American Air Filter Manufacturing Sdn Bhd (137508-X)
Lot 6, Jalan Pengapit 15/19,
Seksyen 15, 40000 Shah Alam,
Selangor Darul Ehsan, Malaysia.
Tel : +603-5039 7777

Bringing clean air to life.

Report No.: TR-211007-R1

Product : AstroCube
Serial No. : i) 1Q5000100001LZ2105080101
ii) 1Q5000100001LZ2105080100
Completion Date : 2nd Oct 2021
Objective : AstroCube Performance Test (Internal)

REPORT OF SUMMARY

AstroCube Recovery Time

No.	Airflow	Initial PM2.5 Concentration, µg/m³	Time Taken to Reduce PM2.5 below 15 µg/m³, min
1	Low Speed	1,000	< 40
2	High Speed		< 20

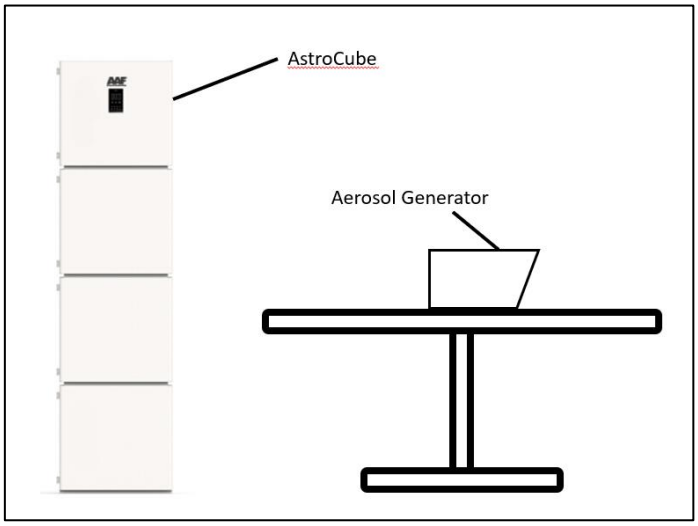
24-Mean of PM2.5 with AstroCube Operate at Low Speed

No.	Location	Room Volume, m³	Short-Term (24-hour) PM2.5 AQG Level*, µg/m³	Recorded 24-hour Average Concentration of PM2.5, µg/m³
1	Room 1	23.6	15	0
2	Room 2	180.3		1

* Recommendation for short-term (24-hour) PM2.5 as stated in WHO global air quality guidelines (2021)

TEST SETUP

AstroCube Recovery Time



- Aerosol generator was used to generate particle until PM2.5 concentration in room 1 up to 1,000 µg/m³.
- AstroCube was operated at low speed once PM2.5 concentration in room 1 reach 1,000 µg/m³.
- PM2.5 concentration was recorded every 10 mins for 1 hour.
- After 1 hour, AstroCube was stopped and data was tabulated in next section.
- The procedure was repeated with AstroCube operated at high speed.

24-Mean of PM2.5 with AstroCube Operate at Low Speed

- AstroCube were placed in Room 1 and Room 2 with different room size.
- Both AstroCube were operated at low speed for 24 hours.
- PM2.5 concentration was recorded every 1 hour.
- After 24 hours, the data collected was tabulated in next section.

