



# AIR FILTER TESTING LABORATORIES, INC.

4632 Old LaGrange Road • Buckner, Kentucky 40010

Phone (502) 222-5720 • Fax (502) 222-9881

## ASHRAE STANDARD 52.2-2007 REMOVAL EFFICIENCY BY PARTICLE SIZE (0.3 to 10.0 µm; KCI)

**REPORT NO.**  
**14015**

**TEST NO.**  
1

**SHEET NO.**  
1

### DEVICE TESTED

Test Requested By	FILTRATION MANUFACTURING, INC.
Manufacturer	FILTRATION MANUFACTURING, INC.
Test Sample Procurement	FURNISHED BY MANUFACTURER
Product Name	PRACTICAL PLEAT
Model No.	MERV 14 PLEATED
Dimensions	24" H X 24" W X 5" D (NOMINAL)

### DEVICE DESCRIPTION

Generic Device Classification / Type	PLEATED PANEL	
Number Of Pleats / Pockets	21	no.
Number Of Banks	N/A	no.
Face Dimension (Nom. Height)	24	in.
Face Dimension (Nom. Width)	24	in.
Depth Dimension (Nom. Depth)	5	in.
Media Area (Net Effective)	3.50	m <sup>2</sup>
Type Of Media	SYNTHETIC	
Type And Amount Of Adhesive	NONE	
Product Description		

### TEST CONDITIONS

Test Airflow Rate	2006	m <sup>3</sup> /hr
Test Aerosol Type	KCI	
Test Dust Type	ASHRAE	
Test Dust Feed Rate	71.0	mg/m <sup>3</sup>
Device Test Section Duct Size	24 x 24	in.
Final Device Resistance	1.0	in. w.g.
Air Temperature	23.0	°C
Relative Humidity	50	%
Optical / Aerodynamic Particle Counter(s); OPC / APC	CLIMET INST. / CI-500 (laser)	
Remarks/ Note		

### TEST RESULTS - see attached performance curves

Initial Device Resistance	.16			in. w.g.
Final Device Resistance	1.0			in. w.g.
Composite Average Minimum Efficiencies	E1 (0.3 - 1.0 µm)	E2 (1.0 - 3.0 µm)	E3 (3.0 - 10.0 µm)	%
	77	92	99	
Minimum Efficiency Reporting Value (MERV)	MERV 14 @ 2006 m <sup>3</sup> /hr			
Average ASHRAE Dust Weight Arrestance	99			%
ASHRAE Dust Holding Capacity	254			g

**DATE**  
05-30-2012

**TEST SUPERVISOR**  
M.A.M.

**ADMINISTRATIVE APPROVAL**

*Michael A. Murphy*





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## ASHRAE STANDARD 52.2-2007 - PERFORMANCE CURVES REMOVAL EFFICIENCY BY PARTICLE SIZE (0.3 to 10.0 $\mu\text{m}$ ; KCI)

