AFPRO®
Filtration Group®

PRODUCT CATALOG

MAKING THE WORLD SAFER, HEALTHIER & MORE PRODUCTIVE

SAFEGUARDING INDOOR ENVIRONMENTS FOR A SAFER, HEALTHIER, AND MORE PRODUCTIVE WORLD.

At AFPRO, we understand the significance of clean air. We are committed to protecting the safety and improving the well-being of students, employees, and patients in indoor environments such as schools, offices, factories, and hospitals. We strive to develop innovative air filtration solutions that extend lives, protect critical environments and production processes, and meet our customers' most demanding air purification requirements.

We are very proud of our commitment to Corporate Social Responsibility, which goes beyond our day-to-day activities and touches every facet of our business. We actively align our values and actions to contribute to a more sustainable future by incorporating sustainable practices, promoting social well-being, and making informed choices to minimize our environmental footprint.

As part of the Filtration Group, we are distinguished by our relentless focus and dedication. We aspire to ascend as Europe's premier air filtration manufacturer, presenting unparalleled solutions. Our state-of-the-art manufacturing facilities and distribution centers stand as testaments to our unwavering pursuit of excellence. With unparalleled agility and advanced manufacturing capabilities, we deliver a comprehensive range of standard and custom-sized filters in an efficient and dependable manner, boasting the shortest lead times within the market.

Looking ahead, we remain committed to continuous innovation and improvement. Our objective is to stay ahead of the competition, consistently surpassing customer expectations with our products and services. Through sustained investments in research and development, we shall continually enhance our product portfolio offering advanced solutions that meet evolving indoor air quality demands, with a focus on heightened filtration efficiency and minimized energy consumption.

Within this catalog, you will discover a comprehensive range of air filters carefully designed to meet different indoor air quality requirements for a variety of applications, delivering optimal performance. From commercial buildings to hospitals and industrial facilities, we present the right filtration solutions to ensure clean and healthy air, that protects people and increases productivity.

Thank you for choosing AFPRO. Together, let's create a world that is safer, healthier and more productive, one breath at a time.

Niels Berkhout
President & CEO

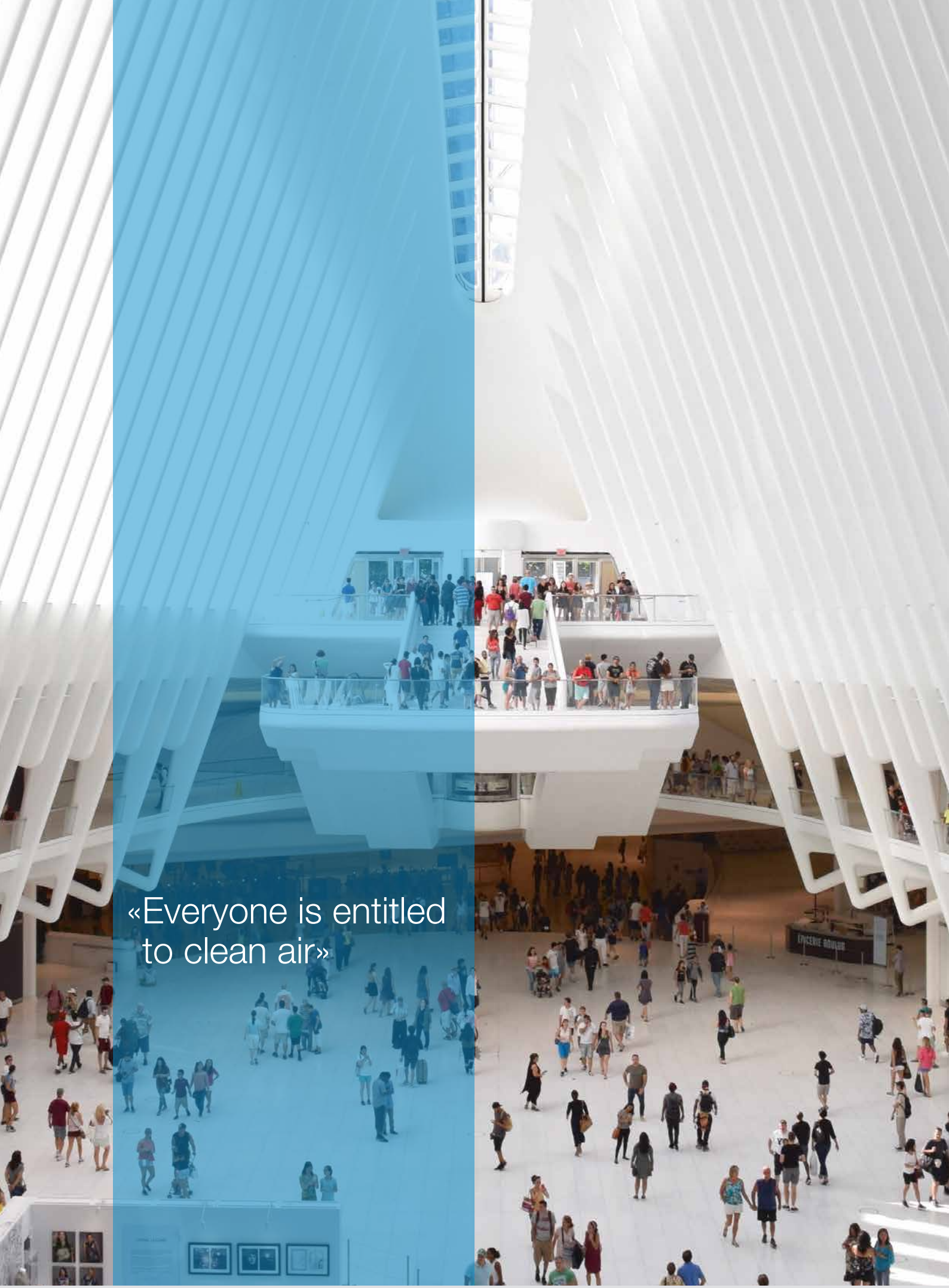
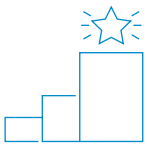

«Everyone is entitled
to clean air»

TABLE OF CONTENTS

WHY AFPRO FILTERS?

Everyone is entitled to clean air. This is why we have been producing energy efficient filters for over 40 years to protect residents, pupils, employees, patients, production processes and equipment against the harmful effects of air pollution.

8 REASONS TO OPT FOR AFPRO FILTERS



1 OVER 40 YEARS OF **EXPERIENCE**

If you opt for AFPRO Filters, you choose sophisticated air filter solutions; solutions which are continuously fine-tuned and ever further improved in our laboratories. This is not something we do alone but together with our customers; together with you. Like no other, you know how we can align our filters even better with your ambitions, which is why we base our innovations on your input. By being in charge of the entire supply chain - development, production as well as logistics - ourselves and having our own production processes at our disposal within this vertical structure, we can guarantee the constant quality of our products, short lead times and timely and complete deliveries. Without exception, all our raw materials, semi-finished and finished products are checked against the criteria of our ISO 9001 certified quality system.

2 FAST AND **RELIABLE DELIVERY**

Customer satisfaction surveys have revealed that our customers are very satisfied with our logistics, the reliability of our deliveries and our short lead times. We continually invest in our extensive logistics network. To be able to provide you with round-the-clock information on your order status, we work with comprehensive track & trace options. As an additional service, all consignments are sorted, packaged and labelled with all location and contact information. Thanks to our reliable transport partners, you can rest assured that your consignment will arrive on time and in good condition.

3 EXTENSIVE **INDUSTRY KNOWLEDGE**

AFPRO Filters provide innovative solutions to any industry-specific air filtration issue. Whether you are looking for a solution for a data center, a hotel, a laboratory, a training facility, a museum, a hospital or for the pharmaceutical or food industries, our professionals know your challenges in the areas of legislation, regulations, standards and guidelines. We know your industry and speak your language.

4 FILTERS WITH **MINIMAL ENERGY CONSUMPTION**

Energy consumption is responsible for 70% of the total costs involved in air filtration. By taking energy efficiency into consideration when choosing which air filters to install, you can considerably reduce your energy expenditure. Filters with a lower energy efficiency may perhaps be cheaper to acquire, but will soon lead to higher power consumption as well as a higher replacement frequency.

Our professionals will be pleased to work out the potential saving you may be able to achieve by opting for AFPRO Filters based on the purchase costs, power consumption and replacement frequency. Our Life Cycle Cost analysis (LCC) allows us to calculate the actual costs per filter per month. Based on the latest filter testing standards and the guidelines from the Eurovent energy label, this calculation makes it possible to work out exactly for each specific air filtration system which is the best filter option and the most energy efficient solution.

5 ENVIRONMENTALLY-AWARE COMPANY **MAKING SUSTAINABLE CHOICES**

Producing low-resistance air filters is one of AFPRO Filters' main objectives. By using high-quality glass fibers which are progressively constructed using a multi-layering technique, we reduce the air resistance of the filters and thus their power consumption. This way, we contribute to reducing the carbon footprint of our customers, but we do more. On page 10 you can read which sustainable options we adopt moving towards becoming a fully circular business.

6 AVAILABLE **KNOWLEDGE AND EXPERTISE**

AFPRO Filters stand for quality, sustainability and innovation. This is why we keep abreast of all relevant technological and social developments worldwide as well as assess on a daily basis what we can do better ourselves. Whenever we spot a process or product improvement opportunity, we implement them. We believe in the importance of sharing with our customers the knowledge and expertise gained in this manner. You are very welcome to visit our service and knowledge center in Alkmaar for up-to-date information and knowledge on air filtration, filter media, testing standards and measuring techniques.

7 **WE EVALUATE** AIR FILTRATION SYSTEMS

As filter specialists with over 40 years' experience in developing, producing and delivering filters, we regularly carry out evaluations of air filter systems in accordance with the standards in force, we use officially recognized testing methods:

- Eurovent 4/10 - 2005 In situ determination of fractional efficiency of general ventilation filters.
- ISO/CD 29462 Field testing of general ventilation filtration devices and systems for in situ removal efficiency by particle size and resistance to airflow.
- ISO 16890 filters are tested in our laboratory for filter performance (pressure drop and efficiency), dust analysis and dust capture capacity.

Our experts base their advice for the operation of the filters on the results of these testing methods.

8 **EUROVENT** CERTIFIED

AFPRO Filters comply with the stringent requirements of Eurovent certification. This certification program, developed by Eurovent in conjunction with various air filter manufacturers, makes it possible to compare air filters based on an equivalent set of evaluation criteria. Eurovent certification is your guarantee:

- That your air filters are tested by independent laboratories;
- That the filters meet the design specifications;
- That the filters you buy comply with the power consumption rating promised.

Moreover, the Eurovent certification guarantees that all documentation that we provide with your filters, such as the product information in this catalog, on our website and in the manuals, meets the European standard. In short: with the Eurovent quality mark you are assured of safe air filters that perform excellently.

AFPRO Filters has been producing energy efficient air filters for over 40 years. Being in charge of the entire supply chain, we can guarantee the constant quality of our products, short lead times and timely and complete deliveries. Together we make the world safer, healthier and more productive.

AFPRO FILTERS? THIS IS WHY!

Learn more About AFPRO

FILTERS THAT PROTECT PEOPLE

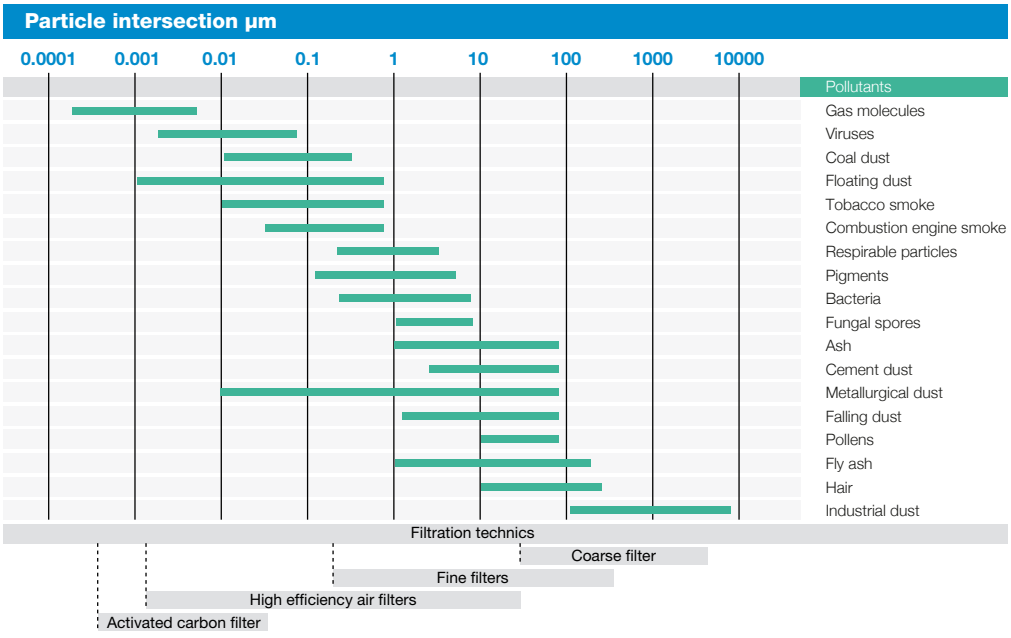
A human being inhales and exhales some 20 kilograms of air daily. 20 kilos! This is quite an impressive figure, particularly when one considers that a human being also consumes around one and a half kilos of food and two and a half kilos of water. People are inclined to pay close attention to what they eat and drink, while government bodies also issue dietary recommendations. It therefore appears only logical that we should devote greater attention to the quality of the air we breathe. How might airborne substances affect our performance and health? And what can we do to ensure the optimum quality of the air that we breathe?

Fine particles are hazardous to human health

During the past few years, increasing attention has been drawn to the hazards of fine particles; air pollution in the form of particles which are smaller than 10 microns. Busy roads, industry, combustion engines and the bio industry are major sources of fine particles. The human body is poorly equipped to deal with fine particles. The nose and windpipe act as natural filters for relatively large particles – larger than 5 microns. However, smaller particles can penetrate deep into our lungs, where they may cause substantial damage to health. Children, the aged and people with respiratory complaints are particularly susceptible. The concentration of fine particles in the air can vary greatly from region to region and from one country to another.

Particulate Matter Penetration in the human body

Particulate matter comes in different shape and sizes. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. The infographic shows how deep in the human body those particles end up when inhaled. The smaller the particles, the more dangerous they are.



Sick building syndrome - source of problems

People in the western world spend around 70% of their time indoors. Countless health problems can consequently be attributed to ‘indoor conditions’. Air quality in the workplace is sometimes also far from perfect. This can cause sick building syndrome (SBS). Almost three quarters of cases of SBS can be attributed to the dust particles present within the premises. Common symptoms of SBS include listlessness, concentration and respiratory problems, headaches, drowsiness, skin and eye irritation and fatigue. Adequate air filtration is a relatively simple means of combating SBS and protecting people from its harmful effects.

AFPRO Filters’ range of appropriate products enables us to vouch for the air quality and provide a suitable solution for a healthy indoor climate in any circumstances. These applications are widely used in business premises, hotels and conference centers.

Although the operation of a filter may appear very simple in theory, filters are in fact highly complex products. The filter fibers have to allow sufficient air to pass through - without offering too much resistance - while also trapping harmful particles. This is the strength of good filters.

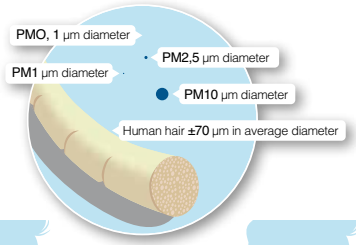
Using filters to protect operating processes

Apart from protecting people, filters can also be used to guarantee the progress of operating processes. The applicable filter requirements vary depending on the type of operating process in question.
AFPRO Filters provides suitable filters for many different sectors where clean air is vitally important and contamination should be avoided. Like in hospitals, data centers and food- and pharmaceutical industries.

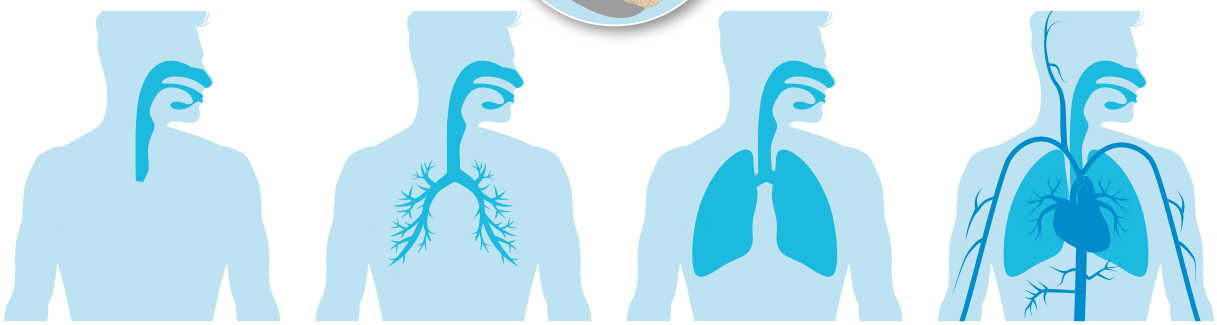
Learn how Filtration is vitally important

Penetration of particles into the body

(The smaller the particles, the more dangerous they are)



Particulate matter, smaller than a human hair



COARSE PARTICLES
Upper respiratory tract
Size = < 10 µm

PM10 = 0.01mm
• pollen
• desert dust

FINE PARTICLES
Lower respiratory tract
Size = < 2.5 µm

PM2.5 = 0.0025mm
• bacteria
• fungal and mold spores
• toner dust

INHALEABLE PARTICLES
Aveoli
Size = < 1 µm

PM1 = 0.001 mm
• viruses
• exhaust gases

ULTRAFINE PARTICLES
Bloodstream/whole body
Size = < 0.1 µm

PM0.1 = 0.0001mm
• Nano particules

SUSTAINABLY MOVING TOWARDS FULL CIRCULARITY BY 2050

Circularity, sustainability, carbon footprint; at AFPRO Filters, we are conscious of our impact on the environment and make informed choices to minimize this. We look beyond our annual figures and the continuity of our business and are committed to innovation and quality. We are fully involved in making the transition from a linear to a circular business model. This immense change demands efforts from the entire chain, so that we engage in conversation with our customers and our suppliers alike.

Our sustainable choices and circular steps

In our advanced laboratories, we conduct daily research into how we can make our air filters even more efficient and sustainable and work on developing new filter media and filtering techniques.

Sustainability and energy consumption

AFPRO Filters is a pioneer in developing A and A+ label filters, enabling our customers to make a deliberate and sustainable choice. By choosing these filters, you significantly reduce the energy consumption and thus your carbon footprint.

We are also as frugal as possible with the energy we use ourselves, by making use of green electricity from solar panels and having our incredibly energy efficiently built modern logistics hub hooked up to the residual heat supply from the local household waste incineration plant. This has led to a 50% reduction in our energy consumption.

Circularity

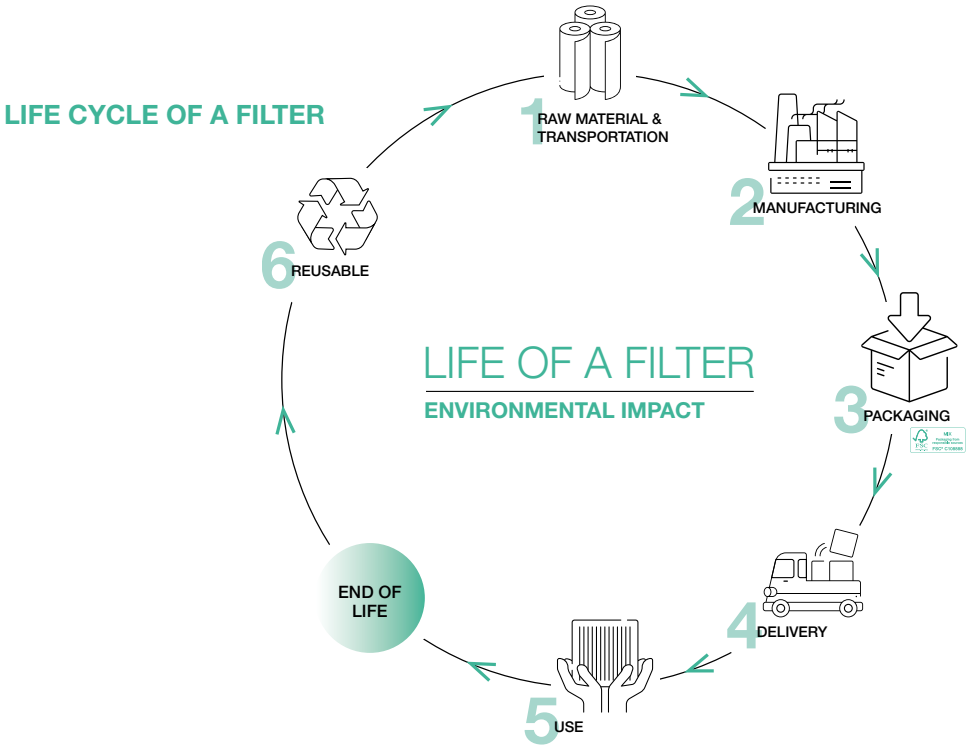
In the production of our filters, we use as little plastic as possible. We opt for fiber glass and aim to reduce our use of plastic down to zero. In addition, we are very deliberate in our choice of using aluminum frames. Contrary to plastic which is used by many other manufacturers, aluminum is 100% reusable and recyclable.

The life cycle of a filter

In order to be able to make the most sustainable choices moving towards full circularity, we have mapped the life cycle of our filters. For each stage, we continually assess which sustainability and/or circularity improvements we may be able to implement.

SILVER | Top 15%
ecovadis
Sustainability Rating
JAN 2025

AFPRO FILTERS has been awarded the EcoVadis Sustainability Silver Medal and Certificate in recognition of the work we have done to create a more sustainable world. This result places us in the top 15 percent of more than 90.000 companies assessed by EcoVadis. We are proud of this achievement, but we are determined to take our sustainability journey even further by taking increasingly innovative and committed actions to make the world a safer, healthier and more productive place.



Stage 1: Raw materials and transport

When choosing our suppliers, the environmental impact is an important selection criterion, and certificates and work procedures can form an overriding factor in the weighting. Where possible, we buy locally and opt for production facilities in the vicinity of our factories to minimize transport movements. Also, the loading of pallets and containers is meticulously planned to the millimeter to achieve efficient transport volumes and avoid shipping air.

Stage 2: Production process

We are one of the few air filter manufacturers who are ISO 14001 certified and work towards a zero-waste business. We achieve this, among other things, by making agreements with our suppliers about reducing packaging material. Also, the vertical integration of our production process enables us to reduce our production waste down to a minimum.

Waste reduction in our production processes is always at the forefront of our minds.
As such, we have achieved significant results over recent years in terms of minimizing rest material, partly by deploying new machines and advanced software for smarter planning.

Stage 3: Packaging

The cardboard packaging (FSC certified) we use is made to measure and only serves as transport protection for the product delivered, but can also be used for packaging and disposing of used filters.

In order to optimize the customization process of cardboard boxes, we use an ultra-modern machine which makes an intelligent calculation based on the material to be packaged to deliver the right cardboard box to measure, resulting in savings in terms of cardboard, transport volume and unnecessary padding.

Stage 4: Delivery

We try to minimize transport movements and proactively approach our customers with the request to group their orders per delivery address as much as possible, while at the same time loading pallets as efficiently as possible to save on volume. We also deploy carbon neutral transport as much as possible. If this is not possible, we choose transport based on lorries that meet the Euro 6 emission standard.

Stage 5: In use

While our air filters are in use, they ensure a healthy indoor climate and energy saving. If you choose an A+ or an A label ePM1 filter, you choose the best air quality and the largest energy saving. A win-win situation; being beneficial for the end user as well as for the environment.

Stage 6: Re-use and recycling

We do our utmost to design our filters in such a way that the raw materials used can be reused in the best possible way. Also, recycling is a major consideration at all our production locations. In addition, we actively participate in initiatives and pilot projects for sorted collection, disposal and reuse of used filters and packaging material. This way, we can enable our customers to work even more waste free too and together we determine our next steps towards sustainability and circularity as we move towards full circularity by 2050.

ENERGY SAVING WITH FILTERS

Every building uses some form of climate control. Climate control provides clean air and a healthy indoor environment. What most people don't realize is that climate control consumes a lot of energy. That's why AFPRO Filters invests heavily in developing energy-efficient air filters. Choosing energy-efficient air filters can significantly reduce energy bills.

Best indoor air quality and low energy costs thanks to our energy-efficient air filters

Energy consumption is responsible for 70% of the total air filtration costs. When paying attention to the energy-efficiency of air filters, considerable energy savings can be achieved. Poorer quality filters may be cheaper to purchase, but they quickly lead to higher energy consumption and a higher replacement frequency.

AFPRO Filters considers the production of low-resistance air filters as one of its main goals. By using high-quality glass fibers that are progressively constructed using a multilayering technique, we significantly reduce the air resistance of the filters, which in turn reduces energy consumption. Reducing energy consumption is an essential part of a sustainable business plan.

If energy-efficient solutions are required to support customers in the construction of new buildings or in the energy optimization of existing installations, the HQ85 bag filter combines protection against fine particles and low energy consumption.
Its low resistance and high retention capacity reduce labor costs thanks to less frequent filter changes. In addition, the performance of the HQ85/ES A+ filter has been certified by Eurovent.

HQ85/ES A+ filter

Energy labels via Eurovent

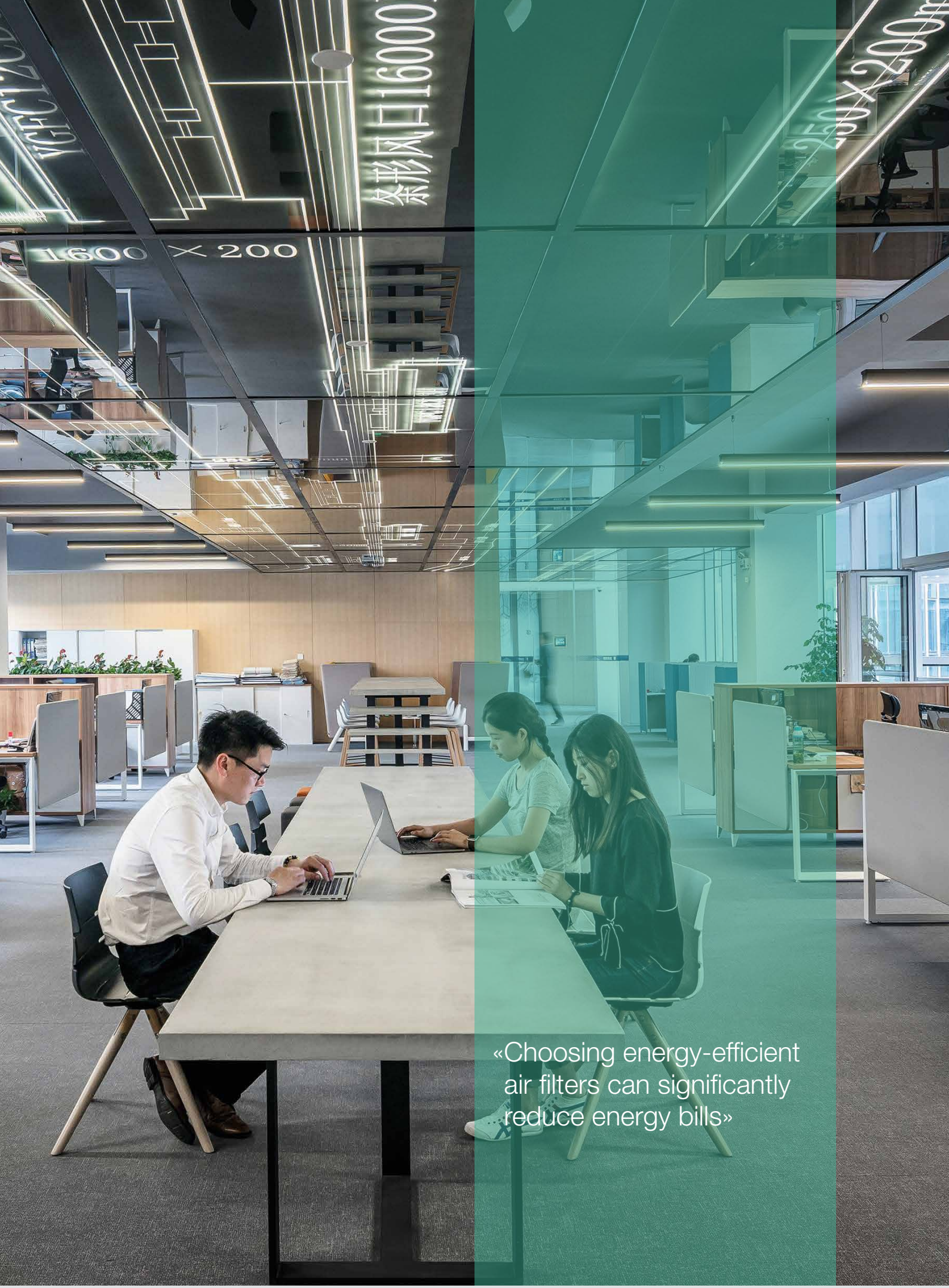
AFPRO air filters have obtained an energy label, which makes it easier to compare all available filters. A filter with a smaller filter surface and fewer or shorter bags, will be rated with a lower energy label and will in practice consume more energy.
The labels clearly indicate the expected energy consumption, which is very important considering that 70-80% of the life cycle costs are determined by energy.
All Eurovent-certified products are equipped with a noticeable Eurovent energy label.

Life Cycle Cost (LCC) analysis

When purchasing an air filter, the purchase price should be compared with the money spent on energy costs.
Less resistance means less energy consumption and a lower energy bill. This way it's easy to see that a very energy-efficient air filter can actually save a lot of money. AFPRO expert advisors are happy to explain and provide a personal calculation.

The AFPRO Filters Laboratory is equipped to help customers make a conscious sustainable choice by offering them a personalized Life Cycle Cost analysis (LCC). The LCC calculation is based on the latest test standards and the Eurovent guidelines. With this tool it is easy to calculate the amount of money that can be saved by investing in A+ filters.
With the results of the calculation the best possible filter choice and the most energy-efficient solution for each specific air filtration system can be determined.

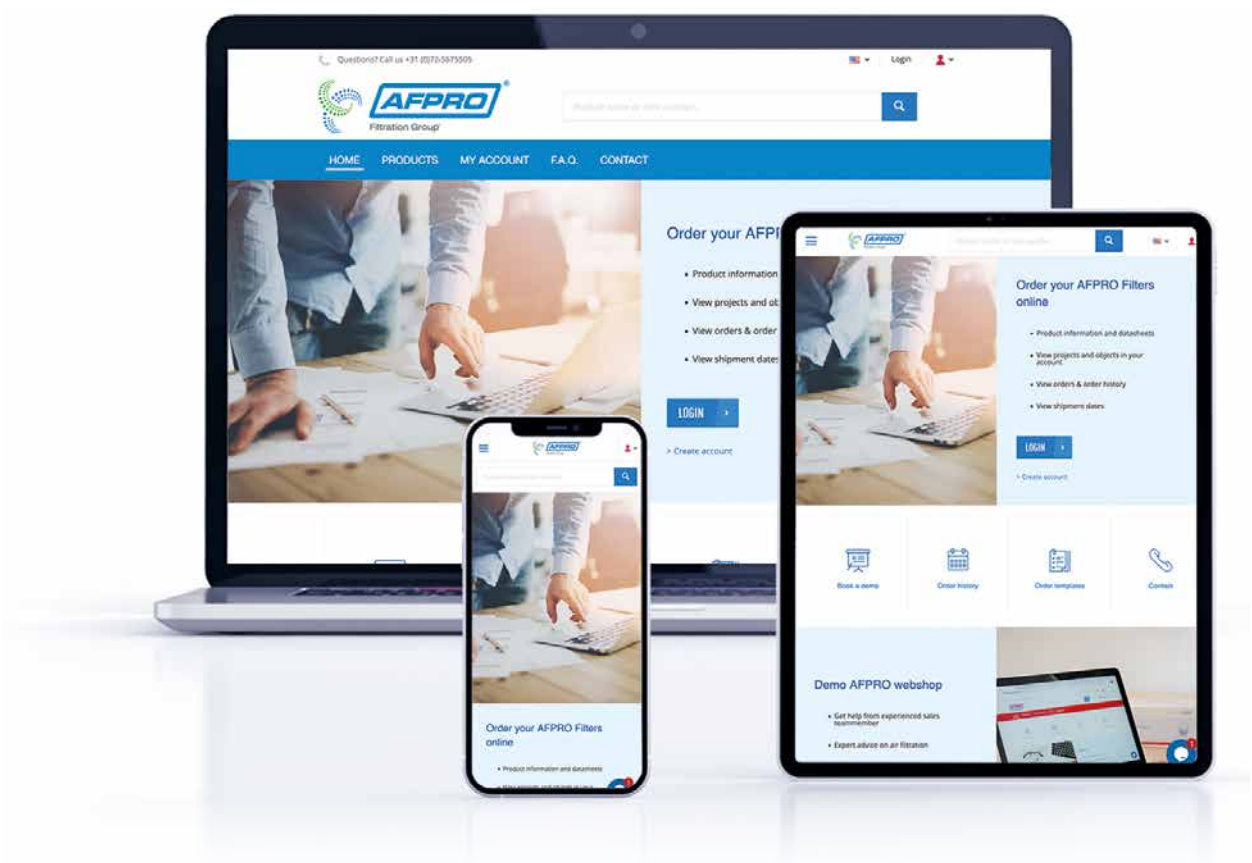
Advice to save energy and money



«Choosing energy-efficient air filters can significantly reduce energy bills»

AFPRO ONLINE WEBSHOP – FOR YOUR CONVENIENCE

AFPRO Online allows you to easily log in to your personal customer domain and re-order what you have ordered previously in just a few clicks. Just find the products you are looking for, place your order and enjoy the convenience of having full order information at your fingertips.



Main features

- Personal account with easy access to products, order information and history.
- Complete order history with an easy to use re-order process.
- Save filter lists and create your own online database.
- Check and order your open quotations.
- Browse the entire range of products and click to order.
- Check the status of your order.
- Not sure about something? Just take your time to check. AFPRO Online saves all entered data until you are ready to proceed with your order.
- If you have a question just click ‘contact’ to get in touch with our customer service desk or contact us via the online chat.

Advantages

- Save time.
- Easy order and re-order process
- Insight in your invoices, quotations, prices and order history.
- Shipping information available.

