

**Annex 2 High Volume Air Sampler Calibration Worksheet**

**Project Title:** Expansion of Shek Wu Hui Sewage Treatment Works  
**Monitoring Location:** Sewage Pumping Station at j/o San Po Street and Po Wan Road (CAM1a)  
**Date:** 19-Dec-06  
**Time:** 09:45

|                         |           |
|-------------------------|-----------|
| Sampler Model:          | GBM2000H1 |
| Calibrator Orifice no.: | 517N      |
| Slope (m):              | 2.01069   |
| Intercept (b):          | -0.00482  |
| Correction coeff. (r):  | 0.9999    |
| Serial No.:             | 1062      |

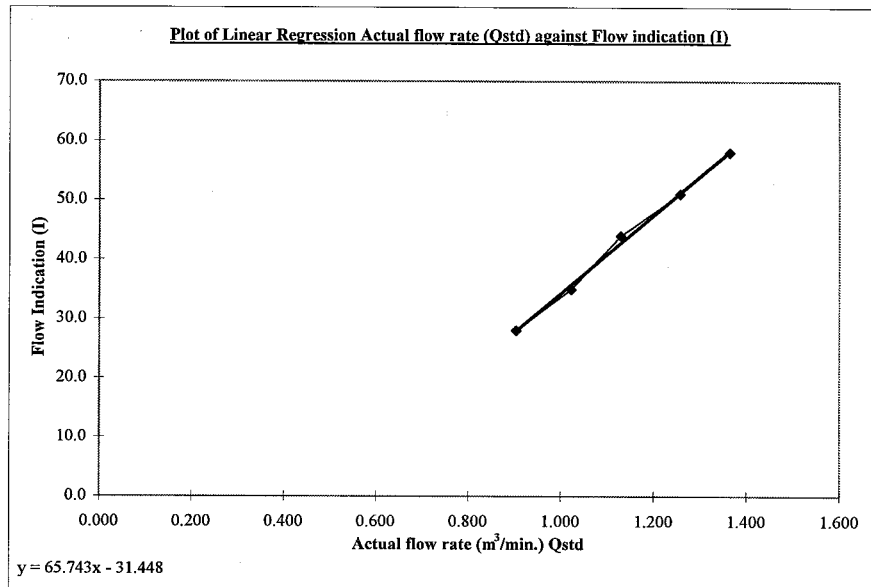
$$\text{Flow (corrected)} = \sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}}$$

|                                 |        |
|---------------------------------|--------|
| Standard pressure (mmHg) Pstd:  | 760.0  |
| Standard temp. (K) Tstd:        | 297.18 |
| Calibration pressure (mmHg) Pa: | 759.4  |
| Calibration temp. (K) Ta:       | 290.0  |


$$Qstd = \frac{1}{m} \times \left( \sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}} - b \right)$$

| Sample no. | Pressure Drop (H), inch | Flow (corrected), m <sup>3</sup> /min | Actual flow rate (Qstd), m <sup>3</sup> /min | Flow indication (I), arbitrary |
|------------|-------------------------|---------------------------------------|--|--------------------------------|
| 1          | 7.3                     | 2.738                                 | 1.364  | 58.0                           |
| 2          | 6.2                     | 2.523                                 | 1.257  | 51.0                           |
| 3          | 5.0                     | 2.266                                 | 1.129  | 44.0                           |
| 4          | 4.1                     | 2.052                                 | 1.023  | 35.0                           |
| 5          | 3.2                     | 1.813                                 | 0.904  | 28.0                           |


Correlation Coefficient : 0.9981



Remark  
 Qstd Range 0.6 - 1.7  
 IHPa = 0.750062 mmHg

Calibrated by: **Kenneth H.C. Choi**  
 (  )

Date: 19-12-06

Checked by: **Hui Yeung Tang**  
 (  )

Date: 20-12-06

**Annex 2 High Volume Air Sampler Calibration Worksheet**

Project Title: Expansion of Shek Wu Hui Sewage Treatment Works  
 Monitoring Location: Sewage Pumping Station at j/o San Po Street and Po Wan Road (CAM1a)  
 Date: 19-Jan-07  
 Time: 13:30

|                         |           |
|-------------------------|-----------|
| Sampler Model:          | GBM2000H1 |
| Calibrator Orifice no.: | 517N      |
| Slope (m):              | 2.01069   |
| Intercept (b):          | -0.00482  |
| Correction coeff. (r)   | 0.9999    |
| Serial No.:             | 1062      |

