

# **CAMERON GREAT LAKES, INC.**

## **MOLECULAR FILTRATION SPECIALISTS**

### **DISPOSABLE AIR FILTERS**

**HONEYCOMB ADSORBENT FILTERS:** General purpose filter of honeycomb construction, manufactured in depths up to 6" in standard and custom sizes. Fill content ranges from 25 % to 99 % and can utilize activated carbon, specialty carbons and potassium permanganate media. Recommended for use controlling light odor and contamination in commercial applications. The 75% - 99% fill products are recommended for use in V-Bank installations or in air handling units that can accommodate the higher pressure drop.

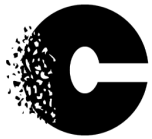
**HONEYCOMB COMBINATION FILTERS:** Dual purpose filter that combines particulate and odor control in one. Utilizes the same construction and fill as above and has particulate efficiency ranging from 30% to 90% ASHRAE. It is available in depths up to 6" in standard and custom sizes. Recommended for systems where space constraints do not allow for individual odor and particulate filters.

**BIAS-SORB DISPOSABLE HONEYCOMB V-BANK:** High efficiency disposable rigid box type filter. It's design provides low resistance and minimizes retrofit cost. Filter will fit in all front, rear, and side access frames. It contains 21 pounds of activated carbon per 24 x 24 x 12 cell and is rated for a maximum velocity of 500 FPM. Available in standard and custom sizes, the filter can be supplied with any media or combination of media.

**VAPORTRAP DISPOSABLE BULK FILL V-BANK:** Suitable for initial retrofit applications in both front and side access arrangements. The unique construction of the **VaporTrap** filter means it will hold up in areas of higher humidity and in corrosive atmospheres. Revolutionary bulk fill no honeycomb design. Contains 71 % more media than Bias-Sorb disposable V-Bank. Available in standard and custom sizes with or without headers. It contains 36 pounds of activated carbon per 24 x 24 x 12 cell, specialty media is also available. Ideal for use in removal of molecular contaminants in commercial buildings, airports, hospitals, and many other commercial and industrial applications.

**PDM-18 & PDM-12:** Plastic disposable module used as a disposable replacement for the MRM18 and MRM 12 refillable modules. The modules offer the same high efficiency as the refillable modules. Since the modules are all half size they are supplied in sets of two.

**VT-MDP:** The Vapor Trap Metal Disposable Panel is ideally suited for use in front and side access housings as an economical alternative to costly metal refillable panels. Additionally its' construction proves to handle harsher environments than cardboard disposable filters. The VT-MDP is also available in custom sizes making it suitable for OEM or non standard filter replacements.



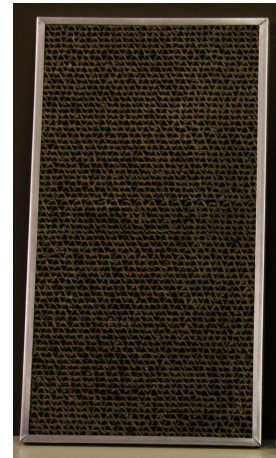
# **CAMERON GREAT LAKES, INC.**

## **MOLECULAR FILTRATION SPECIALISTS**

### **DISPOSABLE HONEYCOMB FILTERS**

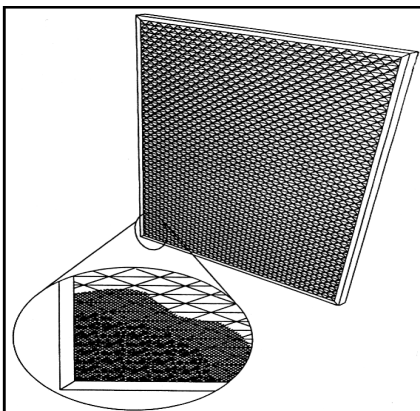
#### **DESCRIPTION**

General purpose filter recommended for use in controlling light duty odors in commercial IAQ applications. The filter is available in fill percents from of 25% through 99% and depths up to 4 inches. It can utilize activated carbons, impregnated carbons, specialty media or any combination of the above. The 75%-99% fill products are recommended for use in V-Bank installations or in air handling units that can accommodate the higher pressure drop. Honeycomb filters are not recommended for use in high humidity applications.



#### **CONSTRUCTION AND SPECIFICATIONS**

Honeycomb filters are constructed of corrugated kraft cell standard altitude 5/8" and are surrounded by a metal frame of 0.016 aluminum, sealed with a dextrin adhesive. The media is held in the cells with a nylon tolle grill, and adhered to the cells with PVA. Optional frames include 0.032 aluminum and 30 gauge galvanized, die-cut chipboard sealed with a dextrin adhesive. In most applications using the 99% fill, the nylon grille is replaced with aluminum screens on both sides. Optional grills include, spun bond polyester, open cell foam and activated carbon non-woven media, all of which serve as a upstream or downstream dusting filter. The filter can be manufactured using 3/8" cells in thicknesses ranging from 3/8" to 12".

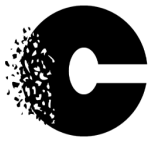


#### **SIZES**

Standard sizes include: 16x20, 16x25, 20x20, 20x25, 24x24, and 12x24 in both 7/8" and 1 7/8" thickness. Custom sizes are available. Maximum width is 24", maximum length is 36", maximum depth is 12". Standard undercut is 1/2", custom undercut and exact sizes are readily available.

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# CAMERON GREAT LAKES, INC.

## MOLECULAR FILTRATION SPECIALISTS

### DISPOSABLE HONEYCOMB COMBINATION PARTICULATE & ODOR

#### DESCRIPTION

General purpose filter recommended for use in controlling light duty odors and particulates in commercial IAQ applications. Standard density is 50% fill, with additional options of 25% through 99% fill in depths up to 6 inches. It can utilize activated carbons, specialty media or any combination of the above. Standard 1" filters use a polyester pad, and 2"-6" filters use a MERV 8 pleated polyester media. Additionally polyurethane foam is available as a post stage filter on all sizes. Honeycomb filters are not recommended for use in high humidity applications.



#### CONSTRUCTION AND SPECIFICATIONS

Standard size filter is constructed of corrugated kraft cell standard altitude 5/8" . Chipboard frames are available upon request. The media is held in the cells with a nylon grill, adhered to the cells with PVA. Custom size filters have a 0.016 or 0.032 aluminum or 30 gauge galvanized frame. Chipboard frames are available on standard sizes upon request.

#### PARTICULATE FILTER RESISTANCE

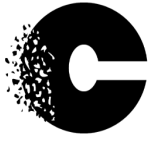
| FILTER THICKNESS | INITIAL | RESISTANCE (WG) |
|------------------|---------|-----------------|
|                  | 375 FPM | 500 FPM         |
| 1 INCH           | 0.14    | 0.24            |
| 2 INCH           | 0.12    | 0.20            |
| 4 INCH           | 0.10    | 0.16            |

#### SIZES

Standard Sizes include: 16x20, 16x25, 20x20, 20x25, 24x24, and 12x24 in a 1 7/8" thickness. Maximum width is 24", maximum length is 36". Standard undercut is 1/2".

#### VAPOR FILTER RESISTANCE

| THICKNESS<br>FILL% | INITIAL | RESISTANCE (WG) |
|--------------------|---------|-----------------|
|                    | 375 FPM | 500 FPM         |
| 1/2 INCH           | 0.06    | 0.12            |
| 1 INCH             | 0.16    | 0.23            |
| 2 INCH             | 0.28    | 0.42            |



# CAMERON GREAT LAKES, INC.

## MOLECULAR FILTRATION SPECIALISTS

### Honeycomb Disposable Filter Adsorbent Weight Chart

|   |   | FILTER THICKNESS |      |      |      |       |       |  |
|---|---|------------------|------|------|------|-------|-------|--|
|   |   | 3/8"             | 1/2" | 5/8" | 3/4" | 1"    | 2"    |  |
| M<br>E<br>D<br>I<br>A<br><br>T<br>Y<br>P<br>E<br><br>&<br>%<br><br>F<br>I<br>L<br>L | <b>C25</b>  | 61               | 82   | 102  | 122  | 163   | 327   |  |
|   | <b>C50</b>  | 122              | 163  | 204  | 245  | 327   | 653   |  |
|   | <b>C75</b>  | 184              | 245  | 306  | 367  | 490   | 980   |  |
|   | <b>C99</b>  | 245              | 327  | 408  | 490  | 653   | 1,306 |  |
|   | <b>CZK25</b>                                      | 93               | 127  | 157  | 191  | 255   | 509   |  |
|   | <b>CZK50</b>                                      | 186              | 255  | 314  | 382  | 510   | 1,018 |  |
|   | <b>CZK75</b>                                      | 279              | 382  | 471  | 573  | 765   | 1,527 |  |
|   | <b>CZK99</b>                                      | 372              | 509  | 628  | 764  | 1,020 | 2,036 |  |
|   | <b>ZK25</b>                                       | 118              | 157  | 196  | 236  | 314   | 628   |  |
|   | <b>ZK50</b>                                       | 236              | 314  | 392  | 472  | 628   | 1,256 |  |
|   | <b>ZK75</b>                                       | 354              | 471  | 588  | 708  | 944   | 1,884 |  |
|   | <b>ZK99</b>                                       | 472              | 628  | 784  | 944  | 1,256 | 2,512 |  |
|   | <b>WEIGHT OF ADSORBENT IN GRAMS / SQUARE FOOT</b> |                  |      |      |      |       |       |  |

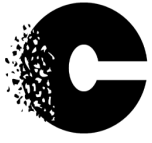
To calculate grams of media in a filter determine the square feet of face area by multiplying the length by the width in inches and dividing by 144. Next select the media type (codes below), percent fill, and thickness. Multiply the grams per square foot on the chart by the number of square feet of face area in your filter. To convert to pounds divide by 454.

C-activated carbon

CZK6-Carbon Potassium Permanganate blend 50/50 by weight

ZK6-Potassium Permanganate

For specialty carbons such as CI-Caustic Impregnated or PA-Acid Impregnated use the gram figures in the C rows and add 13%.



# **CAMERON GREAT LAKES, INC.**

## **MOLECULAR FILTRATION SPECIALISTS**

# **VAPORTRAP**

## **DISPOSABLE V-BANK**

### **FEATURES**

- 36 pounds of activated carbon in a nominal 24" x 24" x 12".
- Pressure drop 0.45 iwg @ 2000 CFM.
- Revolutionary bulk fill, no honeycomb design.
- Total detention, no bypass
- Custom media fill available
- Suitable for initial and retrofit applications in both front and side access arrangements.
- Available in custom sizes, length, width and depths from 4" to 12" in both box and header styles.
- Initial efficiency greater than 95 % at rated air flow.
- Moisture resistant construction, allows for use where humidity and moisture are present.



### **APPLICATIONS**

The Vapor Trap disposable v-bank filter is ideally suited for use in both commercial and industrial applications. It's unique design and versatility allows it to be an easy retrofit in any HVAC system, and custom OEM applications. The filter can be supplied as is or with a downstream dusting filter that is an integral part of the filter panel. Designed for high efficiency and long life, it is an economical solution for removal of various contaminants including, diesel fumes, smoke, unwanted food odors, chemical contaminants, outdoor and indoor air pollutants, formaldehyde and ozone.

