



**AmericanAirFilter®**

**VariCel® II**

*Extended Surface Mini-Pleat Filters  
Featuring the Slim Line Design*

**VariCel® II with Antimicrobial**

*IAQ Engineered Media Treated  
with Antimicrobial*

*Better Air is Our Business®* **AAF**  
INTERNATIONAL

## VariCel® II and VariCel® II with Antimicrobial

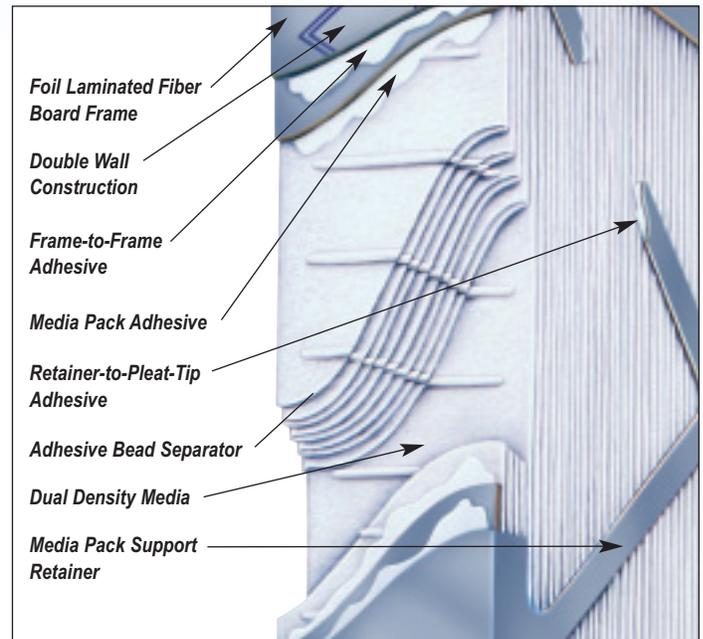
### Extended Surface Mini-Pleat Filters

- *Slim Line, Mini-Pleat Design Lowers Operating Costs*
- *Engineered for a Variety of Applications*
- *True High Efficiency Filters - Only 4" Thick Media Pack*
- *Available in Three Efficiencies - MERV 15 (90-95%), MERV 14 (80-85%), MERV 11 (60-65%).*

Designed for high performance under both normal and difficult operating conditions, VariCel II and VariCel II with antimicrobial are appropriate for general HVAC and applications operating with variable air volume, turbulent airflow, and high humidity. The combination of durable construction and high efficiency also makes VariCel II ideal for specialized systems such as diffusion filters in paint booths and prefilters in cleanrooms.

### Unique Combination High Performance and Cost-Saving Features

- High efficiency filtration
- Available with antimicrobial in 90-95% and 60-65% efficiencies
- Suitable for a broad range of applications
- Rigid construction holds up in difficult operating conditions
- Microglass paper with water repellent binder
- Easy handling, installation, and removal
- Easy disposal
- Slim Line packaging reduces shipping costs and storage space



### Heavy Duty Construction - High Performance in Tough Operating Conditions

#### Foil Laminated Fiber Board Frame Provides Strength, Moisture Resistance

The frame (cell side) is made of fiber board, with a special ingredient added to maintain its strength under high moisture conditions. A layer of foil is laminated to the outer surface to further enhance moisture resistance.

#### Indoor Air Quality

VariCel II filters with antimicrobial are designed specifically to improve Indoor Air Quality (IAQ). Air filters are designed to trap and concentrate particulate air contaminants including fungal and bacterial spores. The presence of antimicrobial in the filter media is intended to preserve the integrity of the

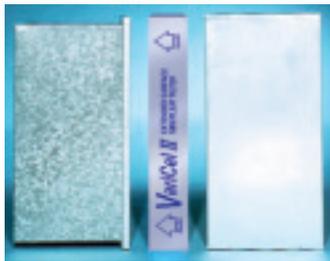
media through the useful life of the filter. Antimicrobial preservatives are not meant to increase the efficiency of the filter, or to kill microorganisms "on the fly" as they pass through a filter. Antimicrobial is EPA registered and environmentally safe.

