

# VENTSHIELD | Attenuation Vents VH Shielding

Our VH Shielding range of lightweight aluminium honeycomb attenuating ventilation panels comprise of forms of conductive airflow media retained within an aluminium extrusion. They are designed for use in racks and other forms of commercial enclosure.

## Applications:

Lightweight aluminium honeycomb vents can be mounted onto most forms of shielded enclosure where airflow is needed, either over cooling fans or by convection. They can be mounted anywhere on the enclosure and can be fitted with protective 'kick-plates' to protect the honeycomb material from accidental damage.

Where they may be exposed to the elements the vents can be fitted with 'slant' honeycomb which provides a downward facing aperture, preventing the ingress of rainwater. This has the added benefits of directional airflow and increased attenuation due to the higher aspect-ratio of the cell structure.

Honeycomb ventilation panels are usually supplied with gaskets in a ready-to-mount form which either fits around the aperture in the equipment (non-flanged style) or to be inset into the enclosure (flanged style). Depending on the performance requirements for the application, they can be mounted by bolting through clearance holes in the frame or through the use of captive threaded inserts.

Aluminium honeycomb material is formed by expanding a bonded aluminium foil into a honeycomb structure. This process, which is common to all honeycomb manufacturers, produces a material which is 'polarised' and is conductive either horizontally or vertically. To overcome polarisation problems two layers of honeycomb, mounted at 90 degrees to each other, are used. Please contact us for further information about polarisation.

Each cell in an attenuation vent acts as a waveguide and its performance is a function of its width/height and the ratio between the depth and width of the cell. Generally an aspect ratio of 4:1 or 5:1 is used.

Aluminium honeycomb vents are finished to suit specific applications and can be protected by Alocrom 1000, 1200 or electroplating. We can also offer an Iridite conversion which is RoHS compliant.

## Specifications:

For gasket material specifications please refer to knitted mesh gaskets (pages 4-13), oriented wires in silicone gaskets (pages 20-22) and conductive silicone gaskets (pages 39-42).

For gasket selection and plating finishes see page 16



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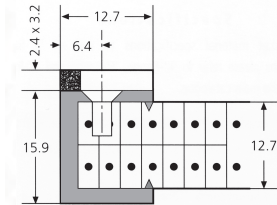
## Tolerances:

Overall dimensions  $\pm 0.8\text{mm}$   
 Fixing holes/fasteners  $\pm 0.5\text{mm}$   
 with jigs  $\pm 0.2\text{mm}$

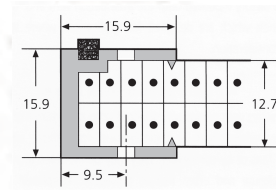
## Dust filtration

Demountable dust filters are available for use with attenuation vents and are featured in the VB Shielding section. They are generally produced using the AF1 or AF5 frame style and can be mounted with quick-release fasteners for ease of cleaning or replacement.

