing Kwai	Signature:	X	% -	Date:	14-Oct-24
- :		<i>G 6</i>		,	, -		
Checked by:	Henry	Leung	Signature:	\-lem	, Don	Date:	14-Oct-24
J .			2	1		· -	

High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET



File No. MA16034/03/0049

Project No.	AM3 - Yau Lai	Estate, Bik Lai I	House				
Date:	14-Aug-24		Next Due Date: 14-Oct		Oct-24 Operator:		SK
Equipment No.:	A-0	1-03			S2310		10379
			•				
	·		Ambient C	ondition			
Temperatu	re, Ta (K)	302.2	Pressure, Pa	(mmHg)		754.8	_
		Or	ifice Transfer Star	ndard Informa	ation		
Serial	l No.	3864	Slope, mc	0.05976	Intercept	t, bc	-0.05018
Last Calibra		15-Jan-24			$c = [\Delta H \times (Pa/760)]$	/	
Next Calibr		14-Jan-25	1		(Pa/760) x (298/7		
	I		Calibration of	ΓSP Sampler			
Calibration	ATT (170)	Or	fice	0.442=-		HVS	1/2
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	50) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water		(60) x (298/Ta)] ^{1/2} Y-axis
1	12.9		3.55	60.32	8.0		2.80
2	10.6		3.22	54.76	6.2		2.46
3	7.6		2.73	46.49	4.4		2.08
4	5.0		2.21	37.87	2.8		1.66
5	2.9		1.69	29.04	1.6		1.25
Slope , mw = Correlation	coefficient < 0.99	0	.9992	intercept, bw	-0.188	33	
			Set Point Ca	lculation			
From the Regres	teld Calibration Casion Equation, the telephone $\mathbf{E}_{\mathbf{r}}$	mw x Q			98/Ta)] ^{1/2}		
Remarks: Conducted by:		ning Kwai	Signature:	\text{\tin}\exititt{\texitit}\\ \text{\tin}\text{\text{\text{\text{\text{\text{\text{\text{\texi}\text{\text{\text{\text{\texi}\text{\text{\text{\text{\text{\texi}\tex{\text{\texi}\text{\texitit{\text{\texitil{\texit{\texi}\text{\ti}\texitt{\texitit{\text{\texi{\texi{\texi}\texi{\texi{\texi{\texi{\texi{\texi{\texi{\texi{\texi{\texi{\texi{\texi{\texi{\	M-	Date:	14-Aug-24
Checked by:	Henry	Leung	Signature:	\-lem	y Xon	Date:	14-Aug-24

High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET



File No. MA16034/03/0050

Project No.	AM3 - Yau Lai	Estate, Bik Lai I	House			_	
Date:	14-Oct-24		Next Due Date: 14-Dec-24		Dec-24	Operator:	SK
Equipment No.:	A-0	1-03	Model No.:	G	S2310	Serial No.	10379
			Ambient C	ondition			
Temperatu	re Ta (K)	301	Pressure, Pa			760.2	
Temperatu	ic, ia (K)	301	Tiessure, Ta	(mmrig)		700.2	
		Or	ifice Transfer Star	ndard Informa	ation		
Serial	l No.	3864	Slope, mc	0.05976	Intercept	t, bc	-0.05018
Last Calibra	ation Date:	15-Jan-24			$c = [\Delta H \times (Pa/760)]$		
Next Calibr	ation Date:	14-Jan-25		$Qstd = \{ [\Delta H \ x] \}$	(Pa/760) x (298/7	Ta)] ^{1/2} -bc} / m	c
	<u> </u>		Calibration of	TSP Sampler		11370	
Calibration	AII (orifica)		fice	Oatd (CEM)	AW (IIVC) :	HVS	(0) (200 /T-)1 ^{1/2}
Point	ΔH (orifice), in. of water	[ΔH x (Pa/76	50) x (298/Ta)] ^{1/2}	Qstd (CFM) X - axis	ΔW (HVS), in. of water		50) x (298/Ta)] ^{1/2} '-axis
1	12.8		3.56	60.42	7.9		2.80
2	10.5		3.22	54.80	6.1		2.46
3	7.5		2.73	46.44	4.3		2.06
4	5.0		2.23	38.08	2.7		1.64
5	2.8		1.67	28.70	1.5		1.22
Slope , mw = Correlation	coefficient < 0.99	0	.9990	Intercept, bw	-0.225	57	
			Set Point Ca	lculation			
From the Regres	teld Calibration Cossion Equation, the et Point; $W = (m)$	mw x (98/Ta)] ^{1/2}	<u> </u>	
Remarks:							
Conducted by:	Wong Sh	ing Kwai	Signature:	<u> </u>	<u> </u>	Date:	14-Oct-24
Checked by:	Henry	Leung	Signature:	- lem	y day	Date:	14-Oct-24