Create your account now via:

- Send an e-mail to sales@afprofilters.com

Discover AFPRO Online

Shopping cart page

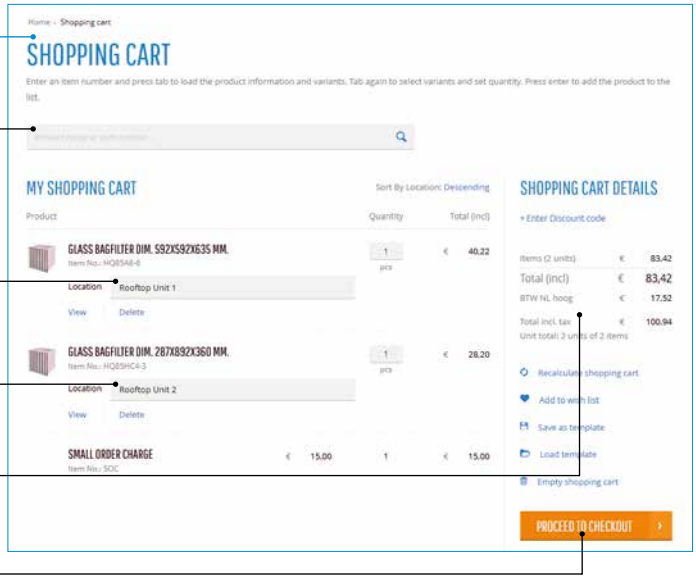
Enter the product number to find the product you are looking for

Find the product you are looking for

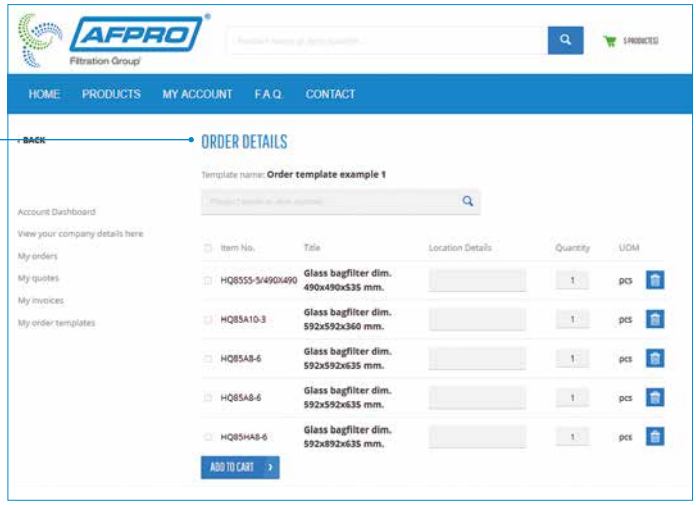
Specify location details

Order easily

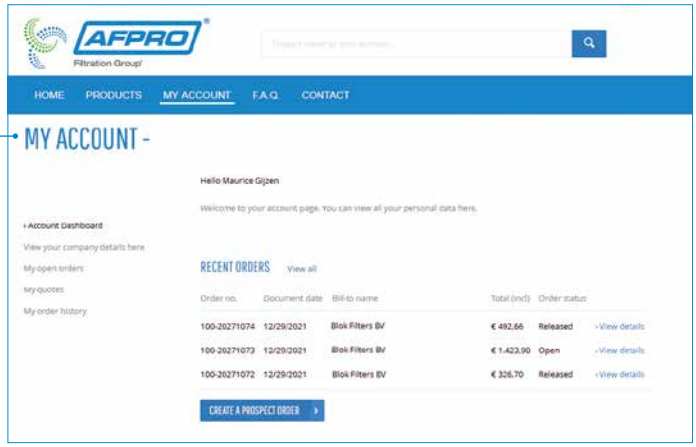
Complete your order simply and securely



Order details page



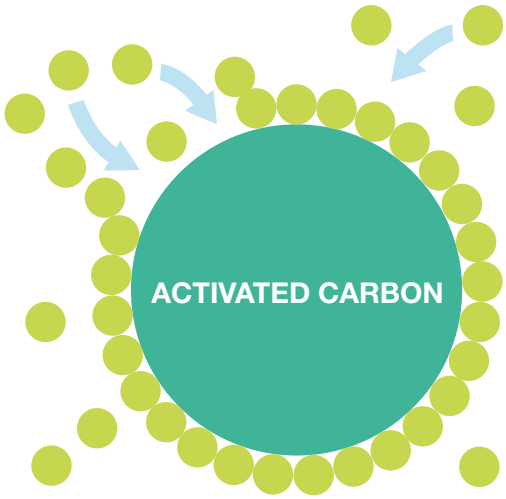
My account page



THE PRINCIPLES OF AIR FILTRATION

There are two basic types of air filter: Filters for solids and filters for gaseous particles. Both types have the same objective; to reduce the concentration of airborne particles. Gaseous particles can be filtered out by means of adsorption. To explain this we need to look at the laws of physics.

GASEOUS PARTICLES



Gaseous particles

Adsorption is brought about by so called ‘London dispersion forces’, or ‘Van der Waal’s forces’, which act between the molecules. These electromagnetic forces have similar properties to the forces of gravity acting between planets in the solar system.

Our filters contain activated carbon which is capable to remove particles from the air by simply adsorbing them. Different filters may use different types of carbon, depending on the particular field of application. Read more about the activated carbon filter on page 119.

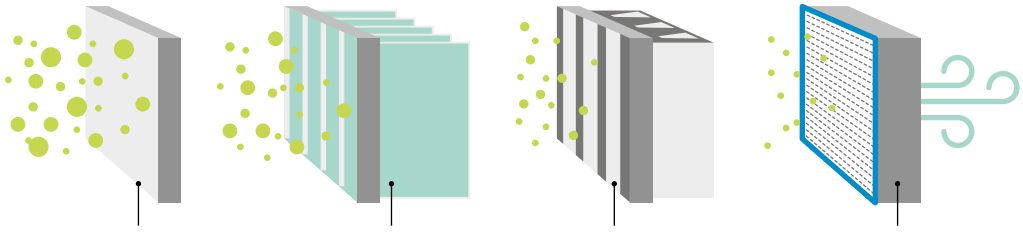
SOLID PARTICLES

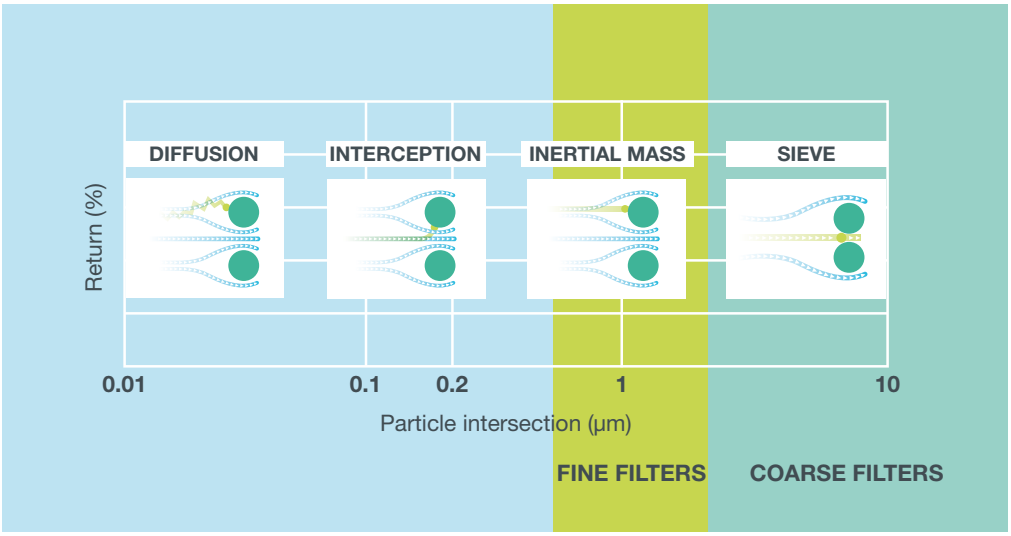
The art of capturing particles

There are four ways of capturing particles. Every type of particle has a unique way of traveling through air. They can also react differently to each other or the kind of filter it comes across. The magnitude of the effects is determined by the combination of the particle size, the filter class and the filter construction. Air filters may apply:

- The sieve effect
- The inertial mass effect
- The interception effect
- The diffusion effect

Learn more about the principles of air filtration

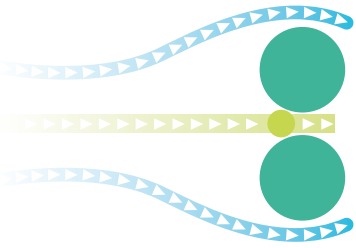




FOUR WAYS OF CAPTURING PARTICLES

The sieve effect

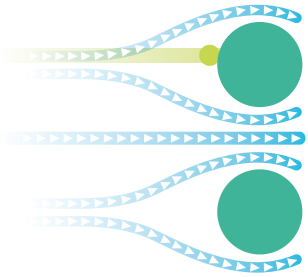
The sieve effect is one most commonly applied in air filters. The principle of the sieve effect is very simple: the particle is larger than the gap between the media fibers and therefore gets trapped.



SIEVE EFFECT

The inertial mass effect

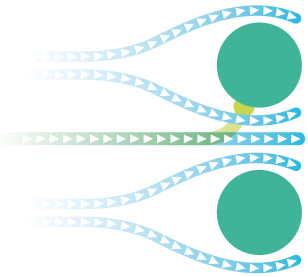
This filter principle is applied when the particles have substantial mass. The particle arrives at high velocity. Due to its mass, the particle collides with the media fiber, instead of being deflected with the airflow.



INERTIAL MASS EFFECT

The interception effect

The fact that particles exert forces of attraction on one another is crucial to this filter principle. The larger media fibers attract the relatively small dust particles. Once the particles have been intercepted they remain stuck between the media fibers.

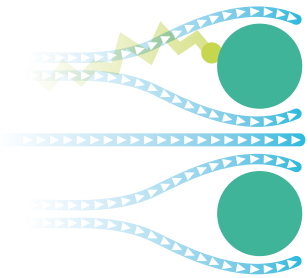


INTERCEPTION EFFECT

The diffusion effect

Particularly small particles often pursue an irregular path. This phenomenon is referred to as Brownian motion. The path that the particles follow may digress from that of the airflow. Brownian motion increases the chances of the particle colliding with the media fibers.

The magnitude of the effects is determined by the combination of the particle size, the filter class and the filter construction.



DIFFUSION EFFECT

Filter fiber Particle Airflow Particle path

FILTER CLASSIFICATIONS AND GUARANTEES

Most people, and with this we mean end users, have no idea how to rate the quality of an air filter. So how can you establish the certainty that the product you bought or wish to buy does the job?

You need a standardized guarantee whether a filter will provide the envisaged air quality.
This is why air filters are classified according to several standards:

- ISO 16890* (formally EN779:2012 for the EU and ASHRAE 52.2 for the USA) for coarse and fine filters.
- EN1822:2019 for High efficiency air filters (EPA, HEPA and ULPA).

* The ISO 16890 standard has been introduced at the end 2016. More information about the ISO 16890 standard can be found on page 19.

Put it to the test

The filters are tested in both our own and independent laboratories. During the compliance tests, the filters are exposed to circumstances which indicate precisely how they will perform in practice. For our customers, it is comforting to know that all the products AFPRO Filters supplies are compliant with the ISO 16890 and EN1822:2019 classifications. Furthermore, AFPRO Filters complies with the stringent requirements of the Eurovent certification program. This guarantees that the actual filter performance is in line with the specifications presented. Read more about the Eurovent certification on page 23.

MPPS

The MPPS (Most Penetrating Particle Size) efficiency is leading in these tests. MPPS stands for most penetrating particle size. This refers to the dimensions of those particles that are the most difficult to trap. It generally lies in the region of 0.1 to 0.2 microns (µm). The MPPS has to be established before subjecting a filter to tests. The table contains detailed information on the European filter classifications. AFPRO Filters supplies test certificates with all HEPA and ULPA filters from H13. You can rest assured that the filter supplied is of suitable quality. However, we do recommend subsequent validation of the filters following installation, to ensure that they were not damaged during transport or fitting.

COMPARISON SUMMARY FILTER TEST CLASSIFICATION

Fine filters				
Norms	**ISO 16890**			
Filter class	ISO coarse	ePM10	ePM2.5	ePM1
Efficiency	< 50%	ISO ePM10 ≥ 50%	ISO ePM2.5 ≥ 50%	ISO ePM1 ≥ 50%
Filter test	**Test method:** Efficiency measurements carried out with particles from 0.3 to 10 µm The classifications relate to the result for PM1, PM2.5, PM10 **Unload method:** Unload the entire filter using IPA value			

High efficiency air filters								
Norms	**EN1822:2019**							
Filter class	E10	E11	E12	H13	H14	U15	U16	U17
Efficiency * Global value (%)	85	95	99.5	99.95	99.995	99.9995	99.99995	99.999995
Filter test	**The test includes:** Determining the MPPS value on the flat media the local filter, fficiency at this MPPS (leak measurement) and the overall efficiency of the MPPS filter. These checks must be carried out on 100% of the filters from H13 and individual report must accompany the filters.							

ABOUT ISO 16890

To ensure the quality of a service or product ISO standards were incorporated into most businesses. An ISO standard means that a service or product complies with the general expectations concerning safety, durability and effectiveness.

The classification of air filters based on the minimum efficiency of a filter is currently measured by the ISO 16890 standard. It means our products are tested on particles that vary in size between 0.3 and 10 microns.
The standard replaces the old EN779 which only tested on particles up to 0.4 µm. Thanks to the ISO 16890 standard, we can provide insight to which certain filters offer protection against particulate matter.

ISO 16890

The ISO 16890 has ensured the further development of several bag filter products.
AFPRO Filters has made sure that all its bag filters comply with the ISO 16890 by improving the filter medium. Because AFPRO Filters manufacture its own media, this improvement was applied rapidly and the new filters were immediately implemented to Eurovent.
Through the Eurovent “certify all” program for air filters, the customer is assured of the quality of AFPRO Filters.

How are the filters tested?

To determine what a filter does and does not catch, we place the filter in a test rig. In this test rig we determine the efficiency (Ei) of the filter with the standardized test substance.
The filter then goes for 24 hours in a special cabinet where IPA (Isopropyl alcohol) is sprayed. In this way we eliminate the effect of any electrostatic charge. We put the filter back into the test bench and again measure the efficiency. *($E_{D,i}$)*.

We measure efficiency with:

- ePM1 0.3 - 1 micron
- ePM2.5 0.3 - 2.5 microns
- ePM10 0.3 - 10 microns

The average efficiency then becomes: $E_{A,i} = 0{,}5 \bullet (E_i + E_{D,i})$

Classification according to ISO 16890

ISO 16890 classifies air filters into 4 groups. To fall into a certain group, a filter must capture at least 50% of the respective particle size. If a filter catches more than 50% of the PM1 particles, it is an ISO ePM1 filter. If a filter catches less than 50% of the PM10 particles, it falls under the ISO Coarse filters.

ISO ePM1	ePM1, min ≥ 50%
ISO ePM2.5	ePM2.5, min ≥ 50%
ISO ePM10	ePM10 ≥ 50%
ISO Coarse	ePM10 ≤ 50%, classification based on initial arrestance

A distinction is made within the various groups based on percentage efficiency. We round this percentage down to 5%. If you are looking for a filter that captures 60% of all particles smaller than 1 microns, then choose an ePM1 60% filter. If 80% of those particles have to be stopped, then an ePM1 80% filter is the right option.

Learn more about the ISO 16890

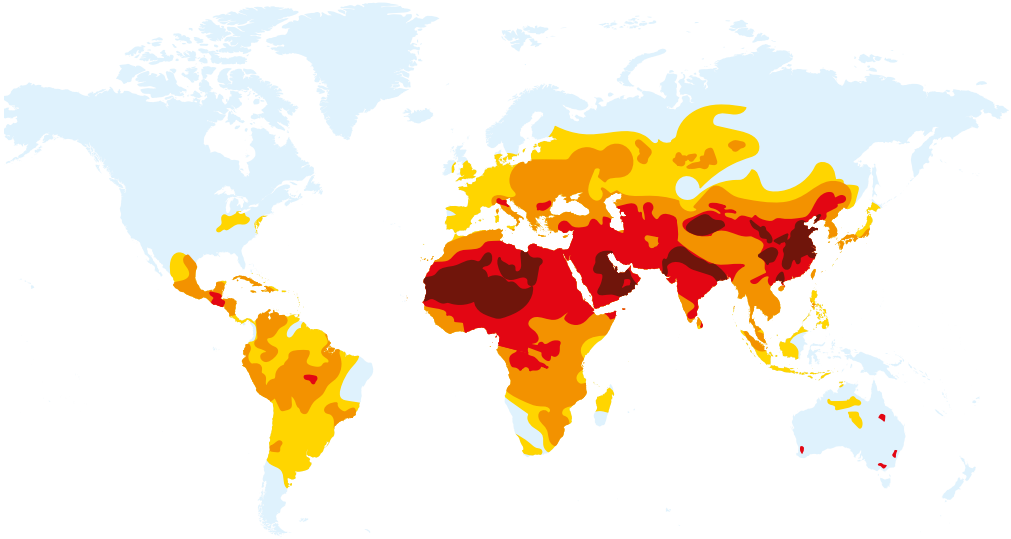
ABOUT ISO 16890

Continued

How do I choose the right filter?

Eurovent has drawn up a guideline for selecting air filters based on ISO 16890; Directive 4/23-2022. The table below shows how the different filter classes relate to the quality of the outside air and the desired classification of the supply air.

OUTDOOR AIR QUALITY



Annual average (µm³)

Less than 10 | 10-12 ODA1 | 12-14 ODA2 | 14-16 ODA3 | More than 16

Source: WHO

Outdoor air quality	ePM2.5	ePM10
ODA1	≤ 5µg/m³	≤ 15µg/m³
ODA2	≤ 7.5µg/m³	≤ 22.5µg/m³
ODA3	> 7.5µg/m³	> 22.5µg/m³

ABOUT ISO 16890

Continued

Outdoor air quality	ePM1 SUP1*	ePM1 SUP2*	ePM2.5 SUP3**	ePM10 SUP4	ePM10 SUP5
ODA1	70%	50%	50%	50%	50%
ODA2	80%	70%	70%	80%	50%
ODA3	90%	80%	80%	90%	80%
	Industrial applications with high hygienic demands e.g. like:	**Rooms for permanent occupation e.g. like:**	**Rooms with temporary occupation e.g. like:**	**Rooms with short term occupation e.g. like:**	**Rooms without occupation e.g. like:**
	• Hospitals • Pharmaceutics • Electronics • Supply air to clean rooms	• Nursery • Offices • Hotels • Residential • Meeting rooms • Exhibition halls • Conference halls • Theatres • Cinemas • Concert halls	• Shopping centers • Washing rooms • Server rooms • Copier rooms	• Rest rooms • Storage rooms • Stair ways	• Garbage • Data centers • Underground car parks
		Industrial applications with medium hygienic demands e.g. like:	**Industrial applications with low hygienic demand e.g. like:**	**Industrial applications without hygienic demands e.g. like:**	**Production areas of the heavy industry e.g. like:**
		• Food & beverages production	• Food & beverages production with low hygienic demand	• General production areas in automotive industry	• Steel mill • Smelters • Welding plants

Supply air, (SUP) = Airflow entering the treated room, or air entering the system after any treatment

* MIN filtration requirements ISO ePM1 50% | ** MIN filtration requirements ISO ePM2.5 50%

Outdoors

ODA1

- PM2.5 ≤ 5µg/m³ & PM10 ≤ 15µg/m³
- Outdoor air that is only temporarily contaminated
- Applies in situations where the particulate matter directive of the WHO is not exceeded

ODA2

- PM2.5 ≤ 7.5µg/m³ & PM10 ≤ 22.5µg/m³
- Outdoor air with high concentrations of particulate matter
- Applies in situations where the particulate matter directive of the WHO is exceeded by a factor of 1.5

ODA3

- PM2.5> 7.5µg/m³ & PM10> 22.5µg/m³
- Outdoor air with very high concentrations of particulate matter
- Applies in situations where the WHO guideline is exceeded by a factor > 1.5

Supply air

SUP1

- PM2.5 ≤ 1.25µg/m³ & PM10 ≤ 3.75µg/m³
- Rooms where the demands on hygiene are high such as hospitals, pharmaceutical companies, the electronic and optical industry, clean rooms, etc.

SUP2

- PM2.5 ≤ 2.5µg/m³ & PM10 ≤ 7.5µg/m³
- Rooms that are regularly or permanently occupied such as (nursery) schools, offices, hotels, residential buildings, meeting rooms, exhibition rooms, conference rooms, theaters, cinemas, concert halls, etc.

SUP3

- PM2.5 ≤ 3.75µg/m³ & PM10 ≤ 11.25µg/m³
- Spaces with a temporary occupation such as warehouses, shopping centers, laundry rooms, server rooms, copy rooms, etc.

SUP4

- PM2.5 ≤ 5µg/m³ & PM10 ≤ 15µg/m³
- Rooms with a occasional occupation such as storage rooms, toilet rooms, stairwells, etc.

SUP5

- PM2.5 ≤ 7,5µg/m³ & PM10 ≤ 22.5µg/m³
- Spaces without occupation such as garages, data centers, underground parking garages, etc.

ABOUT ISO 16890

Continued

	ISO Coarse	ePM10	ePM2.5	ePM1
95%				
90%				
85%				HQ98
80%				HPQ-98, CP/CPMC-F9, HPQ-98/ES
75%				
70%				
65%				
60%				HQ85, PXL, DS-F7-V12, HPQ-85/ES
55%				HPQ-85, CP/CPMC-F7, CP/CPMC-F7/HC
50%				ECO70

	ISO Coarse	ePM10	ePM2.5	ePM1
95%				
90%				
85%				
80%				
75%				
70%			PQL	
65%				
60%				
55%			HPQ-65, CP-M6	
50%			HQ65	

	ISO Coarse	ePM10	ePM2.5	ePM1
95%				
90%				
85%		HPQ-AK-85		
80%		PML, DS-F7-V02,		
75%		CP/CPMC-M5, PGL		
70%		DS-M6+		
65%				
60%		DS-M6, HPQ-AK-60, PlusAir-M6		
55%		PFL, PTL		
50%		APMC-PM10 PFS, PlusAir-M5, DS-M5, F360/560		

	ISO Coarse	ePM10	ePM2.5	ePM1
95%				
90%	HD55			
85%	DS-G4			
80%	HSB55, HPQ-AK			
75%				
70%	PlusAir-G4, HSB35, T15/500, APMC, AERO, APKK, APAK, AQUA, ECO-V,			
65%				
60%	NA45			
55%				
50%	GP-2", PST290, PST640, T15/150, NA23			
40%				
30%	DF150, NA11, GP-1"			

EUROVENT ENERGY LABELS

On 1 January 2019, Eurovent launched the new energy efficiency classification based on the ISO 16890 standard. Based on this new standard it is possible to better compare the energy consumption of air filters.

Energy labels

Via Eurovent, our bag filters have obtained an energy label, which makes it easier to make a mutual comparison of all available filters. A filter with a smaller filter area and fewer or shorter bags, will be rated with a lower energy label and will consume more energy in practice. The labels clearly show the expected energy consumption, which is very important considering that 70-80% of the life cycle costs are determined by energy. AFPRO Filters offers bag filters with variable energy labels.

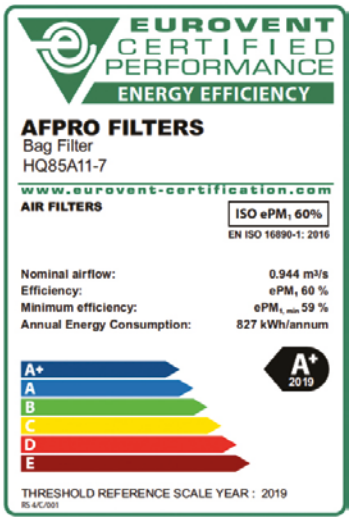
The following formula is used to calculate energy consumption on an annual basis:

W = (Qv) Δp ·t)/(η ·1000)
W = annual energy consumption (kWh/y)
Qv = air flow (m³/s)
Δp = average pressure drop (Pa)
t = annual operating time (hours)
η = fan efficiency (%)

Eurovent uses several constants within this formula. The air flow is 0.944 m³/s, the number of operating hours is 6000 and the fan efficiency is set at 50%. The only variable is the average pressure drop.

The outcome of the formula then determines how energy efficient a filter is. The lower the number of kWh, the lower the energy consumption. The lower the energy consumption, the better the energy label.

ENERGY EFFICIENCY CLASS LIMITS FOR EACH FILTER CLASS ACCORDING TO EN ISO 16890:2016 MEASURED AT 0.944 M³/S



AEC in kWh/y ePM1	A+	A	B	C	D	E
50 & 55%	800	900	1050	1400	2000	> 2000
60 & 65%	850	950	1100	1450	2050	> 2050
70 & 75%	950	1100	1250	1550	2150	> 2150
80 & 85%	1050	1250	1450	1800	2400	> 2400
>90%	1200	1400	1550	1900	2500	> 2500
AEC in kWh/y ePM2.5	A+	A	B	C	D	E
50 & 55%	700	800	950	1300	1900	> 1900
60 & 65%	750	850	1000	1350	1950	> 1950
70 & 75%	800	900	1050	1400	2000	> 2000
80 & 85%	900	1000	1200	1500	2100	> 2100
>90%	1000	1100	1300	1600	2200	> 2200
AEC in kWh/y ePM10	A+	A	B	C	D	E
50 & 55%	450	550	650	750	1100	> 1100
60 & 65%	500	600	700	850	1200	> 1200
70 & 75%	600	700	800	900	1300	> 1300
80 & 85%	700	800	900	1000	1400	> 1400
>90%	800	900	1050	1400	1500	> 1500

AEC = Annual Energy Consumption

THE BENEFITS OF GLASS FIBER

With our new generation of glass fiber bag filters, we have combined the benefits of synthetic filters with the advantages of glass fiber filters. AFPRO filters has defined the new standard.

Fiber is a logical choice

To design filters with which to tackle fine dust, the switch to glass fiber was obvious. glass fiber has many advantages over synthetic material:

- High dust holding capacity.
- Excellent thermal tolerance.
- Sustained high efficiency.
- Superior effectiveness to fine dust.

AFPRO Filters is the only air filter manufacturer in the world to make its own glass fiber filter medium.

Unique pre-layer

Our glass fiber filters are equipped with an extra protective pre-layer.
This layer increases the filter efficiency, protects the user during installation by ensuring that there is no contact with the glass fiber and makes it impossible for any of the fibers to come loose. The media has been independently tested and certified by the VDI (Verein Deutscher Ingenieure).

Wide range of products

AFPRO Filters has a wide range of glass fiber media available. The medium is made up of a filtration layer and a supporting layer which, depending on the application, can be made of plastic or glass fiber.

Energy saving

When comparing the same design, in terms of dimensions, number of pockets, ISO classification etc., then in general the glass fiber media will have a better energy performance than synthetic media.
An additional advantage is the longer service life of these filters. This means fewer filter changes per year and therefore less labor and waste costs.

Download the certificate

GLASS FIBER

«AFPRO Filters is the only air filter manufacturer in the world to make its own glass fiber filter medium»

«It is comforting to know that all the products AFPRO Filters supplies are compliant with the ISO 16890 and/or EN1822:2019 classifications»

HIGH EFFICIENCY AIR FILTERS ACCORDING TO EN1822:2019

EPA, HEPA, and ULPA filters are classified in Europe according to EN1822. This was the first standard to establish a filter classification system for High efficiency air filters based on the filtration process theory.

The EN1822 defines 3 classes:

- Group E: EPA filters (efficient air filters)
- Group H: HEPA filters (high efficiency air filters)
- Group U: ULPA filters (air filters with very low penetration)

Classification

High efficiency air filters are air filters that block at least 85% of the most penetrating particle size (MPPS). In practice, these are particles of between 0.1 - 0.3 µm in diameter. The classification indicates what percentage of the MPPS particles are stopped. This varies from> 85% (class E10) to> 99.999995% (class U17).

Application

High efficiency air filters are used in rooms with very high air quality requirements. Examples include cleanrooms, aerospace, the pharmaceutical industry, operating theaters and quarantine departments and in hospitals. The use of High efficiency air filters is also mandatory for the removal of asbestos.

EPA, HEPA, ULPA FILTERS

Filter Class	General value MPPS[1]		Local value MPPS[1]	
	efficiency (%)	Penetration (%)	efficiency (%)	Penetration (%)
E10	85	15	-	-
E11	95	5	-	-
E12	99.5	0.5	-	-
H13	99.95	0.05	99.75	0.25
H14	99.995	0.005	99.975	0.025
U15	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

[1] MPPS: The most penetrating particle size. In other words, MPPS is the most difficult particle size to stop. Depending on the filters and the air flow speed, MPPS ranges from 0.1 to 0.2 µm.

«Our wide range of filters enables us to offer a suitable solution for a healthy indoor climate in many applications»

TABLE OF CONTENTS - FILTERS

ISO Coarse
ePM10
ePM2.5
ePM1

Bag filters

ISO Coarse
ePM10
ePM2.5
ePM1
E10
E11
E12
H13

Compact filters

ISO Coarse
ePM10
ePM2.5
ePM1

Panel filters

E10
E11
E12
H13
H14
U15

High efficiency air filters / Turbulent filters

High efficiency air filters / Laminar filters

Terminal units

ISO Coarse
ePM10

Activated carbon filters

ISO Coarse

Filter media

Holding frames

«Providing a healthier indoor environment and reducing energy consumption, work hand in hand»

BAG FILTERS

AFPRO Filters bag filters are used as a pre- or fine filter in air conditioning systems among other things. The filters are available in filter classes ISO Coarse, ePM10, ePM2.5, ePM1 in compliance to ISO 16890. Furthermore, ePM1, ePM2.5 and ePM10 filters are certified by Eurovent. The filter media, made from both polymer and glass fibers, are assembled in a robust steel or aluminum frame.

Advantages

- Large filter area
- Unique construction and opening of filter bags
- Very high dust retention capacity through use of high-grade filter materials
- Long filter lifetime
- Low energy consumption
- Dimensioning according to EN15805
- Corrosion free
- Simple waste processing

Structure

The bag filters are constructed with a unique structure which provides the lowest resistance possible. The separate bags are merged into an aluminum, plastic or steel frame. The filters resist up to 70°C and 95% relative humidity.

Application

Bag filters are used in air conditioning units and systems, industrial systems and as pre-filters for clean rooms and pharmaceuticals sector.

The HQ-series is perfect to use in areas with high concentrations of particulate matter

- The media of the HQ bag filters consists of a new generation of super fine fibers. The material is finished with a dense membrane that prevents fiber migration.
- The HQ-series is labelled with the best energy rating (A+).

Discover our bag filter range

BAG FILTER INDEX

Explanation product numbers	HQ85	A	10	6
	1	2	3	4

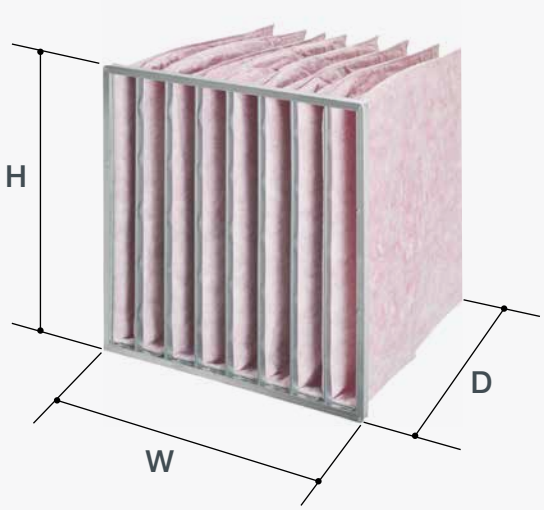
Bag filter index

1 **Type of filter**
Example of reference:
HQ85

2 **Frame dimension WxH**
A = 592x592 mm
B = 490x592 mm
C = 287x592 mm
HA = 592x890 mm
HB = 490x890 mm
HC = 287x890 mm
CC = 287x287 mm

3 **Number of bags**
Example HQ85A**10**-6
4 = 4 bags
5 = 5 bags
6 = 6 bags
8 = 8 bags
10 = 10 bags
12 = 12 bags

4 **Bags depth**
Example HQ85A10-**6**
3 = 360 mm
5 = 535 mm
6 = 635 mm
7 = 670 mm
/90 = cross bags (90°)



BAG FILTERS

HQ55 series

ePM10

Specifications

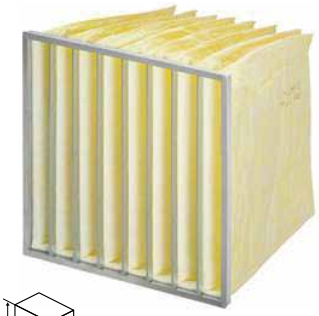
Application: Fine filter, HVAC, industry
Frame: Galvanized steel/aluminum
Spacers: Sewing thread
Bonding: -
Medium: Glass fiber
Gasket: Optional, Continuous poured gasket
Filter class according to ISO 16890: ePM10
Maximum final pressure drop: 450Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Lightweight frame
- High dust holding capacity
- Constant efficiency
- Protective pre-layer
- No fiber shedding

Options

- ATEX



Type	Dimensions WxHxD (mm)	Filter class ISO 16890	# Bags	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
HQ55A6-3	592x592x360	ePM10 70%	6	2.6	3400	135	2	609x144x607	E
HQ55C6-3/90	592x287x360	ePM10 70%	6	1.3	1650	135	4	609x144x607	-
HQ55A6-5	592x592x535	ePM10 70%	6	3.8	3400	85	2	609x183x607	D
HQ55C6-5/90	592x287x535	ePM10 70%	6	1.9	1650	85	4	609x183x607	-
HQ55A6-6	592x592x635	ePM10 70%	6	4.6	3400	75	2	609x183x607	-
HQ55B5-6	490x592x635	ePM10 70%	5	3.8	2810	75	2	609x183x607	-
HQ55B6-6/90	592x490x635	ePM10 70%	6	3.8	2810	75	2	609x183x607	-
HQ55C3-6	287x592x635	ePM10 70%	3	2.3	1650	75	4	609x183x607	-
HQ55C6-6/90	592x287x635	ePM10 70%	6	2.2	1650	75	4	609x183x607	-
HQ55HA6-6	592x890x635	ePM10 70%	6	6.8	5110	75	2	909x183x607	-
HQ55HB5-6	490x890x635	ePM10 70%	5	5.7	4230	75	2	909x183x607	-
HQ55HC3-6	287x890x635	ePM10 70%	3	3.4	2480	75	4	909x183x607	-
HQ55A8-3	592x592x360	ePM10 70%	8	3.4	3400	90	2	609x144x607	E
HQ55B6-3	490x592x360	ePM10 70%	6	2.5	2810	90	2	609x144x607	-
HQ55B8-3/90	592x490x360	ePM10 70%	8	2.8	2810	90	2	609x144x607	-
HQ55C4-3	287x592x360	ePM10 70%	4	1.7	1650	90	4	609x144x607	-
HQ55C8-3/90	592x287x360	ePM10 70%	8	1.6	1650	90	4	609x144x607	-
HQ55CC4-3	287x287x360	ePM10 70%	4	0.8	800	90	8	609x144x607	-
HQ55HA8-3	592x890x360	ePM10 70%	8	5.1	5110	90	2	909x144x607	-
HQ55HB6-3	490x890x360	ePM10 70%	6	3.8	4230	90	2	909x144x607	-
HQ55HC4-3	287x890x360	ePM10 70%	4	2.5	2480	90	4	909x144x607	-
HQ55A8-5	592x592x535	ePM10 70%	8	5.0	3400	80	2	609x183x607	D
HQ55B6-5	490x592x535	ePM10 70%	6	3.8	2810	80	2	609x183x607	-
HQ55B8-5/90	592x490x535	ePM10 70%	8	4.1	2810	80	2	609x183x607	-
HQ55C4-5	287x592x535	ePM10 70%	4	2.5	1650	80	4	609x183x607	-
HQ55C8-5/90	592x287x535	ePM10 70%	8	2.4	1650	80	4	609x183x607	-
HQ55CC4-5	287x287x535	ePM10 70%	4	1.2	800	80	8	609x183x607	-
HQ55HA8-5	592x890x535	ePM10 70%	8	7.6	5110	80	2	909x183x607	-
HQ55HB6-5	490x890x535	ePM10 70%	6	5,7	4230	80	2	909x183x607	-
HQ55HC4-5	287x890x535	ePM10 70%	4	3.8	2480	80	4	909x183x607	-
HQ55A8-6	592x592x635	ePM10 70%	8	6.0	3400	70	2	609x183x607	C
HQ55B6-6	490x592x635	ePM10 70%	6	4.5	2810	70	2	609x183x607	-
HQ55B8-6/90	592x490x635	ePM10 70%	8	4.9	2810	70	2	609x183x607	-
HQ55C4-6	287x592x635	ePM10 70%	4	3.0	1650	70	4	609x183x607	-
HQ55C8-6/90	592x287x635	ePM10 70%	8	2.9	1650	70	4	609x183x607	-
HQ55CC4-6	287x287x635	ePM10 70%	4	1.4	800	70	8	609x183x607	-
HQ55HA8-6	592x890x635	ePM10 70%	8	9.0	5110	70	2	909x183x607	-
HQ55HB6-6	490x890x635	ePM10 70%	6	6.8	4230	70	2	909x183x607	-

