



# Certificate of Calibration 校正證書

Certificate No. : C143157  
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC14-1278) Date of Receipt / 收件日期 : 15 May 2014

Description / 儀器名稱 : Acoustical Calibrator  
Manufacturer / 製造商 : Brüel & Kjær  
Model No. / 型號 : 4231  
Serial No. / 編號 : 3003246  
Supplied By / 委託者 : Atkins China Limited  
13/F, Wharf T&T Centre, Harbour City, Tsim Sha Tsui, Kowloon

## TEST CONDITIONS / 測試條件

Temperature / 溫度 :  $(23 \pm 2)^{\circ}\text{C}$  Relative Humidity / 相對濕度 :  $(55 \pm 20)\%$   
Line Voltage / 電壓 : ---

## TEST SPECIFICATIONS / 測試規範

Calibration check


DATE OF TEST / 測試日期 : 24 May 2014

## TEST RESULTS / 測試結果

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 Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By :   
測試 : K C Lee  
Project Engineer

Certified By :   
核證 : K M Wu  
Engineer

Date of Issue : 28 May 2014  
簽發日期

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本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

# Certificate of Calibration

## 校正證書

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- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

<u>Equipment ID</u>	<u>Description</u>	<u>Certificate No.</u>
CL130	Universal Counter	C133632
CL281	Multifunction Acoustic Calibrator	DC130171
TST150A	Measuring Amplifier	C141558

- Test procedure : MA100N.

- Results :

### 5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.2	± 0.2
114 dB, 1 kHz	114.0		

### 5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.000 0	1 kHz ± 0.1 %	± 0.1

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

### Note :

The values given in this 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 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.



輝創工程有限公司

Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No. : C135382

證書編號

ITEM TESTED / 送檢項目 ( Job No. / 序引編號 : IC13-2172 )

Description / 儀器名稱 : Integrating Sound Level Meter

Manufacturer / 製造商 : Brüel & Kjær

Model No. / 型號 : 2238

Serial No. / 編號 : 2808432

Supplied By / 委託者 : Atkins China Limited

13/F, Wharf T&T Centre, Harbour City, Tsim Sha Tsui, Kowloon

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C

Relative Humidity / 相對濕度 : (55 ± 20)%

Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 26 August 2013

TEST RESULTS / 測試結果

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 Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By

測試

:   
K C Lee

Certified By

核證

:   
K M Wu

Date of Issue

簽發日期

: 28 August 2013

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Sun Creation Engineering Limited – Calibration & Testing Laboratory

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輝創工程有限公司 – 校正及檢測實驗室

c/o 香港新界屯門興安里一號青山灣機樓四樓

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# Certificate of Calibration

## 校正證書

Certificate No. : C135382

證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- Self-calibration using laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.
- The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C130019
CL281	Multifunction Acoustic Calibrator	DC130171

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L <sub>AFP</sub>	A	F	94.00	1	94.2

6.1.1.2 After Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L <sub>AFP</sub>	A	F	94.00	1	94.1	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L <sub>AFP</sub>	A	F	94.00	1	94.1 (Ref.)
				104.00		104.1
				114.00		114.1

IEC 60651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

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輝創工程有限公司 – 校正及檢測實驗室

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# Certificate of Calibration

## 校正證書

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### 6.2 Time Weighting

#### 6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L <sub>AFP</sub>	A	F	94.00	1	94.1	Ref.
	L <sub>ASP</sub>		S			94.1	± 0.1
	L <sub>AIP</sub>		I			94.2	± 0.1

#### 6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
30 - 110	L <sub>AFP</sub>	A	F	106.0	Continuous	106.0	Ref.
	L <sub>AFMax</sub>				200 ms	105.0	-1.0 ± 1.0
	L <sub>ASP</sub>		S		Continuous	106.0	Ref.
	L <sub>ASMax</sub>				500 ms	102.0	-4.1 ± 1.0

### 6.3 Frequency Weighting

#### 6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L <sub>AFP</sub>	A	F	94.00	31.5 Hz	55.0	-39.4 ± 1.5
					63 Hz	68.0	-26.2 ± 1.5
					125 Hz	78.0	-16.1 ± 1.0
					250 Hz	85.4	-8.6 ± 1.0
					500 Hz	90.9	-3.2 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	95.3	+1.2 ± 1.0
					4 kHz	95.1	+1.0 ± 1.0
					8 kHz	93.0	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.8	-4.3 (+3.0 ; -6.0)