#### Unitized Construction Adds Strength, Prevents Leakage

Two mating die cut boxes are bonded together, forming a double wall around the perimeter of the filter. The mini-pleat media pack is bonded inside the double wall. The double-walled, foil laminated frame prevents leakage and increases rigidity.

### Easy Disposal

The thinner depth and fiber board frame make disposal easy. VariCel II filters are only one-third the volume of other high efficiency filters, significantly reducing the contribution to landfills. With no metal components, they are also suitable for incineration.\*



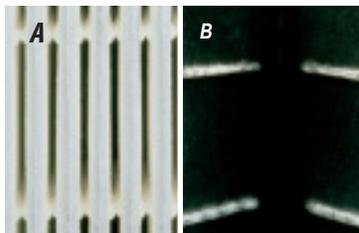
VariCel II Filters are only one-third as deep as typical competitive filters.

\*Except for aluminum strip on side access models

### High Efficiency and Low Resistance Reduce Operating Costs

#### Slim Line Design

VariCel II's slim line design, providing minimum resistance with maximum dust loading capacity, lowers operating costs. **(A)** Rows of adhesive beads are applied 1-1/4" apart on both sides of the media to separate the pleats and allow maximum airflow with minimum resistance. **(B)** Beads on adjacent pleats bond to form a rigid media pack that maintains even pleat spacing as the dirt load builds, even during turbulent airflow. Media pack support retainers, built into the die cut frame, are bonded to the pleat tips to further secure pleat spacing. Consistent pleat spacing provides even distribution of airflow throughout the entire face of the filter, resulting in lower resistance, full use of the entire depth of the media, and higher dust loading capacity.



With this design, VariCel II has the capacity to retain the same amount of media area, in a filter only one-third as deep, as filters using traditional corrugated aluminum separators. VariCel II filters have twice the media area of 12" deep competitive cartridge-type, extended surface filters using high loft, fine glass fiber media.

#### Compact, Space-Saving Packaging

The Slim Line, mini-pleat design enables four VariCel II filters to be shipped in a carton only 16 inches high, compared to most competitive filters which are shipped only one per carton. Shipping costs and storage space are significantly reduced.

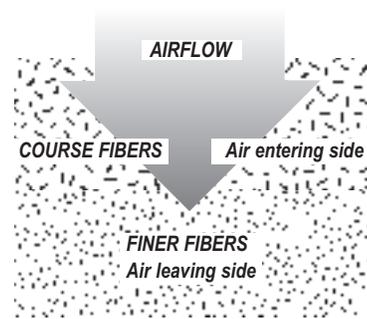
### VariCel II M & MH

The VariCel II M & MH combine the efficiency and performance of VariCel II media with AAF's unique interlocked metal header (MH) and cell side. These filters are ideal for environments where excessive turbulence and moisture are factors. Metal makes the VariCel II M & MH a logical choice for side-access systems. For more information, request bulletin number AFP-1-239 from your AAF salesperson or call Customer Service toll free at 888.223.2003.



### Dual Density Media Increases Dust Holding Capacity

VariCel II media is made of microglass paper with a water repellent binder. The fibers are formed with dual density construction, consisting of coarser fibers on the air entering side and finer fibers on the air leaving side. This allows particles to be collected throughout the full thickness of the media, substantially increasing dust holding capacity. The media can withstand intermittent exposure to water without affecting filter performance.