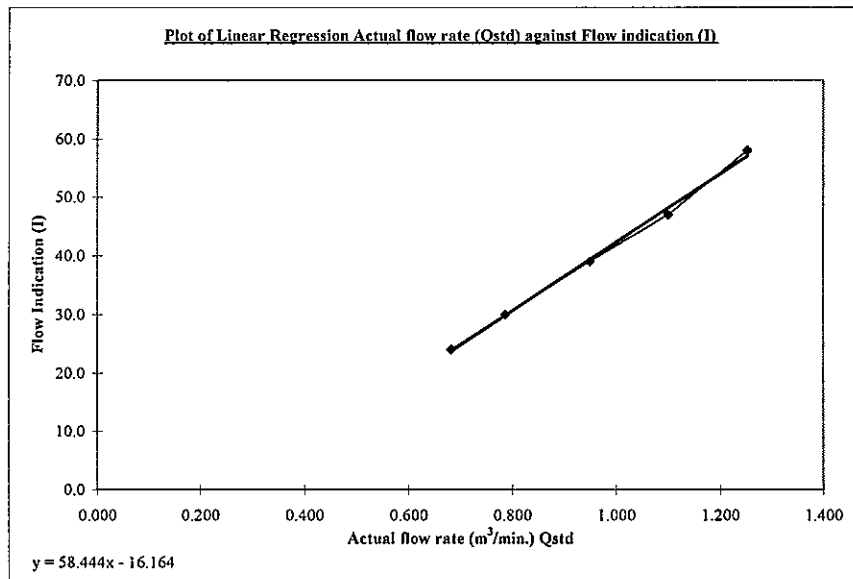
$$Flow(\text{corrected}) = \sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}}$$

|                                 |        |
|---------------------------------|--------|
| Standard pressure (mmHg) Pstd:  | 760.0  |
| Standard temp. (K) Tstd:        | 297.18 |
| Calibration pressure (mmHg) Pa: | 765.9  |
| Calibration temp. (K) Ta:       | 289.8  |

$$Qstd = \frac{1}{m} \times \left( \sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}} - b \right)$$

| Sample no. | Pressure Drop (H), inch | Flow (corrected), m <sup>3</sup> /min | Actual flow rate (Qstd), m <sup>3</sup> /min | Flow indication (I), arbitrary |
|------------|-------------------------|---------------------------------------|--|--------------------------------|
| 1          | 6.1                     | 2.514                                 | 1.253  | 58.0                           |
| 2          | 4.7                     | 2.207                                 | 1.100  | 47.0                           |
| 3          | 3.5                     | 1.904                                 | 0.950  | 39.0                           |
| 4          | 2.4                     | 1.577                                 | 0.787  | 30.0                           |
| 5          | 1.8                     | 1.366                                 | 0.682  | 24.0                           |

Correlation Coefficient : 0.9983



Remark  
 Qstd Range 0.6 - 1.7  
 1HPa = 0.750062 mmHg

Calibrated by: Hui Chun Ming ( *HC* ) Date: 19-Jan-07

Checked by: Hiu Yeung Tang ( *HY* ) Date: 19/1/07

**Annex 2 High Volume Air Sampler Calibration Worksheet**

**Project Title:** Expansion of Shek Wu Hui Sewage Treatment Works  
**Monitoring Location:** Flood Balancing Pumping Station at Po Wan Road near Wai Loi Tsuen (CAM2a)  
**Date:** 15-Nov-06  
**Time:** 13:45

|                         |           |
|-------------------------|-----------|
| Sampler Model:          | GBM2000H1 |
| Calibrator Orifice no.: | 517N      |
| Slope (m):              | 2.01069   |
| Intercept (b):          | -0.00482  |
| Correction coeff. (r)   | 0.9999    |
| Serial No.:             | 1097      |

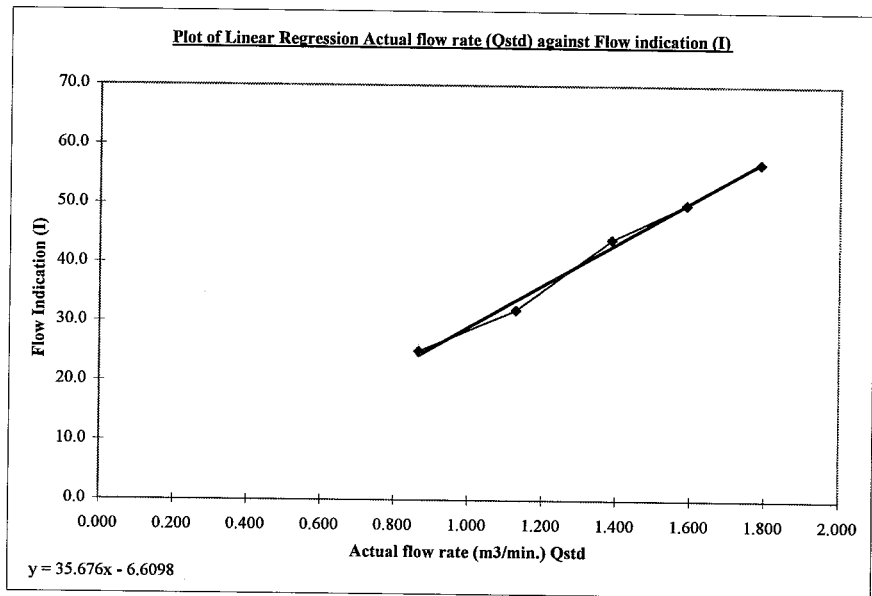
$$Flow(\text{corrected}) = \sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}}$$

