東業德勤測試顧問有限公司
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TEST REPORT

Calibration Report
of
High Volume Air Sampler

Manufacturer : Graseby GMW

Date of Calibration : 14 October 2008

Serial No. : 1173 (ET / EA / 003 / 17)

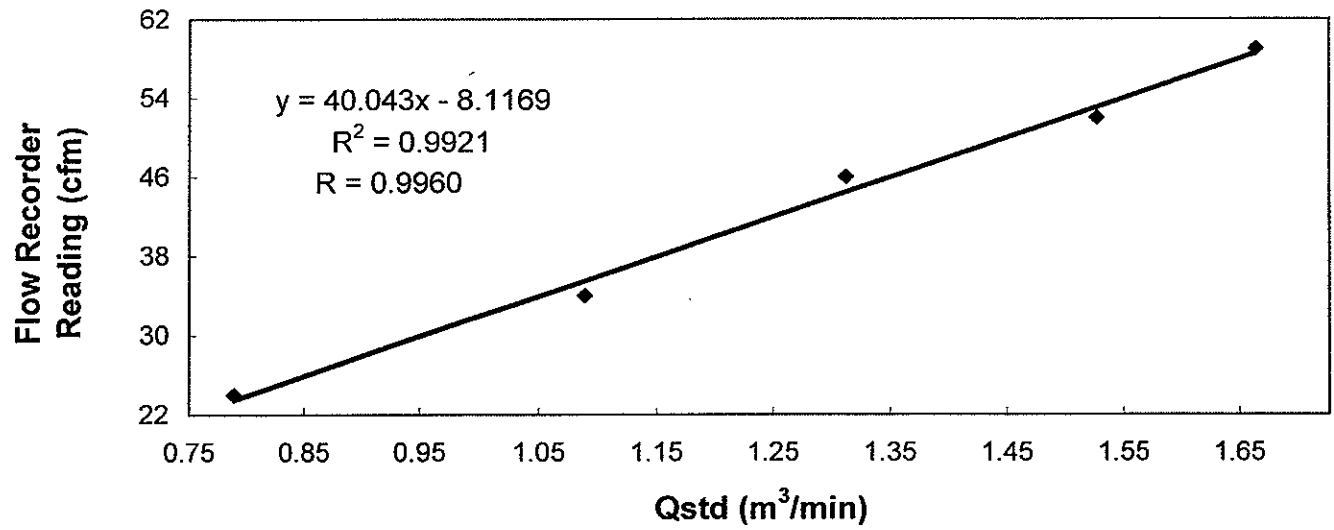
Calibration Due Date : 13 December 2008

Method : Based on Operation Manual to perform 5-point calibration by using calibration kit Tisch TE-5025 A

Results :

Flow recorder reading (cfm)	59	52	46	34	24
Qstd (Actual flow rate, m^3/min)	1.66	1.53	1.31	1.09	0.79
Pressure : 755 mm Hg		Temp. : 303 K			

Sampler 1173 Calibration Curve
Site: Sok Kwu Wan (AM-1)



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after 5-point calibration

The high volume sampler complies* / ~~does not comply~~* with the specified requirements and is deemed acceptable*/ ~~unacceptable~~* for use.

Calibrated by : _____
LEUNG, Ka Chun
(Assistant Environmental Officer)

Approved by : _____
LAW, Sau Yee
(Senior Environmental Officer)

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TEST REPORT

Calibration Report of High Volume Air Sampler

Manufacturer : Graseby GMW

Date of Calibration : 14 October 2008

Serial No. : 9865 (ET / EA / 003 / 14)

