

High-Volume TSP Sampler
5-Point Calibration Record

Location : AM1(ICC)
 Calibrated by : K.T.Ho
 Date : 16/12/2015

Sampler

Model : TE-5170
 Serial Number : S/N 0767

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 14 Mar 2015
 Slope (m) : 2.09532
 Intercept (b) : -0.03812
 Correlation Coefficient(r) : 0.99994

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1026
 Ta(K) : 288

| Resistance Plate | dH [green liquid] (inch water) | Z | X=Qstd (cubic meter/min) | IC (chart) | Y (corrected) |
|------------------|-----------------------------------|-------|-----------------------------|---------------|------------------|
| 1 18 holes | 10.0 | 3.237 | 1.563 | 58 | 59.38 |
| 2 13 holes | 8.2 | 2.931 | 1.417 | 51 | 52.21 |
| 3 10 holes | 6.0 | 2.508 | 1.215 | 42 | 43.00 |
| 4 7 holes | 4.2 | 2.098 | 1.019 | 34 | 34.81 |
| 5 5 holes | 2.4 | 1.586 | 0.775 | 22 | 22.52 |

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship

Slope(m): 46.178 Intercept(b): -12.939

Correlation Coefficient(r): 0.9996

Checked by: 
 Magnum Fan

Date: 21/12/2015

High-Volume TSP Sampler
5-Point Calibration Record

Location : AM1(ICC)
 Calibrated by : K.T.Ho
 Date : 16/02/2016

Sampler

Model : TE-5170
 Serial Number : S/N 0767

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 14 Mar 2015
 Slope (m) : 2.09532
 Intercept (b) : -0.03812
 Correlation Coefficient(r) : 0.99994

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1024
 Ta(K) : 286

| Resistance Plate | dH [green liquid] (inch water) | Z | X=Qstd (cubic meter/min) | IC (chart) | Y (corrected) |
|------------------|-----------------------------------|-------|-----------------------------|---------------|------------------|
| 1 18 holes | 11.8 | 3.525 | 1.701 | 56 | 57.47 |
| 2 13 holes | 9.6 | 3.180 | 1.536 | 50 | 51.31 |
| 3 10 holes | 6.8 | 2.676 | 1.295 | 42 | 43.10 |
| 4 7 holes | 4.6 | 2.201 | 1.069 | 35 | 35.92 |
| 5 5 holes | 2.9 | 1.748 | 0.852 | 28 | 28.74 |

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship

Slope(m): 33.634 Intercept(b): -0.098

Correlation Coefficient(r): 0.9996

Checked by: 
 Magnum Fan

Date: 25/02/2016

High-Volume TSP Sampler
5-Point Calibration Record

Location : AM2 (Harbourside)
 Calibrated by : K.T.Ho
 Date : 16/12/2015

Sampler

Model : TE-5170
 Serial Number : S/N 8919

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
 Service Date : 14 Mar 2015
 Slope (m) : 2.09532
 Intercept (b) : -0.03812
 Correlation Coefficient(r) : 0.99994

Standard Condition

Pstd (hpa) : 1013
 Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1026
 Ta(K) : 288

| Resistance Plate | dH [green liquid] (inch water) | Z | X=Qstd (cubic meter/min) | IC (chart) | Y (corrected) |
|------------------|--------------------------------|-------|--------------------------|------------|---------------|
| 1 18 holes | 12.0 | 3.546 | 1.711 | 58 | 59.38 |
| 2 13 holes | 9.0 | 3.071 | 1.484 | 50 | 51.19 |
| 3 10 holes | 7.0 | 2.709 | 1.311 | 43 | 44.02 |
| 4 7 holes | 4.4 | 2.147 | 1.043 | 34 | 34.81 |
| 5 5 holes | 2.4 | 1.599 | 0.775 | 24 | 24.57 |

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship

Slope(m): 37.152 Intercept(b): -4.194 Correlation Coefficient(r): 0.9997

Checked by: 
 Magnum Fan

Date: 21/12/2015

High-Volume TSP Sampler
5-Point Calibration Record

Location : AM2 (Harbourside)
Calibrated by : K.T.Ho
Date : 16/02/2016

Sampler

Model : TE-5170
Serial Number : S/N 8919

Calibration Orifice and Standard Calibration Relationship

Serial Number : 2454
Service Date : 14 Mar 2015
Slope (m) : 2.09532
Intercept (b) : -0.03812
Correlation Coefficient(r) : 0.99994