|                                 |        |
|---------------------------------|--------|
| Standard pressure (mmHg) Pstd:  | 760.0  |
| Standard temp. (K) Tstd:        | 297.18 |
| Calibration pressure (mmHg) Pa: | 759.4  |
| Calibration temp. (K) Ta:       | 296.0  |


$$Qstd = \frac{1}{m} \times \left( \sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}} - b \right)$$

| Sample no. | Pressure Drop (H), inch | Flow (corrected), m <sup>3</sup> /min | Actual flow rate (Qstd), m <sup>3</sup> /min | Flow indication (I), arbitrary |
|------------|-------------------------|---------------------------------------|--|--------------------------------|
| 1          | 12.8                    | 3.588                                 | 1.787  | 57.0                           |
| 2          | 10.1                    | 3.188                                 | 1.588  | 50.0                           |
| 3          | 7.7                     | 2.783                                 | 1.387  | 44.0                           |
| 4          | 5.1                     | 2.265                                 | 1.129  | 32.0                           |
| 5          | 3.0                     | 1.737                                 | 0.866  | 25.0                           |


Correlation Coefficient : 0.9966



Remark  
 Qstd Range 0.6 - 1.7  
 1HPa = 0.750062 mmHg

Calibrated by: **Kenneth H.C. Choi**  
 (  )

Date: 15/11/06

Checked by: **Hui Yeung Tang**  
 (  )

Date: 17/11/06

**Annex 2 High Volume Air Sampler Calibration Worksheet**

**Project Title:** Expansion of Shek Wu Hui Sewage Treatment Works  
**Monitoring Location:** Flood Balancing Pumping Station at Po Wan Road near Wai Loi Tsuen (CAM2a)  
**Date:** 13-Jan-07  
**Time:** 16:30

|                         |           |
|-------------------------|-----------|
| Sampler Model:          | GBM2000H1 |
| Calibrator Orifice no.: | 517N      |
| Slope (m):              | 2.01069   |
| Intercept (b):          | -0.00482  |
| Correction coeff. (r)   | 0.9999    |
| Serial No.:             | 1097      |

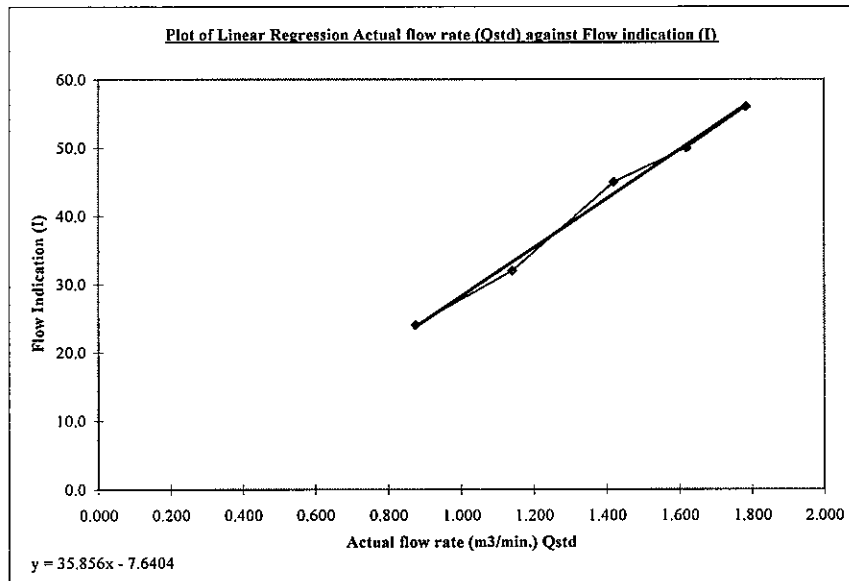
$$Flow(\text{corrected}) = \sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}}$$