HOSPITALS

AIRPORTS & CONTROL TOWERS

MUSEUMS & ARCHIVES

BARS & RESTAURANTS

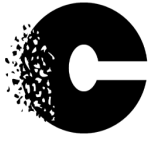
SEMICONDUCTOR APPLICATIONS

INDUSTRIAL FACILITIES

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## MOLECULAR FILTRATION SPECIALISTS

### PERFORMANCE DATA

| Model Number | Face Size, in   | CFM  | Pressure Drop IWG | Dwell Time, sec. | Media Weight Lbs. | Total Cell Weight, lbs |
|--------------|-----------------|------|-------------------|------------------|-------------------|------------------------|
| VT242412     | 23.375 x 23.375 | 1500 | 0.30              | 0.098            | Carbon : 36       | 53                     |
|              |                 | 2000 | 0.45              | 0.074            | C/ZK6 : 50        | 72                     |
|              |                 |      |                   |                  | CI : 41           |                        |
| VT122412     | 11.375 x 23.375 | 750  | 0.27              | 0.084            | Carbon: 18        | 27                     |
|              |                 | 1000 | 0..45             | 0.063            | C/ZK6: 25         | 36                     |
|              |                 |      |                   |                  | CI 20.5           |                        |

#### NOTES

1. Standard depth is 11.31. Custom depths from 4" - 12" are available upon request.
2. Filters are available in box, single header, and double header styles.
3. When filter banks incorporate two or more different adsorber sizes, calculate single number approximations of pressure drop and dwell times by multiplying values for each size by their relative filter bank area, and add the results.

### SPECIFICATION GUIDE

#### CONSTRUCTION

- Adsorber shall be constructed of multiple media filled panels. Each 24 x 24 x 12 filter shall hold 12 panels arranged in a V-Bank configuration and sealed in a polished aluminum or galvanized frame.
- Individual panels shall be 0.75 inches thick and made of galvanized steel expanded metal with polypropylene supports. The polypropylene supports shall be spaced every 1 1/2" and angled to prevent any bypass.
- Standard media is 4 x 8 or 4 x 6 mesh.
- Panels shall be individually fastened to the frame. Frame shall be fully lined with gasket to prevent bypass.
- Vapor Trap filters shall be individually sealed in a plastic bag, and placed in individual cartons at

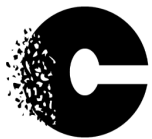
#### PERFORMANCE

- Standard carbon shall have a minimum 60% CTC activity per ASTM D-3467 test method.
- Standard ZK-6 shall have a minimum 6% potassium permanganate.
- A 24 x 24 x 12 inch Vapor Trap shall contain no less than 36 pounds of carbon and no less than 50 pounds of C/ZK-6 and no less than 72 pounds of ZK6.
- The air resistance on a 24 x 24 x 12 nominal shall be no more than 0.50 in. of WG when operating at 2000 CFM.
- Adsorber shall be designed for total detention gaseous contamination control.

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# **CAMERON GREAT LAKES, INC.**

## **MOLECULAR FILTRATION SPECIALISTS**

### **VAPORTRAP ZK6 (DF)**

#### **APPLICATIONS**

A DISPOSABLE V-BANK FILTER SPECIFICALLY DESIGNED FOR THE REMOVAL ACID GASES and FORMALDEHYDE

#### **FILTER SPECIFICATIONS**

|  |  |
|--|--|
| <b>RATED AIR VELOCITY, Maximum</b>           | <b>500 FPM</b>                               |
| <b>AIR FLOW RESISTANCE, Maximum</b>          | <b>0.45 IWG<br/>.050 with dusting filter</b> |
| <b>FIRST PASS REMOVAL EFFICIENCY</b>         | <b>&gt; 95 %</b>                             |
| <b>MEDIA WEIGHT, Minimum ( 24 x 24 cell)</b> | <b>66 POUNDS</b>                             |

#### **Residence Time**

|                |                      |
|----------------|----------------------|
| <b>500 fpm</b> | <b>.08 seconds *</b> |
| <b>375 fpm</b> | <b>.11 seconds</b>   |

\* The minimum recommended residence time for high efficiency gas phase filters is .07 seconds. While the filter can be operated at higher velocities it will cause overall filter efficiency to decrease

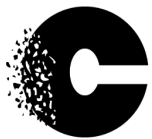
#### **CONSTRUCTION**

- Adsorber shall be constructed of multiple media filled panels, arranged in a V-Bank configuration and sealed in a polished aluminum frame.
- Individual panels shall be 0.75 inches thick and made of galvanized steel expanded metal with polypropylene supports.
- Panels shall be fastened to the frame. Frame shall be fully lined with gasket to prevent bypass.
- Vapor Trap filters shall be individually sealed in a plastic bag, and placed in individual cartons at the factory.
- DF: downstream dusting filter

Filter life expectancy is dependent upon several factors. Contaminants present and their concentration, humidity in the air stream and filter efficiency. Life expectancy of the filter is proportional to the weight of media in the filter. The more media the longer the life. In general commercial applications the VT242412ZK6 is expected to last between 1 and 2 years.

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# **CAMERON GREAT LAKES, INC.**

## **MOLECULAR FILTRATION SPECIALISTS**

### **VAPORTRAP C/ZK6 (DF)**

#### **APPLICATIONS**

A MULTIPURPOSE DISPOSABLE FILTER FOR REMOVAL OF VOLATILE ORGANIC COMPOUNDS, ACID GASES, DIESEL FUMES AND FORMALDEHYDE.

#### **FILTER SPECIFICATIONS**

|  |  |
|--|--|
| <b>RATED AIR VELOCITY, Maximum</b>           | <b>500 FPM</b>                               |
| <b>AIR FLOW RESISTANCE, Maximum</b>          | <b>0.45 IWG<br/>.050 with dusting filter</b> |
| <b>FIRST PASS REMOVAL EFFICIENCY</b>         | <b>&gt; 95 %</b>                             |
| <b>MEDIA WEIGHT, Minimum ( 24 x 24 cell)</b> | <b>54 POUNDS</b>                             |

#### **Residence Time**

|                |                      |
|----------------|----------------------|
| <b>500 fpm</b> | <b>.08 seconds *</b> |
| <b>375 fpm</b> | <b>.11 seconds</b>   |

\* The minimum recommended residence time for high efficiency gas phase filters is .07 seconds. While the filter can be operated at higher velocities it will cause overall filter efficiency to decrease

#### **CONSTRUCTION**

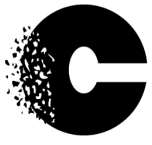
- Adsorber shall be constructed of multiple media filled panels, arranged in a V-Bank configuration and sealed in a polished aluminum frame.
- Individual panels shall be 0.75 inches thick and made of galvanized steel expanded metal with polypropylene supports.
- Panels shall be fastened to the frame. Frame shall be fully lined with gasket to prevent bypass.
- Vapor Trap filters shall be individually sealed in a plastic bag, and placed in individual cartons at the factory.
- DF: downstream dusting filter

Filter life expectancy is dependant upon several factors. Contaminants present and their concentration, humidity in the air stream and filter efficiency. Life expectancy of the filter is proportional to the weight of media in the filter. The more media the longer the life. In general commercial applications the VT242412C/ZK6 is expected to last between 1 and 2 years.

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## **MOLECULAR FILTRATION SPECIALISTS**

VT242412 C- SH vs Vari-Pure 242412

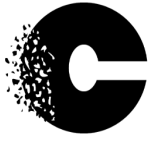
### **FILTER SPECIFICATIONS**

|                                    | <b>CGL VT-C</b>  | <b>Vari-Pure—C</b> |
|------------------------------------|------------------|--------------------|
| <b>RATED AIR FLOW</b>              | <b>2000 CFM</b>  | <b>2000 CFM</b>    |
| <b>RATED AIR VELOCITY,<br/>MAX</b> | <b>500 FPM</b>   | <b>500 FPM</b>     |
| <b>AIR FLOW RESISTANCE</b>         | <b>0.42 IWG</b>  | <b>0.76 IWG</b>    |
| <b>MEDIA WEIGHT</b>                | <b>36 pounds</b> | <b>18 pounds</b>   |
| <b>MOISTURE RESISTANT</b>          | <b>Yes</b>       | <b>Yes</b>         |
| <b>DUSTING FILTER</b>              | <b>Optional</b>  | <b>Optional</b>    |

Filter life expectancy is dependent upon several factors. Contaminants present and their concentration, humidity in the air stream and filter efficiency. Life expectancy of the filter is proportional to the weight of carbon media in the filter. Based on those numbers under identical conditions the Vapor Trap will adsorb twice the amount of contaminants from the air stream.

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## **MOLECULAR FILTRATION SPECIALISTS**

VT242412 C- SH

### **FILTER SPECIFICATIONS**

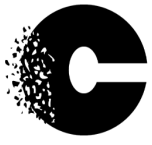
|                                      | <b>CGL VT-C</b>  | <b>Vari-Pure Lite</b> |
|--------------------------------------|------------------|-----------------------|
| <b>RATED AIR FLOW</b>                | <b>2000 CFM</b>  | <b>2000 CFM</b>       |
| <b>RATED AIR VELOCITY, MAX</b>       | <b>500 FPM</b>   | <b>500 FPM</b>        |
| <b>AIR FLOW RESISTANCE</b>           | <b>0.42 IWG</b>  | <b>0.33 IWG</b>       |
| <b>FIRST PASS REMOVAL EFFICIENCY</b> | <b>&gt; 95 %</b> | <b>95%</b>            |
| <b>MEDIA WEIGHT</b>                  | <b>36 pounds</b> | <b>18 pounds</b>      |
| <b>REMOVAL EFFICIENCY</b>            | <b>&gt;95 %</b>  | <b>Not Given</b>      |

| <b>Performance</b>  |                     |                    |                    |
|---|---------------------|--------------------|--------------------|
| <b>Air Volume</b>   | <b>Air Velocity</b> | <b>CGL C</b>       | <b>CGL -</b>       |
| <b>2000 cfm</b>   | <b>500 fpm</b>      | <b>.10 seconds</b> | <b>.10 seconds</b> |
| <b>Capacity, toluene , grams *<br/>Calculated based on carbon content</b> |                     | <b>5393</b>        | <b>2697</b>        |

Filter life expectancy is dependant upon several factors. Contaminants present and their concentration, humidity in the air stream and filter efficiency. Life expectancy of the filter is proportional to the weight of carbon media in the filter. Based on those numbers under identical conditions the Vapor Trap will adsorb twice the amount of contaminants from the air stream.

