



## CERTIFICATE OF CALIBRATION

Certificate No.: 21CA0326 03-02

Page 1 of 2

### Item tested

Description:	Sound Level Meter (Type 1)	,	Microphone
Manufacturer:	Larson Davis	,	PCB
Type/Model No.:	LxT1	,	377B02
Serial/Equipment No.:	0003737	,	171529
Adaptors used:	-	,	-

### Item submitted by

Customer Name:	Lam Environmental Services Limited.
Address of Customer:	-
Request No.:	-
Date of receipt:	26-Mar-2021

Date of test: 31-Mar-2021

### Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	23-Aug-2021	CIGISMEC
Signal generator	DS 360	33873	19-May-2021	CEPREI

### Ambient conditions

Temperature:	21 ± 1 °C
Relative humidity:	55 ± 10 %
Air pressure:	1005 ± 5 hPa

### Test specifications

- 1, The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.
- 2, The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of ±20%.
- 3, The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsiveness of the Sound Level Meter.

### Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate.

Actual Measurement data are documented on worksheets.

Approved Signatory:

Feng Junqi

Date: 07-Apr-2021

Company Chop:



Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument. The results apply to the item as received.



## CERTIFICATE OF CALIBRATION

(Continuation Page)

Certificate No.:

21CA0326 03-02

Page 2 of 2

### 1, Electrical Tests

The electrical tests were performed using an equivalent capacitance substituted for the microphone. The results are given in below with test status and the estimated uncertainties. The "Pass" means the result of the test is inside the tolerances stated in the test specifications. The "-" means the result of test is outside these tolerances.

Test:	Subtest:	Status:	Expanded Uncertainty (dB)	Coverage Factor
Self-generated noise	A	Pass	0.3	2.1
	C	Pass	0.8	
	Lin	Pass	1.6	
Linearity range for Leq	At reference range, Step 5 dB at 4 kHz	Pass	0.3	2.2
	Reference SPL on all other ranges	Pass	0.3	
	2 dB below upper limit of each range	Pass	0.3	
	2 dB above lower limit of each range	Pass	0.3	
	At reference range, Step 5 dB at 4 kHz	Pass	0.3	
Linearity range for SPL	A	Pass	0.3	
	C	Pass	0.3	
	Lin	Pass	0.3	
	Single Burst Fast	Pass	0.3	
Time weightings	Single Burst Slow	Pass	0.3	
	Single 100µs rectangular pulse	Pass	0.3	
Peak response	Crest factor of 3	Pass	0.3	
R.M.S. accuracy	Single burst 5 ms at 2000 Hz	Pass	0.3	
Time weighting I	Repeated at frequency of 100 Hz	Pass	0.3	
	1 ms burst duty factor 1/10 <sup>3</sup> at 4kHz	Pass	0.3	
Time averaging	1 ms burst duty factor 1/10 <sup>4</sup> at 4kHz	Pass	0.3	
	Single burst 10 ms at 4 kHz	Pass	0.4	
Pulse range	Single burst 10 ms at 4 kHz	Pass	0.4	
Sound exposure level	SPL	Pass	0.3	
Overload indication	Leq	Pass	0.4	

### 2, Acoustic tests

The complete sound level meter was calibrated on the reference range using a B&K 4226 acoustic calibrator with 1000Hz and SPL 94 dB. The sensitivity of the sound level meter was adjusted. The test result at 125 Hz and 8000 Hz are given in below with test status and the estimated uncertainties.

Test:	Subtest	Status	Expanded Uncertainty (dB)	Coverage Factor
Acoustic response	Weighting A at 125 Hz	Pass	0.3	
	Weighting A at 8000 Hz	Pass	0.5	

### 3, Response to associated sound calibrator

N/A

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

Calibrated by:

Date:

Fung Chi Yip  
31-Mar-2021

- End -

Checked by:

Date:

Chan Yuk Yiu  
07-Apr-2021

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.