* According to Eurovent ECP-11-FIL

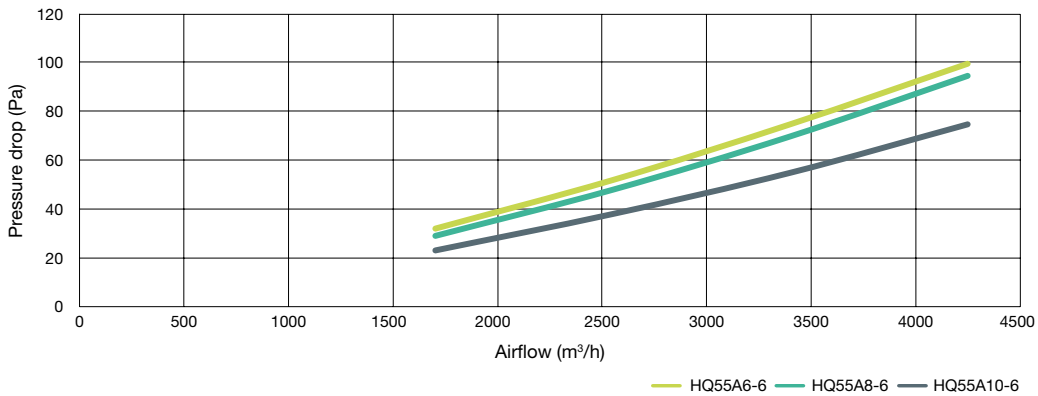
HQ55 series continued

ePM10

Type	Dimensions WxHxD (mm)	Filter class ISO 16890	# Bags	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
HQ55HC4-6	287x890x635	ePM10 70%	4	4.5	2480	70	4	909x183x607	-
HQ55A10-3	592x592x360	ePM10 70%	10	4.2	3400	80	2	609x144x607	E
HQ55C5-3	287x592x360	ePM10 70%	5	2.1	1650	80	4	609x144x607	-
HQ55A10-5	592x592x535	ePM10 70%	10	6.2	3400	65	2	609x183x607	D
HQ55C5-5	287x592x535	ePM10 70%	5	3.1	1650	65	4	609x183x607	-
HQ55A10-6	592x592x635	ePM10 70%	10	7.4	3400	55	2	609x240x607	-
HQ55B8-6	490x592x635	ePM10 70%	8	5.9	2810	55	2	609x183x607	-
HQ55C5-6	287x592x635	ePM10 70%	5	3.7	1650	55	4	609x183x607	-
HQ55HA10-6	592x890x635	ePM10 70%	10	11.1	5110	55	2	909x240x607	-
HQ55HB8-6	490x890x635	ePM10 70%	8	8.9	4230	55	2	909x183x607	-
HQ55HC5-6	287x890x635	ePM10 70%	5	5.6	2480	55	4	909x240x607	-

* According to Eurovent ECP-11-FIL

HQ55 SERIES



BAG FILTERS

HQ65 series

ePM2.5

Specifications

Application: Fine filter, HVAC, industry
Frame: Galvanized steel/aluminum
Spacers: Sewing thread
Bonding: -
Medium: Glass fiber
Gasket: Optional, Continuous poured gasket
Filter class according to ISO 16890: ePM2.5
Maximum final pressure drop: 450Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Lightweight frame
- High dust holding capacity
- Constant efficiency
- Protective pre-layer
- No fiber shedding

Options

- ATEX

Type	Dimensions WxHxD (mm)	Filter class ISO 16890	# Bags	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
HQ65A6-3	592x592x360	ePM2.5 50%	6	2.6	3400	135	2	609x144x607	E
HQ65C6-3/90	592x287x360	ePM2.5 50%	6	1.3	1650	135	4	609x144x607	-
HQ65A6-5	592x592x535	ePM2.5 50%	6	3.8	3400	90	2	609x183x607	D
HQ65C6-5/90	592x287x535	ePM2.5 50%	6	1.9	1650	90	4	609x183x607	-
HQ65A6-6	592x592x635	ePM2.5 50%	6	4.6	3400	80	2	609x183x607	C
HQ65B5-6	490x592x635	ePM2.5 50%	5	3.8	2810	80	2	609x183x607	-
HQ65B6-6/90	592x490x635	ePM2.5 50%	6	3.8	2810	80	2	609x183x607	-
HQ65C3-6	287x592x635	ePM2.5 50%	3	2.3	1650	80	4	609x183x607	-
HQ65C6-6/90	592x287x635	ePM2.5 50%	6	2.2	1650	80	4	609x183x607	-
HQ65HA6-6	592x890x635	ePM2.5 50%	6	6.8	5110	80	2	909x183x607	-
HQ65HB5-6	490x890x635	ePM2.5 50%	5	5.7	4230	80	2	909x183x607	-
HQ65HC3-6	287x890x635	ePM2.5 50%	3	3.4	2480	80	4	909x183x607	-
HQ65A8-3	592x592x360	ePM2.5 50%	8	3.4	3400	100	2	609x144x607	D
HQ65B6-3	490x592x360	ePM2.5 50%	6	2.5	2810	100	2	609x144x607	-
HQ65B8-3/90	592x490x360	ePM2.5 50%	8	2.8	2810	100	2	609x144x607	-
HQ65C4-3	287x592x360	ePM2.5 50%	4	1.7	1650	100	4	609x144x607	-
HQ65C8-3/90	592x287x360	ePM2.5 50%	8	1.6	1650	100	4	609x144x607	-
HQ65CC4-3	287x287x360	ePM2.5 50%	4	0.8	800	100	8	609x144x607	-
HQ65HA8-3	592x890x360	ePM2.5 50%	8	5.1	5110	100	2	909x144x607	-
HQ65HB6-3	490x890x360	ePM2.5 50%	6	3.8	4230	100	2	909x144x607	-
HQ65HC4-3	287x890x360	ePM2.5 50%	4	2.5	2480	100	4	909x144x607	-
HQ65A8-5	592x592x535	ePM2.5 50%	8	5.0	3400	75	2	609x183x607	C
HQ65B6-5	490x592x535	ePM2.5 50%	6	3.8	2810	75	2	609x183x607	-
HQ65B8-5/90	592x490x535	ePM2.5 50%	8	4.1	2810	75	2	609x183x607	-
HQ65C4-5	287x592x535	ePM2.5 50%	4	2.5	1650	75	4	609x183x607	-
HQ65C8-5/90	592x287x535	ePM2.5 50%	8	2.4	1650	75	4	609x183x607	-
HQ65CC4-5	287x287x535	ePM2.5 50%	4	1.2	800	75	8	609x183x607	-
HQ65HA8-5	592x890x535	ePM2.5 50%	8	7.6	5110	75	2	909x183x607	-
HQ65HB6-5	490x890x535	ePM2.5 50%	6	5.7	4230	75	2	909x183x607	-
HQ65HC4-5	287x890x535	ePM2.5 50%	4	3.8	2480	75	4	909x183x607	-
HQ65A8-6	592x592x635	ePM2.5 50%	8	6.0	3400	70	2	609x183x607	B
HQ65B6-6	490x592x635	ePM2.5 50%	6	4.5	2810	70	2	609x183x607	-
HQ65B8-6/90	592x490x635	ePM2.5 50%	8	4.9	2810	70	2	609x183x607	-
HQ65C4-6	287x592x635	ePM2.5 50%	4	3.0	1650	70	4	609x183x607	-
HQ65C8-6/90	592x287x635	ePM2.5 50%	8	2.9	1650	70	4	609x183x607	-
HQ65CC4-6	287x287x635	ePM2.5 50%	4	1.4	800	70	8	609x183x607	-
HQ65HA8-6	592x890x635	ePM2.5 50%	8	9.0	5110	70	2	909x183x607	-
HQ65HB6-6	490x890x635	ePM2.5 50%	6	6.8	4230	70	2	909x183x607	-

* According to Eurovent ECP-11-FIL

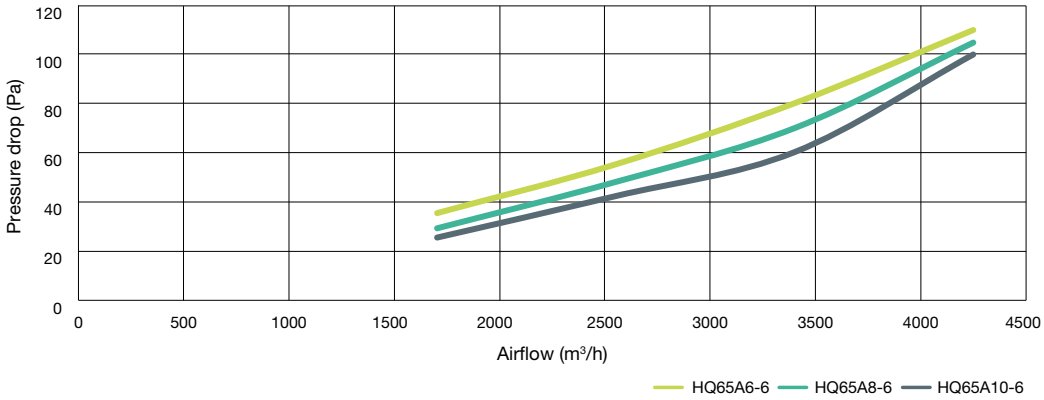
HQ65 series continued

ePM2.5

Type	Dimensions WxHxD (mm)	Filter class ISO 16890	# Bags	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
HQ65HC4-6	287x890x635	ePM2.5 50%	4	4.5	2480	70	4	909x183x607	-
HQ65A10-3	592x592x360	ePM2.5 50%	10	4.2	3400	100	2	609x144x607	D
HQ65C5-3	287x592x360	ePM2.5 50%	5	2.1	1650	100	4	609x144x607	-
HQ65A10-5	592x592x535	ePM2.5 50%	10	6.2	3400	70	2	609x183x607	C
HQ65C5-5	287x592x535	ePM2.5 50%	5	3.1	1650	70	4	609x183x607	-
HQ65A10-6	592x592x635	ePM2.5 50%	10	7.4	3400	60	2	609x240x607	B
HQ65B8-6	490x592x635	ePM2.5 50%	8	5.9	2810	60	2	609x183x607	-
HQ65C5-6	287x592x635	ePM2.5 50%	5	3.7	1650	60	4	609x183x607	-
HQ65HA10-6	592x890x635	ePM2.5 50%	10	11.1	5110	60	2	909x240x607	-
HQ65HB8-6	490x890x635	ePM2.5 50%	8	8.9	4230	60	2	909x183x607	-
HQ65HC5-6	287x890x635	ePM2.5 50%	5	5.6	2480	60	4	909x240x607	-

* According to Eurovent ECP-11-FIL

HQ65 SERIES



BAG FILTERS

HQ85 series

ePM1

Specifications

Application: Fine filter, HVAC, industry
Frame: Galvanized steel/aluminum
Spacers: Sewing thread
Bonding: -
Medium: Glass fiber
Gasket: Optional, Continuous poured gasket
Filter class according to ISO 16890: ePM1
Maximum final pressure drop: 450Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Lightweight frame
- High dust holding capacity
- Constant efficiency
- Protective pre-layer
- No fiber shedding

Options

- ATEX

Type	Dimensions WxHxD (mm)	Filter class ISO 16890	# Bags	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
HQ85A6-3	592x592x360	ePM1 60%	6	2.6	3400	180	2	609x144x607	E
HQ85C6-3/90	592x287x360	ePM1 60%	6	1.3	1650	180	4	609x144x607	-
HQ85A6-5	592x592x535	ePM1 60%	6	3.8	3400	135	2	609x183x607	D
HQ85C3-5	287x592x535	ePM1 60%	3	1.9	1650	135	4	609x183x607	-
HQ85C6-5/90	592x287x535	ePM1 60%	6	1.9	1650	135	4	609x183x607	-
HQ85HA6-5	592x890x535	ePM1 60%	6	5.8	5110	135	2	909x183x607	-
HQ85HB5-5	490x890x535	ePM1 60%	5	4.8	4230	135	2	909x144x607	-
HQ85HC3-5	287x890x535	ePM1 60%	3	2.9	2480	135	4	909x183x607	-
HQ85A6-6	592x592x635	ePM1 60%	6	4.6	3400	120	2	609x183x607	C
HQ85B5-6	490x592x635	ePM1 60%	5	3.8	2810	120	2	609x183x607	-
HQ85B6-6/90	592x490x635	ePM1 60%	6	3.8	2810	120	2	609x183x607	-
HQ85C3-6	287x592x635	ePM1 60%	3	2.3	1650	120	4	609x183x607	-
HQ85C6-6/90	592x287x635	ePM1 60%	6	2.2	1650	120	4	609x183x607	-
HQ85HA6-6	592x890x635	ePM1 60%	6	6.8	5110	120	2	909x183x607	-
HQ85HB5-6	490x890x635	ePM1 60%	5	5.7	4230	120	2	909x183x607	-
HQ85HC3-6	287x890x635	ePM1 60%	3	3.4	2480	120	4	909x183x607	-
HQ85A8-3	592x592x360	ePM1 60%	8	3.4	3400	150	2	609x144x607	E
HQ85B6-3	490x592x360	ePM1 60%	6	2.6	2810	150	2	609x144x607	-
HQ85B8-3/90	592x490x360	ePM1 60%	8	2.8	2810	150	2	609x144x607	-
HQ85C4-3	287x592x360	ePM1 60%	4	1.7	1650	150	4	609x144x607	-
HQ85C8-3/90	592x287x360	ePM1 60%	8	1.6	1650	150	4	609x144x607	-
HQ85CC4-3	287x287x360	ePM1 60%	4	0.8	800	150	8	609x144x607	-
HQ85HA8-3	592x890x360	ePM1 60%	8	5.1	5110	150	2	909x144x607	-
HQ85HB6-3	490x890x360	ePM1 60%	6	3.8	4230	150	2	909x144x607	-
HQ85HC4-3	287x890x360	ePM1 60%	4	2.5	2480	150	4	909x144x607	-
HQ85A8-5	592x592x535	ePM1 60%	8	5.0	3400	105	2	609x183x607	C
HQ85B6-5	490x592x535	ePM1 60%	6	3.8	2810	105	2	609x183x607	-
HQ85B8-5/90	592x490x535	ePM1 60%	8	4.2	2810	105	2	609x183x607	-
HQ85C4-5	287x592x535	ePM1 60%	4	2.5	1650	105	4	609x183x607	-
HQ85C8-5/90	592x287x535	ePM1 60%	8	2.4	1650	105	4	609x183x607	-
HQ85CC4-5	287x287x535	ePM1 60%	4	1.2	800	105	8	609x183x607	-
HQ85HA8-5	592x890x535	ePM1 60%	8	7.6	5110	105	2	909x183x607	-
HQ85HB6-5	490x890x535	ePM1 60%	6	5.7	4230	105	2	909x183x607	-
HQ85HC4-5	287x890x535	ePM1 60%	4	3.8	2480	105	4	909x183x607	-
HQ85A8-6	592x592x635	ePM1 60%	8	6.0	3400	100	2	609x183x607	C
HQ85B6-6	490x592x635	ePM1 60%	6	4.5	2810	100	2	609x183x607	-
HQ85B8-6/90	592x490x635	ePM1 60%	8	4.9	2810	100	2	609x183x607	-
HQ85C4-6	287x592x635	ePM1 60%	4	3.0	1650	100	4	609x183x607	-

* According to Eurovent ECP-11-FIL

BAG FILTERS

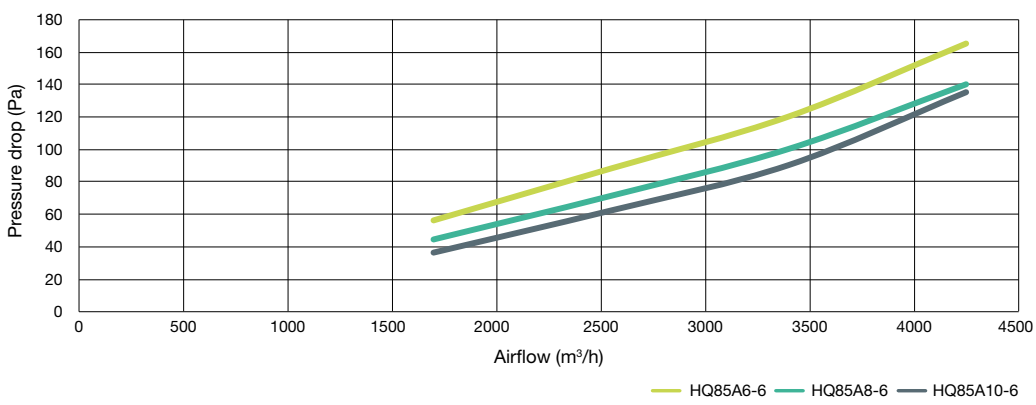
HQ85 series continued

ePM1

Type	Dimensions WxHxD (mm)	Filter class ISO 16890	# Bags	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
HQ85C8-6/90	592x287x635	ePM1 60%	8	2.9	1650	100	4	609x183x607	-
HQ85CC4-6	287x287x635	ePM1 60%	4	1.4	800	100	8	609x183x607	-
HQ85HA8-6	592x890x635	ePM1 60%	8	9.0	5110	100	2	909x183x607	-
HQ85HB6-6	490x890x635	ePM1 60%	6	6.8	4230	100	2	909x183x607	-
HQ85HC4-6	287x890x635	ePM1 60%	4	4.5	2480	100	4	909x183x607	-
HQ85A10-3	592x592x360	ePM1 60%	10	4.2	3400	140	2	609x144x607	E
HQ85C5-3	287x592x360	ePM1 60%	5	2.1	1650	140	4	609x144x607	-
HQ85HA10-3	592x890x360	ePM1 60%	10	6.3	5110	140	2	909x144x607	-
HQ85A10-5	592x592x535	ePM1 60%	10	6.2	3400	95	2	609x183x607	C
HQ85C5-5	287x592x535	ePM1 60%	5	3.1	1650	95	4	609x183x607	-
HQ85HA10-5	592x890x535	ePM1 60%	10	9.4	5110	95	2	909x183x607	-
HQ85HC5-5	287x890x535	ePM1 60%	5	4.7	2480	95	4	909x183x607	-
HQ85A10-6	592x592x635	ePM1 60%	10	7.4	3400	90	2	609x240x607	C
HQ85B8-6	490x592x635	ePM1 60%	8	5.9	2810	90	2	609x183x607	-
HQ85C5-6	287x592x635	ePM1 60%	5	3.7	1650	90	4	609x183x607	-
HQ85HA10-6	592x890x635	ePM1 60%	10	11.1	5110	90	2	909x240x607	-
HQ85HB8-6	490x890x635	ePM1 60%	8	8.9	4230	90	2	909x183x607	-
HQ85HC5-6	287x890x635	ePM1 60%	5	5.6	2480	90	4	909x240x607	-
HQ85A12-6	592x592x635	ePM1 60%	12	8.8	3400	85	2	609x240x607	B
HQ85C6-6	287x592x635	ePM1 60%	6	4.4	1650	85	4	609x240x607	-

* According to Eurovent ECP-11-FIL

HQ85 SERIES



BAG FILTERS

HQ85 ES series

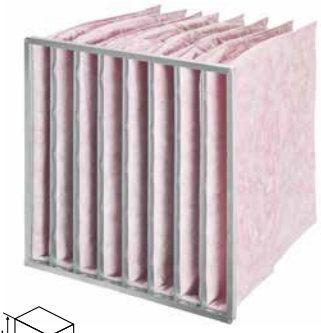
ePM1

Specifications

Application: Fine filter, HVAC, industry
Frame: Galvanized steel/aluminum
Spacers: Sewing thread
Bonding: -
Medium: Glass fiber
Gasket: Optional, Continuous poured gasket
Filter class according to ISO 16890: ePM1
Maximum final pressure drop: 450Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

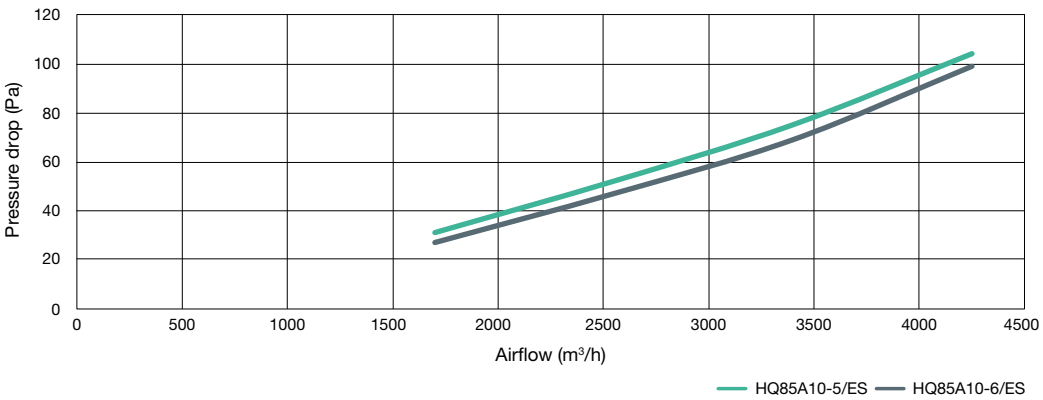
Advantages

- Lightweight frame
- High dust holding capacity
- Constant efficiency
- Energy label A+, A
- Protective pre-layer
- No fiber shedding



Type	Dimensions WxHxD (mm)	Filter class ISO 16890	# Bags	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
HQ85A10-5/ES	592x592x535	ePM1 60%	10	6.2	3400	76	2	609x183x607	A
HQ85C5-5/ES	287x592x535	ePM1 60%	5	3.1	1650	76	4	609x183x607	-
HQ85HA10-5/ES	592x890x535	ePM1 60%	10	9.4	5110	76	2	909x183x607	-
HQ85HC5-5/ES	287x890x535	ePM1 60%	5	4.7	2480	76	4	909x183x607	-
HQ85A10-6/ES	592x592x635	ePM1 60%	10	7.4	3400	70	2	609x240x607	A+
HQ85B8-6/ES	490x592x635	ePM1 60%	8	5.9	2810	70	2	609x183x607	-
HQ85C5-6/ES	287x592x635	ePM1 60%	5	3.7	1650	70	4	609x183x607	-
HQ85HA10-6/ES	592x890x635	ePM1 60%	10	11.2	5110	70	2	909x240x607	-
HQ85HB8-6/ES	490x890x635	ePM1 60%	8	8.9	4230	70	2	909x183x607	-

* According to Eurovent ECP-11-FIL



HQ85 ES SERIES

BAG FILTERS

HQ98 series

ePM1

Specifications

Application: Fine filter, HVAC, industry
Frame: Galvanized steel/aluminum
Spacers: Sewing thread
Bonding: -
Medium: Glass fiber
Gasket: Optional, Continuous poured gasket
Filter class according to ISO 16890: ePM1
Maximum final pressure drop: 450Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Lightweight frame
- High dust holding capacity
- Constant efficiency
- Protective pre-layer
- No fiber shedding

Options

- ATEX

Type	Dimensions WxHxD (mm)	Filter class ISO 16890	# Bags	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
HQ98A6-6	592x592x635	ePM1 85%	6	4.6	3400	190	2	609x183x607	E
HQ98B5-6	490x592x635	ePM1 85%	5	3.8	2810	190	2	609x183x607	-
HQ98B6-6/90	592x490x635	ePM1 85%	6	3.8	2810	190	2	609x183x607	-
HQ98C3-6	287x592x635	ePM1 85%	3	2.3	1650	190	4	609x183x607	-
HQ98C6-6/90	592x287x635	ePM1 85%	6	2.2	1650	190	4	609x183x607	-
HQ98HA6-6	592x890x635	ePM1 85%	6	6.8	5110	190	2	909x183x607	-
HQ98HB5-6	490x890x635	ePM1 85%	5	5.7	4230	190	2	909x183x607	-
HQ98HC3-6	287x890x635	ePM1 85%	3	3.4	2480	190	4	909x183x607	-
HQ98A8-3	592x592x360	ePM1 85%	8	3.4	3400	235	2	609x144x607	E
HQ98B6-3	490x592x360	ePM1 85%	6	2.5	2810	235	2	609x144x607	-
HQ98B8-3/90	592x490x360	ePM1 85%	8	2.8	2810	235	2	609x144x607	-
HQ98C4-3	287x592x360	ePM1 85%	4	1.7	1650	235	4	609x144x607	-
HQ98C8-3/90	592x287x360	ePM1 85%	8	1.6	1650	235	4	609x144x607	-
HQ98CC4-3	287x287x360	ePM1 85%	4	0.8	800	235	8	609x144x607	-
HQ98HA8-3	592x890x360	ePM1 85%	8	5.1	5110	235	2	909x144x607	-
HQ98HB6-3	490x890x360	ePM1 85%	6	3.8	4230	235	2	909x144x607	-
HQ98HC4-3	287x890x360	ePM1 85%	4	2.5	2480	235	4	909x144x607	-
HQ98A8-5	592x592x535	ePM1 85%	8	5.0	3400	210	2	609x183x607	E
HQ98B6-5	490x592x535	ePM1 85%	6	3.8	2810	210	2	609x183x607	-
HQ98B8-5/90	592x490x535	ePM1 85%	8	4.1	2810	210	2	609x183x607	-
HQ98C4-5	287x592x535	ePM1 85%	4	2.5	1650	210	4	609x183x607	-
HQ98C8-5/90	592x287x535	ePM1 85%	8	2.4	1650	210	4	609x183x607	-
HQ98CC4-5	287x287x535	ePM1 85%	4	1.2	800	210	8	609x183x607	-
HQ98HA8-5	592x890x535	ePM1 85%	8	7.6	5110	210	2	909x183x607	-
HQ98HB6-5	490x890x535	ePM1 85%	6	5.7	4230	210	2	909x183x607	-
HQ98HC4-5	287x890x535	ePM1 85%	4	3.8	2480	210	4	909x183x607	-
HQ98A8-6	592x592x635	ePM1 85%	8	6.0	3400	170	2	609x183x607	D
HQ98B6-6	490x592x635	ePM1 85%	6	4.5	2810	170	2	609x183x607	-
HQ98B8-6/90	592x490x635	ePM1 85%	8	4.9	2810	170	2	609x183x607	-
HQ98C4-6	287x592x635	ePM1 85%	4	3.0	1650	170	4	609x183x607	-
HQ98C8-6/90	592x287x635	ePM1 85%	8	2.9	1650	170	4	609x183x607	-
HQ98CC4-6	287x287x635	ePM1 85%	4	1.4	800	170	8	609x183x607	-
HQ98HA8-6	592x890x635	ePM1 85%	8	9.0	5110	170	2	909x183x607	-
HQ98HB6-6	490x890x635	ePM1 85%	6	6.8	4230	170	2	909x183x607	-
HQ98HC4-6	287x890x635	ePM1 85%	4	4.5	2480	170	4	909x183x607	-
HQ98A10-3	592x592x360	ePM1 85%	10	4.2	3400	210	2	609x144x607	E
HQ98C5-3	287x592x360	ePM1 85%	5	2.1	1650	210	4	609x144x607	-
HQ98HA10-3	592x890x360	ePM1 85%	10	6.3	5110	210	2	909x144x607	-

* According to Eurovent ECP-11-FIL

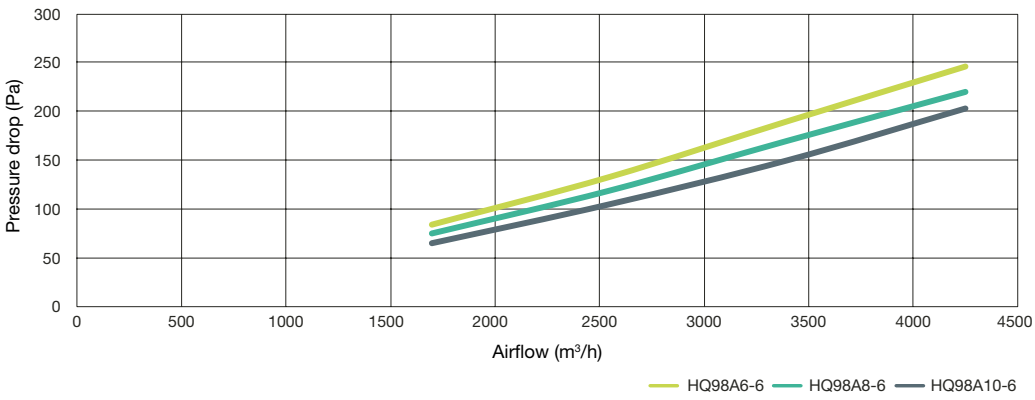
BAG FILTERS

HQ98 series continued

ePM1

Type	Dimensions WxHxD (mm)	Filter class ISO 16890	# Bags	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
HQ98A10-5	592x592x535	ePM1 85%	10	6.2	3400	170	2	609x183x607	D
HQ98C5-5	287x592x535	ePM1 85%	5	3.1	1650	170	4	609x183x607	-
HQ98HA10-5	592x890x535	ePM1 85%	10	9.4	5110	170	2	909x183x607	-
HQ98HC5-5	287x890x535	ePM1 85%	5	4.7	2480	170	4	909x183x607	-
HQ98A10-6	592x592x635	ePM1 85%	10	7.4	3400	150	2	609x240x607	-
HQ98B8-6	490x592x635	ePM1 85%	8	5.9	2810	150	2	609x183x607	-
HQ98C5-6	287x592x635	ePM1 85%	5	3.7	1650	150	4	609x183x607	-
HQ98HA10-6	592x890x635	ePM1 85%	10	11.1	5110	150	2	909x240x607	-
HQ98HB8-6	490x890x635	ePM1 85%	8	8.9	4230	150	2	909x183x607	-
HQ98HC5-6	287x890x635	ePM1 85%	5	5.6	2480	150	4	909x240x607	-
HQ98A12-6	592x592x635	ePM1 85%	12	8.8	3400	140	2	609x240x607	C
HQ98C6-6	287x592x635	ePM1 85%	6	4.4	1650	140	4	609x240x607	-

* According to Eurovent ECP-11-FIL



HQ98 SERIES

BAG FILTERS

HSB35 series

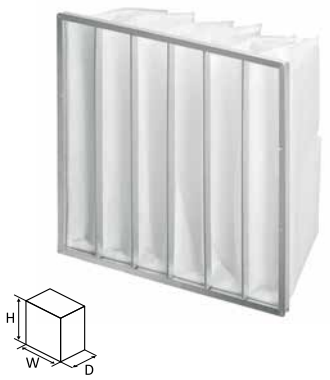
ISO Coarse

Specifications

Application: Prefilter HVAC, industry
Frame: Galvanized steel/aluminum
Spacers: Synthetic
Bonding: -
Medium: Synthetic
Gasket: Optional, Continuous poured gasket
Filter class according to ISO 16890: ISO Coarse
Maximum final pressure drop: 250Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

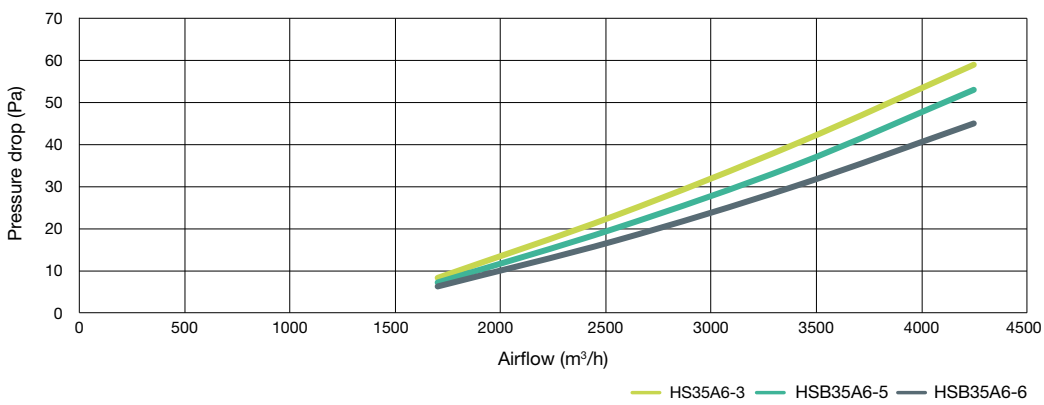
- Lightweight frame



Type	Dimensions WxHxD (mm)	Filter class ISO 16890	# Bags	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
HSB35A6-3	592x592x360	ISO Coarse 70%	6	2.8	3400	40	4	605x605x240	-
HSB35B5-3	490x592x360	ISO Coarse 70%	5	2.3	2810	40	4	605x605x183	-
HSB35B6-3/90	592x490x360	ISO Coarse 70%	6	2.3	2810	40	4	605x605x183	-
HSB35C3-3	287x592x360	ISO Coarse 70%	3	1.4	1650	40	8	605x605x240	-
HSB35C6-3/90	592x287x360	ISO Coarse 70%	6	1.5	1650	40	8	605x605x240	-
HSB35CC3-3	287x287x360	ISO Coarse 70%	3	0.7	800	40	16	605x605x240	-
HSB35HA6-3	592x890x360	ISO Coarse 70%	6	4.1	5110	40	4	905x605x240	-
HSB35HB5-3	490x890x360	ISO Coarse 70%	5	3.4	4230	40	4	905x605x183	-
HSB35HC3-3	287x890x360	ISO Coarse 70%	3	2.0	2480	40	8	905x605x240	-
HSB35A6-5	592x592x535	ISO Coarse 70%	6	2,8	3400	35	4	605x605x240	-
HSB35B5-5	490x592x535	ISO Coarse 70%	5	2,3	2810	35	4	605x605x240	-
HSB35B6-5/90	592x490x535	ISO Coarse 70%	6	2,3	2810	35	4	605x605x240	-
HSB35C3-5	287x592x535	ISO Coarse 70%	3	1,4	1650	35	8	605x605x240	-
HSB35C6-5/90	592x287x535	ISO Coarse 70%	6	1,5	1650	35	8	605x605x240	-
HSB35CC3-5	287x287x535	ISO Coarse 70%	3	0,7	800	35	16	605x605x240	-
HSB35HA6-5	592x890x535	ISO Coarse 70%	6	4,1	5110	35	4	905x605x240	-
HSB35HB5-5	490x890x535	ISO Coarse 70%	5	3,4	4230	35	4	905x605x240	-
HSB35HC3-5	287x890x535	ISO Coarse 70%	3	2,0	2480	35	8	905x605x240	-
HSB35A6-6	592x592x635	ISO Coarse 70%	6	2,8	3400	30	4	605x605x240	-
HSB35B5-6	490x592x635	ISO Coarse 70%	5	2,3	2810	30	4	605x605x240	-
HSB35B6-6/90	592x490x635	ISO Coarse 70%	6	2,3	2810	30	4	605x605x240	-
HSB35C3-6	287x592x635	ISO Coarse 70%	3	1,4	1650	30	8	605x605x240	-
HSB35C6-6/90	592x287x635	ISO Coarse 70%	6	1,5	1650	30	8	605x605x240	-
HSB35CC3-6	287x287x635	ISO Coarse 70%	3	0,7	800	30	16	605x605x240	-
HSB35HA6-6	592x890x635	ISO Coarse 70%	6	4,1	5110	30	4	905x605x240	-
HSB35HB5-6	490x890x635	ISO Coarse 70%	5	3,4	4230	30	4	905x605x240	-
HSB35HC3-6	287x890x635	ISO Coarse 70%	3	2,0	2480	30	8	905x605x240	-

* According to Eurovent ECP-11-FIL

HSB35 SERIES



BAG FILTERS

HSB55 series

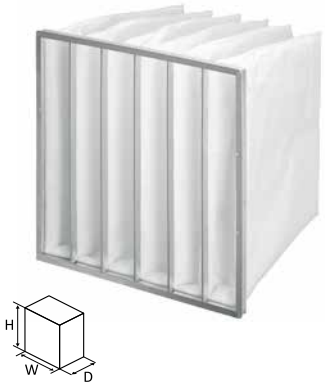
ISO Coarse

Specifications

Application: Prefilter HVAC, industry
Frame: Galvanized steel/aluminum
Spacers: Synthetic
Bonding: -
Medium: Synthetic
Gasket: Optional, Continuous poured gasket
Filter class according to ISO 16890: ISO Coarse
Maximum final pressure drop: 250Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

