

HIGH EFFICIENCY (HEPA) FILTERS

High efficiency filters for applications including the electronic, pharmaceutical, chemical & nuclear industries



To meet the demands for a versatile range of High Efficiency (HEPA) Filters the EMCEL design team has developed close pleating equipment which can provide compact pleats in depths of up to 95 mm. It is this versatility which enables EMCEL to produce filters with the optimum balance between cost, unit size, capacity and filtration efficiency.

Depending on application, filters are supplied in either cylindrical or flat panel format and special seals are provided to ensure air tight installation. Efficiencies of up to 99.997% can be specified with all filters being individually tested and certified to BS 3928 - Sodium Flame test method.



*FILTER DEPTH WITHOUT GASKET	OVERALL PANEL SIZE (mm)			
	305 x 305	610 x 610	610 x 915	610 x 1220
70 mm	145 m ³ /hr	595 m ³ /hr	900 m ³ /hr	1200 m ³ /hr
115 mm	180 m ³ /hr	790 m ³ /hr	1240 m ³ /hr	1620 m ³ /hr

Typical sizes with airflow capacities litres/sec at 0.45 m/s 125 Pa Initial Resistance.

Efficiency: 99.997% tested to BS3928 Sodium Flame Test

For Dimensions and Technical Data on Cylindrical HEPA and non-standard HEPA Panel Filters please contact our Technical Sales Team.

HEPA Panel Filters

Flat panel high efficiency filters can be manufactured as replacements to match existing filters or to meet new design requirements. Pleat depths of up to 95 mm allow variations of airflow and resistance within a specified face area.

Casework is normally fabricated from galvanised steel, aluminium, painted mild steel, stainless steel or PVC but other materials such as MDF (for incineration disposal) can be specified. Protective screens are fitted to both faces as standard and a neoprene or silicone sealing gasket may be fitted to the clean air side. Gaskets can be fitted to each face if requested.

Please see overleaf for details on Cylindrical HEPA Filters and the unique EMCEL Leaf Seal System

Cylindrical HEPA Filters

Cylindrical filters offer an alternative to panel filters where this format is more appropriate to the application, for example where a limited face area is available. Close pleated packs are normally moulded into rigid polyurethane circular end caps or encapsulated within preformed painted mild or stainless steel spinnings. Other materials can be specified. The pleated paper is protected on both faces by a mesh screen and sealing gaskets are provided to suit the application.



The unique EMCEL LEAF SEAL SYSTEM

This flexible leaf seal system, developed and patented by EMCEL for in-line filters, provides excellent sealing properties and overcomes the problems that can arise from the progressive decay in structural stability which can be exhibited by flat face seals. The flexible edge seals do not require tightening down to maintain efficiency, as is often the case with conventional sealing gaskets. Leaf Seal Systems can be moulded into the end caps of EMCEL Cylindrical HEPA Filters. This system is used in the Pharmaceutical, Electronic, Chemical and Nuclear industries and in other critical applications such as Hospitals and Laboratories.

In most HEPA applications it is recommended that a good quality prefilter is installed upstream of the high efficiency filter to alleviate clogging by coarser particles and so extending filter life. Two stage elements, combining pre-filter and high efficiency filter in one unit, offer a convenient integral filter where space is at a premium.

Combinations of media and various pleated pack arrangements, such as divided bed (split airflow), V-Form and two stage radial flow, extend the options where high efficiency filtration is required. High efficiency filters can be combined with activated carbon cells to provide gas adsorption and particulate filtration within the same unit. As with all EMCEL products, HEPA filters offer flexibility with quality and can be designed and manufactured in any quantity, in the most appropriate configuration and combination to suit individual applications.



Other Emcel products include:

- ◆ **Activated Carbon Filter Units**
- ◆ **Replacement Carbon Panels**
- ◆ **Odour Control Filters**
- ◆ **Particle Filters**
- ◆ **Washable/Cleanable Panels**
- ◆ **Special Filters**



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