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## **MOLECULAR FILTRATION SPECIALISTS**

VT242412-C-SH vs VK-10-PH

### **FILTER SPECIFICATIONS**

|                                      | <b>CGL—C</b>                 | <b>Vari-Klean- carbon</b>    |
|--------------------------------------|------------------------------|------------------------------|
| <b>RATED AIR FLOW</b>                | <b>2000 CFM</b>              | <b>2000 CFM</b>              |
| <b>RATED AIR VELOCITY, MAX</b>       | <b>500 FPM</b>               | <b>500 FPM</b>               |
| <b>Initial Resistance, IWG</b>       | <b>0.45</b>                  | <b>0.40</b>                  |
| <b>FIRST PASS REMOVAL EFFICIENCY</b> | <b>&gt; 95 %</b>             | <b>95%</b>                   |
| <b>MEDIA WEIGHT</b>                  | <b>36 pounds</b>             | <b>6 pounds</b>              |
| <b>CONTAMINANT REMOVAL GUIDE</b>     | <b>General Purpose VOC's</b> | <b>General Purpose VOC's</b> |
| <b>OPERATING WEIGHT</b>              | <b>49 pounds</b>             | <b>-</b>                     |

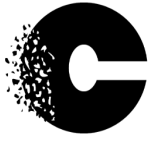
There are a few items to point out. The initial resistance of the Vapor Trap filter remains constant provided it is protected from particulate contamination. An optional downstream dusting filter is available.

The activity of the VariKlean carbon is 90 CTC, and the CGL carbon is 60 CTC. The 1.5 time increase in activity would be equivalent to 9 pounds of a 60 CTC carbon, still less than one third the weight of carbon in the Vapor Trap Filter. The higher activity carbon and finer particle size used in the VariKlean filter is necessary to offset the low media weight and lack of bed depth.

Life expectancy of the filter is proportional to the weight of media in the filter. If you compare media weights of the VTC to the VariKlean, life expectancy of the Vapor Trap will be 3 times longer than that of the Vari-Kelan filter..

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## **MOLECULAR FILTRATION SPECIALISTS**

VT242412C/ZK6—SH

### FILTER SPECIFICATIONS

|                                      | <b>CGL C/ZK6</b>                                     | <b>Vari-Klean- Premium</b>                           |
|--------------------------------------|--|--|
| <b>RATED AIR FLOW</b>                | <b>2000 CFM</b>                                      | <b>2000 CFM</b>                                      |
| <b>RATED AIR VELOCITY, MAX</b>       | <b>500 FPM</b>                                       | <b>500 FPM</b>                                       |
| <b>AIR FLOW RESISTANCE</b>           | <b>0.45 IWG</b>                                      | <b>0.5 IWG</b>                                       |
| <b>FIRST PASS REMOVAL EFFICIENCY</b> | <b>&gt; 95 %</b>                                     | <b>95%</b>   |
| <b>MEDIA WEIGHT</b>                  | <b>50 pounds</b>                                     | <b>8 pounds</b>                                      |
| <b>CONTAMINANT REMOVAL GUIDE</b>     | <b>ACID GASES, FORMALDEHYDE, DIESEL FUMES, VOC'S</b> | <b>ACID GASES, FORMALDEHYDE, DIESEL FUMES, VOC'S</b> |
| <b>OPERATING WEIGHT</b>              | <b>70 pounds</b>                                     | <b>20 pounds</b>                                     |

### Performance

| <b>Air Volume</b>                | <b>Air Velocity</b> | <b>CGL C/ZK6</b>      | <b>Vari-Klean</b>   |
|----------------------------------|---------------------|-----------------------|---------------------|
| <b>2000 cfm</b>                  | <b>500 fpm</b>      | <b>.08 seconds **</b> | <b>.046 seconds</b> |
| <b>Capacity, toluene , grams</b> |                     | <b>3745</b>           | <b>947</b>          |
| <b>Capacity, H2S, grams</b>      |                     | <b>1250</b>           | <b>527</b>          |

Filter life expectancy is dependant upon several factors. Contaminants present and their concentration, humidity in the air stream and filter efficiency. Life expectancy of the filter is proportional to the weight of media in the filter. If you compare media weights of the VTCZK6 to the Variklean life expectancy should be longer by 3 times. The above numbers represent individual contaminants.

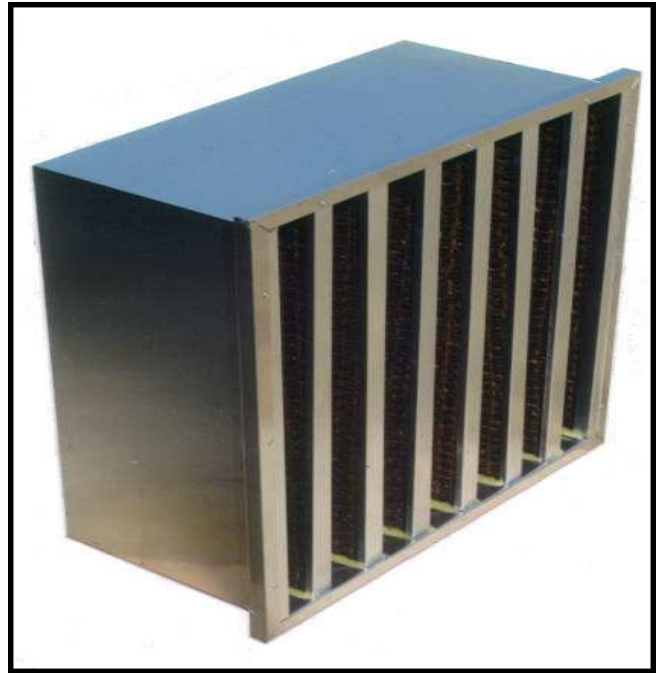
2335 NW 29TH AVENUE, PORTLAND, OR 97210  
 PHONE: (800) 777-4044 FAX: (503) 225-0137

WWW.CAMERONGREATLAKES.COM  
 EMAIL: SALES@CGLCARBON.COM



## ***BIAS –SORB***

**HONEYCOMB  
DISPOSABLE  
V-BANK  
CARBON  
ADSORBER**



### **FEATURES**

**Completely disposable**

**Total detention modular  
Bias cut design**

**Suitable for initial/retrofit  
applications in both front load and  
side access arrangements**

**Optional impregnated carbons  
and potassium permanganate  
media available**

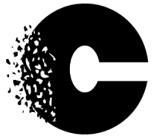
### **BENEFITS**

**→Installation is clean and easy**

**→Low pressure drop and high  
efficiency**

**→Eliminates expensive retrofit  
costs by using existing  
equipment**

**→Control a wide variety of  
contaminants with one filter**



# CAMERON GREAT LAKES, INC.

## MOLECULAR FILTRATION SPECIALISTS

### PERFORMANCE DATA

| Model Number | Face Size, in   | CFM  | Pressure Drop IWG | Dwell Time sec | Media Weight* Lbs. | Total Cell Weight, lbs |
|--------------|-----------------|------|-------------------|----------------|--------------------|------------------------|
| BS242412     | 23.375 x 23.375 | 1500 | 0.23              | 0.098          | Carbon : 21        | 30                     |
|              |                 | 2000 | 0.43              | 0.074          | ZK6 : 42           | 51                     |
| BS122412     | 11.375 x 23.375 | 750  | 0.27              | 0.084          | Carbon: 9          | 15                     |
|              |                 | 1000 | 0.5               | 0.063          | ZK6: 18            | 24                     |

#### NOTES

1. All Bias-Sorb filters are 11.25" in depth.
2. Filters are available as box style, single header, and double header\*\*.
3. When filter banks incorporate two or more different adsorber sizes, calculate single number approximations of pressure drop and dwell times by multiplying values for each size by their relative filter bank area, and add the results.
4. Custom sizes available. Please call the factory for information.

### SPECIFICATION GUIDE

#### CONSTRUCTION

- Adsorbers shall be constructed of multiple media filled panels, arranged in a V-Bank configuration and sealed in a polished aluminum frame.
- Individual panels shall be 0.625 inches thick and made of corrugated kraft honeycomb bias cut for low air resistance and longer dwell times
- Standard media is 8 x 12 mesh.
- Panels shall be sealed to the frame with a fire retardant adhesive.
- Bias-Sorb filters shall be individually sealed in a plastic bag, and placed in individual cartons at the factory.

#### PERFORMANCE

- Standard carbon shall have a minimum 60% CTC activity per ASTM d-3467 test method.
- Standard ZK-6 shall have a minimum 6% potassium permanganate.
- A 24 x 24 x 12 inch Bias-Sorb shall contain no less than 21 pounds of carbon and no less than 42 pounds of ZK-6.
- The air resistance on a 24 x 24 x 12 nominal shall be no more than 0.43 in of WG when operating at 2000 CFM.
- Absorbers shall be designed for total detention gaseous contamination control and shall be UL900 Class II listed.

Page 2 of 2

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# CAMERON GREAT LAKES, INC.

## MOLECULAR FILTRATION SPECIALISTS

### VT-MDP

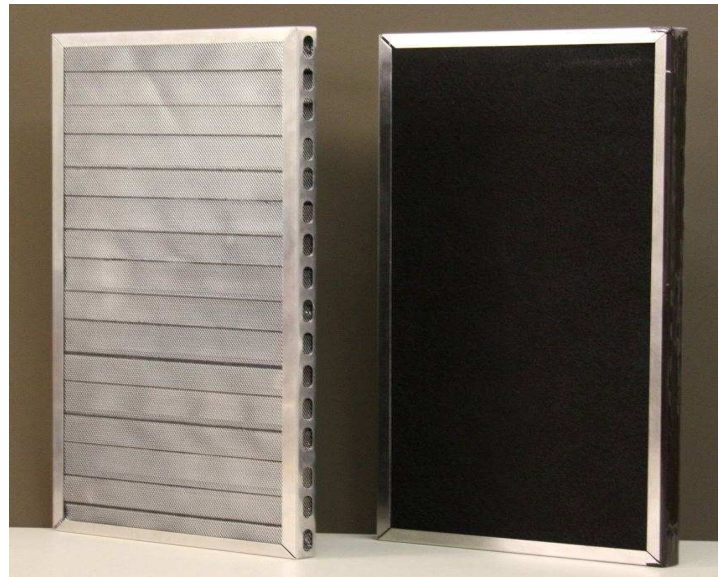
The *VaporTrap-Metal Disposable Panel* is ideally suited for use in front and side access housings. It uses the already proven Vapor Trap V-bank technology to offer an economical alternative to costly metal refillable panels. In addition the technology also allows for custom sizes to be easily manufactured. It is available in depths from 0.75" and greater.

It's versatility allows it to be used as a replacement for disposable bonded panels, by the addition of a downstream dusting filter.

The VT-MDP can be produced as a partial bypass filters by filling alternating cells, offering lower pressure drop for non v- bank applications.

#### FEATURES

- Moisture resistant—no paper or cardboard
- Angled polyethylene supports to prevent bypass in the event of media settling.
- Downstream dusting filter available.
- Easily manufactured in custom widths and lengths-
- Various media fills available.



#### SPECIFICATIONS

A 24 x 24 x 1.75, 50 % fill panel contains 6.75 pounds of carbon or 9 pounds of a blend of C/ZK6. Pressure drop @ 500 fpm not to exceed .044 iwg.  
A 24 x 24 x .875 50 % fill contains 3.25 pounds of carbon or 6.5 pounds of a C/ZK6 blend. Pressure drop @ 500 fpm not to exceed .35 iwg.  
When replacing a refillable panel pressure drop and media weight will be consistent with the metal refillable panel.