## CERTIFICATE OF CALIBRATION

Certificate No.: 21CA0222 02-01

Page 1 of 2

### Item tested

Description:	Sound Level Meter (Type 1)	Microphone	Preamp
Manufacturer:	Nti	Nti Andio	Nti Andio
Type/Model No.:	XL2	MC230A	MA220
Serial/Equipment No.:	A2A-15360-EO	A14232	6830
Adaptors used:	-		

### Item submitted by

Customer Name:	Lam Environmental Services Limited.
Address of Customer:	-
Request No.:	-
Date of receipt:	22-Feb-2021

Date of test: 23-Feb-2021

### Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	23-Aug-2021	CIGISMEC
Signal generator	DS 360	33873	19-May-2021	CEPREI

### Ambient conditions

Temperature:	22 ± 1 °C
Relative humidity:	55 ± 10 %
Air pressure:	1000 ± 5 hPa

### Test specifications

- 1, The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.
- 2, The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of ±20%.
- 3, The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsiveness of the Sound Level Meter.

### Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate.

Actual Measurement data are documented on worksheets.

Approved Signatory:

Feng Junqi

Date: 24-Feb-2021

Company Chop:



**Comments:** The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument. The results apply to the item as received.

**CERTIFICATE OF CALIBRATION**

(Continuation Page)

Certificate No.: 21CA0222 02-01

Page 2 of 2

**1, Electrical Tests**

The electrical tests were performed using an equivalent capacitance substituted for the microphone. The results are given in below with test status and the estimated uncertainties. The "Pass" means the result of the test is inside the tolerances stated in the test specifications. The "-" means the result of test is outside these tolerances.

Test:	Subtest:	Status:	Expanded Uncertainty (dB)	Coverage Factor
Self-generated noise	A	Pass	0.3	
	C	Pass	0.8	2.1
	Lin	Pass	1.6	2.2
Linearity range for Leq	At reference range, Step 5 dB at 4 kHz	Pass	0.3	
	Reference SPL on all other ranges	Pass	0.3	
	2 dB below upper limit of each range	Pass	0.3	
	2 dB above lower limit of each range	Pass	0.3	
Linearity range for SPL	At reference range, Step 5 dB at 4 kHz	Pass	0.3	
	A	Pass	0.3	
	C	Pass	0.3	
	Lin	Pass	0.3	
Time weightings	Single Burst Fast	Pass	0.3	
	Single Burst Slow	Pass	0.3	
Peak response	Single 100µs rectangular pulse	Pass	0.3	
R.M.S. accuracy	Crest factor of 3	Pass	0.3	
Time weighting I	Single burst 5 ms at 2000 Hz	Pass	0.3	
	Repeated at frequency of 100 Hz	Pass	0.3	
Time averaging	1 ms burst duty factor 1/10 <sup>3</sup> at 4kHz	Pass	0.3	
	1 ms burst duty factor 1/10 <sup>4</sup> at 4kHz	Pass	0.3	
Pulse range	Single burst 10 ms at 4 kHz	Pass	0.4	
Sound exposure level	Single burst 10 ms at 4 kHz	Pass	0.4	
Overload indication	SPL	Pass	0.3	
	Leq	Pass	0.4	

**2, Acoustic tests**

The complete sound level meter was calibrated on the reference range using a B&K 4226 acoustic calibrator with 1000Hz and SPL 94 dB. The sensitivity of the sound level meter was adjusted. The test result at 125 Hz and 8000 Hz are given in below with test status and the estimated uncertainties.

Test:	Subtest	Status	Expanded Uncertainty (dB)	Coverage Factor
Acoustic response	Weighting A at 125 Hz	Pass	0.3	
	Weighting A at 8000 Hz	Pass	0.5	

**3, Response to associated sound calibrator**

N/A

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

Calibrated by:

Fung Chi Yip

Date: 23-Feb-2021

Checked by:

Feng Junqi

Date: 24-Feb-2021

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.





