

Certificate of Calibration - Wind Monitoring Station

Description: Yau Lai Estate, Bik Lai House

Manufacturer: <u>Davis Instruments</u>

Model No.: <u>Davis7440</u>

Serial No.: MC01010A44

Equipment No.: <u>SA-03-04</u>

Date of Calibration <u>20-Aug-2021</u>

Next Due Date <u>20-Feb-2022</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	1.5	0.0		
2.8	2.7	0.1		
4.0	4.1	-0.1		

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: Approved by: Approved by: Henry Leung



RECALIBRATION
DUE DATE:

January 11, 2022

Certificate of Calibration

Calibration Certification Information

Cal. Date: January 11, 2021

Rootsmeter S/N: 438320

°K

Operator: Jim Tisch

Ta: 297
Pa: 750.1

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	1.4470	3.2	2.00
2	3	4	1	1.0210	6.4	4.00
3	5	6	1	0.9140	8.0	5.00
4	, 7	8	1	0.8670	8.8	5.50
5	9	10	1	0.7140	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)			
0.9860	0.6814	1.4073	0.9957	0.6881	0.8899			
0.9818	0.9616	1.9902	0.9915	0.9711	1.2585			
0.9797	1.0719	2.2251	0.9893	1.0824	1.4071			
0.9786	1.1288	2.3337	0.9883	1.1399	1.4757			
0.9732	1.3630	2.8146	0.9828	1.3765	1.7798			
	m=	2.06566		m=	1.29348			
QSTD	b=	0.00315	QA	b=	0.00199			
	r=	0.99996		r=	0.99996			

	Calculations						
Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	Va=	ΔVol((Pa-ΔP)/Pa)				
Qstd=	Vstd/ΔTime	Qa=	Va/∆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=	$1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$				

	Standard Conditions					
Tstd:	298.15 °K					
Pstd:	760 mm Hg					
	Key					
ΔH: calibrator manometer reading (in H2O)						
ΔP: rootsme	ter manometer reading (mm Hg)					
Ta: actual ab	osolute temperature (°K)					
Pa: actual ba	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

FAX: (513)467-9009

www.tisch-env.com

Digital Dust Indicator



Date of Calibration 2-Aug-21

Certificate of Calibration

Description:

It	is certified tha	t the item und	er calibration l	nas been o	calibrated by	corresponding	g calibrated High	Volume Sampl	lei

Manufacturer:	Sibata Scientific Technology LTD.	<u> </u>	Validity of Calibr	ration Record	2-Oct-21
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 Sensitiv	vity Adjustment	734 CPM	
Tisch Calibration	n Orifice No.: <u>3864</u>	After Sensitivi	ty Adjustment	734 CPM	
	Ca	alibration of 1 h	r TSP		
Calibration	Laser Dust Monito	r		HVS	
Point	Mass Concentration (μg. X-axis	/m3)	Mas	ss concentration (μ Y-axis	.g/m ³)
1	66.0			131.0	
2	57.0			125.0	
3	46.0			116.0	
Average	56.3			124.0	
Slope , mw = Correlation co			ept, bw =	81.6096	
Particaulate Con	centration by High Volume Sampler		actor	124.0	
	centration by Dust Meter (µg/m³)	(1-8)	56.3		
Measureing time			60.0		
Set Correlation F	Factor, SCF				
SCF = [K=Higl	h Volume Sampler / Dust Meter, (μ	ıg/m3)]	2.2		
The Dust Monitor Factor (CF) betw	in according to the instruction manuor was compared with a calibrated Hiveen the Dust Monitor and High Voluers are weighted by HOKLAS labelets.	gh Volume Samp ıme Sampler.		was used to gener	ate the Correlation
Calibrated by: Technica	al Officer (Wong Shing Kwai)	_	Approved by:	Ct Manager (Henry	Leung)



