



**RESEARCH AND DEVELOPMENT  
LABORATORY**

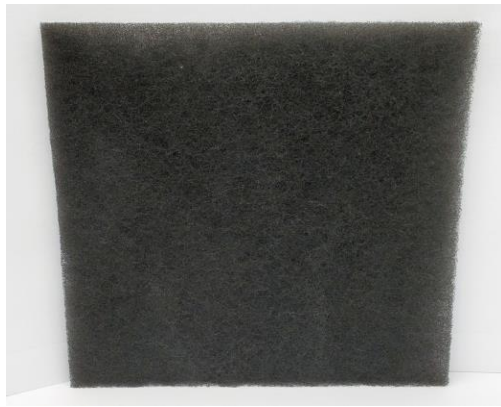
2020 Touhy Ave, Elk Grove Village, IL 60007  
800.882.8012 | www.permatron.com

**ASHRAE Standard 52.2-2017 (M) Test Report  
Initial Efficiency & Resistance**

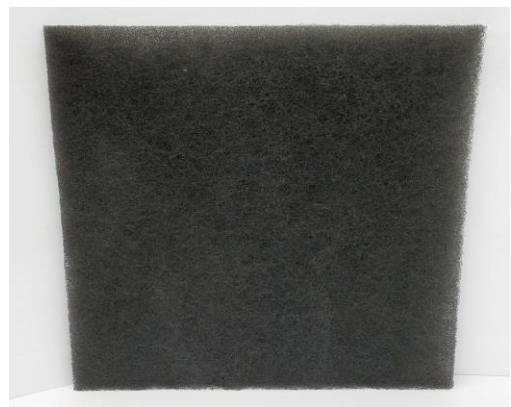
**Test Date:** 05/03/21 **Test #** 1766

<u>Filter Data</u>		<u>Test Conditions</u>	
<b>Manufacturer:</b>	Permatron	<b>Temperature:</b>	66°
<b>Filter:</b>	117010 Media	<b>Humidity:</b>	45%
<b>Description:</b>	1/2" P-Flo	<b>Test Aerosol:</b>	KCl, Neutralized
<b>Size:</b>	24 x 24 x 1/2	<b>Test Operator:</b>	G. Barker
<b>Media Area:</b>	4 ft <sup>2</sup>		
<b>Adhesive:</b>	No		

Upstream



Downstream



Test Results

<b>Airflow Rate (FPM):</b>	295	
<b>Initial Resistance:</b>	0.03" w.g.	
<b>Initial Efficiency (0.3 - 1.0 microns):</b>	1%	<i>PM 1<sub>52.2</sub></i> <b>0</b>
<b>Initial Efficiency (1.0 - 3.0 microns):</b>	10%	<i>PM 2.5<sub>52.2</sub></i> <b>4</b>
<b>Initial Efficiency (3.0 - 10.0 microns):</b>	26%	<i>PM 10<sub>52.2</sub></i> <b>12</b>
<b>Minimum Efficiency Reporting Value (MERV):</b>	<b>5</b>	
<i>If Initial Data is Minimum</i>		

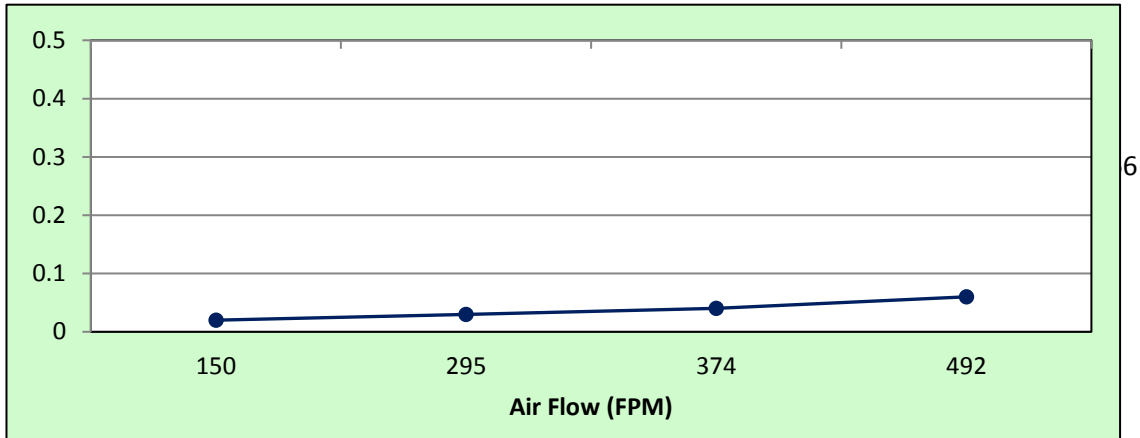
# ASHRAE STANDARD 52.2-2017(M) TEST REPORT