## CERTIFICATE OF CALIBRATION

Certificate No.: 20CA1119 02-01

Page: 1 of 2

### Item tested

Description: Acoustical Calibrator (Class 1)  
Manufacturer: Larson Davis  
Type/Model No.: CAL200  
Serial/Equipment No.: 13437  
Adaptors used: -

### Item submitted by

Customer: Lam Environmental Services Limited.  
Address of Customer: -  
Request No.: -  
Date of receipt: 19-Nov-2020

Date of test: 20-Nov-2020

### Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2341427	11-May-2021	SCL
Preamplifier	B&K 2673	2743150	03-Jun-2021	CEPREI
Measuring amplifier	B&K 2610	2346941	03-Jun-2021	CEPREI
Signal generator	DS 360	33873	19-May-2021	CEPREI
Digital multi-meter	34401A	US36087050	19-May-2021	CEPREI
Audio analyzer	8903B	GB41300350	18-May-2021	CEPREI
Universal counter	53132A	MY40003662	18-May-2021	CEPREI

### Ambient conditions

Temperature:  $22 \pm 1$  °C  
Relative humidity:  $55 \pm 10$  %  
Air pressure:  $1005 \pm 5$  hPa

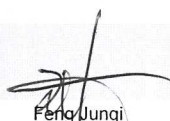
### Test specifications

- The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.
- The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

### Test results

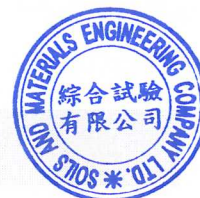
Details of the performed measurements are presented on page 2 of this certificate.

Approved Signatory:

  
Feng Junqi

Date: 21-Nov-2020

Company Chop:



**Comments:** The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument. The results apply to the item as received.

**CERTIFICATE OF CALIBRATION**

(Continuation Page)

Certificate No.:

20CA1119 02-01

Page: 2 of 2

**1, Measured Sound Pressure Level**

The output Sound Pressure Level in the calibrator head was measured at the setting and frequency shown using a calibrated laboratory standard microphone and insert voltage technique. The results are given in below with the estimated uncertainties.

(Output level in dB re 20 $\mu$ Pa)			
Frequency Shown Hz	Output Sound Pressure Level Setting dB	Measured Output Sound Pressure Level dB	Estimated Expanded Uncertainty dB
1000	94.00	93.66	0.10

**2, Sound Pressure Level Stability - Short Term Fluctuations**

The Short Term Fluctuations was determined by measuring the maximum and minimum of the fast weighted DC output of the B&K 2610 measuring amplifier over a 20 second time interval as required in the standard. The Short Term Fluctuation was found to be:

**At 1000 Hz** **STF = 0.013 dB**

Estimated expanded uncertainty 0.005 dB

**3, Actual Output Frequency**

The determination of actual output frequency was made using a B&K 4180 microphone together with a B&K 2673 preamplifier connected to a B&K 2610 measuring amplifier. The AC output of the B&K 2610 was taken to an universal counter which was used to determine the frequency averaged over 20 second of operation as required by the standard. The actual output frequency at 1 KHz was:

**At 1000 Hz** **Actual Frequency = 1000.1 Hz**

Estimated expanded uncertainty 0.1 Hz Coverage factor k = 2.2

**4, Total Noise and Distortion**

For the Total Noise and Distortion measurement, the unfiltered AC output of the B&K 2610 measuring amplifier was connected to an Agilent Type 8903 B distortion analyser. The TND result at 1 KHz was:

**At 1000 Hz** **TND = 0.5%**

Estimated expanded uncertainty 0.7 %

The expanded uncertainties have been calculated in accordance with the ISO Publication "Guide to the expression of uncertainty in measurement", and gives an interval estimated to have a level of confidence of 95%. A coverage factor of 2 is assumed unless explicitly stated.