5-POINT CALIBRATION DATA SHEET



File No. MA20003/55/028 Project No. CKL 2 - Flat 103 Cha Kwo Ling Village 4-Sep-24 Next Due Date: 4-Nov-24 Operator: SK Date: Equipment No.: A-01-55 Model No.: TE 5170 Serial No. 1956 **Ambient Condition** Temperature, Ta (K) 302.7 Pressure, Pa (mmHg) 751.8 **Orifice Transfer Standard Information** 0.05976 Intercept, bc -0.05018 3864 Slope, mc Serial No. mc x Qstd + bc = $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ Last Calibration Date: 15-Jan-24 Qstd = $\{ [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} -bc \} / mc$ Next Calibration Date: 14-Jan-25 **Calibration of TSP Sampler** Orfice HVS Calibration $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ ΔH (orifice), Ostd (CFM) ΔW (HVS), in. Point $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ in. of water X - axis of water Y-axis 13.6 3.64 61.74 9.4 3.03 1 11.4 3.33 56.60 7.4 2.68 51.20 3.01 6.0 2.42 4 5.6 2.34 39.92 2.9 1.68 5 3.6 1.87 32.17 2.0 1.40 By Linear Regression of Y on X Slope , mw = 0.0562 Intercept, bw : -0.4760 Correlation coefficient* = *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 x Qstd + bw = $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 3.87 Remarks: Signature: Date: 4-Sep-24

Signature: Date: 4-Sep-24 Conducted by: Wong Shing Kwai Checked by: Henry Leung

Digital Dust Indicator



Date of Calibration 30-Sep-24

Certificate of Calibration

Description:

Manufacturer:	Sibata Scienti	fic Technology LTD.	_	Validity of Calibra	ation Record	30-Nov-24
Model No.:	LD-5R					
Serial No.:	8Y2374					
Equipment No.:	SA-01-04		Sensitivity	0.001 mg/m3		
High Volume Sa	mpler No.:	A-01-03	Before Sensiti	vity Adjustment	652	
Tisch Calibration	n Orifice No.:	3864	After Sensitiv	ity Adjustment	652	
		Ca	libration of 1 h	nr TSP		
Calibration		Laser Dust Monitor	•		HVS	
Point	M	ass Concentration (μg/ X-axis	m3)	Mass	s concentration (µ Y-axis	ıg/m³)
1		75.0			137.0	
2		65.0			120.0	
3		55.0			102.0	
Average		65.0		119.7		
Correlation co	oefficient* =	0.9999		Poston		
Particaulate Con	centration by F	High Volume Sampler (t Correlation F	actor	119.7	
	•	Oust Meter (µg/m ³)	μg/III)	65.0		
Measureing time	-	σαστ πιστοι (με/πι)		60.0		
Set Correlation I					00.0	
SCF = [K=High Volume Sampler / Dust Meter, (µg/m3)]				1.8		
In-house method	in according t	o the instruction manua	al:			
Factor (CF) betw	veen the Dust N	ed with a calibrated Hig Monitor and High Volu ted by HOKLAS labo	me Sampler.	-	was used to gener	ate the Correlation
Calibrated by:		ng Shing Kwai)	_	Approved by: Project	Lent Manager (Henry	Leung)

Digital Dust Indicator



Date of Calibration 30-Sep-24

Certificate of Calibration

Description:

Tt	t is certified	that t	he item	under	calibration	has been	calibrated by	corresponding	g calibrated High	Volume Sam	ınler
.,	t ib continion	· unu t	IIC ICCIII	unuci	cumoration	mus occin	cultofated by	Corresponding	s cumorated ringin	V Olullic Sulli	PICI

