

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-Aug-2024
 Next Due Date: 17-Feb-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 | 1.6 | -0.1 |
| 2.5 | 2.3 | 0.2 |
| 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

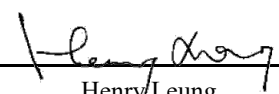
2. Performance Wind Direction Test - The wind meter was on-site calibrated against the marine compass at four direction

Calibrated by:



 Wong Shing Kwai

Approved by:



 Henry Leung

Certificate of Calibration

| Calibration Certification Information | | | |
|---------------------------------------|-----------------------------|-----------|-------|
| Cal. Date: January 15, 2024 | Rootsmeter S/N: 438320 | Ta: 294 | °K |
| Operator: Jim Tisch | | Pa: 755.4 | mm Hg |
| Calibration Model #: TE-5025A | Calibrator S/N: 3864 | | |

| Run | Vol. Init (m3) | Vol. Final (m3) | ΔVol. (m3) | ΔTime (min) | ΔP (mm Hg) | ΔH (in H2O) |
|-----|----------------|-----------------|------------|-------------|------------|-------------|
| 1 | 1 | 2 | 1 | 1.4380 | 3.3 | 2.00 |
| 2 | 3 | 4 | 1 | 1.0270 | 6.4 | 4.00 |
| 3 | 5 | 6 | 1 | 0.9180 | 8.0 | 5.00 |
| 4 | 7 | 8 | 1 | 0.8750 | 8.9 | 5.50 |
| 5 | 9 | 10 | 1 | 0.7230 | 12.9 | 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) |
| 1.0031 | 0.6975 | 1.4195 | 0.9956 | 0.6924 | 0.8823 |
| 0.9989 | 0.9727 | 2.0075 | 0.9915 | 0.9655 | 1.2477 |
| 0.9968 | 1.0858 | 2.2444 | 0.9894 | 1.0778 | 1.3950 |
| 0.9956 | 1.1378 | 2.3539 | 0.9882 | 1.1294 | 1.4631 |
| 0.9903 | 1.3697 | 2.8390 | 0.9829 | 1.3595 | 1.7645 |
| QSTD | m= | 2.11196 | QA | m= | 1.32248 |
| | b= | -0.05043 | | b= | -0.03134 |
| | r= | 0.99998 | | r= | 0.99998 |

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

| 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 |



| |
|------------------------------------|
| RECALIBRATION DUE DATE: |
| January 7, 2026 |

Certificate of Calibration

| Calibration Certification Information | | | |
|---------------------------------------|-----------------------------|-----------|-------|
| Cal. Date: January 7, 2025 | Rootsmeter S/N: 438320 | Ta: 293 | °K |
| Operator: Jim Tisch | | Pa: 759.0 | mm Hg |
| Calibration Model #: TE-5025A | Calibrator S/N: 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 |
| QSTD | m= | 2.08969 | QA | m= | 1.30853 |
| | b= | -0.02374 | | b= | -0.01464 |
| | r= | 0.99985 | | r= | 0.99985 |

| 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/ΔTime | Qa= | Va/ΔTime |
| 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= | $1/m \left(\left(\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)} \right) - b \right)$ |

| 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. MA20003/18/029

Project No. CKL 1 - Flat 121 Cha Kwo Ling Village
 Date: 4-Nov-24 Next Due Date: 4-Jan-25 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>762.7</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 | |
| | 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>13.5</u> | 3.66 | 62.02 | <u>9.1</u> | 3.00 |
| 2 | <u>10.1</u> | 3.16 | 53.76 | <u>7.0</u> | 2.63 |
| 3 | <u>8.4</u> | 2.88 | 49.10 | <u>5.2</u> | 2.27 |
| 4 | <u>6.1</u> | 2.46 | 41.97 | <u>3.5</u> | 1.86 |
| 5 | <u>3.5</u> | 1.86 | 31.99 | <u>1.7</u> | 1.30 |

By Linear Regression of Y on X

Slope, mw = 0.0579 Intercept, bw : -0.5543
 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 = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 3.79