- End -

Calibrated by:

Date:

Fung Chi Yip  
20-Nov-2020

Checked by:

Date:

Feng Junqi  
21-Nov-2020

The standard(s) and equipment used in the calibration are traceable to national or international recognised standards and are calibrated on a schedule to maintain the required accuracy level.



Lam Environmental Services Limited

**Calibration Data for High Volume Sampler (TSP Sampler)**

Location : AMS1

Equipment no. : HVS020

Calibration Date : 9-Jul-21

Calibration Due Date : 8-Sep-21

**CALIBRATION OF CONTINUOUS FLOW RECORDER**

Ambient Condition			
Temperature, T <sub>a</sub>	305.6	Kelvin	Pressure, P <sub>a</sub>
			1010 mmHg

Orifice Transfer Standard Information					
Equipment No.	0005	Slope, m <sub>c</sub>	2.08877	Intercept, b <sub>c</sub>	-0.02270
Last Calibration Date	17-Jul-20	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$			
Next Calibration Date	17-Jul-21				

Calibration of TSP						
Calibration Point	Manometer Reading			Q <sub>std</sub> (m <sup>3</sup> / min.)	Continuous Flow Recorder, W (CFM)	IC (W(P <sub>a</sub> /1013.3x298/T <sub>a</sub> ) <sup>1/2</sup> /35.31)
	H (inches of water)					
	(up)	(down)	(difference)	X-axis		Y-axis
1	1.1	1.1	2.2	0.7109	35	34.5057
2	1.8	1.8	3.6	0.9064	43	42.3927
3	2.6	2.6	5.2	1.0872	50	49.2939
4	3.4	3.4	6.8	1.2417	54	53.2374
5	4.1	4.1	8.2	1.3624	61	60.1386

By Linear Regression of Y on X

Slope, m = 37.8011      Intercept, b = 7.7793

Correlation Coefficient\* = 0.9958

Calibration Accepted = Yes/No\*\*

\* if Correlation Coefficient &lt; 0.990, check and recalibration again.

\*\* Delete as appropriate.

Remarks : \_\_\_\_\_

\_\_\_\_\_

Calibrated by : Sam Lam

Date : 9-Jul-21

Checked by : James Chu

Date : 9-Jul-21



Lam Environmental Services Limited

**Calibration Data for High Volume Sampler (TSP Sampler)**

Location : AMS2

Equipment no. : HVS019

Calibration Date : 9-Jul-21

Calibration Due Date : 8-Sep-21

**CALIBRATION OF CONTINUOUS FLOW RECORDER**

Ambient Condition			
Temperature, T <sub>a</sub>	305.6	Kelvin	Pressure, P <sub>a</sub>
			1010 mmHg

Orifice Transfer Standard Information					
Equipment No.	0005	Slope, m <sub>c</sub>	2.08877	Intercept, b <sub>c</sub>	-0.02270
Last Calibration Date	17-Jul-21	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$			
Next Calibration Date	17-Jul-22				

Calibration of TSP						
Calibration Point	Manometer Reading			Q <sub>std</sub> (m <sup>3</sup> / min.)	Continuous Flow Recorder, W (CFM)	IC (W(P <sub>a</sub> /1013.3x298/T <sub>a</sub> ) <sup>1/2</sup> /35.31)
	H (inches of water)					
	(up)	(down)	(difference)	X-axis		Y-axis
1	1.1	1.1	2.2	0.7109	34	33.5198
2	1.4	1.4	2.8	0.8007	39	38.4492
3	2.7	2.7	5.4	1.1077	48	47.3221
4	3.5	3.5	7.0	1.2596	54	53.2374
5	4.5	4.5	9.0	1.4268	60	59.1527

By Linear Regression of Y on X

Slope, m = 34.5700      Intercept, b = 9.6523

Correlation Coefficient\* = 0.9975

Calibration Accepted = Yes/No\*\*

\* if Correlation Coefficient &lt; 0.990, check and recalibration again.

