



# Clean Liquid Systems LLC

20150 Kuykendahl Rd. #200  
 Spring, TX 77379  
 Ph: 713-253-0100 / 713-253-5001  
 www.cleanliquidsystems.com

## V Cell - Mini Pleat Compact Filters

(glass media)

V-Cell, the high efficiency Mini-Pleat compact filters made up of micro-fine glass fiber media are available in a wide range of efficiencies from MERV 11 to HEPA 99.99% Tested per EN779-2012 for grades M6 thru F9 and tested to EN1822 for grades E10 to H13 V-cells are designed for use in HVAC installations where highest degree of air cleanliness is required. The compact design, large surface area and low initial resistance made it an ideal alternative to ordinary Bag filters & Box type filters of the similar efficiencies. V Cell models are also available with very high burst resistance, low pressure drop and high dust holding capacity for extreme operating conditions like Gas Turbine air intake filtration. GTV Models are with plastic grid support.



V-Cell standard model is constructed in plastic frame with 11.5" depth and are available in 20 and 25mm headers  
 4V filters are made up of water resistant micro-fine glass fiber filter media, closely pleated and separated by continuous thermo-plastic bead separators. This design accommodates a very large quantity of filter media which offers a longer service life and low pressure drop. The Mini-Pleated media packs are arranged in perfect V design and sealed to the enclosing frame. Single piece foam gasket will be provided upon request.

GTV-Gas Turbine Models are constructed in plastic frame and are backed with Heavy duty plastic mesh support for additional protection.

The GTV model utilizes a special grade media offering very high dust holding capacity and the mini-pleat packs are backed with an additional plastic grid support for each media panel to ensure protection during operation in harsh conditions. Fully Potted versions are also available. Filters are absolutely metal free and are incinerable and environmentally friendly. Filters can also be made in Reverse flow design. These filters offers very high burst pressure, and are ideal for extreme operating conditions.

EN779-2012 Efficiency	Standard Model	GT Model	Size Inches (Nominal)	Media Area Sq.ft.	Rated Airflow CFM	Initial Resistance In W.G.	Final Resistance In W.G.
F9	4VF94412	4VGTF94412	24 x 24 x 12	196	2000	.51	2.5
F9	4VF90412	4VGTF90412	20 x 24 x 12	162	1600	.51	2.5
F9	4VF94212	4VGTF94212	12 x 24 x 12	98	1000	.51	2.5
F8	4VF84412	4VGTF84412	24 x 24 x 12	196	2000	.38	2.5
F8	4VF80412	4VGTF80412	20 x 24 x 12	162	1600	.38	2.5
F8	4VF84212	4VGTF84212	12 x 24 x 12	98	1000	.38	2.5
F7	4VF74412	4VGTF74412	24 x 24 x 12	196	2000	.32	2.5
F7	4VF70412	4VGTF70412	20 x 24 x 12	162	1600	.32	2.5
F7	4VF74212	4VGTF74212	12 x 24 x 12	98	1000	.32	2.5
M6	4VM64412	4VGTM64412	24 x 24 x 12	196	2000	.26	2.5
M6	4VM60412	4VGTM60412	20 x 24 x 12	162	1600	.26	2.5
M6	4VM64212	4VGTM64212	12 x 24 x 12	98	1000	.26	2.5

All data are average indicative values with usual manufacturing and testing tolerances. We reserve the right to modify performance data without prior notices due to the constant technical improvement.



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## Filter Description

Part Number	4VF94412
Generic Filter Type	V-Bank
Nominal Dimensions (H x W x D)	24" x 24" x 12"
Pocket / Pleat Quantity	8PPI
Media Type	Microfiber
Est. Gross Media Area	196Ft <sup>2</sup>
Adhesive Type	N/A



## Test Conditions

Loading Dust Type	ISO Fine	Test Air Temp (degrees F.)	70
Barometric Pressure (In. Hg.)	29.29	Relative Humidity (%)	46

## Test Results

<b>Airflow Rate (CFM)</b>	<b>1968</b>
<b>Nominal Face Velocity (fpm)</b>	<b>492</b>
<b>Initial Resistance (in WG)</b>	<b>0.35</b>
<b>Final Resistance (in WG)</b>	<b>1.80</b>
<b>Dust Fed (gms) to Final Resistance</b>	<b>946</b>
<b>E1 (%) Composite Minimum Avg. Efficiency 0.30 - 1.0 um</b>	<b>87</b>
<b>E2 (%) Composite Minimum Avg. Efficiency 1.0 - 3.0 um</b>	<b>98</b>
<b>E3 (%) Composite Minimum Avg. Efficiency 3.0 - 10.0 um</b>	<b>99</b>

