

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/18/0013

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

Ambient Condition			
Temperature, Ta (K)	<u>293.6</u>	Pressure, Pa (mmHg)	<u>760</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>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			
Next Calibration Date:	<u>31-Jan-23</u>				

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>13.0</u>	3.63	61.75	<u>9.8</u>	3.15
2	<u>10.3</u>	3.23	55.01	<u>8.0</u>	2.85
3	<u>8.5</u>	2.94	50.01	<u>5.9</u>	2.45
4	<u>6.2</u>	2.51	42.77	<u>4.0</u>	2.01
5	<u>3.4</u>	1.86	31.78	<u>1.8</u>	1.35

**By Linear Regression of Y on X**

Slope, mw = 0.0614 Intercept, bw = -0.5993  
 Correlation coefficient\* = 0.9982

\*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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.10

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

Conducted by: Wong Shing Kwai Signature: [Signature] Date: 5-Mar-22

Checked by: Henry Leung Signature: [Signature] Date: 5-Mar-22

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/55/0013

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

Ambient Condition			
Temperature, Ta (K)	<u>293.6</u>	Pressure, Pa (mmHg)	<u>760</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>	3.60	61.27	<u>9.8</u>	3.15
2	<u>10.8</u>	3.31	56.32	<u>7.6</u>	2.78
3	<u>8.4</u>	2.92	49.71	<u>6.0</u>	2.47
4	<u>5.5</u>	2.36	40.31	<u>3.4</u>	1.86
5	<u>2.9</u>	1.72	29.38	<u>1.8</u>	1.35

### By Linear Regression of Y on X

Slope, mw = 0.0563 Intercept, bw = -0.3460

Correlation coefficient\* = 0.9973

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

### Set Point Calculation


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

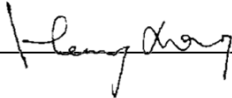
From the Regression Equation, the "Y" value according to

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

Therefore, Set Point; W =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.24

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

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

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

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/04/0011

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

Ambient Condition			
Temperature, Ta (K)	<b>295.1</b>	Pressure, Pa (mmHg)	<b>760.4</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>13.0</b>	3.62	61.61	<b>9.4</b>	3.08
2	<b>10.4</b>	3.24	55.15	<b>7.0</b>	2.66
3	<b>8.2</b>	2.88	49.01	<b>5.6</b>	2.38
4	<b>5.2</b>	2.29	39.11	<b>3.2</b>	1.80
5	<b>3.0</b>	1.74	29.81	<b>2.0</b>	1.42

**By Linear Regression of Y on X**

Slope, mw = 0.0523 Intercept, bw = -0.1873  
 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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.21

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

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

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

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/44/0012

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

Ambient Condition			
Temperature, Ta (K)	<b>295.1</b>	Pressure, Pa (mmHg)	<b>760.4</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>13.0</b>	3.62	61.61	<b>9.6</b>	3.11
2	<b>11.0</b>	3.33	56.70	<b>7.4</b>	2.73
3	<b>8.4</b>	2.91	49.60	<b>5.6</b>	2.38
4	<b>5.6</b>	2.38	40.58	<b>3.3</b>	1.83
5	<b>3.2</b>	1.80	30.77	<b>1.8</b>	1.35

**By Linear Regression of Y on X**

Slope, mw = 0.0567 Intercept, bw = -0.4326  
 Correlation coefficient\* = 0.9979

\*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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.98

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

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

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

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/41/0011

Project No. KTD 2D - Next to the SOR Office of Trunk Road T2 in Kai Tak Area  
 Date: 11-Mar-22 Next Due Date: 11-May-22 Operator: SK  
 Equipment No.: A-01-41 Model No.: TE 5170 Serial No. 5280

Ambient Condition			
Temperature, Ta (K)	<u>295.1</u>	Pressure, Pa (mmHg)	<u>760.4</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>13.0</u>	3.62	61.61	<u>9.8</u>	3.15
2	<u>10.3</u>	3.23	54.88	<u>8.0</u>	2.84
3	<u>8.5</u>	2.93	49.89	<u>5.9</u>	2.44
4	<u>6.2</u>	2.50	42.67	<u>4.0</u>	2.01
5	<u>3.4</u>	1.85	31.71	<u>2.0</u>	1.42

### By Linear Regression of Y on X

Slope, mw = 0.0591 Intercept, bw = -0.4743  
 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 = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ <u>4.23</u>	

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

Conducted by: Wong Shing Kwai Signature:  Date: 11-Mar-22  
 Checked by: Henry Leung Signature:  Date: 11-Mar-22

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/18/0014

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

Ambient Condition			
Temperature, Ta (K)	<u>297.2</u>	Pressure, Pa (mmHg)	<u>759.3</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>13.2</u>	3.64	61.81	<u>10.2</u>	3.20
2	<u>10.4</u>	3.23	54.91	<u>8.3</u>	2.88
3	<u>8.7</u>	2.95	50.26	<u>6.1</u>	2.47
4	<u>6.4</u>	2.53	43.17	<u>4.3</u>	2.08
5	<u>3.7</u>	1.93	32.92	<u>2.0</u>	1.42

