

ASHRAE 52.2-2017 Test Results w/Appendix J Results

Filter Description

Manufacturer	Filter Model			Filter Part Number		
Camfil USA	AQ-Thirteen M13 4in			407052-001		
Filter Type	Media Type			Media Color		
Pleated-Panel	Synthetic/Charged			White		
Nominal Size	Actual Size					
HxWxD	Hgt (in)	Wid (in)	Dep (in)	Pleats/Pockets	Media Area (ft ²)	UL Rating
24x24x4	23.38	23.38	3.75	21	27.5	Yes

ASHRAE 52.2-2017

Test Report:	230628_4830		
Time:	09:53:55	Date:	Jun 28, 2023
Test Data	Test Results	Rated Values	
AirFlow (cfm)	2001	2001	
Nominal Vel (fpm)	500	501	
Initial ΔP (inWG)	0.43	0.47	
MERV	13	13	@2001cfm
E ₁ (0.3-1.0μm), (%)	58	≥ 50	
E ₂ (1.0-3.0μm), (%)	90	≥ 85	
E ₃ (3.0-10μm), (%)	99	≥ 90	
Final DP, (inWG)	1.0	1.0	
Arrestance, (%)	99	98	
DHC, (g)	157		
Temp, (F)	72	Test Aerosol	KCL
RH, (%)	50	Loading Dust	ASHRAE
			
52.2 Test Filter and Label Photos			

ASHRAE 52.2-2017 w/App J

Test Report:	230727_4832		
Time:	10:30:23	Date:	Jul 27, 2023
Test Data	Test Results	Rated Values	
AirFlow (cfm)	2001	2001	
Nominal Vel (fpm)	500	501	
Initial ΔP (inWG)	0.42	0.47	
MERV-A	10A	13A	@2001cfm
E ₁ -A (0.3-1.0μm), (%)	11	≥ 50	
E ₂ -A (1.0-3.0μm), (%)	51	≥ 85	
E ₃ -A (3.0-10μm), (%)	86	≥ 90	
Final DP, (inWG)	1.0	1.0	
Arrestance-A, (%)	98	98	
DHC-A, (g)	150		
Temp, (F)	72	Test Aerosol	KCL
RH, (%)	49	Loading Dust	ASHRAE
			
App J Test Filter and Label Photos			

Comment

Certified Test Per ASHRAE 52.2-2017

Approval: *Michael Krause, Laboratories and Materials R&D Manager*

Comment

Operator

Mirna Montoya

Particle Counter

TSI

Model

OPS-3330

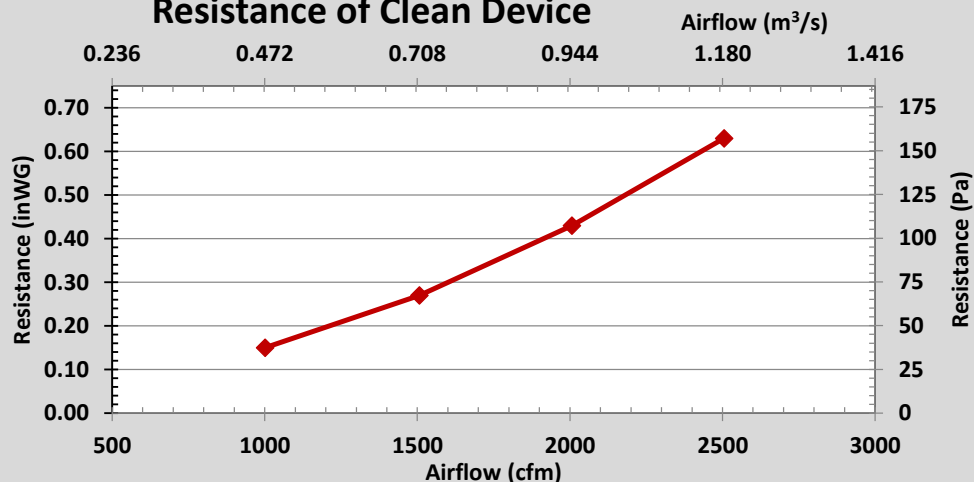
ASHRAE 52.2-2017 Test Results

Date:	Jun 27, 2023	Test Report:	230628_4830
Manufacturer	Filter Model	Filter Part Number	
Camfil USA	AQ-Thirteen M13 4in	407052-001	