Certificate of Calibration

Description:	Digital Dust I	ndicator		Date	of Calibration	2-Aug-21
Manufacturer:	Sibata Scienti	fic Technology LTD.	<u> </u>	Validity of Calibr	ration Record	2-Oct-21
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 Sensit	ivity Adjustment	739 CPM	
Tisch Calibration	Orifice No.:	3864	After Sensitiv	rity Adjustment	739 CPM	
		Ca	libration of 1 h	nr TSP		
Calibration		Laser Dust Monitor			HVS	
Point	М	ass Concentration (μg/ X-axis	m3)	Mas	s concentration (µ Y-axis	ug/m ³)
1		56.0			131.0	
2		53.0			125.0	
3		47.0			116.0	
Average		52.0			124.0	
By Linear Regressions, mw = Correlation co	1.642	0.9972		ccept, bw =	38.5714	
- · · · ·			t Correlation 1	Factor I		
	•	High Volume Sampler (μg/m³)		124.0	
Measureing time	•	Oust Meter (μg/m ³)		52.0		
Set Correlation F				<u>l</u>	60.0	
		npler / Dust Meter, (μ	g/m3)]	2.4		
The Dust Monitor Factor (CF) betw	or was compare een 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	ate the Correlation
Calibrated by:	_	ng Shing Kwai)	_		t Manager (Henry	/ }



Certificate of Calibration

Description:	Digital Dust Indicator		Date	of Calibration	2-Aug-21
Manufacturer:	Sibata Scientific Technology LTD.	<u>-</u>	Validity of Calibr	ation Record	2-Oct-21
Model No.:	LD-5R				
Serial No.:	972779				
Equipment No.:	SA-01-08	Sensitivity	0.001 mg/m3		
High Volume Sa	mpler No.: <u>A-01-03</u>	Before Sensiti	vity Adjustment	744 CPM	
Tisch Calibration	n Orifice No.: 3864	After Sensitivi	ty Adjustment	744 CPM	
	Cal	libration of 1 h	r TSP		
Calibration	Laser Dust Monitor			HVS	
Point	Mass Concentration (μg/n X-axis	m3)	Mas	s concentration (μ Y-axis	g/m ³)
1	60.0			131.0	
2	55.0			125.0	
3	48.0			116.0	
Average	54.3			124.0	
Slope , mw = Correlation co	1.2523 pefficient* = 0.9998		cept, bw =	55.9587	
	Sec	t Correlation F	actor		
	centration by High Volume Sampler ($(\mu g/m^3)$		124.0	
	centration by Dust Meter (µg/m³)		54.3		
Measureing time				60.0	
Set Correlation F SCF = [K=HigI	ractor , SCF h Volume Sampler / Dust Meter, (με	g/m3)]	2.3		
The Dust Monitor Factor (CF) betw	in according to the instruction manual or was compared with a calibrated Hig ween the Dust Monitor and High Volumers are weighted by HOKLAS labor	gh Volume Sam _l me Sampler.		was used to gener	ate the Correlation
Calibrated by:	m		Approved by:	\-Pa	- (X)27

Digital Dust Indicator



Date of Calibration 2-Aug-21

Certificate of Calibration

Description:

Manufacturer:	Sibata Scient	ific Technology LTD.	_	Validity of Calibr	ation Record	2-Oct-21		
Model No.:	LD-5R							
Serial No.:	972778							
Equipment No.:	SA-01-07		Sensitivity	0.001 mg/m3				
High Volume Sa	mpler No.:	A-01-03	Before Sensitiv	vity Adjustment	735 CPM			
Tisch Calibration	n Orifice No.:	3864	After Sensitivi	ty Adjustment	735 CPM			
Calibration of 1 hr TSP								
Calibration		Laser Dust Monitor			HVS			
Point	N.	Iass Concentration (μg/1	m3)	Mas	ss concentration (µ	ıg/m³)		
1		X-axis			Y-axis			
2		61.0 56.0			131.0 125.0			
3		48.0			116.0			
Average		55.0			124.0			
By Linear Regr Slope , mw = Correlation co	1.15		Interc	ept, bw =	60.6860			
		Set	t Correlation F	actor				
Particaulate Con	centration by I	High Volume Sampler ($\mu g/m^3$)		124.0			
Particaulate Con	centration by I	Oust Meter (μg/m ³)		55.0				
Measureing time					60.0			
Set Correlation F SCF = [K=HigI	•	npler / Dust Meter, (με	g/m3)]	2.3				
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: Technica		ng Shing Kwai)	-		t Manager (Henry	, (

