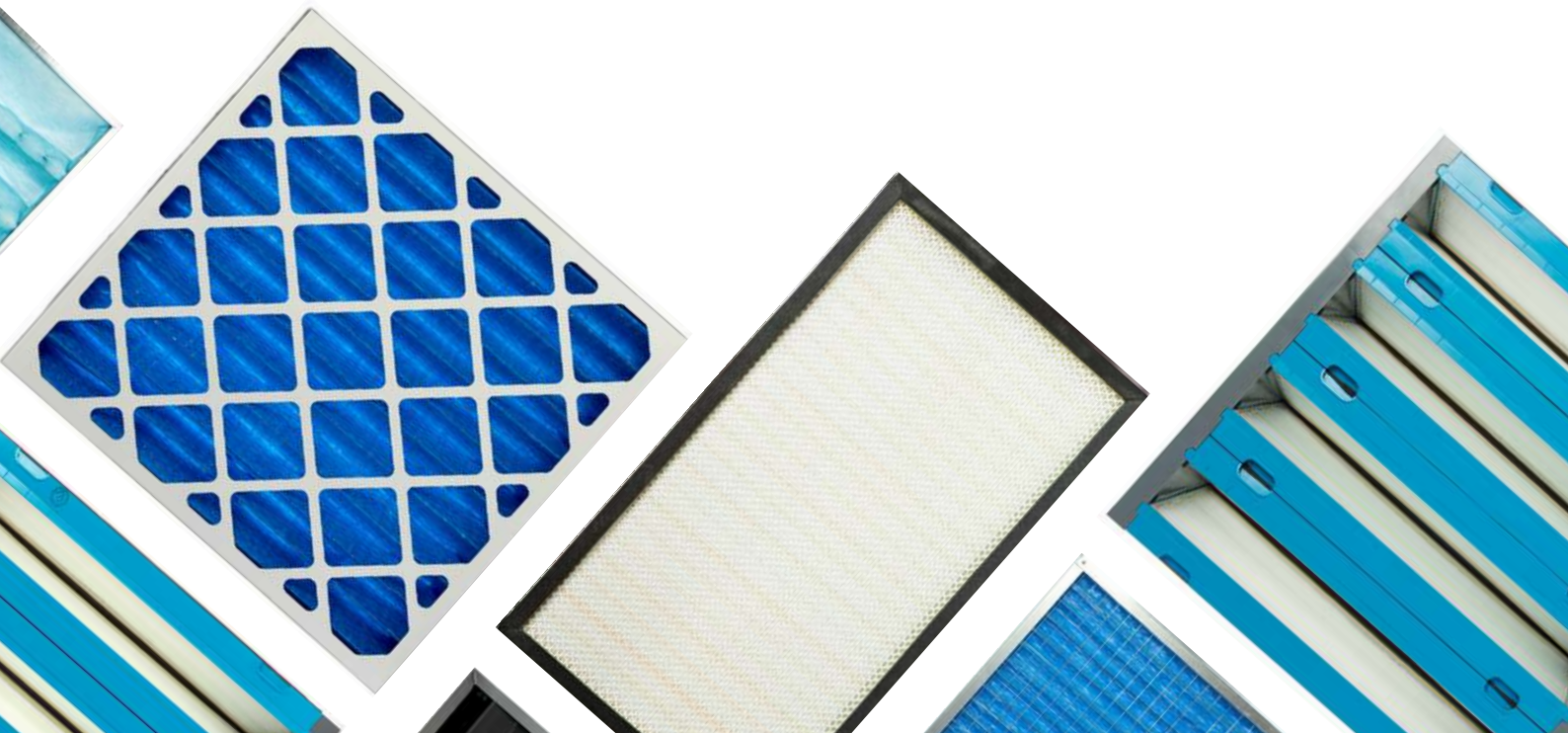
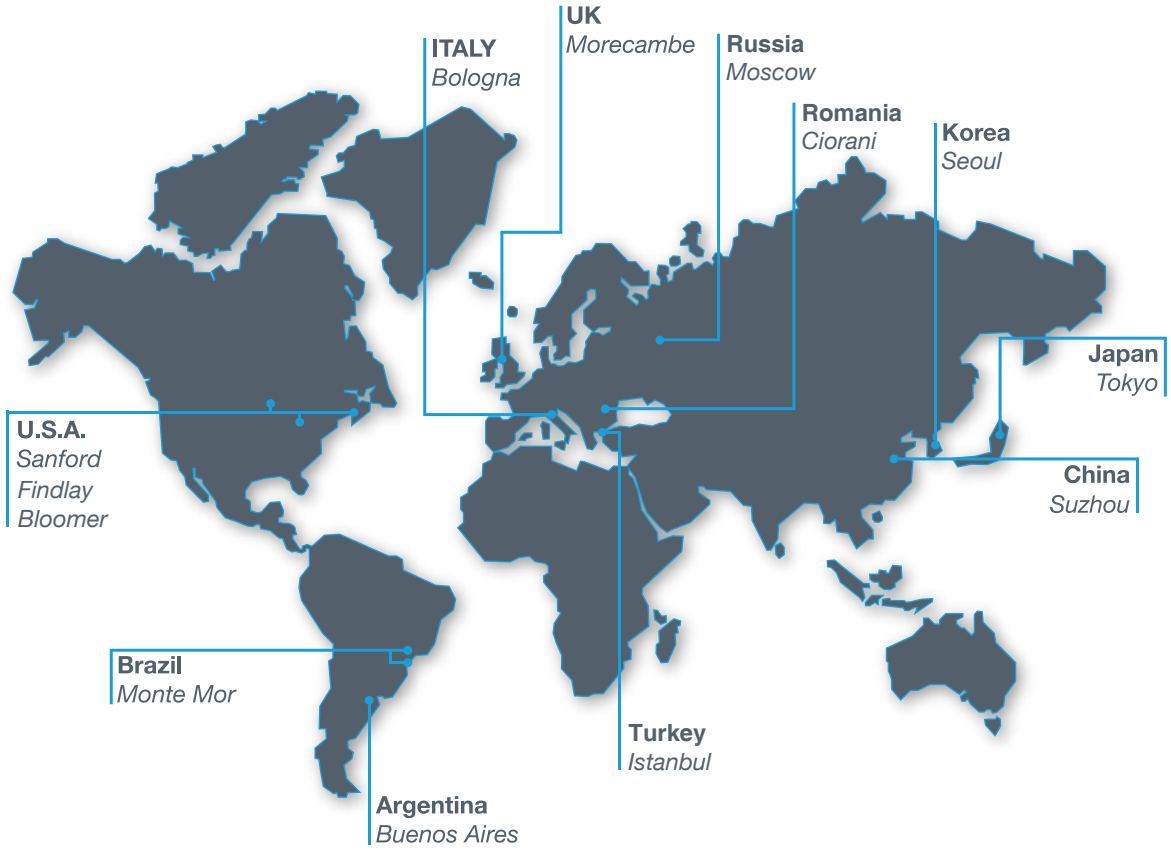
FILTER TECHNOLOGY

GVS Commercial & Industrial Division




UK
Morecambe
ITALY
Bologna
Russia
Moscow
Romania
Ciorani
Korea
Seoul
Japan
Tokyo
U.S.A.
Sanford
Findlay
Bloomer
China
Suzhou
Brazil
Monte Mor
Turkey
Istanbul
Argentina
Buenos Aires

FILTER TECHNOLOGY

Contents

Introduction & Filter Guide

Introduction

Today, it is estimated that we spend between 80 to 90% of our time indoors, where pollution is typically two to five times higher than the level of pollutants found externally.

Recent research has found that this pollution has significantly more impact on health than previously thought.

Traditional low cost filters that use electrostatic charge have been found to provide very low protection against these risks and new standards have been put in place to ensure building occupants are properly protected.

GVS are committed to providing solutions that **reduce the overall spend on air filter products and energy** whilst meeting the above performance needs.

GVS have been **producing HVAC filters for over 30 years** and our aim has always been to be ahead of market trends and developments to ensure we develop mutually advantageous business relationships with our clients.

Applications

Airports & Transportation

Air quality around airport buildings and gates is often very poor quality. Many of the service vehicles and auxiliary power units are powered by diesel engines which generate particulate and NOX gases. GVS have a range of products to deal with these challenges and satisfy EN13779 indoor air quality standards. GVS are fast becoming the default filter manufacturer for airports.
Contact us for further information and details of recent projects we have undertaken.

Commercial & Retail

Commercial and Retail buildings are often located in built up areas where outdoor air quality is already at a low quality level. Air is often polluted with PM10 and PM2.5 particles, diesel particulate, building dust and NOX gases. Without proper filtration the long term exposure to these pollutants, particularly when re-circulated throughout buildings, can have damaging effects on their occupants. GVS have a wide range of filters designed to cope with these challenges as well as reducing energy consumption within a building.

Hospitals

Air quality has significant impact on patient outcome. Hospitals are very focused on reducing the number of infections due to physical contact. A similar effort needs to be made with air quality. It has been shown that something as simple as upgrading filters can reduce the number of people infected with certain diseases which in turn has an impact on recovery times and patient costs. GVS have a number of products including the Bacticell which improve air quality by allowing increased air flow and reducing pathogens through anti-bacterial coatings.

Hotels & Hospitality

Indoor air quality impacts on a large number of areas within the hospitality business. From kitchen areas where a lack of extract cleaning it can pose a genuine threat to the safety of a building through to spa and pool areas where increased humidity damages decoration or can lead to risks of legionella. GVS can advise how best to maximise air quality and minimise costs of filter changes. With our range of energy saving and anti-microbial filters it is often possible to demonstrate savings in energy saving through changes in specification that outweigh the cost of replacing filters.

Leisure Centres

Leisure centres, spas, gyms and hotels with pools have unique challenges to deal with for HVAC. The higher levels of humidity and the air changes needed to deal with the moisture mean standard filters are not suitable. In addition, the risk of bacterial growth or legionella poses a threat to both staff and customers. It is important that facilities management teams be mindful of these risks when specifying filters and managing changes. GVS have experience specifying, changing and disposing of filters in these environments as well as filter solutions such as the Bacticell with impregnated antibacterial coatings to ensure the air remains at an acceptable quality level and it's occupants are not put at risk.

Museums & Art Galleries

Most museums and art galleries are located close to areas with high traffic pollution. The increase in diesel vehicles in recent years has caused a specific problem for museums and galleries as the NOX fumes and diesel particulate cause serious damage to both the exhibits and the decoraton of the building. GVS have HVAC filter products that can bring the particulate down to safe levels as well as molecular filtration products that can remove the gaseous contaminant.

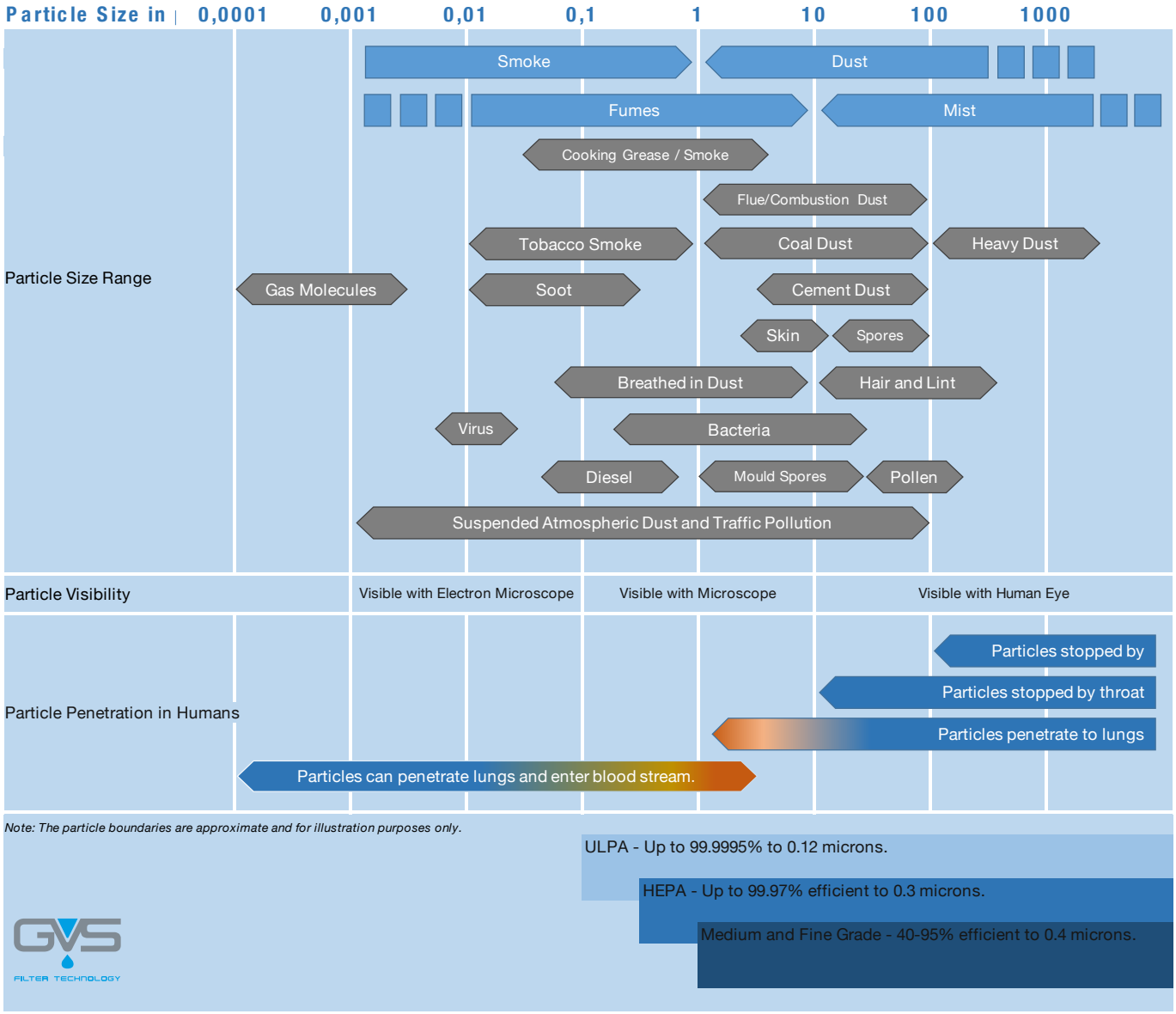
Industrial & Pharmaceutical

Complex electronic, pharmaceutical or food processing facilities require high levels of efficient filtration in order to keep processes reliable and safe. GVS manufacture a range of HEPA filters in house to EN1822:2009. These HEPA filters are produced with unique barcodes to ensure traceability from material sources down to individual filter units. It's this level of quality that ensures that GVS are fast becoming one of the market leaders in HEPA filtration.

The Theory of Filtration

Selecting filters suitable for an application can be difficult without an understanding of the principles behind the operation of the product. Many applications also have specific standards that must be followed. Over the next few pages we have provided background information and guidance to help with your filter selection.

The below chart lists a number of common types of airborne contaminants, both particulate and fumes.



The Theory of Filtration

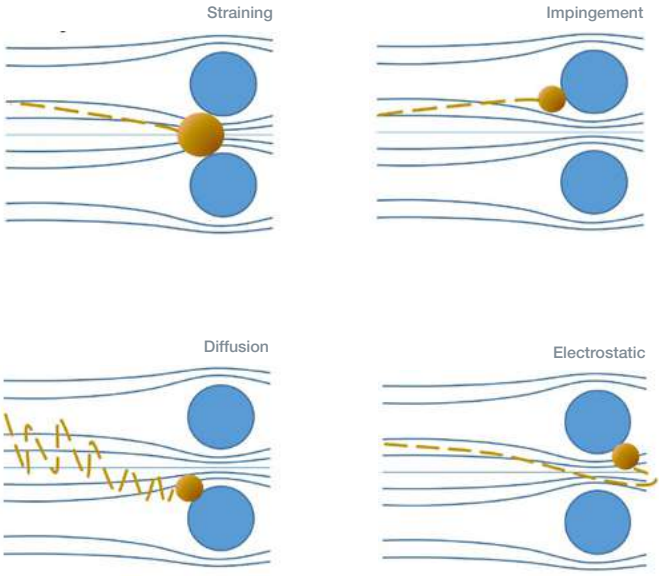
Particulate matter is captured within a filter by 4 main methods:

Straining
The physical capture of a particle by the fibres or holes in a media preventing it passing due to their relative size.

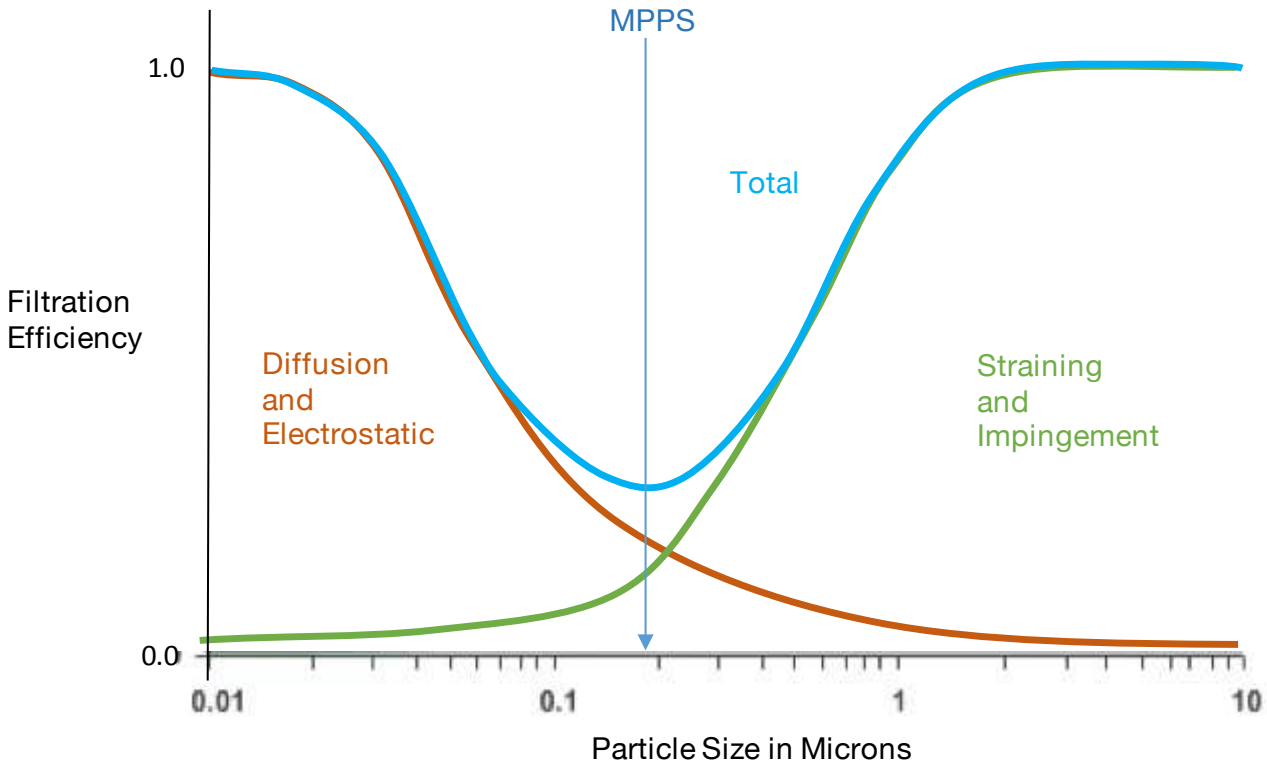
Impingement
The particle physically hits and sticks to the fibre.

Diffusion
Brownian motion causes the particle to move in irregular patterns increasing it chance of making contact with and adhering to the filter fibres.

Electrostatic
The particulate is attracted to the media though an electrostatic charge. This is generally only in synthetic media and very often this electrostatic charge diminishes with time and/or humidity.



Graph Showing Filter Efficiency for Each Filtration Type



Filter Standards

Although there are 4 main methods of filtration, air filters in HVAC applications generally rely on two for capturing particulate contamination: one being 'mechanical' and the other 'electrostatic'.
Mechanical filtration basically relies on a 'barrier' of fibres interwoven to form a matrix through which the air has to pass, the closer or 'tighter' the matrix, the higher the filter efficiency. The electrostatic principle is employed to 'charge' material fibres (often with a more open matrix) during production in order to enhance filter efficiency. It has been established beyond doubt that certain types of 'challenge' such as combustion particles in normal atmospheric air may neutralise such charges resulting in serious loss of filter efficiency. This has led to three fundamental changes within the 2012 standard (differing from the 2002 version):

1. Compulsory discharge of all media: High efficiency filters of F7 - F9 are subject to a 'discharge process' to remove any electrostatic charge in order to establish an initial 'untreated efficiency'.

2. Minimum Efficiency value introduced: Filter grades F7 - F9 were previously determined by an average efficiency. The new standard requires that in addition to this, minimum efficiency values must also be met. The minimum efficiency value is defined as: 'the lowest efficiency among the discharged efficiency, initial (clean filter) efficiency and that established throughout the full dust loading test. The minimum efficiency values required to be met are detailed in the table below.

3. Medium Grade classification introduced: Filter grades previously defined as 'fine grade filters' F5 & F6 are now classified purely as 'medium.