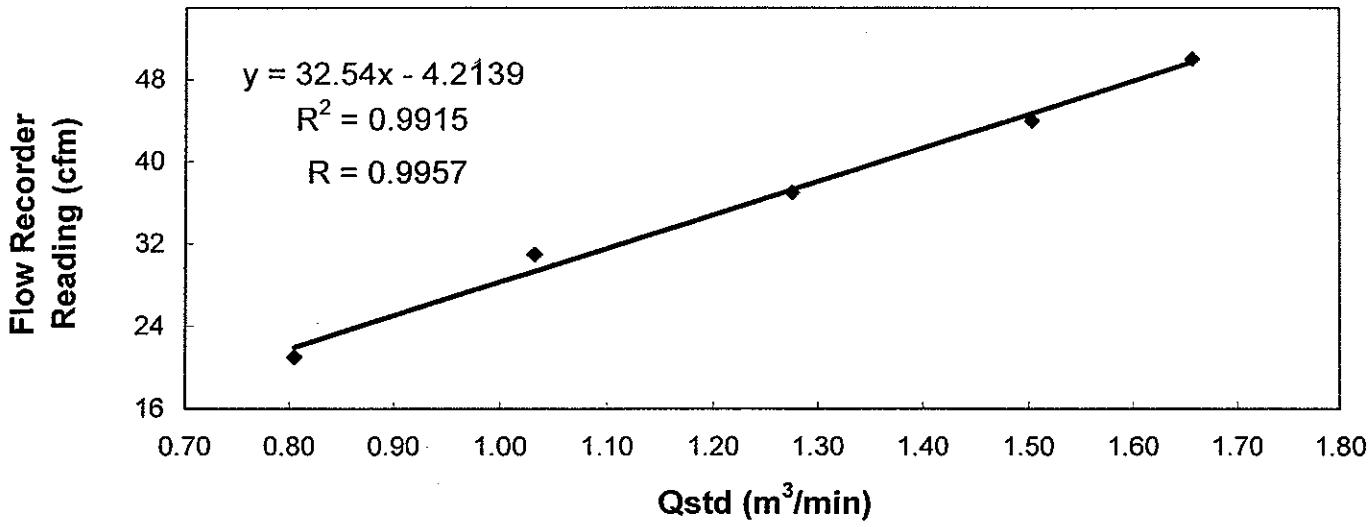
Calibration Due Date : 13 December 2008

Method : Based on Operations Manual for in series calibration method by TISCH ENVIROMENTAL Model Te-5025A calibration kit

Results :

Flow recorder reading (cfm)	50	44	37	31	21
Qstd (Actual flow rate, m^3/min)	1.66	1.50	1.27	1.03	0.80
Pressure : 755 mm Hg		Temp. : 303 K			

Sampler 9865 Calibration Curve
Site: Sok Kwu Wan (AM-2)



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

The high volume sampler complies* / ~~does not comply~~* with the specified requirements and is deemed acceptable*/ ~~unacceptable~~* for use.

Calibrated by : _____
LEUNG, Ka Chun
(Assistant Environmental Officer)

Approved by : _____
LAW, Sau Yee
(Senior Environmental Officer)

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TEST REPORT

Calibration Report of High Volume Air Sampler

Manufacturer : Graseby GMW

Date of Calibration : 14 October 2008

Serial No. : 9912 (ET / EA / 003 / 15)