Standard Condition

Pstd (hpa) : 1013
Tstd (K) : 298.18

Calibration Condition

Pa (hpa) : 1024
Ta(K) : 286

| Resistance Plate | dH [green liquid] (inch water) | Z | X=Qstd (cubic meter/min) | IC (chart) | Y (corrected) |
|------------------|--------------------------------|-------|--------------------------|------------|---------------|
| 1 18 holes | 12.4 | 3.614 | 1.743 | 62 | 63.63 |
| 2 13 holes | 9.4 | 3.147 | 1.520 | 54 | 55.42 |
| 3 10 holes | 7.2 | 2.754 | 1.332 | 48 | 49.26 |
| 4 7 holes | 4.4 | 2.153 | 1.046 | 38 | 39.00 |
| 5 5 holes | 2.6 | 1.655 | 0.808 | 28 | 28.74 |

Notes: $Z = \sqrt{dH(Pa/Pstd)(Tstd/Ta)}$, $X = Z/m - b$, $Y(\text{Corrected Flow}) = IC * \{\sqrt{Pa/Pstd}(Tstd/Ta)\}$

Sampler Calibration Relationship

Slope(m): 36.825 Intercept(b): -0.286 Correlation Coefficient(r): 0.9990

Checked by: 
Magnum Fan

Date: 25/02/2016



SIBATA SCIENTIFIC TECHNOLOGY LTD.

1-1-62, Nakane, Soka, Saitama, 340-0005 Japan

TEL : 048-933-1582 FAX : 048-933-1591

CALIBRATION CERTIFICATE

Date: May 28, 2015

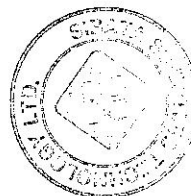
| | | |
|------------------------|---|-------------------------------------|
| Equipment Name | : | Digital Dust Indicator, Model LD-3B |
| Code No. | : | 080000-42 |
| Quantity | : | 1 unit |
| Serial No. | : | 2Z6240 |
| Sensitivity | : | 0.001 mg/m ³ |
| Sensitivity Adjustment | : | 570CPM |
| Scale Setting | : | May 25, 2015 |

We hereby certify that the above mentioned instrument has been calibrated satisfactory.

Sincerely

SIBATA SCIENTIFIC TECHNOLOGY LTD.

Kentaro Togo
Overseas Sales Division



TEST CERTIFICATE

CUSTOMER : INNOTECH INSTRUMENTATION CO.LTD.



SIBATA SCIENTIFIC TECHNOLOGY LTD.

Report No. 15-0798

DATE 26/May /2015

| | | |
|----------------|-----------------|---------------|
| APPROVE BY | VERIFIED BY | ISSUED BY |
|----------------|-----------------|---------------|

| | |
|------------------|--------------------------|
| PRODUCT NAME | : Digital Dust Indicator |
| MODEL NUMBER | : LD-3B |
| SERIAL NUMBER | : 2Z6240 |
| CALIBRATION DATE | : 25-May-2015 |

| Testing Category | Judging Standard | Judgment | Inspection chart |
|------------------------------|--|----------|---|
| Function Test | Switch, Display, Wiring will normally function | OK | Reference Value(S) 570 CPM |
| Sensitivity Calibration | Count is $\pm 2\%$ accurate to the master by the standard calibration particle | OK | |
| Dust Concentration Measuring | Count is $\pm 10\%$ accurate to the master under the 3 different concentration. | OK | |
| Stability | The maximum value of the sensitivity adjustment scale setting value of the machine and the difference with minimum value are within 5% compared with the maximum value. (The measurement is repeated three times for one minute.) | OK | Test atmosphere Temperature 23 °C Humidity 45 % |
| Synthetic Judgment | | | Good |

Equipment Verification Report (TSP)

Equipment Calibrated:

Type: Laser Dust monitor
 Manufacturer: Sibata LD-3B
 Serial No. 2Z6240
 Equipment Ref: Nil
 Job Order HK1520162

