High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

Project No.   KER 1 - Future Residential Development at Kerry Godown

Date: 10-Mar-23   Next Due Date: 10-May-23   Operator: SK

Equipment No.:   A-01-04   Model No.:   TE 5170   Serial No.   10595

Ambient Condition			
Temperature, Ta (K)	295.4	Pressure, Pa (mmHg)	763.1

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05928	Intercept, bc	-0.03491
Last Calibration Date:	16-Jan-23	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	16-Jan-24	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

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Calibration of TSP Sampler					
Calibration Point	Orfice			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	13.0	3.63	61.80	9.6	3.12
2	10.5	3.26	55.60	7.2	2.70
3	8.5	2.93	50.09	5.8	2.42
4	5.6	2.38	40.77	3.5	1.89
5	3.4	1.86	31.89	2.1	1.45

By Linear Regression of Y on X

  Slope , mw =   0.0553   Intercept, bw =   -0.3386

  Correlation coefficient* =   0.9988

*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) =   4.11

Remarks:

Conducted by: Wong Shing Kwai   Signature: Date: 10-Mar-23

Checked by: Henry Leung   Signature: Date: 10-Mar-23

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

Project No.　　KTD1 - Centre of Excellence in Paediatrics (Children's Hospital)

Date:	10-Mar-23	Next Due Date:	10-May-23	Operator:	SK
Equipment No.:	A-01-44	Model No.:	TE-5170	Serial No.	1316

Ambient Condition			
Temperature, Ta (K)	295.4	Pressure, Pa (mmHg)	763.1

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05928	Intercept, bc	-0.03491
Last Calibration Date:	16-Jan-23	mc x Qstd + bc = $[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	16-Jan-24	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	13.1	3.64	62.04	9.9	3.17
2	11.0	3.34	56.90	7.8	2.81
3	8.8	2.99	50.95	6.0	2.47
4	6.1	2.49	42.52	4.0	2.01
5	3.6	1.91	32.80	2.4	1.56

By Linear Regression of Y on X

　Slope , mw =　　0.0546　　　　　　　Intercept, bw = 　-0.2732

　　Correlation coefficient* =　　　0.9975

*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) =　　　4.24

Remarks:

Conducted by:	Wong Shing Kwai	Signature:		Date:	10-Mar-23
Checked by:	Henry Leung	Signature:		Date:	10-Mar-23

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

Project No. KTD 2D - Next to the SOR Office of Trunk Road T2 in Kai Tak Area

Date:	10-Mar-23	Next Due Date:	10-May-23	Operator:	SK
Equipment No.:	A-01-41	Model No.:	TE 5170	Serial No.	5280

Ambient Condition			
Temperature, Ta (K)	295.4	Pressure, Pa (mmHg)	763.1

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05928	Intercept, bc	-0.03491
Last Calibration Date:	16-Jan-23		$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$		
Next Calibration Date:	16-Jan-24		$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$		

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	13.6	3.71	63.20	9.9	3.17
2	11.2	3.37	57.41	8.5	2.93
3	9.2	3.05	52.08	6.5	2.56
4	6.8	2.62	44.86	4.4	2.11
5	3.8	1.96	33.68	2.4	1.57

By Linear Regression of Y on X

Slope , mw =   0.0558   **Intercept, bw =**   -0.3338

Correlation coefficient* =   0.9976

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

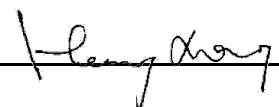From the TSP Field Calibration Curve, take Qstd = 43 CFM

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; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 4.20

Remarks:

Conducted by:	Wong Shing Kwai	Signature:	Date:	10-Mar-23
Checked by:	Henry Leung	Signature:	Date:	10-Mar-23

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET

CINOTECH

Project No.   CKL 1 - Flat 121 Cha Kwo Ling Village

Date: 4-Mar-23   Next Due Date: 4-May-23   Operator: SK

Equipment No.:   A-01-18   Model No.:   TE 5170   Serial No.   0723

Ambient Condition			
Temperature, Ta (K)	292.6	Pressure, Pa (mmHg)	768.4

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05928	Intercept, bc	-0.03491
Last Calibration Date:	16-Jan-23	mc x Qstd + bc = [ΔH x (Pa/760) x (298/Ta)]$^{1/2}$			
Next Calibration Date:	16-Jan-24	Qstd = {[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$ -bc} / mc			

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Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	ΔH (orifice), in. of water	[ΔH x (Pa/760) x (298/Ta)]$^{1/2}$	Qstd (CFM) X - axis	ΔW (HVS), in. of water	[ΔW x (Pa/760) x (298/Ta)]$^{1/2}$ Y-axis
1	12.8	3.63	61.83	9.9	3.19
2	10.2	3.24	55.26	7.9	2.85
3	8.4	2.94	50.20	5.7	2.42
4	6.1	2.51	42.87	3.6	1.93
5	3.3	1.84	31.69	1.8	1.36

By Linear Regression of Y on X

  Slope , mw =   0.0625   **Intercept, bw** =   -0.6700

   Correlation coefficient* =   0.9962

*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

$$\text{mw x Qstd + bw} = [\Delta W \text{ x (Pa/760) x (298/Ta)}]^{1/2}$$

   Therefore, Set Point; W = (mw x Qstd + bw)^2 x (760 / Pa) x (Ta / 298) =   3.95

Remarks:

Conducted by: Wong Shing Kwai   Signature: Date: 4-Mar-23

Checked by: Henry Leung   Signature: Date: 4-Mar-23

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

CINOTECH

Project No.	CKL 2 - Flat 103 Cha Kwo Ling Village

Date:	4-Mar-23	Next Due Date:	4-May-23	Operator:	SK
Equipment No.:	A-01-55	Model No.:	TE 5170	Serial No.	1956

Ambient Condition

Temperature, Ta (K)	292.6	Pressure, Pa (mmHg)	768.4

Orifice Transfer Standard Information

Serial No.	3864	Slope, mc	0.05928	Intercept, bc	-0.03491
Last Calibration Date:	16-Jan-23		$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$		
Next Calibration Date:	16-Jan-24		$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$		

Calibration of TSP Sampler

Calibration Point	Orfice			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	13.2	3.69	62.78	10.4	3.27
2	11.0	3.37	57.36	8.4	2.94
3	8.8	3.01	51.37	6.4	2.57
4	5.4	2.36	40.37	3.2	1.82
5	3.0	1.76	30.24	1.8	1.36

By Linear Regression of Y on X

Slope , mw =   0.0600   **Intercept, bw =**   -0.5162

Correlation coefficient* =   0.9974

*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) =   **4.14**

Remarks:

Conducted by:	Wong Shing Kwai	Signature:		Date:	4-Mar-23
Checked by:	Henry Leung	Signature:		Date:	4-Mar-23

Certificate of Calibration - Wind Monitoring Station

Description:	Yau Lai Estate, Bik Lai House
Manufacturer:	Davis Instruments
Model No.:	Davis7440
Serial No.:	MC01010A44
Equipment No.:	SA-03-04
Date of Calibration	18-Feb-2023
Next Due Date	18-Aug-2023

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
1.2	1.3	-0.1
2.5	2.5	0.0
3.8	3.9	-0.1
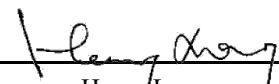
2. Performance check of Wind Direction

Wind Direction (^{o})		Difference D (^{o})
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: _____
Wong Shing Kwai   Henry Leung