### PERFORMANCE CURVES

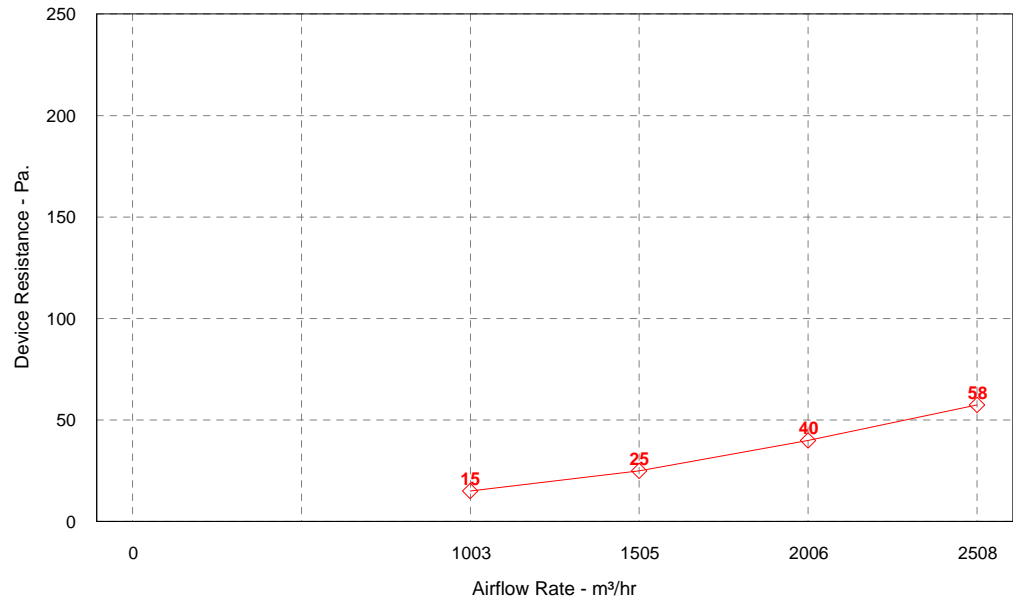
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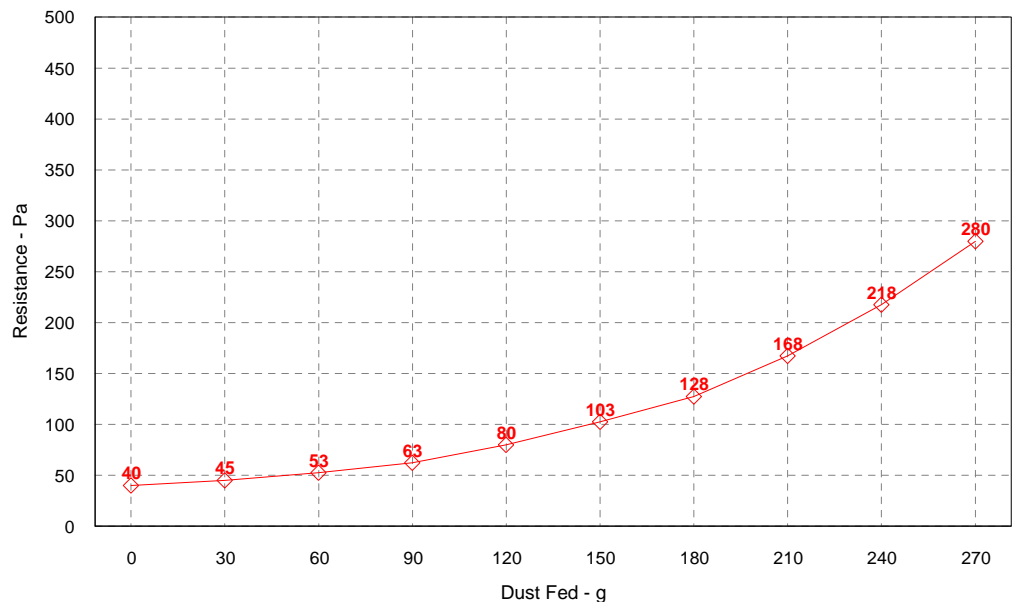
### CLEAN DEVICE

Airflow Rate -vs- Initial Device Resistance



### DUST FED -vs- RESISTANCE

Dust Increment - 30 g ASHRAE



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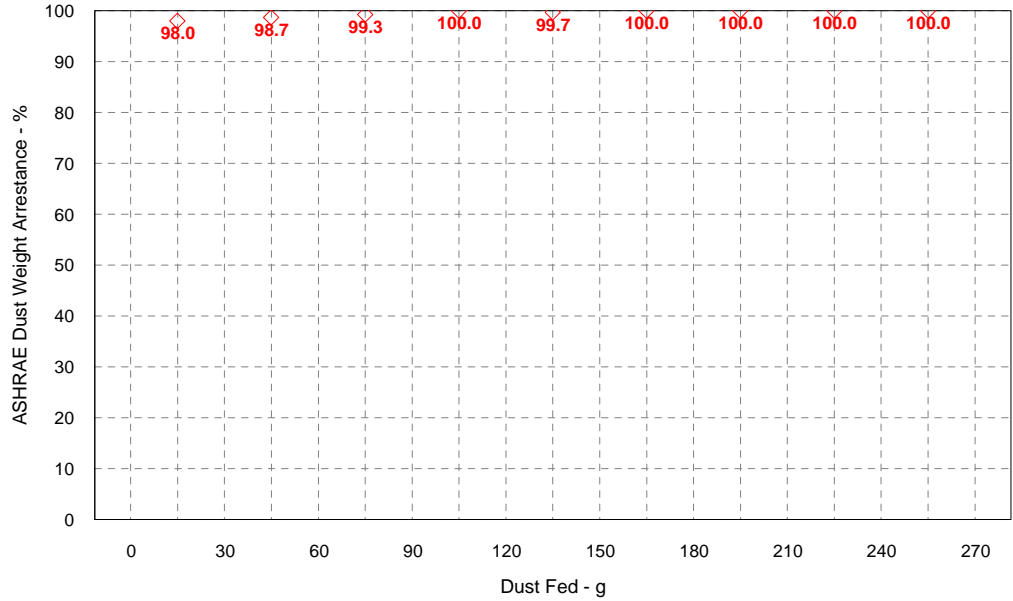
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**ASHRAE STANDARD 52.2-2007 - PERFORMANCE CURVES  
REMOVAL EFFICIENCY BY PARTICLE SIZE (0.3 to 10.0  $\mu\text{m}$ ; KCI)**