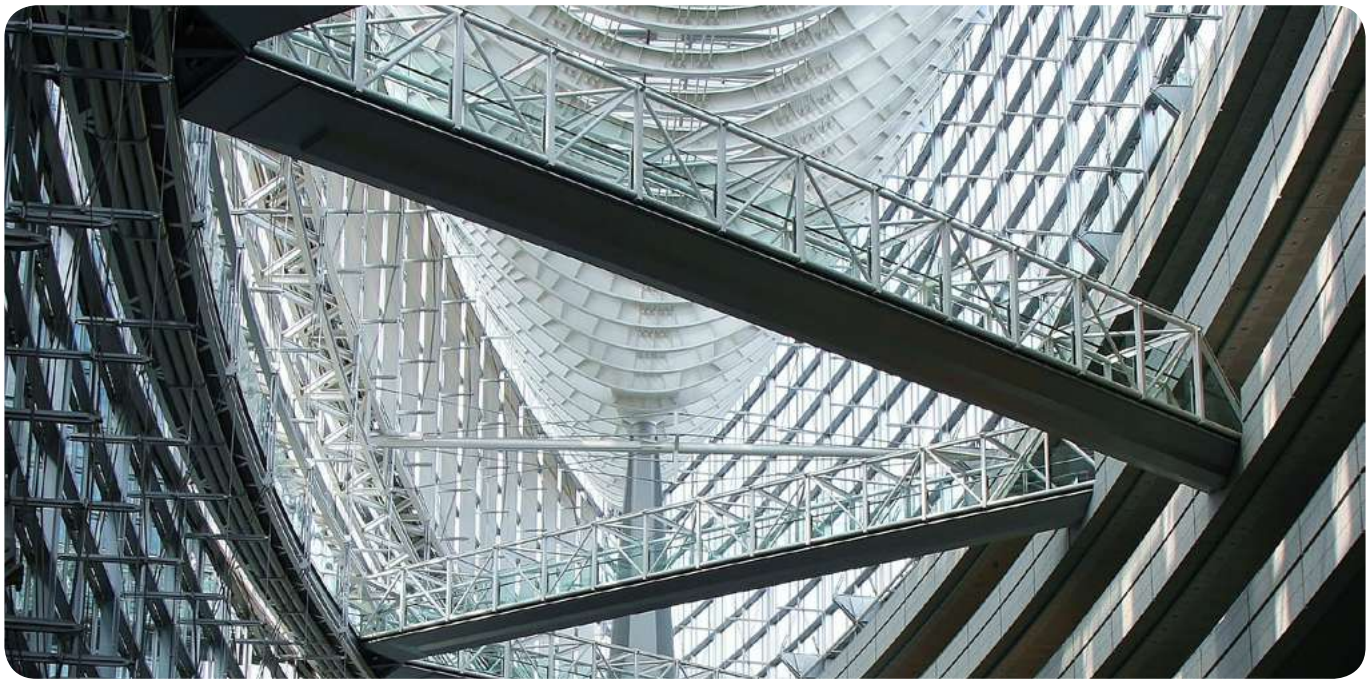
Standards in Europe and the USA differ and it is not possible to make an accurate comparison. However it is possible to make an approximate comparison, this is done in the below table:

ASHRAE 52.2				ASHRAE 52.1				EN779:2012		EN1822:2009	
Particle Size Range				Test		Particle size range, µm	Applications	Class	Average 0.4 µm	Class	MPPS Efficiency, %
MERV	3 to 10 µm	1 to 3 µm	0.3 to 1 µm	Arrestance	Dust Spot						
1	< 20%	-	-	< 65%	< 20%	> 10	Residential, light pollen, dust mites.	G1	-	-	-
2	< 20%	-	-	< 65-70%	< 20%			G2	-	-	-
3	< 20%	-	-	70-75%	< 20%			G2	-	-	-
4	< 20%	-	-	> 75%	< 20%			G2	-	-	-
5	20-35%	-	-	80-85%	< 20%	3.0 - 10	Industrial, dust, mold, spores.	G3	-	-	-
6	35-50%	-	-	> 90%	< 20%			G3	-	-	-
7	50-70%	-	-	> 90%	20-25%			G4	-	-	-
8	> 70%	-	-	> 95%	25-30%			G4	-	-	-
9	> 85%	< 50%	-	> 95%	40-45%	1.0 - 3.0	Industrial, legionella, dust.	G4	-	-	-
10	> 85%	50-65%	-	> 95%	50-55%			M5	40~60%	-	-
11	> 85%	65-80%	-	> 98%	60-65%			M6	60~80%	-	-
12	> 90%	> 80%	-	> 98%	70-75%			M6	60~80%	-	-
13	> 90%	> 90%	< 75%	> 98%	80-90%	0.3 - 1.0	Hospitals, smoke removal, bacteria.	F7	80~90%	-	-
14	> 90%	> 90%	75-85%	> 98%	90-95%			F8	90~95%	-	-
15	> 90%	> 90%	85-95%	> 98%	~ 95%			F9	> 95%	-	-
16	> 90%	> 95%	> 95%	> 98%	> 95%			-	-	E10	85%
17	-	-	> 99.97%			< 0.3	Cleanrooms, surgery, chemi-bio, viruses.	-	-	H13	99,95%
18	-	-	> 99.99					-	-	H13	99,95%
19	-	-	> 99.999%					-	-	H14	100,00%
20	-	-	> 99.9999%					-	-	H14	100,00%

Note: European and American test methodologies vary and therefore it is not possible to make direct comparisons between the standards. The above table is provided as a guide only.
Acknowledgements: (Paolo Tronville and Richard D. Rivers 2005)

EN 13779:2007 - Indoor Air Quality

Tenants and occupants of commercial buildings are increasingly bringing IAQ legal cases against defendants associated with building construction and maintenance. The EN13779 Standard for indoor air quality deals with both the comfort and health of people using buildings and well as the cost of installing and running HVAC systems. It is now an international standard.
The standard starts by classifying outdoor air quality. This is classified from ODA1 to ODA3 where ODA1 is pure air with only low levels of naturally occurring pollution up to ODA3 with high levels of both gaseous and particulate contamination.



Previously there was a focus on PM10 particulate, often from vehicle exhaust fumes, and originally thought to be a major source of respiratory illness. More recently it has been found that the smaller particulate and gases can also cause serious health issues. There is now a focus on PM10 as well as PM2.5, CO, CO2, NOX, SO2 and VOCs.
The table below indicates typical concentration levels in outdoor air, together with a suggestion on how to categorize the quality.

Description of Air quality	Concentration Levels					Outdoor Air Category
	CO_2 (ppm)	CO_2 (mg/m^2)	NO_2 (µg/m^2)	SO_2 (µg/m^2)	PM_{10} (µg/m^2)	
Rural areas with no significant sources	350	< 1	3 - 35	< 5	< 20	ODA1
Smaller towns	400	1 - 3	15 - 40	5 - 15	10 - 30	ODA2
City centres	450	2 - 6	30 - 80	10 - 50	20 - 50	ODA3

Looking at the above chart and comparing the figures to air quality test results conducted in most major cities it is interesting to note that the often fall into the ODA3 or are well above the limits. As outdoor air at street level is concentrated through the effect known as canyoning and blown over building roof tops it is then pulled into buildings via the HVAC system.
This often means indoor air quality can be worse than the air outside.

EN 13779:2007 - Indoor Air Quality

The table below looks purely at CO2. Obviously this is only one of the many contaminants that need to be dealt with.
The table doesn't cover particulate or other gaseous contaminants.

Category	Description	CO_2 – level above level of outdoor air (ppm) Typical range	Air changes in (m^3/h/person) (Non-smoking areas)
IDA 1	High IAQ	< 400	> 54
IDA 2	Medium IAQ	400 - 600	36 - 54
IDA 3	Moderate IAQ	600 - 1000	22 - 36
IDA 4	Low IAQ	> 1000	< 22

GVS Filter Recommendations Based on Indoor and Outdoor Air Quality

Outdoor Air Quality	IAQ (Indoor Air Quality)			
	IDA 1 (High)	IDA 2 (Medium)	IDA 3 (Moderate)	IDA 4 (Low)
ODA1	F9	F8	F7	M5
ODA2	F7 / F9	M6 / F8	M5 / F7	M5 / M6
ODA3	F7 / CF / F9	F7 / CF / F9	M5 / F7	M5 / M6

CF - Carbon Filter (GVS Bacticell Enviro-carb may be used to replace both the F7 and the CF)

Filter Grades Available

Grade	Efficiency 0.4 µm	Application
G3-G4		For removal larger particulates which can face blind a finer filter
M5-6	0-60%	No lower parameter – ideal for a warehouse type building / low pollution
F7	80-90%	Urban secondary filter – ideal for low to medium traffic pollution
F8	90-95%	Urban secondary filter, also used for lower specification laboratories
F9	95% consistent	Usually achieved by higher capacity F8 filters at standard air volumes

General Filtration Best Practice

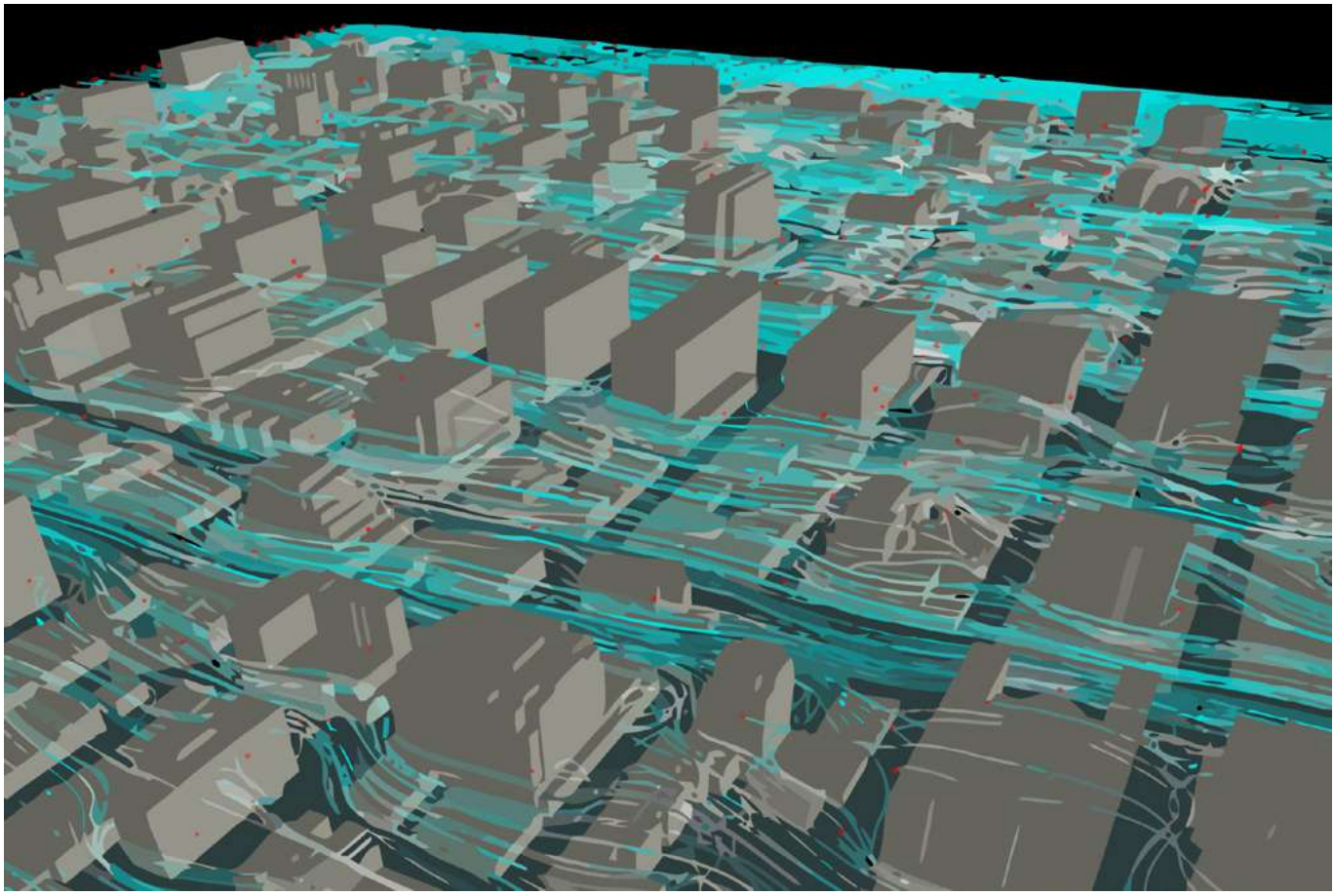
Replace filters as follows:

Primary Filters 2000 hrs
Secondary Filters 3000 hr or 2 years - whichever comes first
Exhaust and recirc. 3000 hr or 2 years - whichever comes first
Carbon 5000 hrs

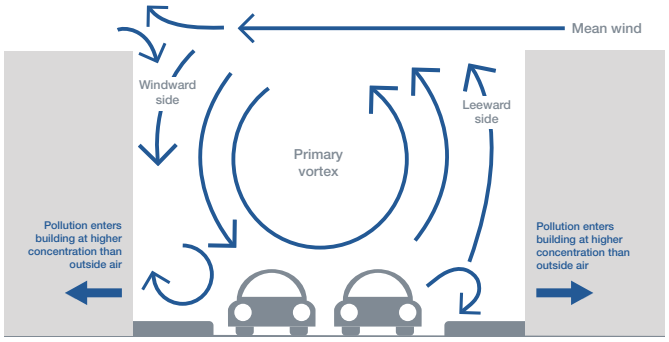
To avoid microbial growth keep RH levels below 85% and fit filters with biocidal impregnation such as Bacticell with Bacti-G.
In city centres or areas with ODA3 air fit a molecular gas filter such as the GVS Enviro-carb.

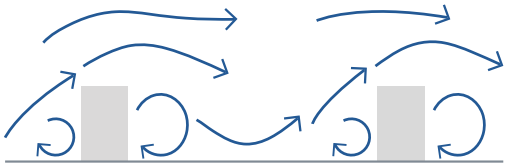
Why is the air quality in a building often worse than outside?

Urban Street Canyon Pollution Model

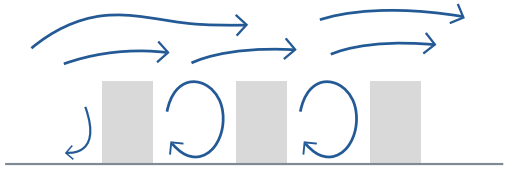


When the mean wind direction is perpendicular to the street, the vortex flow formed inside the canyon acts to confine air flow, reduce dispersion of pollutants and increase the pollution concentrations inside the street canyon. Pollution from local source inside the canyon and also pollution entrained in to the canyon from the mean wind flow, is carried by the vortex flow and is re-circulated within the canyon. In urban environments, vehicle tail pipe emissions are the major source of many air pollutants such as fine particles, carbon dioxide, NOx.
These pollution plumes created on the street, at the surface level, are pushed toward the lee side of the canyon by the vortex flow, making the surface level pollution concentrations much higher at leeward side of the street compared to windward side. Secondary vortexes in the lower portion of the canyon can further act to stagnate pollutants on the pavements on the leeward side. One field study has reported ultrafine particle concentrations four times higher on leeward side pavement compared to the windward side.





Space between buildings allows pollution to be blown away by wind



Pollutants trapped and condensed as they recirculate in the space between the buildings

HEPA Standard - EN1822:2009

The table below shows the classifications, descriptions and efficiencies of filters covered by the EN1822:2009 standard:

Filter Class	Description	Integral Value		Local Value	
		Collection Efficiency (%)	Penetration (%)	Collection Efficiency (%)	Penetration (%)
E10	Efficiency Particulate Air Filters	85	15	-	-
E11		95	5	-	-
E12		99.5	0.5	-	-
H13	High Efficiency Particulate Air Filters	99.95	0.05	99.75	0.25
H14		99.995	0.005	99.975	0.025
U15	Ultra Low Penetration Air Filters	99.9995	0.0005	99.9975	0.0025
U16		99.99995	0.00005	99.99975	0.00025
U17		99.999995	0.000005	99.9999	0.0001

HEPA Testing at GVS

EN 1822 testing is conducted with an aerosol test probe that is moved over the entire surface of the filter in a scanning motion. This scanning, results in the local measurement of the whole surface of the filter. These local efficiencies can be used to calculate the overall efficiency of the filter or the leak rate of a specific area of the filter. The overall efficiency calculation is termed the integral value the area immediately around the probe is the local value. Tests are performed on new filters at the specified nominal volumetric air flow. Filters of U15 or above are scanned with a particle counter probe. An oil thread test can be utilized on filters of H13 and H14 classification. GVS manufacture a wide range of HEPA filters which comply to the EN1822:2009 standard. Our Minipleat HEPA range of filters are individually tested using our DOP test rig with scanningprobe and each is individually labelled and certified.

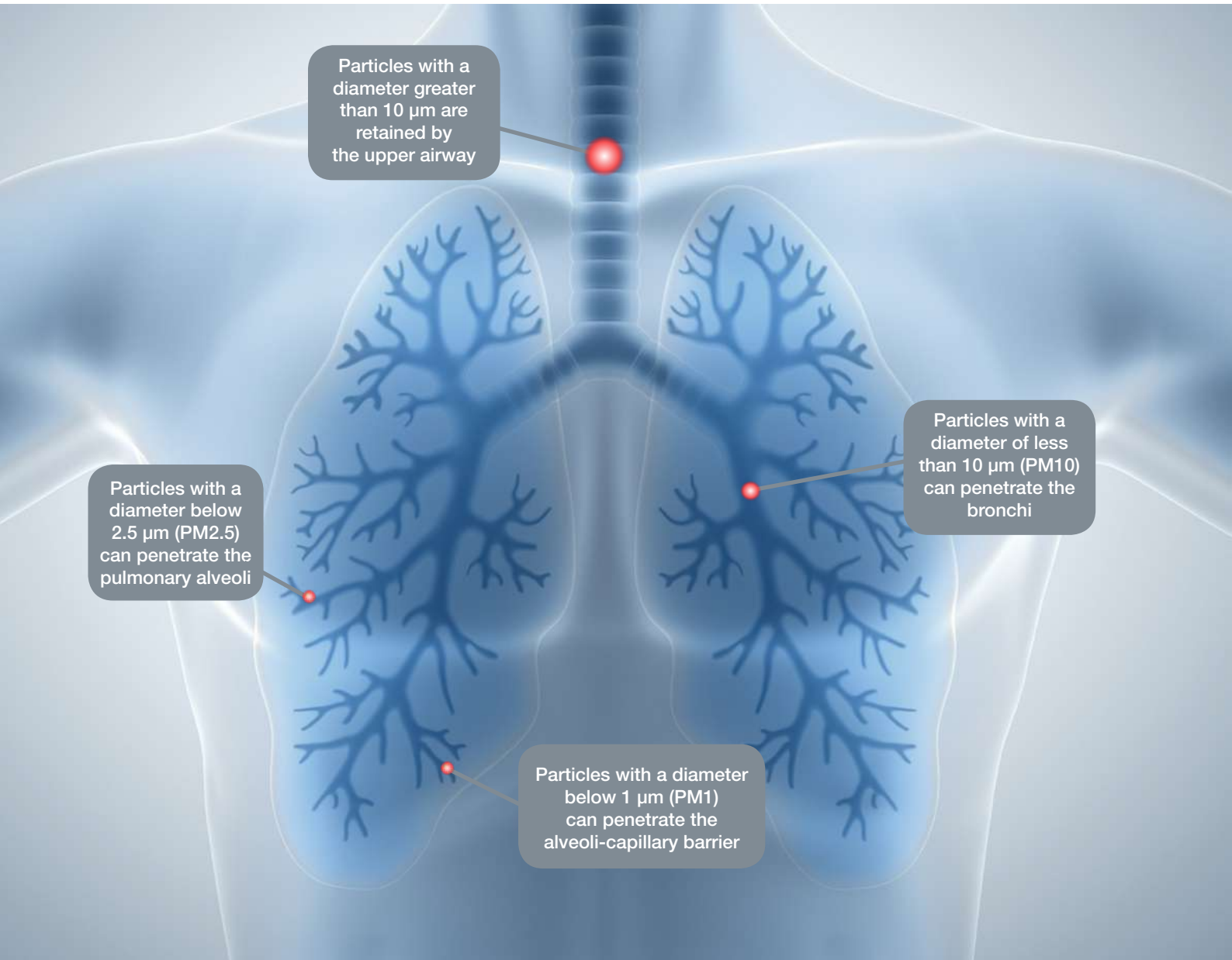
16890 Standard

Over the past five years, a new approach has been developed to characterize filter efficiency. The new standard now aligns more closely with the way air quality is measured. This new approach is to look at filtration efficiency not only for particles with a diameter of 0.4 µm but to consider the entire spectrum of particle sizes.

The current EN779: 2012 standard used today in Europe defines the filtration classes according to the average filtration efficiency of the particles with a diameter of 0.4 µm.
The convention of using only the filtration efficiency of particles with a diameter of 0.4 µm is due to the fact that particles of this size are the most difficult to filter. For particles with a smaller diameter, the phenomenon of diffusion predominates, whereas for particles with a larger diameter, the phenomenon of interception is predominant. (see GVS Filtration guide for more details).

For most HVAC media filtering the minimum efficiency is around 0.4 µm.
The current system therefore makes it possible to compare different filters but it is not easy to evaluate the effectiveness of a filter with regards to its impact on air quality.
The new standard characterises the filters in the same way as we measure air quality:
Particulate Matter (PM) concentrations: PM10, PM2.5 and PM1 which respectively define the air concentrations in liquid or solid particles whose diameter is below 10, 2.5 and 1 µm.
These indicators are used in many health and toxicological studies. They make it possible to classify the particles according to their effect on the human body.

Filter Testing and Certification
EN1822 - GVS independently test filters using Eurovent,TÜV and ISO17025 accredited labs.
ISO16890 - GVS independently test filters using Eurovent,TÜV and ISO17025 accredited labs.



16890 Standard

The new standard therefore classifies filters relative to their filtration efficiency for these different particle sizes according to the table below.

Group	Initial efficiency in PMx	Discharged efficiency PMx
ePM10	≥ 50% (PM10)	≥ 50% (PM10)
ePM2.5	≥ 50% (PM2.5)	≥ 50% (PM2.5)
ePM1	≥ 50% (PM1)	≥ 50% (PM1)

At PM1 the efficiency of a filter classified as ePM1[80%] will be above 80% and below 85%.
Beyond the new approach of classification of the filters certain improvements over the old standard have been added:

- Requirements have been introduced with for test conditions in terms of temperature and relative humidity.
- The conditioning method for determining the minimum efficiency makes it possible to test a complete filter and not only the filter media as with the EN 779: 2012.
- "Fine AC" dust is used to determine gravimetric efficiency as a replacement for standardized dust such as “ASHRAE”.

GVS have a range of filters that comply with both EN779:2012 and EN ISO 16890.

ISO 14644-1 & FED STD 209E - Cleanroom Standards

GVS manufacture a range of mini-pleat HEPA filters and ceiling modules to suit most cleanroom applications. Cleanrooms are classified according to the number and size of particles present in a fixed volume of air.

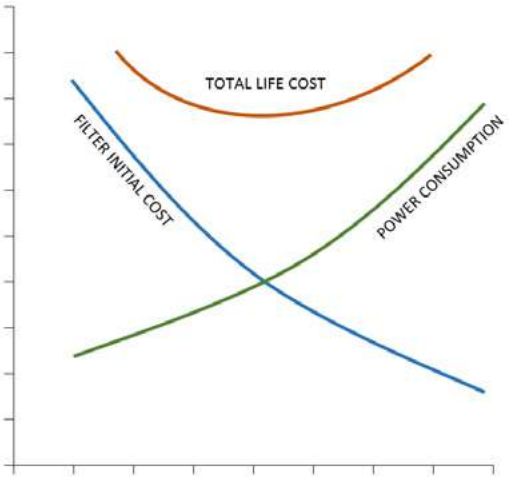
Class	Maximum Particles/m^3						FED STD 209E equivalent
	≥ 0.1 µm	≥ 0.2 µm	≥ 0.3 µm	≥ 0.5 µm	≥ 1 µm	≥ 5 µm	
ISO 1	10	2.37	1.02	0.35	0.083	0.0029	
ISO 2	100	23.7	10.2	3.5	0.83	0.029	
ISO 3	1,000	237	102	35	8.3	0.29	Class 1
ISO 4	10,000	2,370	1,020	352	83	2.9	Class 10
ISO 5	100,000	23,700	10,200	3,520	832	29	Class 100
ISO 6	1.0 × 106	237,000	102,000	35,200	8,320	293	Class 1,000
ISO 7	1.0 × 107	2.37 × 106	1,020,000	352,000	83,200	2,930	Class 10,000
ISO 8	1.0 × 108	2.37 × 107	1.02 × 107	3,520,000	832,000	29,300	Class 100,000
ISO 9	1.0 × 109	2.37 × 108	1.02 × 108	35,200,000	8,320,000	293,000	Room air

Note: US FED STD 209E was officially cancelled by the General Services Administration on November 29, 2001 but is still commonly used.

Energy and Total Life Filter Cost

Selecting filters suitable for an application should always be done considering operating costs. Generally a filter costs more to use than it does to buy. Replacing existing filters such as traditional panel and bag filter with the same may seem the most cost effective option at the time but may cost more in the long run though increased electrical consumption.
Replacing with a cartridge filter with large media area, sometimes without a pre-filter in place, very often reduces resistance and increases time between changes.
Make filter specification decisions by weighing up the operating costs, filter change out costs, waste disposal costs as well as the filter cost.

The graph demonstrates the theory and for this optimum change-out schedule:



'It costs a lot more to USE an air filter, than it does to BUY one'

According to EU Directives HVAC filters sold in the UK should be subjected to annual testing to the latest version of EN779. EN779:2012 tests secondary air filters with both dry test dust and DEHS aerosol (representing diesel fumes), to ensure long term, consistent filtration efficiency in all likely environments.