\*\* Delete as appropriate.

Remarks : \_\_\_\_\_

\_\_\_\_\_

Calibrated by : Sam Lam

Date : 9-Jul-21

Checked by : James Chu

Date : 9-Jul-21





**Met One  
Instruments**

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(541) 471-7116 (Fax)  
Service@metone.com

# Calibration Certificate

The calibration results on this report certify that this instrument complies with the product specifications at the time of calibration. Calibration was performed according to accepted industry methods using equipment, procedures, and standards that are traceable to NIST and ISO.

Recommended calibration interval is 12 months from the first day of use.

Instrument Model# Aerocet 831

Instrument Serial# W15448

Date of Calibration 10/12/2020

Sensor # 16438

J. Chester **AT1**

**AT13** **OCT 14 2020**

Calibration Technician

Quality Check

Temperature 22 °C

Relative Humidity 52 %

Test Procedure: **Aerocet 831-6100**

PSL Size (µm)	Test Results	Test Spec.	Lot# NIST	Expiration
0.3	Pass	± 10%	223077	04/30/2023
0.5	Pass	± 10%	219480	11/30/2022
1.0	Pass	± 10%	193291	1/31/2021
2.5	Pass	± 10%	REF	NA
4.0	Pass	± 10%	REF	NA
5.0	Pass	± 10%	REF	NA
7.0	Pass	± 10%	REF	NA
10.0	Pass	± 10%	REF	NA

Standards	Model	SN	Cal Due
Flowmeter	DCL-M	103751	2/14/2021
DMM	287	40900121	2/11/2021
RH/TEMP SENSOR	083E-1-35	U20080	11/11/2020
Particle Counter	GT-526S	X17421	11/29/2020

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# Calibration Certificate

As Received

This certificate documents the as received condition of your instrument. Calibration was verified using accepted industry methods, equipment, procedures and standards that are traceable to NIST and ISO.

Instrument Model# Aerocet 831 Instrument Serial# W15448  
Date of comparison against standard 10-12-2020 Sensor # 16438  
Quality Control Technician J. Chester  
Temperature 22 °C Relative Humidity 51 %

Test Procedure: Aerocet 831-6100

As Received	Value	Range	Condition
Zero Count	0	Less than 5 particles in 5 min.	PASS
Air Flow	.09425	.092 to .108 CFM	PASS

PSL Size Micron	LOT# NIST	As Received PSL Count Comparison	Allowable PSL Count Comparison	Allowable Size Accuracy	As Received Condition
0.3	223077	150.06	10% to 90%	+/- 10 %	FAIL
0.5	219480	37.76	10% to 90%	+/- 10 %	PASS
1.0	193291	27.30	10% to 90%	+/- 10 %	PASS

Standards	Model	SN	Cal Due
Flowmeter	DCL-M	103751	2/14/2021
DMM	287	40900121	2/11/2021
RH/TEMP SENSOR	083E-1-35	U20080	11/11/2020
Particle Counter	GT-526S	X17421	11/29/2020

*Calibration was performed by direct comparison to a count standard.*



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# Calibration Certificate

The calibration results on this report certify that this instrument complies with the product specifications at the time of calibration. Calibration was performed according to accepted industry methods using equipment, procedures, and standards that are traceable to NIST and ISO.

Recommended calibration interval is 12 months from the first day of use.