Digital Dust Indicator



Date of Calibration 2-Aug-21

Certificate of Calibration

Description:

Manufacturer:	Sibata Scienti	fic Technology LTD.	_	Validity of Calibra	ntion Record	2-Oct-21	
Model No.:	LD-5R						
Serial No.:	8Y2373						
Equipment No.:	SA-01-05		Sensitivity	0.001 mg/m3			
High Volume Sa	mpler No.:	A-01-03	Before Sensitiv	vity Adjustment	657		
Tisch Calibration	n Orifice No.:	3864	After Sensitivi	ty Adjustment	657		
		Cal	libration of 1 h	r TSP			
Calibration		Laser Dust Monitor			HVS		
Point	М	ass Concentration (μg/1 X-axis	m3)	Mass	s concentration (µ Y-axis	.g/m ³)	
1		57.0			131.0		
2		51.0			125.0		
3		45.0			116.0		
Average		51.0			124.0		
By Linear Regr Slope , mw = Correlation co	1.250		Interd	eept, bw =	60.2500		
		Set	Correlation F	actor			
Particaulate Con	centration by I	High Volume Sampler ($\mu g/m^3$)		124.0		
Particaulate Con	centration by I	Oust Meter (μg/m ³)		51.0			
Measureing time	e, (min)				60.0		
Set Correlation Factor , SCF SCF = [K=High Volume Sampler / Dust Meter, (µg/m3)]				2.4			
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: Approved by:							
		ng Shing Kwai)	_	_	Manager (Henry		

Digital Dust Indicator



2-Aug-21

Date of Calibration

Certificate of Calibration

Description:

*			
Manufacturer:	Sibata Scientific Technology LTD.	Validity of Calibr	ration Record 2-Oct-21
Model No.:	LD-5R		
Serial No.:	8Y2374		
Equipment No.:	SA-01-04	Sensitivity 0.001 mg/m3	
High Volume Sa	ampler No.: <u>A-01-03</u>	Before Sensitivity Adjustment	652
Tisch Calibration	n Orifice No.: 3864	After Sensitivity Adjustment	652
	Ca	libration of 1 hr TSP	
Calibration	Laser Dust Monitor	r	HVS
Point	Mass Concentration (μg/	/m3) Mas	ss concentration (μg/m ³)
	X-axis		Y-axis
1	67.0		131.0
2	61.0		125.0
3	53.0		116.0
Average	60.3		124.0
Slope , mw = Correlation co			59.1824
Dantiagulata Com	Se acentration by High Volume Sampler	t Correlation Factor	124.0
	acentration by Dust Meter (µg/m³)	(μg/m)	124.0 60.3
Measureing time			60.0
Set Correlation I	· · · · · · · · · · · · · · · · · · ·		00.0
	h Volume Sampler / Dust Meter, (μ	g/m3)] 2.1	
The Dust Monitor Factor (CF) betw	I in according to the instruction manusor was compared with a calibrated Higween the Dust Monitor and High Volumers are weighted by HOKLAS laborations.	gh Volume Sampler and The result ime Sampler.	was used to generate the Correlation
Calibrated by:	al Officer (Wong Shing Kwai)	Approved by:	t Manager (Henry Leung)



Equipment no.: N-13-03

Calibration Certificate

0025248

Customer:

Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street, Shatin, N.T.

Hong Kong

Customer Code: SVEC09005

Date of calibration:

Date of the recommended re-calibration:

05/11/2020 05/11/2021

Object 1:

ST-120 sound calibrator

Serial No. /Ref. No. : 181001637

Object 2:

Serial No. /Ref. No. :

Manufacturer: Soundtek

Certificate No.: Handle by:

0025248 E0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	93.8dB	-0.2dB	+/- 0.3dB	1
114.0dB	113.6dB	-0.4dB	+/- 0.5dB	1

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Level Meter and 1kHz Sound Source .