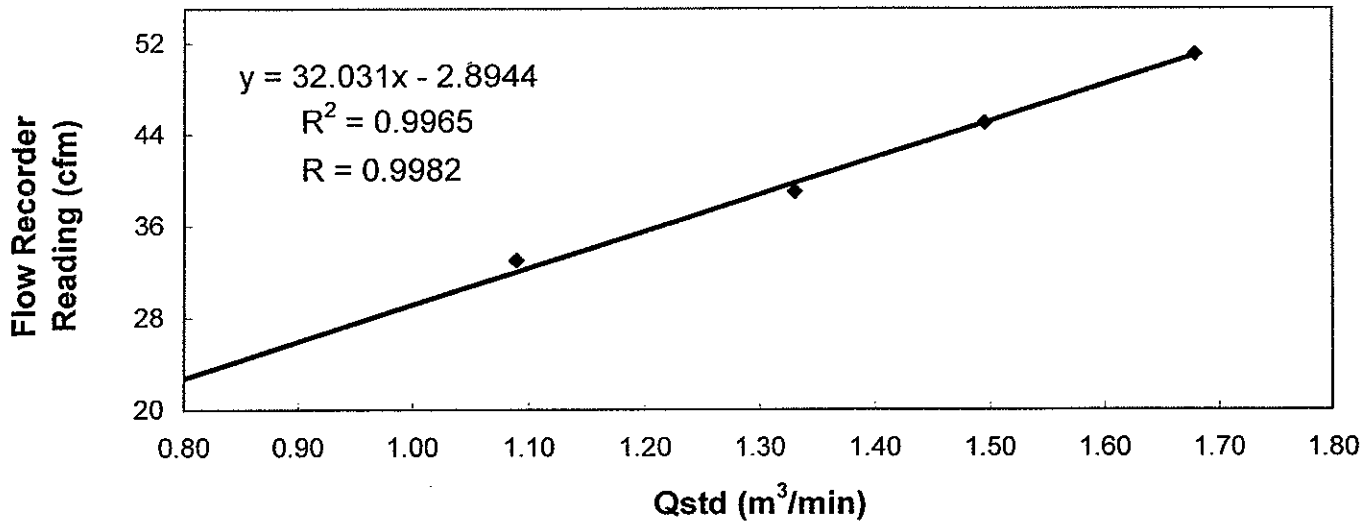
Calibration Due Date : 13 December 2008

Method : Based on Operations Manual for in series calibration method by TISCH ENVIROMENTAL Model Te-5025A calibration kit

Results :

Flow recorder reading (cfm)	51	45	39	33	22
Qstd (Actual flow rate, m^3/min)	1.68	1.50	1.33	1.09	0.79
Pressure : 755 mm Hg		Temp. : 303 K			

Sampler 9912 Calibration Curve
Site: Sok Kwu Wan (AM-3)



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

The high volume sampler complies* / ~~does not comply~~* with the specified requirements and is deemed acceptable*/ ~~unacceptable~~* for use.

Calibrated by : _____
LEUNG, Ka Chun
(Assistant Environmental Officer)

Approved by : _____
LAW, Sau Yee
(Senior Environmental Officer)

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TEST REPORT

Internal Calibration Report of Dust Trak Monitor

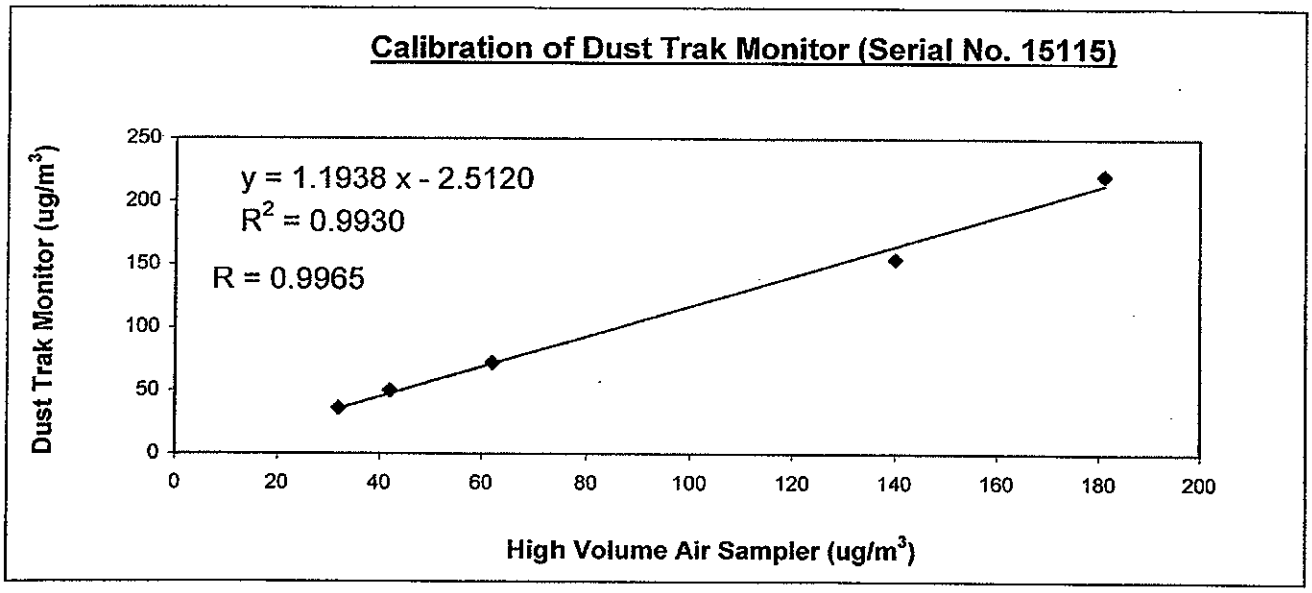
Manufacturer : TSI - 8520 Dust Trak Date of Calibration : 14 July 2008

Serial No. : 15115 (ET/EA/001/02) Calibration Due Date : 13 January 2009

Method : Parallel measurement (five-point calibration) by placing the Dust Trak Monitor and High Volume Air Samper together under the same environmental condition

Results :

Dust Trak Monitor (ug/m^3)	36	50	72	154	221
High Volume Air Sampler (ug/m^3)	32	42	62	140	181
Serail No of High Volume Air Sampler : 1178		Calibration Date: 01 September 2008			



Acceptance Criteria :
Correlation coefficient (r) of the calibration curve greater than 0.990 after a five point calibration

The Dust Trak Monitor complies * / ~~does not comply~~ * with the internal calibration procedures and is deemed acceptable */ ~~unacceptable~~ * for use.