Instrument Model# Aerocet 831

Instrument Serial# W15449

Date of Calibration 4/29/2021

Sensor # 16439

Jason Gist

AT14

AT5

Calibration Technician

Quality Check

Temperature 23 °C

Relative Humidity 35 %

Test Procedure: Aerocet 831-6100

PSL Size (µm)	Test Results	Test Spec.	Lot# NIST	Expiration
0.3	Pass	± 10%	223077	04/30/2023
0.5	Pass	± 10%	219480	11/30/2022
1.0	Pass	± 10%	229294	8/31/2023
2.5	Pass	± 10%	REF	NA
4.0	Pass	± 10%	REF	NA
5.0	Pass	± 10%	REF	NA
7.0	Pass	± 10%	REF	NA
10.0	Pass	± 10%	REF	NA

Standards	Model	SN	Cal Due
Dry Cal	Defender 530+	170092	2/9/2022
DMM	289	27720071	7/31/2021
RH/TEMP SENSOR	083E-1-6	R20313	9/17/2021
Particle Counter	GT-526	M1761	8/26/2021

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# Calibration Certificate

As Received

This certificate documents the as received condition of your instrument. Calibration was verified using accepted industry methods, equipment, procedures and standards that are traceable to NIST and ISO.

Instrument Model# Aerocet 831 Instrument Serial# W15449

Date of comparison against standard 4-27-2021 Sensor # 16439

Quality Control Technician Jason Gist **AT14**

Temperature 23 °C Relative Humidity 32 %

Test Procedure: Aerocet 831-6100

As Received	Value	Range	Condition
Zero Count	0	Less than 5 particles in 5 min.	PASS
Air Flow	.08916	.092 to .108 CFM	FAIL

PSL Size Micron	LOT# NIST	As Received PSL Count Comparison	Allowable PSL Count Comparison	Allowable Size Accuracy	As Received Condition
0.3	223077	48.87	10% to 90%	+/- 10 %	PASS
0.5	219480	48.71	10% to 90%	+/- 10 %	PASS
1.0	229294	48.09	10% to 90%	+/- 10 %	PASS

Standards	Model	SN	Cal Due
Dry Cal	Defender 530+	170092	2/9/2022
DMM	289	23700150	5/4/2021
RH/TEMP SENSOR	083E-1-6	R20313	9/17/2021
Particle Counter	GT-526	M1761	8/26/2021

*Calibration was performed by direct comparison to a count standard.*



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# Calibration Certificate

The calibration results on this report certify that this instrument complies with the product specifications at the time of calibration. Calibration was performed according to accepted industry methods using equipment, procedures, and standards that are traceable to NIST and ISO.

Recommended calibration interval is 12 months from the first day of use.

Instrument Model# Aerocet 831

Instrument Serial# W16848

Date of Calibration 12/3/2020

Sensor # 16574

Jason Gist

AT<sub>14</sub>

AT<sub>21</sub>

DEC 07 2020

Calibration Technician

Quality Check

Temperature 23 °C

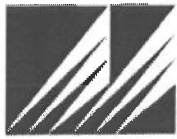
Relative Humidity 28 %

Test Procedure: Aerocet 831-6100

PSL Size (µm)	Test Results	Test Spec.	Lot# NIST	Expiration
0.3	Pass	± 10%	223077	04/30/2023
0.5	Pass	± 10%	219480	11/30/2022
1.0	Pass	± 10%	193291	1/31/2021
2.5	Pass	± 10%	REF	NA
4.0	Pass	± 10%	REF	NA
5.0	Pass	± 10%	REF	NA
7.0	Pass	± 10%	REF	NA
10.0	Pass	± 10%	REF	NA

Standards	Model	SN	Cal Due
Dry Cal	Defender 530+	170092	1/28/2021
DMM	289	23700150	5/4/2021
RH/TEMP SENSOR	083E-1-6	R20313	9/17/2021
Particle Counter	GT-526S	X17420	12/20/2020

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# Calibration Certificate

As Received

This certificate documents the as received condition of your instrument. Calibration was verified using accepted industry methods, equipment, procedures and standards that are traceable to NIST and ISO.

