

ENSR ASIA (HK) LTD

TSP High Volume Sampler

Field Calibration Report

Station: TKO2 (Combined Reception & Exit Office) Operator: Shum Kam Yuen
 Cal. Date: 17-Dec-08 Next Due Date: 17-Feb-09
 Equipment No.: A-001-71T Serial No. 10268

Ambient Condition			
Temperature, Ta (K)	294	Pressure, Pa (mmHg)	764.1

Orifice Transfer Standard Information					
Serial No:	843	Slope, mc	2.02158	Intercept, bc	-0.02524
Last Calibration Date:	4-Nov-08	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	4-Nov-09	$Qstd = \{[DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Resistance Plate No.	Orifice			HVS Flow Recorder	
	DH (orifice), in. of water	[DH x (Pa/760) x (298/Ta)] ^{1/2}	Qstd (m ³ /min) X - axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	10.6	3.29	1.64	50.0	50.47
13	8.4	2.93	1.46	44.0	44.42
10	6.5	2.57	1.29	38.0	38.36
7	4.0	2.02	1.01	32.0	32.30
5	2.6	1.63	0.82	24.0	24.23

By Linear Regression of Y on X
 Slope, mw = 30.7393 Intercept, bw = -0.2369
 Correlation Coefficient* = 0.9914
 *If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m³/min
 From the Regression Equation, the "Y" value according to

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

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]^{1/2} = 39.35

Remarks: _____

QC Reviewer: Joe Fu Signature: Joe Date: 18 Dec 08

EQUIPMENT CALIBRATION RECORD

Type: Laser Dust Monitor
 Manufacturer/Brand: SIBATA
 Model No.: LD-3
 Equipment No.: A.005.09a
 Sensitivity Adjustment Scale Setting: 797 CPM
 Operator: Mike Shek (MSKM)

Standard Equipment

Equipment: Rupprecht & Patashnick TEOM®
 Venue: Cyberport (Pui Ying Secondary School)
 Model No.: Series 1400AB
 Serial No.: Control: 140AB219899803
 Sensor: 1200C143659803 K₀: 12500
 Last Calibration Date*: 12 June 2008

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): 797 CPM
 Sensitivity Adjustment Scale Setting (After Calibration): 797 CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration ¹ (mg/m ³) Y-axis	Total Count ²	Count/ Minute ³ X-axis
			Temp (°C)	R.H. (%)			
1	15-06-08	08:00 - 09:00	29.7	78	0.01928	716	11.94
2	15-06-08	09:00 - 10:00	29.8	79	0.02128	767	12.78
3	15-06-08	10:00 - 11:00	29.8	78	0.02574	885	14.75
4	15-06-08	11:00 - 12:00	29.7	79	0.01953	712	11.86

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
 2. Total Count was logged by Laser Dust Monitor
 3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X
 Slope (K-factor): 0.0017
 Correlation coefficient: 0.9359
 Validity of Calibration Record: 14 June 2009

Remarks:

QC Reviewer: Mike Shek Signature: Mike Date: 16 June 2008