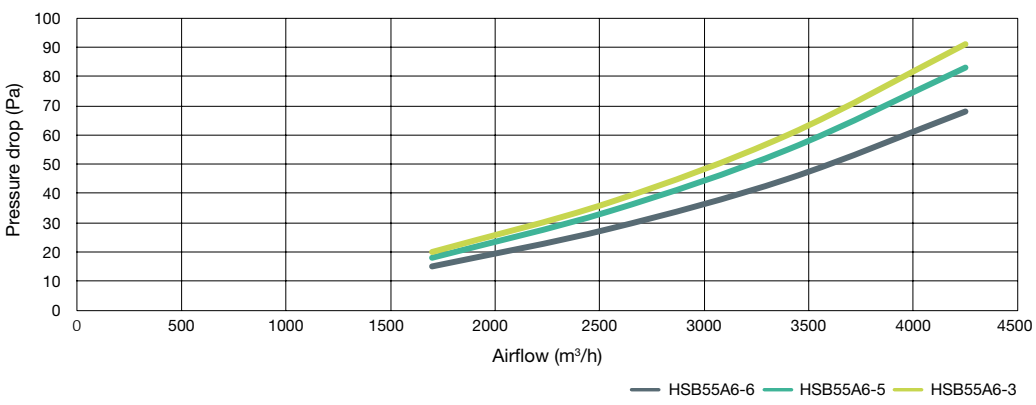
Advantages

- Lightweight frame



Type	Dimensions WxHxD (mm)	Filter class ISO 16890	# Bags	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
HSB55A6-3	592x592x360	ISO Coarse 80%	6	2.8	3400	60	4	605x605x240	-
HSB55B5-3	490x592x360	ISO Coarse 80%	5	2.3	2810	60	4	605x605x183	-
HSB55B6-3/90	592x490x360	ISO Coarse 80%	6	2.3	2810	60	4	605x605x183	-
HSB55C3-3	287x592x360	ISO Coarse 80%	3	1.4	1650	60	8	605x605x240	-
HSB55C6-3/90	592x287x360	ISO Coarse 80%	6	1.5	1650	60	8	605x605x240	-
HSB55CC3-3	287x287x360	ISO Coarse 80%	3	0.7	800	60	16	605x605x240	-
HSB55HA6-3	592x890x360	ISO Coarse 80%	6	4.1	5110	60	4	905x605x240	-
HSB55HB5-3	490x890x360	ISO Coarse 80%	5	3.4	4230	60	4	905x605x183	-
HSB55HC3-3	287x890x360	ISO Coarse 80%	3	2.0	2480	60	8	905x605x240	-
HSB55A6-5	592x592x535	ISO Coarse 80%	6	4.1	3400	55	4	605x605x240	-
HSB55B5-5	490x592x535	ISO Coarse 80%	5	3.4	2810	55	4	605x605x240	-
HSB55B6-5/90	592x490x535	ISO Coarse 80%	6	3.5	2810	55	4	605x605x240	-
HSB55C3-5	287x592x535	ISO Coarse 80%	3	2.0	1650	55	8	605x605x240	-
HSB55C6-5/90	592x287x535	ISO Coarse 80%	6	2.2	1650	55	8	605x605x240	-
HSB55CC3-5	287x287x535	ISO Coarse 80%	3	1.1	800	55	16	605x605x240	-
HSB55HA6-5	592x890x535	ISO Coarse 80%	6	6.0	5110	55	4	905x605x240	-
HSB55HB5-5	490x890x535	ISO Coarse 80%	5	5.0	4230	55	4	905x605x241	-
HSB55HC3-5	287x890x535	ISO Coarse 80%	3	3.0	2480	55	8	905x605x242	-
HSB55A6-6	592x592x635	ISO Coarse 80%	6	4.9	3400	45	4	605x605x240	-
HSB55B5-6	490x592x635	ISO Coarse 80%	5	4.1	2810	45	4	605x605x241	-
HSB55B6-6/90	592x490x635	ISO Coarse 80%	6	3.8	2810	45	4	605x605x242	-
HSB55C3-6	287x592x635	ISO Coarse 80%	3	2.4	1650	45	8	605x605x243	-
HSB55C6-6/90	592x287x635	ISO Coarse 80%	6	2.6	1650	45	8	605x605x244	-
HSB55CC3-6	287x287x635	ISO Coarse 80%	3	1.3	800	45	16	605x605x245	-
HSB55HA6-6	592x890x635	ISO Coarse 80%	6	7.2	5110	45	4	905x605x241	-
HSB55HB5-6	490x890x635	ISO Coarse 80%	5	6.0	4230	45	4	905x605x242	-
HSB55HC3-6	287x890x635	ISO Coarse 80%	3	3.6	2480	45	8	905x605x243	-

* According to Eurovent ECP-11-FIL



BAG FILTERS

RIGID POCKET series

ePM1 | ePM10

Specifications

Application: Pre or final filters for combustion engines, industrial plants, HVAC
Frame: Injection molded, impact proof PU header
Spacers: -
Bonding: Thermally bonded
Medium: Synthetic
Gasket: Optional: 6mm Gasket on Downstream/Upstream/both sides
Filter class according to ISO 16890: ePM1 60%, ePM10 50%
Final pressure drop/Max pressure drop: 450/600Pa
Burst Pressure drop: 6000Pa
Maximum temperature: 70°C
Maximum relative humidity: 100%

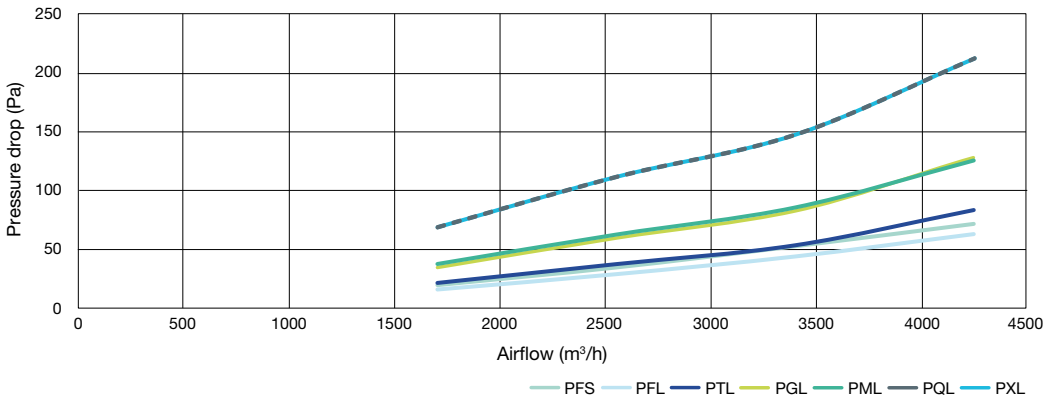
Advantages

- 100% Synthetic, corrosion-free and Humidity-resistant
- Filter Flammability classifications UL900, Class2
- Media Flammability DIN53438 K1/F1
- Aerodynamic design minimum resistance and increase turbine output

Type	Dimensions WxHxD (mm)	Filter class ISO 16890	# Bags	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
PFS	595x595x320	ePM10 50%	6	2.1	3400	54	2	690x370x620	D
PFS 5/6	493x595x320	ePM10 50%	5	1.8	2820	54	2	690x370x620	-
PFS 1/2	289x595x320	ePM10 50%	3	1	1650	54	4	690x370x620	-
PFL	595x595x620	ePM10 55%	6	4.2	3400	45	2	690x620x620	A
PFL 5/6	493x595x620	ePM10 55%	5	3.5	2820	45	2	690x620x620	-
PFL 1/2	289x595x620	ePM10 55%	3	2.1	1650	45	2	690x370x620	-
PTL	595x595x620	ePM10 60%	8	5.6	3400	55	3	690x620x620	B
PTL 5/6	493x595x620	ePM10 60%	5	3.5	2820	55	2	690x620x620	-
PTL 1/2	289x595x620	ePM10 60%	4	2.8	1650	55	2	690x370x620	-
PGL	595x595x620	ePM10 75%	8	5.6	3400	85	2	690x620x620	D
PGL 5/6	493x595x620	ePM10 75%	5	3.5	2820	85	2	690x620x620	-
PGL 1/2	289x595x620	ePM10 75%	4	2.8	1650	85	2	690x370x620	-
PML	595x595x620	ePM10 80%	8	5.6	3400	87	2	690x620x620	D
PML 5/6	493x595x620	ePM10 80%	5	3.5	2820	87	2	690x620x620	-
PML 1/2	289x595x620	ePM10 80%	4	2.8	1650	87	2	690x370x620	-
PQL	595x595x620	ePM2.5 70%	8	5.6	3400	150	2	690x620x620	D
PQL 5/6	493x595x620	ePM2.5 70%	5	3.5	2820	150	2	690x620x620	-
PQL 1/2	289x595x620	ePM2.5 70%	4	2.8	1650	150	2	690x370x620	-
PXL	595x595x620	ePM1 60%	8	5.6	3400	150	2	690x620x620	D
PXL 5/6	493x595x620	ePM1 60%	5	3.5	2820	150	2	690x620x620	-
PXL 1/2	289x595x620	ePM1 60%	4	2.8	1650	150	2	690x370x620	-

* According to Eurovent ECP-11-FIL

RIGID POCKET SERIES



BAG FILTERS

PLUSAIR series

ISO Coarse | ePM10

Specifications

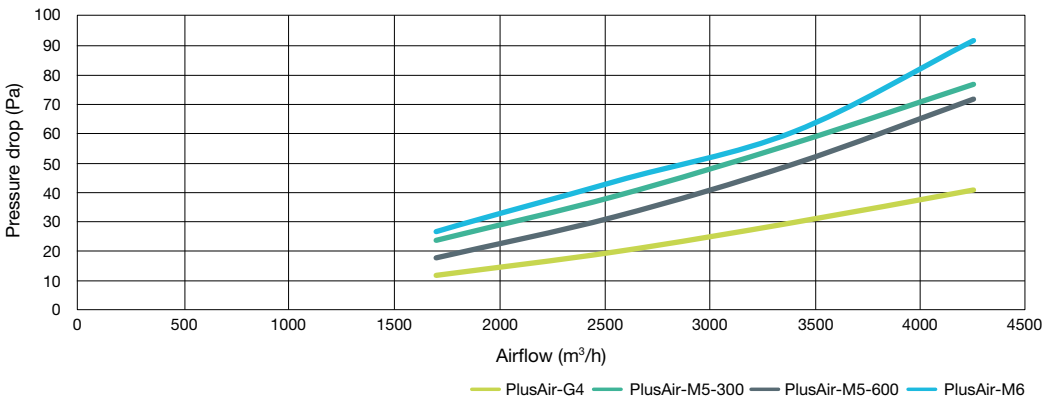
Application: HVAC, general ventilation
Frame: Injection molded, impact proof PU header
Spacers: -
Bonding: Thermally bonded
Medium: Synthetic
Gasket: Optional: 6mm Gasket on Downstream/Upstream/both sides
Filter class according to ISO 16890: ISO Coarse 70%, ePM10 50%, ePM10 60%
Final pressure drop/Max pressure drop: 450/600Pa
Burst Pressure drop: 6000Pa
Maximum temperature: 70°C
Maximum relative humidity: 100%

Advantages

- Cost efficient air filtration
- UL900 certified
- DIN53438, fire class F1, Self-extinguishing

Type	Dimensions WxHxD (mm)	Filter class ISO 16890	# Bags	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
PlusAir-G4**	595x595x620	Coarse 70%	6	4.2	3400	30	2	690x620x620	-
PlusAir-G4 5/6**	493x595x620	Coarse 70%	5	3.5	2820	30	2	690x620x620	-
PlusAir-G4 1/2**	289x595x620	Coarse 70%	3	2.1	1650	30	2	690x370x620	-
PlusAir-M5-300	595x595x320	ePM10 50%	6	2.1	3400	53	2	690x370x620	D
PlusAir-M5-300 5/6	493x595x320	ePM10 50%	5	1.8	2820	53	2	690x370x620	-
PlusAir-M5-300 1/2	289x595x320	ePM10 50%	3	1	1650	53	2	690x370x620	-
PlusAir-M5-600	595x595x620	ePM10 50%	6	4.2	3400	50	2	690x620x620	B
PlusAir-M5-600 5/6	493x595x620	ePM10 50%	5	3.5	2820	50	2	690x620x620	-
PlusAir-M5-600 1/2	289x595x620	ePM10 50%	3	2.1	1650	50	2	690x370x620	-
PlusAir-M6	592x592x620	ePM10 60%	8	5.6	3400	61	2	690x620x620	C
PlusAir-M6 5/6	493x595x620	ePM10 60%	5	3.5	2820	61	2	690x620x620	-
PlusAir-M6 1/2	289x595x620	ePM10 60%	4	2.8	1650	61	2	690x370x620	-

* According to Eurovent ECP-11-FIL
** Not Eurovent certified



PLUSAIR SERIES

BAG FILTERS

DROP SAFE rigid pocket filter series

ePM1 | ePM10

Specifications

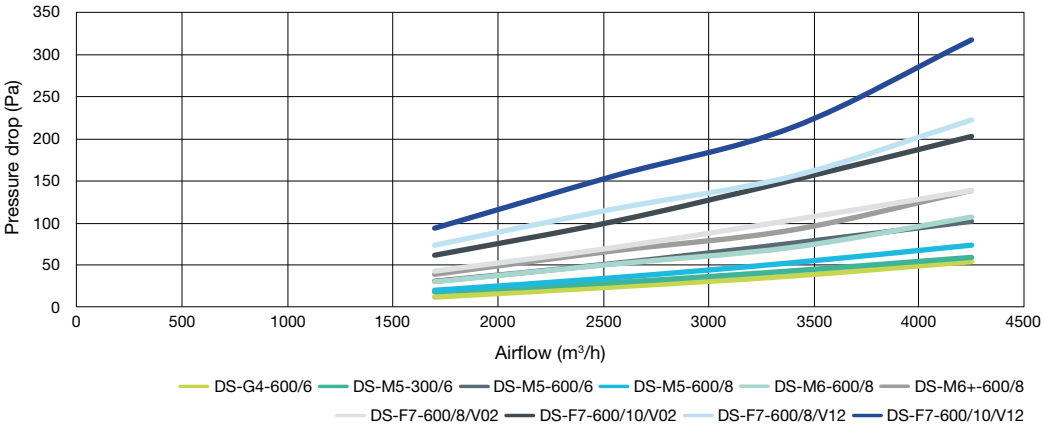
Application: Especially as efficient pre or final filters for air intake systems of Gas Turbines. Also excellent for offshore, marine tropical environmental condition
Frame: Injection molded, impact proof PU header
Spacers: -
Bonding: Thermally bonded
Medium: Synthetic
Gasket: Optional: 6mm Gasket on Downstream/Upstream/both sides
Filter class according to ISO 16890: ePM1 60%, ePM10 50%
Final pressure drop/Max pressure drop: 450/600Pa
Burst Pressure drop: 6000Pa
Maximum temperature: 70°C
Maximum relative humidity: 100%

Advantages

- For extreme environments: high moisture and water mist content; larger flow rate
- Self-supporting, leak-free welded pockets
- Unique, proprietary, progressive filter media with special hydrophobic treatment
- Tackifier through the medium depth to repel water and retain their operational safety
- Special draining design along pocket depth

Type	Dimensions WxHxD (mm)	Filter class ISO 16890	# Bags	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
DS-G4-600/6**	595x595x620	Coarse 85%	6	4.2	3400	36	2	690x620x620	-
DS-G4-600/6 5/6**	493x595x620	Coarse 85%	5	3.5	2820	36	2	690x620x620	-
DS-G4-600/6 1/2**	289x595x620	Coarse 85%	3	2.1	1650	36	2	690x370x620	-
DS-M5-300/6	595x595x320	ePM10 50%	6	2.1	3400	75	2	690x370x620	D
DS-M5-300/6 5/6	493x595x320	ePM10 50%	5	1.8	2820	75	2	690x370x620	-
DS-M5-300/6 1/2	289x595x320	ePM10 50%	3	1	1650	75	2	690x370x620	-
DS-M5-600/6	595x595x620	ePM10 50%	6	4.2	3400	42	2	690x620x620	B
DS-M5-600/6 5/6	493x595x620	ePM10 50%	5	3.5	2820	42	2	690x620x620	-
DS-M5-600/6 1/2	289x595x620	ePM10 50%	3	2.1	1650	42	2	690x370x620	-
DS-M5-600/8	595x595x620	ePM10 50%	8	5.6	3400	52	2	690x620x620	B
DS-M5-600/8 5/6	493x595x620	ePM10 50%	5	3.5	2820	52	2	690x620x620	-
DS-M5-600/8 1/2	289x595x620	ePM10 50%	4	2.8	1650	52	2	690x370x690	-
DS-M6-600/8	595x595x620	ePM10 60%	8	5.6	3400	70	2	690x620x620	D
DS-M6-600/8 5/6	493x595x620	ePM10 60%	5	3.5	2820	70	2	690x620x620	-
DS-M6-600/8 1/2	289x595x620	ePM10 60%	4	2.8	1650	70	2	690x370x620	-
DS-M6+-600/8	595x595x620	ePM10 70%	8	5.6	3400	91	2	690x620x620	D
DS-M6+-600/8 5/6	493x595x620	ePM10 70%	5	3.5	2820	91	2	690x620x620	-
DS-M6+-600/8 1/2	289x595x620	ePM10 70%	4	2.8	1650	91	2	690x370x620	-
DS-F7-600/8/V02	595x595x620	ePM10 80%	8	5.6	3400	103	2	690x620x620	E
DS-F7-600/8/V02 5/6	493x595x620	ePM10 80%	5	3.5	2820	103	2	690x620x620	-
DS-F7-600/8/V02 1/2	289x595x620	ePM10 80%	4	2.8	1650	103	2	690x370x620	-
DS-F7-600/10/V02	595x595x620	ePM10 80%	10	6.3	3400	150	2	690x620x620	E
DS-F7-600/10/V02 5/6	493x595x620	ePM10 80%	8	5	2820	150	2	690x620x620	-
DS-F7-600/10/V02 1/2	289x595x620	ePM10 80%	5	3.1	1650	150	2	690x370x620	-
DS-F7-600/8/V12	595x595x620	ePM1 60%	8	5.6	3400	155	2	690x620x620	E
DS-F7-600/8/V12 5/6	493x595x620	ePM1 60%	5	3.5	2820	155	2	690x620x620	-
DS-F7-600/8/V12 1/2	289x595x620	ePM1 60%	4	2.8	1650	155	2	690x370x620	
DS-F7-600/10/V12	595x595x620	ePM1 60%	10	6.3	3400	213	2	690x620x620	E
DS-F7-600/10/V12 5/6	493x595x620	ePM1 60%	8	5	2820	213	2	690x620x620	-
DS-F7-600/10/V12 1/2	289x595x620	ePM1 60%	5	3.1	1650	213	2	690x370x620	-

* According to Eurovent ECP-11-FIL, ** Not Eurovent certified



DROP SAFE rigid pocket filter series

«Building something truly remarkable…that long outlasts us»


«The HPQ-series is perfect
to use in areas with
high concentrations of
particulate matter»

COMPACT FILTERS

AFPRO Filters compact filters are mini-pleated filters, characterized by their high filtration features. The filter media is made with a “wet-laid paper technique” that guarantees high dust retention effectiveness and constant filter efficiency. The reduced air resistance and low energy consumption makes this technology extremely sustainable. AFPRO Filters compact filters have obtained an A energy label time and again for this very reason!

Advantages

- Large filter area
- Spacers - hotmelt
- 100% leak free
- Great dust retention capacity
- Long service life
- Low energy consumption
- Dimensioning according to EN15805
- Moisture resistant
- Corrosion free

Structure

Compact filters are mini-pleated filters that are assembled in a Polyurethane frame. This type of air filter can withstand temperatures up to 65°C. The largely robot-automated production of these filters ensures compliance with the highest quality standards.

Application

Compact filters are used in air conditioning units and systems, industrial systems and as pre-filters for clean rooms.

Discover our compact filter range

COMPACT FILTERS

HPQ series

ePM2.5 | ePM1 | E10 | E11 | E12

Specifications

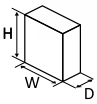
Application: HVAC, industry
Frame: Plastic
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Optional, Continuous poured gasket
Filter class according to ISO 16890: ePM2.5, ePM1
Filter class according to EN1822: E10, E11, E12
Maximum final pressure drop: 450Pa
Maximum temperature: 65°C
Maximum relative humidity: 100%
Comments: It is preferred to use a prefilter with these products

Advantages

- Compact V-bank construction
- Competitive pressure drop

Options

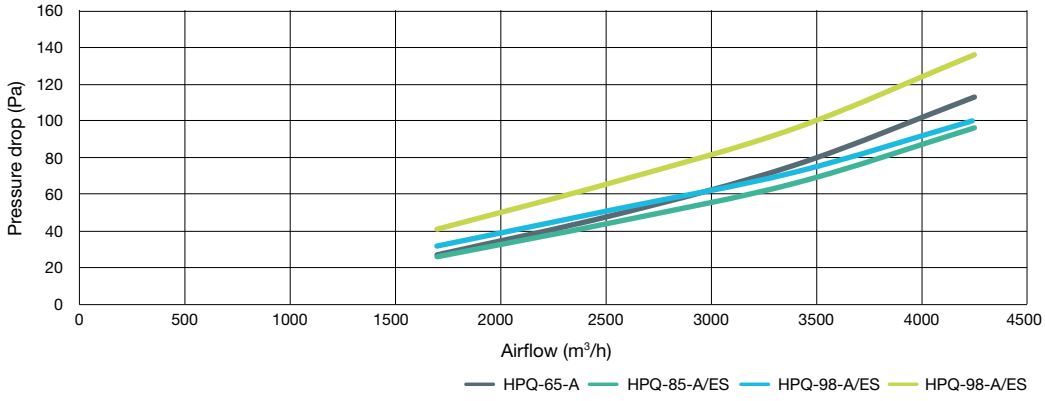
- High temperature version on request



Type	Dimensions HxWxD (mm)	Filter class ISO 16890/EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
HPQ-85-A/ES	592x592x292	ePM1 60%	18.8	3400	65	1	605x305x305	A+
HPQ-85-B/ES	490x592x292	ePM1 60%	15.3	2790	65	1	605x305x505	-
HPQ-85-C/ES	288x592x292	ePM1 60%	8.4	1700	65	2	605x305x305	-
HPQ-90-A/ES	592x592x292	ePM1 70%	18,8	3400	70	1	605x305x305	A+
HPQ-90-B/ES	490x592x292	ePM1 70%	15,3	2790	70	1	605x305x505	-
HPQ-90-C/ES	288x592x292	ePM1 70%	8,4	1590	70	2	605x305x305	-
HPQ-98-A/ES	592x592x292	ePM1 80%	18.8	3400	90	1	605x305x605	A
HPQ-98-B/ES	490x592x292	ePM1 80%	15.3	2790	90	1	605x305x505	-
HPQ-98-C/ES	288x592x292	ePM1 80%	8.4	1590	90	2	605x305x305	-
HPQ-65-A	592x592x292	ePM2,5 55%	18.8	3400	75	1	605x305x605	B
HPQ-65-B	490x592x292	ePM2,5 55%	15.3	2790	75	1	605x305x505	-
HPQ-65-C	288x592x292	ePM2,5 55%	8.4	1590	75	2	605x305x305	-
HPQ-85-A	592x592x292	ePM1 55%	18.8	3400	95	1	605x305x305	B
HPQ-85-B	490x592x292	ePM1 55%	15.3	2790	95	1	605x305x505	-
HPQ-85-C	288x592x292	ePM1 55%	8.4	1590	95	2	605x305x305	-
HPQ-98-A	592x592x292	ePM1 80%	18.8	3400	110	1	605x305x605	B
HPQ-98-B	490x592x292	ePM1 80%	15.3	2790	110	1	605x305x505	-
HPQ-98-C	288x592x292	ePM1 80%	8.4	1590	110	2	605x305x305	-
HPQ-E10-A**	592x592x292	E10	18.8	3400	170	1	605x305x605	-
HPQ-E10-B**	490x592x292	E10	15.3	2790	170	1	605x305x505	-
HPQ-E10-C**	288x592x292	E10	8.4	1590	170	2	605x305x305	-
HPQ-E11-A**	592x592x292	E11	18.8	2000	130	1	605x305x605	-
HPQ-E11-B**	490x592x292	E11	15.3	1640	130	1	605x305x505	-
HPQ-E11-C**	288x592x292	E11	8.4	940	130	2	605x305x305	-
HPQ-E12-A**	592x592x292	E12	18.8	2000	180	1	605x305x605	-
HPQ-E12-B**	490x592x292	E12	15.3	1640	180	1	605x305x505	-
HPQ-E12-C**	288x592x292	E12	8.4	940	180	2	605x305x305	-

* According to Eurovent ECP-11-FIL
** Not Eurovent certified

HPQ SERIES



COMPACT FILTERS

HPQ-ECO series

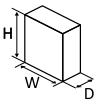
ePM2.5 | ePM1

Specifications

Application: HVAC, industry
Frame: Plastic
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Optional, Continuous poured gasket
Filter class according to ISO 16890: ePM2.5, ePM1
Maximum final pressure drop: 450Pa
Maximum temperature: 65°C
Maximum relative humidity: 100%
Comments: It is preferred to use a prefilter with these products

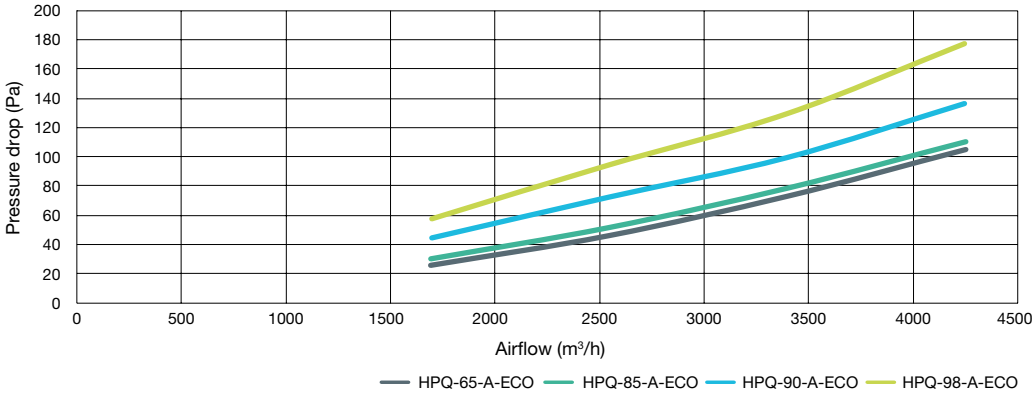
Advantages

- Compact V-bank construction
- Competitive pressure drop



Type	Dimensions HxWxD (mm)	Filter class ISO 16890	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
HPQ-65-A-ECO	592x592x292	ePM2,5 55%	14.0	3400	75	1	605x305x605	C
HPQ-65-B-ECO	490x592x292	ePM2,5 55%	11.6	2800	75	1	605x305x505	-
HPQ-65-C-ECO	288x592x292	ePM2,5 55%	7.0	1700	75	2	605x305x305	-
HPQ-85-A-ECO	592x592x292	ePM1 55%	14.0	3400	80	1	605x305x605	C
HPQ-85-B-ECO	490x592x292	ePM1 55%	11.6	2800	80	1	605x305x505	-
HPQ-85-C-ECO	288x592x292	ePM1 55%	7.0	1700	80	2	605x305x305	-
HPQ-90-A-ECO	592x592x292	ePM1 70%	14.0	3400	100	1	605x305x605	C
HPQ-90-B-ECO	490x592x292	ePM1 70%	11.6	2800	100	1	605x305x505	-
HPQ-90-C-ECO	288x592x292	ePM1 70%	7.0	1700	100	2	605x305x305	-
HPQ-98-A-ECO	592x592x292	ePM1 80%	14.0	3400	130	1	605x305x605	C
HPQ-98-B-ECO	490x592x292	ePM1 80%	11.6	2800	130	1	605x305x505	-
HPQ-98-C-ECO	288x592x292	ePM1 80%	7.0	1700	130	2	605x305x305	-

* According to Eurovent ECP-11-FIL



HPQ-ECO SERIES

COMPACT FILTERS

CS-H13 series

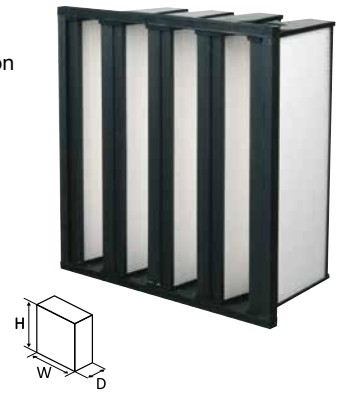
H13

Specifications

Application: HVAC, industry
Frame: Plastic
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: 100% high efficiency Polytetrafluoroethylene (PTFE) media
Gasket: Optional, Continuous poured gasket
Filter class according to EN1822: H13
Maximum final pressure drop: 500Pa
Maximum temperature: 65°C
Maximum relative humidity: 100%

Advantages

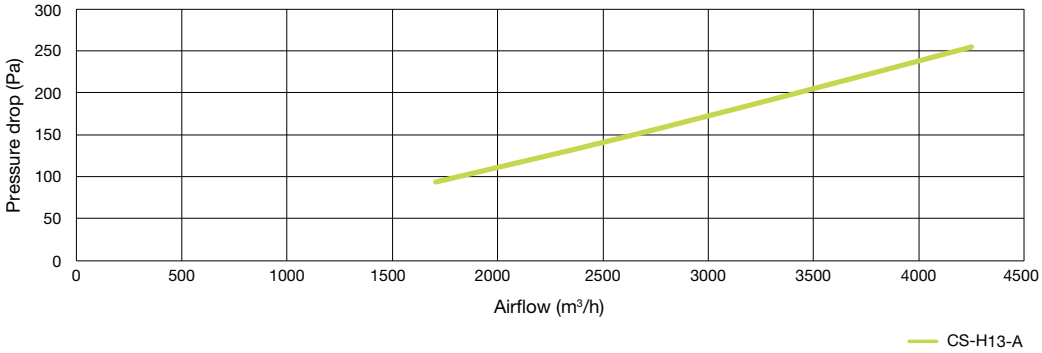
- Compact V-bank construction
- Competitive pressure drop



Type	Dimensions HxWxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
CS-H13-A	592x592x292	H13	16.1	3400	200	1	605x305x605	-
CS-H13-B	490x592x292	H13	13.3	2800	200	1	605x305x605	-
CS-H13-C	288x592x292	H13	7.8	1650	200	2	605x305x605	-

* According to Eurovent ECP-11-FIL

CS-H13 SERIES



COMPACT FILTERS

HPQ-XL series

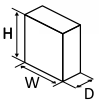
ePM2,5 | ePM1

Specifications

Application: HVAC, industry
Frame: Plastic
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Optional, Continuous poured gasket
Filter class according to ISO 16890: ePM2.5, ePM1
Maximum final pressure drop: 450Pa
Maximum temperature: 65°C
Maximum relative humidity: 100%
Comments: It is preferred to use a prefilter with these products

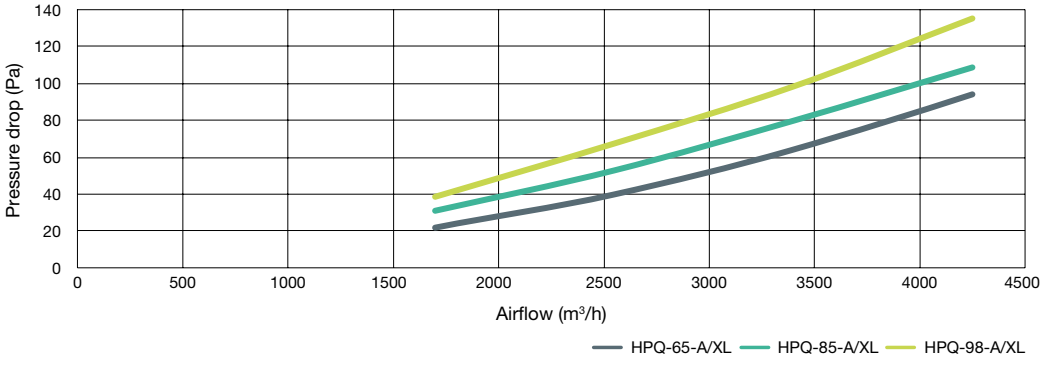
Advantages

- Compact V-bank construction
- Competitive pressure drop



Type	Dimensions HxWxD (mm)	Filter class ISO 16890	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
HPQ-65-A-XL	592x592x420	ePM2.5 55%	25.0	3400	55	1	605x435x605	A+
HPQ-65-B-XL	490x592x420	ePM2.5 55%	20.4	2790	55	1	605x435x505	-
HPQ-65-C-XL	288x592x420	ePM2.5 55%	11.2	1590	55	2	605x435x305	-
HPQ-85-A-XL	592x592x420	ePM1 55%	25.0	3400	65	1	605x435x605	A+
HPQ-85-B-XL	490x592x420	ePM1 55%	20.4	2790	65	1	605x435x505	-
HPQ-85-C-XL	288x592x420	ePM1 55%	11.2	1590	65	2	605x435x305	-
HPQ-98-A-XL	592x592x420	ePM1 80%	25.0	3400	80	1	605x435x605	A+
HPQ-98-B-XL	490x592x420	ePM1 80%	20.4	2790	80	1	605x435x505	-
HPQ-98-C-XL	288x592x420	ePM1 80%	11.2	1590	80	2	605x435x305	-

* According to Eurovent ECP-11-FIL



HPQ-XL SERIES

COMPACT FILTERS

HPQ-85G series

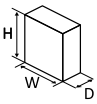
ePM2,5 | ePM1

Specifications

Application: HVAC, industry
Frame: Plastic
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Optional, Continuous poured gasket
Filter class according to ISO 16890: ePM2.5, ePM1
Maximum final pressure drop: 450Pa
Maximum temperature: 65°C
Maximum relative humidity: 100%
Comments: It is preferred to use a prefilter with these products

Advantages

- Compact panel construction
- Lower pressure drop compare to CS-series



Type	Dimensions WxHxD (mm)	Filter class ISO 16890	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
HPQ-85-A/85G	592x592x85	ePM1 55%	8.6	2500	90	2	605x605x183	E
HPQ-85-B/85G	490x592x85	ePM1 55%	7.0	2050	90	2	605x605x183	E
HPQ-85-C/85G	288x592x85	ePM1 55%	3.8	1200	90	4	605x605x183	E
HPQ-85-BC/85G	288x500x85	ePM1 55%	3.1	1030	90	4	605x605x183	E
HPQ-85-CC/85G	288x288x85	ePM1 55%	1.7	600	90	8	605x605x183	E

* According to Eurovent ECP-11-FIL

HPQ-85G SERIES


«The HPQ-series is perfect
to use in areas with
high concentrations of
particulate matter»


«A healthy indoor climate
plays an important role
for the wellbeing and
comfort of our guests»

PANEL FILTERS

AFPRO panel filters are pleated or flat filters which are characterized by their superior filtration properties. The synthetic filter medium is progressively constructed, which makes for a high particle interception level. This technology guarantees lower air resistance and hence, reduced energy consumption.

Advantages

- Large filter surface
- High filtration efficiency
- Long service life
- Dimensions compliant with EN15805
- Completely safe for incineration

Construction

Panel filters are pleated or flat filters which are assembled within a moisture-resistant cardboard frame, plastic frame or metal frame.

Application

Panel filters are used as a pre-filter for air treatment cabinets, air conditioning systems and industrial systems.