## PERFORMANCE CURVES

### DUST FED -vs- ARRESTANCE

Dust Increment - 30 g ASHRAE



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### PERFORMANCE CURVES

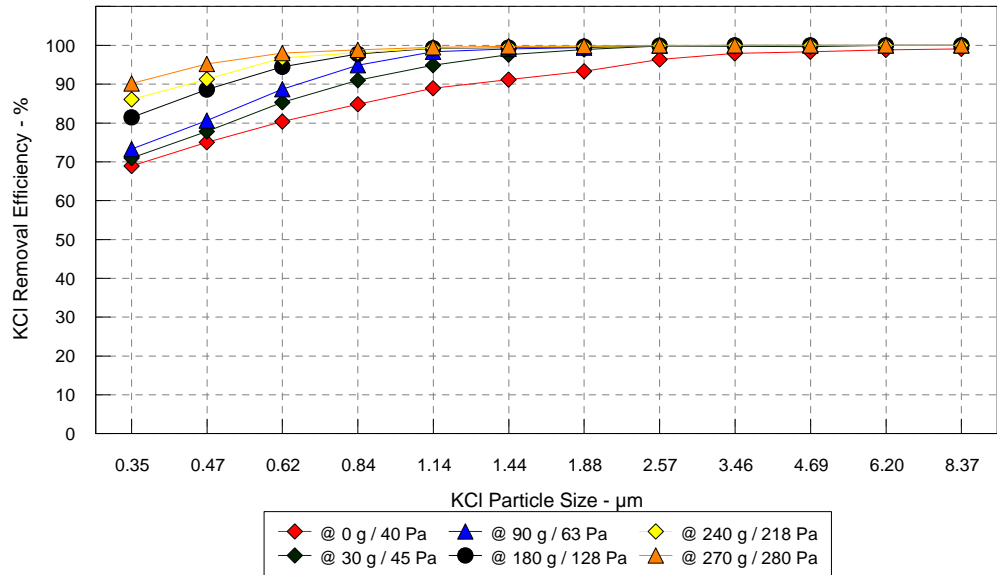
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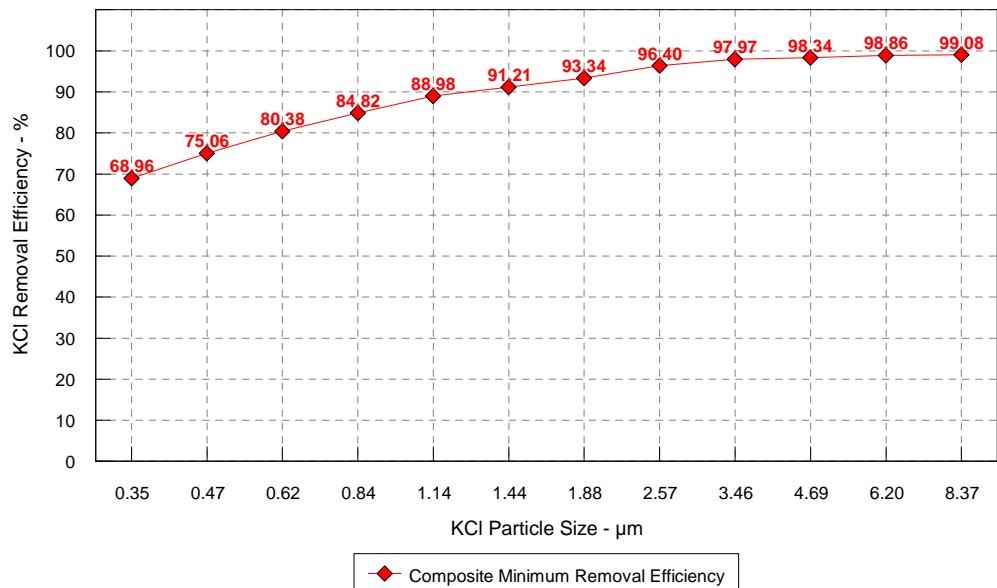
### PARTICLE SIZE -vs- REMOVAL EFFICIENCY

Incremental KCI Particle Size Removal Efficiency



### PARTICLE SIZE -vs- REMOVAL EFFICIENCY

Composite Minimum KCI Particle Size Removal Efficiency



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