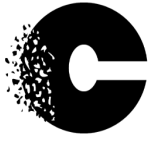
#### CONSTRUCTION

The panel is constructed of galvanized steel expanded metal with polyethylene supports. The supports are angled to prevent contaminant bypass.

Filter frame is galvanized metal.

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# **CAMERON GREAT LAKES, INC.**

## **MOLECULAR FILTRATION SPECIALISTS**

## **CGL – PDM18 & PDM 12 MODULES**

### **PRODUCT DESCRIPTION**

The CGL-PDM18 & PDM 12 modules are designed for use in both front and side access housings. These versatile modules have been manufactured to give the end user the option of disposal or refilling.

They can be filled with any number of media types or blends to suit your specific application. They are ideal for use in both commercial and industrial applications, including office buildings, airports, hospitals, semiconductor facilities, wastewater treatment plants and many other areas where air cleaning is of concern.



### **PDM-18**

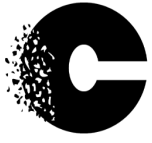
### **SPECIFICATIONS**

### **PDM-12**

- Each 12" x 6" x 18" inch module is rated for 250 cfm.
- Temperature ranges up to 125 F.
- Frame is 0.100 polystyrene with 0.056x 0.500 slotted screens and is incinerable.
- Filter bed depth 1.25".
- Pressure drop not to exceed 0.49 inches of water gauge at 500 ft./minute.
- Each module (set) is designed to hold 12 pounds of CGL CP48, CCS, 24 pounds of CGL ZK6, and 18 pounds of CP48/ZK6 blended media.

- Each 12" x 12" x 12" inch module is rated for 125 cfm.
- Temperature ranges up to 125 F.
- Frame is 0.100 polystyrene with 0.056x 0.500 slotted screens and is incinerable.
- Filter bed depth 3.0".
- Pressure drop not to exceed 1.4 inches of water gauge at 250 ft./minute.
- Each module (set) is designed to hold 19 pounds of CGL CP48, CCS, 38 pounds of CGL ZK6, and 26 pounds of CP48/ZK6 blended media.





# **CAMERON GREAT LAKES, INC.**

## **MOLECULAR FILTRATION SPECIALISTS**

### ACF-AM

**ACF-AM** is an activated carbon impregnated filter media specially treated for the removal of ammonia and amines from air. Ideally suited for use in room air cleaning devices. The media can be custom cut to fit your needs.



#### **PHYSICAL PROPERTIES**

|                                     |                     |
|-------------------------------------|---------------------|
| <b>Base Substrate</b>               | Non-Woven Polyester |
| <b>Activated carbon, g/sq ft</b>    | 9.5                 |
| <b>Ammonia removal, % by weight</b> | 12                  |
| <b>Nominal Thickness</b>            | 1/8"                |

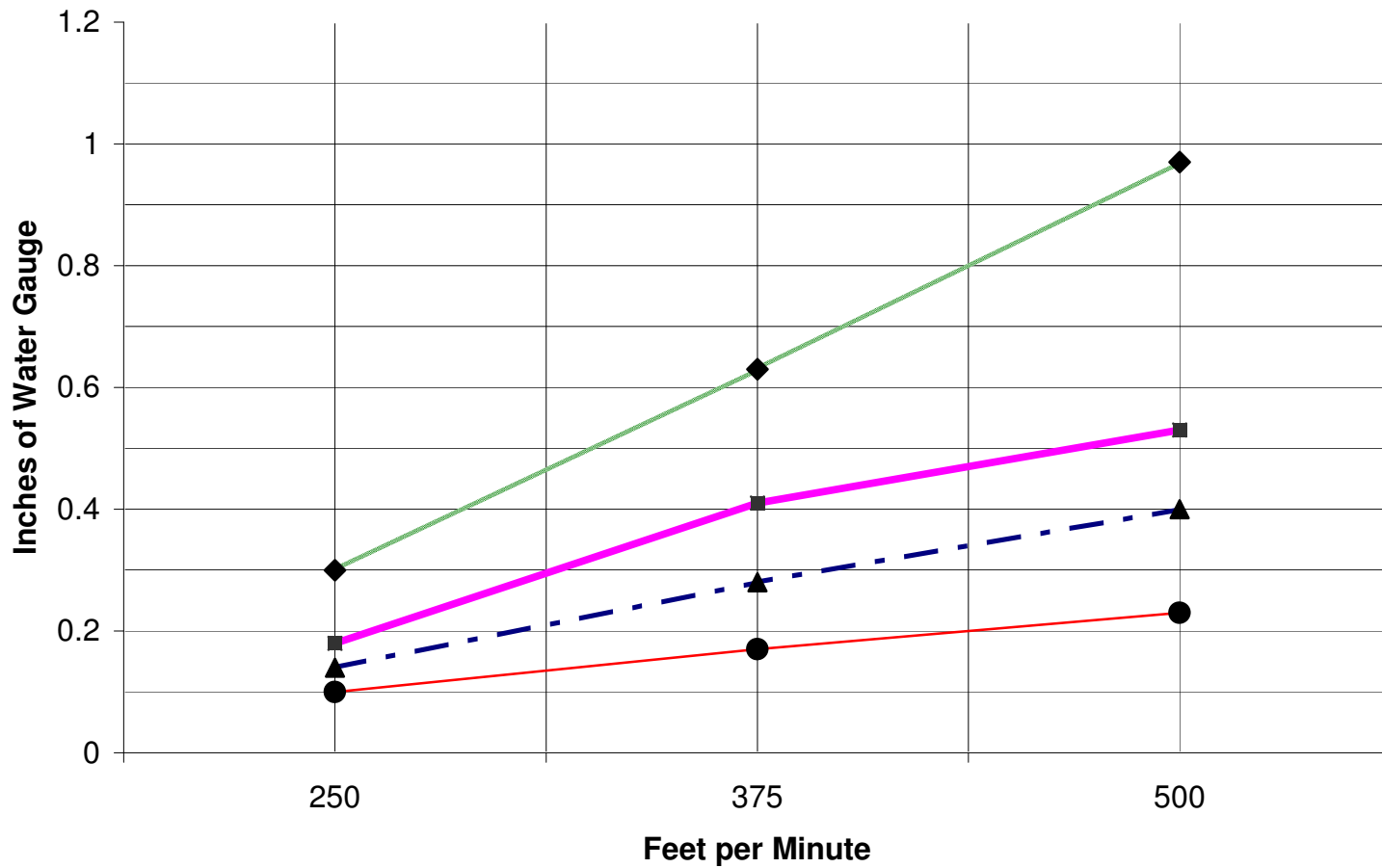
#### **Typical Applications:**

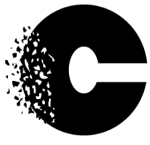
- Beauty Salons:
- Pet Shops
- Veterinary Clinics
- Nursing Homes
- General home use

Pads can be used to help control odors associated with compounds used for hair permanents, urine smells, and household cleaning compounds formulated with ammonia.

# CAMERON GREAT LAKES, INC

## Pressue Drop Disposable Honeycomb Filters





# **CAMERON GREAT LAKES, INC.**

## **MOLECULAR FILTRATION SPECIALISTS**

# **VAPORTRAP**

## **DISPOSABLE V-BANK**

### **FEATURES**

- 36 pounds of activated carbon in a nominal 24" x 24" x 12".
- Pressure drop 0.45 iwg @ 2000 CFM.
- Revolutionary bulk fill, no honeycomb design.
- Total detention, no bypass
- Custom media fill available
- Suitable for initial and retrofit applications in both front and side access arrangements.
- Available in custom sizes, length, width and depths from 4" to 12" in both box and header styles.
- Initial efficiency greater than 95 % at rated air flow.
- Moisture resistant construction, allows for use where humidity and moisture are present.



### **APPLICATIONS**

The Vapor Trap disposable v-bank filter is ideally suited for use in both commercial and industrial applications. It's unique design and versatility allows it to be an easy retrofit in any HVAC system, and custom OEM applications. The filter can be supplied as is or with a downstream dusting filter that is an integral part of the filter panel. Designed for high efficiency and long life, it is an economical solution for removal of various contaminants including, diesel fumes, smoke, unwanted food odors, chemical contaminants, outdoor and indoor air pollutants, formaldehyde and ozone.

HOSPITALS

AIRPORTS & CONTROL TOWERS

MUSEUMS & ARCHIVES

BARS & RESTAURANTS

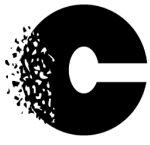
SEMICONDUCTOR APPLICATIONS

INDUSTRIAL FACILITIES

*Page 1 of 2*

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# CAMERON GREAT LAKES, INC.

## MOLECULAR FILTRATION SPECIALISTS

### PERFORMANCE DATA

| Model Number | Face Size, in   | MAX: CFM | Cubic ft. of media | Carbon lbs | C/ZK6 lbs | Cell Weight, lbs (carbon) |
|--------------|-----------------|----------|--------------------|------------|-----------|---------------------------|
| VT242412     | 23.375 x 23.375 | 2000     | 1.2                | 36         | 50        | 53                        |
| VT24246      | 23.375 x 23.375 | 2000     | 0.6                | 18         | 25        | 27                        |
| VT24244      | 23.375 x 23.375 | 2000     | 0.4                | 12         | 16        | 18                        |

#### NOTES

1. Standard depth is 11.31. Custom depths from 4" - 8" are available upon request.
2. Filters are available in box, single header, and double header styles.
3. Custom sizes are available.
4. All filters can be supplied with an optional downstream dusting filter.

