

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET



File No. MA20003/18/020

Project No. CKL 1 - Flat 121 Cha Kwo Ling Village
 Date: 04-May-23 Next Due Date: 04-Jul-23 Operator: SK
 Equipment No.: A-01-18 Model No.: TE 5170 Serial No. 0723

Ambient Condition			
Temperature, Ta (K)	300	Pressure, Pa (mmHg)	756.7

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	12.7	3.54	60.37	9.7	3.10
2	10.0	3.14	53.64	7.7	2.76
3	8.2	2.85	48.63	5.5	2.33
4	6.0	2.44	41.68	3.4	1.83
5	3.0	1.72	29.65	1.7	1.30

By Linear Regression of Y on X

Slope, mw = 0.0606 Intercept, bw : -0.5717

Correlation coefficient* = 0.9932

*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 = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 4.18

Remarks: _____

Conducted by: Wong Shing Kwai Signature: Date: 04-May-23

Checked by: Henry Leung Signature: Date: 04-May-23

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET



File No. MA20003/55/019

Project No. CKL 2 - Flat 103 Cha Kwo Ling Village
 Date: 04-May-23 Next Due Date: 04-Jul-23 Operator: SK
 Equipment No.: A-01-55 Model No.: TE 5170 Serial No. 1956

Ambient Condition			
Temperature, Ta (K)	<u>290.4</u>	Pressure, Pa (mmHg)	<u>767.6</u>

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

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>13.0</u>	3.67	62.51	<u>10.2</u>	3.25
2	<u>10.8</u>	3.35	57.03	<u>8.2</u>	2.92
3	<u>8.7</u>	3.00	51.24	<u>6.3</u>	2.56
4	<u>5.3</u>	2.34	40.13	<u>3.1</u>	1.79
5	<u>2.9</u>	1.73	29.83	<u>1.8</u>	1.37

By Linear Regression of Y on X

Slope, mw = 0.0592 Intercept, bw : -0.4734
 Correlation coefficient* = 0.9963

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation


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

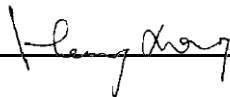
From the Regression Equation, the "Y" value according to

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

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 4.14

Remarks: _____

Conducted by: Wong Shing Kwai Signature:  Date: 04-May-23

Checked by: Henry Leung Signature:  Date: 04-May-23

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET



File No. MA20003/04/0018

Project No. KER 1 - Future Residential Development at Kerry Godown
 Date: 10-May-23 Next Due Date: 10-Jul-23 Operator: SK
 Equipment No.: A-01-04 Model No.: TE 5170 Serial No. 10595

Ambient Condition			
Temperature, Ta (K)	296.9	Pressure, Pa (mmHg)	760.3

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

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	12.9	3.60	61.30	9.5	3.09
2	10.4	3.23	55.10	7.1	2.67
3	8.4	2.90	49.58	5.7	2.39
4	5.5	2.35	40.23	3.4	1.85
5	3.3	1.82	31.30	2.0	1.42

By Linear Regression of Y on X

Slope, mw = 0.0554 Intercept, bw : -0.3498

Correlation coefficient* = 0.9986

*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 = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 4.12

Remarks: _____

Conducted by: Wong Shing Kwai Signature: [Signature] Date: 10-May-23

Checked by: Henry Leung Signature: [Signature] Date: 10-May-23

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET



File No. MA20003/44/0018

Project No. KTD1 - Centre of Excellence in Paediatrics (Children's Hospital)
 Date: 10-May-23 Next Due Date: 10-Jul-23 Operator: SK
 Equipment No.: A-01-44 Model No.: TE-5170 Serial No. 1316

Ambient Condition			
Temperature, Ta (K)	296.9	Pressure, Pa (mmHg)	760.3

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

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	13.0	3.61	61.54	9.7	3.12
2	10.8	3.29	56.14	7.7	2.78
3	8.6	2.94	50.16	5.8	2.41
4	6.0	2.45	41.99	3.8	1.95
5	3.5	1.87	32.21	2.2	1.49

By Linear Regression of Y on X

Slope, mw = 0.0559 Intercept, bw : -0.3537
 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 = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 4.18

Remarks: _____

Conducted by: Wong Shing Kwai Signature: [Signature] Date: 10-May-23

Checked by: Henry Leung Signature: [Signature] Date: 10-May-23

High-Volume TSP Sampler

5-POINT CALIBRATION DATA SHEET



File No. MA20003/41/0018

Project No. KTD 2D - Next to the SOR Office of Trunk Road T2 in Kai Tak Area
 Date: 10-May-23 Next Due Date: 10-Jul-23 Operator: SK
 Equipment No.: A-01-41 Model No.: TE 5170 Serial No. 5280

Ambient Condition			
Temperature, Ta (K)	<u>296.9</u>	Pressure, Pa (mmHg)	<u>760.3</u>

Orifice Transfer Standard Information					
Serial No.	<u>3864</u>	Slope, mc	<u>0.05928</u>	Intercept, bc	<u>-0.03491</u>
Last Calibration Date:	<u>16-Jan-23</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	<u>16-Jan-24</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>13.4</u>	3.67	62.47	<u>9.8</u>	3.14
2	<u>11.0</u>	3.32	56.65	<u>8.4</u>	2.90
3	<u>9.0</u>	3.01	51.30	<u>6.4</u>	2.54
4	<u>6.6</u>	2.57	44.02	<u>4.2</u>	2.05
5	<u>3.7</u>	1.93	33.10	<u>2.2</u>	1.49

By Linear Regression of Y on X

Slope, mw = 0.0581 Intercept, bw : -0.4522
 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 = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 4.17

Remarks: _____

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

Checked by: Henry Leung Signature: Date: 10-May-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

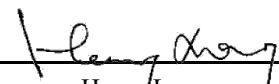
2. Performance check of Wind Direction

Wind Direction (°)		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