

VariCel[®] 2⁺HC

(High Capacity)

EXTENDED SURFACE FILTERS



- Most energy efficient 4" filter available
- Longer life
- Lowest initial resistance
- Utilizes AAF's exclusive Impress[®] pleating technology
- Engineered for a variety of applications
- Easy handling, installation, removal, and disposal
- Slim line packaging reduces shipping costs and storage space
- Available in three efficiencies – MERV 15, MERV 14, and MERV 11

Utilizing AAF's exclusive Impress pleating technology, the VariCel 2⁺HC filter combines the lowest resistance and high mechanical strength while maximizing energy efficiency. This combination provides overall operating costs savings.

Applications

VariCel 2⁺HC filters are appropriate for general HVAC and industrial applications, including applications operating with variable air volume, turbulent airflow, and high humidity. Easily upgrade from standard 4" pleated filters when higher efficiency and longer life are required. Areas that are hard to reach, like rooftop units, are also a great application for the VariCel 2⁺HC filter.

Impress[®] Technology

Impress Technology is a patented pleat formation process that utilizes embossed media to form the optimal pleat geometry for low filter resistance. The embossing pattern created using Impress Technology allows for wider pleat spacing, unsurpassed mechanical strength, and reinforced V-pleats that will not pinch off.

Energy Savings Design

The wider pleat openings and exits of the VariCel 2⁺HC filter deliver lower entrance and exit losses. This combined with less restriction from separator material and better media utilization delivers a low pressure drop. The lower operating resistance reduces operating costs and saves energy, making VariCel 2⁺HC the most energy efficient 4" filter available.

Long Service Life

Low initial resistance, ideal pleat spacing, and higher than average media density allow for maximized particle management and full media utilization. VariCel 2⁺HC has a high Dust Holding Capacity (DHC) compared to other filters on the market. High DHC can equate to a longer service life, which reduces the number of filter changeouts.

High Performance in Tough Operating Conditions

The VariCel 2⁺HC media is moisture resistant and can withstand intermittent exposure to water without affecting filter performance. The media pack is encased in high impact plastic cell sides and completely sealed in a water-based copolymer emulsion, keeping particulate from bypassing the filter media.

Impress pleat formation delivers a robust media pack with a burst strength exceeding the standard seen in the industry. Pleat formation and a center support bar make the filter mechanically stable, so the media resists distortion under high pressure loads.

Compact, Space-Saving Packaging

The slim line design enables four VariCel 2⁺HC 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.

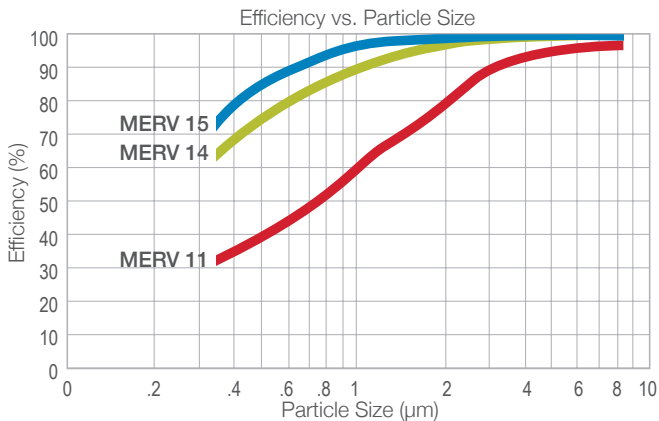
Environmentally Friendly Disposal

The thinner depth makes disposal easy. VariCel 2⁺HC 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® 2⁺HC

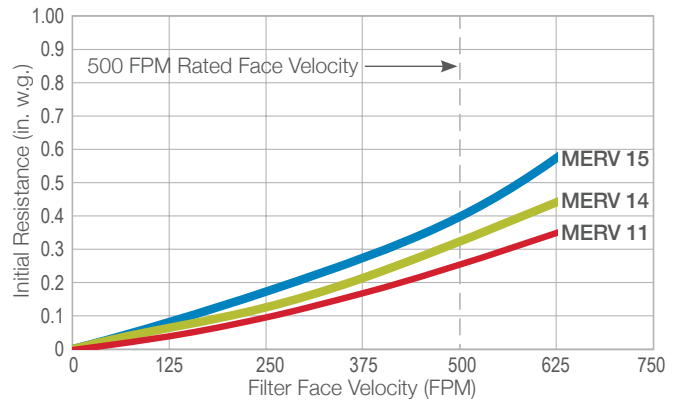
Performance Data

Composite Minimum Efficiency Curve



Tested in accordance with ASHRAE Standard 52.2.