Manufacturer:	Sibata Scientific Technology	y LTD.	Validity of Calibr	ation Record	30-Nov-24
Model No.:	LD-5R				
Serial No.:	8Y2373				
Equipment No.:	SA-01-05	Sensitivity	0.001 mg/m3		
High Volume Sa	ampler No.: A-01-03	Before Sensiti	vity Adjustment	657	
Tisch Calibration	n Orifice No.: 3864	After Sensitiv	ity Adjustment	657	
		Calibration of 1 h	nr TSP		
Calibration	Laser Dust I	Monitor		HVS	
Point	Mass Concentrat		Mas	s concentration ($\mu g/m^3$)
_	X-axi			Y-axis	
1	74.0			135.0	
3	64.0 54.0			116.0 100.0	
Average	64.0			117.0	
Slope , mw = Correlation co		0.9988	cept, bw =	5.0000	_
Particaulate Con	centration by High Volume S	Set Correlation I	actor	117.0	
	icentration by Dust Meter (µg		64.0		
Measureing time	•	/	60.0		
Set Correlation I	Factor, SCF				
SCF = [K=High Volume Sampler / Dust Meter, (μg/m3)]			1.8		
In-house method	l in according to the instruction	n manual:			
Factor (CF) betw	or was compared with a calibrate veen the Dust Monitor and Hinters are weighted by HOKL	gh Volume Sampler.	•	was used to gene	rate the Correlation
Calibrated by:	al Officer (Wong Shing Kwai		Approved by:	t Manager (Henr	y day

Digital Dust Indicator



30-Sep-24

Date of Calibration

Certificate of Calibration

Description:

•						
Manufacturer:	Sibata Scient	ific Technology LTD.	_	Validity of Calibra	ation Record	30-Nov-24
Model No.:	LD-5R					
Serial No.:	972777					
Equipment No.:	SA-01-06		Sensitivity	0.001 mg/m3		
High Volume Sa	mpler No.:	A-01-03	Before Sensitiv	vity Adjustment	645	
Tisch Calibration	orifice No.:	3864	After Sensitivi	y Adjustment	645	
		Ca	libration of 1 h	TSP		
Calibration		Laser Dust Monitor			HVS	
Point	N	fass Concentration (μg/	m3)	Mas	s concentration (ug/m^3)
		X-axis			Y-axis	
1		75.0			136.0	
2		65.0			117.0	
3		55.0			100.0	
Average		65.0		117.7		
Slope , mw = Correlation co	•	0.9995		ept, bw =	0.6667	
		Se	t Correlation F	actor		
Particaulate Con	centration by l	High Volume Sampler ($(\mu g/m^3)$	117.7		
Particaulate Con	centration by l	Dust Meter (μg/m ³)		65.0		
Measureing time	, (min)			60.0		
Set Correlation I	Factor, SCF					
SCF = [K=Higl	n Volume San	npler / Dust Meter, (μ	g/m3)]	1.8		
In-house method	in according	to the instruction manua	al:			
Factor (CF) betw	een the Dust l	ed with a calibrated Hig Monitor and High Volu tted by HOKLAS labo	me Sampler.		was used to gene	rate the Correlation
Calibrated by:		ong Shing Kwai)	_	Approved by:	t Manager (Henr	Leung)

Digital Dust Indicator



30-Sep-24

Date of Calibration

Certificate of Calibration

Description:

-						
Manufacturer:	Sibata Scient	ific Technology LTD.	_	Validity of Calib	ration Record	30-Nov-24
Model No.:	LD-5R					
Serial No.:	972778					
Equipment No.:	SA-01-07		Sensitivity	0.001 mg/m3	_	
High Volume Sa	impler No.:	A-01-03	Before Sensiti	vity Adjustment	735 CPM	
Tisch Calibratio	n Orifice No.:	3864	After Sensitivi	ty Adjustment	735 CPM	
		Ca	libration of 1 h	r TSP		
Calibration		Laser Dust Monitor	•		HVS	
Point	N	fass Concentration (µg/	/m3)	Mas	ss concentration ($\mu g/m^3$)
		X-axis			Y-axis	
1		75.0			139.0	
2		65.0			122.0	
3		55.0			101.0	
Average		65.0			120.7	
Slope , mw = Correlation co	•	0.9982		ept, bw =	-2.8333	<u>}</u>
		Se	t Correlation F	actor		
Particaulate Con	centration by l	High Volume Sampler	$(\mu g/m^3)$	120.7		
Particaulate Con	centration by l	Dust Meter (μg/m ³)		65.0		
Measureing time	e, (min)			60.0		
Set Correlation I	Factor, SCF					
SCF = [K=High Volume Sampler / Dust Meter, (µg/m3)] 1.9						
In-house method	l in according	to the instruction manua	al:			
The Dust Monito	or was compar	ed with a calibrated Hig	gh Volume Samı	oler and The result	was used to gene	rate the Correlation
		Monitor and High Volu	_			
Those filter pap	oers are weigh	nted by HOKLAS labo	oratory (HPCT	Litimed)		
Calibrated by:		xnl		Approved by:	1-0	- Chan
_		one Chine Vi	_	• • • • • • • • • • • • • • • • • • • •	,	
1 ecnnic	ai Omcer (Wo	ong Shing Kwai)		Projec	ct Manager (Henr	y Leung)