Calibrated by : _____
LEUNG, Ka Ming
(Assistant Environmental Officer)

Approved by : _____
LAW, Sau Yee
(Senior Environmental Officer)

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TEST REPORT

Internal Calibration Report of Dust Trak Monitor

Manufacturer : TSI - 8520 Dust Trak

Date of Calibration : 12 July 2008

Serial No. : 14230 (ET/EA/001/04)

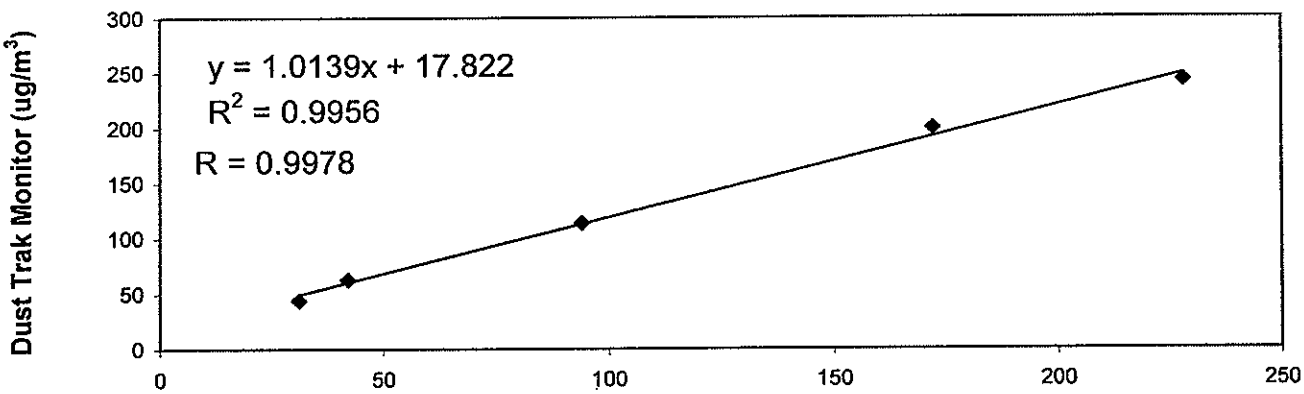
Due Date : 11 January 2009

Method : Parallel measurement (five-point calibration) by placing the Dust Trak Monitor and High Volume Air Samper together under the same environmental condition

Results :

Dust Trak Monitor (ug/m^3)	44	63	114	200	243
High Volume Air Sampler (ug/m^3)	31	42	94	172	228
High Volume Air Sampler Serail No.: 1178		Calibration Due Date: 01 September 2008			

Calibration of Dust Trak Monitor (Serial No. 14230)



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a five point calibration

The Dust Trak Monitor complies * / ~~does not comply~~ * with the internal calibration procedures and is deemed acceptable */ ~~unacceptable~~ * for use.

Calibrated by : LEUNG, Ka Chun (Assistant Environmental Officer)

Approved by : LAW, Sau Yee (Senior Environmental Officer)

