

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/18/0015

Project No. CKL 1 - Flat 121 Cha Kwo Ling Village  
 Date: 5-Jul-22 Next Due Date: 4-Sep-22 Operator: SK  
 Equipment No.: A-01-18 Model No.: TE 5170 Serial No. 0723

Ambient Condition			
Temperature, Ta (K)	<u>302</u>	Pressure, Pa (mmHg)	<u>753.2</u>

Orifice Transfer Standard Information					
Serial No.	<u>3864</u>	Slope, mc	<u>0.05922</u>	Intercept, bc	<u>-0.02420</u>
Last Calibration Date:	<u>31-Jan-22</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	<u>31-Jan-23</u>	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<u>12.8</u>	3.54	60.15	<u>9.9</u>	3.11
2	<u>10.1</u>	3.14	53.48	<u>7.8</u>	2.76
3	<u>8.4</u>	2.87	48.81	<u>5.6</u>	2.34
4	<u>6.1</u>	2.44	41.65	<u>3.8</u>	1.93
5	<u>3.4</u>	1.82	31.20	<u>1.8</u>	1.33

### By Linear Regression of Y on X

Slope, mw = 0.0627 Intercept, bw : -0.6551  
 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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.25

Remarks: \_\_\_\_\_

Conducted by: Wong Shing Kwai Signature:  Date: 5-Jul-22

Checked by: Henry Leung Signature:  Date: 5-Jul-22

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/55/0015

Project No. CKL 2 - Flat 103 Cha Kwo Ling Village  
 Date: 5-Jul-22 Next Due Date: 4-Sep-22 Operator: SK  
 Equipment No.: A-01-55 Model No.: TE 5170 Serial No. 1956

Ambient Condition			
Temperature, Ta (K)	<b>302</b>	Pressure, Pa (mmHg)	<b>753.2</b>

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05922	Intercept, bc	-0.02420
Last Calibration Date:	31-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	31-Jan-23	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<b>12.8</b>	3.54	60.15	<b>9.8</b>	3.10
2	<b>10.8</b>	3.25	55.29	<b>7.6</b>	2.73
3	<b>8.6</b>	2.90	49.38	<b>5.9</b>	2.40
4	<b>5.3</b>	2.28	38.85	<b>3.2</b>	1.77
5	<b>2.9</b>	1.68	28.85	<b>1.8</b>	1.33

**By Linear Regression of Y on X**

Slope, mw = 0.0563 Intercept, bw : -0.3541

Correlation coefficient\* = 0.9968

\*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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.37

Remarks: \_\_\_\_\_

Conducted by: Wong Shing Kwai Signature:  Date: 5-Jul-22

Checked by: Henry Leung Signature:  Date: 5-Jul-22

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/04/0013

Project No. KER 1 - Future Residential Development at Kerry Godown  
 Date: 11-Jul-22 Next Due Date: 10-Sep-22 Operator: SK  
 Equipment No.: A-01-04 Model No.: TE 5170 Serial No. 10595

Ambient Condition			
Temperature, Ta (K)	<b>303.9</b>	Pressure, Pa (mmHg)	<b>755.4</b>

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05922	Intercept, bc	-0.02420
Last Calibration Date:	31-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	31-Jan-23	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<b>13.5</b>	3.63	61.66	<b>9.9</b>	3.11
2	<b>10.8</b>	3.24	55.19	<b>7.5</b>	2.70
3	<b>8.6</b>	2.90	49.30	<b>5.9</b>	2.40
4	<b>5.6</b>	2.34	39.86	<b>3.5</b>	1.85
5	<b>3.4</b>	1.82	31.15	<b>2.2</b>	1.46

### By Linear Regression of Y on X

Slope, mw = 0.0541 Intercept, bw : -0.2605  
 Correlation coefficient\* = 0.9984

\*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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.37

Remarks: \_\_\_\_\_

Conducted by: Wong Shing Kwai Signature: [Signature] Date: 11-Jul-22  
 Checked by: Henry Leung Signature: [Signature] Date: 11-Jul-22

