

# Carbon Vcell & Refillable V Carbon

Activated Carbon of CTC>60%

General Organic Vapours, Odours, Acid Gases, Sulphur Compounds



## General Characteristics

Activated carbon is a tried and tested gas adsorbent with various applications. Organic compounds are retained on the surface of the carbon by the Van der Waals forces of weak intermolecular forces. Activated carbon is manufactured by the controlled burning of carbon-rich materials such as coal, wood, nut shell and then collected. Our carbon filters have a CTC activity of minimum 60% (CCl<sub>4</sub>) measured by ASTM standard test method D3467-88. A CTC activity value of 60% can adsorb 60% of its weight in CCl<sub>4</sub>.

Chemically impregnated carbons are available to better control both acid and bases gases such as H<sub>2</sub>S, SO<sub>2</sub>, NO<sub>x</sub>, HCl, HF, Methyl Mercaptan, active sulphur composites, ammonia, formaldehyde and highly volatile radioactive organic iodides in Air and CO<sub>2</sub>.

## Construction

### RSE12 Refillable V Carbon

This heavy duty carbon filter is 3" carbon bed depth which increases residence time to 0.18s. They can be fitted into 12" No Header (NH) track filter housing and are widely used in museums and very heavy duty gaseous removal applications.

Plastic ABS (in 12x12), Galvanised Steel (12x24), Optional: Powder-Coated

### RSE18 Refillable V Carbon

A 18" deep refillable V carbon with lower pressure drop suitable for most applications. 1" carbon bed of residence time 0.06s designed primarily to fit into 18" No Header (NH) track filter housing. They can be used in museums or any gaseous removal applications.

### Enclosing Frame

Plastic ABS (in 12x6), Galvanised Steel (24x6), Optional: Powder-Coated

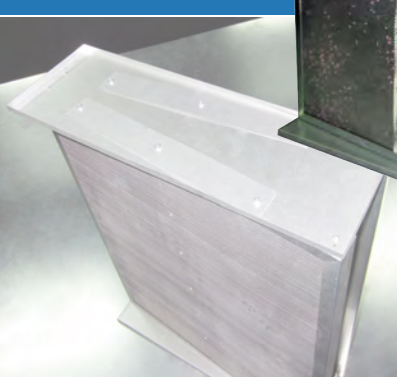
### Carbon Vcell Honeycomb

The filter comes in V-shaped of 1" honeycomb activated carbon beds to achieve lower pressure drop with residence time 0.04s. This standard 12" thickness Carbon Vcell filter with 22 or 25mm single header fits all standard front filter holding frames and side access filter housing. They can be used in Supply AHUs and exhaust for removal of vapours and chemical adsorption of gases in critical applications. The 24x24 filter has a minimum of 12kg of activated carbon rated at 3400cmh of airflow and is enclosed with

fibreglass netting. The plastic frame is corrosion resistant and ensures lighter weight filter construction.

### Enclosing Frame

ABS Plastic, Galvanised Steel, Optional: Powder-Coated



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## Specifications

Model	RSE12	RSE18	Carb Vcell	Carb NH4V
Description	RSE 12 Carbon	RSE 18 Carbon	Carbon Honeycomb Vcell	Carbon NH4V
Nominal Thickness, Actual in mm	12"	18"	12"	12"
Rated Airflow cmh	850	850	3400	1700
Initial Pressure Drop Pa	170	130	120	115
Recommended Final Pressure Drop Pa	250		250	250
Removal Efficiency up to %	99.5	98	93	93
Carbon Bed Depth inches	3.0	1.0	1.0	1.0
Carbon Weight kg CA1 (Face Area 24x24)	20.8	20.8	10.0	14.0
Carbon Weight kg CA2/4 (Face Area 24x24)	31.2	31.2	15.0	21.0

CTC Activity Rate of above 60% (CCI4). For guide, 0.6kg of CCl4 gas requires 1kg carbon to remove. Other gases varies from very low, low, medium to high adsorption.

Carbon Type	Application
CA1 Activated Carbon > 60% CTC	For general odours and organic fumes, all gases
CA2 Impregnated Activated Carbon > 60% CTC	For acid fumes and organic solvents, HCl, chlorine dioxide, SO <sub>2</sub> , H <sub>2</sub> S
CA2B Impregnated Activated Carbon > 60% CTC	For bases fumes, ammonia gases
CA4 Impregnated Activated Carbon > 60% CTC	For general hydrocarbons, acid gases, sulphur compounds, mercaptans, SO <sub>2</sub> , NO <sub>2</sub>

## Technical Data

<b>Filter Media</b> Activated Carbon Pellets
<b>Enclosing Frame</b> ABS Plastic/ Galvanised Steel (Gi) Option Powder Coated
<b>Header</b> No Header (NH) for RSE12, RSE18, Carb NH V Single Header (SH) 22mm or 25mm for Carbon V-cell
<b>Downstream Faceguard</b> ABS: Perforated for RSE12, RSE18 Gi: Perforated Gi sheet for RSE12, RSE18 Expanded Gi mesh for Carbon Vcell at sides
<b>Sealant</b> Water based Glue or Hotmelt
Continuous Operating Temperature 50°C Relative Humidity 70% Recommended Final Pressure Drop 250 Pa Maximum Final Pressure Drop 375 Pa

## Dimensions

Model	Nominal Size W x H x D inches	Actual Size W x H x D mm	Rated Air Flow cmh	Initial Pressure Drop Pa	Carbon Weight CA1 CA2/CA4 Kg	No. of filters per 24x24 face area
RSE12	12 x 24 x 12	289 x 595 x 290	850	170	10.4	2
RSE12	12 x 12 x 12	295 x 300 x 300	425	170	5.2 / 7.8	4
RSE18	24 x 6 x 18	595 x 145 x 440	850	130	5.2 / 7.8	4
RSE18	12 x 6 x 18	300 x 145 x 440	425	130	2.6 / 3.9	8
*Carbon Vcell 25mm Black Header	12 x 24 x 12	289 x 593 x 290	1700	170	6.0 9.0	2
*Carbon Vcell 22mm Blue Header	24 x 24 x 12	593 x 593 x 290	3400	120	10.0 15.0	1
*Carbon Vcell 22mm Blue Header	12 x 24 x 12	289 x 593 x 290	1700	120	5.0 7.5	2
Carbon NH4V	24 x 24 x 12	595x595x290	1700	120	14.0 / 21.0	1
Carbon NH4V	12 x 24 x 12	289x595x290	850	120	7.0 / 10.5	2

Odd sizes can be custom fabricated accordingly. Width and height dimensions are interchangeable.  
\*Carbon Honeycomb Vcell is disposable

## Applications

- Art Galleries and Museums, Libraries
- Cooker Hoods and Kitchen Exhaust
- Airport Air Conditioning/Heating Systems
- Public and Office Buildings
- Smoking Rooms
- Industrial and Chemical Processing
- Fragrances Manufacturer
- Oil Refineries
- Poultry Farms
- Fertiliser Manufacturer
- Sewage Treatment
- Plastics Industry
- Semiconductor Clean rooms
- Hospitals and Laboratories
- Fume Hoods
- Funeral Parlours



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