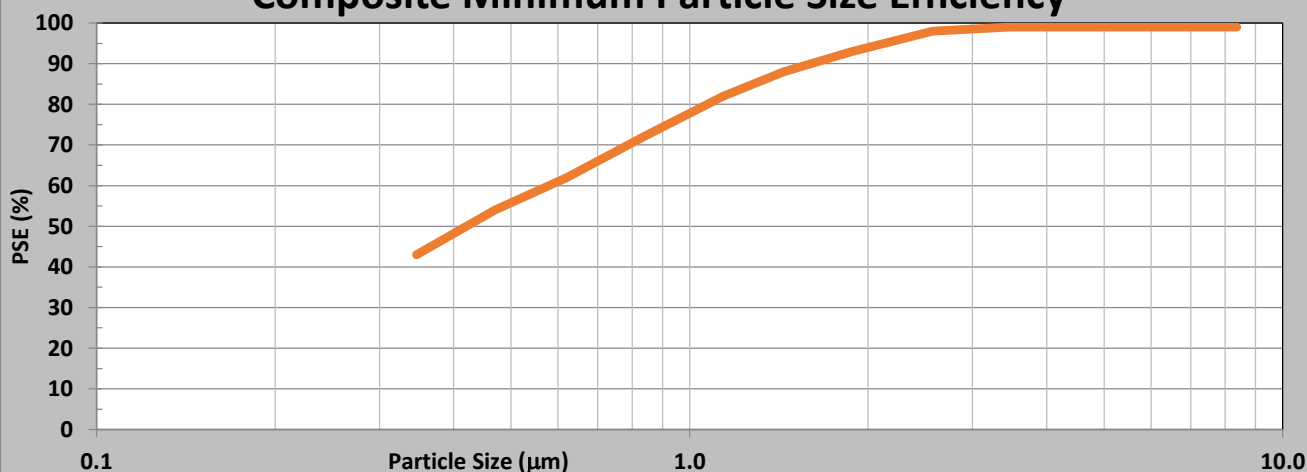
Clean Resistance Table

cfm	inWG
1001	0.15
1506	0.27
2006	0.43
2505	0.63
m ³ /s	Pa
0.472	37
0.711	67
0.947	107
1.182	157

Resistance of Clean Device

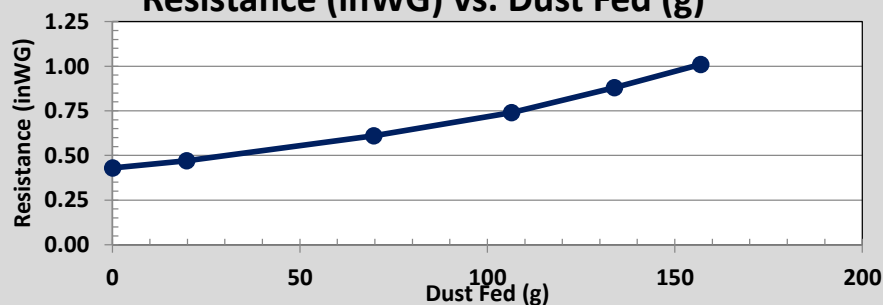


Composite Minimum Particle Size Efficiency



ΔP (inWG)	Dust Fed (g)
0.43	0
0.47	20
0.61	70
0.74	106
0.88	134
1.01	157

Resistance (inWG) vs. Dust Fed (g)