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### 6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L <sub>CFP</sub>	C	F	94.00	31.5 Hz	91.3	-3.0 ± 1.5
					63 Hz	93.4	-0.8 ± 1.5
					125 Hz	93.9	-0.2 ± 1.0
					250 Hz	94.1	0.0 ± 1.0
					500 Hz	94.1	0.0 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	93.9	-0.2 ± 1.0
					4 kHz	93.3	-0.8 ± 1.0
					8 kHz	91.0	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.9	-6.2 (+3.0 ; -6.0)

### 6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
30 - 110	L <sub>Aeq</sub>	A	10 sec.	4	1	1/10	110.0	100	99.9	± 0.5
			60 sec.					90	90.0	± 0.5
			5 min.					80	79.7	± 1.0
								70	69.7	± 1.0

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2791442

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :

94 dB	31.5 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	12.5 kHz	: ± 0.70 dB
	104 dB : 1 kHz	: ± 0.10 dB (Ref. 94 dB)
	114 dB : 1 kHz	: ± 0.10 dB (Ref. 94 dB)
	Burst equivalent level	: ± 0.2 dB (Ref. 110 dB continuous sound level)

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

#### Note :

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ENVIROTECH SERVICES CO.

**High-Volume TSP Sampler**  
**5-Point Calibration Record**

Location : AMS5(Ma Wan Chung Village)  
Calibrated by : K.F.Ho  
Date : 10/04/2014

**Sampler**

Model : TE-5170  
Serial Number : S/N3640

**Calibration Orifice and Standard Calibration Relationship**

Serial Number : 2454  
Service Date : 24 Mar 2014  
Slope (m) : 2.07593  
Intercept (b) : -0.00102  
Correlation Coefficient(r) : 0.99996

**Standard Condition**

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

**Calibration Condition**

Pa (hpa) : 1015  
Ta(K) : 296

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1   18 holes	10.6	3.263	1.572	61	61.13
2   13 holes	8.6	2.939	1.416	55	55.12
3   10 holes	6.8	2.613	1.259	47	47.10
4   7 holes	4.8	2.196	1.058	39	39.08
5   5 holes	2.6	1.616	0.779	26	26.06

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): 44.369 Intercept(b): -8.298 Correlation Coefficient(r): 0.9994

Checked by: Magnum Fan

Date: 22/04/2014



ENVIROTECH SERVICES CO.

**High-Volume TSP Sampler**  
**5-Point Calibration Record**

Location : AMS5(Ma Wan Chung Village)  
Calibrated by : K.F.Ho  
Date : 10/06/2014

**Sampler**

Model : TE-5170  
Serial Number : S/N3640

**Calibration Office and Standard Calibration Relationship**

Serial Number : 2454  
Service Date : 24 Mar 2014  
Slope (m) : 2.07593  
Intercept (b) : -0.00102  
Correlation Coefficient(r) : 0.99996

**Standard Condition**

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

**Calibration Condition**

Pa (hpa) : 1002  
Ta(K) : 302

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1   18 holes	11.4	3.357	1.618	58	57.66
2   13 holes	8.4	2.881	1.389	55	54.68
3   10 holes	6.7	2.573	1.240	46	45.73
4   7 holes	4.5	2.109	1.016	38	37.78
5   5 holes	2.5	1.572	0.758	25	24.85

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): 45.185 Intercept(b): -8.761

Correlation Coefficient(r): 0.9990

Checked by: Magnum Fan

Date: 17/06/2014



ENVIROTECH SERVICES CO.