Instrument Model# Aerocet 831

Instrument Serial# W16848

Date of comparison against standard 12-2-2020

Sensor # 16574

Quality Control Technician Jason Gist

Temperature 23 °C

Relative Humidity 29 %

Test Procedure: Aerocet 831-6100

As Received	Value	Range	Condition
Zero Count	0	Less than 5 particles in 5 min.	PASS
Air Flow	.09915	.092 to .108 CFM	PASS

PSL Size Micron	LOT# NIST	As Received PSL Count Comparison	Allowable PSL Count Comparison	Allowable Size Accuracy	As Received Condition
0.3	223077	47.13	10% to 90%	+/- 10 %	PASS
0.5	219480	51.49	10% to 90%	+/- 10 %	PASS
1.0	193291	40.68	10% to 90%	+/- 10 %	PASS

Standards	Model	SN	Cal Due
Dry Cal	Defender 530+	170092	1/28/2021
DMM	289	23700150	5/4/2021
RH/TEMP SENSOR	083E-1-6	R20313	9/17/2021
Particle Counter	GT-526S	X17420	12/20/2020

*Calibration was performed by direct comparison to a count standard.*





**Met One  
Instruments**

1600 Washington Blvd  
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(541) 471-7111  
(541) 471-7116 (Fax)  
Service@metone.com

# Calibration Certificate

The calibration results on this report certify that this instrument complies with the product specifications at the time of calibration. Calibration was performed according to accepted industry methods using equipment, procedures, and standards that are traceable to NIST and ISO.

Recommended calibration interval is 12 months from the first day of use.

Instrument Model# Aerocet 831


Instrument Serial# Y23153

Date of Calibration 12/3/2020

Sensor # 19493

Calibration Technician Jason Gist 

Calibration Technician

 DEC 07 2020  
Quality Check

Temperature 23 °C

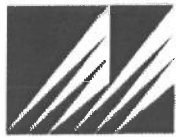
Relative Humidity 28 %

Test Procedure: **Aerocet 831-6100**

PSL Size (µm)	Test Results	Test Spec.	Lot# NIST	Expiration
0.3	Pass	± 10%	223077	04/30/2023
0.5	Pass	± 10%	219480	11/30/2022
1.0	Pass	± 10%	193291	1/31/2021
2.5	Pass	± 10%	REF	NA
4.0	Pass	± 10%	REF	NA
5.0	Pass	± 10%	REF	NA
7.0	Pass	± 10%	REF	NA
10.0	Pass	± 10%	REF	NA

Standards	Model	SN	Cal Due
Dry Cal	Defender 530+	170092	1/28/2021
DMM	289	23700150	5/4/2021
RH/TEMP SENSOR	083E-1-6	R20313	9/17/2021
Particle Counter	GT-526S	X17420	12/20/2020

*This calibration certificate shall not be reproduced except in full, without the written approval of Met One Instruments Inc.*



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# Calibration Certificate

As Received

This certificate documents the as received condition of your instrument. Calibration was verified using accepted industry methods, equipment, procedures and standards that are traceable to NIST and ISO.

Instrument Model# Aerocet 831 Instrument Serial# Y23153  
Date of comparison against standard 12-2-2020 Sensor # 19493  
Quality Control Technician Jason Gist  
Temperature 23 °C Relative Humidity 29 %

Test Procedure: Aerocet 831-6100

As Received	Value	Range	Condition
Zero Count	0	Less than 5 particles in 5 min.	PASS
Air Flow	.09044	.092 to .108 CFM	FAIL

PSL Size Micron	LOT# NIST	As Received PSL Count Comparison	Allowable PSL Count Comparison	Allowable Size Accuracy	As Received Condition
0.3	223077	57.69	10% to 90%	+/- 10 %	PASS
0.5	219480	30.82	10% to 90%	+/- 10 %	PASS
1.0	193291	19.68	10% to 90%	+/- 10 %	PASS

Standards	Model	SN	Cal Due
Dry Cal	Defender 530+	170092	1/28/2021
DMM	289	23700150	5/4/2021
RH/TEMP SENSOR	083E-1-6	R20313	9/17/2021
Particle Counter	GT-526S	X17420	12/20/2020

*Calibration was performed by direct comparison to a count standard.*