## TECHNICAL DATA

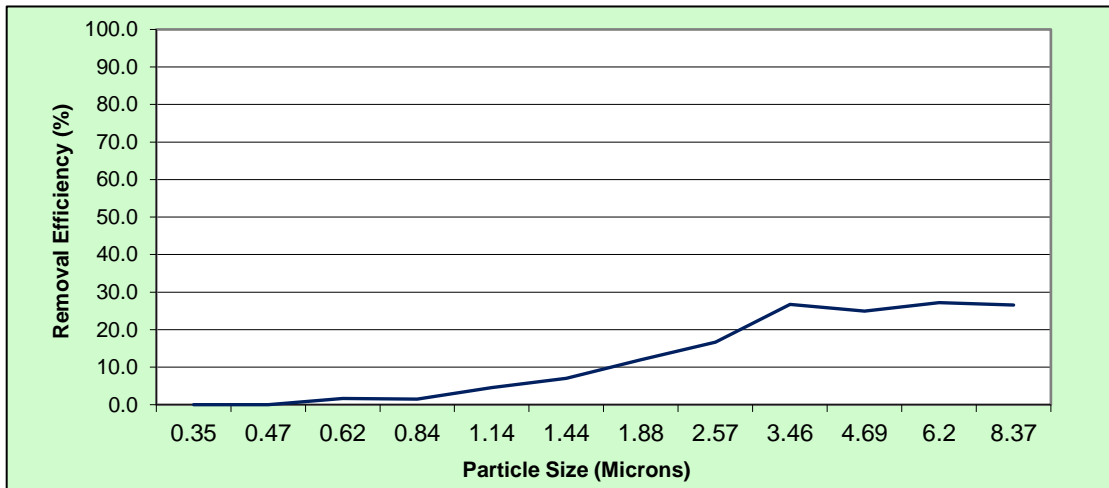
Test Date: 5/3/21

Test # 1766

### RESISTANCE VS. AIR FLOW CLEAN DEVICE



### INITIAL PARTICLE REMOVAL EFFICIENCY



Particle Size Range (microns)	Mean Particle Size	Initial Removal Efficiency (%)
.30 - 0.40	0.35	0.0
.40 - 0.55	0.47	0.0
.55 - .70	0.62	1.7
.70 - 1.0	0.84	1.5
1.0 - 1.3	1.14	4.6
1.3 - 1.6	1.44	7.0
1.6 - 2.2	1.88	12.0
2.2 - 3.0	2.57	16.7
3.0 - 4.0	3.46	26.7
4.0 - 5.5	4.69	24.9
5.5 - 7.0	6.2	27.2
7.0 - 10.0	8.37	26.6



**RESEARCH AND DEVELOPMENT  
LABORATORY**

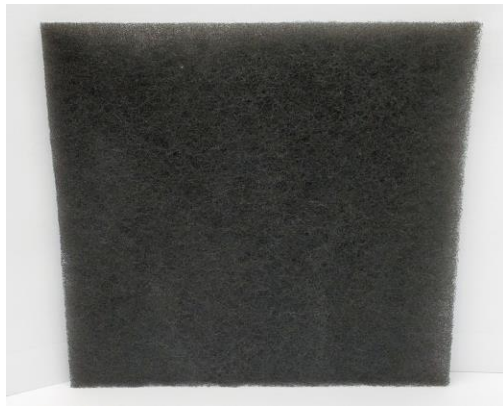
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**ASHRAE Standard 52.2-2017 (M) Test Report  
Initial Efficiency & Resistance**