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/44/0013

Project No. KTD1 - Centre of Excellence in Paediatrics (Children's Hospital)  
 Date: 11-Jul-22 Next Due Date: 10-Sep-22 Operator: SK  
 Equipment No.: A-01-44 Model No.: TE-5170 Serial No. 1316

Ambient Condition			
Temperature, Ta (K)	<b>303.9</b>	Pressure, Pa (mmHg)	<b>755.4</b>

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05922	Intercept, bc	-0.02420
Last Calibration Date:	31-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	31-Jan-23	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<b>13.4</b>	3.61	61.43	<b>10.1</b>	3.14
2	<b>11.3</b>	3.32	56.45	<b>7.8</b>	2.76
3	<b>8.8</b>	2.93	49.86	<b>5.9</b>	2.40
4	<b>6.0</b>	2.42	41.24	<b>3.7</b>	1.90
5	<b>3.5</b>	1.85	31.60	<b>2.1</b>	1.43

### By Linear Regression of Y on X

Slope, mw = 0.0566 Intercept, bw : -0.3983  
 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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.25

Remarks: \_\_\_\_\_  
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Conducted by: Wong Shing Kwai Signature: [Signature] Date: 11-Jul-22

Checked by: Henry Leung Signature: [Signature] Date: 11-Jul-22

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/41/0013

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

Date: 11-Jul-22 Next Due Date: 10-Sep-22 Operator: SK

Equipment No.: A-01-41 Model No.: TE 5170 Serial No. 5280

Ambient Condition			
Temperature, Ta (K)	<b>303.9</b>	Pressure, Pa (mmHg)	<b>755.4</b>

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05922	Intercept, bc	-0.02420
Last Calibration Date:	31-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			
Next Calibration Date:	31-Jan-23				

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<b>13.5</b>	3.63	61.66	<b>10.4</b>	3.18
2	<b>10.7</b>	3.23	54.94	<b>8.6</b>	2.90
3	<b>8.8</b>	2.93	49.86	<b>6.3</b>	2.48
4	<b>6.4</b>	2.50	42.58	<b>4.5</b>	2.09
5	<b>3.6</b>	1.87	32.04	<b>2.4</b>	1.53

### By Linear Regression of Y on X

Slope, mw = 0.0571 Intercept, bw : -0.3160

Correlation coefficient\* = 0.9972

\*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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.69

Remarks: \_\_\_\_\_

Conducted by: Wong Shing Kwai Signature:  Date: 11-Jul-22

Checked by: Henry Leung Signature:  Date: 11-Jul-22

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/18/0016

Project No. CKL 1 - Flat 121 Cha Kwo Ling Village  
 Date: 5-Sep-22 Next Due Date: 5-Nov-22 Operator: SK  
 Equipment No.: A-01-18 Model No.: TE 5170 Serial No. 0723

Ambient Condition			
Temperature, Ta (K)	<b>304.1</b>	Pressure, Pa (mmHg)	<b>753.4</b>

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05922	Intercept, bc	-0.02420
Last Calibration Date:	31-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	31-Jan-23	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<b>12.7</b>	3.51	59.72	<b>9.7</b>	3.07
2	<b>10.0</b>	3.12	53.04	<b>7.7</b>	2.73
3	<b>8.3</b>	2.84	48.36	<b>5.5</b>	2.31
4	<b>6.0</b>	2.41	41.18	<b>3.7</b>	1.90
5	<b>3.3</b>	1.79	30.64	<b>1.7</b>	1.29

**By Linear Regression of Y on X**

Slope,  $m_w =$  0.0625 Intercept,  $b_w =$  -0.6530  
 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

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

Therefore, Set Point;  $W = (m_w \times Qstd + b_w)^2 \times (760 / Pa) \times (Ta / 298) =$  4.26

Remarks: \_\_\_\_\_  
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Conducted by: Wong Shing Kwai Signature:  Date: 5-Sep-22