|                                 |        |
|---------------------------------|--------|
| Standard pressure (mmHg) Pstd:  | 760.0  |
| Standard temp. (K) Tstd:        | 297.18 |
| Calibration pressure (mmHg) Pa: | 759.4  |
| Calibration temp. (K) Ta:       | 290.0  |

$$Qstd = \frac{1}{m} \times \left( \sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}} - b \right)$$

| Sample no. | Pressure Drop (H), inch | Flow (corrected), m <sup>3</sup> /min | Actual flow rate (Qstd), m <sup>3</sup> /min | Flow indication (I), arbitrary |
|------------|-------------------------|---------------------------------------|--|--------------------------------|
| 1          | 12.5                    | 3.583                                 | 1.784  | 56.0                           |
| 2          | 10.3                    | 3.252                                 | 1.620  | 50.0                           |
| 3          | 7.9                     | 2.848                                 | 1.419  | 45.0                           |
| 4          | 5.1                     | 2.288                                 | 1.140  | 32.0                           |
| 5          | 3.0                     | 1.755                                 | 0.875  | 24.0                           |

Correlation Coefficient : 0.9963



Remark  
 Qstd Range 0.6 - 1.7  
 1HPa = 0.750062 mmHg

Calibrated by: **Kenneth H.C. Choi**  
 ( *[Signature]* )

Date: 13/1/07

Checked by: **Hui Yeung Tang**  
 ( *[Signature]* )

Date: 15/1/07

**Annex 2 High Volume Air Sampler Calibration Worksheet**

**Project Title:** Expansion of Shek Wu Hui Sewage Treatment Works  
**Monitoring Location:** Flood Balancing Pumping Station at Po Wan Road near Wai Loi Tsuen (CAM2a)  
**Date:** 19-Jan-07  
**Time:** 14:00

|                         |           |
|-------------------------|-----------|
| Sampler Model:          | GBM2000H1 |
| Calibrator Orifice no.: | 517N      |
| Slope (m):              | 2.01069   |
| Intercept (b):          | -0.00482  |
| Correction coeff. (r)   | 0.9999    |
| Serial No.:             | 1097      |

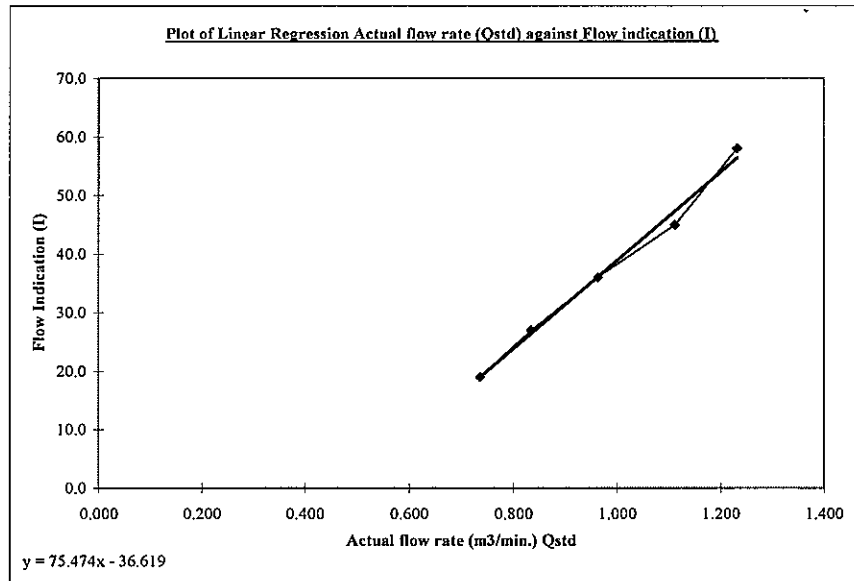
$$\text{Flow (corrected)} = \sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}}$$

|                                 |        |
|---------------------------------|--------|
| Standard pressure (mmHg) Pstd:  | 760.0  |
| Standard temp. (K) Tstd:        | 297.18 |
| Calibration pressure (mmHg) Pa: | 765.9  |
| Calibration temp. (K) Ta:       | 289.8  |

$$Qstd = \frac{1}{m} \times \left( \sqrt{H \times \frac{Pa}{Pstd} \times \frac{Tstd}{Ta}} - b \right)$$

| Sample no. | Pressure Drop (H), inch | Flow (corrected), m <sup>3</sup> /min | Actual flow rate (Qstd), m <sup>3</sup> /min | Flow indication (I), arbitrary |
|------------|-------------------------|---------------------------------------|--|--------------------------------|
| 1          | 5.9                     | 2.473                                 | 1.232  | 58.0                           |
| 2          | 4.8                     | 2.230                                 | 1.112  | 45.0                           |
| 3          | 3.6                     | 1.931                                 | 0.963  | 36.0                           |
| 4          | 2.7                     | 1.673                                 | 0.834  | 27.0                           |
| 5          | 2.1                     | 1.475                                 | 0.736  | 19.0                           |