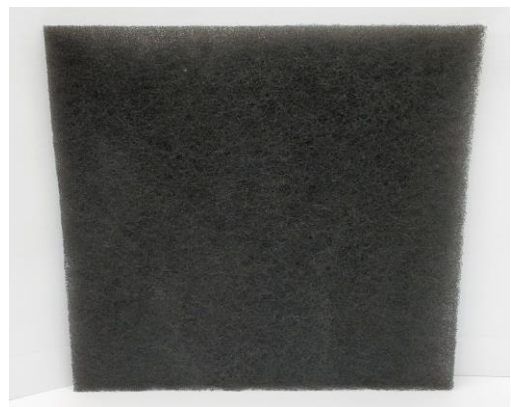
**Test Date:** 04/13/21 **Test #** 1762

<u>Filter Data</u>		<u>Test Conditions</u>	
<b>Manufacturer:</b>	Permatron	<b>Temperature:</b>	66°
<b>Filter:</b>	117009 Media	<b>Humidity:</b>	45%
<b>Description:</b>	1" P-Flo	<b>Test Aerosol:</b>	KCl, Neutralized
<b>Size:</b>	24 x 24 x 1	<b>Test Operator:</b>	G. Barker
<b>Media Area:</b>	4 ft <sup>2</sup>		
<b>Adhesive:</b>	No		

Upstream



Downstream



Test Results

<b>Airflow Rate (FPM):</b>	295	
<b>Initial Resistance:</b>	0.07" w.g.	
<b>Initial Efficiency (0.3 - 1.0 microns):</b>	1%	<i>PM 1<sub>52.2</sub></i> <b>0</b>
<b>Initial Efficiency (1.0 - 3.0 microns):</b>	10%	<i>PM 2.5<sub>52.2</sub></i> <b>4</b>
<b>Initial Efficiency (3.0 - 10.0 microns):</b>	28%	<i>PM 10<sub>52.2</sub></i> <b>13</b>
<b>Minimum Efficiency Reporting Value (MERV):</b>	<b>5</b>	
<i>If Initial Data is Minimum</i>		

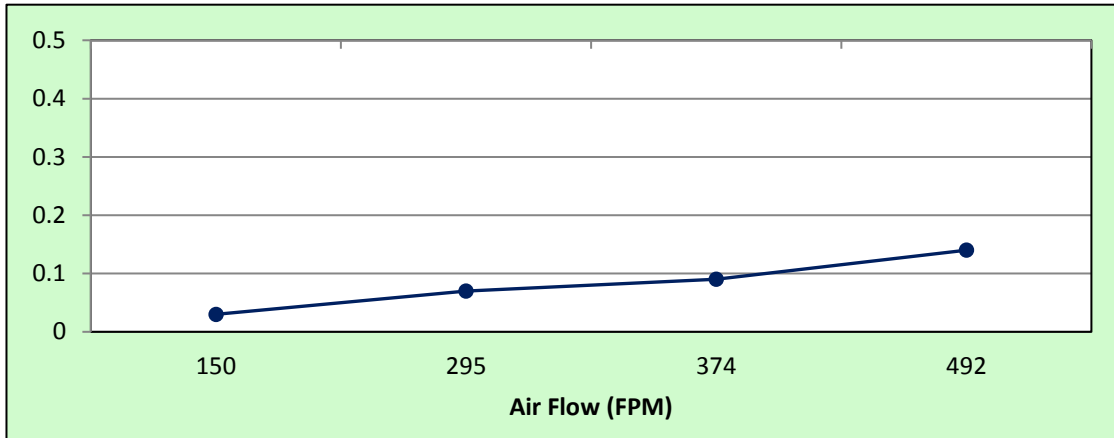
# ASHRAE STANDARD 52.2-2017(M) TEST REPORT

