

TEST REPORT

Report Number	200604-1	Project	Quality Evaluation	Retention	Permanent
Pages	3	Level	3 Level Info	Date	6/4/2020
Division	R&D Center	Title	Researcher	Name	DK Han
Test Project	HEPA Filtration Test Report of Lite (RE)				
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 RS3, Fabric filter, and HEPA filter(13 level)
- 2-2) Power: AC POWER SUPPLY 330W
- 2-3) Mode : Max (DUTY : 90%)

<Pcitures>



< Lite(RE) MAIN BODY >



< Fabric Filter >



<HEPA Filter (13 degree) >

3. Test Result

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	0.4	1239470367	142228	99.98093
0.4	0.5	0.5	609063628	29781	99.99187
0.5	0.6	0.6	413485216	13871	99.99442
0.6	1.0	0.8	757665715	14969	99.99672
1.0	1.3	1.2	277455962	3297	99.99802
1.3	2.0	1.7	373831140	2842	99.99874
2.0	2.5	2.3	122342777	931	99.99874
2.5	3.0	2.8	75695423	648	99.99858
			3869010228	208567	

* Size of test dust: 0.3[μm]

4. Conclusion

The dust filtration efficiency test results in 99.98% 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 : Lite (RE) main unit, Fabric Filter, and HEPA Filter(13 level)



TOPAD Dust Emission Tester



Under Testing



< Lite(RE) MAIN



< HEPA Filter>



<Fabric Filter >



< Dust forTest 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:	HanDK	Date:	2020-06-04
File name:	Lite(RE)	Time:	오후 1:41:20
Particle counter:	LAP340	Ambient pressure	101.2kPa
Dilution:	1: 10000 / 1:10	Ambient temp.:	24.3°C
Test voltage:	111 VAC 50Hz	Relative humidity:	72.4%
Comment:			

Test Device

Type:	Lite(RE)	SN:	
Manufacturer:	Raycop	Device data:	
State:	RVM Test	Acc. to type plate:	

Filter equipment

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

Test Results

Volumetric air flow	8.7l/s	l / s	DRC	99.99754
Dust type	ISO A2 FINE		calculated values for particle size range dMIN - dMAX	
Dust feed	1.038g	g in 10 min	d _{MIN}	d MIN 0.5 µm
Dust concentration:	200mg/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	13:42:31	0:02:03		8.5	33.2
Conditioning	13:45:04	0:09:40		7.4	34.5
Measurement	13:55:15	0:09:26	99.99754	7.4	34.5

statistic values measurement

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