Standard Equipment:

Standard Equipment: Higher Volume Sampler
 Location & Location ID: AUES office (calibration room)
 Equipment Ref: HVS 018
 Last Calibration Date: 13 May 2015

Equipment Verification Results:

Testing Date: 22 & 23 June 2015

| Hour | Time | Mean Temp °C | Mean Pressure (hPa) | Concentration in mg/m ³ (Standard Equipment) | Total Count (Calibrated Equipment) | Count/Minute (Total Count/60min) |
|----------|---------------|--------------|---------------------|---|------------------------------------|----------------------------------|
| 2hr18min | 12:45 ~ 15:03 | 27.9 | 1003.2 | 0.010 | 1171 | 8.5 |
| 2hr25min | 15:08 ~ 17:33 | 27.9 | 1003.2 | 0.023 | 2290 | 15.7 |
| 2hr43min | 9:45 ~ 12:28 | 27.3 | 1003.9 | 0.014 | 1908 | 11.7 |

Sensitivity Adjustment Scale Setting (Before Calibration) 569 (CPM)

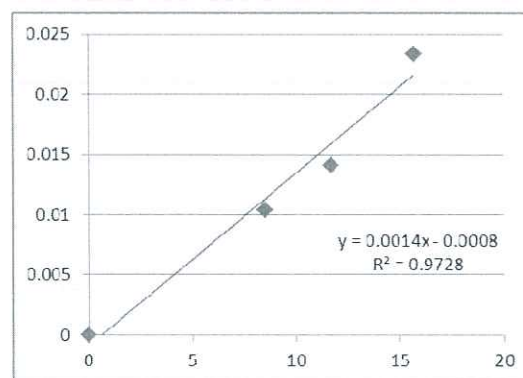
Sensitivity Adjustment Scale Setting (After Calibration) 574 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0014

Correlation Coefficient 0.9863

Date of Issue 24 June 2015



Remarks:

- Strong** Correlation ($R > 0.8$)
- Factor 0.0014 should be apply for TSP monitoring

*If $R < 0.5$, repair or re-verification is required for the equipment

Operator : Donald Kwok Signature : [Signature] Date : 24 June 2015

QC Reviewer : Ben Tam Signature : [Signature] Date : 24 June 2015



TISCH ENVIRONMENTAL, INC.
 145 SOUTH MIAMI AVE
 VILLAGE OF CLEVES, OH
 45002
 513.467.9000
 877.263.7610 TOLL FREE
 513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 24, 2015 Rootsmeter S/N 0438320 Ta (K) - 292
 Operator Tisch Orifice I.D. - 2454 Pa (mm) - 756.92

| 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 | 1.4460 | 3.2 | 2.00 |
| 2 | NA | NA | 1.00 | 1.0300 | 6.4 | 4.00 |
| 3 | NA | NA | 1.00 | 0.9180 | 7.9 | 5.00 |
| 4 | NA | NA | 1.00 | 0.8780 | 8.7 | 5.50 |
| 5 | NA | NA | 1.00 | 0.7240 | 12.6 | 8.00 |

DATA TABULATION

| Vstd | (x axis) Qstd | (y axis) | Va | (x axis) Qa | (y axis) |
|-------------------------------------|---------------|----------|---------------------------|-------------|----------|
| 1.0121 | 0.6999 | 1.4258 | 0.9958 | 0.6886 | 0.8784 |
| 1.0078 | 0.9785 | 2.0163 | 0.9916 | 0.9627 | 1.2422 |
| 1.0057 | 1.0955 | 2.2543 | 0.9895 | 1.0779 | 1.3888 |
| 1.0047 | 1.1443 | 2.3644 | 0.9885 | 1.1258 | 1.4566 |
| 0.9994 | 1.3805 | 2.8515 | 0.9833 | 1.3582 | 1.7568 |
| Qstd slope (m) = | | 2.09532 | Qa slope (m) = | | 1.31205 |
| intercept (b) = | | -0.03812 | intercept (b) = | | -0.02349 |
| coefficient (r) = | | 0.99994 | coefficient (r) = | | 0.99994 |
| 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 }