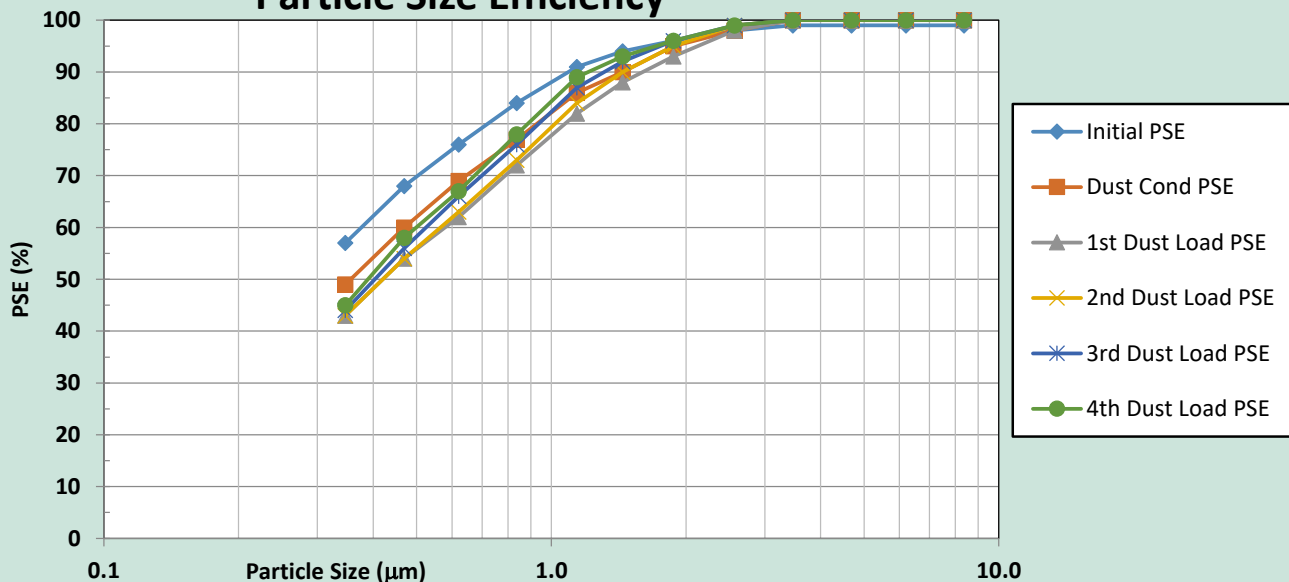


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ASHRAE 52.2-2017 Test Results

Date:	Jun 27, 2023			Test Report:		230628_4830						
Manufacturer				Filter Model					Filter Part Number			
Camfil USA				AQ-Thirteen M13 4in					407052-001			
Efficiency Data Table												
	1	2	3	4	5	6	7	8	9	10	11	12
Minimum Dia (µm)	0.3	0.4	0.55	0.7	1.0	1.3	1.6	2.2	3.0	4.0	5.5	7.0
Maximum Dia (µm)	0.4	0.55	0.7	1.0	1.3	1.6	2.2	3.0	4.0	5.5	7.0	10.0
Geometric Mean (µm)	0.35	0.47	0.62	0.84	1.14	1.44	1.88	2.57	3.46	4.69	6.20	8.37
Initial PSE	57	68	76	84	91	94	96	98	99	99	99	99
Dust Cond PSE	49	60	69	77	86	90	95	98	100	100	100	100
1st Dust Load PSE	43	54	62	72	82	88	93	98	100	100	100	100
2nd Dust Load PSE	43	54	63	73	84	90	95	99	100	100	100	100
3rd Dust Load PSE	44	56	66	76	87	92	96	99	100	100	100	100
4th Dust Load PSE	45	58	67	78	89	93	96	99	100	100	100	100
Composite Min PSE	43	54	62	72	82	88	93	98	99	99	99	99

Particle Size Efficiency



All testing is performed in compliance with the latest revision of ASHRAE Standard 52.2 in a state-of-the-art laboratory facility located at the Camfil USA headquarters in Riverdale, NJ. For more information, contact your local Camfil representative or distributor.

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For Camfil use only:	4830	13049	13050	13066	4832	13053	13054	13348	13187	13256	13282	13329
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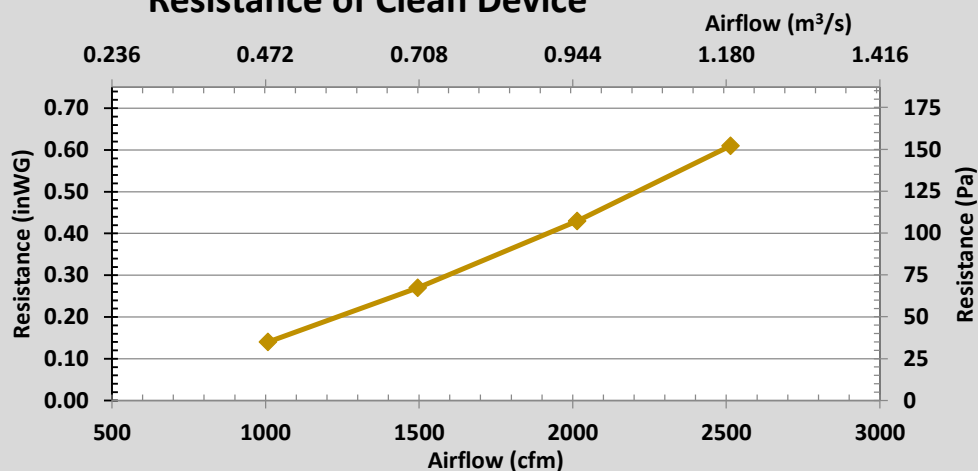
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Manufacturer	Filter Model	Filter Part Number	
Camfil USA	AQ-Thirteen M13 4in	407052-001	