### SPECIFICATION GUIDE

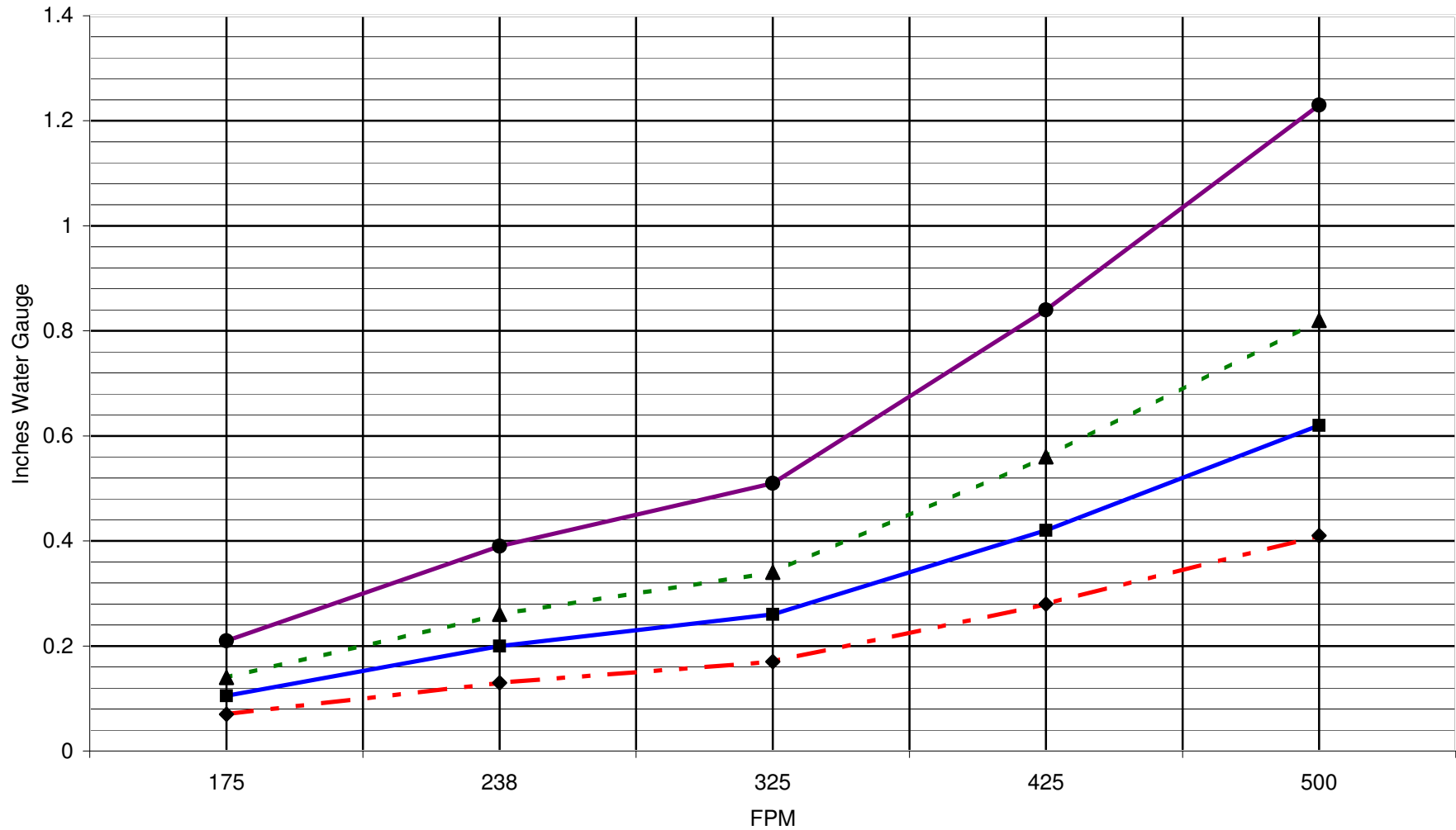
#### CONSTRUCTION

- Adsorber shall be constructed of multiple media filled panels. Each 24 x 24 x 12 filter shall hold 12 panels arranged in a V-Bank configuration and sealed in a polished aluminum or galvanized frame.
- Individual panels shall be 0.75 inches thick and made of galvanized steel expanded metal with polypropylene supports. The polypropylene supports shall be spaced every 1 1/2" and angled to prevent any bypass.
- Standard media is 4 x 8 or 4 x 6 mesh.
- Panels shall be individually fastened to the frame. Frame shall be fully lined with gasket to prevent bypass.
- Vapor Trap filters shall be individually sealed in a plastic bag, and placed in individual cartons at the factory.

#### PERFORMANCE

- Standard carbon shall have a minimum 60% CTC activity per ASTM D-3467 test method.
- Standard ZK-6 shall have a minimum 6% potassium permanganate.
- A 24 x 24 x 12 inch Vapor Trap shall contain no less than 36 pounds of carbon and no less than 50 pounds of C/ZK-6 and no less than 72 pounds of ZK6.
- The air resistance on a 24 x 24 x 12 nominal shall be no more than 0.50 in. of WG when operating at 2000 CFM.
- Adsorber shall be designed for total detention gaseous contamination control.

### VaporTrap Box Style Pressure Drop Graph

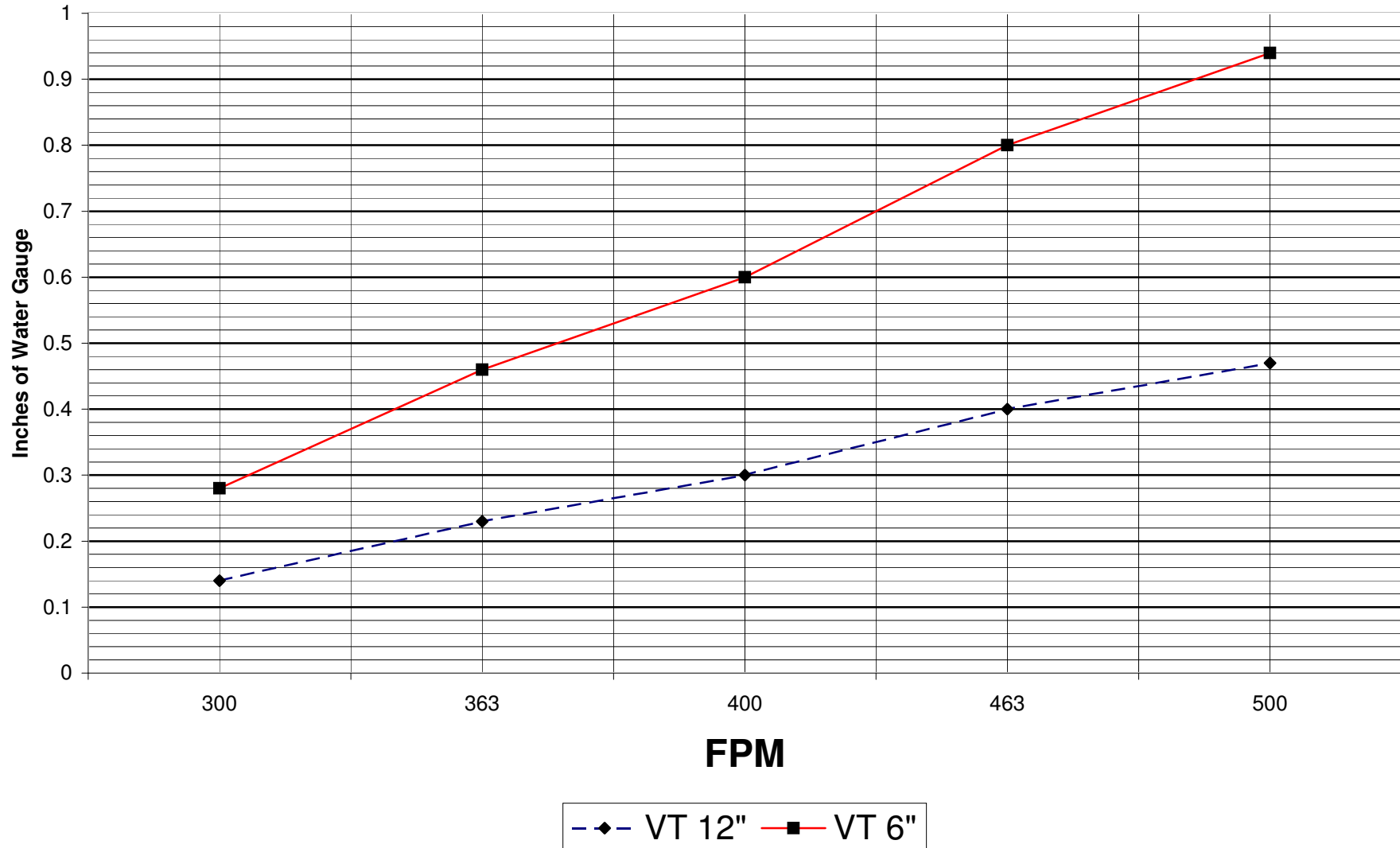


◆- - VT 12"   ■- - VT 8"   ▲- - VT 6"   ●- - VT 4"

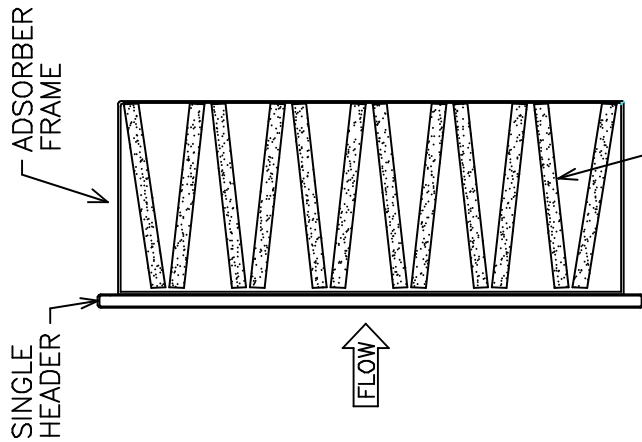
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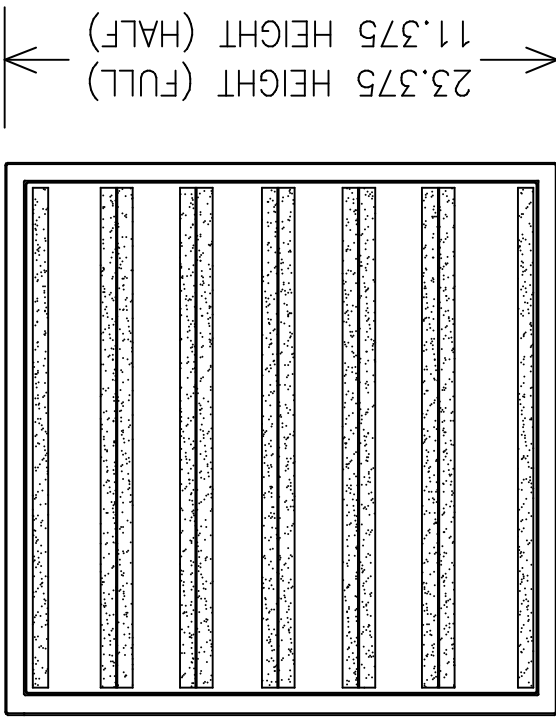
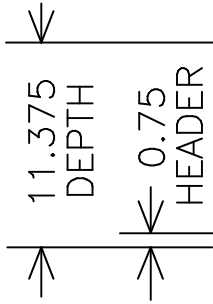
### VaporTrap Single Header Pressure Drop Graph



INTERNAL VIEW  
SHOWING "V" BANK  
PANEL ARRANGEMENT

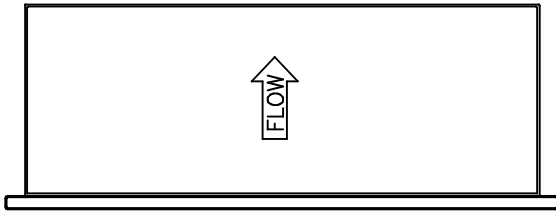


CARBON PANELS  
100 PERCENT FILL  
WITH 4x8 MESH GAC  
@ 3 LBS./PANEL =  
36 LBS. GAC (FULL)  
18 LBS. GAC (HALF)



RIGHT END VIEW  
FACING AIR OUTLET

SIDE VIEW




NOTE - SINGLE HEADER TYPE FILTER SHOWN.  
BOX STYLE AND DOUBLE HEADER STYLE ALSO  
AVAILABLE WITH SIMILAR OUTSIDE DIMENSIONS.

