

## 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: 17-Feb-2025  
 Next Due Date: 17-Aug-2025

### 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                     | 1.4                   | 0.1                |
| 2.5                     | 2.4                   | 0.1                |
| 4.0                     | 3.8                   | 0.2                |

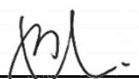
### 2. Performance check of Wind Direction

| 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              |

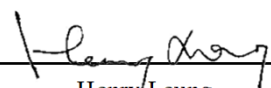
### Test Specification:

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



# Certificate of Calibration

**Calibration Certification Information**

|                                      |                               |                        |
|--------------------------------------|-------------------------------|------------------------|
| <b>Cal. Date:</b> January 7, 2025    | <b>Rootsmeter S/N:</b> 438320 | <b>Ta:</b> 293 °K      |
| <b>Operator:</b> Jim Tisch           |                               | <b>Pa:</b> 759.0 mm Hg |
| <b>Calibration Model #:</b> TE-5025A | <b>Calibrator S/N:</b> 3864   |                        |

| Run | Vol. Init (m3) | Vol. Final (m3) | ΔVol. (m3) | ΔTime (min) | ΔP (mm Hg) | ΔH (in H2O) |
|-----|----------------|-----------------|------------|-------------|------------|-------------|
| 1   | 1              | 2               | 1          | 1.4590      | 3.2        | 2.00        |
| 2   | 3              | 4               | 1          | 1.0360      | 6.4        | 4.00        |
| 3   | 5              | 6               | 1          | 0.9160      | 8.0        | 5.00        |
| 4   | 7              | 8               | 1          | 0.8800      | 8.8        | 5.50        |
| 5   | 9              | 10              | 1          | 0.7270      | 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) | $\sqrt{\Delta H \left( \frac{Ta}{Pa} \right)}$ (y-axis) |
|-------------|---------------|--|-----------|-------------|---|
| 1.0114      | 0.6932        | 1.4252   | 0.9958    | 0.6825      | 0.8787  |
| 1.0071      | 0.9721        | 2.0156   | 0.9916    | 0.9571      | 1.2427  |
| 1.0050      | 1.0971        | 2.2535   | 0.9895    | 1.0802      | 1.3893  |
| 1.0039      | 1.1408        | 2.3635   | 0.9884    | 1.1232      | 1.4572  |
| 0.9987      | 1.3737        | 2.8505   | 0.9833    | 1.3525      | 1.7574  |
| <b>QSTD</b> | <b>m=</b>     | <b>2.08969</b>   | <b>QA</b> | <b>m=</b>   | <b>1.30853</b>  |
|             | <b>b=</b>     | <b>-0.02374</b>  |           | <b>b=</b>   | <b>-0.01464</b>   |
|             | <b>r=</b>     | <b>0.99985</b>   |           | <b>r=</b>   | <b>0.99985</b>  |

**Calculations**

|  |   |
|--|---|
| <b>Vstd=</b> $\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$   | <b>Va=</b> $\Delta Vol((Pa-\Delta P)/Pa)$   |
| <b>Qstd=</b> $Vstd/\Delta Time$  | <b>Qa=</b> $Va/\Delta Time$   |
| <b>For subsequent flow rate calculations:</b>  |   |
| <b>Qstd=</b> $1/m \left( \left( \sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)} \right) - b \right)$ | <b>Qa=</b> $1/m \left( \left( \sqrt{\Delta H \left( \frac{Ta}{Pa} \right)} \right) - b \right)$ |