Remarks: _____

Conducted by: Wong Shing Kwai Signature: Date: 4-Nov-24

Checked by: Henry Leung Signature: Date: 4-Nov-24

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 | |
| | 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> | 3.71 | 62.87 | <u>9.0</u> | 3.04 |
| 2 | <u>10.3</u> | 3.25 | 55.22 | <u>7.2</u> | 2.72 |
| 3 | <u>8.2</u> | 2.90 | 49.36 | <u>5.3</u> | 2.33 |
| 4 | <u>6.2</u> | 2.52 | 43.03 | <u>3.6</u> | 1.92 |
| 5 | <u>3.1</u> | 1.78 | 30.67 | <u>1.6</u> | 1.28 |

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

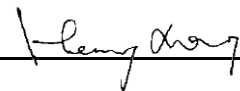
From the Regression Equation, the "Y" value according to

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

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. MA20003/55/029

Project No. CKL 2 - Flat 103 Cha Kwo Ling Village
 Date: 4-Nov-24 Next Due Date: 4-Jan-25 Operator: SK
 Equipment No.: A-01-55 Model No.: TE 5170 Serial No. 1956

| Ambient Condition | | | |
|---------------------|------------|---------------------|--------------|
| Temperature, Ta (K) | 302 | Pressure, Pa (mmHg) | 762.7 |

| 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 | |
| | 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 | 13.5 | 3.66 | 62.02 | 9.3 | 3.03 |
| 2 | 11.3 | 3.35 | 56.82 | 7.3 | 2.69 |
| 3 | 9.2 | 3.02 | 51.35 | 5.9 | 2.42 |
| 4 | 5.5 | 2.33 | 39.89 | 2.8 | 1.67 |
| 5 | 3.5 | 1.86 | 31.99 | 1.9 | 1.37 |

By Linear Regression of Y on X

Slope, mw = 0.0566 Intercept, bw : -0.5013
 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 x Qstd + bw) ² x (760 / Pa) x (Ta / 298) = | <u>3.76</u> |

Remarks: _____

Conducted by: Wong Shing Kwai Signature: Date: 4-Nov-24
 Checked by: Henry Leung Signature: Date: 4-Nov-24

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> | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$ | | | |
| Next Calibration Date: | <u>14-Jan-25</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>13.6</u> | 3.73 | 63.33 | <u>9.2</u> | 3.07 |
| 2 | <u>11.2</u> | 3.39 | 57.55 | <u>7.3</u> | 2.74 |
| 3 | <u>9.0</u> | 3.04 | 51.67 | <u>5.7</u> | 2.42 |
| 4 | <u>5.3</u> | 2.33 | 39.85 | <u>2.6</u> | 1.63 |
| 5 | <u>3.6</u> | 1.92 | 32.99 | <u>1.8</u> | 1.36 |

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; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ <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. MA20003/04/0027

Project No. KER 1 - Future Residential Development at Kerry Godown
 Date: 11-Nov-24 Next Due Date: 11-Jan-25 Operator: SK
 Equipment No.: A-01-04 Model No.: TE 5170 Serial No. 10595

| Ambient Condition | | | |
|---------------------|--------------|---------------------|--------------|
| Temperature, Ta (K) | <u>297.9</u> | Pressure, Pa (mmHg) | <u>760.8</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 | |
| | 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>13.2</u> | 3.64 | 61.68 | <u>8.7</u> | 2.95 |
| 2 | <u>10.8</u> | 3.29 | 55.87 | <u>7.1</u> | 2.67 |
| 3 | <u>8.8</u> | 2.97 | 50.51 | <u>5.1</u> | 2.26 |
| 4 | <u>5.5</u> | 2.35 | 40.11 | <u>3.2</u> | 1.79 |
| 5 | <u>3.9</u> | 1.98 | 33.91 | <u>2.1</u> | 1.45 |

By Linear Regression of Y on X

Slope , mw = 0.0541 Intercept, bw : -0.3935

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>3.72</u> | |

Remarks: _____

Conducted by: Wong Shing Kwai Signature: [Signature] Date: 11-Nov-24

Checked by: Henry Leung Signature: [Signature] Date: 11-Nov-24

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) | 289.6 | Pressure, Pa (mmHg) | 771.8 |

| 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 | |
| | 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 | 3.70 | 62.75 | 8.6 | 3.00 |
| 2 | 10.9 | 3.37 | 57.31 | 7.0 | 2.70 |
| 3 | 8.6 | 3.00 | 51.00 | 5.3 | 2.35 |
| 4 | 5.3 | 2.35 | 40.22 | 3.1 | 1.80 |
| 5 | 3.8 | 1.99 | 34.19 | 2.4 | 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. MA20003/44/0026