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

- 1. The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2. The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5. The calibrations certificate may not be reproduced.

Measured value(s) within

the allowable deviation.

Performed by

Calibration Technician

Appleone Calibration Laboratory Ltd.

Mr. K.L. Ng

Approved by

Quality Manager

Tel: +852 2370 4437 Fax: +852 2114 0393 Rm1309, 13/F, No.77 Wing Hong St, Kln, HKSAR



Equipment no.: N-13-02

Calibration Certificate

0025249

Customer:

Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street, Shatin, N.T.

Hong Kong

Customer Code: SVEC09005

Date of calibration:

Date of the recommended re-calibration:

Object 1:

ST-120 sound calibrator

Serial No. /Ref. No. :

Object 2:

Serial No. /Ref. No.

Manufacturer:

Soundtek

Certificate No.:

Handle by:

0025249 E0002

181001636

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	93.7dB	-0.3dB	+/- 0.3dB	1
114.0dB	113.6dB	-0.4dB	+/- 0.5dB	1

05/11/2020

05/11/2021

Measuring equipment

index		Calibrator / Master	Traceability	
	1	Master Sound Meter, SVAN949,sn:8571	IEC61672	
	2	Sound Calibrator, SV30A sn:32580	IEC60942	

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Level Meter and 1kHz Sound Source ..

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

- 1. The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2. The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5. The calibrations certificate may not be reproduced.

Measured value(s) within

the allowable deviation.

Performed by

Calibration Technician

Mr. K.L. Ng

Approved by

Quality Manager

Appleone Calibration Laboratory Ltd. Rm1309, 13/F, No.77 Wing Hong St, Kln, HKSAR

Tel: +852 2370 4437 Fax: +852 2114 0393



Equipment no.: N-13-01

Calibration Certificate

0025247

Customer:

Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street, Shatin, N.T.

Hong Kong

Customer Code:

Date of calibration:

SVEC09005

V EC09005

Date of the recommended re-calibration:

Object 1:

ST-120 sound calibrator

Serial No. /Ref. No.: 181001608

Object 2 :

Serial No. /Ref. No. :

Manufacturer :

Soundtek

Certificate No.:

0025247

Handle by:

E0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	93.7dB	-0.3dB	+/- 0.3dB	1
114.0dB	113.6dB	-0.4dB	+/- 0.5dB	1

05/11/2020

05/11/2021

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Level Meter and 1kHz Sound Source .

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

- 1. The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2. The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5. The calibrations certificate may not be reproduced.

Measured value(s)

within

the allowable deviation.

Performed by

Mr. K.L. Ng

Approved by

Quality Manager

Calibration Technician



Equipment no.: N-12-03

Calibration Certificate

0024996

Customer:

Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street, Shatin, N.T.

Hong Kong

Customer Code: SVEC09005

Date of calibration:

Date of the recommended re-calibration:

Object 1:

BSWA 308 SLM

Serial No. /Ref. No. : 570188 / 550850

Object 2:

Serial No. /Ref. No. :

Manufacturer: **BSWAtech**

Certificate No.:

0024996

Handle by:

E0002

Measuring results

 Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	92.9dB	-1.1dB	+/- 1.5dB	1
114.0dB	112.8dB	-1.2dB	+/- 1.5dB	1

07/10/2020

07/10/2021

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

- 1. The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2.The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5. The calibrations certificate may not be reproduced.

Measu	ıred	val	اعيرا	(e)

(s) within

the allowable deviation.

Performed by

Calibration Technician

Mr. K.L. Ng

Approved by

Mr. K.S. Ng

Quality Manager

Appleone Calibration Laboratory Ltd.