**High-Volume TSP Sampler**  
**5-Point Calibration Record**

Location : AMS6(Dragonair Building)  
Calibrated by : K.F.Ho  
Date : 14/04/2014

**Sampler**

Model : TE-5170  
Serial Number : S/N3639

**Calibration Orifice and Standard Calibration Relationship**

Serial Number : 2454  
Service Date : 24 Mar 2014  
Slope (m) : 2.07593  
Intercept (b) : -0.00102  
Correlation Coefficient(r) : 0.99996

**Standard Condition**

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

**Calibration Condition**

Pa (hpa) : 1014  
Ta(K) : 297

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1   18 holes	12.2	3.508	1.690	56	56.24
2   13 holes	9.8	3.144	1.515	50	50.22
3   10 holes	7.6	2.769	1.334	45	45.20
4   7 holes	5.2	2.290	1.104	37	37.16
5   5 holes	3.0	1.740	0.838	29	29.13

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): 31.815 Intercept(b): 2.344

Correlation Coefficient(r): 0.9996

Checked by: Magnum Fan

Date: 22/04/2014

ENVIROTECH SERVICES CO.

**High-Volume TSP Sampler**  
**5-Point Calibration Record**

Location : AMS6(Dragonair Building)  
Calibrated by : K.F.Ho  
Date : 10/06/2014

**Sampler**

Model : TE-5170  
Serial Number : S/N3639

**Calibration Office and Standard Calibration Relationship**

Serial Number : 2454  
Service Date : 24 Mar 2014  
Slope (m) : 2.07593  
Intercept (b) : -0.00102  
Correlation Coefficient(r) : 0.99996

**Standard Condition**

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

**Calibration Condition**

Pa (hpa) : 1002  
Ta(K) : 302

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1   18 holes	12	3.422	1.649	57	56.31
2   13 holes	9.6	3.061	1.475	50	49.40
3   10 holes	7.5	2.706	1.304	44	43.47
4   7 holes	5.1	2.231	1.075	36	35.57
5   5 holes	2.9	1.682	0.811	27	26.67

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):35.127 Intercept(b): -2.075

Correlation Coefficient(r): 0.9995

Checked by: Magnum Fan

Date: 17/06/2014



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

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Mar 24, 2014 Roots-meter S/N 0438320 Ta (K) - 293  
 Operator Tisch Orifice I.D. - 2454 Pa (mm) - 758.19

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	1.4740	3.2	2.00
2	NA	NA	1.00	1.0340	6.4	4.00
3	NA	NA	1.00	0.9240	7.9	5.00
4	NA	NA	1.00	0.8820	8.8	5.50
5	NA	NA	1.00	0.7270	12.7	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
1.0103	0.6854	1.4245	0.9958	0.6755	0.8791
1.0061	0.9730	2.0146	0.9916	0.9590	1.2433
1.0040	1.0866	2.2524	0.9895	1.0709	1.3900
1.0028	1.1370	2.3623	0.9884	1.1206	1.4579
0.9976	1.3722	2.8491	0.9832	1.3524	1.7583
Qstd slope (m) = 2.07593			Qa slope (m) = 1.29991		
intercept (b) = -0.00102			intercept (b) = -0.00063		
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 }

## EQUIPMENT CALIBRATION RECORD

Type : Laser Dust Monitor  
 Manufacturer / Brand : SIBATA  
 Model No.: LD-3B  
 Equipment No.: LD-3B-003  
 Sensitivity Adjustment Scale Setting : 799 CPM

Operator: \_\_\_\_\_

### **Standard Equipment**

Equipment : MFC High Volume Air Sampler  
 Venue : The Arcade, Cyberport  
 Model No.: TE-5170 Total Suspended Particulated  
 Serial No.: 276018