## Remarks

## Comments

Final Pressure Drop ("w.c.)	1.80" w.c.
Dust Holding Capacity (gms)	946
Average Arrestance (%)	100.0

Test Performed by:

CR

Approved By:

Test Completed: 3-Dec-20



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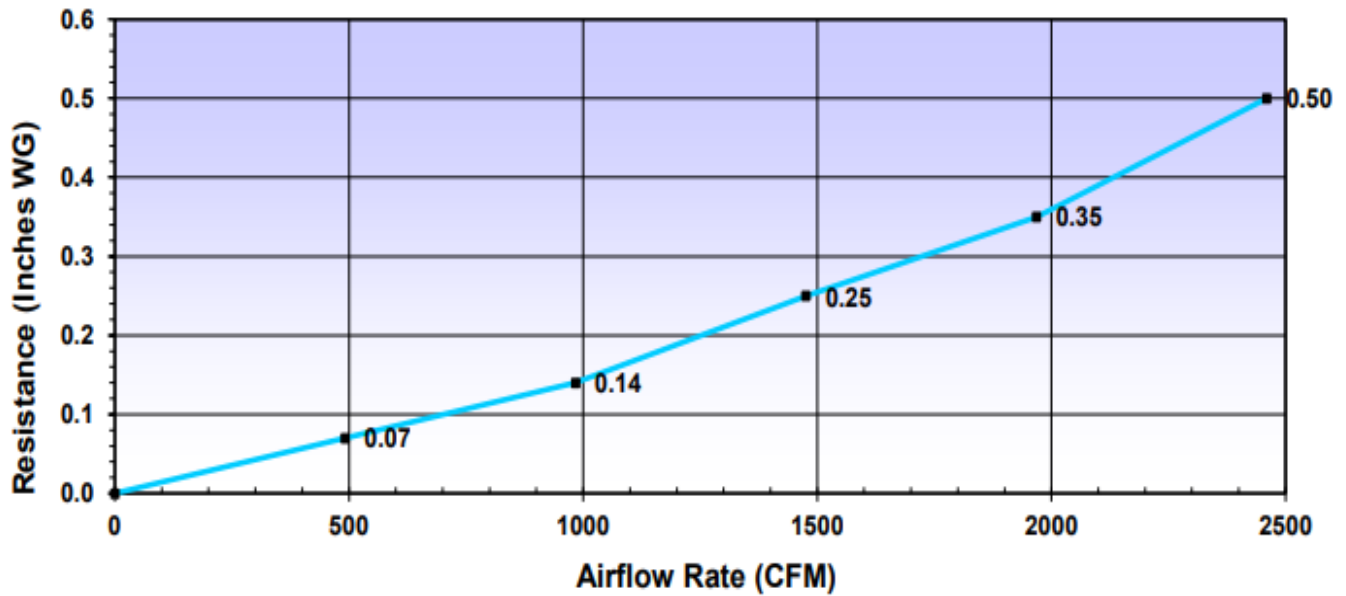
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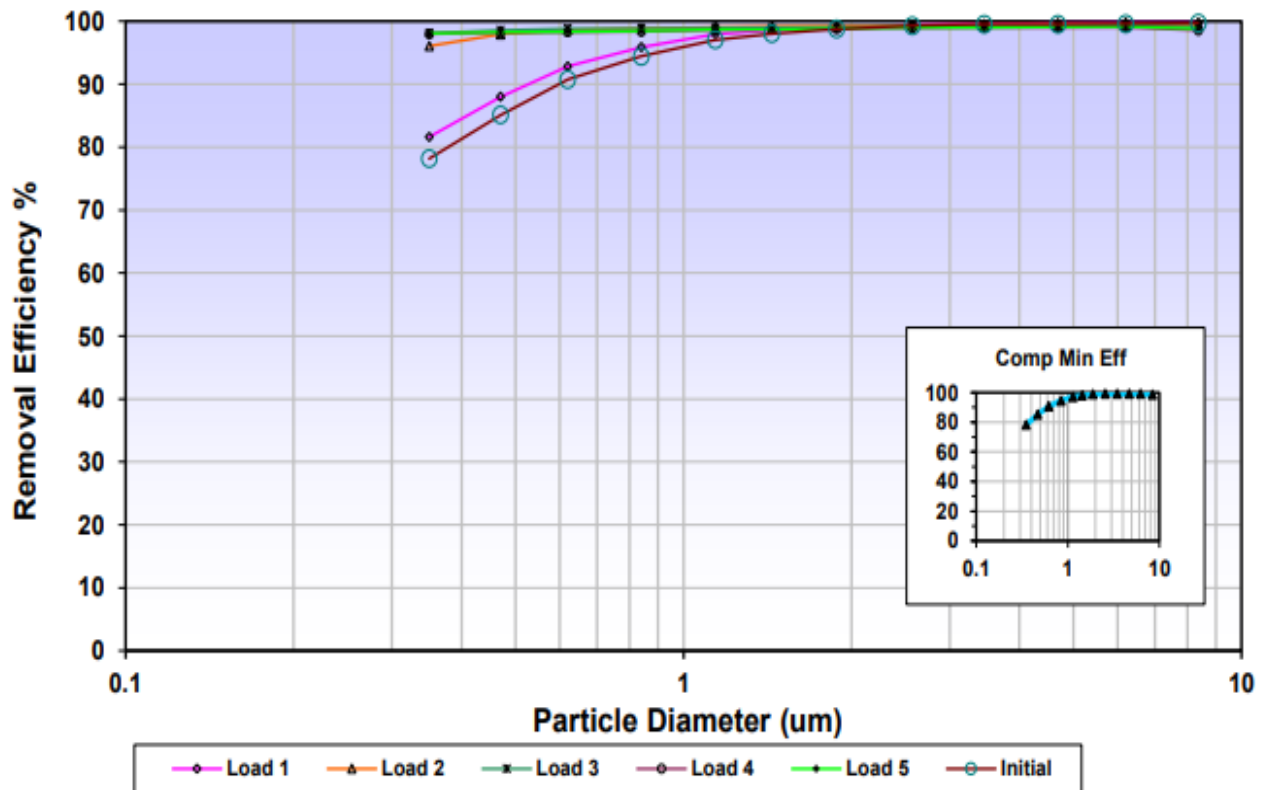
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## Air Flow vs Resistance Clean Device