Discover our panel filter range

PANEL FILTERS

Fancoil (DF)

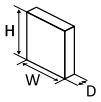
ISO Coarse

Specifications

Application: Filter used with fan coil units
Frame: Galvanized steel
Spacers: -
Bonding: -
Medium: Synthetic
Gasket: -
Filter class according to ISO 16890: ISO Coarse
Maximum final pressure drop: 250Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

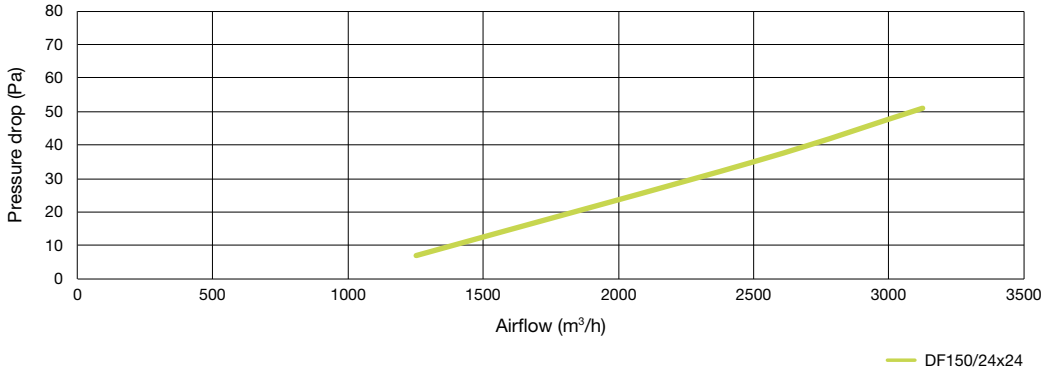
- Straightforward assembly
- Widely adaptive for heat recovery unit
- On request for possibilities



Type	Dimensions WxHxD (mm)	Filter class ISO 16890	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Energy label*
DF150	150x435x4	ISO Coarse 30%	0.07	410	35	-
DF150	237x415x4	ISO Coarse 30%	0.10	650	35	-
DF150	237x495x4	ISO Coarse 30%	0.12	790	35	-
DF150	250x595x4	ISO Coarse 30%	0.15	1010	35	-
DF150	330x710x4	ISO Coarse 30%	0.23	1630	35	-
DF150	340x490x4	ISO Coarse 30%	0.17	1150	35	-
DF150	365x445x4	ISO Coarse 30%	0.16	1120	35	-
DF150	430x710x4	ISO Coarse 30%	0.31	2160	35	-
DF150	440x490x4	ISO Coarse 30%	0.22	1510	35	-
DF150	465x465x4	ISO Coarse 30%	0.22	1510	35	-
DF150	465x565x4	ISO Coarse 30%	0.26	1850	35	-
DF150	490x640x4	ISO Coarse 30%	0.31	2230	35	-
DF150	530x710x4	ISO Coarse 30%	0.38	2690	35	-
DF150	540x600x4	ISO Coarse 30%	0.32	2300	35	-
DF150	540x700x4	ISO Coarse 30%	0.38	2700	35	-

* According to Eurovent ECP-11-FIL

DF SERIES



NA Panel

ISO Coarse

Specifications

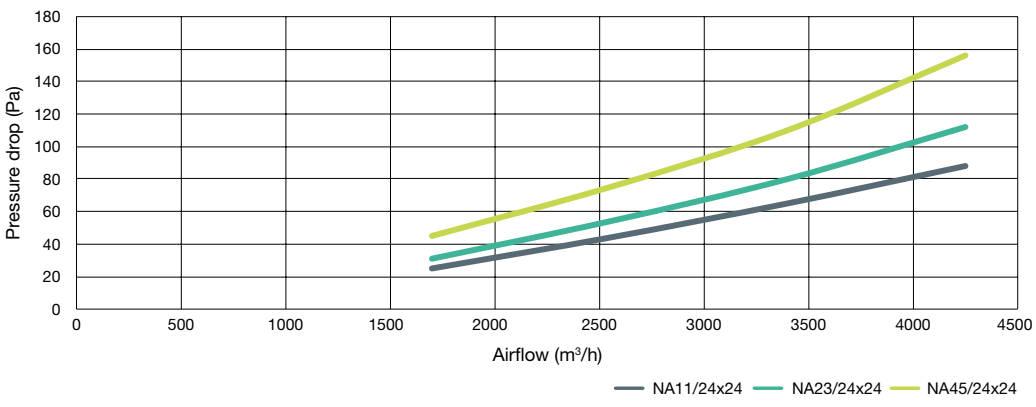
Application: Prefilter HVAC, industry
Frame: Galvanized steel
Spacers: -
Bonding: -
Medium: Synthetic
Gasket: Optional neoprene
Filter class according to ISO 16890: ISO Coarse
Maximum final pressure drop: 250Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Straightforward assembly

Type	Dimensions WxHxD (mm)	Filter class ISO 16890	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
NA11/12x24	287x592x11	ISO Coarse 30%	0.17	1590	65	20	305x607x245	-
NA11/16x20	394x490x11	ISO Coarse 30%	0.19	1830	65	16	410x505x200	-
NA11/16x25	394x620x11	ISO Coarse 30%	0.24	2330	65	16	410x635x200	-
NA11/20x20	490x490x11	ISO Coarse 30%	0.24	2300	65	16	505x505x200	-
NA11/20x25	490x620x11	ISO Coarse 30%	0.30	2930	65	16	505x635x200	-
NA11/24x24	592x592x11	ISO Coarse 30%	0.35	3400	65	16	208x607x612	-
NA23/12x24	287x592x23	ISO Coarse 50%	0.17	1590	80	10	305x607x245	-
NA23/16x20	394x490x23	ISO Coarse 50%	0.19	1830	80	8	410x505x200	-
NA23/16x25	394x620x23	ISO Coarse 50%	0.24	2330	80	8	410x635x200	-
NA23/20x20	490x490x23	ISO Coarse 50%	0.24	2300	80	8	505x505x200	-
NA23/20x25	490x620x23	ISO Coarse 50%	0.30	2930	80	8	505x635x200	-
NA23/24x24	592x592x23	ISO Coarse 50%	0.35	3400	80	8	208x607x612	-
NA45/12x24	287x592x45	ISO Coarse 60%	0.17	1590	110	8	208x607x612	-
NA45/16x20	394x490x45	ISO Coarse 60%	0.19	1830	110	6	410x635x285	-
NA45/16x25	394x620x45	ISO Coarse 60%	0.24	2330	110	6	505x635x285	-
NA45/20x20	490x490x45	ISO Coarse 60%	0.24	2300	110	6	505x505x285	-
NA45/20x25	490x620x45	ISO Coarse 60%	0.30	2930	110	6	505x635x285	-
NA45/24x24	592x592x45	ISO Coarse 60%	0.35	3400	110	4	208x607x612	-

* According to Eurovent ECP-11-FIL



NA SERIES

PANEL FILTERS

GP Panel

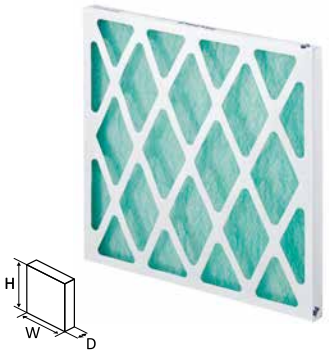
ISO Coarse

Specifications

Application: Prefilter HVAC, industry, spray booth
Frame: Firm cardboard frame
Spacers: -
Bonding: -
Medium: Glass fiber
Gasket: Optional neoprene
Filter class according to ISO 16890: ISO Coarse
Maximum final pressure drop: 250Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

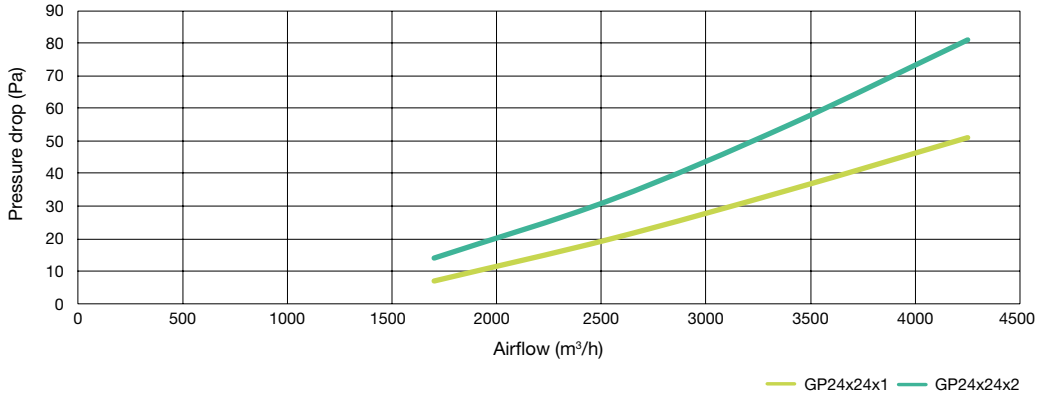
- Straightforward assembly



Type	Dimensions WxHxD (mm)	Filter class ISO 16890	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
GP12x24x1	288x594x23	ISO Coarse 30%	0.17	1590	35	20	240x605x607	-
GP16x20x1	394x495x23	ISO Coarse 30%	0.20	1830	35	15	410x505x360	-
GP16x24x1	394x594x23	ISO Coarse 30%	0.23	2220	35	15	410x607x360	-
GP16x25x1	394x622x23	ISO Coarse 30%	0.25	2330	35	27	410x635x640	-
GP20x20x1	495x495x23	ISO Coarse 30%	0.25	2300	35	10	505x505x245	-
GP20x24x1	495x594x23	ISO Coarse 30%	0.29	2790	35	15	505x607x360	-
GP20x25x1	495x622x23	ISO Coarse 30%	0.31	2930	35	22	505x635x295	-
GP24x24x1	594x594x23	ISO Coarse 30%	0.35	3400	35	10	240x605x607	-
GP12x24x2	288x594x45	ISO Coarse 50%	0.17	1590	55	10	240x605x607	-
GP16x20x2	394x495x45	ISO Coarse 50%	0.20	1830	55	16	995x805x375	-
GP16x24x2	394x594x45	ISO Coarse 50%	0.23	2220	55	8	410x607x374	-
GP16x25x2	394x622x45	ISO Coarse 50%	0.25	2330	55	13	410x635x600	-
GP20x20x2	495x495x45	ISO Coarse 50%	0.25	2300	55	11	505x505x510	-
GP20x24x2	495x594x45	ISO Coarse 50%	0.29	2790	55	8	505x607x375	-
GP20x25x2	495x622x45	ISO Coarse 50%	0.31	2930	55	11	505x635x545	-
GP24x24x2	594x594x45	ISO Coarse 50%	0.35	3400	55	5	240x605x607	-

* According to Eurovent ECP-11-FIL

GP SERIES



APMC Panel

ISO Coarse | ePM10

Specifications

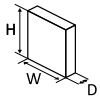
Application: Prefilter HVAC, industry, spray booth
Frame: Galvanized steel
Spacers: -
Bonding: -
Medium: Synthetic
Gasket: Optional, continuous poured gasket
Filter class according to ISO 16890: ISO Coarse, ePM10
Maximum final pressure drop: 250Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Straightforward assembly
- Firm construction

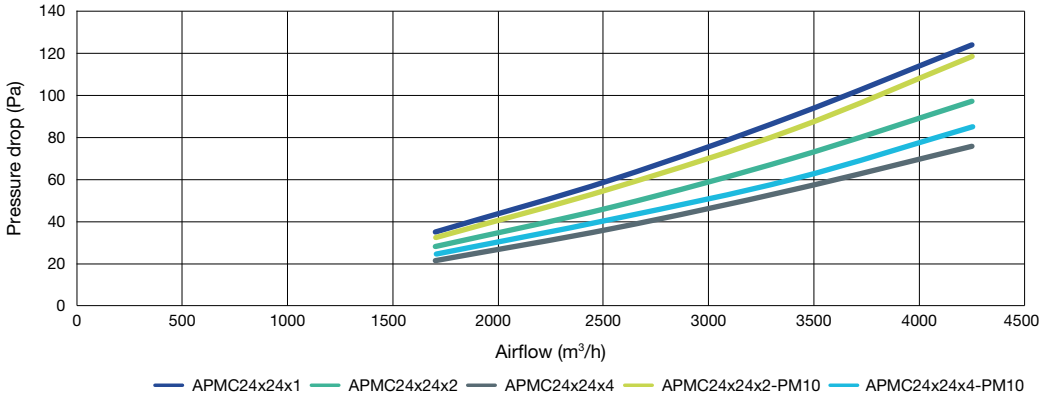
Options

- ATEX, Flange, Grid
- ePM10 version



Type	Dimensions WxHxD (mm)	Filter class ISO 16890	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
APMC12x24x1	287x592x23	ISO Coarse 70%	0.4	1590	90	20	240x605x607	-
APMC16x20x1	394x490x23	ISO Coarse 70%	0.5	1830	90	10	410x505x245	-
APMC16x24x1	394x592x23	ISO Coarse 70%	0.6	2220	90	10	410x607x245	-
APMC16x25x1	394x620x23	ISO Coarse 70%	0.6	2330	90	10	410x635x245	-
APMC20x20x1	490x490x23	ISO Coarse 70%	0.6	2300	90	10	505x505x245	-
APMC20x24x1	490x592x23	ISO Coarse 70%	0.7	2790	90	10	505x607x245	-
APMC20x25x1	490x620x23	ISO Coarse 70%	0.7	2930	90	10	505x635x245	-
APMC24x24x1	592x592x23	ISO Coarse 70%	0.8	3400	90	10	607x607x245	-
APMC12x24x2	287x592x45	ISO Coarse 70%	0.4	1590	70	10	240x605x607	-
APMC16x20x2	394x490x45	ISO Coarse 70%	0.5	1830	70	10	410x505x470	-
APMC16x24x2	394x592x45	ISO Coarse 70%	0.6	2220	70	6	410x607x285	-
APMC16x25x2	394x620x45	ISO Coarse 70%	0.6	2330	70	6	410x635x285	-
APMC20x20x2	490x490x45	ISO Coarse 70%	0.6	2300	70	14	602x602x495	-
APMC20x24x2	490x592x45	ISO Coarse 70%	0.7	2790	70	13	602x602x495	-
APMC20x25x2	490x620x45	ISO Coarse 70%	0.8	2930	70	6	505x635x285	-
APMC24x24x2	592x592x45	ISO Coarse 70%	0.9	3400	70	5	240x605x607	-
APMC12x24x4	287x592x96	ISO Coarse 70%	0.6	1590	55	4	208x607x612	-
APMC16x20x4	394x490x96	ISO Coarse 70%	0.7	1830	55	5	410x505x495	-
APMC16x24x4	394x592x96	ISO Coarse 70%	0.9	2220	55	4	410x607x400	-
APMC16x25x4	394x620x96	ISO Coarse 70%	0.9	2330	55	4	410x635x400	-
APMC20x20x4	490x490x96	ISO Coarse 70%	0.9	2300	55	5	505x505x495	-
APMC20x24x4	490x592x96	ISO Coarse 70%	1.1	2790	55	6	602x602x495	-
APMC20x25x4	490x620x96	ISO Coarse 70%	1.1	2930	55	4	505x635x400	-
APMC24x24x4	592x592x96	ISO Coarse 70%	1.3	3400	55	5	602x602x495	-
APMC12x24x2-PM10	287x592x45	ePM10 50%	0.8	1590	85	10	240x605x607	E
APMC20x20x2-PM10	490x490x45	ePM10 50%	1.2	2300	85	14	602x602x495	E
APMC20x24x2-PM10	490x592x45	ePM10 50%	1.4	2790	85	13	602x602x495	E
APMC24x24x2-PM10	592x592x45	ePM10 50%	1.7	3400	85	5	240x605x607	E
APMC12x24x4-PM10	287x592x96	ePM10 50%	1.1	1590	60	4	208x607x612	E
APMC20x20x4-PM10	490x490x96	ePM10 50%	1,6	2300	60	5	505x505x495	E
APMC20x24x4-PM10	490x592x96	ePM10 50%	1,9	2790	60	6	602x602x495	E
APMC24x24x4-PM10	592x592x96	ePM10 50%	2,3	3400	60	5	602x602x495	E

* According to Eurovent ECP-11-FIL



PANEL FILTERS

AERO Panel

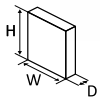
ISO Coarse

Specifications

Application: Prefilter HVAC, industry, spray booth
Frame: Firm cardboard frame
Spacers: -
Bonding: -
Medium: Synthetic
Gasket: Optional neoprene
Filter class according to ISO 16890: ISO Coarse
Maximum final pressure drop: 250Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

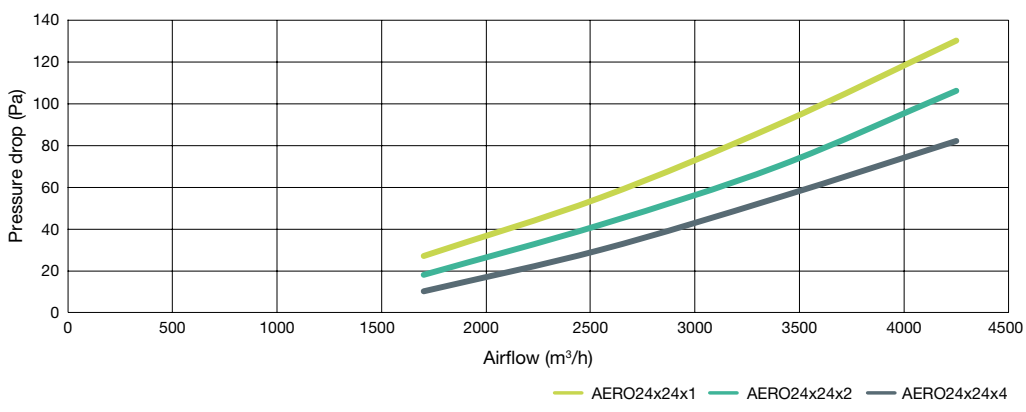
- Straightforward assembly
- 100% combustible



Type	Dimensions WxHxD (mm)	Filter class ISO 16890	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
AERO12x24x1	289x594x23	ISO Coarse 70%	0.3	1590	90	20	240x605x607	-
AERO16x20x1	394x495x23	ISO Coarse 70%	0.4	1830	90	15	410x505x360	-
AERO16x25x1	394x622x23	ISO Coarse 70%	0.4	2330	90	27	410x635x640	-
AERO20x20x1	495x495x23	ISO Coarse 70%	0.5	2300	90	10	505x505x245	-
AERO20x24x1	495x594x23	ISO Coarse 70%	0.6	2790	90	15	505x607x360	-
AERO20x25x1	495x622x23	ISO Coarse 70%	0.6	2930	90	22	505x635x295	-
AERO24x24x1	594x594x23	ISO Coarse 70%	0.7	3400	90	10	240x605x607	-
AERO12x24x2	289x594x45	ISO Coarse 70%	0.5	1590	70	10	240x605x607	-
AERO16x20x2	394x495x45	ISO Coarse 70%	0.6	1830	70	16	995x805x375	-
AERO16x25x2	394x622x45	ISO Coarse 70%	0.8	2330	70	13	410x635x600	-
AERO20x20x2	495x495x45	ISO Coarse 70%	0.7	2300	70	11	505x505x510	-
AERO20x24x2	495x594x45	ISO Coarse 70%	0.9	2790	70	8	505x607x375	-
AERO20x25x2	495x622x45	ISO Coarse 70%	0.9	2930	70	11	505x635x545	-
AERO24x24x2	594x594x45	ISO Coarse 70%	1.1	3400	70	5	240x605x607	-
AERO12x24x4	289x594x94	ISO Coarse 70%	1.1	1590	55	10	602x602x480	-
AERO16x20x4	394x495x94	ISO Coarse 70%	1.3	1830	55	7	410x505x690	-
AERO16x25x4	394x622x94	ISO Coarse 70%	1.6	2330	55	3	410x635x305	-
AERO20x20x4	495x495x94	ISO Coarse 70%	1.6	2300	55	3	505x505x305	-
AERO20x24x4	495x594x94	ISO Coarse 70%	1.9	2790	55	6	505x607x305	-
AERO20x25x4	495x622x94	ISO Coarse 70%	2.0	2930	55	3	505x635x305	-
AERO24x24x4	594x594x94	ISO Coarse 70%	2.3	3400	55	5	240x605x607	-

* According to Eurovent ECP-11-FIL

AERO SERIES



PANEL FILTERS

APKK Panel

ISO Coarse

Specifications

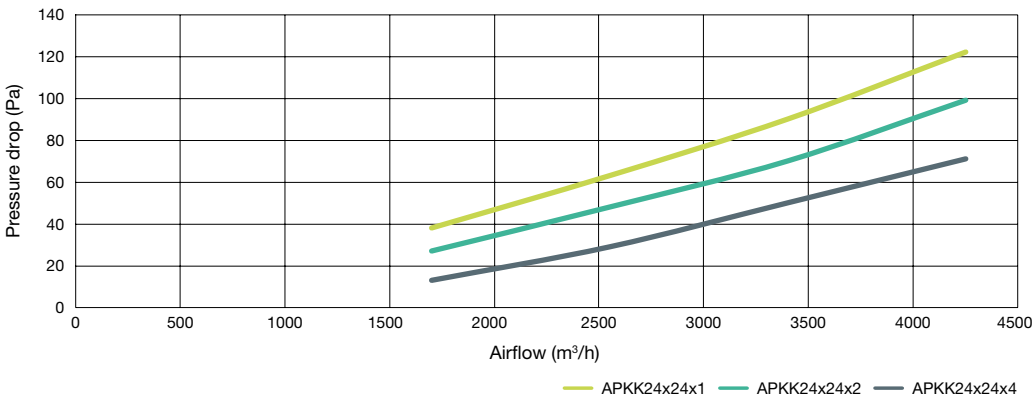
Application: Prefilter HVAC, industry
Frame: Plastic
Spacers: -
Bonding: 2 component polyurethane
Medium: Synthetic - PET
Gasket: Optional, Continuous poured gasket
Filter class according to ISO 16890: ISO Coarse
Maximum final pressure drop: 250Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%
Comments: Very good alternative to APMC filter

Advantages

- Low pressure drop
- Robust construction
- Anti-corrosion

Type	Dimensions WxHxD (mm)	Filter class ISO 16890	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
APKK12x24x1	287x592x25	ISO Coarse 70%	0.4	1590	90	20	240x605x607	-
APKK16x20x1	394x490x25	ISO Coarse 70%	0.4	1830	90	10	410x505x245	-
APKK16x24x1	394x592x25	ISO Coarse 70%	0.5	2220	90	10	410x607x245	-
APKK16x25x1	394x620x25	ISO Coarse 70%	0.6	2330	90	10	410x635x245	-
APKK20x20x1	490x490x25	ISO Coarse 70%	0.6	2300	90	10	505x505x245	-
APKK20x24x1	490x592x25	ISO Coarse 70%	0.7	2790	90	10	505x607x245	-
APKK20x25x1	490x620x25	ISO Coarse 70%	0.7	2930	90	10	505x635x245	-
APKK24x24x1	592x592x25	ISO Coarse 70%	0.8	3400	90	10	607x607x245	-
APKK12x24x2	287x592x48	ISO Coarse 70%	0.5	1590	70	10	240x605x607	-
APKK16x20x2	394x490x48	ISO Coarse 70%	0.6	1830	70	10	410x505x470	-
APKK16x24x2	394x592x48	ISO Coarse 70%	0.7	2220	70	6	410x607x285	-
APKK16x25x2	394x620x48	ISO Coarse 70%	0.8	2330	70	6	410x635x285	-
APKK20x20x2	490x490x48	ISO Coarse 70%	0.8	2300	70	14	602x602x495	-
APKK20x24x2	490x592x48	ISO Coarse 70%	0.9	2790	70	13	602x602x495	-
APKK20x25x2	490x620x48	ISO Coarse 70%	1.0	2930	70	6	505x635x285	-
APKK24x24x2	592x592x48	ISO Coarse 70%	1.1	3400	70	5	240x605x607	-
APKK12x24x4	287x592x96	ISO Coarse 70%	1.1	1590	50	4	208x607x612	-
APKK16x20x4	394x490x96	ISO Coarse 70%	1.2	1830	50	5	410x505x495	-
APKK16x24x4	394x592x96	ISO Coarse 70%	1.5	2220	50	4	410x607x400	-
APKK16x25x4	394x620x96	ISO Coarse 70%	1.5	2330	50	4	410x635x400	-
APKK20x20x4	490x490x96	ISO Coarse 70%	1.5	2300	50	5	505x505x495	-
APKK20x24x4	490x592x96	ISO Coarse 70%	1.8	2790	50	6	602x602x495	-
APKK20x25x4	490x620x96	ISO Coarse 70%	1.9	2930	50	4	505x635x400	-
APKK24x24x4	592x592x96	ISO Coarse 70%	2.2	3400	50	5	602x602x495	-

* According to Eurovent ECP-11-FIL



PANEL FILTERS

AQUA Panel

ISO Coarse

Specifications

Application: Prefilter HVAC, industry
Frame: Plastic
Spacers: -
Bonding: 2 component polyurethane
Medium: Synthetic - PET, hydrophobe
Gasket: Optional, Continuous poured gasket
Filter class according to ISO 16890: ISO Coarse
Maximum final pressure drop: 250Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%
Comments: Very good alternative to APMC filter

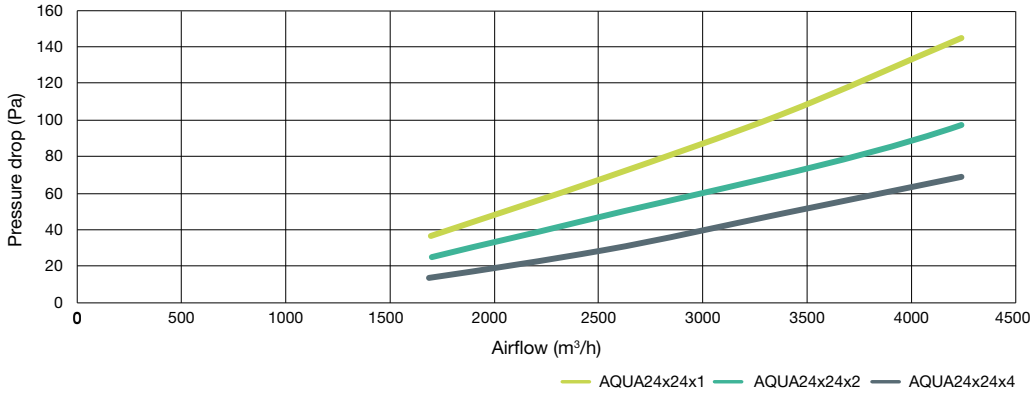
Advantages

- Water-repellent filter media
- Low pressure drop
- Anti-corrosion

Type	Dimensions WxHxD (mm)	Filter class ISO 16890	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
AQUA12x24x1	287x592x25	ISO Coarse 70%	0.4	1590	105	20	240x605x607	-
AQUA16x20x1	394x490x25	ISO Coarse 70%	0.4	1830	105	10	410x505x245	-
AQUA16x24x1	394x592x25	ISO Coarse 70%	0.5	2220	105	10	410x607x245	-
AQUA16x25x1	394x620x25	ISO Coarse 70%	0.6	2330	105	10	410x635x245	-
AQUA20x20x1	490x490x25	ISO Coarse 70%	0.6	2300	105	10	505x505x245	-
AQUA20x24x1	490x592x25	ISO Coarse 70%	0.7	2790	105	10	505x607x245	-
AQUA20x25x1	490x620x25	ISO Coarse 70%	0.7	2930	105	10	505x635x245	-
AQUA24x24x1	592x592x25	ISO Coarse 70%	0.8	3400	105	10	607x607x245	-
AQUA12x24x2	287x592x48	ISO Coarse 70%	0.5	1590	70	10	240x605x607	-
AQUA16x20x2	394x490x48	ISO Coarse 70%	0.6	1830	70	10	410x505x470	-
AQUA16x24x2	394x592x48	ISO Coarse 70%	0.7	2220	70	6	410x607x285	-
AQUA16x25x2	394x620x48	ISO Coarse 70%	0.8	2330	70	6	410x635x285	-
AQUA20x20x2	490x490x48	ISO Coarse 70%	0.8	2300	70	14	602x602x495	-
AQUA20x24x2	490x592x48	ISO Coarse 70%	0.9	2790	70	13	602x602x495	-
AQUA20x25x2	490x620x48	ISO Coarse 70%	1.0	2930	70	6	505x635x285	-
AQUA24x24x2	592x592x48	ISO Coarse 70%	1.1	3400	70	5	240x605x607	-
AQUA12x24x4	287x592x96	ISO Coarse 70%	1.1	1590	50	4	208x607x612	-
AQUA16x20x4	394x490x96	ISO Coarse 70%	1.2	1830	50	5	410x505x495	-
AQUA16x24x4	394x592x96	ISO Coarse 70%	1.5	2220	50	4	410x607x400	-
AQUA16x25x4	394x620x96	ISO Coarse 70%	1.5	2330	50	4	410x635x400	-
AQUA20x20x4	490x490x96	ISO Coarse 70%	1.5	2300	50	5	505x505x495	-
AQUA20x24x4	490x592x96	ISO Coarse 70%	1.8	2790	50	6	602x602x495	-
AQUA20x25x4	490x620x96	ISO Coarse 70%	1.9	2930	50	4	505x635x400	-
AQUA24x24x4	592x592x96	ISO Coarse 70%	2.2	3400	50	5	602x602x495	-

* According to Eurovent ECP-11-FIL

AQUA SERIES



PANEL FILTERS

CP Panel

ePM10 | ePM2.5 | ePM1

Specifications

Application: HVAC
Frame: Plastic
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Optional, Continuous poured gasket
Filter class according to ISO 16890: ePM10, ePM2.5, ePM1
Maximum final pressure drop: 450Pa
Maximum temperature: 65°C
Maximum relative humidity: 90%
Comments: For large size, possible to deliver T-Profile in middle part of filter to strengthen the structure

Advantages

- Compact construction
- Robust construction

Options

- Flange on request for possibility

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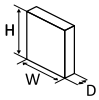
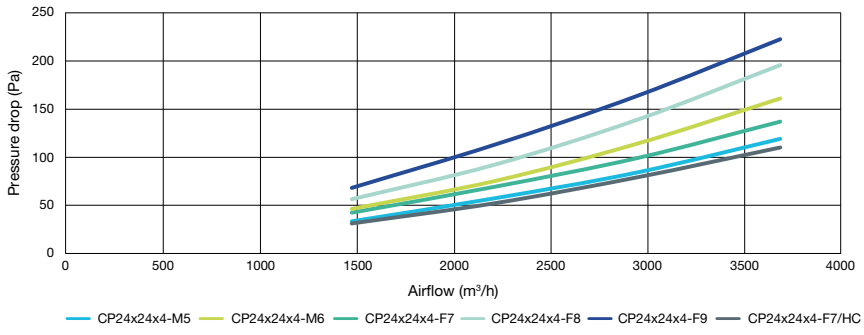


Type	Dimensions WxHxD (mm)	Filter class ISO 16890	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
CP24x24x2-M5	592x592x48	ePM10 75%	5.8	2950	90	4	208x607x612	E
CP20x24x2-M5	490x592x48	ePM10 75%	4.8	2420	90	6	505x607x285	-
CP12x24x2-M5	287x592x48	ePM10 75%	2.7	1380	90	8	208x607x612	-
CP24x24x4-M5	592x592x96	ePM10 75%	10.7	2950	85	2	208x607x612	E
CP20x24x4-M5	490x592x96	ePM10 75%	8.8	2420	85	3	505x607x305	-
CP12x24x4-M5	287x592x96	ePM10 75%	5.0	1380	85	4	208x607x612	-
CP24x24x2-M6	592x592x48	ePM2,5 55%	5.8	2950	115	4	208x607x612	E
CP20x24x2-M6	490x592x48	ePM2,5 55%	4.8	2420	115	6	505x607x285	-
CP12x24x2-M6	287x592x48	ePM2,5 55%	2.7	1380	115	8	208x607x612	-
CP24x24x4-M6	592x592x96	ePM2,5 55%	10.7	2950	100	2	208x607x612	E
CP20x24x4-M6	490x592x96	ePM2,5 55%	8.8	2420	100	3	505x607x305	-
CP12x24x4-M6	287x592x96	ePM2,5 55%	5.0	1380	100	4	208x607x612	-
CP24x24x2-F7/HC	592x592x48	ePM1 55%	5.8	2950	110	4	208x607x612	E
CP20x24x2-F7/HC	490x592x48	ePM1 55%	4.8	2420	110	6	505x607x285	-
CP12x24x2-F7/HC	287x592x48	ePM1 55%	2.7	1380	110	8	208x607x612	-
CP24x24x4-F7/HC	592x592x96	ePM1 55%	10.7	2950	80	2	208x607x612	C
CP20x24x4-F7/HC	490x592x96	ePM1 55%	8.8	2420	80	3	505x607x305	-
CP12x24x4-F7/HC	287x592x96	ePM1 55%	5.0	1380	80	4	208x607x612	-
CP24x24x2-F7	592x592x48	ePM1 55%	5.8	2950	130	4	208x607x612	E
CP20x24x2-F7	490x592x48	ePM1 55%	4.8	2420	130	6	505x607x285	-
CP12x24x2-F7	287x592x48	ePM1 55%	2.7	1380	130	8	208x607x612	-
CP24x24x4-F7	592x592x96	ePM1 55%	10.7	2950	115	2	208x607x612	E
CP20x24x4-F7	490x592x96	ePM1 55%	8.8	2420	115	3	505x607x305	-
CP12x24x4-F7	287x592x96	ePM1 55%	5.0	1380	115	4	208x607x612	-
CP24x24x2-F8	592x592x48	ePM1 70%	5.8	2950	170	4	208x607x612	E
CP20x24x2-F8	490x592x48	ePM1 70%	4.8	2420	170	6	505x607x285	-
CP12x24x2-F8	287x592x48	ePM1 70%	2.7	1380	170	8	208x607x612	-
CP24x24x4-F8	592x592x96	ePM1 70%	10.7	2950	140	2	208x607x612	E
CP20x24x4-F8	490x592x96	ePM1 70%	8.8	2420	140	3	505x607x305	-
CP12x24x4-F8	287x592x96	ePM1 70%	5.0	1380	140	4	208x607x612	-
CP24x24x2-F9	592x592x48	ePM1 80%	5.8	2950	215	4	208x607x612	E
CP20x24x2-F9	490x592x48	ePM1 80%	4.8	2420	215	6	505x607x285	-
CP12x24x2-F9	287x592x48	ePM1 80%	2.7	1380	215	8	208x607x612	-
CP24x24x4-F9	592x592x96	ePM1 80%	10.7	2950	165	2	208x607x612	E
CP20x24x4-F9	490x592x96	ePM1 80%	8.8	2420	165	3	505x607x305	-
CP12x24x4-F9	287x592x96	ePM1 80%	5.0	1380	165	4	208x607x612	-

* According to Eurovent ECP-11-FIL



CP SERIES
96 MM

PANEL FILTERS

CPMC Panel

ePM10 | ePM2.5 | ePM1

Specifications

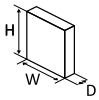
Application: HVAC
Frame: Galvanized steel
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Optional, Continuous poured gasket
Filter class according to ISO 16890: ePM10, ePM2.5, ePM1
Maximum final pressure drop: 450Pa
Maximum temperature: 65°C
Maximum relative humidity: 90%
Comments: For large size, possible to deliver T-Profile in middle part of filter to strengthen the structure