Project No. KTD1 - Centre of Excellence in Paediatrics (Children's Hospital)
 Date: 11-Nov-24 Next Due Date: 11-Jan-25 Operator: SK
 Equipment No.: A-01-44 Model No.: TE-5170 Serial No. 1316

| Ambient Condition | | | |
|---------------------|--------------|---------------------|--------------|
| Temperature, Ta (K) | <u>297.9</u> | Pressure, Pa (mmHg) | <u>760.8</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> | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$ | | | |
| Next Calibration Date: | <u>14-Jan-25</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>13.8</u> | 3.72 | 63.05 | <u>9.5</u> | 3.08 |
| 2 | <u>11.2</u> | 3.35 | 56.88 | <u>7.5</u> | 2.74 |
| 3 | <u>9.1</u> | 3.02 | 51.35 | <u>5.6</u> | 2.37 |
| 4 | <u>6.4</u> | 2.53 | 43.20 | <u>3.7</u> | 1.92 |
| 5 | <u>3.7</u> | 1.92 | 33.05 | <u>2.0</u> | 1.42 |

By Linear Regression of Y on X

Slope, mw = 0.0560 Intercept, bw : -0.4681

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 = $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 3.77

Remarks: _____

Conducted by: Wong Shing Kwai Signature: Date: 11-Nov-24

Checked by: Henry Leung Signature: Date: 11-Nov-24

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) | 289.6 | Pressure, Pa (mmHg) | 771.8 |

| 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 | |
| | 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 | 13.7 | 3.78 | 64.15 | 9.6 | 3.17 |
| 2 | 11.3 | 3.44 | 58.34 | 7.4 | 2.78 |
| 3 | 9.0 | 3.07 | 52.16 | 5.6 | 2.42 |
| 4 | 6.2 | 2.55 | 43.43 | 3.5 | 1.91 |
| 5 | 3.5 | 1.91 | 32.84 | 2.0 | 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

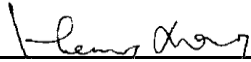
From the Regression Equation, the "Y" value according to

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

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. MA20003/41/0026

Project No. KTD 2D - Next to the SOR Office of Trunk Road T2 in Kai Tak Area
 Date: 11-Nov-24 Next Due Date: 11-Jan-25 Operator: SK
 Equipment No.: A-01-41 Model No.: TE 5170 Serial No. 5280

| Ambient Condition | | | |
|---------------------|--------------|---------------------|--------------|
| Temperature, Ta (K) | <u>297.9</u> | Pressure, Pa (mmHg) | <u>760.8</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 | |
| | 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>14.3</u> | 3.78 | 64.16 | <u>9.6</u> | 3.10 |
| 2 | <u>11.5</u> | 3.39 | 57.63 | <u>8.1</u> | 2.85 |
| 3 | <u>9.7</u> | 3.12 | 52.99 | <u>6.1</u> | 2.47 |
| 4 | <u>7.1</u> | 2.67 | 45.46 | <u>4.3</u> | 2.08 |
| 5 | <u>4.0</u> | 2.00 | 34.33 | <u>2.0</u> | 1.42 |

By Linear Regression of Y on X

Slope, mw = 0.0577 Intercept, bw : -0.5536
 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>3.70</u> | |

Remarks: _____

Conducted by: Wong Shing Kwai Signature: Date: 11-Nov-24
 Checked by: Henry Leung Signature: Date: 11-Nov-24

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) | <u>289.6</u> | Pressure, Pa (mmHg) | <u>771.8</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> | $mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$ | | | |
| Next Calibration Date: | <u>14-Jan-25</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>13.9</u> | 3.81 | 64.61 | <u>9.5</u> | 3.15 |
| 2 | <u>11.7</u> | 3.50 | 59.35 | <u>8.2</u> | 2.93 |
| 3 | <u>9.8</u> | 3.20 | 54.39 | <u>6.2</u> | 2.55 |
| 4 | <u>7.2</u> | 2.74 | 46.74 | <u>4.3</u> | 2.12 |
| 5 | <u>4.3</u> | 2.12 | 36.31 | <u>2.1</u> | 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