**Standard Conditions**

Tstd: 298.15 °K  
Pstd: 760 mm Hg

**Key**

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

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/18/030

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

Date: 4-Jan-25

Next Due Date: 6-Mar-25

Operator: SK

Equipment No.: A-01-18

Model No.: TE 5170

Serial No. 0723

| Ambient Condition   |              |                     |              |
|---------------------|--------------|---------------------|--------------|
| Temperature, Ta (K) | <u>292.7</u> | Pressure, Pa (mmHg) | <u>765.4</u> |

| Orifice Transfer Standard Information |                  |  |                |               |                 |
|---------------------------------------|------------------|--|----------------|---------------|-----------------|
| Serial No.                            | <u>3864</u>      | Slope, mc  | <u>0.05976</u> | Intercept, bc | <u>-0.05018</u> |
| Last Calibration Date:                | <u>15-Jan-24</u> | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ |                |               |                 |
| Next Calibration Date:                | <u>14-Jan-25</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)<br>X - axis | $\Delta W$ (HVS), in. of water | $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis |
| 1                          | <u>13.4</u>                        | <u>3.71</u>  | <u>62.87</u>           | <u>9.0</u>                     | <u>3.04</u>   |
| 2                          | <u>10.3</u>                        | <u>3.25</u>  | <u>55.22</u>           | <u>7.2</u>                     | <u>2.72</u>   |
| 3                          | <u>8.2</u>                         | <u>2.90</u>  | <u>49.36</u>           | <u>5.3</u>                     | <u>2.33</u>   |
| 4                          | <u>6.2</u>                         | <u>2.52</u>  | <u>43.03</u>           | <u>3.6</u>                     | <u>1.92</u>   |
| 5                          | <u>3.1</u>                         | <u>1.78</u>  | <u>30.67</u>           | <u>1.6</u>                     | <u>1.28</u>   |

### By Linear Regression of Y on X

Slope, mw = 0.0561

Intercept, bw : -0.4458

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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.76

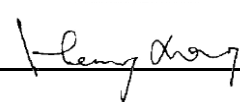
Remarks:

Conducted by: Wong Shing Kwai

Signature: 

Date: 4-Jan-25

Checked by: Henry Leung

Signature: 

Date: 4-Jan-25

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/18/031

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

Date: 6-Mar-25 Next Due Date: 6-May-25 Operator: SK

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

| Ambient Condition   |              |                     |              |
|---------------------|--------------|---------------------|--------------|
| Temperature, Ta (K) | <u>287.5</u> | Pressure, Pa (mmHg) | <u>764.8</u> |

| Orifice Transfer Standard Information |                 |  |                |               |                 |
|---------------------------------------|-----------------|--|----------------|---------------|-----------------|
| Serial No.                            | <u>3864</u>     | Slope, mc  | <u>0.05914</u> | Intercept, bc | <u>-0.02377</u> |
| Last Calibration Date:                | <u>7-Jan-25</u> | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ |                |               |                 |
| Next Calibration Date:                | <u>7-Jan-26</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)<br>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>                        | <u>3.71</u>  | <u>63.14</u>           | <u>9.1</u>                     | <u>3.08</u>   |
| 2                          | <u>10.4</u>                        | <u>3.29</u>  | <u>56.09</u>           | <u>7.3</u>                     | <u>2.76</u>   |
| 3                          | <u>8.3</u>                         | <u>2.94</u>  | <u>50.15</u>           | <u>5.4</u>                     | <u>2.37</u>   |
| 4                          | <u>6.1</u>                         | <u>2.52</u>  | <u>43.05</u>           | <u>3.7</u>                     | <u>1.96</u>   |
| 5                          | <u>3.0</u>                         | <u>1.77</u>  | <u>30.31</u>           | <u>1.6</u>                     | <u>1.29</u>   |

### By Linear Regression of Y on X

Slope, mw = 0.0554 Intercept, bw : -0.3970

Correlation coefficient\* = 0.9991

\*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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.78

Remarks:

Conducted by: Wong Shing Kwai

Signature:

Date: 6-Mar-25

Checked by: Henry Leung

Signature:

Date: 6-Mar-25

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/55/030

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

Date: 4-Jan-25 Next Due Date: 6-Mar-25 Operator: SK

Equipment No.: A-01-55 Model No.: TE 5170 Serial No. 1956

| Ambient Condition   |              |                     |              |
|---------------------|--------------|---------------------|--------------|
| Temperature, Ta (K) | <u>292.7</u> | Pressure, Pa (mmHg) | <u>765.4</u> |

| Orifice Transfer Standard Information |                  |  |                |               |                 |
|---------------------------------------|------------------|--|----------------|---------------|-----------------|
| Serial No.                            | <u>3864</u>      | Slope, mc  | <u>0.05976</u> | Intercept, bc | <u>-0.05018</u> |
| Last Calibration Date:                | <u>15-Jan-24</u> | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ |                |               |                 |
| Next Calibration Date:                | <u>14-Jan-25</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)<br>X - axis | $\Delta W$ (HVS), in. of water | $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$<br>Y-axis |
| 1                          | <u>13.6</u>                        | <u>3.73</u>  | <u>63.33</u>           | <u>9.2</u>                     | <u>3.07</u>  |
| 2                          | <u>11.2</u>                        | <u>3.39</u>  | <u>57.55</u>           | <u>7.3</u>                     | <u>2.74</u>  |
| 3                          | <u>9.0</u>                         | <u>3.04</u>  | <u>51.67</u>           | <u>5.7</u>                     | <u>2.42</u>  |
| 4                          | <u>5.3</u>                         | <u>2.33</u>  | <u>39.85</u>           | <u>2.6</u>                     | <u>1.63</u>  |
| 5                          | <u>3.6</u>                         | <u>1.92</u>  | <u>32.99</u>           | <u>1.8</u>                     | <u>1.36</u>  |

### By Linear Regression of Y on X

Slope, mw = 0.0581 Intercept, bw : -0.6068

Correlation coefficient\* = 0.9980

\*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>3.49</u> |  |

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

Conducted by: Wong Shing Kwai Signature: [Signature] Date: 4-Jan-25

Checked by: Henry Leung Signature: [Signature] Date: 4-Jan-25

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/55/031

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

Date: 6-Mar-25 Next Due Date: 6-May-25 Operator: SK

Equipment No.: A-01-55 Model No.: TE 5170 Serial No. 1956

| Ambient Condition   |              |                     |              |
|---------------------|--------------|---------------------|--------------|
| Temperature, Ta (K) | <u>287.5</u> | Pressure, Pa (mmHg) | <u>764.8</u> |

| Orifice Transfer Standard Information |                 |   |                |               |                 |
|---------------------------------------|-----------------|---|----------------|---------------|-----------------|
| Serial No.                            | <u>3864</u>     | Slope, mc   | <u>0.05914</u> | Intercept, bc | <u>-0.02377</u> |
| Last Calibration Date:                | <u>7-Jan-25</u> | $mc \times Q_{std} + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ |                |               |                 |
| Next Calibration Date:                | <u>7-Jan-26</u> | $Q_{std} = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$  |                |               |                 |

| 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)<br>X - axis | $\Delta W$ (HVS), in. of water | $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$<br>Y-axis |
| 1                          | <u>13.5</u>                        | <u>3.75</u>  | <u>63.85</u>           | <u>9.1</u>                     | <u>3.08</u>  |
| 2                          | <u>11.0</u>                        | <u>3.39</u>  | <u>57.68</u>           | <u>7.2</u>                     | <u>2.74</u>  |
| 3                          | <u>9.1</u>                         | <u>3.08</u>  | <u>52.50</u>           | <u>5.6</u>                     | <u>2.42</u>  |
| 4                          | <u>5.1</u>                         | <u>2.31</u>  | <u>39.40</u>           | <u>2.6</u>                     | <u>1.65</u>  |
| 5                          | <u>3.8</u>                         | <u>1.99</u>  | <u>34.07</u>           | <u>1.9</u>                     | <u>1.41</u>  |

### By Linear Regression of Y on X

Slope, mw = 0.0571 Intercept, bw : -0.5684

Correlation coefficient\* = 0.9994

\*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   |  |
| $mw \times Q_{std} + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$                              |  |
| Therefore, Set Point; $W = (mw \times Q_{std} + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ <u>3.42</u> |  |