## Particle Size Removal Efficiency





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## Data - Particle Removal Efficiency

Particle Size Range (um)	Geometric Mean Diam (um)	Particle Removal Efficiency (%)						
		CME	Initial	Load 1	Load 2	Load 3	Load 4	Load 5
0.30 - 0.40	0.35	78.2	78.2	81.6	96.1	98.1	98.0	98.1
0.40 - 0.55	0.47	85.1	85.1	88.0	97.9	98.6	98.2	98.2
0.55 - 0.70	0.62	90.7	90.7	92.8	98.6	98.8	98.3	98.3
0.70 - 1.00	0.84	94.4	94.4	95.9	98.9	98.9	98.3	98.4
1.00 - 1.30	1.14	97.0	97.0	98.0	99.1	98.9	98.7	98.7
1.30 - 1.60	1.44	98.0	98.0	98.6	99.2	99.0	98.7	98.7
1.60 - 2.20	1.88	98.7	98.7	99.1	99.2	99.0	98.8	98.8
2.20 - 3.00	2.57	98.9	99.3	99.4	99.3	99.2	98.9	99.0
3.00 - 4.00	3.46	99.0	99.5	99.6	99.4	99.3	99.0	99.0
4.00 - 5.50	4.69	99.0	99.5	99.7	99.5	99.2	99.0	99.1
5.50 - 7.00	6.20	99.0	99.6	99.8	99.5	99.4	99.0	99.2
7.00 - 10.00	8.37	98.6	99.7	99.8	99.5	99.1	98.6	98.8
		CME	Initial	Load 1	Load 2	Load 3	Load 4	Load 5
Resistance after Dust Load (in w.c.) ----->				0.38	0.71	1.08	1.42	1.80
Dust Load (gms) ----->				30	375	586	766	946



\*Note: filters may have Blue frame or Black frame. The frame color makes no difference in efficiency. It is a matter of what we have in stock