Correlation Coefficient : 0.9956



Remark  
 Qstd Range 0.6 - 1.7  
 1HPa = 0.750062 mmHg

Calibrated by: Hui Chun Ming  
 ( *HC* )

Date: 19-Jan-07

Checked by: Hiu Yeung Tang  
 ( *HY* )

Date: 19/1/07



TISCH ENVIRONMENTAL, INC.  
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 513.467.9009 FAX  
 WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Apr 26, 2006 Rootsmeter S/N 9833620 Ta (K) - 294  
 Operator Tisch Orifice I.D. - 517N Pa (mm) - 750.57

| PLATE OR Run # | VOLUME START (m3) | VOLUME STOP (m3) | DIFF VOLUME (m3) | DIFF TIME (min) | METER DIFF Hg (mm) | ORFICE DIFF H2O (in.) |
|----------------|-------------------|------------------|------------------|-----------------|--------------------|-----------------------|
| 1              | NA                | NA               | 1.00             | 1.4140          | 3.2                | 2.00                  |
| 2              | NA                | NA               | 1.00             | 0.9910          | 6.3                | 4.00                  |
| 3              | NA                | NA               | 1.00             | 0.8890          | 7.8                | 5.00                  |
| 4              | NA                | NA               | 1.00             | 0.8480          | 8.7                | 5.50                  |
| 5              | NA                | NA               | 1.00             | 0.6980          | 12.5               | 8.00                  |

DATA TABULATION

| Vstd                                | (x axis) Qstd | (y axis) | Va                        | (x axis) Qa | (y axis) |
|-------------------------------------|---------------|----------|---------------------------|-------------|----------|
| 0.9967                              | 0.7049        | 1.4149   | 0.9957                    | 0.7042      | 0.8851   |
| 0.9926                              | 1.0016        | 2.0010   | 0.9916                    | 1.0006      | 1.2517   |
| 0.9905                              | 1.1142        | 2.2372   | 0.9895                    | 1.1131      | 1.3995   |
| 0.9894                              | 1.1667        | 2.3464   | 0.9884                    | 1.1656      | 1.4678   |
| 0.9843                              | 1.4102        | 2.8299   | 0.9833                    | 1.4087      | 1.7702   |
| Qstd slope (m) = 2.01069            |               |          | Qa slope (m) = 1.25906    |             |          |
| intercept (b) = -0.00482            |               |          | intercept (b) = -0.00301  |             |          |
| coefficient (r) = 0.99990           |               |          | coefficient (r) = 0.99990 |             |          |
| y axis = SQRT[H2O(Pa/760) (298/Ta)] |               |          | y axis = SQRT[H2O(Ta/Pa)] |             |          |

CALCULATIONS

Vstd = Diff. Vol [(Pa-Diff. Hg)/760] (298/Ta)  
 Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]  
 Qa = Va/Time