Advantages

- Compact construction
- Robust construction

Options

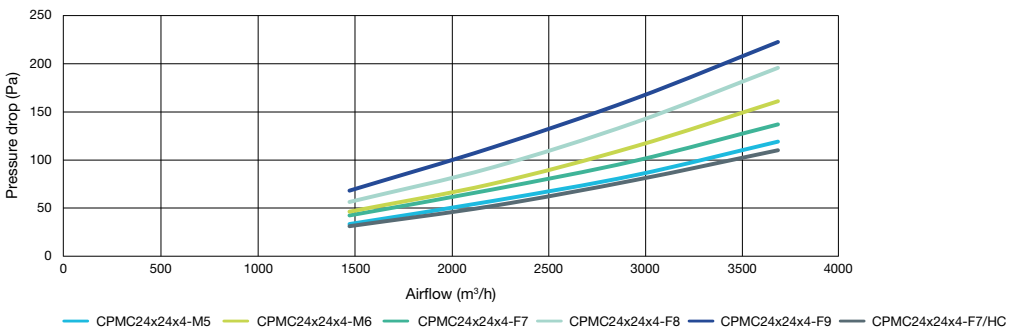
- ATEX, Flange, Grid

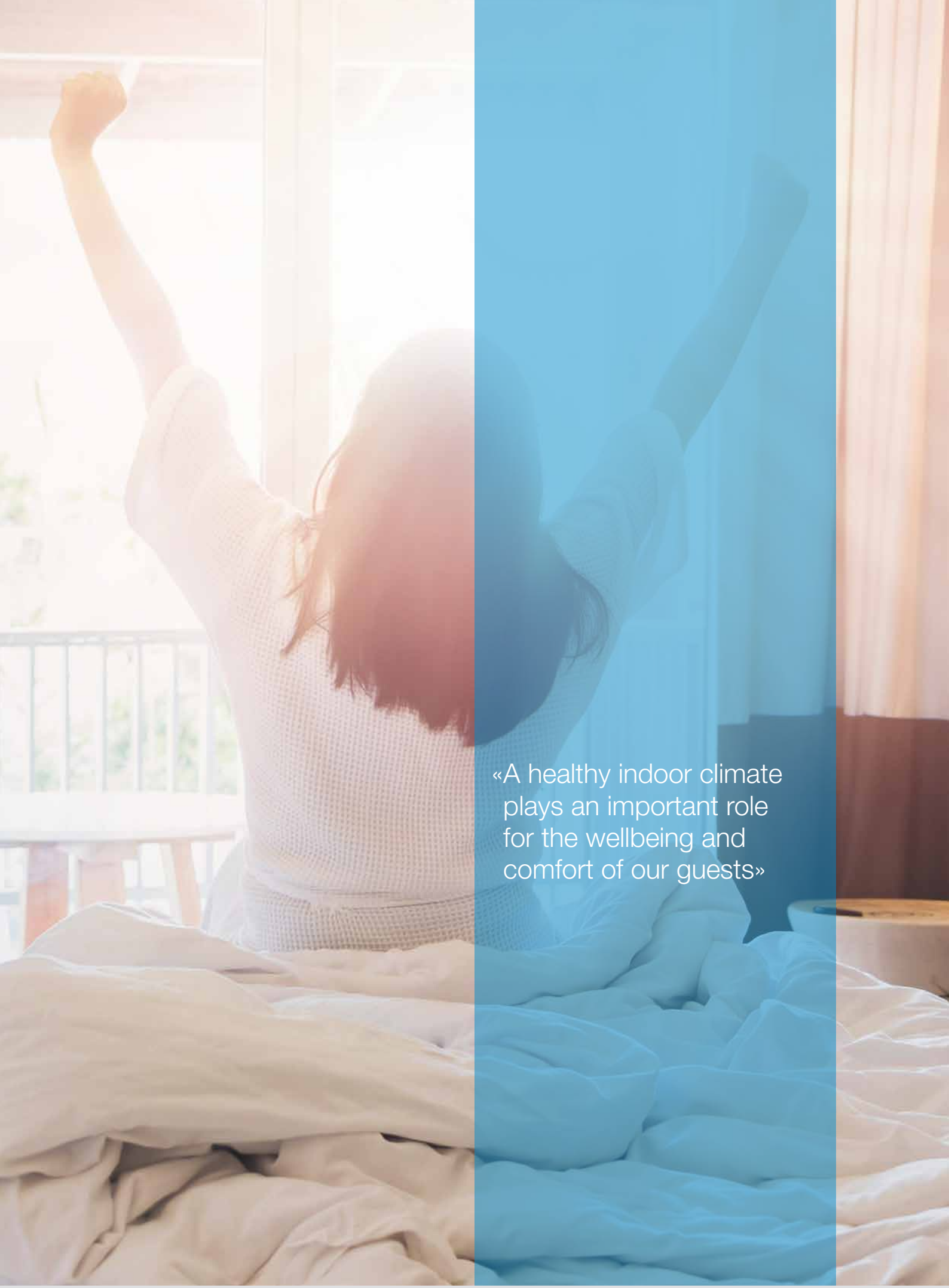


Type	Dimensions WxHxD (mm)	Filter class ISO 16890	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
CPMC24x24x2-M5	592x592x45	ePM10 75%	5.8	2950	90	4	208x607x612	E
CPMC20x24x2-M5	490x592x45	ePM10 75%	4.8	2420	90	6	505x607x285	-
CPMC12x24x2-M5	287x592x45	ePM10 75%	2.7	1380	90	8	208x607x612	-
CPMC24x24x4-M5	592x592x96	ePM10 75%	10.7	2950	85	2	208x607x612	E
CPMC20x24x4-M5	490x592x96	ePM10 75%	8.8	2420	85	3	505x607x305	-
CPMC12x24x4-M5	287x592x96	ePM10 75%	5.0	1380	85	4	208x607x612	-
CPMC24x24x2-M6	592x592x45	ePM2,5 55%	5.8	2950	115	4	208x607x612	E
CPMC20x24x2-M6	490x592x45	ePM2,5 55%	4.8	2420	115	6	505x607x285	-
CPMC12x24x2-M6	287x592x45	ePM2,5 55%	2.7	1380	115	8	208x607x612	-
CPMC24x24x4-M6	592x592x96	ePM2,5 55%	10.7	2950	100	2	208x607x612	E
CPMC20x24x4-M6	490x592x96	ePM2,5 55%	8.8	2420	100	3	505x607x305	-
CPMC12x24x4-M6	287x592x96	ePM2,5 55%	5.0	1380	100	4	208x607x612	-
CPMC24x24x2-F7/HC	592x592x45	ePM1 55%	5.8	2950	110	4	208x607x612	E
CPMC20x24x2-F7/HC	490x592x45	ePM1 55%	4.8	2420	110	6	505x607x285	-
CPMC12x24x2-F7/HC	287x592x45	ePM1 55%	2.7	1380	110	8	208x607x612	-
CPMC24x24x4-F7/HC	592x592x96	ePM1 55%	10.7	2950	80	2	208x607x612	C
CPMC20x24x4-F7/HC	490x592x96	ePM1 55%	8.8	2420	80	3	505x607x305	-
CPMC12x24x4-F7/HC	287x592x96	ePM1 55%	5.0	1380	80	4	208x607x612	-
CPMC24x24x2-F7	592x592x45	ePM1 55%	5.8	2950	130	4	208x607x612	E
CPMC20x24x2-F7	490x592x45	ePM1 55%	4.8	2420	130	6	505x607x285	-
CPMC12x24x2-F7	287x592x45	ePM1 55%	2.7	1380	130	8	208x607x612	-
CPMC24x24x4-F7	592x592x96	ePM1 55%	10.7	2950	115	2	208x607x612	E
CPMC20x24x4-F7	490x592x96	ePM1 55%	8.8	2420	115	3	505x607x305	-
CPMC12x24x4-F7	287x592x96	ePM1 55%	5.0	1380	115	4	208x607x612	-
CPMC24x24x2-F8	592x592x48	ePM1 70%	5.8	2950	170	4	208x607x612	E
CPMC20x24x2-F8	490x592x48	ePM1 70%	4.8	2420	170	6	505x607x285	-
CPMC12x24x2-F8	287x592x48	ePM1 70%	2.7	1380	170	8	208x607x612	-
CPMC24x24x4-F8	592x592x96	ePM1 70%	10.7	2950	140	2	208x607x612	E
CPMC20x24x4-F8	490x592x96	ePM1 70%	8.8	2420	140	3	505x607x305	-
CPMC12x24x4-F8	287x592x96	ePM1 70%	5.0	1380	140	4	208x607x612	-
CPMC24x24x2-F9	592x592x45	ePM1 80%	5.8	2950	215	4	208x607x612	E
CPMC20x24x2-F9	490x592x45	ePM1 80%	4.8	2420	215	6	505x607x285	-
CPMC12x24x2-F9	287x592x45	ePM1 80%	2.7	1380	215	8	208x607x612	-
CPMC24x24x4-F9	592x592x96	ePM1 80%	10.7	2950	165	2	208x607x612	E
CPMC20x24x4-F9	490x592x96	ePM1 80%	8.8	2420	165	3	505x607x305	-
CPMC12x24x4-F9	287x592x96	ePM1 80%	5.0	1380	165	4	208x607x612	-

* According to Eurovent ECP-11-FIL

CPMC SERIES
96 MM




«A healthy indoor climate
plays an important role
for the wellbeing and
comfort of our guests»

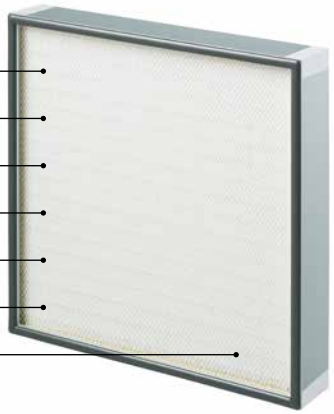
«In sensitive environments, clean air is of utmost importance»

HIGH EFFICIENCY AIR FILTERS

High efficiency air filters are characterized by their combination of innovative design and proven technology. HEPA stands for High Efficiency Particle Air filter.
The use of high quality materials enables these filters to provide an extremely high air quality. On completion of the assembly process, each individual filter is tested in accordance to the EN1822 standard.

Advantages

- Consistent performance
- Large filter surface
- Every single product is tested in compliance with EN1822
- Robust construction helps prevent damage during transportation and fitting
- Low energy consumption, thanks to smart pleating methods
- Proven quality, even in critical environments



Construction

The filter media are made of a glass microfiber sheet. This vouches for consistent performance and enabling the use of these filters in highly critical environments.

Applications

High efficiency air filters are used in hospitals and various other sectors, including the nuclear, food processing and semiconductor industries.
High efficiency air filters are highly reliable, as they are subjected to strict quality checks and extensive testing.

Turbulent flow filters

This type of filter is mostly used in circumstances with few requirements relating to the airflow's laminarity, but high air quality standards apply. These filters have a high flow rate, thanks to the application or efficient deep-pleating methods, The construction methods applied vary for the following model types:

A: Standard model

These filters have nominal capacities, which serve as a base for the system design. Application or the deep-pleating method makes for low resistance at relatively low cost. The filter surface may be up to fifty times larger than its front area.

B: High capacity model

The high efficiency air filters have an even lower air resistance and a higher flow rate. They operate on V-shaped filter packages which are inserted in the filter. This method creates a filter area that is twice as large and a doubled flow rate in comparison to those or the standard model.

Laminar flow filters

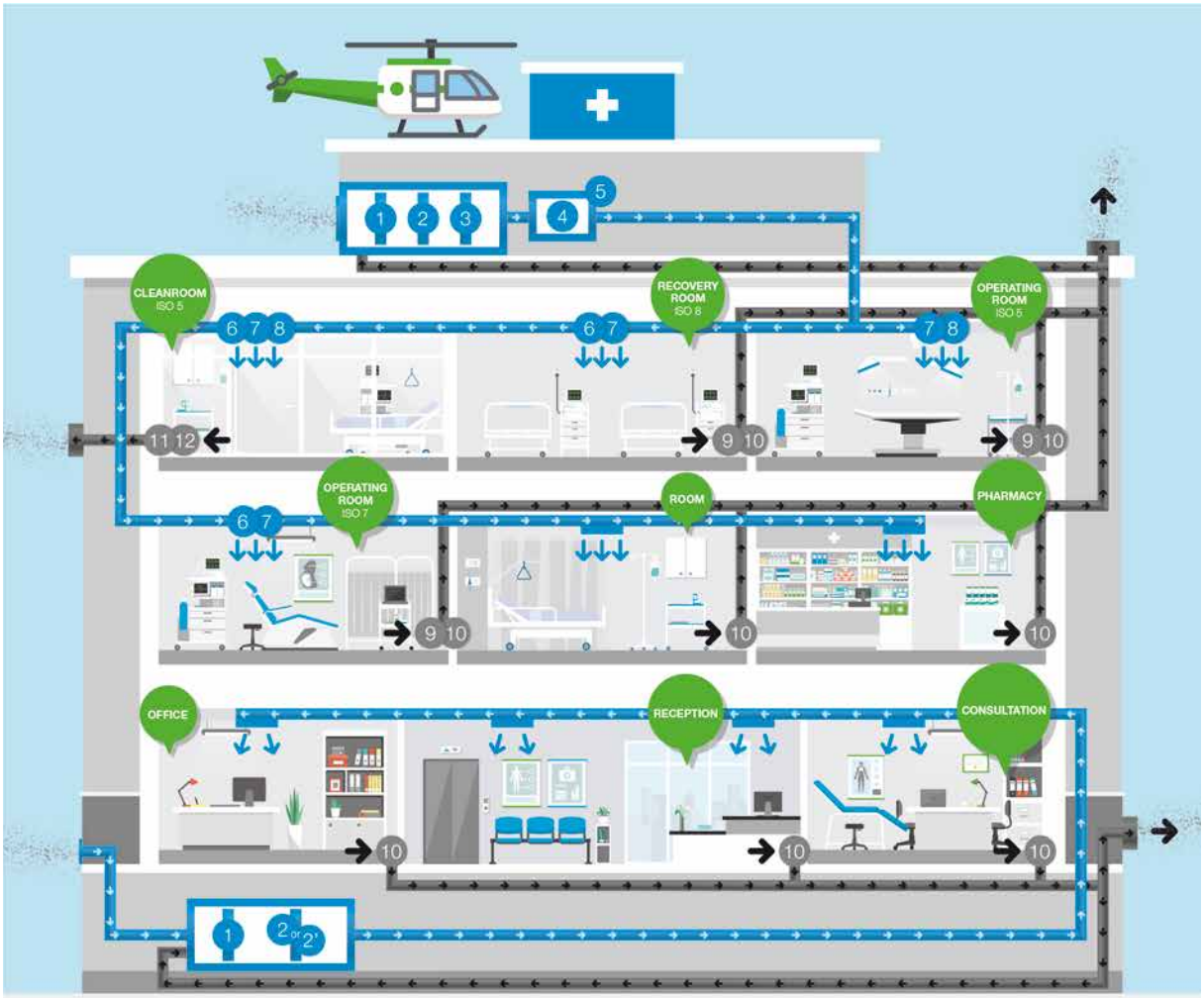
Laminar flow filters with a laminar flow are widely applied in cleanrooms, where high air quality standards are essential. These have a lower flow rate than the turbulent flow filters. Laminar flow filters guarantee greater cleanliness in the cleanroom, thanks to aspects including the use or high quality filter paper and innovative pleating techniques.

High efficiency air filters are available in standard sizes varying from 68 to 110 mm in thicknesses, while the pleat package has a maximum height to achieve low resistance.

Discover our high efficiency air filters range

Dowload the
hospital infographic

RECOMMENDATION **Hospitals**



1 PANEL FILTER APMC
ISO COARSE 70%

2 /2 COMPACT FILTER PB / HPQ85
ePM1 60% / ePM1 55%

3 COMPACT FILTER
CS 98 ePM1 80%

4 HPQ AK ACTIVATED CARBON COMPACT FILTER

5 FILTER HOUSING
HL-DA

6 TERMINAL HOUSING
HL-HD

7 HLA SERIE HEPA FILTER
Laminar Flow

Gel Seal
Knife Edge
Polyurethane Gasket

8 FILTRATION CEILING
HD-CE

9 RETURN AIR HOUSING
HL-RB

10 PANEL FILTER CPMC
ePM10 75%

11 SAFE CHANGE HOUSING
bag in bag out SF-CH

12 HEPA FILTER HVG
SERIE H14

Download the pharmaceutical industry infographic

RECOMMENDATION **Pharmaceutical industry**

Download the food industry infographic

RECOMMENDATION **Food industry**

1 **PANEL FILTERS APMC**
ISO COARSE 70%

2 **BAG FILTER HQ85**
ePM1 60%

3 **COMPACT FILTER CS 98 /** ePM1 80%

AFPRO Filters BV participates in the ECP programme for Air Filters (FIL). Check ongoing validity of certificate: www.eurovent-certification.com

4 **FILTER HOUSING HL-DA**

5 **HEPA FILTER** Turbulent Flow **HVG, H13, H14**

5' **HEPA FILTER** Turbulent Flow **HVP, H13**

Comes with a certificate of conformity from class H13. Hvs stainless steel version available.

6 **HEPA FILTER** Laminar Flow **HEPA HLA, H13, H14**

7 **TERMINAL HOUSING HL-PH**

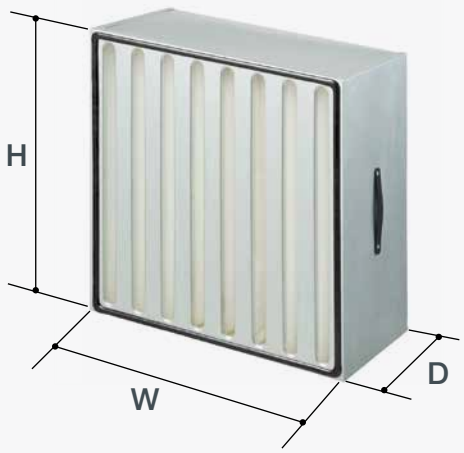
8 **RETURN AIR HOUSING HL-RB**

9 **PANEL FILTER CPMC**
ePM10 75%

TURBULENT FILTERS

Explanation product numbers	HVG	1	1	10	N	B	E	M
	1	2	3	4	5	6	7	8

Turbulent flow filters



1 Type

HVG V-Banked, galvanized steel frame
HCG High capacity V-Banked, galvanized steel frame
HVS V-Banked, stainless steel frame
HCS High capacity V-Banked, stainless steel frame
HPM MDF framework
HPG Galvanized steel frame

2 Spacer

1 Hotmelt
2 Aluminum (available for HPM, HPG)

3 Gasket

0 No gasket
1 Foamed polyurethane on one side
2 Foamed polyurethane on both sides
3 Flat neoprene gasket on one side
4 Flat neoprene gasket on both sides
9 Flat gasket on the outside of the frame

4 Filter class

10 E10
11 E11
13 H13
14 H14

5 Grid

N No grid
S Single grid
D Double grid

6 Height (mm)

A 288
B 305
C 457
D 592
E 610
F 762
K 380
L 210
M 490
N 402
Other sizes on request

7 Width (mm)

A 288
B 305
C 457
D 592
E 610
F 762
K 380
L 210
M 490
N 402
Other sizes on request

8 Frame Thickness (mm)

L 150 mm
M 292 mm
Other sizes on request

HIGH EFFICIENCY AIR FILTERS

HPM series

E10 | E11 | H13 | H14

Specifications

Application: Cleanrooms, asbestos remediation, operating rooms
Frame: MDF
Spacers: Aluminum
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Continuous poured gasket
Filter class according to EN1822: E10, E11, H13, H14
Maximum final pressure drop: 500Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Filters with the classification H13 & H14 are delivered with a test certificate

Type	Dimensions WxHxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HPM2110NBBM	305x305x292	E10	4.6	500	125	311x313x311
HPM2110NCCM	457x457x292	E10	11.3	1120	125	475x475x323
HPM2110NBEM	305x610x292	E10	9.7	1000	125	620x310x315
HPM2110NCEM	457x610x292	E10	15.4	1500	125	620x310x620
HPM2110NEEM	610x610x292	E10	21.1	2000	125	620x310x620
HPM2110NEFM	610x762x292	E10	26.7	2500	125	778x325x626
HPM2110NADM	288x592x292	E10	8.8	900	125	620x310x315
HPM2110NDDM	592x592x292	E10	19.8	1850	125	618x313x618
HPM2111NBBM	305x305x292	E11	4.6	500	140	311x313x311
HPM2111NCCM	457x457x292	E11	11.3	1120	140	475x475x323
HPM2111NBEM	305x610x292	E11	9.7	1000	140	620x310x315
HPM2111NCEM	457x610x292	E11	15.4	1500	140	620x310x620
HPM2111NEEM	610x610x292	E11	21.1	2000	140	620x310x620
HPM2111NEFM	610x762x292	E11	26.7	2500	140	778x325x626
HPM2111NADM	288x592x292	E11	8.8	900	140	620x310x315
HPM2111NDDM	592x592x292	E11	19.8	1850	140	618x313x618
HPM2113NBBM	305x305x292	H13	4.6	500	250	311x313x311
HPM2113NCCM	457x457x292	H13	11.3	1120	250	475x475x323
HPM2113NBEM	305x610x292	H13	9.7	1000	250	620x310x315
HPM2113NCEM	457x610x292	H13	15.4	1500	250	620x310x620
HPM2113NEEM	610X610X292	H13	21.1	2000	250	620x310x620
HPM2113NEFM	610x762x292	H13	26.7	2500	250	778x325x626
HPM2113NADM	288x592x292	H13	8.8	900	250	620x310x315
HPM2113NDDM	592x592x292	H13	19.8	1850	250	618x313x618
HPM2114NBBM	305x305x292	H14	4.6	500	280	311x313x311
HPM2114NCCM	457x457x292	H14	11.3	1120	280	475x475x323
HPM2114NBEM	305x610x292	H14	9.7	1000	280	620x310x315
HPM2114NCEM	457x610x292	H14	15.4	1500	280	620x310x620
HPM2114NEEM	610x610x292	H14	21.1	2000	280	620x310x620
HPM2114NEFM	610x762x292	H14	26.7	2500	280	778x325x626
HPM2114NADM	288x592x292	H14	8.8	900	280	620x310x315
HPM2114NDDM	592x592x292	H14	19.8	1850	280	618x313x618
HPM2110NBBL	305x305x150	E10	2.3	225	125	320x165x320
HPM2110NCCL	457x457x150	E10	8.4	500	125	475x165x475
HPM2110NBEL	305x610x150	E10	4.8	450	125	313x618x166
HPM2110NCEL	457x610x150	E10	7.6	675	125	465x618x166
HPM2110NEEL	610x610x150	E10	10.5	900	125	625x165x625
HPM2110NEFL	610x762x150	E10	13.3	1125	125	628x780x181

HIGH EFFICIENCY AIR FILTERS

HPM series continued

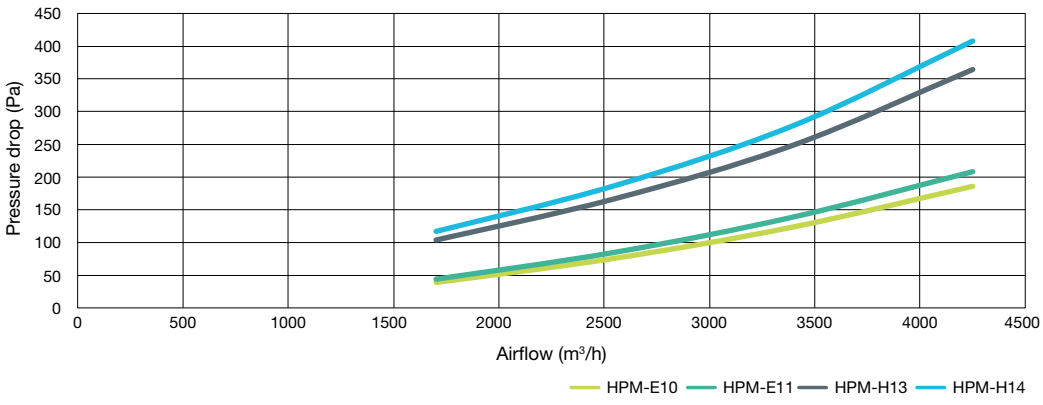
E10 | E11 | H13 | H14

Type	Dimensions **WxHxD** (mm)	Filter class **EN1822**	Filter surface (m^2)	Airflow (m^3/h)	Pressure **drop** (Pa)	Dimensions **box** (mm)
HPM2111NBBL	305x305x150	E11	2.3	225	140	320x165x320
HPM2111NCCL	457x457x150	E11	8.4	500	140	475x165x475
HPM2111NBEL	305x610x150	E11	4.8	450	140	313x618x166
HPM2111NCEL	457x610x150	E11	7.6	675	140	465x618x166
HPM2111NEEL	610x610x150	E11	10.5	900	140	625x165x625
HPM2111NEFL	610x762x150	E11	13.3	1125	140	628x780x181
HPM2113NBBL	305x305x150	H13	2.3	225	250	320x165x320
HPM2113NCCL	457x457x150	H13	8.4	500	250	475x165x475
HPM2113NBEL	305x610x150	H13	4.8	450	250	313x618x166
HPM2113NCEL	457x610x150	H13	7.6	675	250	465x618x166
HPM2113NEEL	610X610X150	H13	10.5	900	250	625x165x625
HPM2113NEFL	610x762x150	H13	13.3	1125	250	628x780x181
HPM2114NBBL	305x305x150	H14	2.3	225	280	320x165x320
HPM2114NCCL	457x457x150	H14	8.4	500	280	475x165x475
HPM2114NBEL	305x610x150	H14	4.8	450	280	313x618x166
HPM2114NCEL	457x610x150	H14	7.6	675	280	465x618x166
HPM2114NEEL	610x610x150	H14	10.5	900	280	628x165x625
HPM2114NEFL	610x762x150	H14	13.3	1125	280	628x780x181

The high efficiency air filters are checked for leak proofness at the end of the production process. It is advised to validate the functioning of the air handling unit after installation of the new high efficiency air filters, because of possible damages during transport or installation.

*Max flow rate is limited to 125% of nominal value, running at higher flow has a risk of down-grading certain filter.

HPM SERIES



HIGH EFFICIENCY AIR FILTERS

HVG/HCG series

E10 | E11 | H13 | H14

Specifications

Application: Cleanrooms, asbestos remediation, operating rooms
Frame: Galvanized steel
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Continuous poured gasket
Filter class according to EN1822: E10, E11, H13, H14
Maximum final pressure drop: 500Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Low pressure drop
- High airflows
- Filters with the classification H13 & H14 are delivered with a test certificate

Options

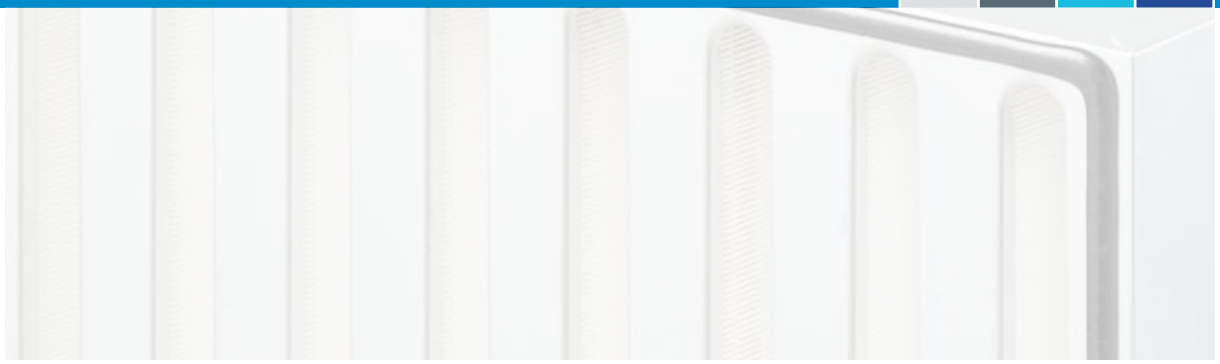
- ATEX and High Temperature

Type	Dimensions HxWxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HCG1110NBBM	305x305x292	E10	10.3	780	180	311x313x311
HCG1110NBEM	305x610x292	E10	20.2	1900	180	620x310x315
HCG1110NCEM	457x610x292	E10	30.2	2940	180	473x310x626
HCG1110NEEM	610x610x292	E10	40.3	4000	180	620x310x620
HCG1110NEFM	610x762x292	E10	50.4	4820	180	778x325x626
HCG1111NBBM	305x305x292	E11	10.3	780	210	311x313x311
HCG1111NBEM	305x610x292	E11	20.2	1900	210	620x310x315
HCG1111NCEM	457x610x292	E11	30.2	2940	210	473x310x626
HCG1111NEEM	610x610x292	E11	40.3	4000	210	620x310x620
HCG1111NEFM	610x762x292	E11	50.4	4820	210	778x325x626
HVG1113NBBM	305x305x292	H13	9.3	730	250	311x313x311
HVG1113NBEM	305x610x292	H13	18.5	1790	250	620x310x315
HVG1113NCEM	457x610x292	H13	27.8	2770	250	473x310x626
HVG1113NEEM	610x610x292	H13	37.0	3750	250	620x310x620
HVG1113NEFM	610x762x292	H13	46.3	4510	250	778x325x626
HCG1113NBBM	305x305x292	H13	10.3	780	250	311x313x311
HCG1113NBEM	305x610x292	H13	20.2	1900	250	620x310x315
HCG1113NCEM	457x610x292	H13	30.2	2940	250	473x310x626
HCG1113NEEM	610x610x292	H13	40.3	4000	250	620x310x620
HCG1113NEFM	610x762x292	H13	50.4	4820	250	778x325x626
HVG1113NADM	288x592x292	H13	18.0	1670	250	626x308x301
HVG1113NCDM	457x592x292	H13	27.0	2760	250	496x598x318

HIGH EFFICIENCY AIR FILTERS

HVG/HCG series continued

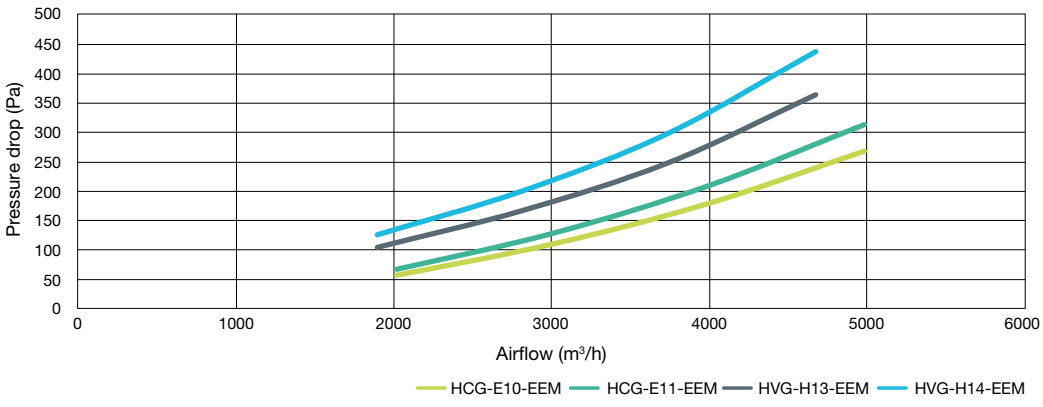
E10 | E11 | H13 | H14



Type	Dimensions HxWxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HVG1113NDDM	592x592x292	H13	36.0	3620	250	606x308x606
HVG1114NBBM	305x305x292	H14	9.3	730	300	311x313x311
HVG1114NBEM	305x610x292	H14	18.5	1790	300	620x310x315
HVG1114NCEM	457x610x292	H14	27.8	2940	300	473x310x626
HVG1114NEEM	610x610x292	H14	37.0	3750	300	620x310x620
HVG1114NEFM	610x762x292	H14	46.3	4510	300	778x325x626
HCG1114NBBM	305x305x292	H14	10.3	780	300	311x313x311
HCG1114NBEM	305x610x292	H14	20.2	1900	300	620x310x315
HCG1114NCEM	457x610x292	H14	30.2	2940	300	473x310x626
HCG1114NEEM	610x610x292	H14	40.3	4000	300	620x310x620
HCG1114NEFM	610x762x292	H14	50.4	4820	300	778x325x626
HVG1114NADM	288x592x292	H14	18.0	1670	300	606x308x301
HVG1114NCDM	457x592x292	H14	27.0	2760	300	496x598x318
HVG1114NDDM	592x592x292	H14	36.0	3620	300	606x308x606

The high efficiency air filters are checked for leak proofness at the end of the production process. It is advised to validate the functioning of the air handling unit after installation of the new high efficiency air filters, because of possible damages during transport or installation.

*Max flow rate is limited to 125% of nominal value, running at higher flow has a risk of down-grading certain filter.



HVG/HCG SERIES

HIGH EFFICIENCY AIR FILTERS

HCS/HVS series

E10 | E11 | H13 | H14

Specifications

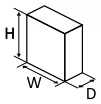
Application: Cleanrooms, asbestos remediation, operating rooms
Frame: Stainless steel (RVS)
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Continuous poured gasket
Filter class according to EN1822: E10, E11, H13, H14
Maximum final pressure drop: 500Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Low pressure drop
- High airflows
- Filters with the classification H13 & H14 are delivered with a test certificate

Options

- High Temperature



Type	Dimensions HxWxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HCS1110NBBM	305x305x292	E10	10.3	780	180	311x313x311
HCS1110NBEM	305x610x292	E10	20.2	1900	180	620x310x315
HCS1110NCEM	457x610x292	E10	30.2	2940	180	463x616x318
HCS1110NEEM	610x610x292	E10	40.3	4000	180	620x310x620
HCS1110NEFM	610x762x292	E10	50.4	4820	180	778x325x626
HCS1111NBBM	305x305x292	E11	10.3	780	210	311x313x311
HCS1111NBEM	305x610x292	E11	20.2	1900	210	620x310x315
HCS1111NCEM	457x610x292	E11	30.2	2940	210	463x616x318
HCS1111NEEM	610x610x292	E11	40.3	4000	210	620x310x620
HCS1111NEFM	610x762x292	E11	50.4	4820	210	778x325x626
HVS1113NBBM	305x305x292	H13	9.3	730	250	311x313x311
HVS1113NBEM	305x610x292	H13	18.5	1790	250	620x310x315
HVS1113NCEM	457x610x292	H13	27.8	2770	250	463x616x318
HVS1113NEEM	610x610x292	H13	37.0	3750	250	620x310x620
HVS1113NEFM	610x762x292	H13	46.3	4510	250	778x325x626
HCS1113NBBM	305x305x292	H13	10.3	780	250	311x313x311
HCS1113NBEM	305x610x292	H13	20.2	1900	250	620x310x315
HCS1113NCEM	457x610x292	H13	30.2	2940	250	463x616x318
HCS1113NEEM	610x610x292	H13	40.3	4000	250	620x310x620
HCS1113NEFM	610x762x292	H13	50.4	4820	250	778x325x626
HVS1113NADM	288x592x292	H13	18.0	1670	250	606x308x301
HVS1113NCDM	457x592x292	H13	27.0	2760	250	496x598x318

HIGH EFFICIENCY AIR FILTERS

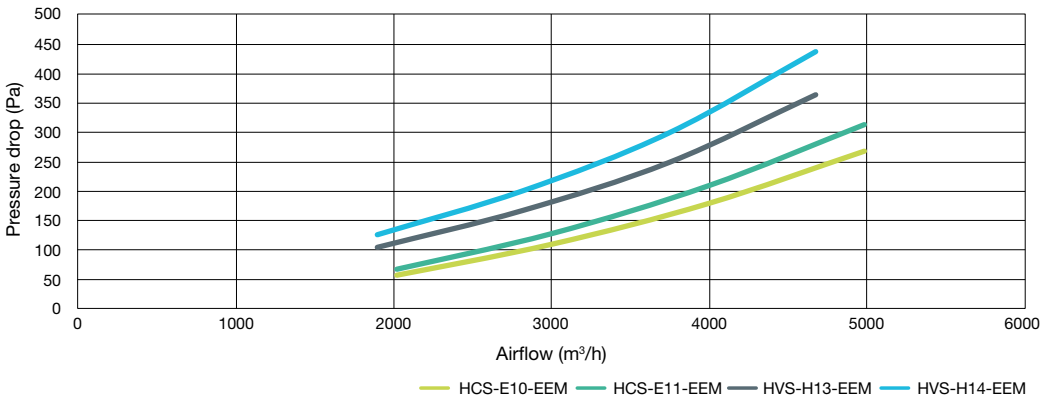
HCS/HVS series continued

E10 | E11 | H13 | H14

Type	Dimensions **HxWxD** (mm)	Filter class **EN1822**	Filter surface (m^2)	Airflow (m^3/h)	Pressure **drop** (Pa)	Dimensions **box** (mm)
HVS1113NDDM	592x592x292	H13	36.0	3620	250	606x308x606
HVS1114NBBM	305x305x292	H14	9.3	730	300	311x313x311
HVS1114NBEM	305x610x292	H14	18.5	1790	300	620x310x315
HVS1114NCEM	457x610x292	H14	27.8	2940	300	463x616x318
HVS1114NEEM	610x610x292	H14	37.0	3750	300	620x310x620
HVS1114NEFM	610x762x292	H14	46.3	4510	300	778x325x626
HCS1114NBBM	305x305x292	H14	10.3	780	300	311x313x311
HCS1114NBEM	305x610x292	H14	20.2	1900	300	620x310x315
HCS1114NCEM	457x610x292	H14	30.2	2940	300	463x616x318
HCS1114NEEM	610x610x292	H14	40.3	4000	300	620x310x620
HCS1114NEFM	610x762x292	H14	50.4	4820	300	778x325x626
HVS1114NADM	288x592x292	H14	18.0	1670	300	606x308x301
HVS1114NCDM	457x592x292	H14	27.0	2760	300	496x598x318
HVS1114NDDM	592x592x292	H14	36.0	3620	300	606x308x606

The high efficiency air filters are checked for leak proofness at the end of the production process. It is advised to validate the functioning of the air handling unit after installation of the new high efficiency air filters, because of possible damages during transport or installation.