Certificate of Calibration

Description:	Digital Dust Indicator		Date of Calibration 30-Sep-24		30-Sep-24	
Manufacturer:	Sibata Scienti	fic Technology LTD.	_	Validity of Calibr	ation Record	30-Nov-24
Model No.:	LD-5R					
Serial No.:	972780					
Equipment No.:	SA-01-09		Sensitivity	0.001 mg/m3		
High Volume Sa	mpler No.:	A-01-03	Before Sensiti	vity Adjustment	739 CPM	
Tisch Calibration	n Orifice No.:	3864	After Sensitivi	ity Adjustment	739 CPM	
		Ca	libration of 1 h	r TSP		
Calibration		Laser Dust Monitor			HVS	
Point	M	ass Concentration (μg/ X-axis	(m3)	Mas	s concentration (µ	ıg/m³)
1		73.0			Y-axis 139.0	
2		63.0			119.0	
3		53.0			102.0	
Average		63.0		120.0		
Slope , mw = Correlation co	1.850 pefficient* =	0.9989		cept, bw =	3.4500	
		Se	t Correlation F	actor		
	•	High Volume Sampler ($(\mu g/m^3)$	120.0		
		Dust Meter (μg/m ³)		63.0		
Measureing time					60.0	
Set Correlation Factor , SCF SCF = [K=High Volume Sampler / Dust Meter, (µg/m3)] 1.9						
The Dust Monitor Factor (CF) betw	or was compare ween the Dust N	o the instruction manual of with a calibrated Hig Monitor and High Voluted by HOKLAS laborated	gh Volume Sam me Sampler.		was used to gener	rate the Correlation
Calibrated by:	-	ng Shing Kwai)	_		t Manager (Henry	/ (



Certificate of Calibration

Description:	Digital Dust Indicator	Date of Calibration 30-Sep-		30-Sep-24	
Manufacturer:	Sibata Scientific Technology LTD.		Validity of Calibration Record30-		30-Nov-24
Model No.:	LD-5R				
Serial No.:	972781				
Equipment No.:	SA-01-10	Sensitivity	0.001 mg/m3		
High Volume Sa	mpler No.: <u>A-01-03</u>	Before Sensiti	vity Adjustment	734 CPM	
Tisch Calibration	n Orifice No.: 3864	After Sensitiv	ity Adjustment	734 CPM	
	Cal	ibration of 1 h	r TSP		
Calibration	Laser Dust Monitor			HVS	
Point	Mass Concentration (μg/r X-axis	m3)	Mas	s concentration (µ Y-axis	ıg/m³)
1	80.0			135.0	
2	70.0			116.0	
3	60.0			101.0	
Average	70.0		117.3		
By Linear Regression of Y on X Slope , mw =					
Slope, mw =	1.7000	Inter	cept, bw =	-1.6667	
Slope, mw =	1.7000 pefficient* = 0.9977	Inter		-1.6667	
Slope , mw = Correlation co	1.7000 Defficient* = 0.9977 Set centration by High Volume Sampler (Correlation I		-1.6667 117.3	
Slope , mw = Correlation co Particaulate Con Particaulate Con	1.7000 pefficient* = 0.9977 Set centration by High Volume Sampler (μcentration by Dust Meter (μg/m³)	Correlation I		117.3 70.0	
Slope , mw = Correlation co Particaulate Con Particaulate Con Measureing time	1.7000 Defficient* = 0.9977 Set centration by High Volume Sampler (μcentration by Dust Meter (μg/m³) Expected: (μg/m³)	Correlation I		117.3	
Slope , mw = Correlation co Particaulate Con Particaulate Con Measureing time Set Correlation F	1.7000 Defficient* = 0.9977 Set centration by High Volume Sampler (μcentration by Dust Meter (μg/m³) Expected: (μg/m³)	Correlation I		117.3 70.0	
Slope , mw = Correlation co Particaulate Con Particaulate Con Measureing time Set Correlation F SCF = [K=High	1.7000 pefficient* = 0.9977 Set centration by High Volume Sampler (μcentration by Dust Meter (μg/m³) c, (min) Factor , SCF	Correlation I ug/m³)	actor	117.3 70.0	
Slope, mw = Correlation co Particaulate Con Particaulate Con Measureing time Set Correlation F SCF = [K=High In-house method The Dust Monito Factor (CF) betw	1.7000 Defficient* = 0.9977 Set centration by High Volume Sampler (μg/m³) Exercise (min) Factor , SCF The Volume Sampler / Dust Meter, (μg/m²)	E/m3)] l: h Volume Samne Sampler.	1.7	117.3 70.0 60.0	ate the Correlation
Slope, mw = Correlation co Particaulate Con Particaulate Con Measureing time Set Correlation F SCF = [K=High In-house method The Dust Monito Factor (CF) betw	1.7000 Defficient* = 0.9977 Set centration by High Volume Sampler (μcentration by Dust Meter (μg/m³) Exactor, SCF The Volume Sampler / Dust Meter, (μg I in according to the instruction manual or was compared with a calibrated High veen the Dust Monitor and High Volumers are weighted by HOKLAS laboration.	E/m3)] l: h Volume Samne Sampler.	1.7	117.3 70.0 60.0	rate the Correlation

