

## Product Overview

Aluminium EMC & dust filter ventilation panel consist of 3 layers of pleated aluminium woven mesh trapped between an expanded aluminium kick-plate then held in a rigid extruded aluminium mounting frame, The 3 layers of pleated wire mesh are separated by the pleats being of different height enabling the vent to have a high dust holding capacity. The vent panel can be used dry or air filter oil can be applied to the aluminium filter media to assist in dirt and dust retention.

The frame can be supplied in a range of sizes and profiles and panels can be treated with a variety of finishes to provide corrosion protection or improve conductivity.

Panels can be provided with additional EMI gasketing or environmental sealing if required.

## Applications

Ventilation panels are designed for use in electronic enclosures where good air flow is required for cooling and ventilation but where EMC compliance and dust filtration must be ensured.

Typical commercial applications are:

- Electronic Enclosures
- Air Conditioning Units
- Fan housings
- EMC Racks.

## Availability

A large selection of Aluminium, extruded profiles are available from stock offering a variety of fixing and gasketing options.

Custom sizes manufactured with no additional cost. Frames can be supplied with fixing holes or captive threaded inserts to aid mounting.

These ventilation panels can be supplied with a Surtec 650 Aluminium passivation finish.

## Design Considerations

Any environmental conditions such as moisture and dust control including:

- Air Flow requirement (Generally requires assisted air flow)
- External louvres for rain protection
- Drain holes
- Any additional gasketing
- Cleaning: Vacuum or blow clean with an airline for dry panels or easily cleaned in detergent solution prior to re-oiling.

## Constructional requirements and finishes including:

- Rigidity of vent frame and enclosure so as to prevent bowing of either surface when compressing the gasket.
- Fixing requirements e.g. holes or threaded inserts ensuring appropriate position and size of hole-centres. (Holes in the corners of the frame should be avoided).
- If specifying captive inserts in both sides of the frame off-set the positions by 10mm minimum.
- Round vents tend to be an expensive option due to the complexity of manufacturing method.

## Gaskets for vents

- Knitted wire mesh = Frames with a gasket groove.
- Orientated wire in silicone.
- Knitted Monel wire mesh with a Neoprene sponge carrier 2.4mm thick.
- Beryllium Copper finger stock.

\* Other gasket options are available.

## Production Capabilities

Kemtron manufacture its range of EMC vent panels using the latest technology and, with the exception of painting and plating, all processes are kept in house, giving us flexibility and total control over quality. Kemtron has invested heavily in this area making us the market leaders for price, delivery, quality and availability.

Fully programmable CNC machines for the notching & cutting of the frame extrusions and drilling of exact and repeatable holes combined with the latest TIG welding equipment allows Kemtron to offer a fast delivery of its competitive range of aluminium woven mesh produced to customer designs. This advanced technology also eliminates the need for additional tooling and set-up charges. Kemtron holds a large range of aluminium extrusions and aluminium woven mesh in stock. In addition to vent panels, Kemtron manufactures a huge range of EMI shielding products, including conductive Elastomers, oriented wire, knitted wire mesh, connector gaskets.

Vent panels made with styles 1701, 1703, are supplied with 3 corners notched and the 4<sup>th</sup> joined corner welded and have an external corner radii of 3mm.

## Finishes

Vent panels can be supplied with a range of finishes including:

- Surtec 650 – Trivalent Chromium
- Electro less plates Tin or Nickel
- Painted (frame only for dust panels)
- Achrom 1200 – Hexavalent chromium.

Kemtron's standard finish (Surtec 650) for aluminium vent panels fully meets the RoHS directive.

Kemtron's in-house process applies a trivalent chromium passivation. The surface finish is conductive with a low contact resistance and meets all requirements of MIL-DTL-5541F Type II Class 3 for corrosion resistance and electrical conductivity. We are also able to offer a comprehensive range of painted finishes to complement our standard Surtec 650 finish. Using leading wet paint solutions from Trimite, we offer full painting and preparation to DEF STAN specifications including matt and gloss finishes.

In addition we can also offer Infra Red Reflecting (IRR) matt finishes complying with DEF STAN 00-23, 80-166 and STANAG 2338.

For less critical/commercial applications requiring a protected finish we recommend polyester powder coating.

This is tough material that offers excellent resistance to fresh and saltwater, petrol, linseed and penetrating oils, along with limited resistance to various acids. We are happy to advise on specific examples if required. With both processes, we are able to offer a full range of colours to RAL/BS charts.