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

Conducted by: Wong Shing Kwai Signature: [Signature] Date: 6-Mar-25

Checked by: Henry Leung Signature: [Signature] Date: 6-Mar-25

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/04/0028

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

Date: 11-Jan-25 Next Due Date: 13-Mar-25 Operator: SK

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

| Ambient Condition   |              |                     |              |
|---------------------|--------------|---------------------|--------------|
| Temperature, Ta (K) | <b>289.6</b> | Pressure, Pa (mmHg) | <b>771.8</b> |

| Orifice Transfer Standard Information |           |  |         |               |          |
|---------------------------------------|-----------|--|---------|---------------|----------|
| Serial No.                            | 3864      | Slope, mc  | 0.05976 | Intercept, bc | -0.05018 |
| Last Calibration Date:                | 15-Jan-24 | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ |         |               |          |
| Next Calibration Date:                | 14-Jan-25 | $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$  |         |               |          |

| 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)<br>X - axis | $\Delta W$ (HVS), in. of water | $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$<br>Y-axis |
| 1                          | <b>13.1</b>                        | 3.70   | 62.75                  | <b>8.6</b>                     | 3.00   |
| 2                          | <b>10.9</b>                        | 3.37   | 57.31                  | <b>7.0</b>                     | 2.70   |
| 3                          | <b>8.6</b>                         | 3.00   | 51.00                  | <b>5.3</b>                     | 2.35   |
| 4                          | <b>5.3</b>                         | 2.35   | 40.22                  | <b>3.1</b>                     | 1.80   |
| 5                          | <b>3.8</b>                         | 1.99   | 34.19                  | <b>2.4</b>                     | 1.58   |

By Linear Regression of Y on X

Slope, mw = 0.0502 Intercept, bw : -0.1790

Correlation coefficient\* = 0.9981

\*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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  **3.76**

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

Conducted by: Wong Shing Kwai Signature:  Date: 11-Jan-25

Checked by: Henry Leung Signature:  Date: 11-Jan-25



# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/04/0029

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

Date: 13-Mar-25 Next Due Date: 13-May-25 Operator: SK

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

| Ambient Condition   |              |                     |              |
|---------------------|--------------|---------------------|--------------|
| Temperature, Ta (K) | <u>297.3</u> | Pressure, Pa (mmHg) | <u>760.1</u> |

| Orifice Transfer Standard Information |                 |  |                |               |                 |
|---------------------------------------|-----------------|--|----------------|---------------|-----------------|
| Serial No.                            | <u>3864</u>     | Slope, mc  | <u>0.05914</u> | Intercept, bc | <u>-0.02377</u> |
| Last Calibration Date:                | <u>7-Jan-25</u> | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ |                |               |                 |
| Next Calibration Date:                | <u>7-Jan-26</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)<br>X - axis | $\Delta W$ (HVS), in. of water | $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$<br>Y-axis |
| 1                          | <u>13.0</u>                        | 3.61   | 61.44                  | <u>8.5</u>                     | 2.92   |
| 2                          | <u>10.8</u>                        | 3.29   | 56.04                  | <u>7.2</u>                     | 2.69   |
| 3                          | <u>8.7</u>                         | 2.95   | 50.34                  | <u>5.6</u>                     | 2.37   |
| 4                          | <u>5.1</u>                         | 2.26   | 38.64                  | <u>3.2</u>                     | 1.79   |
| 5                          | <u>3.9</u>                         | 1.98   | 33.84                  | <u>2.2</u>                     | 1.49   |

By Linear Regression of Y on X

Slope, mw = 0.0518 Intercept, bw : -0.2382

Correlation coefficient\* = 0.9990

\*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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.94