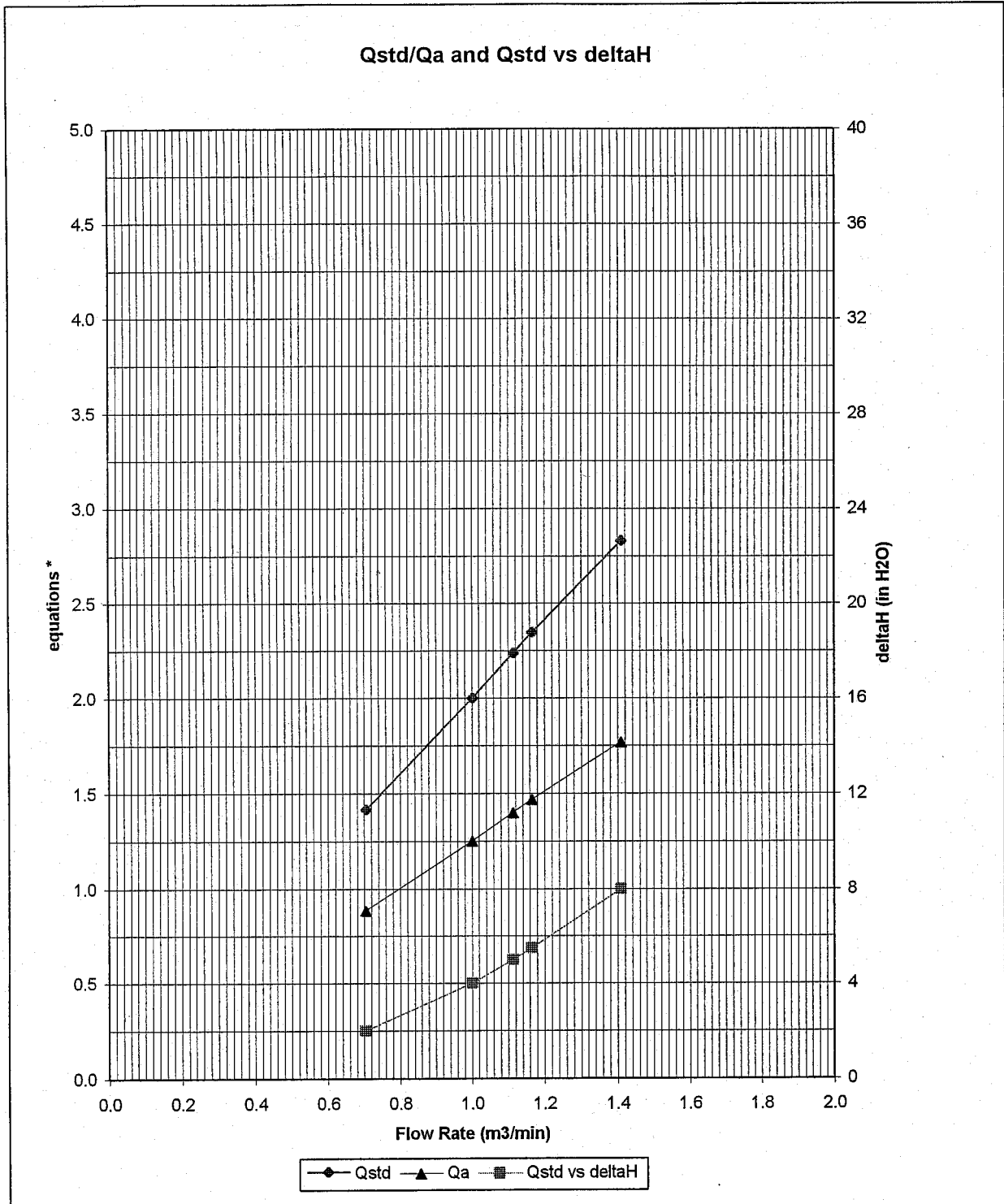
For subsequent flow rate calculations:

Qstd = 1/m{ [SQRT(H2O(Pa/760) (298/Ta))] - b }  
 Qa = 1/m{ [SQRT H2O(Ta/Pa)] - b }



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AIR POLLUTION MONITORING EQUIPMENT



\* y-axis equations:

Qstd series: 
$$\sqrt{\Delta H \left( \frac{P_a}{P_{std}} \right) \left( \frac{T_{std}}{T_a} \right)}$$

Qa series: 
$$\sqrt{(\Delta H (T_a / P_a))}$$

#517N



# Calibration Certificate

Certificate No. **70180**

Page 1 of 2 Pages

**Customer :** Hyder Consulting Limited

**Address :** Room 3801., Hopewell Centre, 183 Queen's Road East, Wan Chai, Hong Kong

**Order No. :** Q70049

**Date of receipt :** 11-Jan-07

## Item Tested

**Description :** Sound Level Calibrator

**Manufacturer :** B&K

**Model :** Type 4231

**Serial No. :** 1770806

## Test Conditions

**Date of Test :** 12-Jan-07

**Supply Voltage :** --

**Ambient Temperature :** (23 ± 3)°C

**Relative Humidity :** (50 ± 25) %

## Test Specifications

Calibration check.

Calibration procedure : F21, Z02.

## Test Results

All results were within the IEC 942 Class 1 specification.

The results are shown in the attached page(s).

Test equipment used:


| <u>Equipment No.</u> | <u>Description</u>     | <u>Cert. No.</u> | <u>Due Date</u> | <u>Traceable to</u> |
|----------------------|------------------------|------------------|-----------------|---------------------|
| S014                 | Spectrum Analyzer      | 62914            | 7-Jul-07        | NIM-PRC & SCL-HKSAR |
| S024                 | Sound Level Calibrator | 62691            | 22-Apr-07       | NIM-PRC & SCL-HKSAR |
| S041                 | Universal Counter      | 63839            | 22-Aug-07       | SCL-HKSAR           |

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

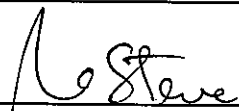
The test equipment used for calibration are traceable to International System of Units (SI).

The test results apply to the above Unit-Under-Test only

Calibrated by :

  
P.F. Wong

Approved by :

  
Steve Kwan

Date: 12-Jan-07

This Certificate is issued by:

Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.