Synthetic and Nanofibre filters are shown to lose up to 65% efficiency when exposed to airborne carbons (traffic fumes) and most fail even the lowest permitted levels in EN779:2012. Microfine glass filters perform very consistently, regardless of the DEHS test and are proven suitable for use in an urban environment.

Motor Energy Calculator

Based on 1 filter (592x592mm) at 10p/kWh

Air Volume x Average Pressure Loss x Hours = kWh x kWh cost = Period Fan Energy Cost
System Efficiency 50% x 1000

2 sets Pre & F7 Bag	2800 each set	330 Pa	1081	£186
2 sets Pre & 1 Rigid Pack	5600	265 Pa	842	£148
1 Bacticell, no pre filter	5600	153 Pa	533	£86

Keeping your HVAC System Clean

Deposit Thickness Testing

GVS Service Technicians can check the overall mean deposit levels inside your ventilation system. This is done in a minimum of 3 locations per system, 1 downstream from the fan unit another at the midway point then the last at the end of the duct. Each test is carried out by placing a template inside the duct with 20 holes cut out on it, the probe is placed in each hole, after the 20 readings are taken the template is removed the surface wiped clean then the template returned with another 20 readings taken, this then gives you the average deposit build up in microns. The levels must not exceed 60um for supply & recirculation systems & 180um for extract systems. It is recommended that the systems be tested on an annual basis.

Kitchen Extract Cleaning

Kitchen extracts are cleaned to prevent the risk of fire & attracting vermin. All systems should be cleaned on an annual basis as a minimum. The TR19 Cleanliness of Ventilation Systems quotes the following regimes:

Kitchen usage:
3-6 hours a day – 12 monthly
6-12 hours a day – 6 monthly
Over 12 hours – 3 monthly

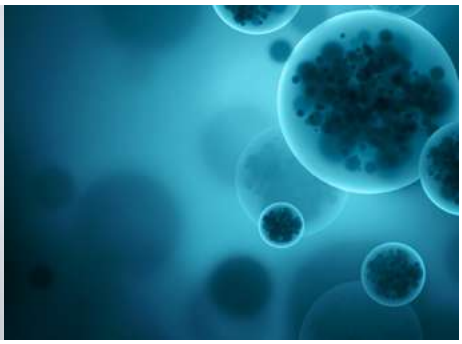
AHU Cleaning & Component Servicing

The units along with associated ductwork should be tested for cleanliness on an annual basis. Visually with photographs and tested for microbiological (fungal & bacterial) contamination.

If a system survey reveals dirt, particularly on internal AHU surfaces, system components or the heater or chiller batteries it is advisable to undergo a full clean and service. Dirt collection on components will reduce their efficiency and raise the risk of matter being picked up in the airstream and deposited on ductwork or transported to occupied areas.

The GVS On Site Services Division can both survey the system and conduct any cleaning and servicing required..
All cleaning work is carried out to TR19 Cleanliness of Ventilation Systems.
GVS offer a range of audited cleaning services alongside other filter maintenance as well as a full range of air filters, manufactured in the UK to the latest European standards.

**Guidance published by HVCA's TR/17 Guide to Good Practice – Cleanliness of Ventilation Systems and CIBSE's TM26 – Hygiene Maintenance of Office Ventilation Ductwork.*



The GVS Service Team

The introduction of standards such as EN:13779, new regulations on waste disposal, and the pressure to conserve energy are encouraging building owners and operators to ways to optimise the use of air handling systems.
Through a specialist engineering division, GVS provide a range of support services including the following:

- Filter supply and fit
- Energy consultancy
- System modification
- Environmental assessments
- Condition monitoring of air filters
- HEPA validation
- Fire damper and fire door testing
- Filter waste disposal

Energy Saving Management

The extent to which energy consumption can be reduced will depend on a number of factors, including the general condition of the AHU and the type of air filters installed.

Central to GVS's approach to air quality management is the concept of 'getting into the plant room'.

Money is easily lost and air quality compromised through badly fitting air filters resulting in air bypassing the filter entirely through worn out seals, lack of retaining clips, or the incorrect header size used on the installed filters. Fitting a bag filter in the incorrect plane uses more energy than is necessary. 'Getting into the plant room' and conducting a comprehensive survey is the first step towards saving money.

GVS's On Site Service can undertake checks that filters are correctly specified and installed and train on-site engineers on the steps required to assess the energy use. A report can be provided to detail if improvements can be made and detail any areas that would potentially save energy.

Total Filter Management

The concept of Total Filter Management was pioneered by the GVS On Site Services division over ten years ago. The objective was to provide a single centre of expertise able to manage all aspects of air quality within a building, either direct to the owner or the FM company contracted to provide general building management.

GVS On Site Services ensure that their clients meet all regulatory requirements now and in the future. Clients select either all or specific services available according to their requirements.

Sheet & Panel Range

G4 Pleated Panel Filters

- Light weight
- Moisture resistant white lined card frames
- Pleats bonded to lattice across both sides of filter
- Range of standard sizes and depths available
- May be incinerated
- Independently tested to ISO16890 ePM10 50%

G4

Incinerable

ISO 16890

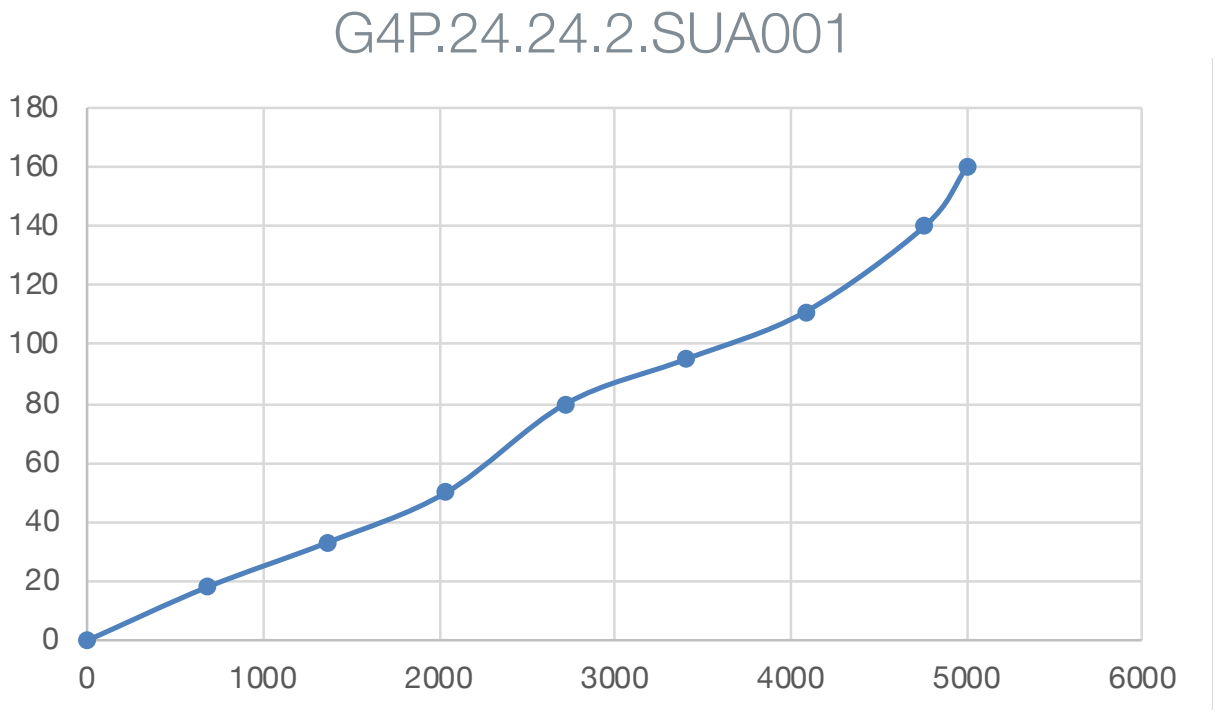
70°C

-10°C

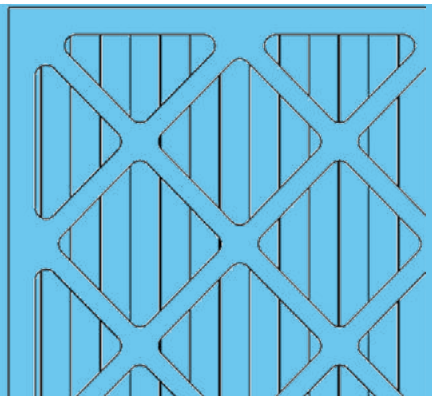
Product Group	GVS G4P Panel Filters - Standard Capacity
Product Type	G4 Panel Air Filter
Application	Pre-filter for general and air conditioning applications
Filter Grades	G4 / ePM10 50%
Filter Media	Non-woven cotton/synthethic fibre with expanded aluminium mesh support grid.
Case Material	Card Frame
Case Depth	1”, 2” and 4” - Additional sizes available on request.

G4 Pleated Panel Filters

Product Code	Face Size Nominal (inches)	Depth Nominal (inches)	Face size Actual (mm)	Depth Actual (mm)	Capacity	Pleats (no.)	Media Area (m^2)	Normal Flow (m^3/hr)	Initial Resistance (Pa)	High Flow (m^3/hr)	Initial Resistance (Pa)
G4P.12.12.1.SUA001	12 x 12	1	291 x 291	22	Standard	14	0.17	874	60	1092	70
G4P.12.24.1.SUA001	12 x 24	1	291 x 596	22	Standard	14	0.36	1789	60	2237	70
G4P.15.15.1.SUA001	15 x 15	1	372 x 372	22	Standard	17	0.27	1368	60	1710	70
G4P.15.20.1.SUA001	15 x 20	1	372 x 496	22	Standard	17	0.37	1824	60	2280	70
G4P.16.20.1.SUA001	16 x 20	1	395 x 496	22	Standard	18	0.39	1936	60	2420	70
G4P.16.25.1.SUA001	16 x 25	1	395 x 624	22	Standard	18	0.49	2436	60	3045	70
G4P.18.18.1.SUA001	18 x 18	1	448 x 448	22	Standard	20	0.39	1950	60	2438	70
G4P.20.20.1.SUA001	20 x 20	1	496 x 496	22	Standard	22	0.48	2383	60	2978	70
G4P.20.24.1.SUA001	20 x 24	1	496 x 596	22	Standard	22	0.58	2863	60	3579	70
G4P.20.25.1.SUA001	20 x 25	1	496 x 624	22	Standard	22	0.60	2998	60	3747	70
G4P.24.24.1.SUA001	24 x 24	1	596 x 596	22	Standard	26	0.69	3400	60	4250	70
G4P.12.12.2.SUA001	12 x 12	2	291x 291	45	Standard	11	0.28	874	60	1092	70
G4P.12.24.2.SUA001	12 x 24	2	291x 596	45	Standard	11	0.57	1789	60	2237	70
G4P.15.15.2.SUA001	15 x 15	2	372 x 372	45	Standard	13	0.44	1368	60	1710	70
G4P.15.20.2.SUA001	15 x 20	2	372 x 496	45	Standard	13	0.58	1824	60	2280	70
G4P.16.20.2.SUA001	16 x 20	2	395 x 496	45	Standard	14	0.62	1936	60	2420	70
G4P.16.25.2.SUA001	16 x 25	2	395 x 624	45	Standard	14	0.78	2436	60	3045	70
G4P.18.18.2.SUA001	18 x 18	2	448 x 448	45	Standard	15	0.62	1950	60	2438	70
G4P.20.20.2.SUA001	20 x 20	2	496 x 496	45	Standard	17	0.76	2383	60	2978	70
G4P.20.24.2.SUA001	20 x 24	2	496 x 596	45	Standard	17	0.91	2863	60	3579	70
G4P.20.25.2.SUA001	20 x 25	2	496 x 624	45	Standard	17	0.95	2998	60	3747	70
G4P.24.24.2.SUA001	24 x 24	2	596 x 596	45	Standard	20	1.08	3400	60	4250	70
G4P.12.12.4.SUA001	12 x 12	4	291x 291	97	Standard	8	0.43	1824	60	2280	70
G4P.12.24.4.SUA001	12 x 24	4	291x 596	97	Standard	8	0.88	1936	60	2420	70
G4P.15.15.4.SUA001	15 x 15	4	372 x 372	97	Standard	9	0.67	874	60	1092	70
G4P.15.20.4.SUA001	15 x 20	4	372 x 496	97	Standard	9	0.89	1789	60	2237	70
G4P.16.20.4.SUA001	16 x 20	4	395 x 496	97	Standard	10	0.94	2436	60	3045	70
G4P.16.25.4.SUA001	16 x 25	4	395 x 624	97	Standard	10	1.19	1950	60	2438	70
G4P.18.18.4.SUA001	18 x 18	4	448 x 448	97	Standard	11	0.95	1368	60	1710	70
G4P.20.20.4.SUA001	20 x 20	4	496 x 496	97	Standard	12	1.15	2383	60	2978	70
G4P.20.24.4.SUA001	20 x 24	4	496 x 596	97	Standard	12	1.39	2863	60	3579	70
G4P.20.25.4.SUA001	20 x 25	4	496 x 624	97	Standard	12	1.45	2998	60	3747	70
G4P.24.24.4.SUA001	24 x 24	4	596 x 596	97	Standard	14	1.64	3400	60	4250	70



Many low cost pleated panels have pleats that are attached only at the ends. This can cause the pleats to distort or ‘sag’ in operation affecting performance.
GVS G4 Panels have pleats that are bonded to the lattice across the entire face of the filter. Pleats stay in position and reliable performance is ensured for the life of the product.



G4 Bespoke Sized Panels

- Available in most face sizes up to 28” (711 mm) wide.
- Taped case.
- Aluminium pleat support mesh on rear.
- Pleats bonded to lattice across both sides of filter.
- Range of standard sizes and depths available.

Code	Item Description
G4P.1.00-12	G4 Plt. Panel-1" - S. Dim. < 12" inches (< 305 mm)
G4P.1.12-15	G4 Plt. Panel-1" - S. Dim.-12"-15" inches (305-381 mm)
G4P.1.15-18	G4 Plt. Panel-1" - S. Dim.-15"-18" inches (381-457 mm)
G4P.1.18-20	G4 Plt. Panel-1" - S. Dim.- 18"-20" inches (457-508 mm)
G4P.1.20-24	G4 Plt. Panel-1" - S. Dim.- 20"-24" inches (508-610 mm)
G4P.1.24-25	G4 Plt. Panel-1" - S. Dim.- 24"-25" inches (610-635 mm)
G4P.1.25-28	G4 Plt. Panel-1" - S. Dim.- 25"-28" inches (635-711 mm)
G4P.2.00-12	G4 Plt. Panel-2" - S. Dim. < 12" inches (< 305 mm)
G4P.2.12-15	G4 Plt. Panel-2" - S. Dim.-12"-15" inches (305-381 mm)
G4P.2.15-18	G4 Plt. Panel-2" - S. Dim.-15"-18" inches (381-457 mm)
G4P.2.18-20	G4 Plt. Panel-2" - S. Dim.- 18"-20" inches (457-508 mm)
G4P.2.20-24	G4 Plt. Panel-2" - S. Dim.- 20"-24" inches (508-610 mm)
G4P.2.24-25	G4 Plt. Panel-2" - S. Dim.- 24"-25" inches (610-635 mm)
G4P.2.25-28	G4 Plt. Panel-2" - S. Dim.- 25"-28" inches (635-711 mm)
G4P.4.00-12	G4 Plt. Panel-4" - S. Dim. < 12" inches (< 305 mm)
G4P.4.12-15	G4 Plt. Panel-4" - S. Dim.-12"-15" inches (305-381 mm)
G4P.4.15-18	G4 Plt. Panel-4" - S. Dim.-15"-18" inches (381-457 mm)
G4P.4.18-20	G4 Plt. Panel-4" - S. Dim.- 18"-20" inches (457-508 mm)
G4P.4.20-24	G4 Plt. Panel-4" - S. Dim.- 20"-24" inches (508-610 mm)
G4P.4.24-25	G4 Plt. Panel-4" - S. Dim.- 24"-25" inches (610-635 mm)
G4P.4.25-28	G4 Plt. Panel-4" - S. Dim.- 25"-28" inches (635-711 mm)

G4 High Capacity Pleated Panel Filters

- Energy saving
- Light weight
- Moisture resistant white lined card frames
- Pleats bonded to lattice across both sides of filter
- Range of standard sizes and depths available
- May be incinerated
- Independently tested to ISO16890 ePM10 50%

G4

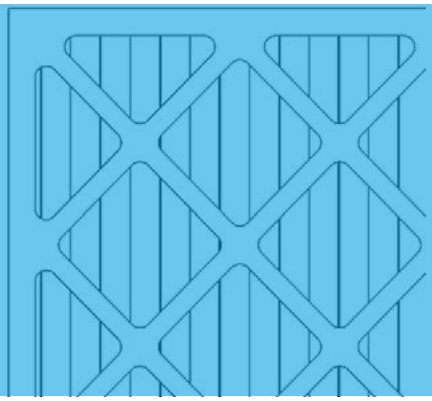
Incinerable

ISO 16890

70°C

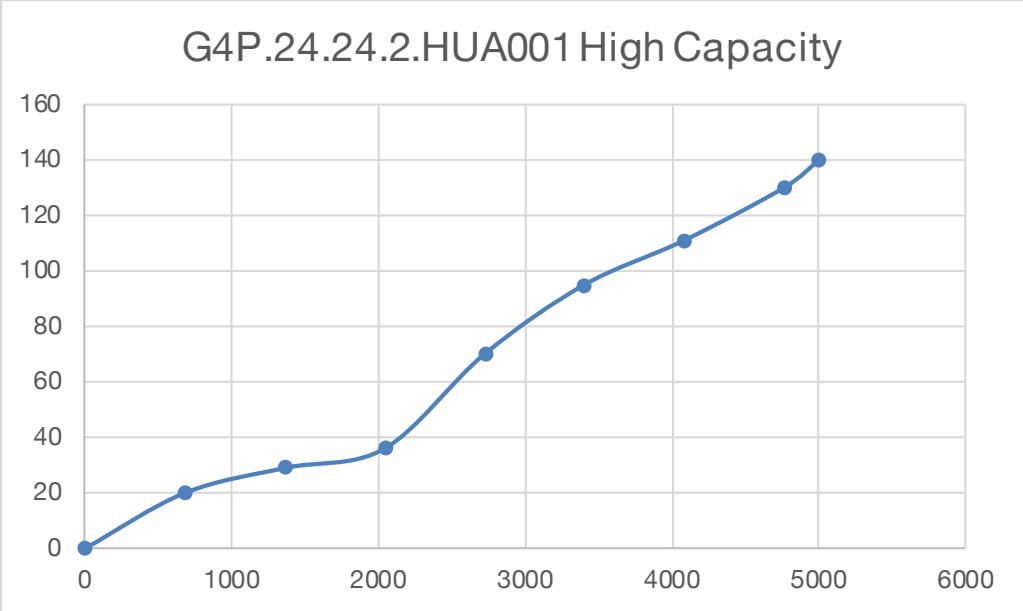
-10°C

Many low cost pleated panels have pleats that are attached only at the ends. This can cause the pleats to distort or 'sag' in operation effecting performance.
GVS G4 Panels have pleats that are bonded to the lattice across the entire face of the filter. Pleats stay in position and reliable performance is ensured for the life of the product.



G4 High Capacity Pleated Panel Filters

Product Code	Face Size Nominal (inches)	Depth Nominal (inches)	Face size Actual (mm)	Depth Actual (mm)	Capacity	Pleats (no.)	Media Area (m^2)	Normal Flow (m^3/hr)	Initial Resistance (Pa)	High Flow (m^3/hr)	Initial Resistance (Pa)
G4P.12.12.2.HUA001	12 x 12	2	291 x 291	45	High	16	0,42	1824	65	2280	75
G4P.12.24.2.HUA001	12 x 24	2	291 x 596	45	High	16	0,85	1936	65	2420	75
G4P.15.15.2.HUA001	15 x 15	2	372 x 372	45	High	20	0,65	874	65	1092	75
G4P.15.20.2.HUA001	15 x 20	2	372 x 496	45	High	20	0,87	1789	65	2237	75
G4P.16.20.2.HUA001	16 x 20	2	395 x 496	45	High	21	0,92	2436	65	3045	75
G4P.16.25.2.HUA001	16 x 25	2	395 x 624	45	High	21	1,16	1950	65	2438	75
G4P.18.18.2.HUA001	18 x 18	2	448 x 448	45	High	23	0,93	1368	65	1710	75
G4P.20.20.2.HUA001	20 x 20	2	496 x 496	45	High	26	1,14	2383	65	2978	75
G4P.20.24.2.HUA001	20 x 24	2	496 x 596	45	High	26	1,37	2863	65	3579	75
G4P.20.25.2.HUA001	20 x 25	2	496 x 624	45	High	26	1,43	2998	65	3747	75
G4P.24.24.2.HUA001	24 x 24	2	596 x 596	45	High	30	1,63	3400	65	4250	75
G4P.12.12.4.HUA001	12 x 12	4	291 x 291	97	High	11	0,64	1824	65	2280	75
G4P.12.24.4.HUA001	12 x 24	4	291 x 596	97	High	11	1,32	1936	65	2420	75
G4P.15.15.4.HUA001	15 x 15	4	372 x 372	97	High	14	1,00	874	65	1092	75
G4P.15.20.4.HUA001	15 x 20	4	372 x 496	97	High	14	1,34	1789	65	2237	75
G4P.16.20.4.HUA001	16 x 20	4	395 x 496	97	High	15	1,41	2436	65	3045	75
G4P.16.25.4.HUA001	16 x 25	4	395 x 624	97	High	15	1,78	1950	65	2438	75
G4P.18.18.4.HUA001	18 x 18	4	448 x 448	97	High	16	1,42	1368	65	1710	75
G4P.20.20.4.HUA001	20 x 20	4	496 x 496	97	High	18	1,73	2383	65	2978	75
G4P.20.24.4.HUA001	20 x 24	4	496 x 596	97	High	18	2,08	2863	65	3579	75
G4P.20.25.4.HUA001	20 x 25	4	496 x 624	97	High	18	2,18	2998	65	3747	75
G4P.24.24.4.HUA001	24 x 24	4	596 x 596	97	High	21	2,46	3400	65	4250	75



GVS G3G Glass Panel Filters

G3

Incinerable

energy saving

- Light weight
- Ideal for applications with large particulate contaminant
- Over-taped frames
- Range of standard sizes and depths available
- Bespoke sizes available on request
- May be incinerated.