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NT, Hong Kong

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



Report No. : 00736 Issue Date : 28 Jun 2024

Application No. : HP00592

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-16-01

Manufacturer: : Hangzhou Aihua Instruments Co., Ltd.

Other information : Model No. AWA6021A

Serial No. 1023253

Date Received : 27 Jun 2024

Test Period : 28 Jun 2024 to 28 Jun 2024

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

Rm 1904, Technology Park 18 On Lai Street, Shatin

NT, Hong Kong

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



Report No. : 00736 | Issue Date : 28 Jun 2024

Application No. : HP00592

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	BSWA Technology
Model No.	BSWA 308
Serial No.	570183
Microphone No.	570605
Equipment No.	N-12-01

Test Result

Reference value, dB	Indication value, dB	Deviation, dB	Allowed deviation, dB
94.0	94.1	+ 0.1	± 0.3
114.0	114.1	+ 0.1	± 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.

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NT, Hong Kong

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Report No. : 00582 | Issue Date : 14 Feb 2024

Application No. : HP00451

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 : 14 Feb 2024

Test Period : 15 Feb 2024 to 15 Feb 2024

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

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Application No. : HP00451

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	114.2	+ 0.2	± 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.

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Report No. : 00583 | Issue Date : 16 Feb 2024

Application No. : HP00452

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-08-07

Manufacturer: : SVANTEK

Other information : Model

Model No.	SVAN 957
Serial No.	21455
Microphone No.	17204

Date Received : 14 Feb 2024

Test Period : 15 Feb 2024 to 15 Feb 2024

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

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Report No. : 00583 | Issue Date : 16 Feb 2024

Application No. : HP00452

Certificate of Calibration

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	94.1	+ 0.1	± 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.

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



Application No. : HP00514

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-12-01

Manufacturer: : BSWA Technology

Other information :

Model No.	BSWA 308
Serial No.	570183
Microphone No.	590073

Date Received : 09 Apr 2024

Test Period : 09 Apr 2024 to 09 Apr 2024

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

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Report No. : 00647 Issue Date : 11 Apr 2024

Application No. : HP00514

Certificate of Calibration

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	94.1	+ 0.1	± 1.5
114.0	114.2	+ 0.2	± 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.

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Report No. : 00648 | Issue Date : 11 Apr 2024

Application No. : HP00515

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-12-05

Manufacturer: : BSWA Technology

Other information :

Model No.	BSWA 308
Serial No.	580287
Microphone No.	570610

Date Received : 09 Apr 2024

Test Period : 09 Apr 2024 to 09 Apr 2024

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

Rm 1904, Technology Park 18 On Lai Street, Shatin

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Report No. : 00648 | Issue Date : 11 Apr 2024

Application No. : HP00515

Certificate of Calibration

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	94.1	+ 0.1	± 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.

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Report No. : 00618 Issue Date : 18 Mar 2024

Application No. : HP00473

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-12-06

Manufacturer: : BSWA Technology

Other information :

Model No.	BSWA 308
Serial No.	580156
Microphone No.	580804

Date Received : 06 Mar 2024

Test Period : 14 Mar 2024 to 14 Mar 2024

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

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Report No. : 00618 | Issue Date : 18 Mar 2024

Application No. : HP00473

Certificate of Calibration

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	94.0	± 0.0	± 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.