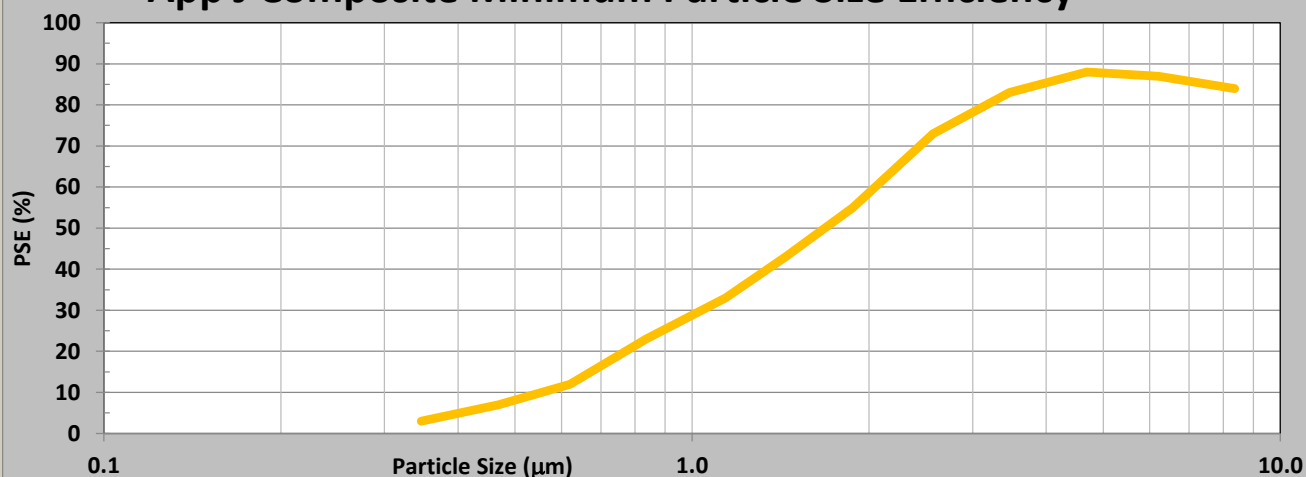
Clean Resistance Table

cfm	inWG
1008	0.14
1496	0.27
2015	0.43
2514	0.61
m ³ /s	Pa
0.476	35
0.706	67
0.951	107
1.186	152