Face Sizes (inches / mm)	Depths (inches / mm)	Types Available	Efficiency
12" x 12" / 291 x 291	1" / 22	Dry Glass	G3
12" x 24" / 291 x 596	2" / 46	Oiled Glass	
15" x 15" / 370 x 370	4" / 97		
15" x 20" / 370 x 496			
16" x 20" / 395 x 496			
18" x 18" / 395 x 624			
20" x 20" / 496 x 496			
20" x 24" / 496 x 596			
20" x 24" / 496 x 624			
20" x 25" / 496 x 624			
24" x 24" / 596 x 596			
25" x 20" / 395 x 624			

GVS G3G Glass Panel Filters

Product Code	Face Size Nominal (inches)	Depth Nominal (inches)	Face Size Actual (mm)	Depth Actual (mm)	Capacity	Media Area (m^2)	Normal Flow (m^3/hr)	Initial Resistance (Pa)
G3G.12.12.1.SUA001	12 x 12	1	291 x 291	22	Standard	0,08	874	38
G3G.12.24.1.SUA001	12 x 24	1	291 x 596	22	Standard	0,17	1789	38
G3G.15.15.1.SUA001	15 x 15	1	372 x 372	22	Standard	0,14	1368	38
G3G.15.20.1.SUA001	15 x 20	1	372 x 496	22	Standard	0,18	1824	38
G3G.16.20.1.SUA001	16 x 20	1	395 x 496	22	Standard	0,20	1936	38
G3G.16.25.1.SUA001	16 x 25	1	395 x 624	22	Standard	0,25	2436	38
G3G.18.18.1.SUA001	18 x 18	1	448 x 448	22	Standard	0,20	1950	38
G3G.20.20.1.SUA001	20 x 20	1	496 x 496	22	Standard	0,25	2383	38
G3G.20.24.1.SUA001	20 x 24	1	496 x 596	22	Standard	0,30	2863	38
G3G.20.25.1.SUA001	20 x 25	1	496 x 624	22	Standard	0,31	2998	38
G3G.24.24.1.SUA001	24 x 24	1	596 x 596	22	Standard	0,36	3400	38
G3G.12.12.2.SUA001	12 x 12	2	291 x 291	45	Standard	0,08	874	40
G3G.12.24.2.SUA001	12 x 24	2	291 x 596	45	Standard	0,17	1789	40
G3G.15.15.2.SUA001	15 x 15	2	372 x 372	45	Standard	0,14	1368	40
G3G.15.20.2.SUA001	15 x 20	2	372 x 496	45	Standard	0,18	1824	40
G3G.16.20.2.SUA001	16 x 20	2	395 x 496	45	Standard	0,20	1936	40
G3G.16.25.2.SUA001	16 x 25	2	395 x 624	45	Standard	0,25	2436	40
G3G.18.18.2.SUA001	18 x 18	2	448 x 448	45	Standard	0,20	1950	40
G3G.20.20.2.SUA001	20 x 20	2	496 x 496	45	Standard	0,25	2383	40
G3G.20.24.2.SUA001	20 x 24	2	496 x 596	45	Standard	0,30	2863	40
G3G.20.25.2.SUA001	20 x 25	2	496 x 624	45	Standard	0,31	2998	40
G3G.24.24.2.SUA001	24 x 24	2	596 x 596	45	Standard	0,36	3400	40
G3G.12.12.4.SUA001	12 x 12	4	291 x 291	97	Standard	0,08	1824	60
G3G.12.24.4.SUA001	12 x 24	4	291 x 596	97	Standard	0,17	1936	60
G3G.15.15.4.SUA001	15 x 15	4	372 x 372	97	Standard	0,14	874	60
G3G.15.20.4.SUA001	15 x 20	4	372 x 496	97	Standard	0,18	1789	60
G3G.16.20.4.SUA001	16 x 20	4	395 x 496	97	Standard	0,20	2436	60
G3G.16.25.4.SUA001	16 x 25	4	395 x 624	97	Standard	0,25	1950	60
G3G.18.18.4.SUA001	18 x 18	4	448 x 448	97	Standard	0,20	1368	60
G3G.20.20.4.SUA001	20 x 20	4	496 x 496	97	Standard	0,25	2383	60
G3G.20.24.4.SUA001	20 x 24	4	496 x 596	97	Standard	0,30	2863	60
G3G.20.25.4.SUA001	20 x 25	4	496 x 624	97	Standard	0,31	2998	60
G3G.24.24.4.SUA001	24 x 24	4	596 x 596	97	Standard	0,36	3400	60

GVS Grease Panel Filters

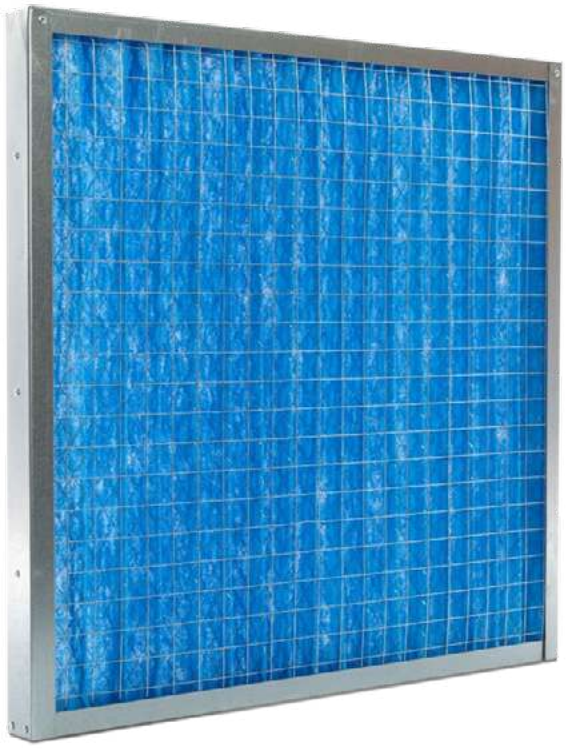
- Kitchen extract applications.
- Stainless steel cases, available with and without handles.
- Range of standard sizes and depths available.
- Bespoke sizes available on request.

Code	Description
SGF10/0241/0495	Standard Grease Filter 10 x 20 x 1 (inches) - 241 x 495 x 20 (mm)
SGF10/0292/0292	Standard Grease Filter 12 x 12 x 1 (inches) - 292 x 292 x 20 (mm)
SGF10/0394/0394	Standard Grease Filter 16 x 16 x 1 (inches) - 394 x 394 x 20 (mm)
SGF10/0394/0495	Standard Grease Filter 16 x 20 x 1 (inches) - 394 x 495 x 20 (mm)
SGF10/0445/0445	Standard Grease Filter 18 x 18 x 1 (inches) - 445 x 445 x 20 (mm)
SGF10/0495/0495	Standard Grease Filter 20 x 20 x 1 (inches) - 495 x 495 x 20 (mm)
SGF10/0597/0597	Standard Grease Filter 24 x 24 x 1 (inches) - 597 x 597 x 20 (mm)
SGF20/0241/0495	Standard Grease Filter 10 x 20 x 2 (inches) - 241 x 495 x 45 (mm)
SGF20/0292/0292	Standard Grease Filter 12 x 12 x 2 (inches) - 292 x 292 x 45 (mm)
SGF20/0394/0394	Standard Grease Filter 16 x 16 x 2 (inches) - 394 x 394 x 45 (mm)
SGF20/0394/0495	Standard Grease Filter 16 x 20 x 2 (inches) - 394 x 495 x 45 (mm)
SGF20/0445/0445	Standard Grease Filter 18 x 18 x 2 (inches) - 445 x 445 x 45 (mm)
SGF20/0495/0495	Standard Grease Filter 20 x 20 x 2 (inches) - 495 x 495 x 45 (mm)
SGF20/0595/0495	Standard Grease Filter 24 x 20 x 2 (inches) - 595 x 495 x 45 (mm)
SGF20/0597/0597	Standard Grease Filter 24 x 24 x 2 (inches) - 597 x 597 x 45 (mm)

Code	Description
SSF10/0241/0495	Stainless Steel Grease Filter 10 x 20 x 1 (inches) - 241 x 495 x 20 (mm)
SSF10/0292/0292	Stainless Steel Grease Filter 12 x 12 x 1 (inches) - 292 x 292 x 20 (mm)
SSF10/0394/0394	Stainless Steel Grease Filter 16 x 16 x 1 (inches) - 394 x 394 x 20 (mm)
SSF10/0394/0495	Stainless Steel Grease Filter 16 x 20 x 1 (inches) - 394 x 495 x 20 (mm)
SSF10/0445/0445	Stainless Steel Grease Filter 18 x 18 x 1 (inches) - 445 x 445 x 20 (mm)
SSF10/0495/0495	Stainless Steel Grease Filter 20 x 20 x 1 (inches) - 495 x 495 x 20 (mm)
SSF10/0597/0597	Stainless Steel Grease Filter 24 x 24 x 1 (inches) - 597 x 597 x 20 (mm)
SSF20/0241/0495	Stainless Steel Grease Filter 10 x 20 x 2 (inches) - 241 x 495 x 45 (mm)
SSF20/0292/0292	Stainless Steel Grease Filter 12 x 12 x 2 (inches) - 292 x 292 x 45 (mm)
SSF20/0394/0394	Stainless Steel Grease Filter 16 x 16 x 2 (inches) - 394 x 394 x 45 (mm)
SSF20/0394/0495	Stainless Steel Grease Filter 16 x 20 x 2 (inches) - 394 x 495 x 45 (mm)
SSF20/0445/0445	Stainless Steel Grease Filter 18 x 18 x 2 (inches) - 445 x 445 x 45 (mm)
SSF20/0495/0495	Stainless Steel Grease Filter 20 x 20 x 2 (inches) - 495 x 495 x 45 (mm)
SSF20/0597/0597	Stainless Steel Grease Filter 24 x 24 x 2 (inches) - 597 x 597 x 45 (mm)
FSG20/0241/0495	Stainless Steel Grease Filter 10 x 20 x 2 (inches) - 241 x 495 x 45 (mm)
FSG20/0394/0394	Stainless Steel Grease Filter 16 x 16 x 2 (inches) - 394 x 394 x 45 (mm)
FSG20/0394/0495	Stainless Steel Grease Filter 16 x 20 x 2 (inches) - 394 x 495 x 45 (mm)
FSG20/0445/0445	Stainless Steel Grease Filter 18 x 18 x 2 (inches) - 445 x 445 x 45 (mm)
FSG20/0495/0495	Stainless Steel Grease Filter 20 x 20 x 2 (inches) - 495 x 495 x 45 (mm)

Code	Description
80.025.0004.00.AA	Stainless Steel Baffle Grease Filter c/w handles + holes - 500 x 750 x 50 mm
80.025.0001.00.AA	Stainless Steel Baffle Grease Filter no handles or holes - 610 x 595 x 25 mm
80.025.0003.00.AA	Stainless Steel Baffle Grease Filter c/w handles + holes - 750 x 500 x 45 mm
80.025.0019.00.AA	Stainless Steel Baffle Grease Filter c/w handles + holes - 495 x 495 x 48 mm
80.025.0020.00.AA	Stainless Steel Baffle Grease Filter c/w handles no holes - 230 x 642 x 20 mm
80.025.0016.00.AA	Stainless Steel Baffle Grease Filter c/w handles + holes - 595 x 595 x 48 mm
80.025.0017.00.AA	Stainless Steel Baffle Grease Filter c/w handles + holes - 290 (handles) x 390 x 45 mm
80.025.0018.00.AA	Stainless Steel Baffle Grease Filter c/w handles + holes - 495 (handles) x 395 x 45 mm
80.025.0011.00.AA	Stainless Steel Baffle Grease Filter c/w handles + holes - 597 x 597 x 45 mm
80.025.0007.00.AA	Stainless Steel Baffle Grease Filter c/w handles + holes - 495 x 495 x 30 mm
80.025.0008.00.AA	Stainless Steel Baffle Grease Filter c/w handles + holes - 400 x 495 x 50 mm
80.025.0023.00.AA	Stainless Steel Baffle Grease Filter c/w handles + holes - 500 x 495 x 35 mm
80.025.0056.00.AA	Stainless Steel Baffle Grease Filter c/w handles + holes - 395 x 496 x 45 mm + 2 x P6 meshes on rear
80.025.0046.00.AA	Stainless Steel Baffle Grease Filter c/w handles no holes - 496 x 400 x 50 mm
80.025.0047.00.AA	Stainless Steel Baffle Grease Filter c/w handles no holes - 496 x 245 x 35 mm
80.025.0055.00.AA	Stainless Steel Baffle Grease Filter c/w handles + holes - 505 x 495 x 40 mm + 2 x P6 meshes on rear
80.025.0045.00.AA	Stainless Steel Baffle Grease Filter c/w handles + holes - 500 x 500 x 30 mm
80.025.0043.00.AA	Stainless Steel Baffle Grease Filter c/w handles + holes - 400 x 500 x 30 mm
80.025.0036.00.AA	Stainless Steel Baffle Grease Filter no handles + holes - 500 x 1000 x 100 mm (1 mm frame)
80.025.0051.00.AA	Stainless Steel Baffle Grease Filter no handles or holes - 625 x 595 x 25 mm
80.025.0052.00.AA	Stainless Steel 1.2mm Baffle Grease Filter c/w handles + holes - 500 x 500 x 30 mm
80.025.0033.00.AA	Brushed Stainless Steel Baffle Grease Filter c/w handles + holes - 495 (w) x 245 (h) x 45 mm
80.025.0034.00.AA	Stainless Steel Baffle Grease Filter c/w handles + holes - 500 x 495 x 38 mm

GVS NFPS Steel Cased Panel Filters



G4

- Suitable for applications with high moisture
- Galvanised steel case
- Range of standard sizes and depths available
- Bespoke sizes available on request
- ISO16890 ePM10 50%

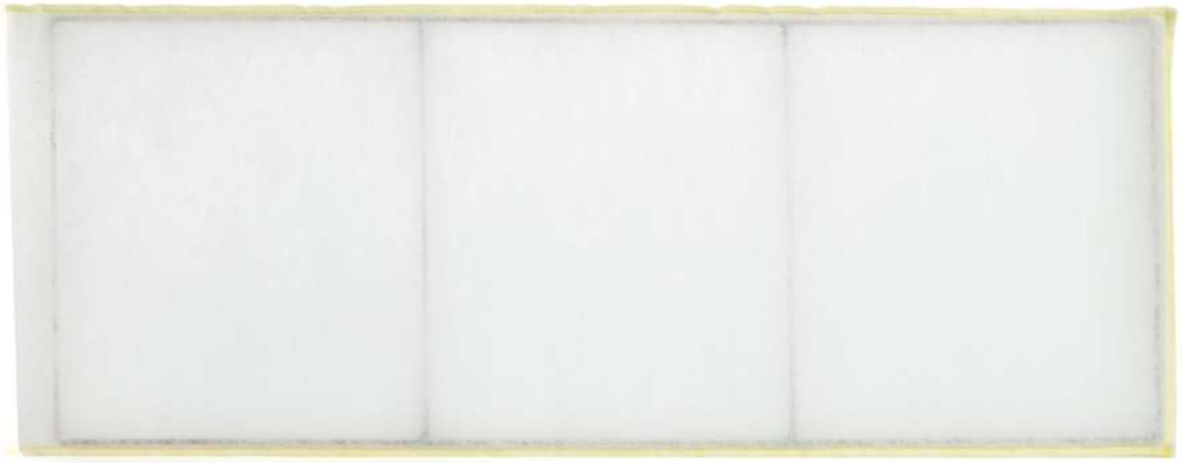
Face Sizes (inches / mm)	Depths (inches / mm)	Efficiency
10 x 10” / 245 x 245	1” / 22	G4
10 x 20” / 245 x 496	2” / 46	
12 x 12” / 291 x 291	4” / 97	
12 x 24” / 291 x 596		
15 x 15” / 372 x 372		
15 x 20” / 372 x 496		
16 x 20” / 395 x 496		
16 x 25” / 395 x 624		
18 x 18” / 448 x 448		
20 x 20” / 496 x 496		
20 x 24” / 496 x 596		
20 x 25” / 496 x 624		
24 x 24” / 596 x 596		

GVS NFPS Steel Cased Panel Filters

Code	Description
NFPS10/10/10	Steel Panel Filter Pleated 1" 10 x 10" (inches) - 245 x 245 (mm)
NFPS10/10/20	Steel Panel Filter Pleated 1" 10 x 20" (inches) - 245 x 496 (mm)
NFPS10/12/12	Steel Panel Filter Pleated 1" 12 x 12" (inches) - 291 x 291 (mm)
NFPS10/12/24	Steel Panel Filter Pleated 1" 12 x 24" (inches) - 291 x 596 (mm)
NFPS10/15/15	Steel Panel Filter Pleated 1" 15 x 15" (inches) - 372 x 372 (mm)
NFPS10/15/20	Steel Panel Filter Pleated 1" 15 x 20" (inches) - 372 x 496 (mm)
NFPS10/16/20	Steel Panel Filter Pleated 1" 16 x 20" (inches) - 395 x 496 (mm)
NFPS10/16/25	Steel Panel Filter Pleated 1" 16 x 25" (inches) - 395 x 624 (mm)
NFPS10/18/18	Steel Panel Filter Pleated 1" 18 x 18" (inches) - 448 x 448 (mm)
NFPS10/20/20	Steel Panel Filter Pleated 1" 20 x 20" (inches) - 496 x 496 (mm)
NFPS10/20/24	Steel Panel Filter Pleated 1" 20 x 24" (inches) - 496 x 596 (mm)
NFPS10/20/25	Steel Panel Filter Pleated 1" 20 x 25" (inches) - 496 x 624 (mm)
NFPS10/24/24	Steel Panel Filter Pleated 1" 24 x 24" (inches) - 596 x 596 (mm)
NFPS20/10/10	Steel Panel Filter Pleated 2" 10 x 10" (inches) - 245 x 245 (mm)
NFPS20/10/20	Steel Panel Filter Pleated 2" 10 x 20" (inches) - 245 x 496 (mm)
NFPS20/12/12	Steel Panel Filter Pleated 2" 12 x 12" (inches) - 291 x 291 (mm)
NFPS20/12/24	Steel Panel Filter Pleated 2" 12 x 24" (inches) - 291 x 596 (mm)
NFPS20/15/15	Steel Panel Filter Pleated 2" 15 x 15" (inches) - 372 x 372 (mm)
NFPS20/15/20	Steel Panel Filter Pleated 2" 15 x 20" (inches) - 372 x 496 (mm)
NFPS20/16/20	Steel Panel Filter Pleated 2" 16 x 20" (inches) - 395 x 496 (mm)
NFPS20/16/25	Steel Panel Filter Pleated 2" 16 x 25" (inches) - 395 x 624 (mm)
NFPS20/18/18	Steel Panel Filter Pleated 2" 18 x 18" (inches) - 448 x 448 (mm)
NFPS20/20/20	Steel Panel Filter Pleated 2" 20 x 20" (inches) - 496 x 496 (mm)
NFPS20/20/24	Steel Panel Filter Pleated 2" 20 x 24" (inches) - 496 x 596 (mm)
NFPS20/20/25	Steel Panel Filter Pleated 2" 20 x 25" (inches) - 496 x 624 (mm)
NFPS20/24/24	Steel Panel Filter Pleated 2" 24 x 24" (inches) - 596 x 596 (mm)
NFPS40/10/10	Steel Panel Filter Pleated 4" 10 x 10" (inches) - 245 x 245 (mm)
NFPS40/10/20	Steel Panel Filter Pleated 4" 10 x 20" (inches) - 245 x 496 (mm)
NFPS40/12/12	Steel Panel Filter Pleated 4" 12 x 12" (inches) - 291 x 291 (mm)
NFPS40/12/24	Steel Panel Filter Pleated 4" 12 x 24" (inches) - 291 x 596 (mm)
NFPS40/15/15	Steel Panel Filter Pleated 4" 15 x 15" (inches) - 372 x 372 (mm)
NFPS40/15/20	Steel Panel Filter Pleated 4" 15 x 20" (inches) - 372 x 496 (mm)
NFPS40/16/20	Steel Panel Filter Pleated 4" 16 x 20" (inches) - 395 x 496 (mm)
NFPS40/16/25	Steel Panel Filter Pleated 4" 16 x 25" (inches) - 395 x 624 (mm)
NFPS40/18/18	Steel Panel Filter Pleated 4" 18 x 18" (inches) - 448 x 448 (mm)
NFPS40/20/20	Steel Panel Filter Pleated 4" 20 x 20" (inches) - 496 x 496 (mm)
NFPS40/20/24	Steel Panel Filter Pleated 4" 20 x 24" (inches) - 496 x 596 (mm)
NFPS40/20/25	Steel Panel Filter Pleated 4" 20 x 25" (inches) - 496 x 624 (mm)
NFPS40/24/24	Steel Panel Filter Pleated 4" 24 x 24" (inches) - 596 x 596 (mm)

Periframe & Fan Coil Filters

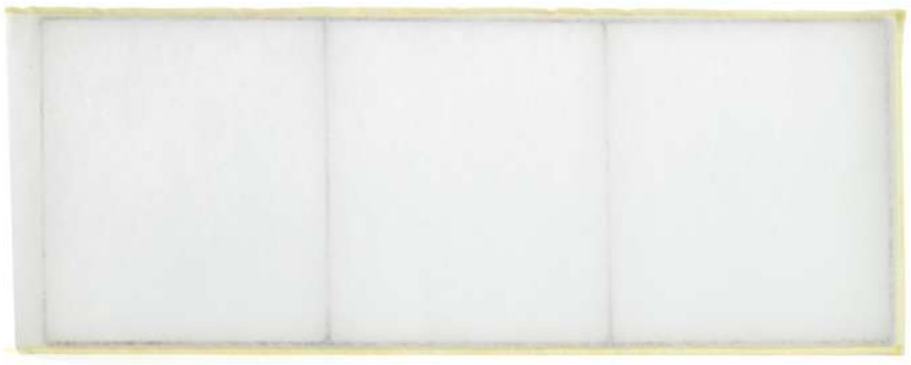
- Light weight
- Ideal for applications with large particulate contaminant
- Over-taped frames
- Range of standard sizes and depths available
- Bespoke sizes available on request
- May be incinerated



Periframe & Fan Coil Filters

Stitched PS Frames	
Code	Description
80.023.0065.00.AA	Periframe - Stitched PS : 110 x 810 mm
80.023.0105.00.AA	Periframe - Stitched PS : 125 x 940 mm
80.023.0011.00.AA	Periframe - Stitched PS : 170 x 1445 mm
80.023.0010.00.AA	Periframe - Stitched PS : 185 x 795 mm
80.023.0012.00.AA	Periframe - Stitched PS : 190 x 480 mm
80.023.0013.00.AA	Periframe - Stitched PS : 190 x 970 mm
80.023.0113.00.AA	Periframe - Stitched PS : 195 x 225 mm
80.023.0067.00.AA	Periframe - Stitched PS : 195 x 800 mm
80.023.0107.00.AA	Periframe - Stitched PS : 200 x 1015 mm
80.023.0132.00.AA	Periframe - Stitched PS : 200 x 225 mm
80.023.0066.00.AA	Periframe - Stitched PS : 200 x 550 mm
80.023.0089.00.AA	Periframe - Stitched PS : 200 x 880 mm
80.023.0154.00.AA	Periframe - Stitched PS : 215 x 655 mm
80.023.0152.00.AA	Periframe - Stitched PS : 216 x 1260 mm
80.023.0076.00.AA	Periframe - Stitched PS : 230 x 1200 mm
80.023.0077.00.AA	Periframe - Stitched PS : 230 x 1500 mm
80.023.0078.00.AA	Periframe - Stitched PS : 230 x 1650 mm
80.023.0074.00.AA	Periframe - Stitched PS : 230 x 600 mm
80.023.0075.00.AA	Periframe - Stitched PS : 230 x 900 mm
80.023.0123.00.AA	Periframe - Stitched PS : 230 x 960 mm
80.023.0133.00.AA	Periframe - Stitched PS : 239 x 415 mm
80.023.0114.00.AA	Periframe - Stitched PS : 240 x 1530 mm
80.023.0064.00.AA	Periframe - Stitched PS : 240 x 480 mm
80.023.0068.00.AA	Periframe - Stitched PS : 240 x 630 mm
80.023.0115.00.AA	Periframe - Stitched PS : 240 x 860 mm