### Savings for New or Existing Installations

#### New Installations

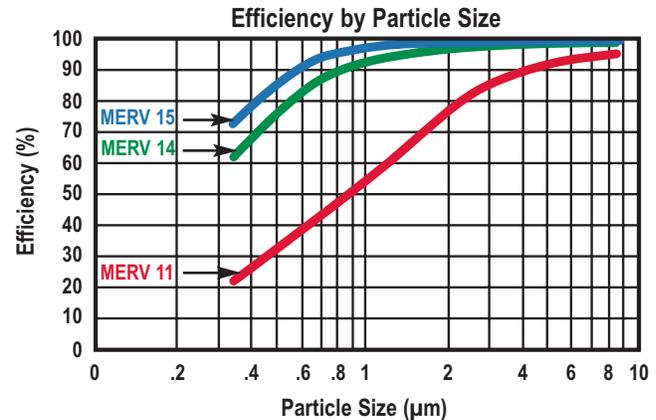
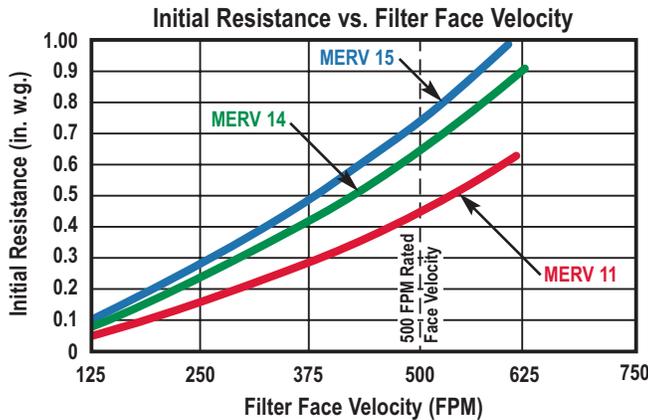
- Reduce space requirements for the filter section
- Save on installed cost

#### Existing Installations

- Save on:
  - Replacement filter costs
  - Shipping costs
  - Storage space
  - Handling and installation
- Simplify disposal
- Upgrade filter efficiency at economical cost
- Convert from more costly, bulkier filters