Rm1309, 13/F, No.77 Wing Hong St, Kln, HKSAR

Tel: +852 2370 4437 Fax: +852 2114 0393



Equipment no.: N-12-02

Calibration Certificate

0024995

Customer :: Cinotech Consultants Limited RM 1710, Technology Park, 18 On Lai Street, Shatin, N.T. Object 1: Serial No. /Ref. No. :

BSWA 308 SLM 570187 / 550841

Object 2:

Serial No. /Ref. No.

Hong Kong

SVEC09005

Manufacturer:

BSWAtech

Customer Code Date of calibration:

07/10/2020

Certificate No.:

0024995

Date of the recommended re-calibration:

07/10/2021

Handle by:

E0002

Measuring results

Reference value	Indication value	Deviation	Allowed deviation	Object
94.0dB	93.1dB	-0.9dB	+/- 1.5dB	1
114.0dB	113.1dB	-0.9dB	+/- 1.5dB	1

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

Uncertainty

+/- 0.2dB for probability not less than 95%.

Conformity

- 1. The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2. The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5. The calibrations certificate may not be reproduced.

Measured value(s)

the allowable deviation.

Performed by

Mr. K.L. Ng

Approved by

Mr. K.S. Na

Calibration Technician

Quality Manager



Equipment no.: N-12-01

Calibration Certificate

0024993

Customer:

Cinotech Consultants Limited

RM 1710, Technology Park,

18 On Lai Street, Shatin, N.T.

Hong Kong

Customer Code:

SVEC09005

Date of calibration:

Date of the recommended re-calibration:

Object 1:

BSWA 308 SLM

Serial No. /Ref. No. :

570183 / 550233

Object 2:

Serial No. /Ref. No. :

Manufacturer:

BSWAtech

Certificate No.:

Handle by:

0024993 E0002

Measuring results

Reference	value	Indication value	Deviation	Allowed deviation	Object
94.0	dB	93.4dB	-0.6dB	+/- 1.5dB	1
114.0)dB	113.2dB	-0.8dB	+/- 1.5dB	1

07/10/2020

07/10/2021

Measuring equipment

index	Calibrator / Master	Traceability
1	Master Sound Meter, SVAN949,sn:8571	IEC61672
2	Sound Calibrator, SV30A sn:32580	IEC60942

Ambient conditions

Temperature (20...26)°C

Humidity (20...60)%RH

Measuring procedure

Calibrated by Type 1 Sound Calibrator with Master Sound Level Meter under 1kHz Frequency.

Uncertainty

+/- 0.2 dB for probability not less than 95%.

Conformity

- 1. The resulted values were those obtained at the time of test and applies only to the item calibrated.
- 2. The measurement uncertainty was calculated according to the regulations of GUM with the coverage factor k=2 and contains the uncertainty of the measuring procedure and the uncertainty of the measuring system.
- 3. The equipment being used in this calibration are regularly calibrated by laboratory according to ISO/IEC17025.
- 4.HKAS has accredited this laboratory (HOKLAS 267) for specific calibration activities as listed in the HOKLAS directory of accredited laboratories.
- 5. The calibrations certificate may not be reproduced.

Measured value(s)

within

the allowable deviation.

Performed by

Calibration Technician

Mr. K.L. Ng

Approved by

Mr. K.S. N

Quality Manager

Appleone Calibration Laboratory Ltd.