## TECHNICAL DATA

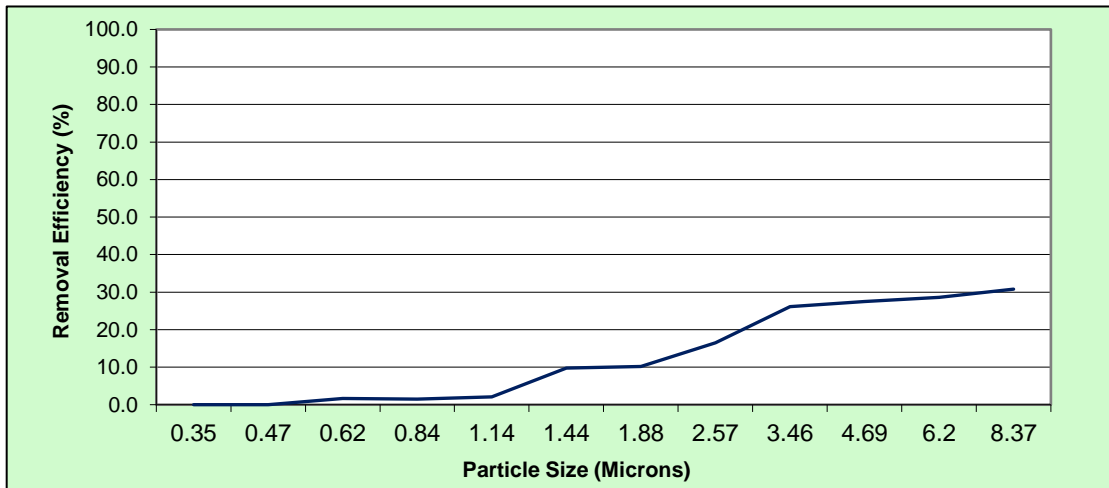
Test Date: 4/13/21

Test # 1762

### RESISTANCE VS. AIR FLOW CLEAN DEVICE



### INITIAL PARTICLE REMOVAL EFFICIENCY



Particle Size Range (microns)	Mean Particle Size	Initial Removal Efficiency (%)
.30 - 0.40	0.35	0.0
.40 - 0.55	0.47	0.0
.55 - .70	0.62	1.7
.70 - 1.0	0.84	1.5
1.0 - 1.3	1.14	2.1
1.3 - 1.6	1.44	9.8
1.6 - 2.2	1.88	10.2
2.2 - 3.0	2.57	16.5
3.0 - 4.0	3.46	26.1
4.0 - 5.5	4.69	27.5
5.5 - 7.0	6.2	28.6
7.0 - 10.0	8.37	30.8

## ASHRAE STANDARD 52.2 - 2007 TEST REPORT INITIAL PARTICLE REMOVAL EFFICIENCY & RESISTANCE

### FILTER DATA

Date: 01/13/12 Test# 029

Filter: PermaFlo 1/2"  
 Size: 24 x 24 x 1/2  
 Media Area: 4 ft<sup>2</sup>  
 Adhesive: NONE  
 Antimicrobial:  
 Description: 1/2" blue, rigid media.

### Test Summary

Air Flow Rate: 1200 cfm (300 fpm)  
 Test Aerosol: KCl, Neutralized  
 Test Operator: J. Mazur

#### Resistance Traverse:

800 cfm (200 fpm)	0.02" w.g.
1000 cfm (250 fpm)	0.03" w.g.
1200 cfm (300 fpm)	0.04" w.g.