Resistance of Clean Device

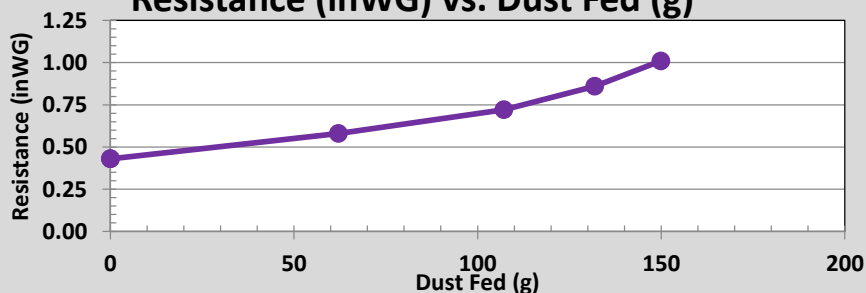


App J Composite Minimum Particle Size Efficiency



ΔP (inWG)	Dust Fed (g)
0.43	0
0.43	0
0.58	62
0.72	107
0.86	132
1.01	150

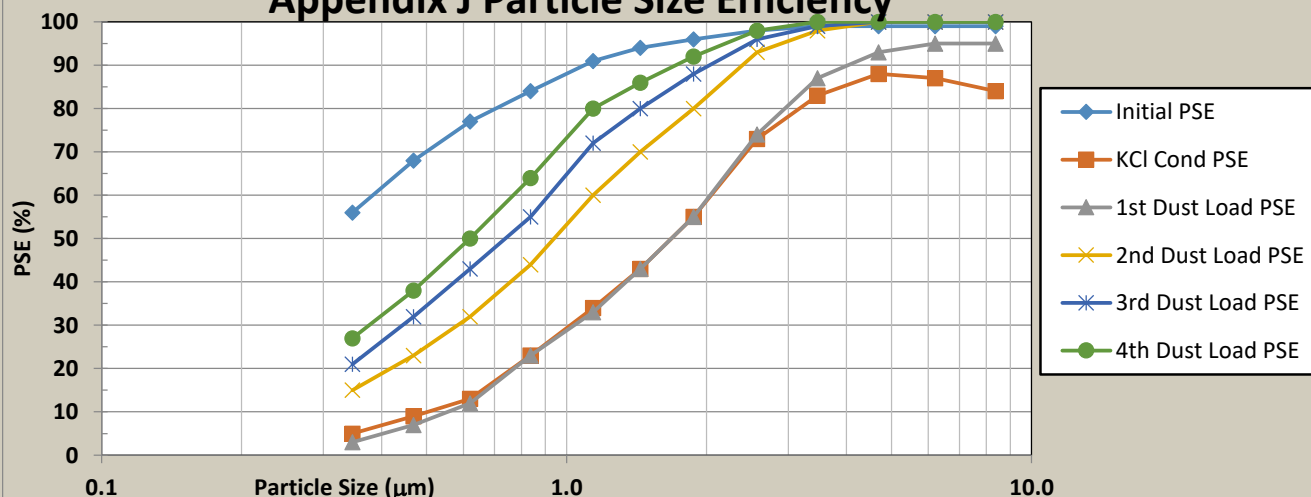
Resistance (inWG) vs. Dust Fed (g)



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Date:	06/27/2023			Test Number:		230727_4832							
Manufacturer				Filter Model						Filter Part Number			
Camfil USA				AQ-Thirteen M13 4in						407052-001			
App J Efficiency Data Table													
	1	2	3	4	5	6	7	8	9	10	11	12	
	Minimum Dia (µm)	0.3	0.4	0.55	0.7	1.0	1.3	1.6	2.2	3.0	4.0	5.5	7.0
	Maximum Dia (µm)	0.4	0.55	0.7	1.0	1.3	1.6	2.2	3.0	4.0	5.5	7.0	10.0
	Geometric Mean (µm)	0.35	0.47	0.62	0.84	1.14	1.44	1.88	2.57	3.46	4.69	6.20	8.37
	Initial PSE	56	68	77	84	91	94	96	98	99	99	99	99
	KCl Cond PSE	5	9	13	23	34	43	55	73	83	88	87	84
	1st Dust Load PSE	3	7	12	23	33	43	55	74	87	93	95	95
	2nd Dust Load PSE	15	23	32	44	60	70	80	93	98	100	100	100
	3rd Dust Load PSE	21	32	43	55	72	80	88	96	99	100	100	100
4th Dust Load PSE	27	38	50	64	80	86	92	98	100	100	100	100	
Composite Min PSE	3	7	12	23	33	43	55	73	83	88	87	84	

Appendix J Particle Size Efficiency



Bkg Concentration (particles/cm ³)	Avg Cond Aerosol Conc (particles/cm ³)	Cumulative Cond Duration (minutes)	Cumulative Cond CT (particles-min/cm ³)	
288.0	4.32E+05	964	4.13E+08	
Large Particle Concentration (Particles/cm ³)	Ratio Small to Large (>20,000)	Conditioning ΔP (inWG)		Same duct?
15	28,188	Initial ΔP	Final ΔP	KCl Rig
		0.50	0.50	



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Manufacturer				Filter Model						Filter Part Number			
Camfil USA				AQ-Thirteen M13 4in						407052-001			
KCI Conditioning Data Table													
	1	2	3	4	5	6	7	8	9	10	11	12	
	Minimum Dia (µm)	0.3	0.4	0.55	0.7	1.0	1.3	1.6	2.2	3.0	4.0	5.5	7.0
	Maximum Dia (µm)	0.4	0.55	0.7	1.0	1.3	1.6	2.2	3.0	4.0	5.5	7.0	10.0
	Geometric Mean (µm)	0.35	0.47	0.62	0.84	1.14	1.44	1.88	2.57	3.46	4.69	6.20	8.37
	Initial PSE	56	68	77	84	91	94	96	98	99	99	99	99
	1st KCI Cond PSE	7	11	17	27	41	48	61	77	87	89	90	88
	2nd KCI Cond PSE	8	11	15	25	37	45	58	74	85	89	89	88
	3rd KCI Cond PSE	5	9	14	25	35	45	55	73	83	88	87	84
	4th KCI Cond PSE	5	9	13	23	34	43	55	73	84	89	89	87
5th KCI Cond PSE													
Final KCI Cond PSE	5	9	13	23	34	43	55	73	83	88	87	84	

KCI Conditioning Particle Size Efficiency