Rm1309, 13/F, No.77 Wing Hong St, Kln, HKSAR

Tel: +852 2370 4437 Fax: +852 2114 0393



File No. MA16034/54/0031

Project No.	AM4(A) - Cha I	Kwo Ling Public	Cargo Working A	rea Administra	tive Office		
Date:	10-A	ug-21	Next Due Date:	10-Oct-21 TE-5170		Operator:	SK
Equipment No.:	A-0	1-54	Model No.:			Serial No.	1536
			Ambient C	ondition			
Temperatu	re, Ta (K)	302	Pressure, Pa	(mmHg)		754.3	
			ifice Transfer Star				
Serial	1	3864			Intercept		-0.00313
Last Calibra	1	11-Jan-21	mc x Qstd + bc = $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ Qstd = $\{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$				
Next Calibra	ation Date:	11-Jan-22	($2std = \{ \Delta H x$	(Pa/760) x (298/	ra)] - bc} / n	<u>1c</u>
			Calibration of T	FCD C1			
		Ω.,	Calibration of Trice	i or Sampier		HVS	
Calibration Point	ΔH (orifice),			Qstd (CFM)	ΔW (HVS), in.	[ΔW x (Pa/7	60) x (298/Ta)] ^{1/2}
	in. of water	[ΔH x (Pa/760) x (298/Ta)] ^{1/2}		X - axis	of water		Y-axis
1	13.4	1	3.62	62.02	9.4		3.03
2	10.8		3.25	55.69	7.2		2.66
3	7.6		2.73	46.72	5.1		2.23
5	5.6 3.0		2.34 1.71	40.11 29.37	3.6 1.9		1.88
Slope, mw = Correlation		0.	.9994		-0.142	4	
From the TSP Fi	eld Calibration C	Turve take Ostd		ilculation			
	sion Equation, th	,					
Tom the Regres	Sion Equation, th		$\mathbf{pstd} + \mathbf{bw} = [\Delta \mathbf{W} \ \mathbf{x}]$	(Pa/760) x (29	98/Ta)l ^{1/2}		
Therefore, Se	et Point; W = (m		² x (760 / Pa) x (7		4.25		
Remarks:							
Conducted by:	Wong Sh	ing Kwai	Signature:	X	<u></u>	Date:	10-Aug-21
Checked by: Henry Leung Signature:				- lem	Jan _	Date:	10-Aug-21



File No. MA16034/03/0031

Project No.	AM3 - Yau Lai	Estate, Bik Lai I	House				
Date:	10-Aug-21		Next Due Date:	10-Oct-21		Operator:	SK
Equipment No.:	A-0	01-03 Model No.: GS2310		S2310	Serial No.	10379	
			Ambient C	ondition			
Temperatur	re Ta (K)	302	Pressure, Pa			754.3	
T T T T T T T T T T T T T T T T T T T	10, 10 (11)	502	11000010,10	ı (mmıg)		70 110	
		Or	ifice Transfer Star	ndard Informa	ation		
Serial	No.	3864	Slope, mc 0.05846 Intercept, bc		t, bc	-0.00313	
Last Calibra	ntion Date:	11-Jan-21	r	mc x Qstd + bc = $[\Delta H \times (Pa/760) \times (298)]$) x (298/Ta)] ^{1/}	2
Next Calibra	ation Date:	11-Jan-22	($Qstd = \{ [\Delta H x] \}$	(Pa/760) x (298/7	Γa)] ^{1/2} -bc} / m	c
	*	•	•				
			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		60) x (298/Ta)] ^{1/2} -axis
1	13.2		3.60	61.56	9.0		2.97
2	10.2		3.16	54.12	6.8		2.58
3	8.0		2.80	47.93	5.4		2.30
4	5.4		2.30	39.39	3.5		1.85
5	2.9		1.69	28.88	2.0		1.39
By Linear Regr Slope, mw = Correlation of *If Correlation C	0.0484 coefficient* =	0	.9994		-0.025	51	
From the TSP Fi	eld Calibration (Curve, take Qstd		il culturon			
From the Regres							
rom the regres	Sion Equation, a		$\mathbf{pstd} + \mathbf{bw} = [\Delta \mathbf{W} \ \mathbf{x}]$	(Pa/760) x (29	98/Ta)] ^{1/2}		
Therefore, Se	et Point; W = (m	nw x Qstd + bw)	² x (760 / Pa) x (7	Γα / 298) =	4.31		
Remarks:							
Conducted by:	Wong Sh	ning Kwai	Signature:	K	<u></u>	Date:	10-Aug-21
Checked by:	ed by: Henry Leung Signatur			- -lem	y day_	Date:	10-Aug-21