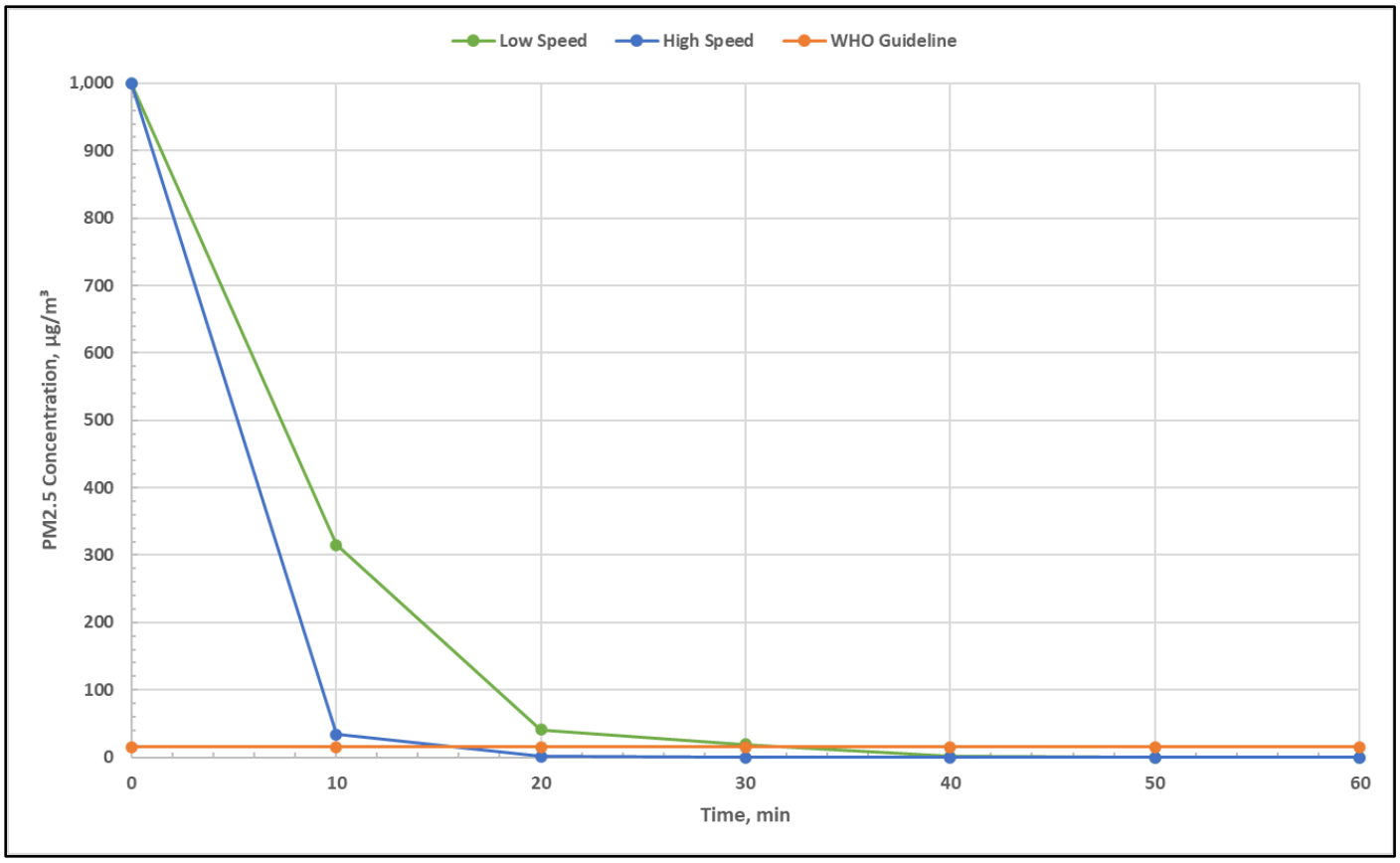
TEST RESULT

AstroCube Recovery Time

Room 1 Volume : 23.6 m³ Aerosol Challenge : 1,000 µg/m³

Testing State : At Rest

Low Speed		High Speed	
Time, min	**PM2.5 Concentration, µg/m³**	**Time, min**	**PM2.5 Concentration, µg/m³**
0	1,000	0	1,000
10	315	10	34
20	41	20	1
30	19	30	0
40	1	40	0
50	0	50	0
60	0	60	0



24-Mean of PM2.5 with AstroCube Operate at Low Speed

Room 1 Volume : 23.6 m³ Fan Speed : Low Speed
Testing State : At Rest

Time, h	PM2.5 concentration, µg/m³	Time, h	PM2.5 concentration, µg/m³	Time, h	PM2.5 concentration, µg/m³	Time, h	PM2.5 concentration, µg/m³
0	0	6	0	12	0	18	0
1	0	7	0	13	0	19	0
2	0	8	0	14	0	20	0
3	0	9	0	15	0	21	0
4	0	10	0	16	0	22	0
5	0	11	0	17	0	23	0
24-Mean of PM2.5 Concentration							**0**

Room 2 Volume : 180.3 m³ Fan Speed : Low Speed
Testing State : At Rest

Time, h	PM2.5 concentration, µg/m³	Time, h	PM2.5 concentration, µg/m³	Time, h	PM2.5 concentration, µg/m³	Time, h	PM2.5 concentration, µg/m³
0	1	6	0	12	2	18	1
1	1	7	1	13	2	19	1
2	0	8	1	14	2	20	1
3	1	9	1	15	2	21	1
4	0	10	1	16	2	22	0
5	0	11	1	17	1	23	1
24-Mean of PM2.5 Concentration							**1**

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