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

Conducted by: Wong Shing Kwai Signature: [Signature] Date: 13-Mar-25

Checked by: Henry Leung Signature: [Signature] Date: 13-Mar-25



# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/44/0027

Project No. KTD1 - Centre of Excellence in Paediatrics (Children's Hospital)  
 Date: 11-Jan-25 Next Due Date: 13-Mar-25 Operator: SK  
 Equipment No.: A-01-44 Model No.: TE-5170 Serial No. 1316

| Ambient Condition   |              |                     |              |
|---------------------|--------------|---------------------|--------------|
| Temperature, Ta (K) | <b>289.6</b> | Pressure, Pa (mmHg) | <b>771.8</b> |

| Orifice Transfer Standard Information |           |  |         |               |          |
|---------------------------------------|-----------|--|---------|---------------|----------|
| Serial No.                            | 3864      | Slope, mc  | 0.05976 | Intercept, bc | -0.05018 |
| Last Calibration Date:                | 15-Jan-24 | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ |         |               |          |
| Next Calibration Date:                | 14-Jan-25 | $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$  |         |               |          |

| 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)<br>X - axis | $\Delta W$ (HVS), in. of water | $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$<br>Y-axis |
| 1                          | <b>13.7</b>                        | 3.78   | 64.15                  | <b>9.6</b>                     | 3.17   |
| 2                          | <b>11.3</b>                        | 3.44   | 58.34                  | <b>7.4</b>                     | 2.78   |
| 3                          | <b>9.0</b>                         | 3.07   | 52.16                  | <b>5.6</b>                     | 2.42   |
| 4                          | <b>6.2</b>                         | 2.55   | 43.43                  | <b>3.5</b>                     | 1.91   |
| 5                          | <b>3.5</b>                         | 1.91   | 32.84                  | <b>2.0</b>                     | 1.45   |

By Linear Regression of Y on X

Slope, mw = 0.0551 Intercept, bw : -0.4192

Correlation coefficient\* = 0.9971

\*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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  **3.64**

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

Conducted by: Wong Shing Kwai Signature:  Date: 11-Jan-25

Checked by: Henry Leung Signature:  Date: 11-Jan-25

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/44/0028

Project No. KTD1 - Centre of Excellence in Paediatrics (Children's Hospital)  
 Date: 13-Mar-25 Next Due Date: 13-May-25 Operator: SK  
 Equipment No.: A-01-44 Model No.: TE-5170 Serial No. 1316

| Ambient Condition   |              |                     |              |
|---------------------|--------------|---------------------|--------------|
| Temperature, Ta (K) | <u>297.3</u> | Pressure, Pa (mmHg) | <u>760.1</u> |

| Orifice Transfer Standard Information |                 |  |                |               |                 |
|---------------------------------------|-----------------|--|----------------|---------------|-----------------|
| Serial No.                            | <u>3864</u>     | Slope, mc  | <u>0.05914</u> | Intercept, bc | <u>-0.02377</u> |
| Last Calibration Date:                | <u>7-Jan-25</u> | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ |                |               |                 |
| Next Calibration Date:                | <u>7-Jan-26</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)<br>X - axis | $\Delta W$ (HVS), in. of water | $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$<br>Y-axis |
| 1                          | <u>13.5</u>                        | 3.68   | 62.61                  | <u>9.1</u>                     | 3.02   |
| 2                          | <u>11.4</u>                        | 3.38   | 57.56                  | <u>7.5</u>                     | 2.74   |
| 3                          | <u>9.3</u>                         | 3.05   | 52.03                  | <u>5.7</u>                     | 2.39   |
| 4                          | <u>6.0</u>                         | 2.45   | 41.87                  | <u>3.6</u>                     | 1.90   |
| 5                          | <u>3.6</u>                         | 1.90   | 32.52                  | <u>2.0</u>                     | 1.42   |

By Linear Regression of Y on X

Slope, mw = 0.0531 Intercept, bw : -0.3244

Correlation coefficient\* = 0.9991

\*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 =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.83