File No. MA16034/08/0031

Project No.	AM2 - Sai Tso Wan Recreation Ground					-		
Date:	10-Aug-21		Next Due Date:	10-Oct-21		<u> </u>	SK	
Equipment No.:	A-(A-01-08 Model No.: GS2310		S2310	1287			
						_		
	T		Ambient C	Condition				
Temperatur	re, Ta (K)	302	Pressure, Pa	(mmHg)		754.3		
		O	Gas Tuansfor C4s	ndoud Inform	-4: ou			
Serial	No	3864	Slope, mc	0.05846		t he	-0.00313	
Last Calibra					mc x Qstd + bc = $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibra		11-Jan-22			(Pa/760) x (298/7			
				- (1				
			Calibration of	TSP 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		60) x (298/Ta)] ^{1/2} Y-axis	
1	13.4		3.62	62.02	9.0		2.97	
2	10.2		3.16	54.12	6.4		2.50	
3	7.9	2	2.78	47.63	4.9		2.19	
4	5.1	2	2.23		3.3		1.80	
5	3.0		1.71	29.37	2.0		1.40	
	0.0472 coefficient* =	0.	9976	Intercept, bw = -	-0.014	17		
*If Correlation C	Coefficient < 0.9	90, check and red	calibrate.					
			Set Point C	alculation				
From the TSP Fi	eld Calibration	Curve, take Qstd	= 43 CFM					
From the Regress	sion Equation, t	he "Y" value acco	ording to					
		mw v O	$\mathbf{pstd} + \mathbf{bw} = [\Delta \mathbf{W}]$	y (Pa/760) y (29	98/Ta)1 ^{1/2}			
		mw x Q		(1 a/ 700) X (2)	70/1 <i>a)</i> j			
Therefore, Se	et Point; W = (n	nw x Qstd + bw)	² x (760 / Pa) x (Ta / 298) =	4.15			
							_	
Remarks:								
•								
				,	1			
Conducted by:	Wong Sl	ning Kwai	Signature:	X	7	Date:	10-Aug-21	
conducted by.	THOIR BI	5 12 17 1111	Digitature.			. Date	10 /1ug-21	
Checked by:	Henry	Leung	Signature:	- lem	y day	Date:	10-Aug-21	



File No. MA16034/05/0031

Project No.	AM1 - Tin Hau	Temple					
Date:	10-Aug-21 Next Due Date: 10-Oct-21 .: A-01-05 Model No.: GS2310		Next Due Date:	10-Oct-21		Operator:	SK
Equipment No.:			S2310	Serial No.	10599		
			•			· <u>-</u>	
	Ī		Ambient C	ondition			
Temperatu	re, Ta (K)	302	Pressure, Pa	(mmHg)		754.3	
		_			_		
0 : 1	N		fice Transfer Star			1	0.00212
Serial		3864			Intercept		-0.00313
Last Calibra Next Calibra		11-Jan-21 11-Jan-22	mc x Qstd + bc = $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ Qstd = $\{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$				
INEXT Callula	ation Date.	11-Jan-22	`	ZStu ([ZII X	(1 a/ 700) X (270/)	[a) ₁ -bc ₃ / II	
		•	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		60) x (298/Ta)] ^{1/2} V-axis
1	13.2		3.60	61.56	9.6		3.07
2	9.6		3.07	52.50	7.4		2.69
3	7.4		2.69	46.10	5.4		2.30
4	5.2	2.26		38.66	3.4		1.82
5	3.0		1.71	29.37	2.0		1.40
Slope, mw = Correlation		0.	9971 calibrate.	-	-0.185		
			Set Point Ca	lculation			
	eld Calibration C	,					
From the Regres	sion Equation, th	ie "Y" value acc	ording to				
		mw x Q	$\mathbf{pstd} + \mathbf{bw} = [\Delta \mathbf{W} \ \mathbf{x}]$	(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) =	4.57		
Remarks:							
Conducted by:	Wong Sh	ing Kwai	Signature:	K	<u> </u>	Date:	10-Aug-21
Checked by:	Henry	Leung	Signature:	- lem	Jan _	Date:	10-Aug-21