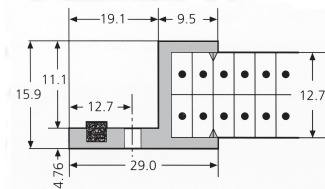
VH AF1



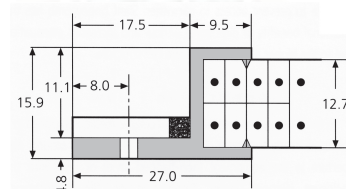
VH AF2



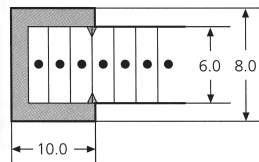
VH AF3



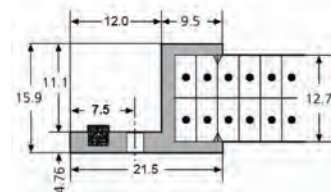
VH AF4



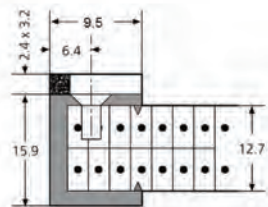
VH AF5



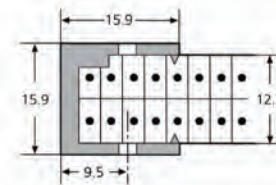
VH AF6



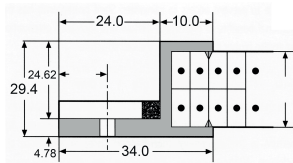
VH AF7



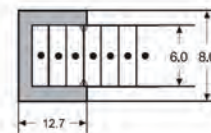
VH AF8



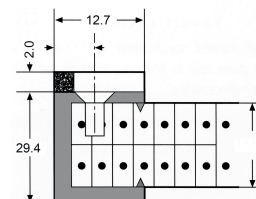
VH AF12



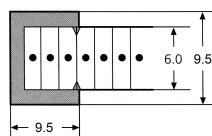
VH AF9



VH AF13



VH AF17



# VENTSHIELD | Attenuation Vents VH Shielding

SERIES	FRAME STYLE	VENT MEDIA	OVERALL SIZE	FIXINGS (NO.)	FIXING TYPE
VH-Vent	AF1	01=Cross-pole	xxxx-xxxx	xx	C/T=Captive insert
Aluminium	AF2	02=Single layer			T/H=Through hole
	AF3	03=Slant 45°			
	AF4	04=Slant cross-pole			
	AF5				
	AF6				
	AF7				
	AF8				
	AF9				
	AF12				
	AF13				
	AF17				

For aluminium vent panel types and styles not shown please contact us or forward a detailed drawing for quotation.

## How to order:

Specify: *Series - Frame Style - Vent Media - Overall Size - Number of Fixings - Fixing Type/Size*

Where possible please provide a detailed drawing.

### Example:

VH-AF1-01-2260-4330-12-T/H (4.8) specifies an aluminium cross-polarised vent panel in AF1 frame style with 12 through holes of 4.8 mm diameter. Hole positions to be agreed with the customer prior to manufacture or as shown on the customer drawing.

## Test Data for Profiles:

### Shielding Effectiveness - Type AF1/AF2/AF3 AF4/AF7/AF8

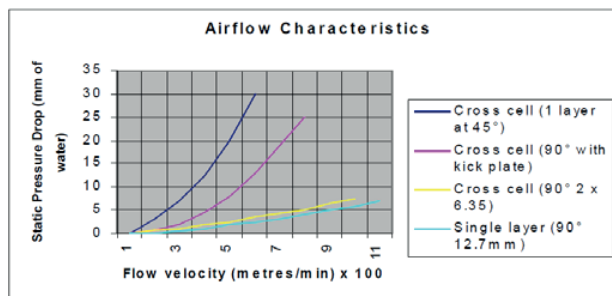
FREQUENCY	FIELD	ATTENUATION
10 KHz	H	45
100 KHz	H	49
1 MHz	H	51
1 MHz	E	>100
10 MHz	E	>100
100 MHz	E	>100
1 GHz	P	98
10 GHz	P	95

### Shielding Effectiveness - Type AF5/A9/A17

FREQUENCY	FIELD	ATTENUATION
10 KHz	H	40
100 KHz	H	43
1 MHz	H	47
1 MHz	E	84
10 MHz	E	97
100 MHz	E	>100
1 GHz	P	85
10 GHz	P	85

### Shielding Effectiveness - Type AF12 & 13

FREQUENCY	FIELD	ATTENUATION
10 KHz	H	51
100 KHz	H	57
1 MHz	H	>1055
1 MHz	E	>1055
10 MHz	E	>105
100 MHz	E	>105
1 GHz	P	90
10 GHz	P	90



### Gasket Selection Available

Neoprene/TSC (IP67) = AF1/AF4/AF5/AF7/AF8/AF9/AF12/AF13/AF17  
Solid TCS or Monel (EMC Only) = AF2/AF3/AF6

### Plating Finishes Available

Surtec 650 (RoHS and REACH Compliant -Our standard Finish)  
Nickel Plated  
Zinc Plated  
Tin Plated  
Painted to a RAL Colour  
Unplated