

# TEST REPORT

Report Number	200511-02	Project	Quality Evaluation	Retention	Permanent
Pages	3	Level	3 Level Info	Date	4/20/2018
Division	R&D Center	Title	Researcher	Name	Kiyoon Kim
Test Project	HEPA Filtration Test Report of Raycop Pro (RTP-100)				
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 RTP, Fabric filter, and HEPA filter(13 level)
- 2-2) Power: AC POWER SUPPLY 330W
- 2-3) Mode : Max (DUTY : 90%)

<Pictures>



< RS3 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 <sub>CLASS MIN</sub>	d <sub>CLASS MAX</sub>	d <sub>GEO</sub>	intake air	exhaust air	
[μm]	[μm]	[μm]	[#]	[#]	[%]
0.3	0.4	0.3	2961284908	1431146	99.95181
0.4	0.5	0.4	1622665434	478759	99.97058
0.5	0.6	0.5	1236498644	242241	99.98047
0.6	1.0	0.8	2085529921	221951	99.98939
1.0	1.3	1.1	769065281	36597	99.99526
1.3	2.0	1.6	888428682	18862	99.99788
2.0	2.5	2.2	311123554	2619	99.99916
2.5	3.0	2.7	162303708	808	99.99950
			10036900132	2432983	

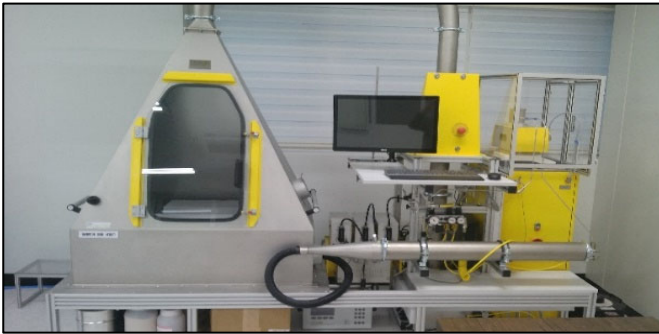
\* Size of test dust: 0.3[μm]

**4. Conclusion**

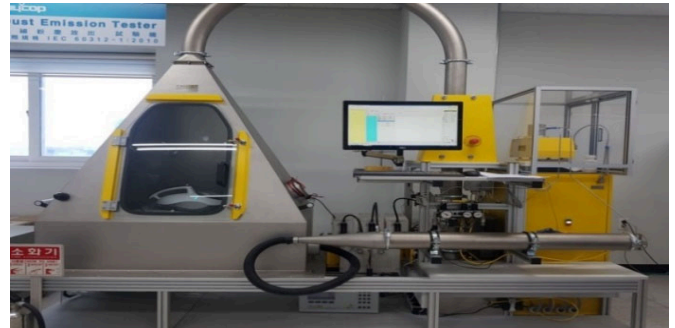
The dust filtration efficiency test results in 99.95% dust collection rate measured on a dust size of 0.3 [μm] Confirmed that RSC is sealed well enough to filter particles as small as 0.3μm under the HEPA13 level filter criteria.

※ **Test Equipments**

- 1) Test Machine : TOPAD Dust Emission Tester
- 2) Test Sample : RS3 main unit, Fabric Filter, and HEPA Filter(13 level)



TOPAD Dust Emission Tester



Under Testing



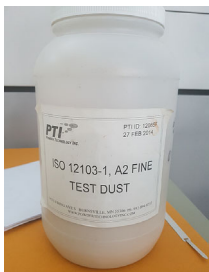
< RTP MAIN BODY >



< 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:	2018-04-20
File name:	Untitled	Time:	오후 3:06:47
Particle counter:	LAP340	Ambient pressure:	100.4kPa
Dilution:	1: 10000 / 1:10	Ambient temp.:	22.9°C
Test voltage:	104 VAC 50Hz	Relative humidity:	47.9%
Comment:			

**Test Device**

Type:	RTP	SN:	
Manufacturer:	200512	Device data:	
State:	test	Acc. to type plate:	

**Filter equipment**

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

**Test Results**

Volumetric air flow	8.1l/s	l / s	<b>DRC</b>	<b>99.99361</b>
Dust type	ISO A2 FINE		calculated values for particle size range dMIN - dMAX	
Dust feed	1.942g	g in 10 min	d <sub>MIN</sub>	d MIN 0.5 µm
Dust concentration	400mg/m <sup>3</sup>	mg / m <sup>3</sup>	d <sub>MAX</sub>	d MAX 5.0 µm

**Individual test data**

Test phase	Start time [hh:mm:ss]	Duration [hh:mm:ss]	DRC [%]	Q [l/s]	T <sub>EXHAUST</sub> [°C]
Background	15:07:57	0:02:03		8.2	24.3
Conditioning	15:10:31	0:09:39		6.0	26.5
Measurement	15:20:40	0:09:28	99.99361	6.0	26.5

**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
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[µm]	[µm]	[µm]	[#]	[#]	[%]
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