| MATERIALS OF CONSTRUCTION |   |
|---------------------------|---|
| GAC PANELS                | GALV. STEEL EXPANDED METAL - 0.75 IN. THICK WITH POLYPROPYLENE SUPPORTS |
| ADSORBER FRAME            | 0.032 IN. THICK POLISHED ALUMINUM                                       |
| SINGLE HEADER             | 0.75 IN. WIDE ONE PIECE ALUMINUM  |

| HOUSING SIZE        | FULL | HALF |
|---------------------|------|------|
| NO. OF PANELS       | 12   | 6    |
| MAX. FLOW (CFM)     | 2000 | 1000 |
| TOTAL WEIGHT (LBS.) | 56   | 27   |

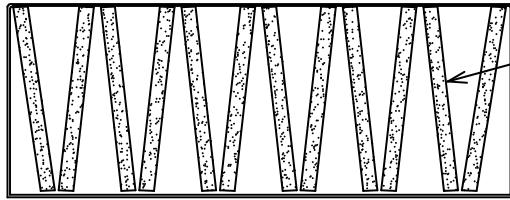
NOTE - DIMENSIONS ARE FOR REFERENCE ONLY. DO NOT USE FOR CONSTRUCTION UNLESS MARKED "CERTIFIED" BY CGL.

|  |  |
|--|--|
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| PROPRIETARY DRAWING<br>DRAWING MAY NOT BE USED OR REPRODUCED<br>WITHOUT WRITTEN AUTHORIZATION OF<br>CAMERON GREAT LAKES, INC.  | TITLE: GENERAL ARRANGEMENT<br>VAPOR TRAP DISPOSABLE V-BANK<br>FULL SIZE (NOMINAL 24 X 24 X 12 IN.)<br>HALF SIZE (NOMINAL 12 X 24 X 12 IN.) |
| TOLERANCES: LENGTH: +/- 0.125 IN.  | SCALE: N.T.S.  |
| DRAWN: JMB<br>CHECKED: PUL<br>APPROVED: RAH  | REV. DATE BY REMARKS<br>A 08/15/00 JMB REV. GAC WEIGHT<br>- 07/17/00 JMB ORIGINAL ISSUE  |

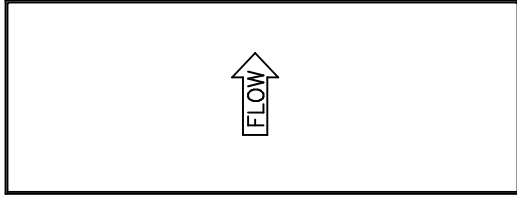
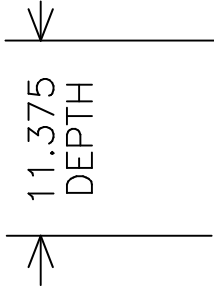
VAPOR TRAP

INTERNAL VIEW  
SHOWING "V" BANK  
PANEL ARRANGEMENT

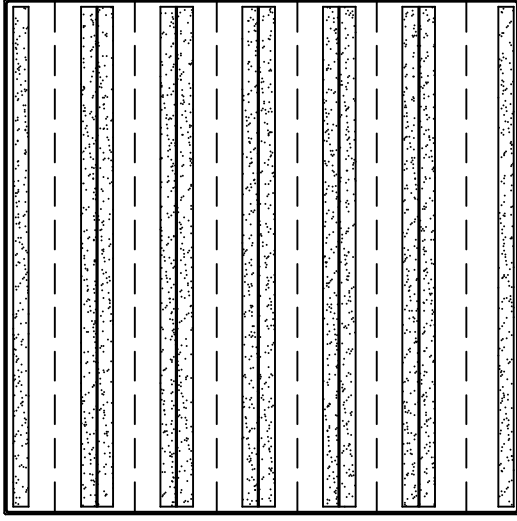
ADSORBER  
FRAME



CARBON PANELS  
100 PERCENT FILL  
WITH 4x8 MESH GAC  
@ 3 LBS./PANEL =  
36 LBS. GAC (FULL)  
18 LBS. GAC (HALF)



SIDE VIEW



RIGHT END VIEW  
FACING AIR OUTLET


23.375 HEIGHT (FULL)  
11.375 HEIGHT (HALF)

| MATERIALS OF CONSTRUCTION |   |
|---------------------------|---|
| GAC PANELS                | GALV. STEEL EXPANDED METAL - 0.75 IN. THICK WITH POLYPROPYLENE SUPPORTS |
| ADSORBER FRAME            | 0.032 IN. THICK POLISHED ALUMINUM                                       |
| SINGLE HEADER             | 0.75 IN. WIDE ONE PIECE ALUMINUM  |

| HOUSING SIZE        | FULL | HALF |
|---------------------|------|------|
| NO. OF PANELS       | 12   | 6    |
| MAX. FLOW (CFM)     | 2000 | 1000 |
| TOTAL WEIGHT (LBS.) | 56   | 27   |

NOTE - DIMENSIONS ARE FOR REFERENCE ONLY. DO NOT USE FOR CONSTRUCTION UNLESS MARKED "CERTIFIED" BY CGL.

NOTE - BOX TYPE FILTER SHOWN. SINGLE HEADER AND DOUBLE HEADER STYLE ALSO AVAILABLE WITH SIMILAR OUTSIDE DIMENSIONS.

|  |   |
|--|---|
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| TOLERANCES: LENGTH: +/- 0.125 IN.  | SCALE: N.T.S. DWG NO. VAPOR TRAP BOX STYLE  |
| B 05/14/03 JMB REV. FOR BOX STYLE<br>A 08/15/00 JMB REV. GAC WEIGHT<br>- 07/17/00 JMB ORIGINAL ISSUE   | DRAWN: JMB<br>CHECKED: PUL<br>APPROVED: RAH   |
| REV. DATE BY REMARKS   |   |



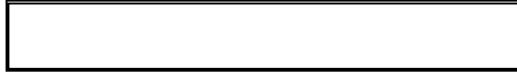
INTERNAL VIEW  
SHOWING "V" BANK  
PANEL ARRANGEMENT

ADSORBER  
FRAME



CARBON PANELS  
100 PERCENT FILL  
WITH 4x8 MESH GAC  
@ 1 LB./PANEL =  
12 LBS. GAC

3.875  
DEPTH



SIDE VIEW

23.375 WIDTH



RIGHT END VIEW  
FACING AIR OUTLET

23.375 HEIGHT

| MATERIALS OF CONSTRUCTION |   |
|---------------------------|---|
| GAC PANELS                | GALV. STEEL EXPANDED METAL - 0.75 IN. THICK WITH POLYPROPYLENE SUPPORTS |
| ADSORBER FRAME            | 0.032 IN. THICK POLISHED ALUMINUM                                       |
| SINGLE HEADER             | 0.75 IN. WIDE ONE PIECE ALUMINUM  |

|                     |      |
|---------------------|------|
| HOUSING SIZE        | FULL |
| NO. OF PANELS       | 12   |
| MAX. FLOW (CFM)     | 2000 |
| TOTAL WEIGHT (LBS.) | 22   |

NOTE - DIMENSIONS ARE FOR REFERENCE ONLY. DO NOT USE FOR CONSTRUCTION UNLESS MARKED "CERTIFIED" BY CGL.

NOTE - BOX TYPE FILTER SHOWN. SINGLE HEADER AND DOUBLE HEADER STYLE ALSO AVAILABLE WITH SIMILAR OUTSIDE DIMENSIONS.

PROPRIETARY DRAWING  
DRAWING MAY NOT BE USED OR REPRODUCED WITHOUT WRITTEN AUTHORIZATION OF CAMERON GREAT LAKES, INC.

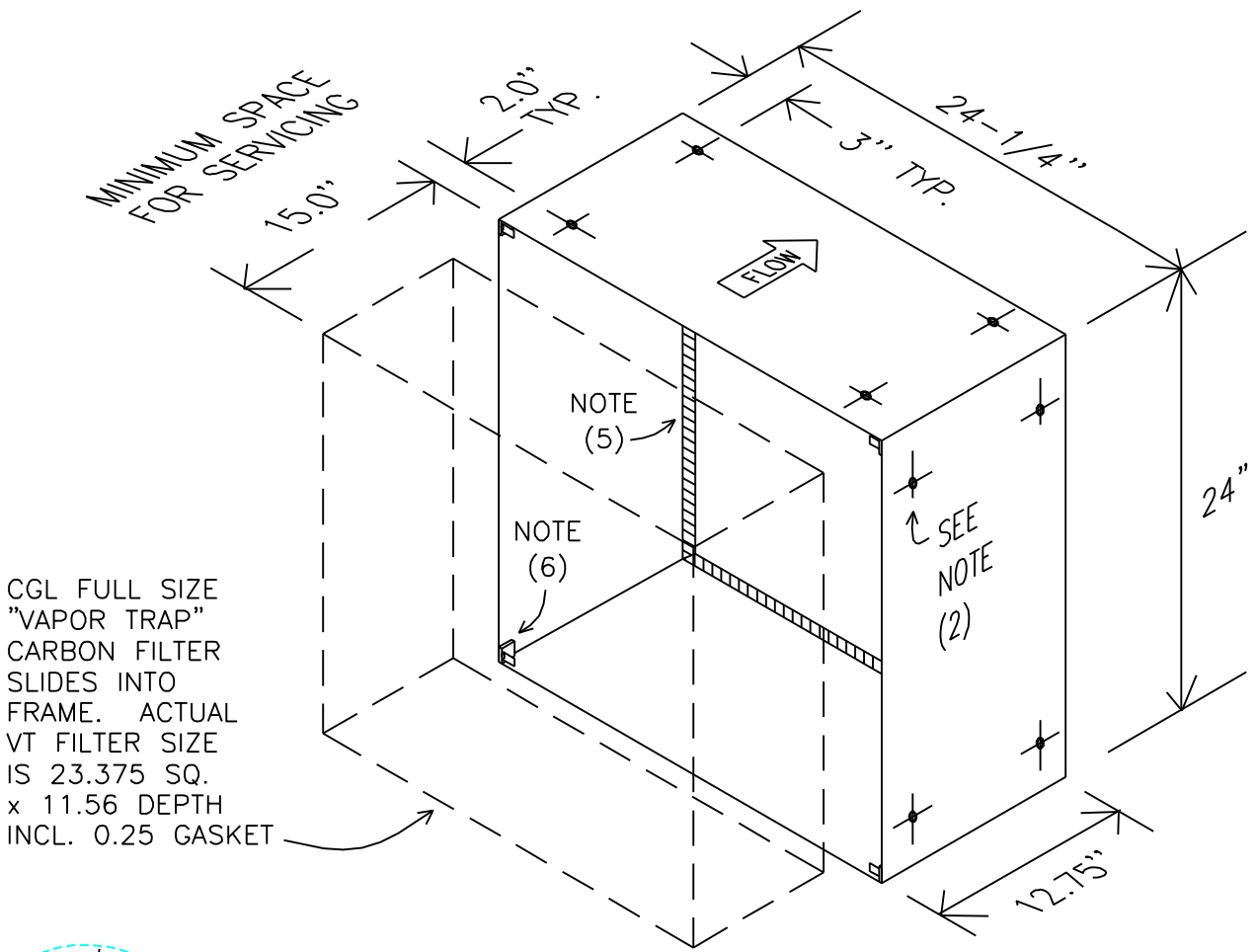
|             |                       |     |                |
|-------------|-----------------------|-----|----------------|
| TOLERANCES: | LENGTH: +/- 0.125 IN. |     |                |
| REV.        | DATE                  | BY  | REMARKS        |
| -           | 05/06/04              | JMB | ORIGINAL ISSUE |