Tel: 2425 8801 Fax: 2425 8846





# Calibration Certificate

Certificate No. 70180

Page 2 of 2 Pages

Results :

## 1. Level Accuracy

| UUT Nominal Value (dB) | Measured Value (dB) | IEC 942 Class 1 Spec. |
|------------------------|---------------------|-----------------------|
| 94                     | 93.95               | ± 0.3 dB              |
| 114                    | 113.82              |                       |

Uncertainty : ± 0.1 dB

## 2. Frequency

| UUT Nominal Value | Measured Value | IEC 942 Class 1 Spec. |
|-------------------|----------------|-----------------------|
| 1 kHz             | 0.997 kHz      | ± 2 %                 |

Uncertainty : ± 3.6 x 10<sup>-6</sup>

## 3. Level Stability : 0.0 dB

IEC 942 Class 1 Spec. : ± 0.1 dB

Uncertainty : ± 0.01 dB

## 4. Total Harmonic Distortion : < 1.0 %

IEC 942 Class 1 Spec. : < 3 %

Uncertainty : ± 2.3 % of reading

Remark : 1. UUT : Unit-Under-Test

2. The above measured values are the mean of 3 measurements.

3. The uncertainty claimed is for a confidence probability of not less than 95%.

4. Atmospheric Pressure : 1 016 hPa.

----- END -----



輝創工程有限公司

Sun Creation Engineering Limited Calibration and Testing Laboratory

Certificate No. : C062778

## *Certificate of Calibration*

*This is to certify that the equipment*

*Description : Precision Integrating Sound Level Meter*

*Manufacturer : Bruel & Kjaer*

*Model No. : 2236*

*Serial No. : 1774423*

*has been calibrated for the specific items and ranges.  
The results are shown in the Calibration Report No. C062778.*

*The equipment is supplied by*

*Co. Name : Hyder Consulting Limited*

*Address : 47/F., Hopewell Centre, 183 Queen's Road East,  
Wanchai, Hong Kong*

*Date of Issue : 22 June 2006*

*Certified by :*

  
C F Leung

The test equipment used for testing are traceable to the National Standards as specified in this report.  
This report shall not be reproduced except in full and with prior written approval from this laboratory.

Calibration and Testing Laboratory of Sun Creation Engineering Limited

c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

Tel: 2927 2606

Fax: 2744 8986

E-mail: callab@suncreation.com

Website: www.suncreation.com

# Calibration Report

## ITEM TESTED

DESCRIPTION : Precision Integrating Sound Level Meter  
MANUFACTURER : Bruel & Kjaer  
MODEL NO. : 2236  
SERIAL NO. : 1774423

## TEST CONDITIONS

AMBIENT TEMPERATURE :  $(23 \pm 2)^{\circ}\text{C}$  RELATIVE HUMIDITY :  $(55 \pm 20)\%$   
LINE VOLTAGE : ---

## TEST SPECIFICATIONS

Calibration check

DATE OF TEST : 22 June 2006

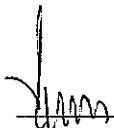
JOB NO. : IC06-1471

## TEST RESULTS

The results apply to the particular unit-under-test only.  
All results are within manufacturer's specification.  
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :  
- The Bruel & Kjaer Calibration Laboratory, Denmark

Tested by :

  
S K Ho

Date : 22 June 2006

The test equipment used for testing are traceable to the National Standards as specified in this report.  
This report shall not be reproduced except in full and with prior written approval from this laboratory.

# Calibration Report

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
2. Self calibration using laboratory acoustic calibrator was performed before test.
3. The results presented are the mean of 3 measurements at each calibration point.
4. Test equipment :

| <u>Equipment ID</u> | <u>Description</u>                | <u>Certificate No.</u> |
|---------------------|-----------------------------------|------------------------|
| CL281               | Multifunction Acoustic Calibrator | I4428                  |

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

| UUT Setting |           |              |          | Applied Value |             | UUT Reading (dB)        |                        | IEC 651 Type 1 Spec. (dB) |
|-------------|-----------|--------------|----------|---------------|-------------|-------------------------|------------------------|---------------------------|
| Range (dB)  | Parameter | Freq. Weight | Response | Level (dB)    | Freq. (kHz) | Before self-calibration | After self-calibration |                           |
| 20 - 100    | SPL       | A            | F        | 94.00         | 1           | 95.0                    | 94.1                   | ± 0.7                     |

6.1.2 Linearity

| UUT Setting |           |              |          | Applied Value |             | UUT Reading (dB) |
|-------------|-----------|--------------|----------|---------------|-------------|------------------|
| Range (dB)  | Parameter | Freq. Weight | Response | Level (dB)    | Freq. (kHz) |                  |
| 40 - 120    | SPL       | A            | F        | 94.00         | 1           | 94.1 (Ref.)      |
|             |           |              |          | 104.00        |             | 104.1            |
|             |           |              |          | 114.00        |             | 114.1            |

IEC 651 Type 1 Spec. : ±0.4 dB per 10 dB step and ±0.7 dB for overall different.