*Max flow rate is limited to 125% of nominal value, running at higher flow has a risk of down-grading certain filter.



HCS/HVS SERIES

HIGH EFFICIENCY AIR FILTERS

HPG series

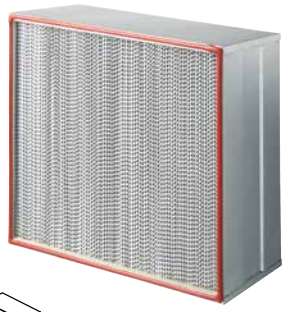
E10 | E11 | H13 | H14

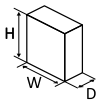
Specifications

Application: Cleanrooms, asbestos remediation, operating rooms
Frame: Galvanized steel
Spacers: Aluminum
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Continuous poured gasket
Filter class according to EN1822: E10, E11, H13, H14
Maximum final pressure drop: 500Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Robust frame
- Filters with the classification H13 & H14 are delivered with a test certificate





Type	Dimensions WxHxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HPG2110DBBM	305x305x292	E10	6.1	500	125	311x313x311
HPG2110DBEM	305x610x292	E10	12.0	1000	125	620x310x315
HPG2110DCEM	457x610x292	E10	18.1	1500	125	473x310x626
HPG2110DEEM	610x610x292	E10	24.2	2000	125	620x310x620
HPG2110DEFM	610x762x292	E10	30.2	2500	125	778x325x626
HPG2110DADM	288x592x292	E10	11.1	900	125	620x310x315
HPG2110DDDM	592x592x292	E10	22.8	1850	125	606x308x606
HPG2111DBBM	305x305x292	E11	6.1	500	140	311x313x311
HPG2111DBEM	305x610x292	E11	12.0	1000	140	620x310x315
HPG2111DCEM	457x610x292	E11	18.1	1500	140	473x310x626
HPG2111DEEM	610x610x292	E11	24.2	2000	140	620x310x620
HPG2111DEFM	610x762x292	E11	30.2	2500	140	778x325x626
HPG2111DADM	288x592x292	E11	11.0	900	140	620x310x315
HPG2111DDDM	592x592x292	E11	22.8	1850	140	606x308x606
HPG2113DBBM	305x305x292	H13	6.1	500	250	311x313x311
HPG2113DBEM	305x610x292	H13	12.0	1000	250	620x310x315
HPG2113DCEM	457x610x292	H13	18.1	1500	250	473x310x626
HPG2113DEEM	610x610x292	H13	24.2	2000	250	620x310x620
HPG2113DEFM	610x762x292	H13	30.2	2500	250	778x325x626
HPG2113DADM	288x592x292	H13	11.1	900	250	620x310x315
HPG2113DDDM	592x592x292	H13	22.8	1850	250	606x308x606
HPG2114DBBM	305x305x292	H14	6.1	500	280	311x313x311
HPG2114DBEM	305x610x292	H14	12.0	1000	280	620x310x315
HPG2114DCEM	457x610x292	H14	18.1	1500	280	473x310x626
HPG2114DEEM	610x610x292	H14	24.2	2000	280	620x310x620
HPG2114DEFM	610x762x292	H14	30.2	2500	280	778x325x626
HPG2114DADM	288x592x292	H14	11.1	900	280	620x310x315
HPG2114DDDM	592x592x292	H14	22.8	1850	280	606x308x606
HPG2110DBBL	305x305x150	E10	3.0	225	125	320x165x320
HPG2110DCCL	457x457x150	E10	6.7	500	125	475x165x475
HPG2110DBEL	305x610x150	E10	6.0	450	125	313x618x166
HPG2110DCEL	457x610x150	E10	9.0	675	125	465x618x166
HPG2110DEEL	610x610x150	E10	12.0	900	125	625x165x625
HPG2110DEFL	610x762x150	E10	15.0	1125	125	628x780x181
HPG2111DBBL	305x305x150	E11	3.0	225	140	320x165x320
HPG2111DCCL	457x457x150	E11	6.7	500	140	475x165x475
HPG2111DBEL	305x610x150	E11	6.0	450	140	313x618x166
HPG2111DCEL	457x610x150	E11	9.0	675	140	465x618x166

HIGH EFFICIENCY AIR FILTERS

HPG series continued

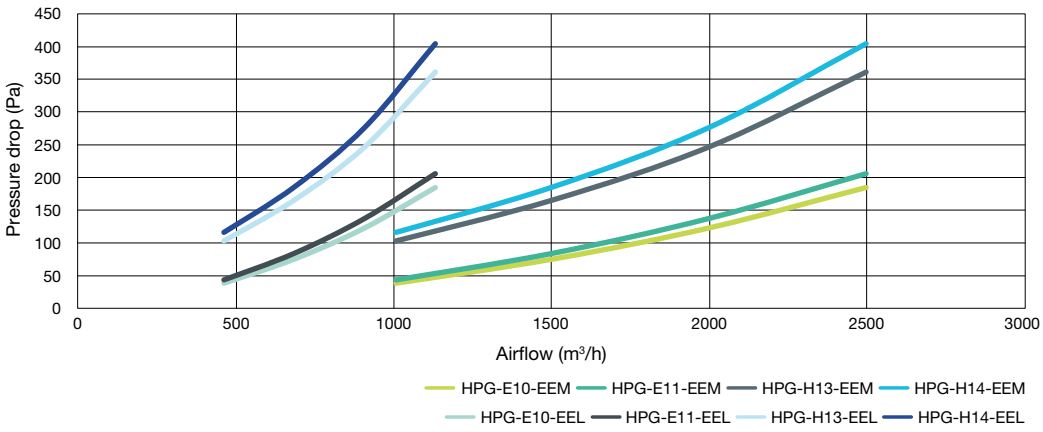
E10 | E11 | H13 | H14

Type	Dimensions **WxHxD** (mm)	Filter class **EN1822**	Filter surface (m^2)	Airflow (m^3/h)	Pressure **drop** (Pa)	Dimensions **box** (mm)
HPG2111DEEL	610x610x150	E11	12.0	900	140	625x165x625
HPG2111DEFL	610x762x150	E11	15.0	1125	140	628x780x181
HPG2113DBBL	305x305x150	H13	3.0	225	250	320x165x320
HPG2113DCCL	457x457x150	H13	6.7	500	250	475x165x475
HPG2113DBEL	305x610x150	H13	6.0	450	250	313x618x166
HPG2113DCEL	457x610x150	H13	9.0	675	250	465x618x166
HPG2113DEEL	610X610X150	H13	12.0	900	250	625x165x625
HPG2113DEFL	610x762x150	H13	15.0	1125	250	628x780x181
HPG2114DBBL	305x305x150	H14	3.0	225	280	320x165x320
HPG2114DCCL	457x457x150	H14	6.7	500	280	475x165x475
HPG2114DBEL	305x610x150	H14	6.0	450	280	313x618x166
HPG2114DCEL	457x610x150	H14	9.0	675	280	465x618x166
HPG2114DEEL	610x610x150	H14	12.0	900	280	625x165x625
HPG2114DEFL	610x762x150	H14	15.0	1125	280	628x780x181

The high efficiency air filters are checked for leak proofness at the end of the production process. It is advised to validate the functioning of the air handling unit after installation of the new high efficiency air filters, because of possible damages during transport or installation.

*Max flow rate is limited to 125% of nominal value, running at higher flow has a risk of down-grading certain filter.

HPG SERIES

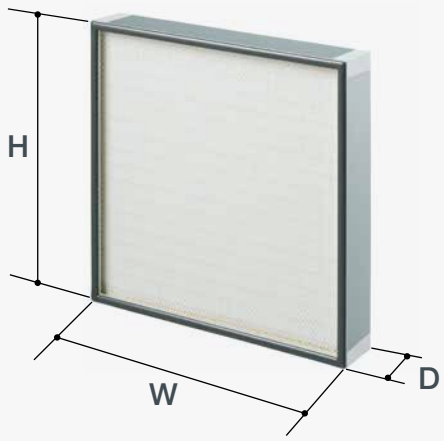



«Laminar flow filters
are widely applied in
cleanrooms, where
high air quality standards
are essential»

LAMINAR FILTERS

Explanation product numbers	HLA	1	1	10	D	B	B	E
	1	2	3	4	5	6	7	8

Laminar flow filters



1 Type
HLA Aluminum frame
HLM MDF frame
HPA

2 Spacer
1 Hotmelt

3 Gasket
0 No gasket
1 Foamed polyurethane on one side
2 Foamed polyurethane on both sides
3 Flat neoprene gasket on one side
4 Flat neoprene gasket on both sides
5 Blade assembly for mounting in gelseal (available in frame thickness J, other thicknesses on request)
6 Gelseal (available in frame thickness 80, 104, 94, 72, 128)
9 Flat gasket on the outside of the frame

4 Filter class
10 E10
11 E11
13 H13
14 H14
15 U15

5 Grid
N No grid
S Single grid
D Double grid

6 Height (mm)
A 288
B 305
C 457
D 592
E 610
F 762
G 915*
H 1220*
I 1524*
J 1830*
K 380
L 210
M 490
N 402
Other sizes on request
*Not available for MDF

7 Width (mm)
A 288
B 305
C 457
D 592
E 610
F 762
G 915*
H 1220*
I 1524*
J 1830*
K 380
L 210
M 490
N 402
Other sizes on request
*Not available for MDF

8 Depth (mm)
E 68 mm, available for aluminum and MDF
G 80 mm, available for aluminum and MDF
H 80 mm gelseal, available for aluminum
I 90 mm, available for aluminum and MDF
J 102.5 mm blade assembly, available for aluminum
L 150 mm, available for aluminum and MDF
Q 110 mm, available for aluminum and MDF
Other sizes on request

HIGH EFFICIENCY AIR FILTERS

HLA-E series

E10 | E11 | H13 | H14 | U15

Specifications

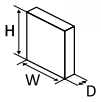
Application: Cleanrooms, operating rooms
Frame: Extruded aluminum
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Continuous poured gasket
Filter class according to EN1822: E10, E11, H13, H14, U15
Maximum final pressure drop: 500Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Lightweight construction
- HLA HEPA are fitted with 2 protection grids
- Filters with the classification H13, H14 & U15 are delivered with a test certificate

Options

- High Temperature



Type	Dimensions WxHxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HLA1110DBBE	305x305x68	E10	2.8	150	65	311x89x311
HLA1110DCCE	457x457x68	E10	6.2	335	65	463x89x463
HLA1110DBEE	305x610x68	E10	5.5	300	65	616x89x311
HLA1110DBCE	305x457x68	E10	4.2	225	65	473x321x99
HLA1110DEEE	610x610x68	E10	11.1	600	65	616x89x616
HLA1110DEGE	610x915x68	E10	16.6	900	65	616x89x921
HLA1110DEHE	610x1220x68	E10	22.1	1200	65	1226x89x616
HLA1110DFFE	762x762x68	E10	17.3	950	65	778x778x99
HLA1110DFGE	762x915x68	E10	20.7	1125	65	921x89x768
HLA1111DBBE	305x305x68	E11	2.8	150	80	311x89x311
HLA1111DCCE	457x457x68	E11	6.2	335	80	463x89x463
HLA1111DBEE	305x610x68	E11	5.5	300	80	616x89x311
HLA1111DBCE	305x457x68	E11	4.2	225	80	473x321x99
HLA1111DEEE	610x610x68	E11	11.1	600	80	616x89x616
HLA1111DEGE	610x915x68	E11	16.6	900	80	616x89x92
HLA1111DEHE	610x1220x68	E11	22.1	1200	80	1226x89x616
HLA1111DFFE	762x762x68	E11	17.3	950	80	778x778x99
HLA1111DFGE	762x915x68	E11	20.7	1125	80	921x89x768
HLA1113DBBE	305x305x68	H13	2.8	150	120	311x89x311
HLA1113DCCE	457x457x68	H13	6.2	335	120	463x89x463
HLA1113DBEE	305x610x68	H13	5.5	300	120	616x89x311
HLA1113DBCE	305x457x68	H13	4.2	225	120	473x321x99
HLA1113DEEE	610x610x68	H13	11.1	600	120	616x89x616
HLA1113DEGE	610x915x68	H13	16.6	900	120	616x89x921
HLA1113DEHE	610x1220x68	H13	22.1	1200	120	1226x89x616
HLA1113DFFE	762x762x68	H13	17.3	950	120	778x778x99
HLA1113DFGE	762x915x68	H13	20.7	1125	120	921x89x768
HLA1114DBBE/ES	305x305x68	H14	3.1	140	100	311x89x311
HLA1114DCCE/ES	457x457x68	H14	6.8	330	100	463x89x463
HLA1114DBEE/ES	610x305x68	H14	6.0	290	100	616x89x311
HLA1114DBCE/ES	457x305x68	H14	4.6	210	100	473x321x99
HLA1114DEEE/ES	610x610x68	H14	12.2	600	100	616x89x616
HLA1114DEGE/ES	915x610x68	H14	18.2	910	100	616x89x921
HLA1114DEHE/ES	1220x610x68	H14	24.3	1220	100	1226x89x616
HLA1114DFFE/ES	762x762x68	H14	19.0	950	100	778x778x99
HLA1114DFGE/ES	915x762x68	H14	22.8	1140	100	921x89x768

HIGH EFFICIENCY AIR FILTERS

HLA-E series continued

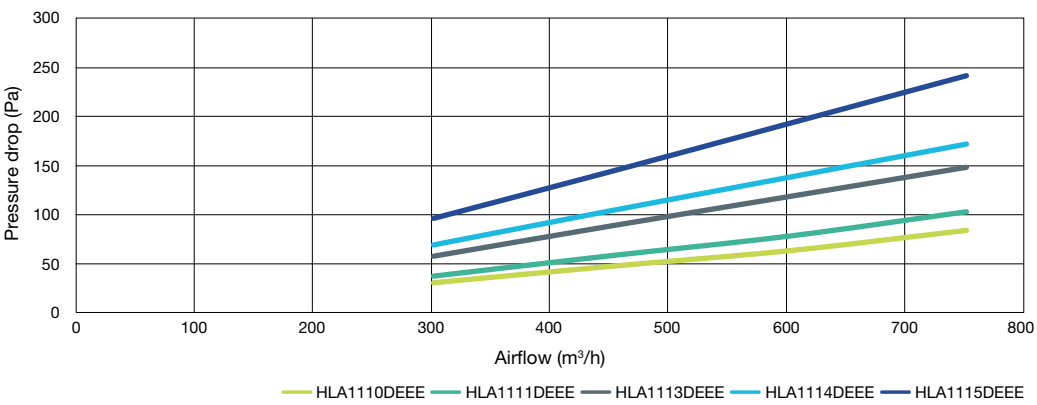
E10 | E11 | H13 | H14 | U15

Type	Dimensions **WxHxD** (mm)	Filter class **EN1822**	Filter surface (m^2)	Airflow (m^3/h)	Pressure **drop** (Pa)	Dimensions **box** (mm)
HLA1114DBBE	305x305x68	H14	2.8	150	140	311x89x311
HLA1114DCCE	457x457x68	H14	6.2	335	140	463x89x463
HLA1114DBEE	305x610x68	H14	5.5	300	140	616x89x311
HLA1114DBCE	305x457x68	H14	4.2	225	140	473x321x99
HLA1114DEEE	610x610x68	H14	11.1	600	140	616x89x616
HLA1114DEGE	610x915x68	H14	16.6	900	140	616x89x921
HLA1114DEHE	610x1220x68	H14	22.1	1200	140	1226x89x616
HLA1114DFFE	762x762x68	H14	17.3	950	140	778x778x99
HLA1114DFGE	762x915x68	H14	20.7	1125	140	921x89x768
HLA1115DBEE	305x610x68	U15	5.5	300	195	463x89x463
HLA1115DEEE	610x610x68	U15	11.1	600	195	616x89x616
HLA1115DEHE	610x1220x68	U15	22.1	1200	195	1226x89x616
HLA1115DCCE	457x457x68	U15	6.2	335	195	463x89x463
HLA1115DFFE	762x762x68	U15	17.3	950	195	778x778x99
HLA1115DFGE	762x915x68	U15	20.7	1125	195	921x89x768

The high efficiency air filters are checked for leak proofness at the end of the production process. It is advised to validate the functioning of the air handling unit after installation of the new high efficiency air filters, because of possible damages during transport or installation.

*Max flow rate is limited to 125% of nominal value, running at higher flow has a risk of down-grading certain filter.

HLA-E SERIES



HIGH EFFICIENCY AIR FILTERS

HLA-G series

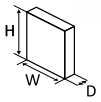
E10 | E11 | H13 | H14 | U15

Specifications

Application: Cleanrooms, operating rooms
Frame: Extruded aluminum
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Continuous poured gasket
Filter class according to EN1822: E10, E11, H13, H14, U15
Maximum final pressure drop: 500Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Lightweight construction
- Lower pressure drop than 68 mm implementation
- HLA HEPA are fitted with 2 protection grids
- Filters with the classification H13, H14 & U15 are delivered with a test certificate



Type	Dimensions **WxHxD** (mm)	Filter class **EN1822**	Filter surface (m^2)	Airflow (m^3/h)	Pressure **drop** (Pa)	Dimensions **box** (mm)
HLA1110DBBG	305x305x80	E10	3.3	150	55	321x103x321
HLA1110DCCG	457x457x80	E10	7.4	335	55	473x103x473
HLA1110DBEG	305x610x80	E10	6.6	300	55	321x103x626
HLA1110DBCG	305x457x80	E10	5.0	225	55	473x321x111
HLA1110DEEG	610x610x80	E10	13.2	600	55	626x103x626
HLA1110DEGG	610x915x80	E10	19.8	900	55	626x103x931
HLA1110DEHG	610x1220x80	E10	26.4	1200	55	620x91x1230
HLA1110DFFG	762x762x80	E10	20.7	950	55	778x778x111
HLA1110DFGG	762x915x80	E10	24.8	1125	55	778x931x111
HLA1111DBBG	305x305x80	E11	3.3	150	60	321x103x321
HLA1111DCCG	457x457x80	E11	7.4	335	60	473x103x473
HLA1111DBEG	305x610x80	E11	6.6	300	60	321x103x626
HLA1111DBCG	305x457x80	E11	5.0	225	60	473x321x111
HLA1111DEEG	610x610x80	E11	13.2	600	60	626x103x626
HLA1111DEGG	610x915x80	E11	19.8	900	60	626x103x931
HLA1111DEHG	610x1220x80	E11	26.4	1200	60	620x91x1230
HLA1111DFFG	762x762x80	E11	20.7	950	60	778x778x111
HLA1111DFGG	762x915x80	E11	24.8	1125	60	778x931x111
HLA1113DBBG	305x305x80	H13	3.3	150	100	321x103x321
HLA1113DCCG	457x457x80	H13	7.4	335	100	473x103x473
HLA1113DBEG	305x610x80	H13	6.6	300	100	321x103x626

HIGH EFFICIENCY AIR FILTERS

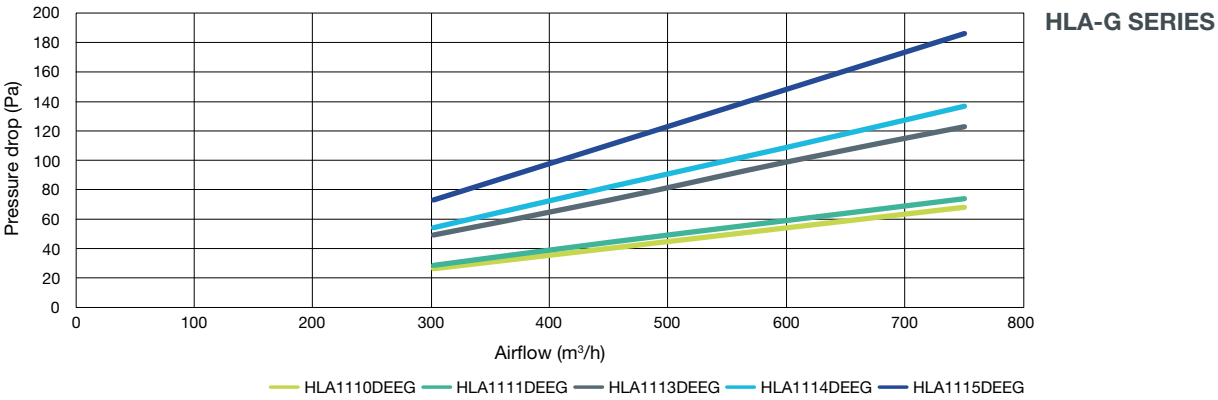
HLA-G series continued

E10 | E11 | H13 | H14 | U15

Type	Dimensions WxHxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HLA1113DBCG	305x457x80	H13	5.0	225	100	473x321x111
HLA1113DEEG	610x610x80	H13	13.2	600	100	626x103x626
HLA1113DEGG	610x915x80	H13	19.8	900	100	626x103x931
HLA1113DEHG	610x1220x80	H13	26.4	1200	100	620x91x1230
HLA1113DFFG	762x762x80	H13	20.7	950	100	778x778x111
HLA1113DFGG	762x915x80	H13	24.8	1125	100	778x931x111
HLA1114DBBG	305x305x80	H14	3.3	150	110	321x103x321
HLA1114DCCG	457x457x80	H14	7.4	335	110	473x103x473
HLA1114DBEG	305x610x80	H14	6.6	300	110	321x103x626
HLA1114DBCG	305x457x80	H14	5.0	225	110	473x321x111
HLA1114DEEG	610x610x80	H14	13.2	600	110	626x103x626
HLA1114DEGG	610x915x80	H14	19.8	900	110	626x103x931
HLA1114DEHG	610x1220x80	H14	26.4	1200	110	620x91x1230
HLA1114DFFG	762x762x80	H14	20.7	950	110	778x778x111
HLA1114DFGG	762x915x80	H14	24.8	1125	110	778x931x111
HLA1115DBEG	305x610x80	U15	6.6	300	150	321x103x626
HLA1115DEEG	610x610x80	U15	13.2	600	150	626x103x626
HLA1115DEHG	610x1220x80	U15	26.4	1200	150	610x91x1230
HLA1115DCCG	457x457x80	U15	7.4	335	150	473x103x473
HLA1115DFFG	762x762x80	U15	20.7	950	150	778x778x111
HLA1115DFGG	762x915x80	U15	24.8	1125	150	778x931x111

The high efficiency air filters are checked for leak proofness at the end of the production process. It is advised to validate the functioning of the air handling unit after installation of the new high efficiency air filters, because of possible damages during transport or installation.

*Max flow rate is limited to 125% of nominal value, running at higher flow has a risk of down-grading certain filter.



HIGH EFFICIENCY AIR FILTERS

HLA-I series

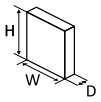
E10 | E11 | H13 | H14 | U15

Specifications

Application: Cleanrooms, operating rooms
Frame: Extruded aluminum
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Continuous poured gasket
Filter class according to EN1822: E10, E11, H13, H14, U15
Maximum final pressure drop: 500Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Lightweight construction
- Lower pressure drop than 68 and 80 mm implementation
- HLA HEPA are fitted with 2 protection grids
- Filters with the classification H13, H14 & U15 are delivered with a test certificate



Type	Dimensions WxHxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HLA1110DBBI	305x305x90	E10	3.5	150	50	321x103x321
HLA1110DCCI	457x457x90	E10	7.8	335	50	473x473x121
HLA1110DBEI	305x610x90	E10	6.9	300	50	321x103x626
HLA1110DBCI	305x457x90	E10	5.2	225	50	473x321x121
HLA1110DEEI	610x610x90	E10	13.8	600	50	626x103x626
HLA1110DEGI	610x915x90	E10	20.7	900	50	626x103x931
HLA1110DEHI	610x1220x90	E10	27.5	1200	50	626x1236x121
HLA1110DFFI	762x762x90	E10	21.5	950	50	778x778x121
HLA1110DFGI	762x915x90	E10	25.8	1125	50	778x931x121
HLA1111DBBI	305x305x90	E11	3.5	150	55	321x103x321
HLA1111DCCI	457x457x90	E11	7.8	335	55	473x473x121
HLA1111DBEI	305x610x90	E11	6.9	300	55	321x103x626
HLA1111DBCI	305x457x90	E11	5.2	225	55	473x321x121
HLA1111DEEI	610x610x90	E11	13.8	600	55	626x103x626
HLA1111DEGI	610x915x90	E11	20.7	900	55	626x103x931
HLA1111DEHI	610x1220x90	E11	27.5	1200	55	626x1236x121
HLA1111DFFI	762x762x90	E11	21.5	950	55	778x778x121
HLA1111DFGI	762x915x90	E11	25.8	1125	55	778x931x121
HLA1113DBBI	305x305x90	H13	3.5	150	90	321x103x321
HLA1113DCCI	457x457x90	H13	7.8	335	90	473x473x121
HLA1113DBEI	305x610x90	H13	6.9	300	90	321x103x626

HIGH EFFICIENCY AIR FILTERS

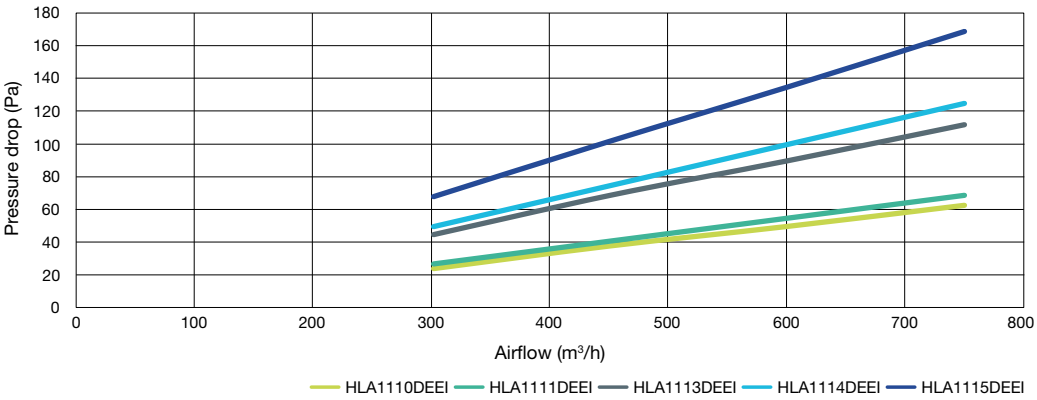
HLA-I series continued

E10 | E11 | H13 | H14 | U15

Type	Dimensions WxHxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HLA1113DBCI	305x457x90	H13	5.2	225	90	473x321x121
HLA1113DEEI	610x610x90	H13	13.8	600	90	626x103x626
HLA1113DEGI	610x915x90	H13	20.7	900	90	626x103x931
HLA1113DEHI	610x1220x90	H13	27.5	1200	90	626x1236x121
HLA1113DFFI	762x762x90	H13	21.5	950	90	778x778x121
HLA1113DFGI	762x915x90	H13	25.8	1125	90	778x931x121
HLA1114DBBI	305x305x90	H14	3.5	150	100	321x103x321
HLA1114DCCI	457x457x90	H14	7.8	335	100	473x473x121
HLA1114DBEI	305x610x90	H14	6.9	300	100	321x103x626
HLA1114DBCI	305x457x90	H14	5.2	225	100	473x321x121
HLA1114DEEI	610x610x90	H14	13.8	600	100	626x103x626
HLA1114DEGI	610x915x90	H14	20.7	900	100	626x103x931
HLA1114DEHI	610x1220x90	H14	27.5	1200	100	626x1236x121
HLA1114DFFI	762x762x90	H14	21.5	950	100	778x778x121
HLA1114DFGI	762x915x90	H14	25.8	1125	100	778x931x121
HLA1115DBEI	305x610x90	U15	6.9	300	135	321x103x626
HLA1115DEEI	610x610x90	U15	13.8	600	135	626x103x626
HLA1115DEHI	610x1220x90	U15	27.5	1200	135	626x1236x121
HLA1115DCCI	457x457x90	U15	7.8	335	135	473x473x121
HLA1115DFFI	762x762x90	U15	21.5	950	135	778x778x121
HLA1115DFGI	762x915x90	U15	25.8	1125	135	778x931x121

The high efficiency air filters are checked for leak proofness at the end of the production process. It is advised to validate the functioning of the air handling unit after installation of the new high efficiency air filters, because of possible damages during transport or installation.

*Max flow rate is limited to 125% of nominal value, running at higher flow has a risk of down-grading certain filter.



HIGH EFFICIENCY AIR FILTERS

HLA-Q series

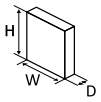
E10 | E11 | H13 | H14 | U15

Specifications

Application: Cleanrooms, operating rooms
Frame: Extruded aluminum
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Continuous poured gasket
Filter class according to EN1822: E10, E11, H13, H14, U15
Maximum final pressure drop: 500Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Lightweight construction
- Lower pressure drop than 68, 80 and 90 mm implementation
- HLA HEPA are fitted with 2 protection grids
- Filters with the classification H13, H14 & U15 are delivered with a test certificate



Type	Dimensions WxHxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HLA1110DBBQ	305x305x110	E10	4.4	140	35	320x165x320
HLA1110DCCQ	457x457x110	E10	9.9	330	35	473x473x141
HLA1110DBEQ	305x610x110	E10	8.8	290	35	320x125x625
HLA1110DBCQ	305x457x110	E10	6.7	210	35	473x321x141
HLA1110DEEQ	610x610x110	E10	17.7	600	35	616x165x616
HLA1110DEGQ	610x915x110	E10	26.4	910	35	626x931x141
HLA1110DEHQ	610x1220x110	E10	35.2	1220	35	626x1236x141
HLA1110DFFQ	762x762x110	E10	27.6	950	35	778x778x141
HLA1110DFGQ	762x915x110	E10	33.1	1140	35	778x931x141
HLA1111DBBQ	305x305x110	E11	4.4	140	40	320x165x320
HLA1111DCCQ	457x457x110	E11	9.9	330	40	473x473x141
HLA1111DBEQ	305x610x110	E11	8.8	290	40	320x125x625
HLA1111DBCQ	305x457x110	E11	6.7	210	40	473x321x141
HLA1111DEEQ	610x610x110	E11	17.7	600	40	616x165x616
HLA1111DEGQ	610x915x110	E11	26.4	910	40	626x931x141
HLA1111DEHQ	610x1220x110	E11	35.2	1220	40	626x1236x141
HLA1111DFFQ	762x762x110	E11	27.6	950	40	778x778x141
HLA1111DFGQ	762x915x110	E11	33.1	1140	40	778x931x141
HLA1113DBBQ	305x305x110	H13	4.4	140	75	320x165x320
HLA1113DCCQ	457x457x110	H13	9.9	330	75	473x473x141
HLA1113DBEQ	305x610x110	H13	8.8	290	75	320x125x625
HLA1113DBCQ	305x457x110	H13	6.7	210	75	473x321x141
HLA1113DEEQ	610x610x110	H13	17.7	600	75	616x165x616
HLA1113DEGQ	610x915x110	H13	26.4	910	75	626x931x141
HLA1113DEHQ	610x1220x110	H13	35.2	1220	75	626x1236x141
HLA1113DFFQ	762x762x110	H13	27.6	950	75	778x778x141
HLA1113DFGQ	762x915x110	H13	33.1	1140	75	778x931x141
HLA1114DBBQ/ES	305x305x110	H14	5.5	140	65	320x165x320
HLA1114DCCQ/ES	457x457x110	H14	12.3	330	65	473x473x141
HLA1114DBEQ/ES	305x610x110	H14	10.9	290	65	320x125x625
HLA1114DBCQ/ES	305x457x110	H14	8.3	210	65	473x321x141
HLA1114DEEQ/ES	610x610x110	H14	22.0	600	65	616x165x616
HLA1114DEGQ/ES	610x915x110	H14	32.8	910	65	626x931x141
HLA1114DEHQ/ES	610x1220x110	H14	43.8	1220	65	626x1236x141
HLA1114DFFQ/ES	762x762x110	H14	34.3	950	65	778x778x141
HLA1114DFGQ/ES	762x915x110	H14	41.1	1140	65	778x931x141

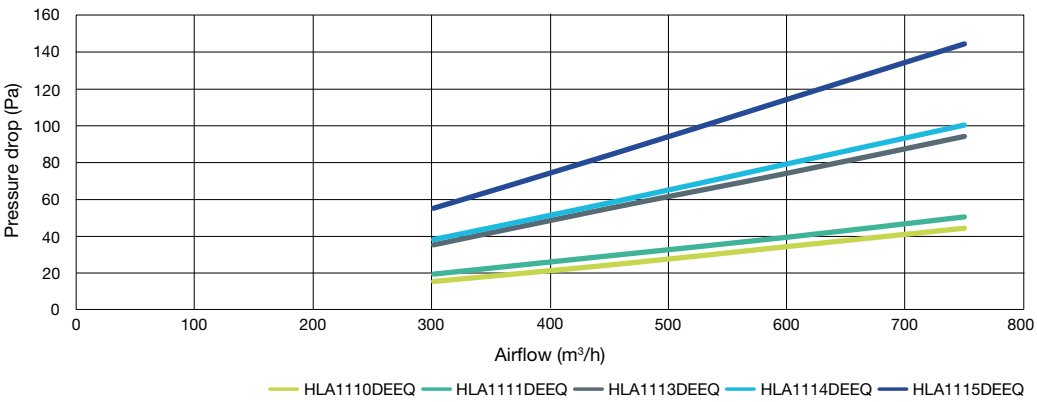
HEPA HLA-Q series continued

E10 | E11 | H13 | H14 | U15

Type	Dimensions WxHxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HLA1114DBBQ	305x305x110	H14	4.4	140	80	320x165x320
HLA1114DCCQ	457x457x110	H14	9.9	330	80	473x473x141
HLA1114DBEQ	305x610x110	H14	8.8	290	80	320x125x625
HLA1114DBCQ	305x457x110	H14	6.7	210	80	473x321x141
HLA1114DEEQ	610x610x110	H14	17.7	600	80	616x165x616
HLA1114DEGQ	610x915x110	H14	26.4	910	80	626x931x141
HLA1114DEHQ	610x1220x110	H14	35.2	1220	80	626x1236x141
HLA1114DFFQ	762x762x110	H14	27.6	950	80	778x778x141
HLA1114DFGQ	762x915x110	H14	33.1	1140	80	778x931x141
HLA1115DBEQ	305x610x110	U15	8.8	290	115	320x125x625
HLA1115DEEQ	610x610x110	U15	17.7	600	115	616x165x616
HLA1115DEHQ	610x1220x110	U15	35.2	1220	115	626x1236x141
HLA1115DCCQ	457x457x110	U15	9.9	330	115	473x473x141
HLA1115DFFQ	762x762x110	U15	27.6	950	115	778x778x141
HLA1115DFGQ	762x915x110	U15	33.1	1140	115	778x931x141

The high efficiency air filters are checked for leak proofness at the end of the production process. It is advised to validate the functioning of the air handling unit after installation of the new high efficiency air filters, because of possible damages during transport or installation.

*Max flow rate is limited to 125% of nominal value, running at higher flow has a risk of down-grading certain filter.