### By Linear Regression of Y on X

Slope, mw = 0.0627 Intercept, bw : -0.6405  
 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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.22

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

Conducted by: Wong Shing Kwai Signature: [Signature] Date: 5-May-22

Checked by: Henry Leung Signature: [Signature] Date: 5-May-22

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/55/0014

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

Ambient Condition			
Temperature, Ta (K)	<u>297.2</u>	Pressure, Pa (mmHg)	<u>759.3</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>	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			
Next Calibration Date:	<u>31-Jan-23</u>				

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>13.1</u>	3.62	61.58	<u>10.1</u>	3.18
2	<u>11.1</u>	3.33	56.72	<u>7.8</u>	2.80
3	<u>8.8</u>	2.97	50.55	<u>6.2</u>	2.49
4	<u>5.5</u>	2.35	40.05	<u>3.5</u>	1.87
5	<u>3.1</u>	1.76	30.17	<u>2.0</u>	1.42

**By Linear Regression of Y on X**

Slope, mw = 0.0555 Intercept, bw : -0.3042  
 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 x Qstd + bw ) <sup>2</sup> x ( 760 / Pa ) x ( Ta / 298 ) = <u>4.34</u>	

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

Conducted by: Wong Shing Kwai Signature: [Signature] Date: 5-May-22

Checked by: Henry Leung Signature: [Signature] Date: 5-May-22

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/04/0012

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

Ambient Condition			
Temperature, Ta (K)	<b>298</b>	Pressure, Pa (mmHg)	<b>755.7</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>13.3</b>	3.64	61.82	<b>9.7</b>	3.11
2	<b>10.6</b>	3.25	55.23	<b>7.3</b>	2.69
3	<b>8.4</b>	2.89	49.21	<b>5.8</b>	2.40
4	<b>5.4</b>	2.32	39.54	<b>3.3</b>	1.81
5	<b>3.2</b>	1.78	30.53	<b>2.1</b>	1.45

By Linear Regression of Y on X

Slope, mw = 0.0536 Intercept, bw : -0.2402

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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.28

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

Conducted by: Wong Shing Kwai Signature: [Signature] Date: 11-May-22

Checked by: Henry Leung Signature: [Signature] Date: 11-May-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-May-22 Next Due Date: 11-Jul-22 Operator: SK  
 Equipment No.: A-01-44 Model No.: TE-5170 Serial No. 1316

Ambient Condition			
Temperature, Ta (K)	<b>298</b>	Pressure, Pa (mmHg)	<b>755.7</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>13.2</b>	3.62	61.59	<b>9.9</b>	3.14
2	<b>11.1</b>	3.32	56.51	<b>7.6</b>	2.75
3	<b>8.6</b>	2.92	49.79	<b>5.7</b>	2.38
4	<b>5.8</b>	2.40	40.96	<b>3.5</b>	1.87
5	<b>3.3</b>	1.81	31.00	<b>1.9</b>	1.37

By Linear Regression of Y on X

Slope, mw = 0.0570 Intercept, bw : -0.4332

Correlation coefficient\* = 0.9978

\*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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.10

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

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

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

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/41/0012

Project No. KTD 2D - Next to the SOR Office of Trunk Road T2 in Kai Tak Area  
 Date: 11-May-22 Next Due Date: 11-Jul-22 Operator: SK  
 Equipment No.: A-01-41 Model No.: TE 5170 Serial No. 5280

Ambient Condition			
Temperature, Ta (K)	<b>298</b>	Pressure, Pa (mmHg)	<b>755.7</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>13.3</b>	3.64	61.82	<b>10.1</b>	3.17
2	<b>10.5</b>	3.23	54.97	<b>8.3</b>	2.87
3	<b>8.7</b>	2.94	50.07	<b>6.1</b>	2.46
4	<b>6.3</b>	2.50	42.67	<b>4.3</b>	2.07
5	<b>3.5</b>	1.87	31.91	<b>2.2</b>	1.48

**By Linear Regression of Y on X**

Slope, mw = 0.0577 Intercept, bw : -0.3766  
 Correlation coefficient\* = 0.9973

\*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>4.46</u>	

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

Conducted by: Wong Shing Kwai Signature:  Date: 11-May-22  
 Checked by: Henry Leung Signature:  Date: 11-May-22



**RECALIBRATION  
DUE DATE:  
January 31, 2023**

# 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= $\Delta Vol \left( (Pa - \Delta P) / Pstd \right) \left( Tstd / Ta \right)$	Va= $\Delta Vol \left( (Pa - \Delta P) / Pa \right)$
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-Feb-2022  
 Next Due Date: 19-Aug-2022

### 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	2.5	0.0
4.2	4.3	-0.1

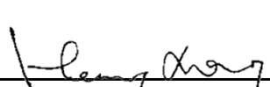
### 2. Performance check of Wind Direction

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