Checked by: Henry Leung Signature:  Date: 5-Sep-22

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/55/0016

Project No. CKL 2 - Flat 103 Cha Kwo Ling Village  
 Date: 5-Sep-22 Next Due Date: 5-Nov-22 Operator: SK  
 Equipment No.: A-01-55 Model No.: TE 5170 Serial No. 1956

Ambient Condition			
Temperature, Ta (K)	<u>304.1</u>	Pressure, Pa (mmHg)	<u>753.4</u>

Orifice Transfer Standard Information					
Serial No.	<u>3864</u>	Slope, mc	<u>0.05922</u>	Intercept, bc	<u>-0.02420</u>
Last Calibration Date:	<u>31-Jan-22</u>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	<u>31-Jan-23</u>	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<u>12.7</u>	3.51	59.72	<u>9.7</u>	3.07
2	<u>10.7</u>	3.22	54.85	<u>7.5</u>	2.70
3	<u>8.5</u>	2.87	48.93	<u>5.7</u>	2.35
4	<u>5.2</u>	2.25	38.36	<u>3.1</u>	1.74
5	<u>2.8</u>	1.65	28.26	<u>1.7</u>	1.29

**By Linear Regression of Y on X**

Slope, mw = 0.0564 Intercept, bw : -0.3683  
 Correlation coefficient\* = 0.9966

\*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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.36

Remarks: \_\_\_\_\_  
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Conducted by: Wong Shing Kwai Signature:  Date: 5-Sep-22

Checked by: Henry Leung Signature:  Date: 5-Sep-22

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/04/0014

Project No. KER 1 - Future Residential Development at Kerry Godown  
 Date: 10-Sep-22 Next Due Date: 10-Nov-22 Operator: SK  
 Equipment No.: A-01-04 Model No.: TE 5170 Serial No. 10595

Ambient Condition			
Temperature, Ta (K)	<b>301.9</b>	Pressure, Pa (mmHg)	<b>758.6</b>

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05922	Intercept, bc	-0.02420
Last Calibration Date:	31-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	31-Jan-23	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<b>13.7</b>	3.67	62.45	<b>10.1</b>	3.15
2	<b>11.0</b>	3.29	56.00	<b>7.6</b>	2.74
3	<b>8.8</b>	2.94	50.13	<b>6.1</b>	2.45
4	<b>5.8</b>	2.39	40.78	<b>3.7</b>	1.91
5	<b>3.6</b>	1.88	32.21	<b>2.3</b>	1.51

By Linear Regression of Y on X

Slope, mw = 0.0544 Intercept, bw : -0.2760

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

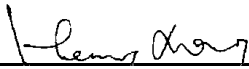
From the Regression Equation, the "Y" value according to

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

Therefore, Set Point; W =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.32

Remarks: \_\_\_\_\_

Conducted by: Wong Shing Kwai Signature:  Date: 10-Sep-22

Checked by: Henry Leung Signature:  Date: 10-Sep-22



# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/44/0014

Project No. KTD1 - Centre of Excellence in Paediatrics (Children's Hospital)  
 Date: 10-Sep-22 Next Due Date: 10-Nov-22 Operator: SK  
 Equipment No.: A-01-44 Model No.: TE-5170 Serial No. 1316

Ambient Condition			
Temperature, Ta (K)	<b>301.9</b>	Pressure, Pa (mmHg)	<b>758.6</b>

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05922	Intercept, bc	-0.02420
Last Calibration Date:	31-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	31-Jan-23	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<b>13.6</b>	3.66	62.22	<b>10.3</b>	3.19
2	<b>11.4</b>	3.35	57.00	<b>8.0</b>	2.81
3	<b>9.0</b>	2.98	50.69	<b>6.1</b>	2.45
4	<b>6.2</b>	2.47	42.14	<b>4.0</b>	1.99
5	<b>3.7</b>	1.91	32.65	<b>2.4</b>	1.54

By Linear Regression of Y on X


Slope, mw = 0.0552 Intercept, bw : -0.3066

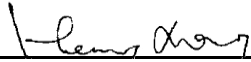
Correlation coefficient\* = 0.9974

\*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 = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ <u>4.33</u>	