Last Calibration Date N/A

### **Calibration Result**

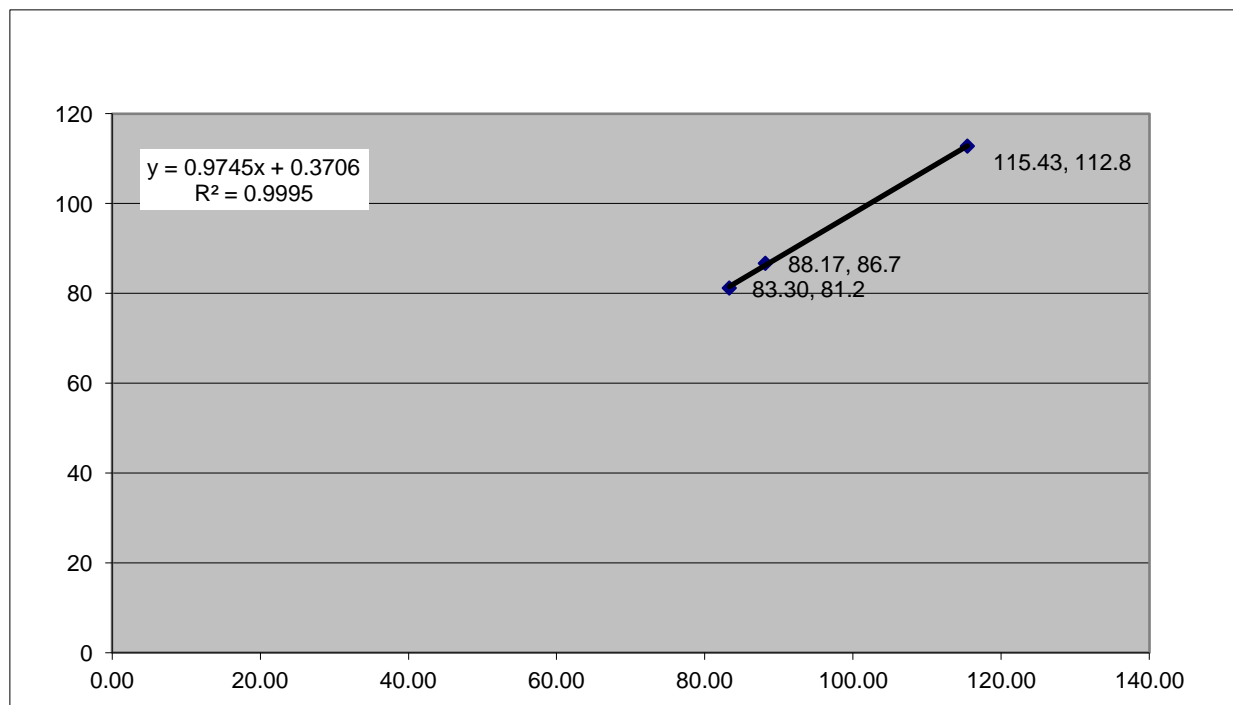
Sensitivity Adjustment Scale Setting (Before Calibration) : 799 CPM  
 Sensitivity Adjustment Scale Setting (After Calibration) : 799 CPM

Hour	Date (dd-mmm-yy)	Time		Ambient Condition		Concentration (ug/m3) Y-axis	Total Count	Count/Minute X-axis
				Temp (C)	R.H. (%)			
1	04-Oct-13	09:34	10:34	26.2	72%	112.8	6926	115.43
2	04-Oct-13	10:45	11:45	26.2	72%	86.7	5290	88.17
3	04-Oct-13	11:50	12:50	26.2	72%	81.2	4998	83.30

Be Linear Regression of Y or X

Slope (K-factor): 0.975  
 Correlation coefficient : 0.9995

Remark: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



Recorded by: Ruby Law

Signature: 

Date: 21/10/2013

Checked by: Keith Chau

Signature: 

Date: 21/10/2013



# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

**Work Order:** HK1414464  
**Date of Issue:** 19/05/2014  
**Client:** AECOM ASIA COMPANY LIMITED



**Description:** Sonde  
**Brand Name:** YSI  
**Model No.:** 6820 V2  
**Serial No.:** 12A101545  
**Equipment No.:** W.026.35  
**Date of Calibration:** 13 May, 2014

**Date of next Calibration:** 13 August, 2014

**Parameters:**

**Conductivity**

**Method Ref: APHA (20th edition), 2510B**

Expected Reading (uS/cm)	Displayed Reading (uS/cm )	Tolerance (%)
146.9	147.2	+0.2
6667	6710	+0.6
12890	12710	-1.4
58670	58520	-0.3
Tolerance Limit (%)		±10.0

**Dissolved Oxygen Method Ref: APHA (21st edition), 4500: G**

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.66	3.70	+0.04
5.85	5.89	+0.04
7.65	7.70	+0.05
Tolerance Limit (mg/L)		±0.20

**pH Value**

**Method Ref: APHA (21st edition), 4500H:B**

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	4.01	+0.01
7.0	7.05	+0.05
10.0	9.94	-0.06
Tolerance Limit (pH Unit)		±0.20