## VariCel® II and VariCel® II with Antimicrobial

### Operating Data



### Product Information

<sup>(1)</sup> Rated Filter Face Velocity (FPM)	<sup>(2)</sup> Nominal Size (Inches) (W x H x D)	<sup>(2)</sup> Actual Size (Inches) (W x H x D)	<sup>(3)</sup> Rated Air Flow Capacity (CFM)	<sup>(3)</sup> Rated Initial Resistance (in. w.g.)	<sup>(4)</sup> Recommended Final Resistance (in. w.g.)	Gross Media Area (Sq.Ft.)	Shipping Weight (Lbs. Per Carton)
<b>MERV 15 – 90-95% AVERAGE EFFICIENCY - Available with Antimicrobial<sup>(5)</sup></b>							
500	24 x 24 x 4	23 <sup>3</sup> / <sub>8</sub> x 23 <sup>3</sup> / <sub>8</sub> x 3 <sup>3</sup> / <sub>4</sub>	2000	.75	1.5	119	26
	20 x 25 x 4	19 <sup>3</sup> / <sub>8</sub> x 24 <sup>3</sup> / <sub>8</sub> x 3 <sup>3</sup> / <sub>4</sub>	1750	.75	1.5	103	22
	20 x 24 x 4	19 <sup>3</sup> / <sub>8</sub> x 23 <sup>3</sup> / <sub>8</sub> x 3 <sup>3</sup> / <sub>4</sub>	1650	.75	1.5	99	21
	20 x 20 x 4	19 <sup>3</sup> / <sub>8</sub> x 19 <sup>3</sup> / <sub>8</sub> x 3 <sup>3</sup> / <sub>4</sub>	1400	.75	1.5	82	18
	18 x 24 x 4	17 <sup>3</sup> / <sub>8</sub> x 23 <sup>3</sup> / <sub>8</sub> x 3 <sup>3</sup> / <sub>4</sub>	1500	.75	1.5	88	19
	16 x 25 x 4	15 <sup>3</sup> / <sub>8</sub> x 24 <sup>3</sup> / <sub>8</sub> x 3 <sup>3</sup> / <sub>4</sub>	1400	.75	1.5	82	18
	16 x 20 x 4	15 <sup>3</sup> / <sub>8</sub> x 19 <sup>3</sup> / <sub>8</sub> x 3 <sup>3</sup> / <sub>4</sub>	1100	.75	1.5	65	14
	12 x 24 x 4	11 <sup>3</sup> / <sub>8</sub> x 23 <sup>3</sup> / <sub>8</sub> x 3 <sup>3</sup> / <sub>4</sub>	1000	.75	1.5	58	13
	12 x 12 x 4	11 <sup>3</sup> / <sub>8</sub> x 11 <sup>3</sup> / <sub>8</sub> x 3 <sup>3</sup> / <sub>4</sub>	500	.75	1.5	28	7
<b>MERV 14 – 80-85% AVERAGE EFFICIENCY<sup>(5)</sup></b>							
500	24 X 24 X 4	23 <sup>3</sup> / <sub>8</sub> X 23 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	2000	.65	1.5	119	26
	20 X 25 X 4	19 <sup>3</sup> / <sub>8</sub> X 24 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	1750	.65	1.5	103	22
	20 X 24 X 4	19 <sup>3</sup> / <sub>8</sub> X 23 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	1650	.65	1.5	99	21
	20 X 20 X 4	19 <sup>3</sup> / <sub>8</sub> X 19 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	1400	.65	1.5	82	18
	18 X 24 X 4	17 <sup>3</sup> / <sub>8</sub> X 23 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	1500	.65	1.5	88	19
	16 X 25 X 4	15 <sup>3</sup> / <sub>8</sub> X 24 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	1400	.65	1.5	82	18
	16 X 20 X 4	15 <sup>3</sup> / <sub>8</sub> X 19 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	1100	.65	1.5	65	14
	12 X 24 X 4	11 <sup>3</sup> / <sub>8</sub> X 23 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	1000	.65	1.5	58	13
	12 X 12 X 4	11 <sup>3</sup> / <sub>8</sub> X 11 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	500	.65	1.5	28	7
<b>MERV 11 – 60-65% AVERAGE EFFICIENCY - Available with Antimicrobial<sup>(5)</sup></b>							
500	24 X 24 X 4	23 <sup>3</sup> / <sub>8</sub> X 23 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	2000	.45	1.5	119	26
	20 X 25 X 4	19 <sup>3</sup> / <sub>8</sub> X 24 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	1750	.45	1.5	103	22
	20 X 24 X 4	19 <sup>3</sup> / <sub>8</sub> X 23 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	1650	.45	1.5	99	21
	20 X 20 X 4	19 <sup>3</sup> / <sub>8</sub> X 19 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	1400	.45	1.5	82	18
	18 X 24 X 4	17 <sup>3</sup> / <sub>8</sub> X 23 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	1500	.45	1.5	88	19
	16 X 25 X 4	15 <sup>3</sup> / <sub>8</sub> X 24 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	1400	.45	1.5	82	18
	16 X 20 X 4	15 <sup>3</sup> / <sub>8</sub> X 19 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	1100	.45	1.5	65	14
	12 X 24 X 4	11 <sup>3</sup> / <sub>8</sub> X 23 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	1000	.45	1.5	58	13
	12 X 12 X 4	11 <sup>3</sup> / <sub>8</sub> X 11 <sup>3</sup> / <sub>8</sub> X 3 <sup>3</sup> / <sub>4</sub>	500	.45	1.5	28	7

(1) Filters can be operated up to 125% of rated face velocity.

(2) Width and height dimensions are interchangeable. VariCel II filters may be installed with the pleats either vertical or horizontal.

(3) All performance data based on ASHRAE 52.2-1999 and ASHRAE 52.1-1992 test methods. Performance tolerances conform to Section 7.4 of ARI Standard 850-93. For maximum service life, VariCel II filters should always be operated with a prefilter.

Underwriters Laboratories Classification: All VariCel II filters are classified UL Class 2. Testing was performed formed according to UL Standard 900 and CAN 4-S111.

(4) The final operating resistance shown is typical of systems currently in operation. Filters can be operated to a higher or lower final resistance without materially affecting filter efficiency; however, dust holding capacity will be reduced if the filters are changed at a lower final resistance.

(5) VariCel II filters are shipped four per carton.

Continuous Operating Temperature Limits: 150°F (66°C)

For product information on VariCel II M & MH, request bulletin AFP-1-239.



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