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WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - May 14, 2008 Rootsmeter S/N 9833620 Ta (K) - 295
Operator Tisch Orifice I.D. - 1172 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	1.3800	3.1	2.00
2	NA	NA	1.00	0.9650	6.3	4.00
3	NA	NA	1.00	0.8630	7.9	5.00
4	NA	NA	1.00	0.8230	8.6	5.50
5	NA	NA	1.00	0.6770	12.7	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)
0.9935	0.7199	1.4125		0.9958	0.7216	0.8866
0.9893	1.0252	1.9976		0.9916	1.0276	1.2538
0.9870	1.1437	2.2334		0.9894	1.1464	1.4018
0.9862	1.1983	2.3424		0.9885	1.2011	1.4703
0.9807	1.4486	2.8251		0.9830	1.4521	1.7732
Qstd slope (m) =		1.94106		Qa slope (m) =		1.21546
intercept (b) =		0.01311		intercept (b) =		0.00823
coefficient (r) =		0.99996		coefficient (r) =		0.99996
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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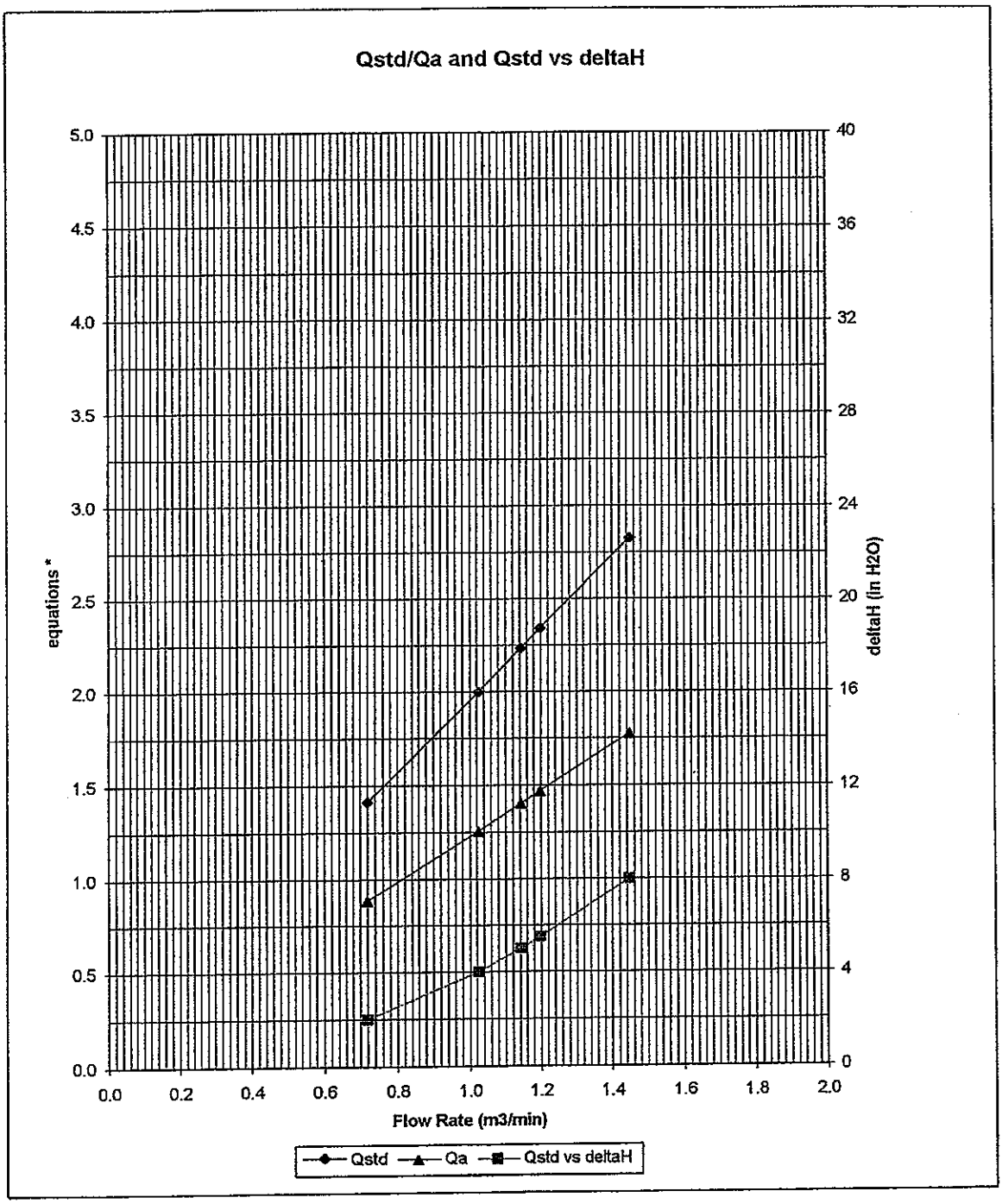
AIR POLLUTION MONITORING EQUIPMENT



*** y-axis equations:**

Qstd series: $\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$

Qa series: $\sqrt{(\Delta H\ (Ta\ /\ Pa))}$

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