Stitched PS Frames	
Code	Description
80.023.0136.00.AA	Periframe - Stitched PS : 250 x 1100 mm
80.023.0137.00.AA	Periframe - Stitched PS : 250 x 1400 mm
80.023.0138.00.AA	Periframe - Stitched PS : 250 x 1700 mm
80.023.0139.00.AA	Periframe - Stitched PS : 250 x 2000 mm
80.023.0134.00.AA	Periframe - Stitched PS : 250 x 500 mm
80.023.0135.00.AA	Periframe - Stitched PS : 250 x 800 mm
80.023.0125.00.AA	Periframe - Stitched PS : 260 x 1100 mm
80.023.0124.00.AA	Periframe - Stitched PS : 260 x 1395 mm
80.023.0126.00.AA	Periframe - Stitched PS : 260 x 1400 mm
80.023.0120.00.AA	Periframe - Stitched PS : 260 x 500 mm
80.023.0121.00.AA	Periframe - Stitched PS : 260 x 800 mm
80.023.0155.00.AA	Periframe - Stitched PS : 265 x 955 mm
80.023.0083.00.AA	Periframe - Stitched PS : 270 x 1100 mm
80.023.0082.00.AA	Periframe - Stitched PS : 270 x 500 mm
80.023.0106.00.AA	Periframe - Stitched PS : 270 x 940 mm
80.023.0088.00.AA	Periframe - Stitched PS : 275 x 700 mm
80.023.0141.00.AA	Periframe - Stitched PS : 280 x 1170 mm
80.023.0128.00.AA	Periframe - Stitched PS : 280 x 1670 mm
80.023.0142.00.AA	Periframe - Stitched PS : 280 x 825 mm
80.023.0129.00.AA	Periframe - Stitched PS : 290 x 1700 mm
80.023.0122.00.AA	Periframe - Stitched PS : 290 x 800 mm
80.023.0127.00.AA	Periframe - Stitched PS : 290 x 900 mm
80.023.0062.00.AA	Periframe - Stitched PS : 300 x 300 mm
80.023.0015.00.AA	Periframe - Stitched PS : 310 x 600 mm
80.023.0014.00.AA	Periframe - Stitched PS : 505 x 885 mm



Periframe & Fan Coil Filters

Replacement Sleeves	
Code	Description
80.023.0005.00.AA	Periframe - Replacement Sleeve : 245 x 1200 mm
80.023.0006.00.AA	Periframe - Replacement Sleeve : 245 x 1500 mm
80.023.0007.00.AA	Periframe - Replacement Sleeve : 245 x 1650 mm
80.023.0003.00.AA	Periframe - Replacement Sleeve : 245 x 600 mm
80.023.0004.00.AA	Periframe - Replacement Sleeve : 245 x 900 mm
80.023.0016.00.AA	Periframe - Replacement Sleeve : 250 x 1270 mm
80.023.0017.00.AA	Periframe - Replacement Sleeve : 250 x 1700 mm
80.023.0049.00.AA	Periframe - Replacement Sleeve : 255 x 1095 mm
80.023.0048.00.AA	Periframe - Replacement Sleeve : 255 x 795 mm
80.023.0050.00.AA	Periframe - Replacement Sleeve : 255 x 855 mm
80.023.0146.00.AA	Periframe - Replacement Sleeve : 260 x 1100 mm
80.023.0143.00.AA	Periframe - Replacement Sleeve : 260 x 500 mm
80.023.0144.00.AA	Periframe - Replacement Sleeve : 260 x 790 mm
80.023.0145.00.AA	Periframe - Replacement Sleeve : 260 x 800 mm
80.023.0056.00.AA	Periframe - Replacement Sleeve : 260 x 990 mm
80.023.0130.00.AA	Periframe - Replacement Sleeve : 285 x 1090 mm
80.023.0131.00.AA	Periframe - Replacement Sleeve : 285 x 1290 mm
80.023.0069.00.AA	Periframe - Replacement Sleeve : 320 x 1410 mm

Mesh Periframes	
Code	Description
80.023.0109.00.AA	Periframe - Black Nylon Mesh : 250 x 1100 mm
80.023.0110.00.AA	Periframe - Black Nylon Mesh : 250 x 1400 mm
80.023.0111.00.AA	Periframe - Black Nylon Mesh : 250 x 1700 mm
80.023.0112.00.AA	Periframe - Black Nylon Mesh : 250 x 2000 mm
80.023.0018.00.AA	Periframe - Black Nylon Mesh : 250 x 400 mm
80.023.0019.00.AA	Periframe - Black Nylon Mesh : 250 x 500 mm
80.023.0020.00.AA	Periframe - Black Nylon Mesh : 250 x 800 mm
80.023.0092.00.AA	Periframe - Mesh : 1000 x 240 mm (L x H)
80.023.0094.00.AA	Periframe - Mesh : 1100 x 250 mm (L x H)
80.023.0097.00.AA	Periframe - Mesh : 425 x 250 mm (L x H)
80.023.0091.00.AA	Periframe - Mesh : 495 x 240 mm (L x H)
80.023.0095.00.AA	Periframe - Mesh : 795 x 250 mm (L x H)
80.023.0096.00.AA	Periframe - Mesh : 825 x 250 mm (L x H)
80.023.0098.00.AA	Periframe - Mesh : 900 x 250 mm (L x H)

Foam Periframes	
Code	Description
80.023.0149.00.AA	Periframe - Black Foam 20ppi : 265 x 1150 mm
80.023.0150.00.AA	Periframe - Black Foam 20ppi : 265 x 1450 mm
80.023.0151.00.AA	Periframe - Black Foam 20ppi : 265 x 1750 mm
80.023.0147.00.AA	Periframe - Black Foam 20ppi : 265 x 550 mm
80.023.0148.00.AA	Periframe - Black Foam 20ppi : 265 x 850 mm
80.023.0009.00.AA	Periframe - Foam : 200 x 1010 mm
80.023.0008.00.AA	Periframe - Foam : 200 x 750 mm
80.023.0063.00.AA	Periframe - Foam : 490 x 490 mm

GVS Carbon Panels

ACF-60559548-GP-1-0-0	ACF-60559548-GP-1-0-0 - Carbon Loosefill Panel
ACF-60559548-ACI-1-0-0	ACF-60559548-ACI-1-0-0 - Carbon Loosefill Panel
ACF-60559548-FOR-1-0-0	ACF-60559548-FOR-1-0-0 - Carbon Loosefill Panel
ACF-60559548-GRD-1-0-0	ACF-60559548-GRD-1-0-0 - Carbon Loosefill Panel
ACF-60559548-NOX-1-0-0	ACF-60559548-NOX-1-0-0 - Carbon Loosefill Panel

Filter Casing

Filter casings are manufactured from either Zintec steel or thermo-plastic sheet depending on the size and contaminants. The Carbon is retained in the filter casing by thermally bonding or clinching an enclosing media to both sides of the filter case. Gaskets and handles are fitted as required.
Dependent on type of fume cupboard, supporting handles, wheels or rails are also available.

Pre-Filters

To protect and extend the life of Carbon Filter, a particulate pre-filter should be fitted to the air-on face of the Carbon filter.
Packs of pre-filters are available.

Activated Carbon

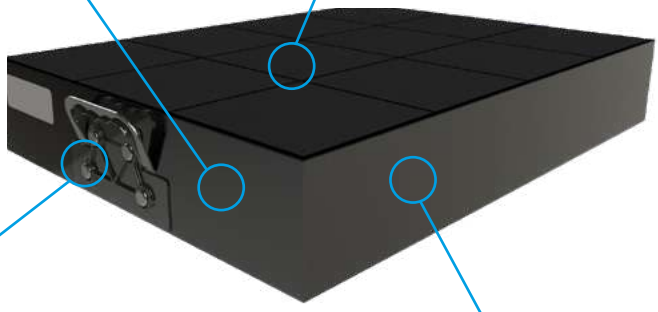
Specifically selected grades of Carbon, including base and chemically impregnated, are used to provide effective filtration to ensure adsorption of the organic and inorganic substances requiring removal.
Only high activity Carbon grades are used to ensure maximum contaminant loading & life expectancy while providing 99.9% efficiency rates.

Filter Type	Vapour Phase Applications
Standard Filters	
GP	General organic compound removal (i.e solvents, odours, organic acids etc)
GRD	CLEAPPS approved filter for use in schools (organic, acid & alkali removal)
AMM	Removal of compounds containing Ammonia & Amine (and general organics)
ACI	Removal of inorganic acids and general organics (including Sulphur compounds)
FOR	Removal of Formaldehyde (and general organics)
Custom Filters	
CYN	Removal of compounds containing Cyanide (and general organics)
ACM	Removal of compounds containing Mercury (and general organics)
ACR	Removal of Alkali compounds (and general organics)
ETH	Removal of compounds containing Ether (and general organics)
NUC	Removal of Radioactive vapours where CO_2 content is unknown and K value certificate is required
SPECIAL	Where application requires multiple Carbon grades within the filter

GVS Fume Cabinet Filters

PVC Case Version

Melt blown Pad



Fittings
EPDM Seals
Hangars
Rails
Handles
(Depending on model)

100% Virgin Granular
Activated Carbon

Zintec Steel Case Version
(Optional Powder Coating on Request)

Melt blown Pad

Sealed rivets

Fittings
EPDM Seals
Hangars
Rails
Handles
(Depending on model)

100% Virgin Granular
Activated Carbon

Accessories & Housings

GVS Pad Holding Frames and Clips

Code	Description
PHF05/10/10	Pad Holding Frame 1/2 " 10" x 10" (inches) - 245 x 245 (mm)
PHF05/10/20	Pad Holding Frame 1/2 " 10" x 20" (inches) - 245 x 496 (mm)
PHF05/12/12	Pad Holding Frame 1/2 " 12" x 12" (inches) - 291 x 291 (mm)
PHF05/12/24	Pad Holding Frame 1/2 " 12" x 24" (inches) - 291 x 596 (mm)
PHF05/15/15	Pad Holding Frame 1/2 " 15" x 15" (inches) - 372 x 372 (mm)
PHF05/15/20	Pad Holding Frame 1/2 " 15" x 20" (inches) - 372 x 496 (mm)
PHF05/16/20	Pad Holding Frame 1/2 " 16" x 20" (inches) - 395 x 496 (mm)
PHF05/16/25	Pad Holding Frame 1/2 " 16" x 25" (inches) - 395 x 624 (mm)
PHF05/18/18	Pad Holding Frame 1/2 " 18" x 18" (inches) - 448 x 448 (mm)
PHF05/20/20	Pad Holding Frame 1/2 " 20" x 20" (inches) - 496 x 496 (mm)
PHF05/20/24	Pad Holding Frame 1/2 " 20" x 24" (inches) - 496 x 596 (mm)
PHF05/20/25	Pad Holding Frame 1/2 " 20" x 25" (inches) - 496 x 624 (mm)
PHF05/24/24	Pad Holding Frame 1/2 " 24" x 24" (inches) - 596 x 596 (mm)
PHF10/10/10	Pad Holding Frame 1" 10" x 10" (inches) - 245 x 245 (mm)
PHF10/10/20	Pad Holding Frame 1" 10" x 20" (inches) - 245 x 496 (mm)
PHF10/12/12	Pad Holding Frame 1" 12" x 12" (inches) - 291 x 291 (mm)
PHF10/12/24	Pad Holding Frame 1" 12" x 24" (inches) - 291 x 596 (mm)
PHF10/15/15	Pad Holding Frame 1" 15" x 15" (inches) - 372 x 372 (mm)
PHF10/15/20	Pad Holding Frame 1" 15" x 20" (inches) - 372 x 496 (mm)
PHF10/16/20	Pad Holding Frame 1" 16" x 20" (inches) - 395 x 496 (mm)
PHF10/16/25	Pad Holding Frame 1" 16" x 25" (inches) - 395 x 624 (mm)
PHF10/18/18	Pad Holding Frame 1" 18" x 18" (inches) - 448 x 448 (mm)
PHF10/20/20	Pad Holding Frame 1" 20" x 20" (inches) - 496 x 496 (mm)
PHF10/20/24	Pad Holding Frame 1" 20" x 24" (inches) - 496 x 596 (mm)
PHF10/20/25	Pad Holding Frame 1" 20" x 25" (inches) - 496 x 624 (mm)
PHF10/24/24	Pad Holding Frame 1" 24" x 24" (inches) - 596 x 596 (mm)
PHF20/10/10	Pad Holding Frame 2" 10" x 10" (inches) - 245 x 245 (mm)
PHF20/10/20	Pad Holding Frame 2" 10" x 20" (inches) - 245 x 496 (mm)
PHF20/12/12	Pad Holding Frame 2" 12" x 12" (inches) - 291 x 291 (mm)
PHF20/12/24	Pad Holding Frame 2" 12" x 24" (inches) - 291 x 596 x 47 (mm)
PHF20/15/15	Pad Holding Frame 2" 15" x 15" (inches) - 372 x 372 (mm)
PHF20/15/20	Pad Holding Frame 2" 15" x 20" (inches) - 372 x 496 (mm)
PHF20/16/20	Pad Holding Frame 2" 16" x 20" (inches) - 395 x 496 (mm)
PHF20/16/25	Pad Holding Frame 2" 16" x 25" (inches) - 395 x 624 (mm)
PHF20/18/18	Pad Holding Frame 2" 18" x 18" (inches) - 448 x 448 (mm)
PHF20/20/20	Pad Holding Frame 2" 20" x 20" (inches) - 496 x 496 (mm)
PHF20/20/24	Pad Holding Frame 2" 20" x 24" (inches) - 496 x 596 (mm)
PHF20/20/25	Pad Holding Frame 2" 20" x 25" (inches) - 496 x 624 (mm)
PHF20/24/24	Pad Holding Frame 2" 24" x 24" (inches) - 596 x 596 x 47 (mm)

Code	Description
20.076.0131.00.AA	P Clips - 1"
20.076.0132.00.AA	P Clips - 2"
20.076.0133.00.AA	P Clips - 3"
20.076.0134.00.AA	P Clips - 4"
20.076.0135.00.AA	P Clips - 5"
20.076.0125.00.AA	P Clips - 6"

GVS Front Withdrawal Frames

Code	Depth (Inches)	Description
FWF/0305/0305/075/1	1	Front Withdrawal Frame 305 x 305 x 75 c/w 1" clips
FWF/0490/0380/075/1	1	Front Withdrawal Frame 490 x 380 x 75 c/w 1" clips
FWF/0508/0508/075/1	1	Front Withdrawal Frame 508 x 508 x 75 c/w 1" clips
FWF/0610/0305/075/1	1	Front Withdrawal Frame 610 x 305 x 75 c/w 1" clips
FWF/0610/0508/075/1	1	Front Withdrawal Frame 610 x 508 x 75 c/w 1" clips
FWF/0610/0610/075/1	1	Front Withdrawal Frame 610 x 610 x 75 c/w 1" clips
FWF/0630/0450/075/1	1	Front Withdrawal Frame 630 x 450 x 75 c/w 1" clips
FWF/0700/0700/075/1	1	Front Withdrawal Frame 700 x 700 x 75 c/w 1" clips
FWF/0720/0720/075/1	1	Front Withdrawal Frame 720 x 720 x 75 c/w 1" clips
FWF/0730/0730/075/1	1	Front Withdrawal Frame 730 x 730 x 75 c/w 1" clips
FWF/0305/0305/075/2	2	Front Withdrawal Frame 305 x 305 x 75 c/w 2" clips
FWF/0508/0508/075/2	2	Front Withdrawal Frame 508 x 508 x 75 c/w 2" clips
FWF/0610/0305/075/2	2	Front Withdrawal Frame 610 x 305 x 75 c/w 2" clips
FWF/0610/0508/075/2	2	Front Withdrawal Frame 610 x 508 x 75 c/w 2" clips
FWF/0610/0610/075/2	2	Front Withdrawal Frame 610 x 610 x 75 c/w 2" clips
FWF/0305/0305/075/3	3	Front Withdrawal Frame 305 x 305 x 75 c/w 3" clips
FWF/0508/0508/075/3	3	Front Withdrawal Frame 508 x 508 x 75 c/w 3" clips
FWF/0610/0305/075/3	3	Front Withdrawal Frame 610 x 305 x 75 c/w 3" clips
FWF/0610/0508/075/3	3	Front Withdrawal Frame 610 x 508 x 75 c/w 3" clips
FWF/0610/0610/075/3	3	Front Withdrawal Frame 610 x 610 x 75 c/w 3" clips
FWF/0305/0305/075/4	4	Front Withdrawal Frame 305 x 305 x 75 c/w 4" clips
FWF/0508/0508/075/4	4	Front Withdrawal Frame 508 x 508 x 75 c/w 4" clips
FWF/0610/0305/075/4	4	Front Withdrawal Frame 610 x 305 x 75 c/w 4" clips
FWF/0610/0508/075/4	4	Front Withdrawal Frame 610 x 508 x 75 c/w 4" clips
FWF/0610/0610/075/4	4	Front Withdrawal Frame 610 x 610 x 75 c/w 4" clips

GVS Actisys Panel Housing

Product Features

- Suitable for pre-filters, main filters and/or carbon filters.
- Configurable to take both pre, main or carbon panels
- Available in zinc or stainless steel finish
- Pre-filter range of efficiencies from G4 — F9
- Various carbon types available to suit most contaminants
- Range of standard sizes available

Product Group	Actisys Panel Housing
Product Type	Housing
Applications	Fume, pollution and odour removal in airports, museums, galleries and commercial buildings
Filter Grades	G4-F9 + carbon or HEPA
Filter Media	HEPA Glass media or loosefill carbon
Case Material	1.8mm Galvanised steel or stainless steel
Panel Size	Pre-filter 595 x 595 x 95 mm Main - 605 x 595 x 50 mm

Product Specification Data

GVS produce a wide range of standard housings to suit most fume and odour removal applications.
The housings may be mounted on frames or directly onto concrete plinths. GVS supply a range of standard duct transformation pieces to allow easy connection to existing ductwork.

The housings can be used for pre-filters as well as either HEPA or carbon panels. These can be supplied in a range of carbon types to suit most contaminants and fume applications.

GVS offer a free design service for bespoke carbon filter projects.

GVS Actisys Side Access Housings

Code	Description
60.014.0002.00.AA	Actisys Side Access Housing - 0.5H x 1W - 376 x 600 x 865 mm - (H x W x D)
60.014.0003.00.AA	Actisys Side Access Housing - 1H x 1W - 676 x 600 x 865 mm - (H x W x D)
60.014.0004.00.AA	Actisys Side Access Housing - 1.5H x 1W - 976 x 600 x 865 mm - (H x W x D)
60.014.0005.00.AA	Actisys Side Access Housing - 2H x 1W - 1276 x 600 x 865 mm - (H x W x D)
60.014.0006.00.AA	Actisys Side Access Housing - 2.5H x 1W - 1576 x 600 x 865 mm - (H x W x D)
60.014.0007.00.AA	Actisys Side Access Housing - 3H x 1W - 1876 x 600 x 865 mm - (H x W x D)
60.014.0008.00.AA	Actisys Side Access Housing - 0.5H x 2W - 376 x 1200 x 865 mm - (H x W x D)
60.014.0009.00.AA	Actisys Side Access Housing - 1H x 2W - 676 x 1200 x 865 mm - (H x W x D)
60.014.0010.00.AA	Actisys Side Access Housing - 1.5H x 2W - 976 x 1200 x 865 mm - (H x W x D)
60.014.0011.00.AA	Actisys Side Access Housing - 2H x 2W - 1276 x 1200 x 865 mm - (H x W x D)
60.014.0012.00.AA	Actisys Side Access Housing - 2.5H x 2W - 1576 x 1200 x 865 mm - (H x W x D)
60.014.0013.00.AA	Actisys Side Access Housing - 3H x 2W - 1876 x 1200 x 865 mm - (H x W x D)
60.014.0014.00.AA	Actisys Side Access Housing - 0.5H x 3W - 376 x 1800 x 865 mm - (H x W x D)
60.014.0015.00.AA	Actisys Side Access Housing - 1H x 3W - 676 x 1800 x 865 mm - (H x W x D)
60.014.0016.00.AA	Actisys Side Access Housing - 1.5H x 3W - 976 x 1800 x 865 mm - (H x W x D)
60.014.0017.00.AA	Actisys Side Access Housing - 2H x 3W - 1276 x 1800 x 865 mm - (H x W x D)
60.014.0018.00.AA	Actisys Side Access Housing - 2.5H x 3W - 1576 x 1800 x 865 mm - (H x W x D)
60.014.0019.00.AA	Actisys Side Access Housing - 3H x 3W - 1876 x 1800 x 865 mm - (H x W x D)
60.014.0020.00.AA	Actisys Side Access Housing - 0.5H x 4W - 376 x 2400 x 865 mm - (H x W x D)
60.014.0021.00.AA	Actisys Side Access Housing - 1H x 4W - 676 x 2400 x 865 mm - (H x W x D)
60.014.0022.00.AA	Actisys Side Access Housing - 1.5H x 4W - 976 x 2400 x 865 mm - (H x W x D)
60.014.0023.00.AA	Actisys Side Access Housing - 2H x 4W - 1276 x 2400 x 865 mm - (H x W x D)
60.014.0024.00.AA	Actisys Side Access Housing - 2.5H x 4W - 1576 x 2400 x 865 mm - (H x W x D)
60.014.0025.00.AA	Actisys Side Access Housing - 3H x 4W - 1876 x 2400 x 865 mm - (H x W x D)
60.014.0026.00.AA	Actisys Side Access Housing - 0.5H x 5W - 376 x 3000 x 865 mm - (H x W x D)
60.014.0027.00.AA	Actisys Side Access Housing - 1H x 5W - 676 x 3000 x 865 mm - (H x W x D)
60.014.0028.00.AA	Actisys Side Access Housing - 1.5H x 5W - 976 x 3000 x 865 mm - (H x W x D)
60.014.0029.00.AA	Actisys Side Access Housing - 2H x 5W - 1276 x 3000 x 865 mm - (H x W x D)
60.014.0030.00.AA	Actisys Side Access Housing - 2.5H x 5W - 1576 x 3000 x 865 mm - (H x W x D)
60.014.0031.00.AA	Actisys Side Access Housing - 3H x 5W - 1876 x 3000 x 865 mm - (H x W x D)
60.014.0032.00.AA	Actisys Side Access Housing - 0.5H x 6W - 376 x 3600 x 865 mm - (H x W x D)
60.014.0033.00.AA	Actisys Side Access Housing - 1H x 6W - 676 x 3600 x 865 mm - (H x W x D)
60.014.0034.00.AA	Actisys Side Access Housing - 1.5H x 6W - 976 x 3600 x 865 mm - (H x W x D)
60.014.0035.00.AA	Actisys Side Access Housing - 2H x 6W - 1276 x 3600 x 865 mm - (H x W x D)
60.014.0036.00.AA	Actisys Side Access Housing - 2.5H x 6W - 1576 x 3600 x 865 mm - (H x W x D)
60.014.0037.00.AA	Actisys Side Access Housing - 3H x 6W - 1876 x 3600 x 865 mm -(H x W x D)
ACF-60559548-GP-1-0-0	ACF-60559548-GP-1-0-0 - Carbon Loosefill Panel
ACF-60559548-ACI-1-0-0	ACF-60559548-ACI-1-0-0 - Carbon Loosefill Panel
ACF-60559548-FOR-1-0-0	ACF-60559548-FOR-1-0-0 - Carbon Loosefill Panel
ACF-60559548-GRD-1-0-0	ACF-60559548-GRD-1-0-0 - Carbon Loosefill Panel
ACF-60559548-NOX-1-0-0	ACF-60559548-NOX-1-0-0 - Carbon Loosefill Panel

Bag Filter Range

ESB95
Bag Filter™

F8

energy saving

EN779 100% TESTED

70°C
-10°C

ISO 16890

The energy saving bag filter.

The GVS Energy Saving Bag Filters are constructed from Micro-safe glass media fixed into a steel frame.

The range has been independently tested to EN779:2012 and ISO16890.