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

Conducted by: Wong Shing Kwai Signature:  Date: 13-Mar-25

Checked by: Henry Leung Signature:  Date: 13-Mar-25

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/41/0027

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

Date: 11-Jan-25 Next Due Date: 13-Mar-25 Operator: SK

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

| Ambient Condition   |              |                     |              |
|---------------------|--------------|---------------------|--------------|
| Temperature, Ta (K) | <b>289.6</b> | Pressure, Pa (mmHg) | <b>771.8</b> |

| Orifice Transfer Standard Information |           |  |         |               |          |
|---------------------------------------|-----------|--|---------|---------------|----------|
| Serial No.                            | 3864      | Slope, mc  | 0.05976 | Intercept, bc | -0.05018 |
| Last Calibration Date:                | 15-Jan-24 | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ |         |               |          |
| Next Calibration Date:                | 14-Jan-25 | $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$  |         |               |          |

| 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)<br>X - axis | $\Delta W$ (HVS), in. of water | $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$<br>Y-axis |
| 1                          | <b>13.9</b>                        | 3.81   | 64.61                  | <b>9.5</b>                     | 3.15   |
| 2                          | <b>11.7</b>                        | 3.50   | 59.35                  | <b>8.2</b>                     | 2.93   |
| 3                          | <b>9.8</b>                         | 3.20   | 54.39                  | <b>6.2</b>                     | 2.55   |
| 4                          | <b>7.2</b>                         | 2.74   | 46.74                  | <b>4.3</b>                     | 2.12   |
| 5                          | <b>4.3</b>                         | 2.12   | 36.31                  | <b>2.1</b>                     | 1.48   |

### By Linear Regression of Y on X


Slope, mw = 0.0600 Intercept, bw : -0.6898

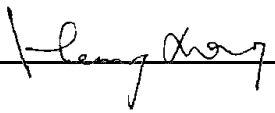
Correlation coefficient\* = 0.9985

\*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>3.41</u> |  |

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

Conducted by: Wong Shing Kwai Signature:  Date: 11-Jan-25

Checked by: Henry Leung Signature:  Date: 11-Jan-25

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET



File No. MA20003/41/0028

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

Date: 13-Mar-25 Next Due Date: 13-May-25 Operator: SK

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

| Ambient Condition   |              |                     |              |
|---------------------|--------------|---------------------|--------------|
| Temperature, Ta (K) | <u>297.3</u> | Pressure, Pa (mmHg) | <u>760.1</u> |

| Orifice Transfer Standard Information |                 |  |                |               |                 |
|---------------------------------------|-----------------|--|----------------|---------------|-----------------|
| Serial No.                            | <u>3864</u>     | Slope, mc  | <u>0.05914</u> | Intercept, bc | <u>-0.02377</u> |
| Last Calibration Date:                | <u>7-Jan-25</u> | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ |                |               |                 |
| Next Calibration Date:                | <u>7-Jan-26</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)<br>X - axis | $\Delta W$ (HVS), in. of water | $[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$<br>Y-axis |
| 1                          | <u>13.8</u>                        | <u>3.72</u>  | <u>63.29</u>           | <u>9.6</u>                     | <u>3.10</u>  |
| 2                          | <u>11.6</u>                        | <u>3.41</u>  | <u>58.06</u>           | <u>8.5</u>                     | <u>2.92</u>  |
| 3                          | <u>9.6</u>                         | <u>3.10</u>  | <u>52.86</u>           | <u>6.3</u>                     | <u>2.51</u>  |
| 4                          | <u>7.1</u>                         | <u>2.67</u>  | <u>45.51</u>           | <u>4.4</u>                     | <u>2.10</u>  |
| 5                          | <u>4.1</u>                         | <u>2.03</u>  | <u>34.68</u>           | <u>2.3</u>                     | <u>1.52</u>  |

### By Linear Regression of Y on X

Slope, mw = 0.0570 Intercept, bw : -0.4710

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>3.92</u> |  |

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

Conducted by: Wong Shing Kwai Signature: [Signature] Date: 13-Mar-25

Checked by: Henry Leung Signature: [Signature] Date: 13-Mar-25