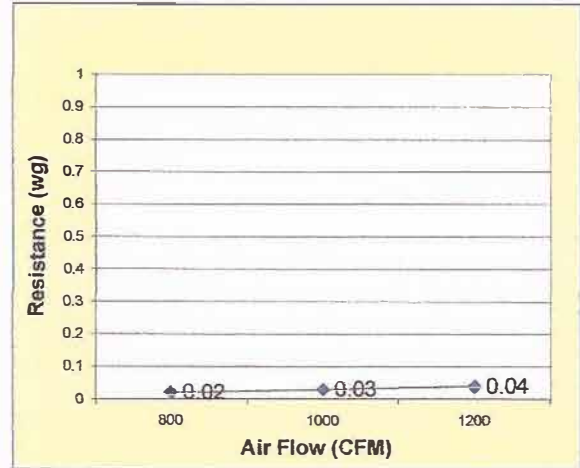
#### Estimated Initial Particle Removal Efficiency:

Range 1 (0.3 - 1.0 micron)	9.5%
Range 2 (1.0 - 3.0 micron)	17.3%
Range 3 (3.0 - 10 micron)	24.5%

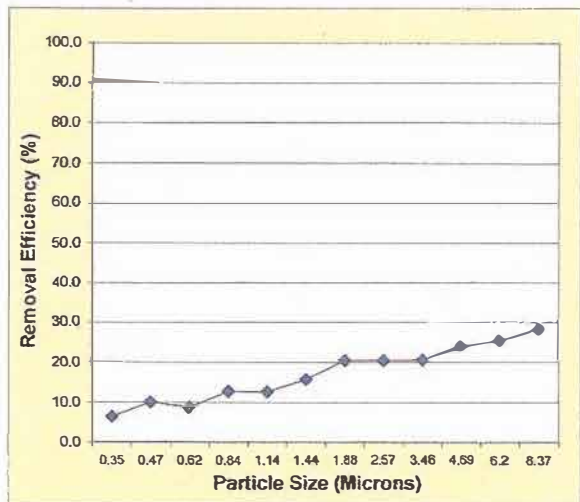
Minimum Efficiency Reporting Value (MERV) 5

\*If Initial Data is Minimum

### RESISTANCE VS. AIR FLOW



### PARTICLE SIZE REMOVAL EFFICIENCY CURVE



## ASHRAE STANDARD 52.2 - 2007 TEST REPORT INITIAL PARTICLE REMOVAL EFFICIENCY & RESISTANCE

### FILTER DATA

Date: 01/13/12 Test# 030

Filter: PermaFlo, 1"

Size: 24 x 24 x 1

Media Area: 4 ft<sup>2</sup>

Adhesive: NONE

Antimicrobial:

Description: 1" blue, rigid media.

### Test Summary

Air Flow Rate: 1200 cfm (300 fpm)

Test Aerosol: KCl, Neutralized

Test Operator: J. Mazur

#### Resistance Traverse:

800 cfm (200 fpm)	0.03" w.g.
1000 cfm (250 fpm)	0.04" w.g.
1200 cfm (300 fpm)	0.06" w.g.

#### Estimated Initial Particle Removal Efficiency:

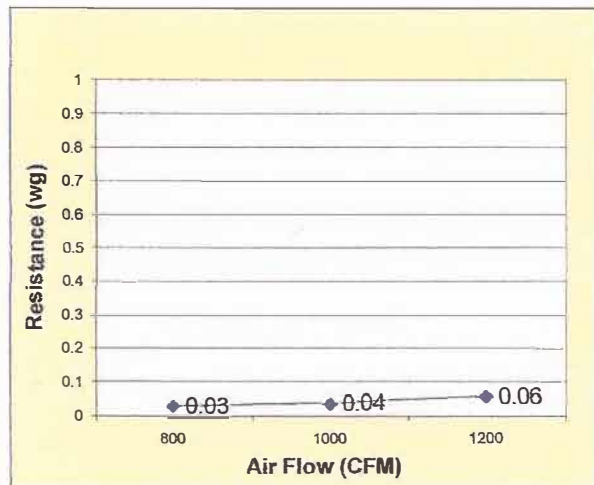
Range 1 (0.3 - 1.0 micron)	18.2%
Range 2 (1.0 - 3.0 micron)	30.1%
Range 3 (3.0 - 10 micron)	40.5%

Minimum Efficiency Reporting Value (MERV)

6

*\*If Initial Data is Minimum*

### RESISTANCE VS. AIR FLOW



### PARTICLE SIZE REMOVAL EFFICIENCY CURVE