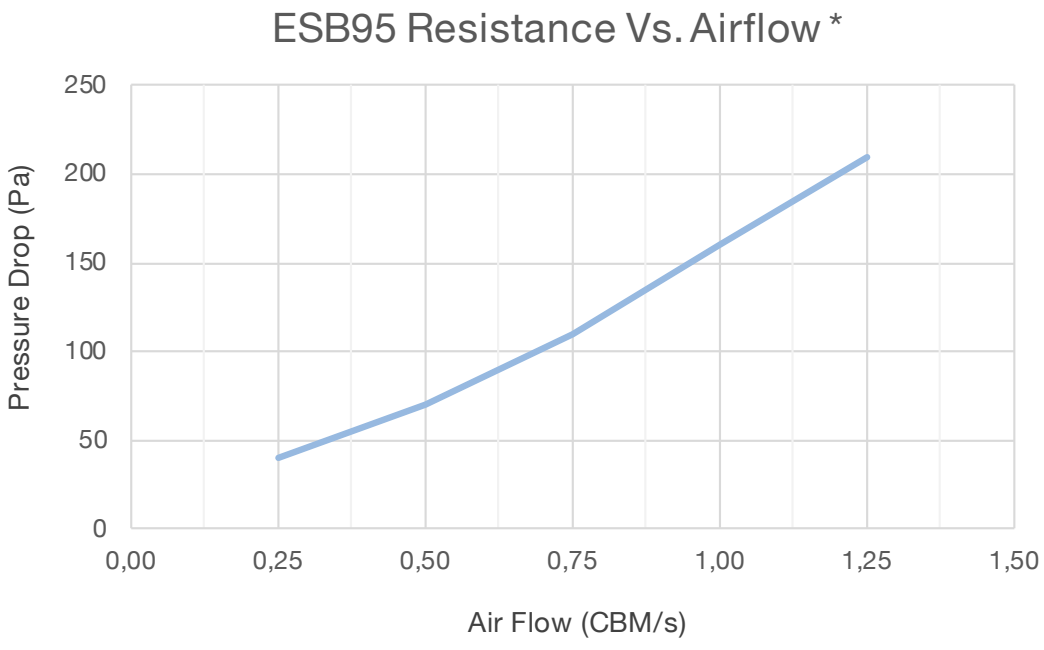
The ESB range also confirms to industry standards for flammability and toxic smoke emission.

- Available in various pocket configurations
- Range of sizes and depths available
- Light weight for easy handling
- Filtration efficiencies up to 95%
- Robust impact resistant steel frames

ESB95
Bag Filter

Product Group	GVS ESB Glass Bag Filter
Product Type	Bag Filter - Galvanised Steel Header Frame
Application	General and air conditioning applications
Filter Grades	F8 / ePM1 65%
Filter Media	Microfine glass fibre formed into pockets with seal stepped stitch, non-woven scrim on clean (air on) side.
Frame Construction	Pockets attached to steel sub-frame and affixed to galvanised steel header with side seals.
Options	380, 600 & 760 mm pocket lenght. 3, 6, 8, 10 pockets. 20, 25 or 30 mm headers.

Size / Type			ESB95 - F8 / ePM1 65%	
Face Size H x W (mm)	Pocket Length D (mm)	No. of Pockets Nr	Air Flow m^3/sec	Resistance Pa
592 x 592	380	8	0,59	155
592 x 592	600	8	0,94	155
592 x 287	380	4	0,30	155
592 x 287	600	4	0,47	155
592 x 492	380	6	0,49	155
592 x 492	600	6	0,78	155
492 x 492	380	6	0,41	155
492 x 492	600	6	0,65	155



* ESB95 593 x 593 x 655mm 8 Pocket Bag

ESB85
Bag Filter™

F7

energy saving

EN779 100% TESTED

-10°C 70°C

ISO 16890

The energy saving bag filter.

The GVS Energy Saving Bag Filters are constructed from Micro-safe glass media fixed into a steel frame.

The range has been independently tested to EN779:2012 and ISO16890.

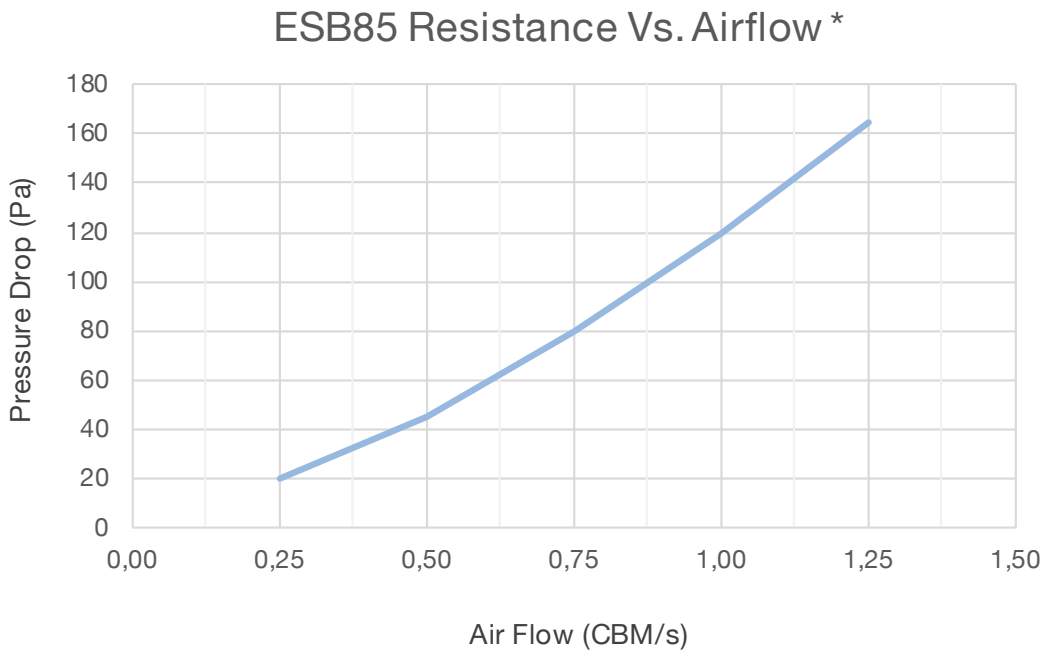
The ESB range also confirms to industry standards for flammability and toxic smoke emission.

- Available in various pocket configurations
- Range of sizes and depths available
- Light weight for easy handling
- Filtration efficiencies up to 95%
- Robust impact resistant steel frames

ESB85
Bag Filter

Product Group	GVS ESB Glass Bag Filter
Product Type	Bag Filter - Galvanised Steel Header Frame
Application	General and air conditioning applications
Filter Grades	F7 / ePM2.5 70%
Filter Media	Microfine glass fibre formed into pockets with seal stepped stitch, non-woven scrim on clean (air on) side.
Frame Construction	Pockets attached to steel sub-frame and affixed to galvanised steel header with side seals.
Options	380, 600 & 760 mm pocket lenght. 3, 6, 8, 10 pockets. 20, 25 or 30 mm headers.

Size / Type			ESB85 - F7 / ePM2.5 70%	
Face Size H x W (mm)	Pocket Length D (mm)	No. of Pockets Nr	Air Flow m^3/sec	Resistance Pa
592 x 592	380	8	0,59	100
592 x 592	600	8	0,94	100
592 x 287	380	4	0,30	100
592 x 287	600	4	0,47	100
592 x 492	380	6	0,49	100
592 x 492	600	6	0,78	100
492 x 492	380	6	0,41	100
492 x 492	600	6	0,65	100



* ESB85 592 x 592 x 631mm 10 Pocket Bag

ESB65
Bag Filter™

M6

energy saving

EN779 100% TESTED

-10°C 70°C

ISO 16890

The energy saving bag filter.

The GVS Energy Saving Bag Filters are constructed from Micro-safe glass media fixed into a steel frame.

The range has been independently tested to EN779:2012 and ISO16890.

The ESB range also confirms to industry standards for flammability and toxic smoke emission.

- Available in various pocket configurations
- Range of sizes and depths available
- Light weight for easy handling
- Filtration efficiencies up to 95%
- Robust impact resistant steel frames

ESB65
Bag Filter

Product Group	GVS ESB Glass Bag Filter
Product Type	Bag Filter - Galvanised Steel Header Frame
Application	General and air conditioning applications
Filter Grades	M6 / ePM10 65%
Filter Media	Microfine glass fibre formed into pockets with seal stepped stitch, non-woven scrim on clean (air on) side.
Frame Construction	Pockets attached to steel sub-frame and affixed to galvanised steel header with side seals.
Options	380, 600 & 760 mm pocket lenght. 3, 6, 8, 10 pockets. 20, 25 or 30 mm headers.

Size / Type			ESB65 - M6 / ePM10 65%	
Face Size H x W (mm)	Pocket Length D (mm)	No. of Pockets Nr	Air Flow m^3/sec	Resistance Pa
592 x 592	380	8	0,59	65
592 x 592	600	8	0,94	65
592 x 287	380	4	0,30	65
592 x 287	600	4	0,47	65
592 x 492	380	6	0,49	65
592 x 492	600	6	0,78	65
492 x 492	380	6	0,41	65
492 x 492	600	6	0,65	65

ECO
Bag Filter™

M6

EN779 100% TESTED

-10°C 70°C

ISO 16890

The low cost solution.

The GVS Energy Saving Bag Filter range are constructed from synthetic media fixed into a steel frame.

The range has been independently tested to EN779:2012. ISO16890 ePM 10 70%.

The ESB range also confirms to industry standards for flammability and toxic smoke emission.

NF
Bag Filter™

G4

70°C
-10°C

For high dust load pre-filter applications.

The GVS NF Bag Filter range are constructed from graduated synthetic media fixed into a steel frame.

Bag Filter Codes Explained

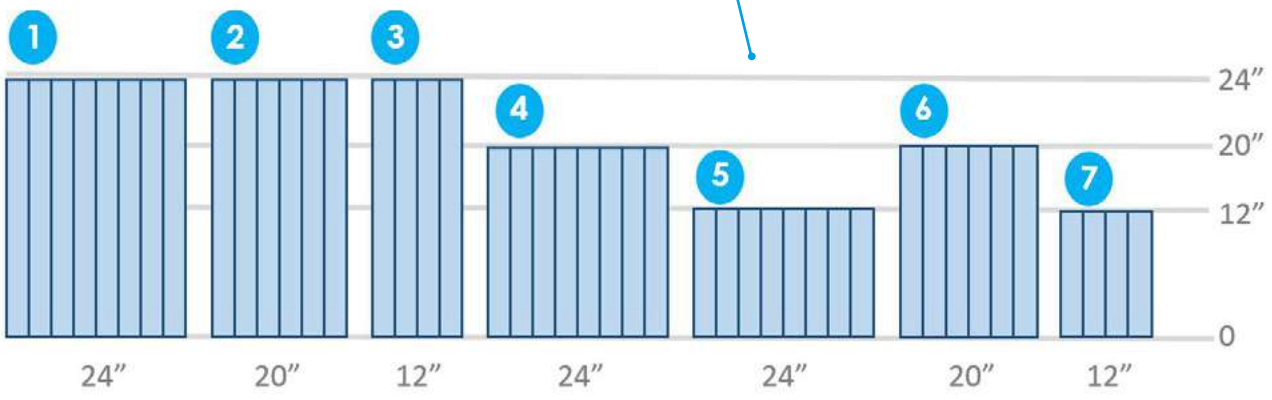
Face Size Type	Standard Pocket No.	High Capacity Pocket No.
1	8	10
2	6	8
3	4	5
4	8	10
5	8	10
6	6	8
7	4	5

Code	Head Depth (mm)
62	16
22	22
52	25
02	30

ESB85/1/15/0822

Code	EN779 Efficiency
65	M6 (F6)
85	F7
95	F8

Size	Pocket Length (mm)
12	300
15	380
20	500
24	600



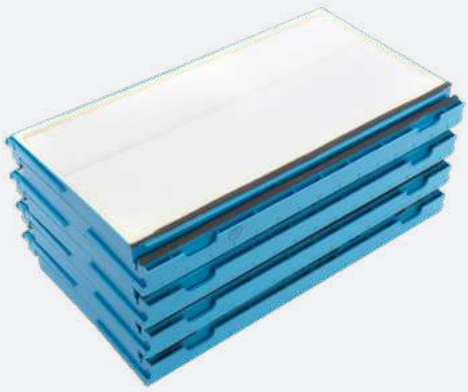
Cartridge Filter Range

bacticell

with BACTI-G antimicrobial filtration

With a package that's half the size of a conventional rigid filter…

…. and with twice the filter life of a bag.

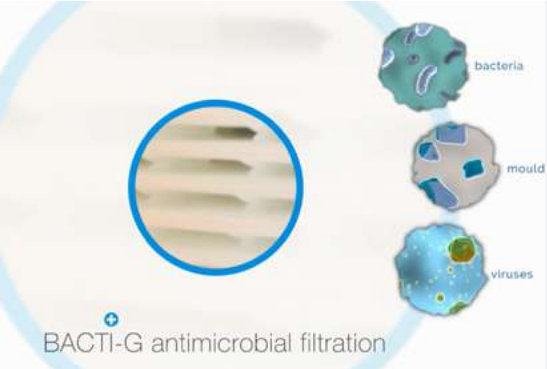


The new Bacticell filter panels and side plate come flat packed to reduce shipping costs.

The panels are fitted to side plates to create full, three quarter or half sized units.

This unique construction system reduces freight, makes handling on site easier and reduces waste.

- Interchangeable with standard sized bag filters
- Independently tested Bacti-G impregnated media kills up to 99% of mould, bacteria and viruses on contact *
- Large media area reduces energy consumption and increases filter life
- Flat pack design allows size flexibility during installation and simpler access in tight spaces



* Testing, conducted at Nelson Laboratories, UT, USA showed average bacterial removal rates of of 94.76% for the F7 grade and 99.12% for the F8 grade at operating flow with Staphylococcus Aureus.

EXTENDED LIFE-CYCLE
2 to 3 times Installed life longer than that of conventional bag filters as a result of a 50% lower pressure loss.

ENERGY SAVING
Bacti-cell Uses up to 30% less fan energy compared to a bag filter.

ANTI-MICROBIAL PROPERTIES
NHS & MOD-approved eradication of Bacteria, Fungi, Algae & Yeast.
Also passed same Viral Challenge as used for UV-C disinfection systems.

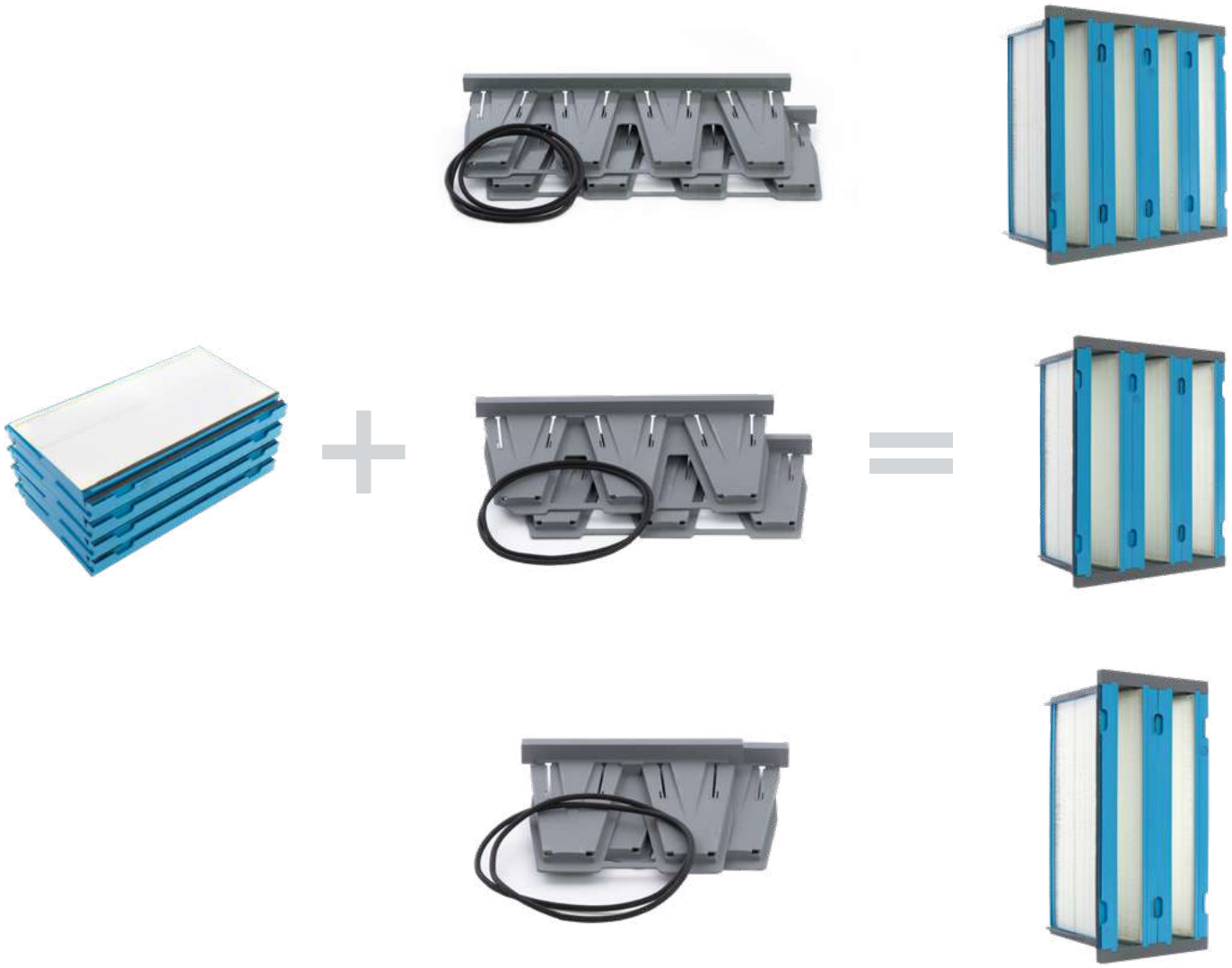
STOCK REDUCTION
Replaceable cartridge with a re-usable housing, and lifespan result in a massive 83% reduction in waste.

Achievable Savings by switching to Bacticell®

£1.75	100	£1,575	2,700 kg
The reduction in each filter's operating cost for every Pascal of pressure drop you save	The average pressure drop reduction in Pascals brought about by switching to Bacticell®	The typical annual saving from installing Bacticell® in a nine filter air handling unit	The annual reduction in CO2 emissions after switching to Bacticell® in a nine filter AHU

bacticell
with BACTI-G antimicrobial filtration

Flat packed for flexibility.

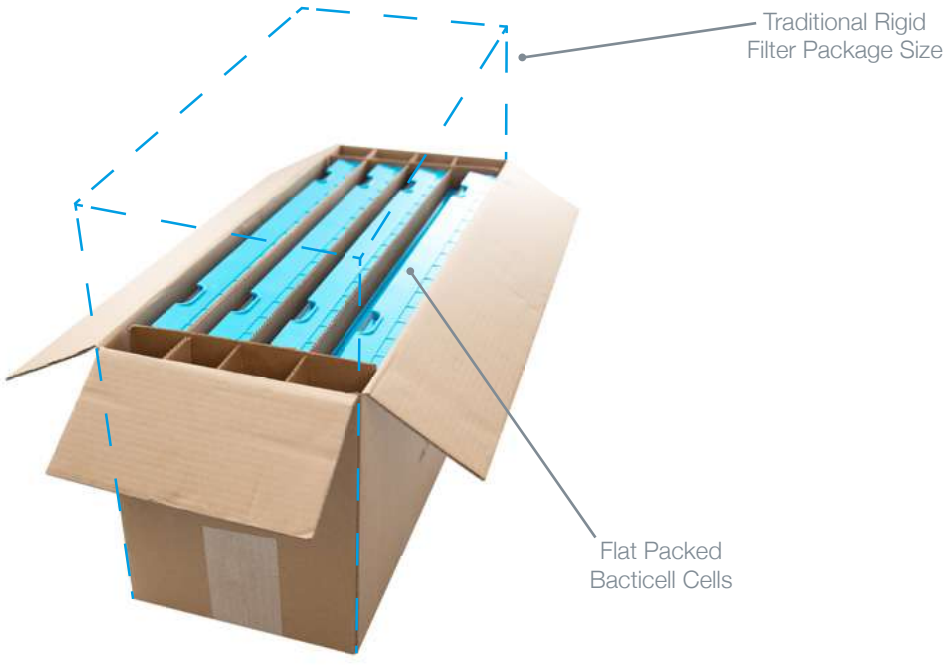


With just one pack of filter panels and a range of side plates and you can cover the three common sizes of filters.
The flat packed format means you don't pay to ship fresh air and moving filters to the plant room becomes twice as easy.
Waste disposal and costs are halved as the used filters take up half the volume of a traditional rigid filter.

bacticell
with BACTI-G antimicrobial filtration

Saving you energy even before it's installed.

The GVS Bacticell is flat packed saving space and transport costs.
The smaller packages are easier to transport and
handle through tight spaces during installation.



Flat Packed Bacticell Cells

Product Codes

bacticell
with BACTI-G antimicrobial filtration

ECO (14sqm)

80.021.0001.00.AA	Bacticell F7 ePM1 55% ECO 592 full size - Assembled
80.021.0002.00.AA	Bacticell F7 ePM1 55% ECO 490 3/4 size - Assembled
80.021.0003.00.AA	Bacticell F7 ePM1 55% ECO 287 1/2 size - Assembled
80.021.0047.00.AA	Bacticell F8 ePM1 70% ECO 592 full size - Assembled
80.021.0048.00.AA	Bacticell F8 ePM1 70% ECO 490 3/4 size - Assembled
80.021.0049.00.AA	Bacticell F8 ePM1 70% ECO 287 1/2 size - Assembled
80.021.0004.00.AA	Filter Panels F7 ECO (pack of 8 replaceable panels)
80.021.0050.00.AA	Filter Panels F8 ECO (pack of 8 replaceable panels)
80.021.0005.00.AA	Side Support full size (pack of 2)
80.021.0006.00.AA	Side support 3/4 size (pack of 2)
80.021.0007.00.AA	Side support 1/2 size (pack of 2)

PLUS (18sqm)

80.021.0008.00.AA	Bacticell F7 ECO 592 full size - Assembled
80.021.0009.00.AA	Bacticell F7 ECO 490 3/4 size - Assembled
80.021.0010.00.AA	Bacticell F7 ECO 287 1/2 size - Assembled
80.021.0051.00.AA	Bacticell F8 ECO 592 full size - Assembled
80.021.0052.00.AA	Bacticell F8 ECO 490 3/4 size - Assembled
80.021.0053.00.AA	Bacticell F8 ECO 287 1/2 size - Assembled
80.021.0011.00.AA	Filter Panels F7 ECO (pack of 8 replaceable panels)
80.021.0054.00.AA	Filter Panels F8 ECO (pack of 8 replaceable panels)

BACTI-G

Incinerable

EN779 100% TESTED

energy saving

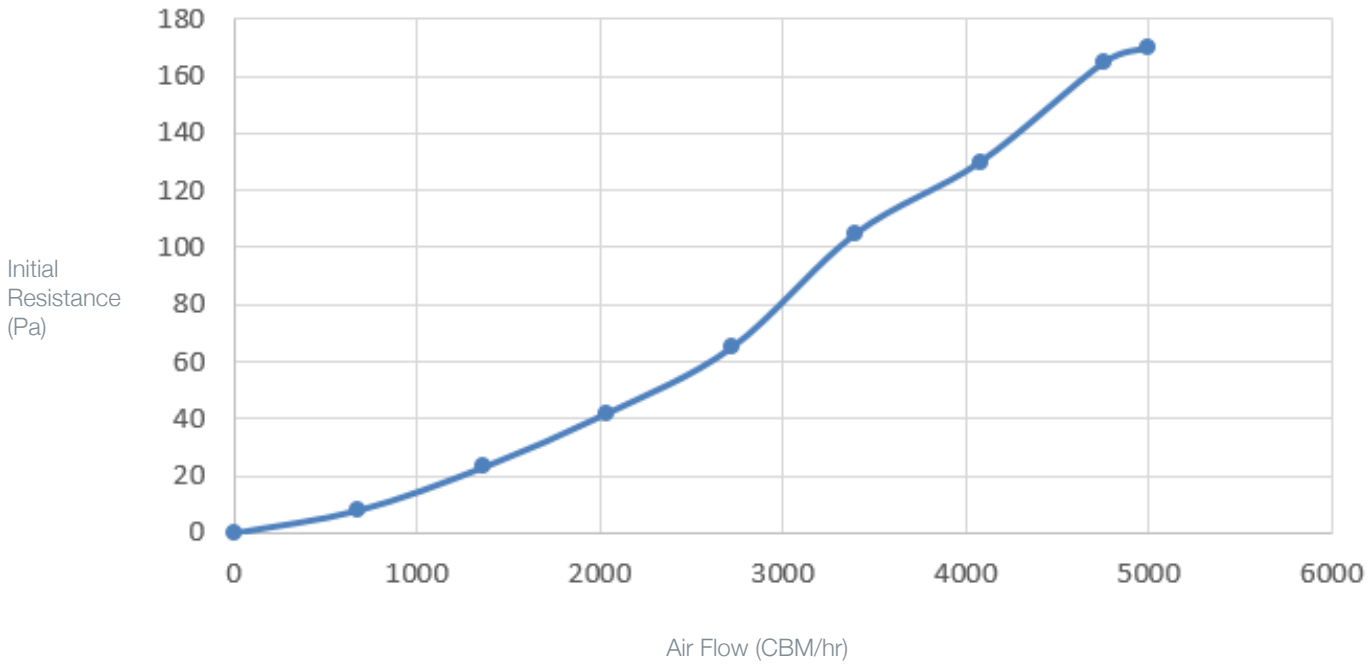
ISO 16890

- Bacticell Antibacterial Filters reduce the build-up of dangerous levels of bacterial, mould or viruses in HVAC systems with the following advantages:
- Removes mould or fungal spores **reducing cleaning costs** within the ductwork and building.
- Can eliminate issues in old buildings that lead to **'sick building syndrome'** and associated illness.
- **Reduced odour** from build-up of mould or decaying matter on filter surfaces.
- Can contribute to reduction in patient recovery times in **Hospitals**.
- Reduces damage to **Museum** and **Art Gallery** exhibits.
- **Safer for maintenance team** when changing filters than dealing with contaminated bag filters.