## Notice

Information supplied in these data sheets is based on independent and laboratory tests which Kemtron believes to be reliable. Kemtron has no control over the design of customer's product which incorporates Kemtron's products, therefore it is the responsibility of the user to determine the suitability for his particular application and we recommend that the user make his own test to determine suitability.

The product described in this data sheet shall be of standard quality, however the products are sold without warranty of fitness for a particular purpose, either expressed or implied, except to the extent expressly stated on Kemtron's invoice, quotation or order acknowledgement. Kemtron does not warrant that products described in this data sheet will be free of conflict with existing or future patents of third parties. All risks of lack of fitness, patent infringement and the like are assumed by the user.

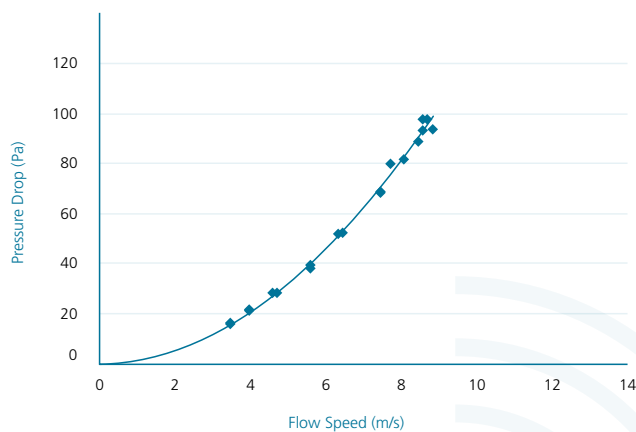
## Tolerances

- Standard tolerances for overall finished vent dimensions are  $\pm 0.8\text{mm}$ .
- Standard tolerances on hole centres are  $\pm 0.4\text{mm}$ .
- Typical corner radii on frame styles 1701 and 1703 are R3.0mm.

## Specifications

Aluminium Frame	6063-T6
Aluminium Filter Material	Wire dia 0.28mm open area 66%
Monel Wire Gasket	BS3075 NA13
Neoprene Sponge	ASTM D1056 (84) SCE 42
Beryllium Copper	Alloy 25 (CA172)
Silicone Rubber	ZZ-R-765 Class 2 Grade 40
Aluminium Wire	5056

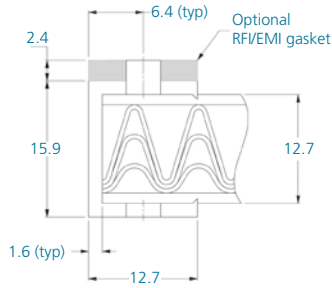
## Air Flow Results Graph



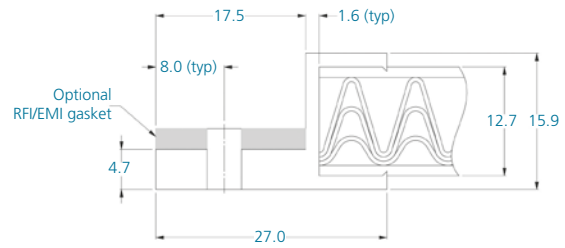
## EMC Performance (dB)

Frequency	dB
0.01 MHz	42
0.1 MHz	53
1.0 MHz	61
10.0 MHz	81
100 MHz	60
1,000 MHz	52
10,000 MHz	43

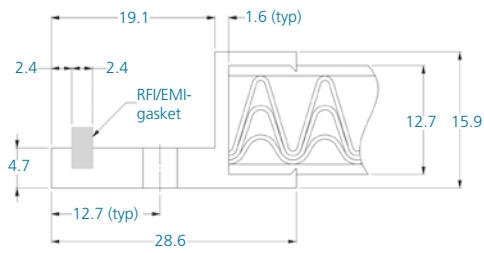
**Frame style: 1701**



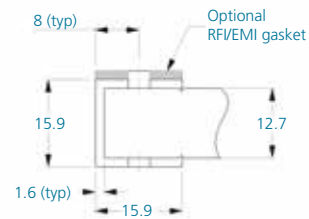
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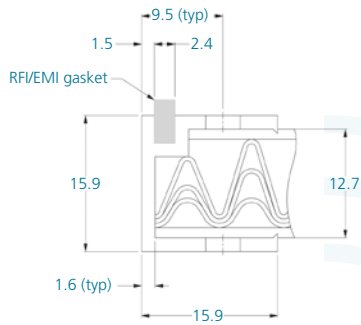
**Frame style: 1702**



**Frame style: 1710**



**Frame style: 1703**



**Frame style: 1713**