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

  
 \_\_\_\_\_  
 Mr Fung Lim Chee, Richard  
 General Manager -  
 Greater China & Hong Kong

# REPORT OF EQUIPMENT PERFORMANCE CHECK / CALIBRATION

**Work Order:** HK1414464  
**Date of Issue:** 19/05/2014  
**Client:** AECOM ASIA COMPANY LIMITED



**Description:** Sonde  
**Brand Name:** YSI  
**Model No.:** 6820 V2  
**Serial No.:** 12A101545  
**Equipment No.:** W.026.35  
**Date of Calibration:** 13 May, 2014

**Date of next Calibration:** 13 August, 2014

**Parameters:**

**Salinity**

**Method Ref:** APHA (21st edition), 2520B

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)
0	0.00	--
10	9.68	-3.2
20	19.86	-0.7
30	29.72	-0.9
Tolerance Limit (%)		±10.0

**Temperature**

**Method Ref:** Section 6 of International Accreditation New Zealand Technical

**Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.**

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)
13.5	13.42	-0.1
25.5	24.40	-1.1
38.0	37.66	-0.3
Tolerance Limit (°C)		±2.0

**Turbidity**

**Method Ref:** APHA (21st edition), 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	4.1	+2.5
10	10.0	0.0
20	19.8	-1.0
50	49.5	-1.0
100	99.6	-0.4
Tolerance Limit (%)		±10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

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 Mr Fung Lim Chee, Richard  
 General Manager  
 Greater China & Hong Kong

# REPORT OF EQUIPMENT PERFORMANCE CHECK / CALIBRATION

**Work Order:** HK1414461  
**Date of Issue:** 19/05/2014  
**Client:** AECOM ASIA COMPANY LIMITED



**Description:** Sonde  
**Brand Name:** YSI  
**Model No.:** 6820 V2  
**Serial No.:** 12D100972  
**Equipment No.:** W.026.36  
**Date of Calibration:** 13 May, 2014

**Date of next Calibration:** 13 August, 2014

**Parameters:**

**Conductivity**

**Method Ref: APHA (20th edition), 2510B**

Expected Reading (uS/cm)	Displayed Reading (uS/cm )	Tolerance (%)
146.9	145.8	-0.7
6667	6640	-0.4
12890	12750	-1.1
58670	58200	-0.8
Tolerance Limit (%)		±10.0

**Dissolved Oxygen Method Ref: APHA (21st edition), 4500: G**

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.66	3.69	+0.03
5.85	5.81	-0.04
7.65	7.60	-0.05
Tolerance Limit (mg/L)		±0.20

**pH Value**

**Method Ref: APHA (21st edition), 4500H:B**

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	4.03	+0.03
7.0	7.05	+0.05
10.0	10.03	+0.03
Tolerance Limit (pH Unit)		±0.20

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

  
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 Mr Fung Lim Chee, Richard  
 General Manager  
 Greater China & Hong Kong



# REPORT OF EQUIPMENT PERFORMANCE CHECK / CALIBRATION

**Work Order:** HK1414461  
**Date of Issue:** 19/05/2014  
**Client:** AECOM ASIA COMPANY LIMITED



**Description:** Sonde  
**Brand Name:** YSI  
**Model No.:** 6820 V2  
**Serial No.:** 12D100972  
**Equipment No.:** W.026.36  
**Date of Calibration:** 13 May, 2014

**Date of next Calibration:** 13 August, 2014

**Parameters:**

**Salinity**

**Method Ref: APHA (21st edition), 2520B**

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)
0	0.02	--
10	9.94	-0.6
20	19.56	-2.2
30	29.76	-0.8
Tolerance Limit (%)		±10.0

**Temperature**

**Method Ref: Section 6 of International Accreditation New Zealand Technical**

**Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.**

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)
13.5	13.37	-0.1
25.5	25.53	+0.0
38.0	38.06	+0.1
Tolerance Limit (°C)		±2.0

**Turbidity**

**Method Ref: APHA (21st edition), 2130B**

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	3.9	-2.5
10	9.8	-2.0
20	20.4	+2.0
50	50.5	+1.0
100	101.2	+1.2
Tolerance Limit (%)		±10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

  
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 Mr Fung Lim Chee, Richard  
 General Manager -  
 Greater China & Hong Kong