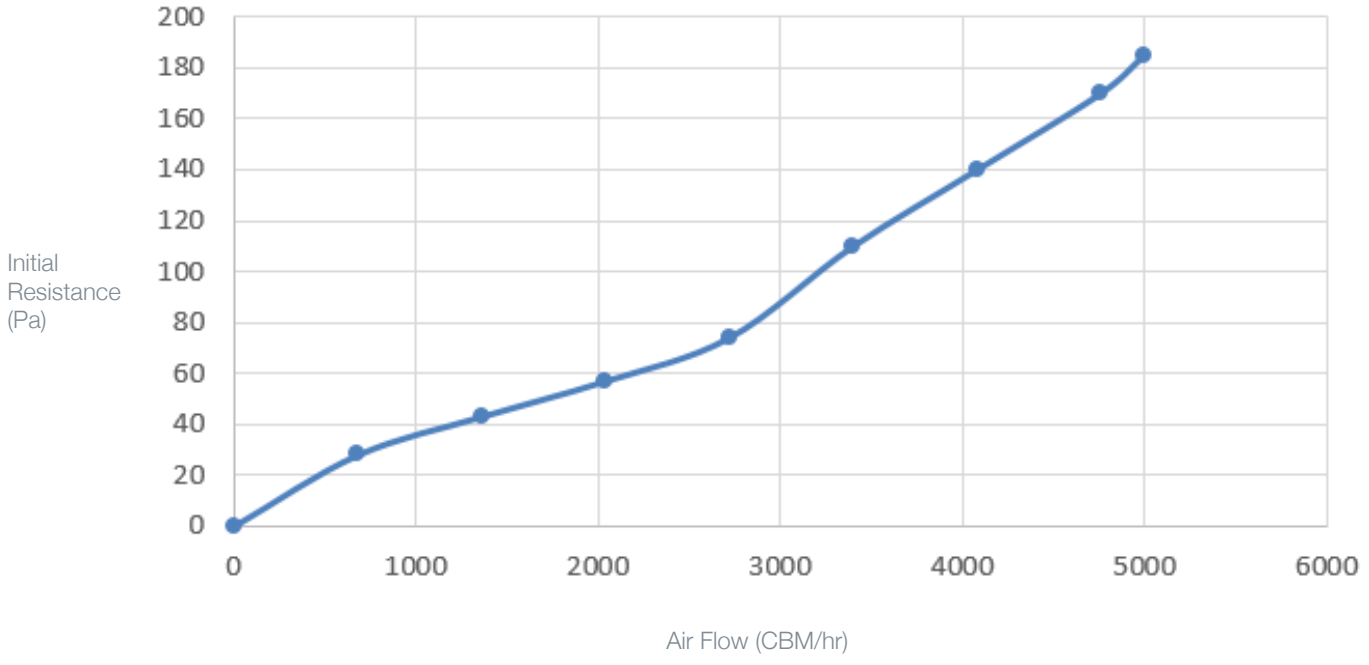
bacticell
with BACTI-G antimicrobial filtration

Bacticell F7 Product Technical Data

ECO

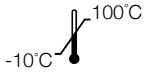


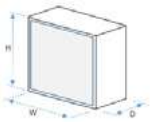
PLUS



Rigidpack

- Range of efficiencies from F7-F9
- Extremely long service life due to large media area
- Low pressure drop
- Low weight polystyrol housing
- Glass fibre media
- Fully incinerable
- Multidirectional airflow – can be reverse mounted
- Independently tested to EN779





Product	Description (inches)	Filter Grade (EN779)	Size (mm)			Standard Rated Airflow (CBM/Hr)	Initial Resistance a) (Pa)
			H	W	D		
RP85/112821	Grade F7 Rigid Pack Cartridge 24 x 24 x 12	F7	592	592	292	3400	99
RP85/412821	Grade F7 Rigid Pack Cartridge 20 x 24 x 12	F7	492	592	292	2850	99
RP85/512821	Grade F7 Rigid Pack Cartridge 12 x 24 x 12	F7	287	592	292	1700	99
RP95/112821	Grade F8 Rigid Pack Cartridge 24 x 24 x 12	F8	592	592	292	3400	105
RP95/412821	Grade F8 Rigid Pack Cartridge 20 x 24 x 12	F8	492	592	292	2850	105
RP95/512821	Grade F8 Rigid Pack Cartridge 12 x 24 x 12	F8	287	592	292	1700	105

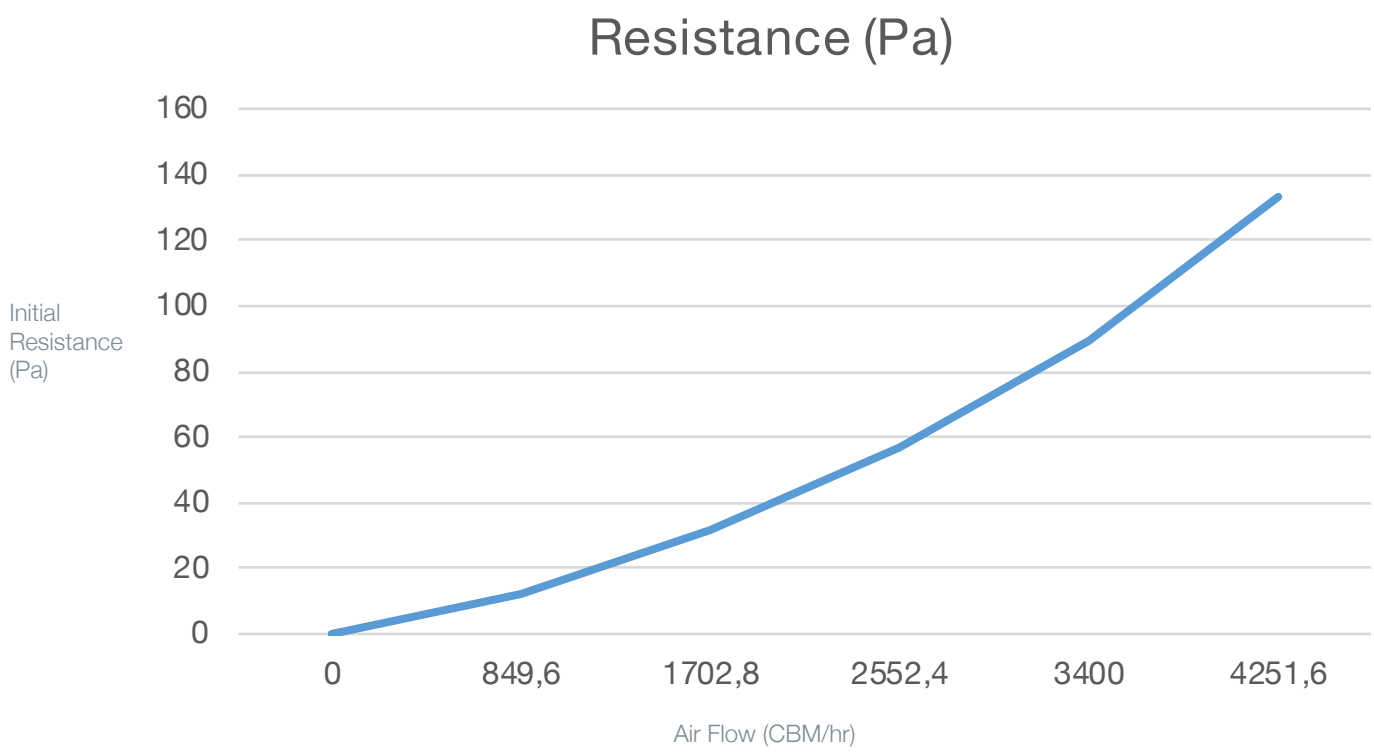
Product	High Rated Air Flow (CBM/Hr)	Initial Resistance b) (Pa)	Recommended Final Resistance (Pa)	Max Final Resistance (Pa)	Weight d) (kg)	Media Area e) (SQM)	Efficiency at PD of: f)			Energy Rating Class
							250	350	450	
RP85/112821	4250	115	450	800	5.5 kg	18	86%	90%	91%	A
RP85/412821	3563	115	450	800	4.2 kg	14				
RP85/512821	2125	115	450	800	3 kg	9				
RP95/112821	4250	120	450	800	5.5 kg	18	92%	94%	96%	A
RP95/412821	3563	120	450	800	4.2 kg	14				
RP95/512821	2125	120	450	800	3 kg	9				

a) Tolerance +/- 15%. b) Tolerance +/- 15%. d) Tolerance +/- 10%. e) Tolerance +/- 10%. f) at min. MPPS.

Rigidpack

Rigidpack Product Technical Data

F7 - ISO16890 ePM1 55%



Bacticell Compact

- Range of efficiencies from M6-F9
- Extremely long service life due to large media area
- Wide pleat spacing to prevent face loading
- Low pressure drop
- Strong Galvanised Steel Housing
- Glass fibre media
- Multidirectional airflow – can be reverse mounted

E10

M6

-10°C 100°C

ISO 16890

Product Type	Mass (g)	Media area (m^2)	Pressure drop (Pa)
			Average
Bacticell compact - F7 592 x 592 x 100 mm Steel case with 20 mm header	520.00	6.49	211

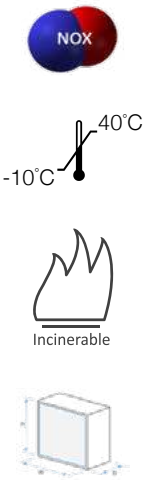
Filter Configurations:

Standard Sizes (mm)	Standard Depths	Efficiency and Capacity	Header (mm)	Notes
592 x 592	100	E10	20	Finger Guard on Rear
592 x 492	150	F9		
592 x 292		F8 / ePM1 65%		
492 x 492		F7 / ePM1 60%		
		M6 / ePM10 80%		

Item Code	Description (mm / inches)	Efficiency	Case Depth	Case
80.021.0027.00.AA	Bacticell Compact - M6 (F6) - (492 x 492 x 150 / 20 x 20 x 6)	M6	150 mm	Galvanised Steel with 20 mm header
80.021.0026.00.AA	Bacticell Compact - M6 (F6) - (592 x 292 x 150 / 24 x 12 x 6)	M6	150 mm	Galvanised Steel with 20 mm header
80.021.0025.00.AA	Bacticell Compact - M6 (F6) - (592 x 492 x 150 / 24 x 20 x 6)	M6	150 mm	Galvanised Steel with 20 mm header
80.021.0024.00.AA	Bacticell Compact - M6 (F6) - (592 x 592 x 150 / 24 x 24 x 6)	M6	150 mm	Galvanised Steel with 20 mm header
80.021.0015.00.AA	Bacticell Compact - F7 - (492 x 492 x 150 / 20 x 20 x 6)	F7	150 mm	Galvanised Steel with 20 mm header
80.021.0014.00.AA	Bacticell Compact - F7 - (592 x 292 x 150 / 24 x 12 x 6)	F7	150 mm	Galvanised Steel with 20 mm header
80.021.0013.00.AA	Bacticell Compact - F7 - (592 x 492 x 150 / 24 x 20 x 6)	F7	150 mm	Galvanised Steel with 20 mm header
80.021.0012.00.AA	Bacticell Compact - F7 - (592 x 592 x 150 / 24 x 24 x 6)	F7	150 mm	Galvanised Steel with 20 mm header
80.021.0019.00.AA	Bacticell Compact - F8 - (492 x 492 x 150 / 20 x 20 x 6)	F8	150 mm	Galvanised Steel with 20 mm header
80.021.0018.00.AA	Bacticell Compact - F8 - (592 x 292 x 150 / 24 x 12 x 6)	F8	150 mm	Galvanised Steel with 20 mm header
80.021.0017.00.AA	Bacticell Compact - F8 - (592 x 492 x 150 / 24 x 20 x 6)	F8	150 mm	Galvanised Steel with 20 mm header
80.021.0016.00.AA	Bacticell Compact - F8 - (592 x 592 x 150 / 24 x 24 x 6)	F8	150 mm	Galvanised Steel with 20 mm header
80.021.0023.00.AA	Bacticell Compact - F9 - (492 x 492 x 150 / 20 x 20 x 6)	F9	150 mm	Galvanised Steel with 20 mm header
80.021.0022.00.AA	Bacticell Compact - F9 - (592 x 292 x 150 / 24 x 12 x 6)	F9	150 mm	Galvanised Steel with 20 mm header
80.021.0021.00.AA	Bacticell Compact - F9 - (592 x 492 x 150 / 24 x 20 x 6)	F9	150 mm	Galvanised Steel with 20 mm header
80.021.0020.00.AA	Bacticell Compact - F9 - (592 x 592 x 150 / 24 x 24 x 6)	F9	150 mm	Galvanised Steel with 20 mm header
80.021.0046.00.AA	Bacticell compact - M6 (F6) - (492 x 492 x 100 / 20 x 20 x 4)	M6	100 mm	Galvanised Steel with 20 mm header
80.021.0045.00.AA	Bacticell compact - M6 (F6) - (592 x 292 x 100 / 24 x 12 x 4)	M6	100 mm	Galvanised Steel with 20 mm header
80.021.0044.00.AA	Bacticell compact - M6 (F6) - (592 x 492 x 100 / 24 x 20 x 4)	M6	100 mm	Galvanised Steel with 20 mm header
80.021.0043.00.AA	Bacticell compact - M6 (F6) - (592 x 592 x 100 / 24 x 24 x 4)	M6	100 mm	Galvanised Steel with 20 mm header
80.021.0034.00.AA	Bacticell compact - F7 - (492 x 492 x 100 / 20 x 20 x 4)	F7	100 mm	Galvanised Steel with 20 mm header
80.021.0033.00.AA	Bacticell compact - F7 - (592 x 292 x 100 / 24 x 12 x 4)	F7	100 mm	Galvanised Steel with 20 mm header
80.021.0032.00.AA	Bacticell compact - F7 - (592 x 492 x 100 / 24 x 20 x 4)	F7	100 mm	Galvanised Steel with 20 mm header
80.021.0031.00.AA	Bacticell compact - F7 - (592 x 592 x 100 / 24 x 24 x 4)	F7	100 mm	Galvanised Steel with 20 mm header
80.021.0038.00.AA	Bacticell compact - F8 - (492 x 492 x 100 / 20 x 20 x 4)	F8	100 mm	Galvanised Steel with 20 mm header
80.021.0037.00.AA	Bacticell compact - F8 - (592 x 292 x 100 / 24 x 12 x 4)	F8	100 mm	Galvanised Steel with 20 mm header
80.021.0036.00.AA	Bacticell compact - F8 - (592 x 492 x 100 / 24 x 20 x 4)	F8	100 mm	Galvanised Steel with 20 mm header
80.021.0035.00.AA	Bacticell compact - F8 - (592 x 592 x 100 / 24 x 24 x 4)	F8	100 mm	Galvanised Steel with 20 mm header
80.021.0042.00.AA	Bacticell compact - F9 - (492 x 492 x 100 / 20 x 20 x 4)	F9	100 mm	Galvanised Steel with 20 mm header
80.021.0041.00.AA	Bacticell compact - F9 - (592 x 292 x 100 / 24 x 12 x 4)	F9	100 mm	Galvanised Steel with 20 mm header
80.021.0040.00.AA	Bacticell compact - F9 - (592 x 492 x 100 / 24 x 20 x 4)	F9	100 mm	Galvanised Steel with 20 mm header
80.021.0039.00.AA	Bacticell compact - F9 - (592 x 592 x 100 / 24 x 24 x 4)	F9	100 mm	Galvanised Steel with 20 mm header

Bacticell EnviroCarb

- Removes odours and environmental and traffic pollution
- Synthetic media with carbon impregnation
- Removable panels to reduce waste and transport costs
- 3 sizes available

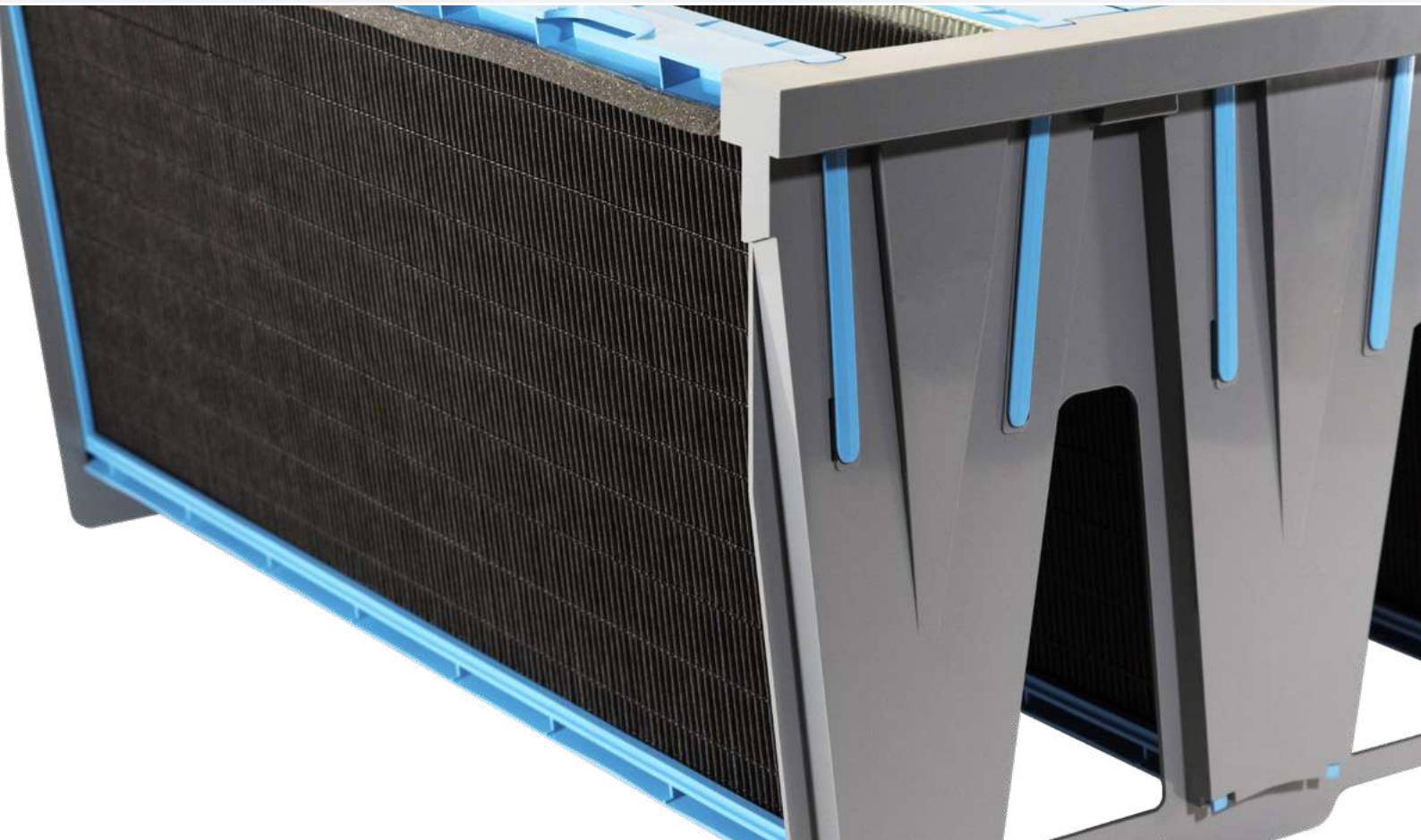


Creating a safe atmosphere.

Bacticell EnviroCarb

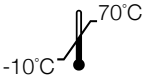
- Removes odours and environmental pollution
- Synthetic media with carbon impregnation
- Removable panels to reduce waste and transport costs
- 3 sizes available

Code	Description
80.021.0055.00.AA	Bacticell Enviro-carb Cartridge 24 x 24 x 12 (inches) - 592 x 592 x 292 (mm)
80.021.0056.00.AA	Bacticell Enviro-carb Cartridge 20 x 24 x 12 (inches) - 492 x 592 x 292 (mm)
80.021.0057.00.AA	Bacticell Enviro-carb Cartridge 12 x 24 x 12 (inches) - 287 x 592 x 292 (mm)
80.021.0058.00.AA	Bacticell Enviro-carb Replacement Filter Panels (8Pk)
80.021.0005.00.AA	Side Support full size (pack of 2)
80.021.0006.00.AA	Side support 3/4 size (pack of 2)
80.021.0007.00.AA	Side support 1/2 size (pack of 2)



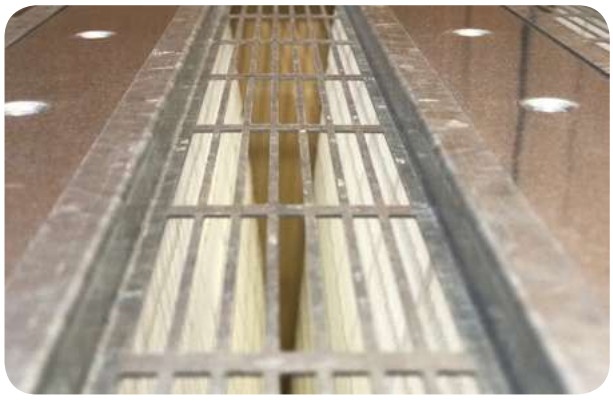
HEPA Filter Range

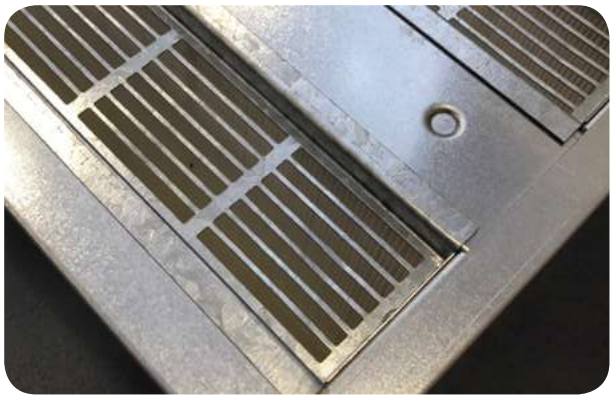
GVS Multiwedge™
HEPA



*16kg without grilles.