Initial Resistance vs. Filter Face Velocity (NH Model)



Product Information

⁽¹⁾ Rated Filter Face Velocity (FPM)	⁽²⁾ Nominal Size (inches) (W x H x D)	⁽²⁾ Actual Size (inches) (W x H x D)	⁽³⁾ Rated Airflow Capacity (CFM)	Box Style (NH) ⁽³⁾ Rated Initial Resistance (in. w.g.)	Header Style (SH) ⁽³⁾ Rated Initial Resistance (in. w.g.)	⁽⁴⁾ Recommended Final Resistance (in. w.g.)
⁽³⁾MERV 15						
500	24 x 24 x 4	23 $\frac{3}{8}$ x 23 $\frac{3}{8}$ x 3 $\frac{3}{4}$	2000	.40	.47	1.5
	20 x 25 x 4	19 $\frac{1}{2}$ x 24 $\frac{1}{2}$ x 3 $\frac{3}{4}$	1750	.40	.47	1.5
	20 x 24 x 4	19 $\frac{1}{2}$ x 23 $\frac{3}{8}$ x 3 $\frac{3}{4}$	1650	.40	.47	1.5
	20 x 20 x 4	19 $\frac{1}{2}$ x 19 $\frac{1}{2}$ x 3 $\frac{3}{4}$	1400	.40	.47	1.5
	18 x 24 x 4	17 $\frac{1}{2}$ x 23 $\frac{3}{8}$ x 3 $\frac{3}{4}$	1500	.40	.47	1.5
	16 x 25 x 4	15 $\frac{1}{2}$ x 24 $\frac{1}{2}$ x 3 $\frac{3}{4}$	1400	.40	.47	1.5
	16 x 20 x 4	15 $\frac{1}{2}$ x 19 $\frac{1}{2}$ x 3 $\frac{3}{4}$	1100	.40	.47	1.5
	12 x 24 x 4	11 $\frac{1}{2}$ x 23 $\frac{3}{8}$ x 3 $\frac{3}{4}$	1000	.40	.47	1.5
	12 x 12 x 4	11 $\frac{1}{2}$ x 11 $\frac{1}{2}$ x 3 $\frac{3}{4}$	500	.40	.47	1.5
	⁽³⁾MERV 14					
500	24 X 24 X 4	23 $\frac{3}{8}$ X 23 $\frac{3}{8}$ X 3 $\frac{3}{4}$	2000	.32	.39	1.5
	20 X 25 X 4	19 $\frac{1}{2}$ X 24 $\frac{1}{2}$ X 3 $\frac{3}{4}$	1750	.32	.39	1.5
	20 X 24 X 4	19 $\frac{1}{2}$ X 23 $\frac{3}{8}$ X 3 $\frac{3}{4}$	1650	.32	.39	1.5
	20 X 20 X 4	19 $\frac{1}{2}$ X 19 $\frac{1}{2}$ X 3 $\frac{3}{4}$	1400	.32	.39	1.5
	18 X 24 X 4	17 $\frac{1}{2}$ X 23 $\frac{3}{8}$ X 3 $\frac{3}{4}$	1500	.32	.39	1.5
	16 X 25 X 4	15 $\frac{1}{2}$ X 24 $\frac{1}{2}$ X 3 $\frac{3}{4}$	1400	.32	.39	1.5
	16 X 20 X 4	15 $\frac{1}{2}$ X 19 $\frac{1}{2}$ X 3 $\frac{3}{4}$	1100	.32	.39	1.5
	12 X 24 X 4	11 $\frac{1}{2}$ X 23 $\frac{3}{8}$ X 3 $\frac{3}{4}$	1000	.32	.39	1.5
	12 X 12 X 4	11 $\frac{1}{2}$ X 11 $\frac{1}{2}$ X 3 $\frac{3}{4}$	500	.32	.39	1.5
	⁽³⁾MERV 11					
500	24 X 24 X 4	23 $\frac{3}{8}$ X 23 $\frac{3}{8}$ X 3 $\frac{3}{4}$	2000	.25	.32	1.5
	20 X 25 X 4	19 $\frac{1}{2}$ X 24 $\frac{1}{2}$ X 3 $\frac{3}{4}$	1750	.25	.32	1.5
	20 X 24 X 4	19 $\frac{1}{2}$ X 23 $\frac{3}{8}$ X 3 $\frac{3}{4}$	1650	.25	.32	1.5
	20 X 20 X 4	19 $\frac{1}{2}$ X 19 $\frac{1}{2}$ X 3 $\frac{3}{4}$	1400	.25	.32	1.5
	18 X 24 X 4	17 $\frac{1}{2}$ X 23 $\frac{3}{8}$ X 3 $\frac{3}{4}$	1500	.25	.32	1.5
	16 X 25 X 4	15 $\frac{1}{2}$ X 24 $\frac{1}{2}$ X 3 $\frac{3}{4}$	1400	.25	.32	1.5
	16 X 20 X 4	15 $\frac{1}{2}$ X 19 $\frac{1}{2}$ X 3 $\frac{3}{4}$	1100	.25	.32	1.5
	12 X 24 X 4	11 $\frac{1}{2}$ X 23 $\frac{3}{8}$ X 3 $\frac{3}{4}$	1000	.25	.32	1.5
	12 X 12 X 4	11 $\frac{1}{2}$ X 11 $\frac{1}{2}$ X 3 $\frac{3}{4}$	500	.25	.32	1.5

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

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

(3) All performance data based on ASHRAE Standard 52.2. Performance tolerances conform to Section 7.4 of ARI Standard 850-93. For maximum service life, VariCel 2⁺HC filters should always be operated with a prefilter.

(4) The final operating resistance shown is typical of systems currently in operation. Filters can be operated to a higher or lower final resistance. The most economical operating conditions can be determined by contacting your local AAF representative.

Underwriters Laboratories Classification: All VariCel 2⁺HC filters are UL Classified. Testing was performed according to UL Standard 900 and ULC-S111.

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



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