

TEST REPORT

Report Number	200430-01	Project	Quality Evaluation	Retention	Permanent
Pages	3	Level	3 Level Info	Date	4/30/2020
Division	R&D Center	Title	Researcher	Name	Kiyoon Kim
Test Project	HEPA Filtration Test Report of Omni Air (RSC)				
Related Technology	Product Sealing Technology and HEPA Filtering Technology				

1. Purpose : To measure the efficacy of product sealing and HEPA filtration

2. Test Method and Condition

2-1) Sample : the main body of RSC, Fabric filter, and HEPA filter(13 level)

2-2) Power: DC POWER SUPPLY 14.4V

2-3) Mode : Max (DUTY : 90%)

<Pcitures>



< RSC MAIN BODY >



< Fabric Filter >



<HEPA Filter (13 degree) >

3. Test Result

Result of Dust Filtration Test					
d _{CLASS_MIN}	d _{CLASS_MAX}	d _{GEO}	intake air	exhaust air	sums
[μm]	[μm]	[μm]	[#]	[#]	[%]
0.3	0.4	0.3	3134038209	254810	99.99186
0.4	0.5	0.4	1680236594	114195	99.99319
0.5	0.6	0.5	1263084944	79792	99.99367
0.6	1.0	0.8	2095209174	89333	99.99573
1.0	1.3	1.1	770619790	16538	99.99785
1.3	2.0	1.6	918690021	17296	99.99811
2.0	2.5	2.2	333919143	4528	99.99864
2.5	3.0	2.7	181232121	1751	99.99903

* Size of test dust: 0.3[μm]

4. Conclusion

The dust filtration efficiency test results in 99.99% dust collection rate measured on a dust size of 0.3 [μm]. Confirmed that RSC is sealed well enough to filter particles as small as 0.3μm under the HEPA13 level filter criteria.

※ Test Equipments

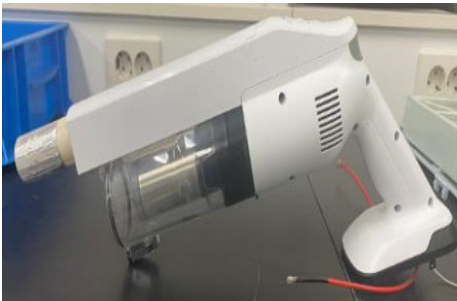
- 1) Test Machine : TOPAD Dust Emission Tester
- 2) Test Sample : RSC main unit, Fabric Filter, and HEPA Filter(13 level)



TOPAD Dust Emission Tester



Under Testing



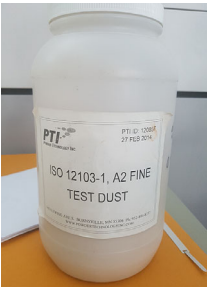
< RSC MAIN BODY >



< HEPA Filter >



< Fabric Filter >



< Dust for Test Use >

※ Test Procedures

- 1) Clip the dust input jig onto the SET.
- 2) Check if the fabric filter and hepa filter are installed.
- 3) Secure the product to the Dust Emission Tester equipment.
- 4) Put a certain amount of DUST (ISO A2 FINE) into the Dust Emission Tester equipment.
- 5) After operating the equipment, check the result value.

※ Dust Emission Test Data Sheet

Reset



Test Filtration Efficiency acc. to IEC 60312-1; A5.11

Test Identification

Operator:	op	Date:	2020-04-23
File name:	Untitled	Time:	오전 11:30:26
Particle counter:	LAP340	Ambient pressure:	102.0kPa
Dilution:	1: 10000 / 1:10	Ambient temp.:	23.7°C
Test voltage:	109 VAC 50Hz	Relative humidity:	21.1%
Comment:			

Test Device

Type:	RSC MVT HEPA	SN:	
Manufacturer:	200408	Device data:	
State:	test	Acc. to type plate:	

Filter equipment

Dust bag:		Manufacturer:	
Motor protection:		Manufacturer:	
Exhaust filter:		Manufacturer:	

Test Results

Volumetric air flow	8.6l/s	l / s	DRC	99.99717
Dust type	ISO A2 FINE		calculated values for particle size range dMIN - dMAX	
Dust feed	2.063g	g in 10 min	d _{MIN}	d MIN 0.5 µm
Dust concentration	400mg/m ³	mg / m ³	d _{MAX}	d MAX 5.0 µm

Individual test data

Test phase	Start time [hh:mm:ss]	Duration [hh:mm:ss]	DRC [%]	Q [l/s]	T _{EXHAUST} [°C]
Background	11:31:37	0:02:03		8.5	27.5
Conditioning	11:34:10	0:09:39		6.3	28.5
Measurement	11:44:20	0:09:29	99.99717	6.3	28.5

statistic values measurement

Particle registration and evaluation					DRC-values
adjusted size ranges		geometric diameter	statistic evaluated particle sums for 5 individual test runs		for statistical evaluated particle sums
d _{CLASS MIN}	d _{CLASS MAX}	d _{GEO}	intake air	exhaust air	
[µm]	[µm]	[µm]	[#]	[#]	[%]
0.3	0.4	0.3	3134038209	254810	99.99186
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