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NANOPARTICLE EFFICIENCY TEST REPORT

with ASHRAE 52.2-type App. J conditioning

Manufacturer: Air Cleaner Manufacturer
Product Name: HVAC Air Cleaner

RTI Report No. BDmmdyyrr

**Test Laboratory:
RTI
3040 Cornwallis Road
Research Triangle Park, NC 27709
919-541-6941
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Air Cleaner Performance Report Summary

This report applies to the tested device only.

Laboratory Data

RTI Report No.	BDmmdyyrr	Date	mm/dd/yy	
Test Laboratory	RTI International			
Operator	Pope	Supervisor	Owen	
Particle Counter(s):	Brand	TSI	Model	SMPS/DMA

Device Manufacturer's Data

Manufacturer	Air Cleaner Manufacturer			
Product Name	HVAC Air Cleaner			
Product Model	AB123			
Test requested by	Air Cleaner Manufacturer			
Sample obtained from	Air Cleaner Manufacturer			
Catalog rating:	Airflow rate	NA	Initial dP (in. wg)	NA
Specified test conditions:	Airflow (cfm)	1968	Final dP (in. wg)	NA
	Face Velocity (fpm)	492		

Device Description

Nominal Dimensions (in.):	24 x 24 x 12 (height x width x depth)		
Generic name	rigid cell	Media color	white
Amount and type of adhesive	NA		
Other attributes	15 pleats		

Test Conditions

Airflow (cfm)	1968	Temperature (F)	75	RH (%)	45
Face Velocity (fpm)	492	Final Pressure Drop (in. wg)	NA		
Test aerosol type:	KCl				

Remarks

This test followed an RTI procedure for measuring filtration efficiency of air cleaners over the 10 - 300 nm (0.01 - 0.3 μ m) particle diameter size range. The test used the same test rig and general procedures as ASHRAE 52.2 (ASHRAE 52.2 covers the size ranges above 300 nm). For this test, conditioning was performed with a high concentration sub 0.1 μ m KCl aerosol per Appendix J of ASHRAE 52.2. The ASHRAE 52.2 initial efficiency and efficiency after conditioning were also performed. The results from the nanometer measurements and the 52.2 tests are combined to yield efficiency curves from 10nm - 10 μ m.

Note that the Appendix J conditioning is optional. The combination of tests is presented together to show an option for testing a filter for nanoparticles.

Resistance Test Results

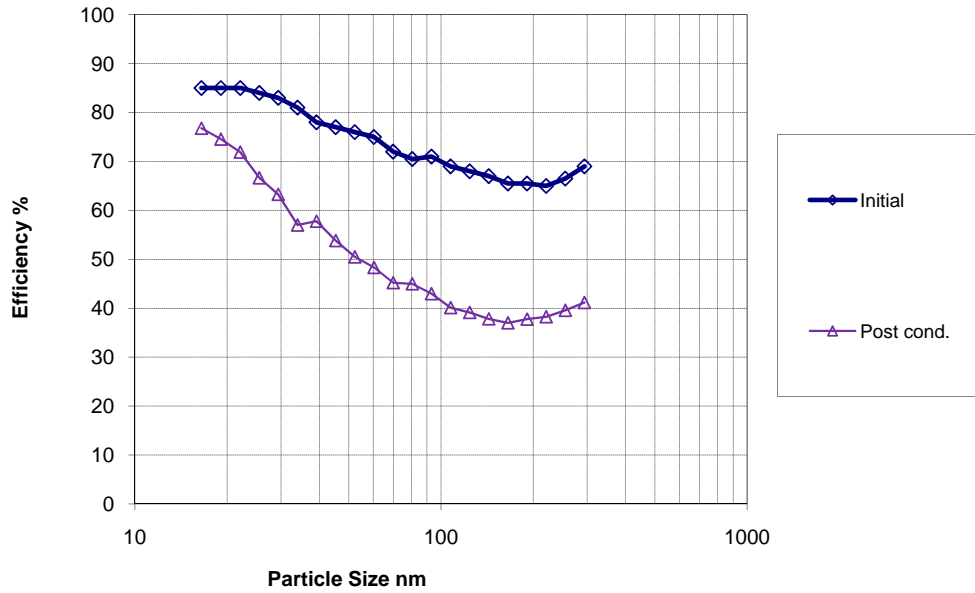
Initial resistance (in. wg)	0.42	Final resistance (in. wg)	0.43
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Test Report: Bdmmdyyrr*

Filter:
HVAC Air Cleaner

SMPS Efficiency Curves (%)

		Particle Diameter (nm)																				
		17	19	22	26	29	34	39	45	52	60	70	81	93	108	124	143	166	191	221	255	294
	Run Number																					
Initial	BDmmdyyr1	85	85	85	84	83	81	78	77	76	75	72	71	71	69	68	67	66	66	65	67	69
Post cond.	BDmmdyyr2	77	75	72	67	63	57	58	54	50	48	45	45	43	40	39	38	37	38	38	40	41



*This report is an example of one way to test a filter for nanoparticle efficiency. Others are possible including dust loading with various dusts and not using the conditioning step.

(this graph included if ASHRAE 52.2 efficiencies are also performed.)

Combined OPC and SMPS Data