6.2 Time Weighting

| UUT Setting |           |              |          | Applied Value |             | UUT Reading (dB) | IEC 651 Type 1 Spec. (dB) |
|-------------|-----------|--------------|----------|---------------|-------------|------------------|---------------------------|
| Range (dB)  | Parameter | Freq. Weight | Response | Level (dB)    | Freq. (kHz) |                  |                           |
| 20 - 100    | SPL       | A            | F        | 94.00         | 1           | 94.1             | Ref.                      |
|             |           |              | S        |               |             | 94.2             | ± 0.1                     |
|             |           |              | I        |               |             | 94.2             | ± 0.1                     |

The test equipment used for testing are traceable to the National Standards as specified in this report.  
This report shall not be reproduced except in full and with prior written approval from this laboratory.

# Calibration Report

## 6.3 Frequency Weighting

### 6.3.1 A-Weighting

| UUT Setting |           |              |          | Applied Value |          | UUT Reading (dB) | IEC 651 Type I Spec. (dB) |
|-------------|-----------|--------------|----------|---------------|----------|------------------|---------------------------|
| Range (dB)  | Parameter | Freq. Weight | Response | Level (dB)    | Freq.    |                  |                           |
| 20 - 100    | SPL       | A            | F        | 94.00         | 31.5 Hz  | 54.9             | -39.4 ± 1.5               |
|             |           |              |          |               | 63 Hz    | 68.0             | -26.2 ± 1.5               |
|             |           |              |          |               | 125 Hz   | 77.9             | -16.1 ± 1.0               |
|             |           |              |          |               | 500 Hz   | 90.7             | -3.2 ± 1.0                |
|             |           |              |          |               | 1 kHz    | 94.1             | Ref.                      |
|             |           |              |          |               | 2 kHz    | 95.2             | +1.2 ± 1.0                |
|             |           |              |          |               | 4 kHz    | 95.1             | +1.0 ± 1.0                |
|             |           |              |          |               | 8 kHz    | 92.9             | -1.1 (+1.5 ; -3.0)        |
|             |           |              |          |               | 12.5 kHz | 88.9             | -4.3 (+3.0 ; -6.0)        |

### 6.3.2 C-Weighting

| UUT Setting |           |              |          | Applied Value |          | UUT Reading (dB) | IEC 651 Type I Spec. (dB) |
|-------------|-----------|--------------|----------|---------------|----------|------------------|---------------------------|
| Range (dB)  | Parameter | Freq. Weight | Response | Level (dB)    | Freq.    |                  |                           |
| 20 - 100    | SPL       | C            | F        | 94.00         | 31.5 Hz  | 91.4             | -3.0 ± 1.5                |
|             |           |              |          |               | 63 Hz    | 93.4             | -0.8 ± 1.5                |
|             |           |              |          |               | 125 Hz   | 94.0             | -0.2 ± 1.0                |
|             |           |              |          |               | 500 Hz   | 94.0             | 0.0 ± 1.0                 |
|             |           |              |          |               | 1 kHz    | 94.1             | Ref.                      |
|             |           |              |          |               | 2 kHz    | 93.8             | -0.2 ± 1.0                |
|             |           |              |          |               | 4 kHz    | 93.3             | -0.8 ± 1.0                |
|             |           |              |          |               | 8 kHz    | 91.1             | -3.0 (+1.5 ; -3.0)        |
|             |           |              |          |               | 12.5 kHz | 87.0             | -6.2 (+3.0 ; -6.0)        |

Remarks : - Mfr's Spec. : IEC 651 Type I

- Uncertainties of Applied Value : 94 dB : 31.5 Hz - 125 Hz : ± 0.40 dB
- 500 Hz : ± 0.30 dB
- 1 kHz : ± 0.20 dB
- 2 kHz : ± 0.40 dB
- 4 kHz : ± 0.50 dB
- 8 kHz : ± 0.70 dB
- 12.5 kHz : ± 1.20 dB
- 104 dB : 1 kHz : ± 0.30 dB
- 114 dB : 1 kHz : ± 0.30 dB

- The uncertainties are for a confidence probability of not less than 95 %.

Note :

The values given in this Calibration Report only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for testing are traceable to the National Standards as specified in this report. This report shall not be reproduced except in full and with prior written approval from this laboratory.