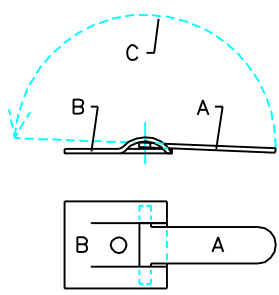
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TEL. 800-777-4044 FAX 503-225-0137

| DRAWN     | JMB | TITLE  |
|-----------|-----|--|
| CHECKED:  | FJL | GENERAL ARRANGEMENT                            |
| APPROVED: | RAH | VAPOR TRAP DISPOSABLE V-BANK                   |
|           |     | NOMINAL SIZE 24 x 24 x 4 IN. DEPTH             |
|           |     | SCALE: N.T.S. DIM. IN. 24x24x4" VAPOR TRAP BOX |

# MODEL FAFF FRONT ACCESS FILTER FRAME



CGL FULL SIZE  
"VAPOR TRAP"  
CARBON FILTER  
SLIDES INTO  
FRAME. ACTUAL  
VT FILTER SIZE  
IS 23.375 SQ.  
x 11.56 DEPTH  
INCL. 0.25 GASKET



**DETAIL FOR SPRING CLIP AT EACH CORNER**

A. Base: 1" width x 1.18" length x .125" height  
with 3/16" dia. mounting hole

B. Tongue: 0.42" width x 1.57" length

C. Tongue rotates ~ 180° as shown

- FEATURES AND NOTES**
1. Frames can be installed as front or rear access.
  2. Modular frames bolt or pop-rivet together to form banks of any capacity. Four (4) X 0.215" dia. holes are provided on sides, top & bottom to allow easy field connection of modular frames to each other.
  3. Frames can be custom sized to fit into existing air handlers and ducts.
  4. When attaching or stacking frames, use a sealant or gasketing between the frames to avoid air bypass. Gaskets, if used, must be applied to front and back edges of housing to keep joints between frames parallel.
  5. Outlet end of frame has a 3/4" flange both ways to provide a sealing surface for the gasket on the outlet end of the box style CGL Vapor Trap carbon filter. The VT filter slides into the holding frame.
  6. The Vapor Trap filter is pushed toward the back of the housing to seal the gasket by four (4) spring clips. The clips are mounted in each corner as shown.

**MATERIAL OF CONSTRUCTION**


16 GA. COLD ROLLED  
CARBON STEEL WITH  
ALUMINIZED FINISH  
OR  
BLACK COLOR  
POWDER COAT  
EPOXY PAINT FINISH

**PROPRIETARY DRAWING**

DRAWING MAY NOT BE USED  
OR REPRODUCED WITHOUT  
WRITTEN AUTHORIZATION OF  
CAMERON GREAT LAKES., INC.

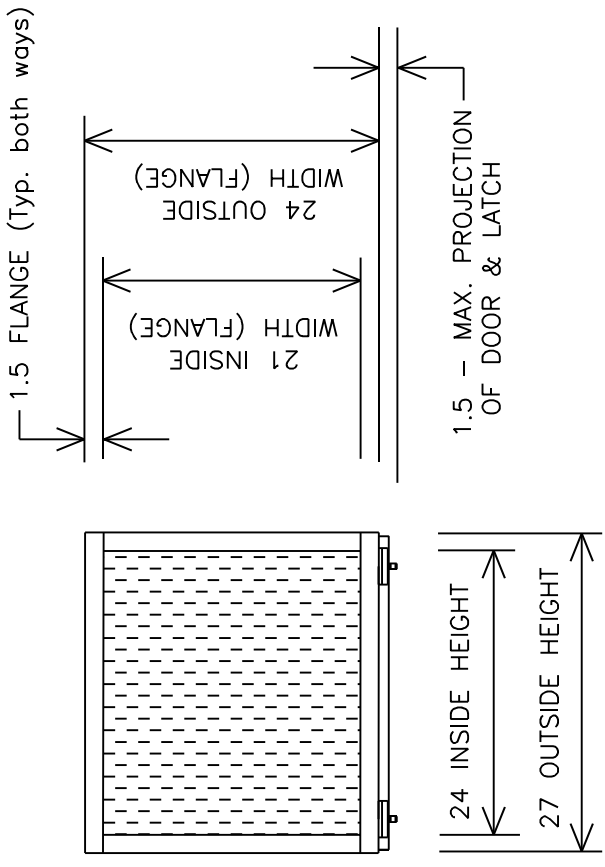
DIMENSIONAL TOLERANCE = +/- 0.030 IN.

| REV. | DATE     | BY  | REMARKS               |
|------|----------|-----|-----------------------|
| B    | 07/26/10 | JMB | REVISE FRAME WIDTH    |
| B    | 08/23/05 | JMB | REVISE FILTER DEPTH   |
| A    | 07/21/05 | JMB | REVISE FINISH OPTIONS |



**CAMERON GREAT LAKES, INC.**  
2335 NW 29th AVE      PORTLAND, OR 97210  
TEL: 800-777-4044      FAX: 503-225-0137

|           |     |         |   |
|-----------|-----|---------|---|
| DRAWN:    | JMB | TITLE:  | MODEL FAFF - FRONT ACCESS<br>FILTER FRAME FOR SIZE 242412<br>VAPOR TRAP CARBON FILTER |
| CHECKED:  | PJL | SCALE:  | N.T.S.  |
| APPROVED: | RAH | DWG NO. | FAFF-VT-242412  |

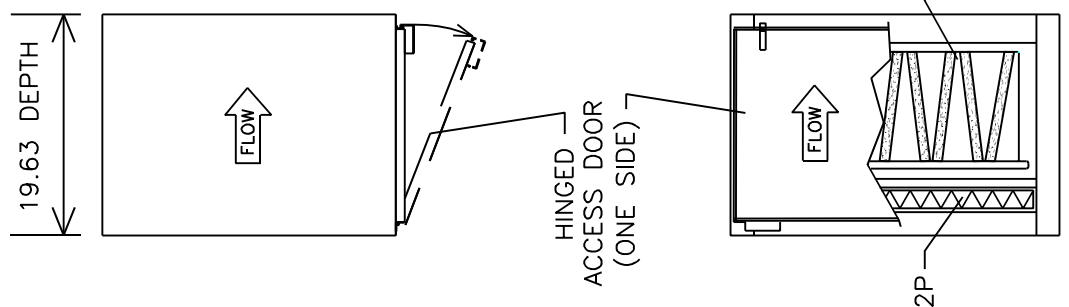


END VIEW FACING OUTLET

|                        |                            |
|------------------------|----------------------------|
| MODEL NO. SA1H1W-2P-VT |                            |
| SA                     | - SIDE ACCESS HOUSING      |
| 1H                     | - 1 MODULE HIGH            |
| 1W                     | - 1 MODULE WIDE            |
| 2P                     | - 2 IN. DEPTH PREFILTER *  |
| VT                     | - VAPOR TRAP FILTER MODULE |

APPROXIMATE WEIGHTS:  
 VAPOR TRAP FILTER MODULE FILLED WITH GAC-ZK6 BLEND (LBS.) 72  
 + APPROX. EMPTY HOUSING WEIGHT 146  
 + 2" DEPTH PREFILTER \* 2  
 TOTAL APPROX. OPERATING WEIGHT 220

HSG MATERIAL - 16 GA. CR CARBON STEEL,  
 STITCH WELDED & CALUKED. STANDARD  
 FINISH: ALUMINIZED INSIDE & OUT. OPTIONAL  
 FINISH: URETHANE ENAMEL (SPECIFY COLOR)



VT - VAPOR TRAP FILTER MODULE  
 NOM. FULL SIZE - 24 x 24 x 12  
 FILLED WITH GAC-ZK6 BLEND

2P - PRE-FILTER TRACK - NOMINAL  
 SIZE 24 x 24 x 2" DEPTH  
 (\*) PREFILTER PROVIDED BY OTHERS

2000 CFM MAXIMUM AIR FLOW

|  |          |     |                |
|--|----------|-----|----------------|
| <b>PROPRIETARY DRAWING</b><br>DRAWING MAY NOT BE USED OR REPRODUCED WITHOUT WRITTEN AUTHORIZATION OF CGL, INC. |          |     |                |
| DIMENSIONS ARE FOR REFERENCE ONLY. DO NOT USE FOR CONSTRUCTION UNLESS MARKED "CERTIFIED" BY CGL.               |          |     |                |
| B  | 07/20/09 | JMB | REV. NOTES     |
| A  | 03/09/04 | JMB | REV. AIR FLOW  |
| --   | 03/03/04 | JMB | ORIGINAL ISSUE |
| REV.   | DATE     | BY  | REMARKS        |

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 PORTLAND, OR 97210 FAX 503-225-0137

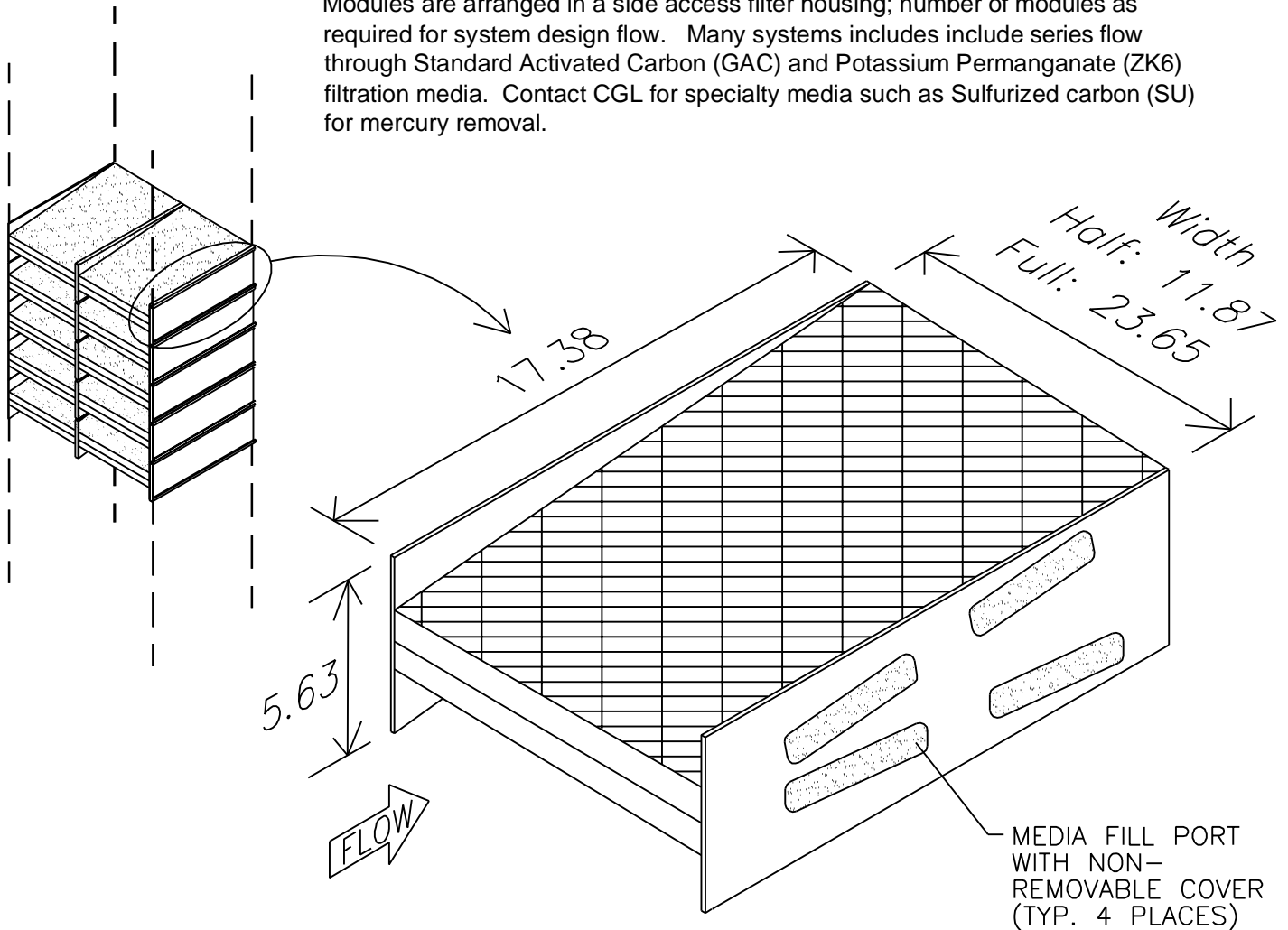
|           |        |         |                            |
|-----------|--------|---------|----------------------------|
| DRAWN:    | JMB    | TITLE:  | GENERAL ARRANGEMENT        |
| CHECKED:  | PJL    |         | MODEL NO. SA1H1W-2P-VT     |
| APPROVED: | JMB    |         | SIDE ACCESS FILTER HOUSING |
| SCALE:    | N.T.S. | DWG NO. | SA1H1W-2P-VT               |