High performance.
Low weight. *



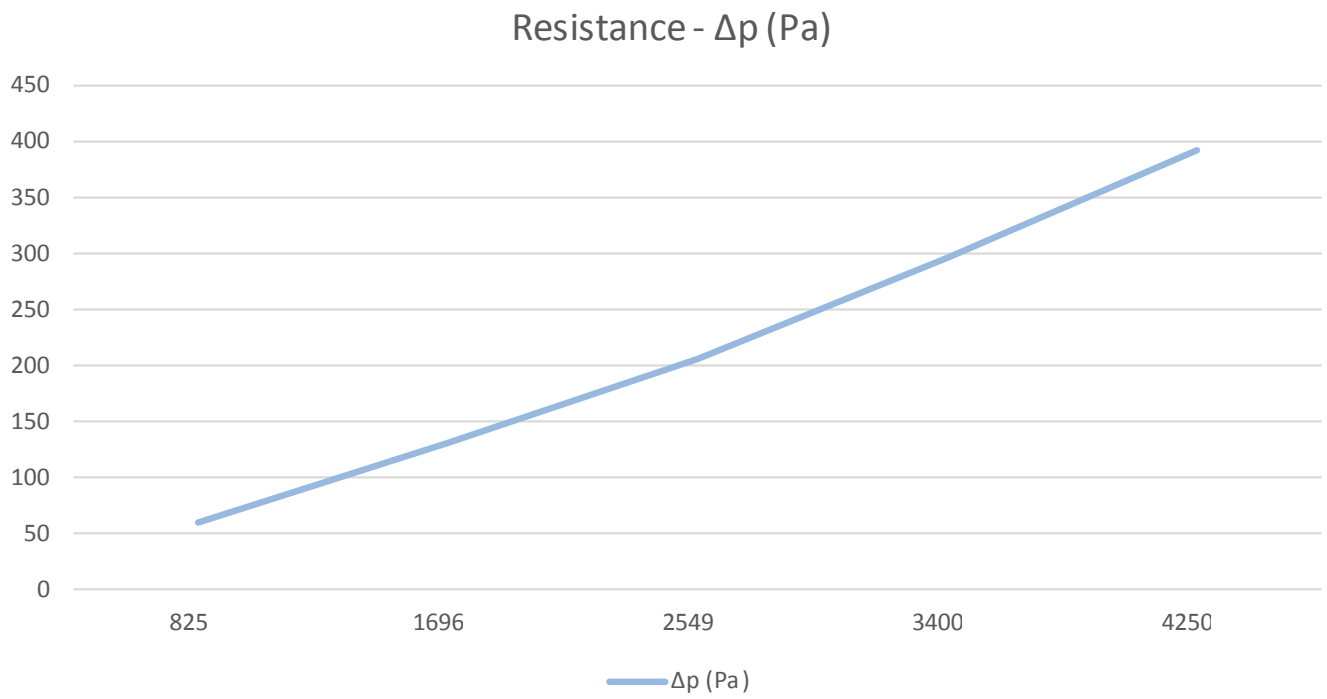


The new Multiwedge HEPA cartridge steel case has been redesigned to increase strength and reduce weight. The case is constructed from 2 'L' shaped case sides with baffles that lock into the structure. This means the filter case does not rely on the sealant for strength. The front face of the filter is now completely flat ensuring the 1 piece gasket seals perfectly every time.

Clip on finger guard grills are available as an option to protect the HEPA pleat elements from handling damage.

GVS Multiwedge™
HEPA

Test data for H13 full sized Multiwedge (610x610x292mm)



Configuration Options

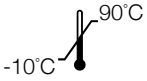
Standard Sizes (mm)	Efficiency and Capacity	Gasket Options	Additional Options
610 x 610 x 292	H14	Both sides	Grilles
508 x 508 x 292	H14 High Capacity	Rear CAS	
457 x 457 x 292	H13	Front DAS	
400 x 400 x 292	H13 High Capacity	None	
380 x 380 x 292	F8		

- Bespoke sizes available on request.

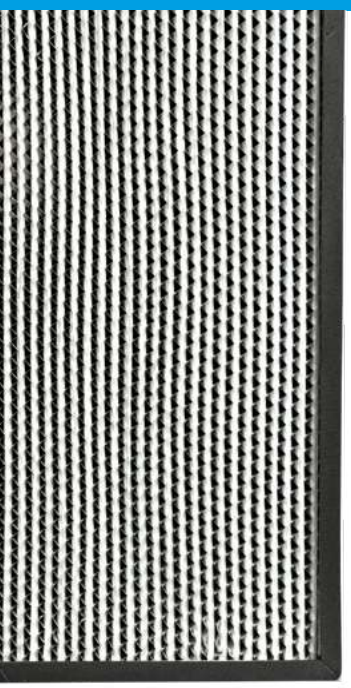
GVS Multiwedge™
HEPA

Code	Description
80.020.0001.00.AA	W8.GH.6100610292.NN.RC Multiwedge HEPA H13 Gasket DAS Handles - (300 Pa@3400CBM/Hr)
80.020.0002.00.AA	W8.GH.6100610292.NN.RX Multiwedge HEPA H13 Galv Case, Gasket DAS - (300 Pa@3400CBM/Hr)
80.020.0003.00.AA	W8.GH.6100305292.D2.RX Multiwedge HEPA H13 Galv Case, Gasket DAS - (300 Pa@3400CBM/Hr)
80.020.0004.00.AA	W8.GH.6100610292.NN.NC Multiwedge HEPA H13 Galv Gasket CAS Handles - (300 Pa@3400CBM/Hr)
80.020.0005.00.AA	W9.GH.6100610292.NN.NC Multiwedge HEPA H14 Galv Gasket CAS Handles - (300 Pa@3400CBM/Hr)
80.020.0006.00.AA	W3.GH.6100610292.NN.NC Multiwedge HEPA F8 Galv Gasket CAS Handles - (220 Pa@3400CBM/Hr)
80.020.0007.00.AA	W8.GH.6100610292.NN.DC Multiwedge HEPA H13 Galv Gasket Both Sides Handles - (300 Pa@3400CBM/Hr)
80.020.0008.00.AA	W9.GH.6100610292.NN.DC Multiwedge HEPA H14 Galv Gasket Both Sides Handles - (300 Pa@3400CBM/Hr)
80.020.0009.00.AA	W3.GH.6100610292.NN.DC Multiwedge HEPA F8 Galv Gasket Both Sides Handles - (300 Pa@3400CBM/Hr)
80.020.0010.00.AA	X8.GH.6100610292.NN.RC Multiwedge HEPA H13 Galv Gasket DAS Handles - (330 Pa@5000CBM/Hr)
80.020.0011.00.AA	X9.GH.6100610292.NN.RC Multiwedge HEPA H14 Galv Gasket DAS Handles - (330 Pa@5000CBM/Hr)
80.020.0012.00.AA	X8.GH.6100610292.NN.NC Multiwedge HEPA H13 Galv Gasket CAS Handles - (330 Pa@5000CBM/Hr)
80.020.0013.00.AA	X9.GH.6100610292.NN.NC Multiwedge HEPA H14 Galv Gasket CAS Handles - (330 Pa@5000CBM/Hr)
80.020.0014.00.AA	X8.GH.6100610292.NN.DC Multiwedge HEPA H13 Galv Gasket Both Sides Handles - (330 Pa@5000CBM/Hr)
80.020.0015.00.AA	X9.GH.6100610292.NN.DC Multiwedge HEPA H14 Galv Gasket Both Sides Handles - (330 Pa@5000CBM/Hr)
80.020.0016.00.AA	W8.GH.6100610292.D3.RC Multiwedge HEPA H13 Grilles Gasket DAS Handles - (300 Pa@3400CBM/Hr)
80.020.0017.00.AA	W9.GH.6100610292.D3.RC Multiwedge HEPA H14 Grilles Gasket DAS Handles - (300 Pa@3400CBM/Hr)
80.020.0018.00.AA	W3.GH.6100610292.D3.RC Multiwedge HEPA F8 Grilles Gasket DAS Handles - (300 Pa@3400CBM/Hr)
80.020.0019.00.AA	W8.GH.6100610292.D3.NC Multiwedge HEPA H13 Grilles Gasket CAS Handles - (300 Pa@3400CBM/Hr)
80.020.0020.00.AA	W9.GH.6100610292.D3.NC Multiwedge HEPA H14 Grilles Gasket CAS Handles - (300 Pa@3400CBM/Hr)
80.020.0021.00.AA	W3.GH.6100610292.D3.NC Multiwedge HEPA F8 Grilles Gasket CAS Handles - (300 Pa@3400CBM/Hr)
80.020.0022.00.AA	W8.GH.6100610292.D3.DC Multiwedge HEPA H13 Grilles Gaskets x2, Handles - (300 Pa@3400CBM/Hr)
80.020.0023.00.AA	W9.GH.6100610292.D3.DC Multiwedge HEPA H14 Grilles Gaskets x2, Handles - (300 Pa@3400CBM/Hr)
80.020.0024.00.AA	W3.GH.6100610292.D3.DC Multiwedge HEPA F8 Grilles Gaskets x2, Handles - (300 Pa@3400CBM/Hr)
80.020.0025.00.AA	X8.GH.6100610292.D3.RC Multiwedge HEPA H13 Grilles Gasket DAS Handles - (330 Pa@5000CBM/Hr)
80.020.0026.00.AA	X9.GH.6100610292.D3.RC Multiwedge HEPA H14 Grilles Gasket DAS Handles - (330 Pa@5000CBM/Hr)
80.020.0027.00.AA	X8.GH.6100610292.D3.NC Multiwedge HEPA H13 Grilles Gasket CAS Handles - (330 Pa@5000CBM/Hr)
80.020.0028.00.AA	X9.GH.6100610292.D3.NC Multiwedge HEPA H14 Grilles Gasket CAS Handles - (330 Pa@5000CBM/Hr)
80.020.0029.00.AA	X8.GH.6100610292.D3.DC Multiwedge HEPA H13 Grilles Gaskets x2, Handles - (330 Pa@5000CBM/Hr)
80.020.0030.00.AA	X9.GH.6100610292.D3.DC Multiwedge HEPA H14 Grilles Gaskets x2, Handles - (330 Pa@5000CBM/Hr)
80.020.0031.00.AA	W8.GH.3800380292.NN.RC Multiwedge HEPA - 13 Galv Case Gasket - (300 Pa@1319CBM/Hr)
80.020.0032.00.AA	W8.GH.4000400292.NN.RC Multiwedge HEPA - 13 Galv Case Gasket - (300 Pa@1462CBM/Hr)
80.020.0033.00.AA	W8.GH.4570457292.NN.RC Multiwedge HEPA - 13 Galv Case Gasket - (300 Pa@1908CBM/Hr)
80.020.0034.00.AA	W8.GH.5080508292.NN.RC Multiwedge HEPA - 13 Galv Case Gasket - (300 Pa@2358CBM/Hr)

Deep Pleat GA™
HEPA



For critical high temperature applications.



The aluminium spacer construction of the Deep Pleat GA ensures the HEPA media is consistently supported even if the product reaches higher temperatures.

The deep pleat has a high efficiency and high dust holding capacity.

The case is produced from smooth galvanised sheet steel and all joints are sealed both internally and externally.

The Deep Pleat is available with a choice of gasket configurations.

Deep Pleat GA™
HEPA

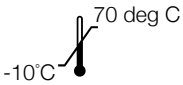
Standard Sizes (mm)	Standard Depths (mm)	Efficiency and Capacity	Gasket Options	Additional Options
762 x 915	292	H14	Both sides	Grilles
610 x 1220	150	H14 High Capacity	Rear CAS	
610 x 915	117	H13	Front DAS	
610 x 762		H13 High Capacity	None	
610 x 610		E12		
508 x 508		E10		
457 x 915		F8		
457 x 457		F7		
400 x 400				
380 x 380				
305 x 305				
305 x 610				

- Bespoke sizes available on request.

Some examples of products available below:

Code	Description	Face Size (mm)	Depth (mm)	Capacity	Rated Airflow and Resistance
D8.GA.4570457150.D1.RX	SCDP HEPA H13 Galv/Alum Grilles Gasket DAS	457 x 457	150	Standard	(250 Pa@477CBM/Hr)
D8.GA.5080508292.NN.NX	SCDP HEPA H13 Galv/Alum Gasket CAS	508 x 508	292	Standard	(250 Pa@1179CBM/Hr)
D8.GA.6100305292.NN.NX	SCDP HEPA H13 Galv/Alum Gasket CAS	610 x 305	292	Standard	(250 Pa@850CBM/Hr)
D8.GA.6100610150.NN.NX	SCDP HEPA H13 Galv/Alum Gasket CAS	610 x 610	150	Standard	(250 Pa@849CBM/Hr)
D8.GA.6100610292.D1.DX	SCDP HEPA H13 Galv/Alum Grilles Gasket Both Sides	610 x 610	292	Standard	(250 Pa@1700CBM/Hr)
D8.GA.6100610292.NN.NX	SCDP HEPA H13 Galv/Alum Gasket CAS	610 x 610	292	Standard	(250 Pa@1700CBM/Hr)
H8.GA.4570915292.NN.NX	HCDP HEPA H13 Galv/Alum Gasket CAS	457 x 915	292	High	(250 Pa@1910CBM/Hr)
H8.GA.6100610292.NN.NX	HCDP HEPA H13 Galv/Alum Gasket CAS	610 x 610	292	High	(250 Pa@1700CBM/Hr)

Deep Pleat WK™
HEPA



High efficiency.
High dust holding capacity.

The traditional wood frame and kraft card construction of the Deep Pleat WK ensures the HEPA media is consistently supported ensuring maximum dust holding.

The Deep Pleat WK product can be safely incinerated after use.

The case is produced from MDF with bonded tabbed joints as well as PU sealant to ensure maximum strength.

The Deep Pleat is available with a choice of gasket configurations.

Deep Pleat WK™
HEPA

Standard Face Sizes (mm)	Standard Depths (mm)	Efficiency and Capacity	Gasket Options	Additional Options
762 x 915	292	H14	Both sides	Grilles
610 x 1220	150	H14 High Capacity	Rear CAS	
610 x 915	117	H13	Front DAS	
610 x 762		H13 High Capacity	None	
610 x 610		E12		
508 x 508		E10		
457 x 915		F8		
457 x 457		F7		
400 x 400				
380 x 380				
305 x 305				
305 x 610				

Some examples of products available below:

Code	Description	Face Size (mm)	Depth (mm)	Capacity	Rated Airflow and Resistance
D8.WK.6100610292.NN.NX	SCDP HEPA H13 MDF/Kraft Gasket CAS	610 x 610	292	Standard	250 Pa@1700CBM/Hr
D8.WK.6100610150.NN.NX	SCDP HEPA H13 MDF/Kraft Gasket CAS	610 x 610	150	Standard	250 Pa@849CBM/Hr
D8.WK.6101220150.D1.XX	SCDP HEPA H13 MDF/Kraft Grilles No Gasket	610 x 220	150	Standard	250 Pa@1699CBM/Hr
D8.WK.3050305117.NN.XX	SCDP HEPA H13 MDF/KRAFT No Gasket	305 x 305	117	Standard	250 Pa@212CBM/Hr
H8.WK.6100305292.NN.DX	HCDP HEPA H13 MDF/Kraft Gasket Both Sides	610 x 305	292	High	250 Pa@850CBM/Hr
D8.WK.3050305150.R1.NX	SCDP HEPA H13 MDF/Kraft Grill DAS Gasket CAS	305 x 305	150	Standard	250 Pa@212CBM/Hr
D8.WK.4570457150.D1.NX	SCDP HEPA H13 MDF/Kraft Grilles Gasket CAS	457 x 457	150	Standard	250 Pa@477CBM/Hr
D8.WK.4570457292.NN.NX	SCDP HEPA H13 MDF/Kraft Gasket CAS	457 x 457	292	Standard	250 Pa@954CBM/Hr
D8.WK.6100915292.NN.NX	SCDP HEPA H13 MDF/Kraft Gasket CAS	610 x 915	292	Standard	250 Pa@2550CBM/Hr
D8.WK.6101220150.D1.NX	SCDP HEPA H13 MDF/Kraft Grilles Gasket CAS	610 x 220	150	Standard	250 Pa@1699CBM/Hr
D8.WK.6100915150.NN.NX	SCDP HEPA H13 MDF/Kraft Gasket CAS	610 x 915	150	Standard	250 Pa@2550CBM/Hr

Mini-pleat HEPA

Protecting your personnel and processes.

The GVS mini-pleat HEPA filters are trusted in a wide range of industries to provide the maximum level of protection.

Each Mini-pleat HEPA filter is made to order to the exact size and specification you require.

The HEPA panels are available in a range of efficiencies, capacities, case materials, seal configurations and grille formats.

Mini-pleat
HEPA

All the HEPA filters made at GVS are scan tested to ensure efficiency and resistance meet the agreed standards.

EN 1822 testing is conducted with an aerosol test probe that is moved over the entire surface of the filter in a scanning motion. This scanning, results in the local measurement of the whole surface of the filter. These local efficiencies can be used to calculate the overall efficiency of the filter or the leak rate of a specific area of the filter. The overall efficiency calculation is termed the integral value the area immediately around the probe is the local value.

Tests are performed on new filters at the specified nominal volumetric air flow. Filters of U15 or above are scanned with a particle counter probe. An oil thread test can be utilized on filters of H13 and H14 classification.

GVS manufacture a wide range of HEPA filters which comply to the EN1822:2009 standard. Our Minipleat HEPA range of filters are individually tested using our DOP test rig with scanning probe and each is individually labelled and certified.

Mini-pleat HEPA

Filter Grades Available

Grade	Efficiency @ MPPS *	Application
E10	> 85%	For removal of smoke or very low grade cleanroom applications.
H11	> 95%	Start of HEPA range.
H12	> 99.5%	Lower grade cleanrooms
H13	> 99.95%	Cleanrooms and industrial applications.
H14	> 99.995%	Higher grade cleanrooms and industrial applications
U15	> 99.9995%	Ultra high grade - high resistance/energy consumption.

*MPPS – most penetrating particle size.
GVS manufacture a range of media with efficiencies above U15. Details available on request.

Case Styles and Depths Available

• Standard ○ Optional

Case Type	HEPA Pleat Pack Type	Liquid Gasket	EPDM Seal(s)	Grills
'M' Aluminium 68 mm	58 mm Pack		○	○
'L' Aluminium 83 mm (Liquid Gel Seal)	50 mm Pack	•		○
'J' Aluminium 90 mm	75 mm Pack		○	○
'R' Aluminium 124 mm	100 mm Pack		○	○
'R' Aluminium 150 mm	140 mm Pack		○	○
'E' Galvanised Case - 30 mm	21 mm Pack		○	○
'F' Galvanised Case - 40 mm	30 mm Pack		○	○
'G' Galvanised Case - 50 mm	40 mm Pack		○	○
'K' Galvanised Case - 78 mm	68 mm Pack		○	○
'K' Galvanised Case - 100 mm	90 mm Pack		○	○
'R' Galvanised Case - 110 mm	100 mm Pack		○	○
'R' Galvanised Case - 117 mm	107 mm Pack		○	○
'G' Galvanised Case - 150 mm	140 mm Pack		○	○
'G' Galvanised Case - 292 mm	250 mm Pack		○	○

Aluminuim Extrusion

Aluminuim Extrusion with Gel Seal

Galvanised Steel

Worldwide Distribution Centers

EUROPE

Italy - Head Office
GVS S.p.A.
Via Roma 50
40069 Zola Predosa (BO) - Italy
Tel. +39 051 6176311
gvs@gvs.com

UK
GVS Filter Technology UK
Vickers Industrial Estate
Mellishaw Lane, Morecambe
Lancashire LA3 3EN
Tel. +44 (0) 1524 847600
gvsuk@gvs.com

Russia
GVS Russia LLC.
Profsoyuznaya Street, 25-A, office 102
117418, Moscow
Russian Federation (Russia)
Tel. +7 495 0045077
gvsrussia@gvs.com

Romania
GVS Microfiltrazione srl
Str. Principala n. 320 et. 1 -
Ciorani de Jos
JUD . PRAHOVA - CIORANI -
ROMÂNIA
Tel. (+40) 244 463044
gvsromania@gvs.com

Turchia
GVS Türkiye
Cevizli mah. Zuhal cad. Ritim Istanbul
no:44 A-1 Blok D.371 Maltepe /
Istanbul
Tel. +90 216 504 47 67
gvsturkey@gvs.com

AMERICA

U.S.A.
GVS North America
63 Community Drive
Sanford, ME 04072 - USA
Tel. +1 866 7361250
gvslifesci@gvs.com

GVS Filtration Inc.
2150 Industrial Dr
Findlay, Ohio, 45840-5402 - USA
Tel. +1 419-423-9040
gvsfiltration@gvs.com

GVS Filtration Inc.
2200 W 20th Ave
Bloomer, Wisconsin, 54724-1918 - USA
Tel. +1 715-568-5944

Brazil
GVS do Brasil Ltda.
Rodovia Conego Cyriaco Scaranello
Pires 251
Jd. Progresso, CEP 13190-000
Monte Mor (SP) - Brasil
Tel. +55 19 38797200
gvs@gvs.com.br

Argentina
Parral 246-9° A
1405 Buenos Aires - Argentina
Tel. +54 11 49889041
gvsarg@gvs.com

ASIA

China
GVS Technology (Suzhou) Co., Ltd.
Fengqiao Civil-Run Sci-Tech Park,
602 Changjiang Road,S.N.D.
Suzhou, China 215129
Tel. +86 512 6661 9880
gvschina@gvs.com

Japan
GVS Japan K.K.
KKD Building 4F, 7-10-12
Nishishinjuku
Shinjuku-ku, Tokyo 160-0023
Tel. +81 3 5937 1447
gvsjapan@gvs.com

Korea
GVS Korea Ltd
#315 Bricks Tower
368 Gyungchun-ro(Gaun-dong),
Namyangju-si, Gyunggi-do,
Tel: +82 31 563 9873
gvskorea@gvs.com

Filter Testing and Certification
EN1822 - GVS independently test filters using Eurovent,TÜV and ISO17025 accredited labs.
ISO16890 - GVS independently test filters using Eurovent,TÜV and ISO17025 accredited labs.

Product Catalog - **GVS Commercial & Industrial Division**

DISCLAIMER

While every precaution has been taken in the preparation of this catalog, data are subject to change without notice. Results in specific application of GVS products may vary according to the conditions and applications. GVS assumes no responsability for demage resulting from incorrect use of our products.

GVS
FILTER TECHNOLOGY