



## Calibration certificate

Certificate number: LH03385

Revision 2.4

### Applicant

: CCSTEC GesmbH  
Triesterstrasse 36  
A-2512, Oeynhausen  
Austria

### Instrument

Description : Airborne particle counter  
Manufacturer : Lighthouse  
Model : Boulder Counter  
Serial no. : 080633001

### Date of calibration

: 02 May 2016

### Due date calibration

: May 2017

### Calibration location

: Lighthouse Benelux Calibration laboratory  
in Boven-Leeuwen

### Calibration method

: All work performed is in accordance with Lighthouse Worldwide  
Solutions Benelux, Master Calibration Document: I201 and is recorded  
and maintained as such.

### Results

: The results of the measurements are shown in the appendix.  
The unit is readjusted.  
The unit under test meets its specifications at all the points measured.

### Traceability

: The measurements have been executed using standards for which the  
traceability to (inter)national standards has been demonstrated.

A.A.J. van den Heuvel  
Quality & Customer service Coordinator





## Appendix

Certificate number: LH03385

**Date of calibration** : 02 May 2016

**Calibrated by** : A.C.G. Gerritse

**Function** : Calibration & Service Engineer

**Environmental conditions** : The ambient temperature was 22.6°C at a relative humidity of 35.6%

### Measurement results, As found

Performance information			
Test	Test result	Criteria	Pass / Fail
ISO21501-4 Flow	28.10l/min	±5%	Pass
JIS B 9921 Zero count	0	<1 in 5 mins	Pass
ISO21501-4 False count rate	Upper confidence level 21 particles/m3	N/A	N/A
ISO21501-4 Timer check	60.0 seconds	±1%	Pass

### Size calibration

Channel	Channel Size	Threshold voltage	Calculated size	Calculated Sizing error (±10%)	Pass / Fail
1	5.0µm	72mV	5.287µm	5.73%	Pass
2	10.0µm	201mV	9.598µm	-4.02%	Pass
3	25.0µm	1222mV	24.712µm	-1.15%	Pass
4	40.0µm	2665mV	43.974µm	9.93%	Pass
5	50.0µm	2995mV	54.330µm	8.66%	Pass
6	100.0µm	3605mV	109.537µm	9.54%	Pass

### Notes

### Reference equipment

Model	S/N	Due to	Certificate number
Defender 510	120068	1-Dec-2016	32824
MCA8000A	4197	10-Dec-2016	1511-11348
Fluke-175	12170243	4-Jun-2016	1481270
Fisher Scientific 0666256	150783954	20-Oct-2017	1042-7138748

### Particle size standards

Size	Description	Due to	Lot#
5.0µm	4205, 4205A and 4205C Microsphere Size St.	1-Nov-2018	45123
10.0µm	4210 and 4210A Microsphere Size Standards	1-May-2018	44561
25.0µm	Calibration standards-LS series	1-Mar-2017	LS443.111
40.0µm	Particle Powder Standard	1-Apr-2019	Pu315.311
50.0µm	Calibration standards-LS series	1-Sep-2017	LS344.614
100.0µm	4310, 4310A + 4310C Microsphere Size Stand.	1-Aug-2018	44797





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Channel	Channel Size	Threshold voltage	Calculated size	Calculated Sizing error (±10%)	Pass / Fail
1	5.0µm	65mV	5.021µm	0.42%	Pass
2	10.0µm	224mV	10.120µm	1.20%	Pass
3	25.0µm	1093mV	23.000µm	-8.00%	Pass
4	40.0µm	2272mV	38.000µm	-5.00%	Pass
5	50.0µm	2875mV	49.000µm	-2.00%	Pass
6	100.0µm	3490mV	100.000µm	0.00%	Pass

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