# PDM-18 FILTER MODULE

Available in HALF Size (11.87" Width) and FULL Size (23.65" Width)

## TYPICAL INSTALLATION

Modules are arranged in a side access filter housing; number of modules as required for system design flow. Many systems include series flow through Standard Activated Carbon (GAC) and Potassium Permanganate (ZK6) filtration media. Contact CGL for specialty media such as Sulfurized carbon (SU) for mercury removal.

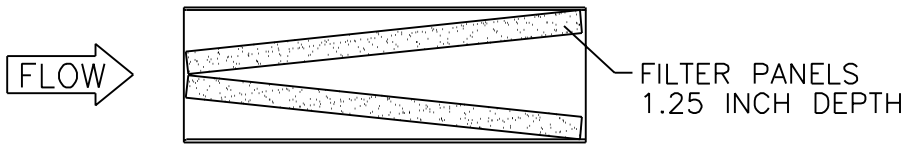


### DATA FOR FULL SIZE (23.65" W) MODULE \*

| MODULE FILL MEDIA       | GAC | ZK6 |
|-------------------------|-----|-----|
| NO. OF FILTER BEDS      | 2   | 2   |
| MAXIMUM FLOW (CFM)      | 500 | 500 |
| APPROX. WEIGHTS (LBS.): |     |     |
| EMPTY MODULE            | 4   | 4   |
| FILL MEDIA              | 18  | 36  |
| TOTAL WEIGHT            | 22  | 40  |

**MATERIALS OF CONSTRUCTION**  
0.100 POLYSTYRENE FRAME WITH .056 x .500 SLOTTED SCREENS.

PRESSURE DROP AT 500 CFM FLOW = 0.5 IN.W.G.  
MODULE IS INCINERABLE



INTERNAL VIEW SHOWING "V" BANK FILTER BED ARRANGEMENT

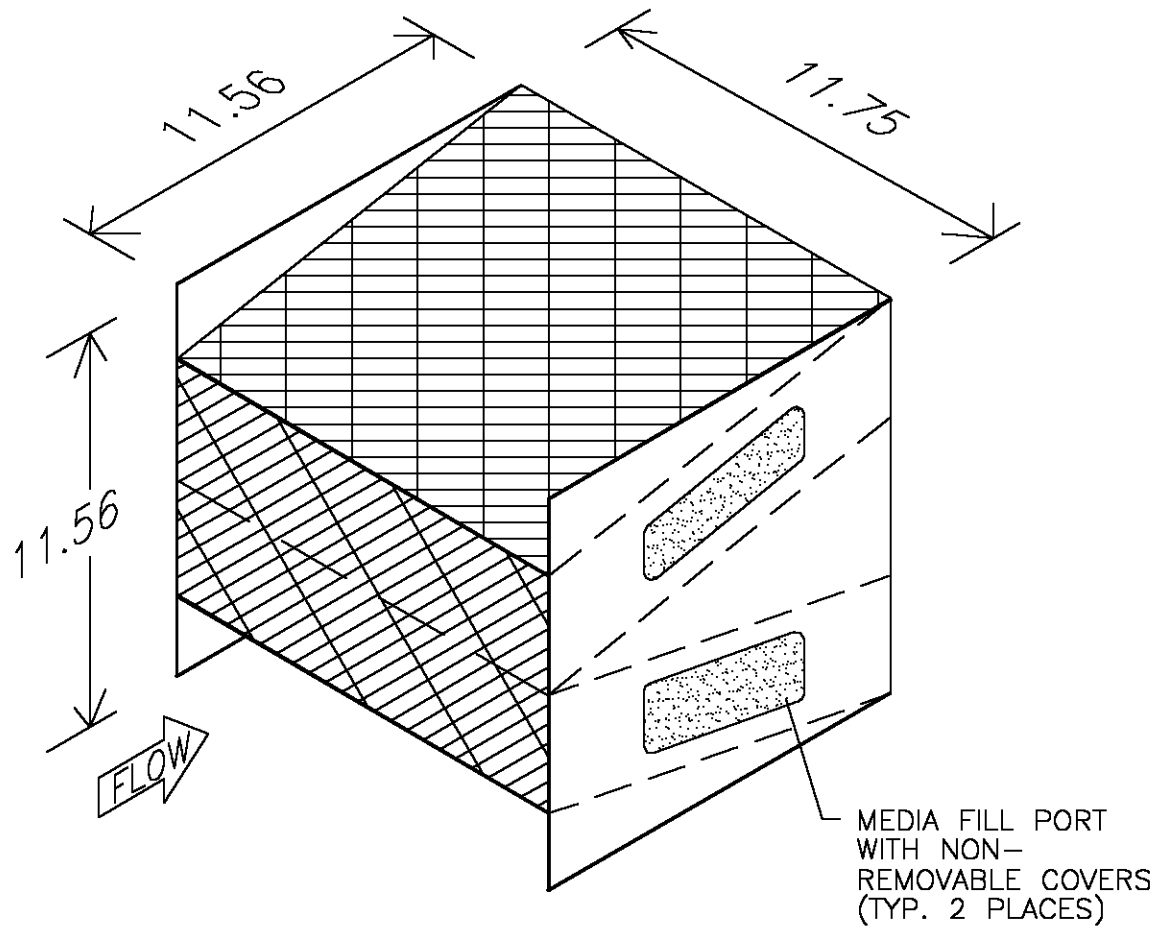
\* HALF SIZE (11.87" W) FILTER IS RATED for 250 CFM w/HALF AS MUCH MEDIA

DIMENSIONS ARE FOR REFERENCE ONLY. DO NOT USE FOR CONSTRUCTION UNLESS MARKED "CERTIFIED" BY CGL.

| PROPRIETARY DRAWING  |      |     |                           |
|--|------|-----|---------------------------|
| DRAWING MAY NOT BE USED OR REPRODUCED WITHOUT WRITTEN AUTHORIZATION OF CAMERON GREAT LAKES, INC. |      |     |                           |
| TOLERANCES: LENGTH: +/- 0.125 IN.  |      |     |                           |
| B  | 6/10 | JMB | Corrected filter data     |
| A  | 5/10 | JMB | Add FULL SIZE filter data |
| --   | 6/03 | JMB | ORIGINAL ISSUE            |
| REV.   | DATE | BY  | REMARKS                   |

|               |  |  |
|---------------|--|--|
|               | <b>CAMERON GREAT LAKES, INC.</b>       |  |
|               | 2335 NW 29th Ave.<br>TEL: 800-777-4044 | Portland, OR 09210<br>FAX: 503-225-0137                                      |
| DRAWN: JMB    | CHECKED: PJL                           | TITLE: GENERAL ARRANGEMENT HALF & FULL SIZE PDM-18 PLASTIC DISPOSABLE MODULE |
| APPROVED: RAH |  | SCALE: N.T.S. DRAWING NO. PDM-18   |

# PDM-12 FILTER MODULE



| MODULE FILL MEDIA           | GAC  | ZK6  | BLEND |
|-----------------------------|------|------|-------|
| NO. OF FILTER BEDS          | 2    | 2    | 2     |
| MAXIMUM FLOW (CFM)          | 250  | 250  | 250   |
| APPROXIMATE WEIGHTS (LBS.): |      |      |       |
| EMPTY MODULE                | 3.8  | 3.8  | 3.8   |
| FILL MEDIA                  | 18.2 | 33.4 | 25.8  |
| TOTAL WEIGHT                | 22.0 | 37.2 | 29.6  |

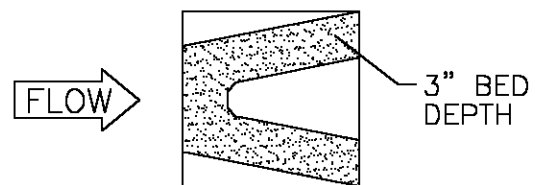
**MATERIALS OF CONSTRUCTION**

0.100 POLYSTYRENE FRAME WITH .056 x .500 SLOTTED SCREENS.

PRESSURE DROP AT 250 CFM FLOW = 1.4 IN.W.G.

MODULE IS INCINERABLE

DIMENSIONS ARE FOR REFERENCE ONLY. DO NOT USE FOR CONSTRUCTION UNLESS MARKED "CERTIFIED" BY CGL.



INTERNAL VIEW SHOWING "V" SHAPE BED ARRANGEMENT

| PROPRIETARY DRAWING   |       |     |                |
|---|-------|-----|----------------|
| DWG NOT TO BE USED OR REPRODUCED WITHOUT WRITTEN AUTHORIZATION OF CAMERON GREAT LAKES, INC. |       |     |                |
| TOLERANCE: +/- 1/16 IN.   |       |     |                |
| REV.  | DATE  | BY  | REMARKS        |
| --  | 07/03 | JMB | ORIGINAL ISSUE |



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|           |     |
|-----------|-----|
| DRAWN:    | JMB |
| CHECKED:  | PJL |
| APPROVED: | RAH |

|        |  |             |        |
|--------|--|-------------|--------|
| TITLE: | GENERAL ARRANGEMENT<br>PDM-12 PLASTIC<br>DISPOSABLE MODULE |             |        |
| SCALE: | N.T.S.   | DRAWING NO. | PDM-12 |