Remarks: \_\_\_\_\_

Conducted by: Wong Shing Kwai Signature:  Date: 10-Sep-22

Checked by: Henry Leung Signature:  Date: 10-Sep-22

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/41/0014

Project No. KTD 2D - Next to the SOR Office of Trunk Road T2 in Kai Tak Area  
 Date: 10-Sep-22 Next Due Date: 10-Nov-22 Operator: SK  
 Equipment No.: A-01-41 Model No.: TE 5170 Serial No. 5280

Ambient Condition			
Temperature, Ta (K)	<b>301.9</b>	Pressure, Pa (mmHg)	<b>758.6</b>

Orifice Transfer Standard Information					
Serial No.	3864	Slope, mc	0.05922	Intercept, bc	-0.02420
Last Calibration Date:	31-Jan-22	$mc \times Q_{std} + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	31-Jan-23	$Q_{std} = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	<b>13.7</b>	3.67	62.45	<b>10.6</b>	3.23
2	<b>10.9</b>	3.28	55.75	<b>8.8</b>	2.94
3	<b>9.0</b>	2.98	50.69	<b>6.5</b>	2.53
4	<b>6.5</b>	2.53	43.14	<b>4.6</b>	2.13
5	<b>3.7</b>	1.91	32.65	<b>2.4</b>	1.54

**By Linear Regression of Y on X**

Slope,  $m_w =$  0.0580 Intercept,  $b_w =$  -0.3636  
 Correlation coefficient\* = 0.9976

\*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

From the TSP Field Calibration Curve, take  $Q_{std} = 43$  CFM

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

$$m_w \times Q_{std} + b_w = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point;  $W = (m_w \times Q_{std} + b_w)^2 \times (760 / Pa) \times (Ta / 298) =$  4.61

Remarks: \_\_\_\_\_

Conducted by: Wong Shing Kwai Signature:  Date: 10-Sep-22

Checked by: Henry Leung Signature:  Date: 10-Sep-22



<b>RECALIBRATION</b>
<b>DUE DATE:</b>
<b>January 31, 2023</b>

# Certificate of Calibration

Calibration Certification Information			
Cal. Date: January 31, 2022	Rootsmeter S/N: 438320	Ta: 294	°K
Operator: Jim Tisch		Pa: 752.6	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: <b>3864</b>		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4490	3.2	2.00
2	3	4	1	1.0320	6.4	4.00
3	5	6	1	0.9160	7.9	5.00
4	7	8	1	0.8730	8.8	5.50
5	9	10	1	0.7230	12.7	8.00

Data Tabulation					
Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H \left( Ta/Pa \right)}$ (y-axis)
0.9995	0.6898	1.4169	0.9957	0.6872	0.8839
0.9952	0.9643	2.0037	0.9915	0.9608	1.2500
0.9932	1.0843	2.2402	0.9895	1.0802	1.3976
0.9920	1.1363	2.3496	0.9883	1.1321	1.4658
0.9868	1.3649	2.8337	0.9831	1.3598	1.7678
<b>QSTD</b>	m=	<b>2.09281</b>	<b>QA</b>	m=	<b>1.31048</b>
	b=	<b>-0.02426</b>		b=	<b>-0.01514</b>
	r=	<b>0.99993</b>		r=	<b>0.99993</b>

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= $1/m \left( \left( \sqrt{\Delta H \left( Ta/Pa \right)} \right) - b \right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg
<b>Key</b>	
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: Yau Lai Estate, Bik Lai House  
 Manufacturer: Davis Instruments  
 Model No.: Davis7440  
 Serial No.: MC01010A44  
 Equipment No.: SA-03-04  
 Date of Calibration: 19-Aug-2022  
 Next Due Date: 19-Feb-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
1.5	1.5	0.0
2.5	2.6	-0.1
4.0	4.0	0.0

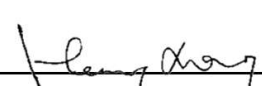
### 2. Performance check of Wind Direction

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