HIGH EFFICIENCY AIR FILTERS

HLA-J series

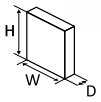
E10 | E11 | H13 | H14 | U15

Specifications

Application: Cleanrooms, operating rooms
Frame: Extruded aluminum
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Knife construction for mounting in gelseal
Filter class according to EN1822: E10, E11, H13, H14, U15
Maximum final pressure drop: 500Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Lightweight construction
- Excellent seal when mounting with knife edge frame
- HLA HEPA are fitted with 2 protection grids
- Filters with the classification H13, H14 & U15 are delivered with a test certificate

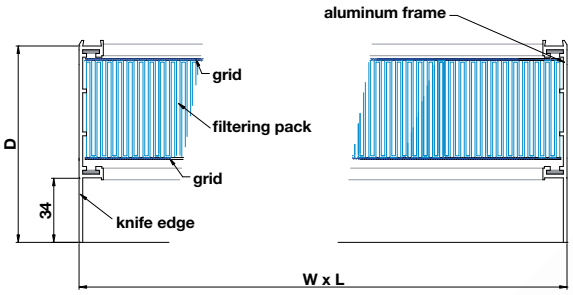


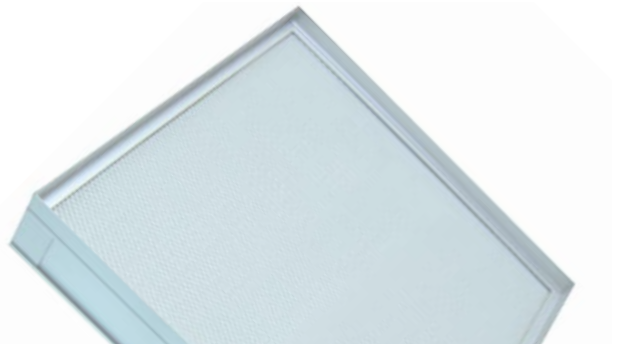
Type	Dimensions WxHxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HLA1510DBBJ	305x305x102.5	E10	2.8	150	65	321x321x134
HLA1510DCCJ	457x457x102.5	E10	6.2	335	65	473x473x134
HLA1510DBEJ	305x610x102.5	E10	5.5	300	65	321x626x134
HLA1510DBCJ	305x457x102.5	E10	4.2	225	65	473x321x134
HLA1510DEEJ	610x610x102.5	E10	11.1	600	65	626x626x134
HLA1510DEGJ	610x915x102.5	E10	16.6	900	65	626x931x134
HLA1510DEHJ	610x1220x102.5	E10	22.1	1200	65	626x1236x134
HLA1510DFFJ	762x762x102.5	E10	17.3	950	65	778x778x134
HLA1510DFGJ	762x915x102.5	E10	20.7	1125	65	778x931x134
HLA1511DBBJ	305x305x102.5	E11	2.8	150	80	321x321x134
HLA1511DCCJ	457x457x102.5	E11	6.2	335	80	473x473x134
HLA1511DBEJ	305x610x102.5	E11	5.5	300	80	321x626x134
HLA1511DBCJ	305x457x102.5	E11	4.2	225	80	473x321x134
HLA1511DEEJ	610x610x102.5	E11	11.1	600	80	626x626x134
HLA1511DEGJ	610x915x102.5	E11	16.6	900	80	626x931x134
HLA1511DEHJ	610x1220x102.5	E11	22.1	1200	80	626x1236x134
HLA1511DFFJ	762x762x102.5	E11	17.3	950	80	778x778x134
HLA1511DFGJ	762x915x102.5	E11	20.7	1125	80	778x931x134
HLA1513DBBJ	305x305x102.5	H13	2.8	150	120	321x321x134
HLA1513DCCJ	457x457x102.5	H13	6.2	335	120	473x473x134
HLA1513DBEJ	305x610x102.5	H13	5.5	300	120	321x626x134

HIGH EFFICIENCY AIR FILTERS

HLA-J series continued

E10 | E11 | H13 | H14 | U15





Type	Dimensions WxHxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HLA1513DBCJ	305x457x102.5	H13	4.2	225	120	473x321x134
HLA1513DEEJ	610x610x102.5	H13	11.1	600	120	626x626x134
HLA1513DEGJ	610x915x102.5	H13	16.6	900	120	626x931x134
HLA1513DEHJ	610x1220x102.5	H13	22.1	1200	120	626x1236x134
HLA1513DFFJ	762x762x102.5	H13	17.3	950	120	778x778x134
HLA1513DFGJ	762x915x102.5	H13	20.7	1125	120	778x931x134
HLA1514DBBJ	305x305x102.5	H14	2.8	150	140	321x321x134
HLA1514DCCJ	457x457x102.5	H14	6.2	335	140	473x473x134
HLA1514DBEJ	305x610x102.5	H14	5.5	300	140	321x626x134
HLA1514DBCJ	457x205x102.5	H14	4.2	225	140	473x321x134
HLA1514DEEJ	610x610x102.5	H14	11.1	600	140	626x626x134
HLA1514DEGJ	610x915x102.5	H14	16.6	900	140	626x931x134
HLA1514DEHJ	610x1220x102.5	H14	22.1	1200	140	626x1236x134
HLA1514DFFJ	762x762x102.5	H14	17.3	950	140	778x778x134
HLA1514DFGJ	762x915x102.5	H14	20.7	1125	140	778x931x134
HLA1515DBEJ	305x610x102.5	U15	5.5	300	195	473x473x134
HLA1515DEEJ	610x610x102.5	U15	11.1	600	195	626x626x134
HLA1515DEHJ	610x1220x102.5	U15	22.1	1200	195	626x1236x134
HLA1515DCCJ	457x457x102.5	U15	6.2	335	195	473x473x134
HLA1515DFFJ	762x762x102.5	U15	17.3	950	195	778x778x134
HLA1515DFGJ	762x915x102.5	U15	20.7	1125	195	778x931x134

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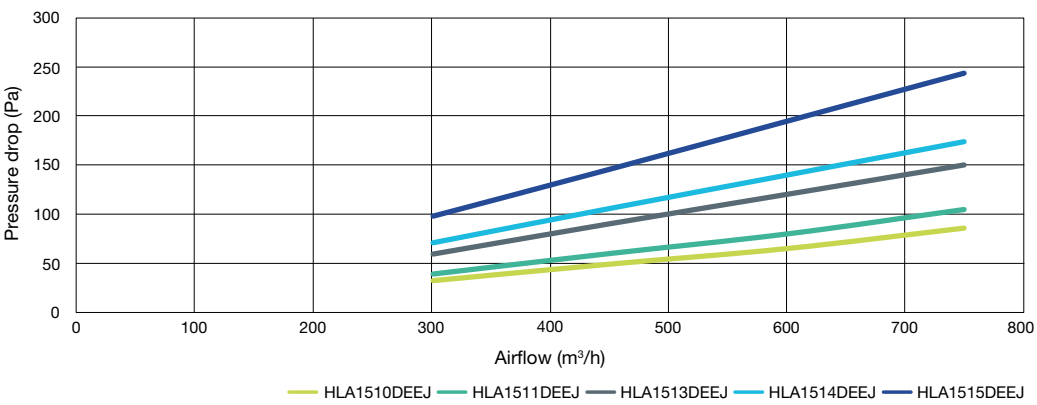
HLA-J SERIES



HIGH EFFICIENCY AIR FILTERS

HLA-H series

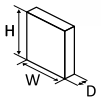
E10 | E11 | H13 | H14 | U15

Specifications

Application: Cleanrooms, operating rooms
Frame: Extruded aluminum
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Gelseal
Filter class according to EN1822: E10, E11, H13, H14, U15
Maximum final pressure drop: 500Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Lightweight construction
- Excellent seal when mounting with gelseal frame
- HLA HEPA are fitted with 2 protection grids
- Filters with the classification H13, H14 & U15 are delivered with a test certificate

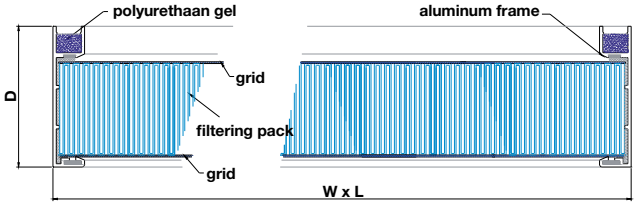


Type	Dimensions WxHxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HLA1610DBBH	305x305x80	E10	3.3	150	65	321x103x321
HLA1610DCCH	457x457x80	E10	7.4	335	65	473x103x473
HLA1610DBEH	305x610x80	E10	6.6	300	65	321x103x626
HLA1610DBCH	305x457x80	E10	5.0	225	65	473x321x111
HLA1610DEEH	610x610x80	E10	13.2	600	65	626x103x626
HLA1610DEGH	610x915x80	E10	19.8	900	65	626x103x931
HLA1610DEHH	610x1220x80	E10	26.4	1200	65	620x91x1230
HLA1610DFFH	762x762x80	E10	20.7	950	65	778x778x111
HLA1610DFGH	762x915x80	E10	24.8	1125	65	778x931x111
HLA1611DBBH	305x305x80	E11	3.3	150	80	321x103x321
HLA1611DCCH	457x457x80	E11	7.4	335	80	473x103x473
HLA1611DBEH	305x610x80	E11	6.6	300	80	321x103x626
HLA1611DBCH	305x457x80	E11	5.0	225	80	473x321x111
HLA1611DEEH	610x610x80	E11	13.2	600	80	626x103x626
HLA1611DEGH	610x915x80	E11	19.8	900	80	626x103x931
HLA1611DEHH	610x1220x80	E11	26.4	1200	80	620x91x1230
HLA1611DFFH	762x762x80	E11	20.7	950	80	778x778x111
HLA1611DFGH	762x915x80	E11	24.8	1125	80	778x931x111
HLA1613DBBH	305x305x80	H13	3.3	150	120	321x103x321
HLA1613DCCH	457x457x80	H13	7.4	335	120	473x103x473
HLA1613DBEH	305x610x80	H13	6.6	300	120	321x103x626

HIGH EFFICIENCY AIR FILTERS

HLA-H series continued

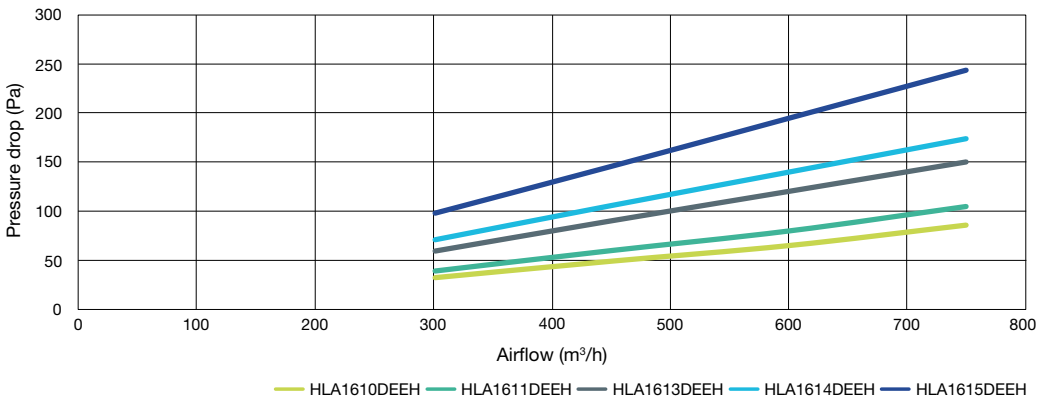
E10 | E11 | H13 | H14 | U15



Type	Dimensions WxHxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HLA1613DCBH	305x457x80	H13	5.0	225	120	473x321x134
HLA1613DEEH	610x610x80	H13	13.2	600	120	626x626x134
HLA1613DEGH	610x915x80	H13	19.8	900	120	626x931x134
HLA1613DEHH	610x1220x80	H13	26.4	1200	120	626x1236x134
HLA1613DFFH	762x762x80	H13	20.7	950	120	778x778x134
HLA1613DFGH	762x915x80	H13	24.8	1125	120	778x931x134
HLA1614DBBH	305x305x80	H14	3.3	150	140	321x321x134
HLA1614DCCH	457x457x80	H14	7.4	335	140	473x473x134
HLA1614DBEH	305x610x80	H14	6.6	300	140	321x626x134
HLA1614DBCH	305x457x80	H14	5.0	225	140	473x321x134
HLA1614DEEH	610x610x80	H14	13.2	600	140	626x626x134
HLA1614DEGH	610x915x80	H14	19.8	900	140	626x931x134
HLA1614DEHH	610x1220x80	H14	26.4	1200	140	626x1236x134
HLA1614DFFH	762x762x80	H14	20.7	950	140	778x778x134
HLA1614DFGH	762x915x80	H14	24.8	1125	140	778x931x134
HLA1615DBEH	305x610x80	U15	6.6	300	195	473x473x134
HLA1615DEEH	610x610x80	U15	13.2	600	195	626x626x134
HLA1615DEHH	610x1220x80	U15	26.4	1200	195	626x1236x134
HLA1615DCCH	457x457x80	U15	7.4	335	195	473x473x134
HLA1615DFFH	762x762x80	U15	20.7	950	195	778x778x134
HLA1615DFGH	762x915x80	U15	24.8	1125	195	778x931x134

The high efficiency air filters are checked for leak proofness at the end of the production process. It is advised to validate the functioning of the air handling unit after installation of the new high efficiency air filters, because of possible damages during transport or installation.

*Max flow rate is limited to 125% of nominal value, running at higher flow has a risk of down-grading certain filter.



HIGH EFFICIENCY AIR FILTERS

HPA-E series High airflow

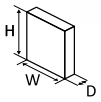
H13 | H14

Specifications

Application: Cleanrooms, operating rooms
Frame: Extruded aluminum
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Continuous poured gasket
Filter class according to EN1822: H13, H14
Maximum final pressure drop: 500Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Lightweight construction
- HPA HEPA are fitted with 2 protection grids
- Filters with the classification H13 & H14 are delivered with a test certificate
- High airflow



Type	Dimensions WxHxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HPA1113DBBE	305x305x68	H13	2.8	225	185	311x89x311
HPA1113DCCE	457x457x68	H13	6.2	505	185	463x89x463
HPA1113DBEE	305x610x68	H13	5.5	450	185	616x89x311
HPA1113DBCE	305x457x68	H13	4.2	335	185	473x321x99
HPA1113DEEE	610x610x68	H13	11.1	900	185	616x89x616
HPA1113DEGE	610x915x68	H13	16.6	1350	185	616x89x921
HPA1113DEHE	610x1220x68	H13	22.1	1800	185	1226x89x616
HPA1113DFFE	762x762x68	H13	17.3	1405	185	778x778x99
HPA1113DFGE	762x915x68	H13	20.7	1685	185	921x89x768
HPA1114DBBE	305x305x68	H14	2.8	225	195	311x89x311
HPA1114DCCE	457x457x68	H14	6.2	505	195	463x89x463
HPA1114DBEE	305x610x68	H14	5.5	450	195	616x89x311
HPA1114DBCE	305x457x68	H14	4.2	335	195	473x321x99
HPA1114DEEE	610x610x68	H14	11.1	900	195	616x89x616
HPA1114DEGE	610x915x68	H14	16.6	1350	195	616x89x921
HPA1114DEHE	610x1220x68	H14	22.1	1800	195	1226x89x616
HPA1114DFFE	762x762x68	H14	17.3	1405	195	778x778x99
HPA1114DFGE	762x915x68	H14	20.7	1685	195	921x89x768

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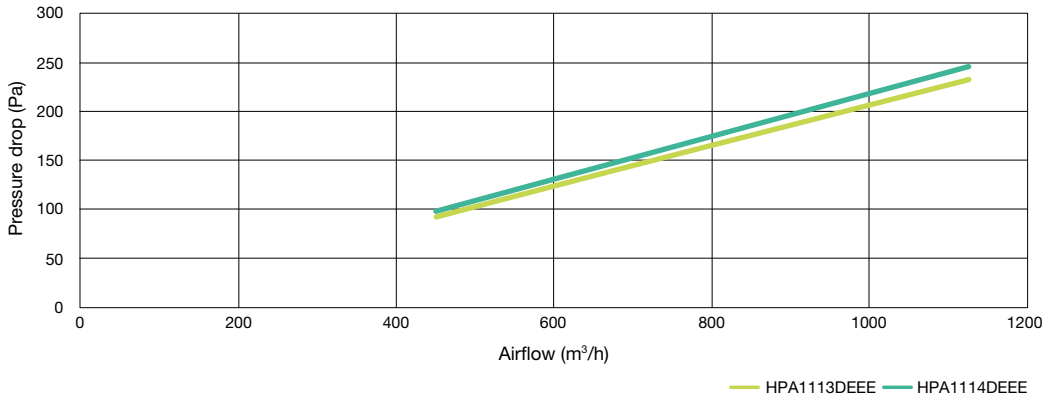
HPA-E SERIES



HIGH EFFICIENCY AIR FILTERS

HPA-Q series High airflow

H13 H14

Specifications

Application: Cleanrooms, operating rooms
Frame: Extruded aluminum
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Continuous poured gasket
Filter class according to EN1822: H13, H14
Maximum final pressure drop: 500Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Lightweight construction
- HPA HEPA are fitted with 2 protection grids
- Filters with the classification H13 & H14 are delivered with a test certificate
- High airflow

Type	Dimensions WxHxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HPA1113DBBQ	305x305x110	H13	4.4	500	250	320x165x320
HPA1113DCCQ	457x457x110	H13	9.9	1125	250	473x473x141
HPA1113DBEQ	305x610x110	H13	8.8	1000	250	320x125x625
HPA1113DBCQ	305x457x110	H13	6.7	750	250	473x321x141
HPA1113DEEQ	610x610x110	H13	17.7	2000	250	616x165x616
HPA1113DEGQ	610x915x110	H13	26.4	3000	250	626x931x141
HPA1113DEHQ	610x1220x110	H13	35.2	4000	250	626x1236x141
HPA1113DFFQ	762x762x110	H13	27.6	3120	250	778x778x141
HPA1113DFGQ	762x915x110	H13	33.1	3750	250	778x931x141
HPA1114DBBQ	305x305x110	H14	4.4	500	280	320x165x320
HPA1114DCCQ	457x457x110	H14	9.9	1125	280	473x473x141
HPA1114DBEQ	305x610x110	H14	8.8	1000	280	320x125x625
HPA1114DBCQ	305x457x110	H14	6,7	750	280	473x321x141
HPA1114DEEQ	610x610x110	H14	17.7	2000	280	616x165x616
HPA1114DEGQ	610x915x110	H14	26.4	3000	280	626x931x141
HPA1114DEHQ	610x1220x110	H14	35.2	4000	280	626x1236x141
HPA1114DFFQ	762x762x110	H14	27.6	3120	280	778x778x141
HPA1114DFGQ	762x915x110	H14	33.1	3750	280	778x931x141

The high efficiency air filters are checked for leak proofness at the end of the production process. It is advised to validate the functioning of the air handling unit after installation of the new high efficiency air filters, because of possible damages during transport or installation.

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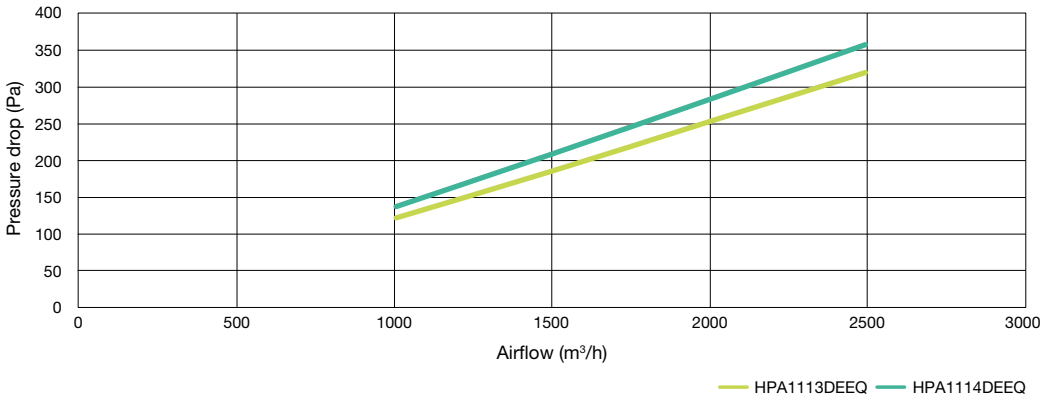
HPA-Q SERIES



HIGH EFFICIENCY AIR FILTERS

HPA-L series High airflow

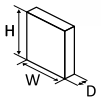
E10 | E11 | H13 | H14

Specifications

Application: Cleanrooms, operating rooms
Frame: Extruded aluminum
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: Continuous poured gasket
Filter class according to EN1822: E10, E11, H13, H14
Maximum final pressure drop: 500Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Lightweight construction
- HPA HEPA are fitted with 2 protection grids
- Filters with the classification H13 & H14 are delivered with a test certificate
- High airflow



Type	Dimensions WxHxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HPA1113DBBL	305x305x150	H13	4,4	560	250	320x205x320
HPA1113DCCL	457x457x150	H13	9,9	1260	250	473x473x181
HPA1113DBEL	305x610x150	H13	8,8	1130	250	320x125x625
HPA1113DCEL	457x610x150	H13	13,2	1690	250	473x626x181
HPA1113DBCL	305x457x150	H13	6,7	840	250	473x321x181
HPA1113DEEL	610x610x150	H13	17,7	2250	250	616x205x616
HPA1113DEGL	610x915x150	H13	26,4	3380	250	626x931x181
HPA1113DEHL	610x1220x150	H13	35,2	4500	250	626x1236x181
HPA1113DEIL	610x1524x150	H13	43,9	5620	250	626x1540x181
HPA1113DEJL	610x1830x150	H13	52,7	6750	250	626x1846x181
HPA1113DBFL	305x762x150	H13	11,2	1410	250	778x321x181
HPA1113DEFL	610x762x150	H13	22,1	2810	250	778x626x181
HPA1113DFFL	762x762x150	H13	27,6	3510	250	778x778x181
HPA1113DFGL	762x915x150	H13	33,1	4220	250	778x931x181
HPA1113DFHL	762x1220x150	H13	44,1	5620	250	778x1236x181
HPA1113DFIL	762x1524x150	H13	55,0	7020	250	778x1540x181
HPA1113DFJL	762x1830x150	H13	66,0	8430	250	778x1846x181
HPA1113DBGL	305x915x150	H13	13,4	1690	250	931x321x181
HPA1113DGGL	915x915x150	H13	39,8	5060	250	931x931x181
HPA1113DGHL	915x1220x150	H13	53,0	6750	250	931x1236x181
HPA1113DGIL	915x1524x150	H13	66,1	8430	250	931x1540x181
HPA1113DGJL	915x1830x150	H13	79,3	10130	250	931x1846x181

HPA-L series High airflow continued

E10 | E11 | H13 | H14

Type	Dimensions WxHxD (mm)	Filter class EN1822	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	Dimensions box (mm)
HPA1114DBBL	305x305x150	H14	4,4	560	280	320x205x320
HPA1114DCCL	457x457x150	H14	9,9	1260	280	473x473x181
HPA1114DBEL	305x610x150	H14	8,8	1130	280	320x125x625
HPA1114DCEL	457x610x150	H14	13,2	1690	280	473x626x181
HPA1114DBCL	305x457x150	H14	6,7	840	280	473x321x181
HPA1114DEEL	610x610x150	H14	17,7	2250	280	616x205x616
HPA1114DEGL	610x915x150	H14	26,4	3380	280	626x931x181
HPA1114DEHL	610x1220x150	H14	35,2	4500	280	626x1236x181
HPA1114DEIL	610x1524x150	H14	43,9	5620	280	626x1540x181
HPA1114DEJL	610x1830x150	H14	52,7	6750	280	626x1846x181
HPA1114DBFL	305x762x150	H14	11,2	1410	280	778x321x181
HPA1114DEFL	610x762x150	H14	22,1	2810	280	778x626x181
HPA1114DFFL	762x762x150	H14	27,6	3510	280	778x778x181
HPA1114DFGL	762x915x150	H14	33,1	4220	280	778x931x181
HPA1114DFHL	762x1220x150	H14	44,1	5620	280	778x1236x181
HPA1114DFIL	762x1524x150	H14	55,0	7020	280	778x1540x181
HPA1114DFJL	762x1830x150	H14	66,0	8430	280	778x1846x181
HPA1114DBGL	305x915x150	H14	13,4	1690	280	931x321x181
HPA1114DGGL	915x915x150	H14	39,8	5060	280	931x931x181
HPA1114DGHL	915x1220x150	H14	53,0	6750	280	931x1236x181
HPA1114DGIL	915x1524x150	H14	66,1	8430	280	931x1540x181
HPA1114DGJL	915x1830x150	H14	79,3	10130	280	931x1846x181

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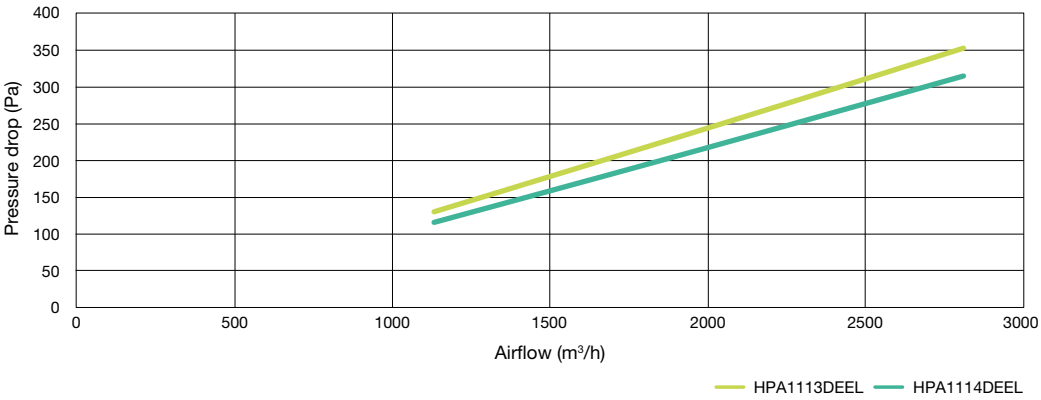


HIGH EFFICIENCY AIR FILTERS

PB series

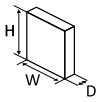
E10 | E12 | H13 | H14

Specifications

Application: Cleanrooms, operating rooms
Frame: Galvanized steel
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Glass fiber paper
Gasket: -
Filter class according to EN1822: E10, E12 ,H13, H14
Maximum final pressure drop: 450Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- Compact construction
- Filters with the classification H13 & H14 are delivered with a test certificate



Type	Dimensions **WxHxD** (mm)	Filter class **EN1822**	Filter surface (m^2)	Airflow (m^3/h)	Pressure **drop** (Pa)	Dimensions **box** (mm)
PB-E10-V	86x202x600	E10	3.4	200	90	210x610x96
PB-E10-V-90	65x600x202	E10	3.4	200	55	210x610x75
PB-E12-V	86x202x600	E12	3.4	200	120	210x610x96
PB-E12-V-90	65x600x202	E12	3.4	200	90	210x610x75
PB-H13-V	86x202x600	H13	3.4	200	160	210x610x96
PB-H13-V-90	65x600x202	H13	3.4	200	135	210x610x96

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«High efficiency air filters are highly reliable, as they are subjected to strict quality checks and extensive testing»

«We offer a wide range of solutions to protect products and processes from contamination»

TERMINAL UNITS

We offer a broad assortment of filtration units, filtering ceilings and accessories for cleanrooms and operating theatres all in combination with our vast range of high efficiency air filters. In this catalogue we present a small selection of possibilities. The elements of the filtration chain may be sources of contamination; therefore the final filtration units must be carefully selected to the specific requirements of the installation.

AFPRO Filters terminal units:

- Can be equipped with most standard filters.
- Have a robust and durable design.
- Offer solutions for every application.
- Are tested and proven products.
- Include technical support.

This product line offers high quality products, proven technology and smart technical solutions that simplify installation and maintenance.

HL-PH Hood

In cleanroom environments where the constraints are increasingly high in terms of quality, reliability and safety, terminal hoods play an important role in the control of contamination and protection of the environments whether in food & beverage, pharmaceutical or hospital environments. The design of the HL-PH is specially adapted to meet the requirements of the pharmaceutical, food & beverage and microelectronic industries, as well as laboratories and hospitals for the installation of HEPA filters on the supply and extraction of air in areas that require controlled particle concentration.

HD-CE

Developed for risk zones 3 and 4 for the hospital segment,this modular solution adapts to local dimensions and constraints in order to guarantee flawless air quality. It's a painted galvanized steel construction, combined with a plenum with factory-assembled filter supports, as well as an airtight plane drawn in 1 piece for each filter cell, to guarantee a perfect seal. To facilitate inspection, clogging measurements and filter control, the HD-CE ceiling is fitted with 100% and pressure loss test ports. Finally, the perforated diffusion grids can be removed by ¼ turn latches (or 1/4 twist lock screws) and the perforation that covers the entire surface to avoid dead zones.

Canister units (bag in - bag out) SF-CH

The SF-CH canister unit is designed to be installed in exhaust systems, where there is a risk of contamination of the environment with micro-organisms, hazardous active substances, harmful dust or other particles. The SF-CH unit is equipped with a perfectly waterproof plastic bag. It is designed to remove and replace the contaminated filter in complete safety and without risk for the operator.

Terminal units HL-HD

HL-HD terminal units are used for the supply or extraction of air in cleanrooms. They may be equipped with various diffusion grids. Their easy maintenance takes place from the inside of the room.

For more detailed information please visit our website or scan the QR code.

HL-PH terminal unit

Characteristics

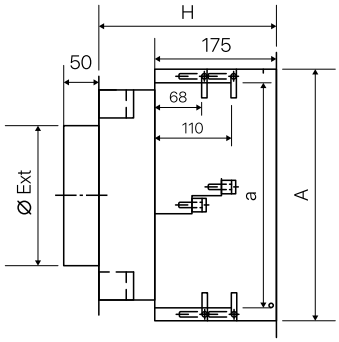
- Application: Air blowing or return in clean rooms with turbulent flow and mounted HEPA filters with polyurethane joints
- Electro-galvanised steel 15/10e and 20/10e
- Epoxy paint RAL 9010, oven-baked
- Connection on the top or the side
- For HEPA filters 68 or 110 mm thick
- Pressure connector 100% accessible from the room
- Grid: interchangeable perforated, helicoid-jet or 4-way
- Wall and ceiling mounting

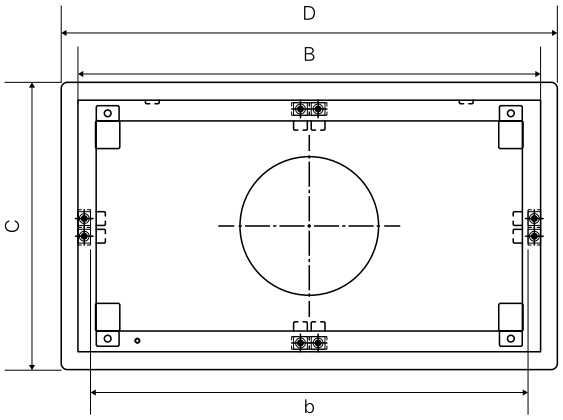
Advantages

- Robust, welded construction
- Rapid opening/closing of the diffusion grid
- Grid easy to remove
- Installation with universal system: Feet or brackets
- Wide choice of standard dimensions, compatible with most standard filters on the market
- Evolutive for filters that are 68 or 110 mm thick

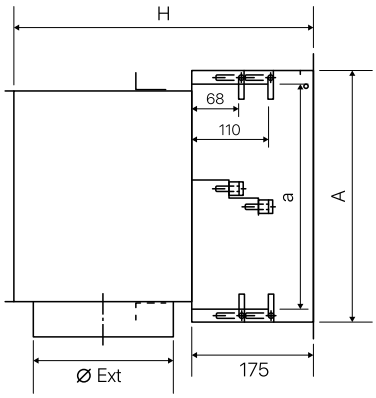
Type	Dimensions CxD	Dimensions* AxB	Dimensions Reservations	Filter dimensions axb	Top connection T		Side connection S	
	(mm)	(mm)	(mm)	(mm)	ø	H	ø	H
HL-PH/ BBEQ	408x408	361x361	367x367	305x305x68/110	160	255	160	405
HL-PH/CCEQ	560x560	513x513	519x519	457x457x68/110	200	255	200	445
HL-PH/CCFPEQ	595x595	513x513	519x519	457x457x68/110	200	255	200	445
HL-PH/BEEQ	408x713	361x666	367x672	305x610x68/110	200	255	200	445
HL-PH/EEEQ	713x713	666x666	672x672	610x610x68/110	250	255	250	495
HL-PH/EGED	713x1018	666x971	672x977	610x915x68/110	315	255	315	560
HL-PH/EHEQ	713x1323	666x1276	672x1282	610x1220x68/110	315	255	315	560
HL-PH/SSEQ	638x638	591x591	597x597	535x535x68/110	200	255	200	445
HL-PH/FFEQ	865x865	818x818	824x824	762x762x68/110	315	255	315	560

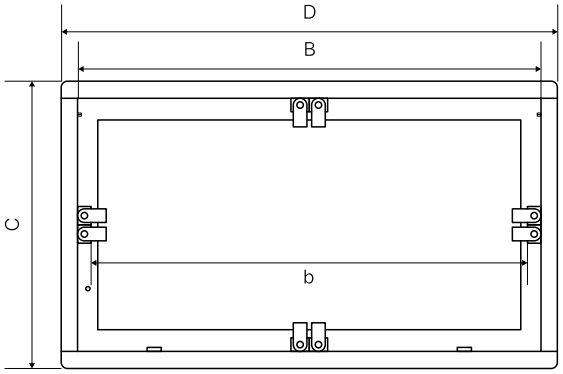
Top connection - T





Side connection - S





HL-PH terminal unit continued

Example of a configuration: HL-PH/

EE	EQ	W	N	P	T	G
1	2	3	4	5	6	7

1-Dimensions	
BB	305x305
CC	457x457
CC-FP	457x457
BE	305x610
EE	610x610
FF	762x762
EG	610x915
EH	610x1220
SS	535x535

2-Filter depth	
EQ	68/110 mm
L	150 mm

3-Connector type	
SS	Rectangular Connector
T	Axial circular connector. Top
S	Lateral circular connector. Side
W	Without plenum

4-Connector diameter	
A	160 mm
B	200 mm
C	250 mm
D	315 mm
E	355 mm
F	400 mm
N	-

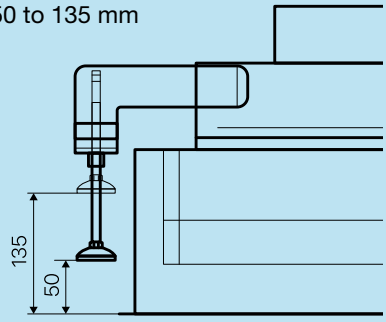
5-Filter seal applied	
P	Polyurethane

6-Closing system	
S	1/4 the tour - Grid standard
T	1/4 turn - Swivel
M	Magnetic - Swivel

7-Equipment	
G	Steel EZ RAL 9010
S	Inox 304L
SS	Inox 316L

Options

- Support feet for mounting on weight-bearing ceiling of thickness 50 to 135 mm
- Pivoting grid
- Magnetic grid closure
- Intermediate frame for the installation of 2 storeys of filtration
- Rectangular pipe connection
- Specific RAL for the paint
- Made of 304L or 316L stainless steel
- Special Production of 150 mm-thick filter (H+40 mm)



HD-CE terminal unit

Characteristics

- Diffuser ceiling equipped with very high efficiency filters allowing the creation of risk 3 or risk 4 operating theaters according to standard NFS-90351
- Construction in galvanized steel, powder coated, plenum and filter housing airtight assembled in the factory, total height 450 mm
- Design: in one or more parts for mounting on site, depending on the dimensions and design
- Standard construction with sealed passage for surgical light
- Air supply connection on the side
- 25 mm finishing profile around the plenum
- Fixing system above for the suspension and support
- Connection 100% point for the integrity tests and differential pressure measurement filters
- 1-piece sealing surface to ensure airtightness
- Fixing for 68 or 90 mm thick dry-seal filters
- Perforated grids covering the entire surface allow for uniform air distribution, preventing dead zones and ensuring consistent airflow

Type	Dimensions AxBxH (mm)	Number of parts	Number of filters				Flow rate (m^3/h)		Weight (kg)
			305×610×68	610×610×68	610×915×68	610×1220×68	à 0.25 m/s	à 0.32 m/s	
A	2730x1330x450	1	2	-	-	3	2350	3000	160
B	2000x2060x450	2	-	2	4	-	2670	3420	160
C	2610x2060x450	2	-	-	2	4	3670	4700	200
D	2975x2060x450	2	-	-	7	1	4170	5340	250
E	2670x2730x450	2	-	-	10	-	5000	6400	220
F	3280x2730x450	4	-	-	2	8	6340	8110	300
G	3280x3400x450	4	-	-	-	12	8000	10240	350
H	4070x3280x450	4	2	-	-	14	9670	12380	430

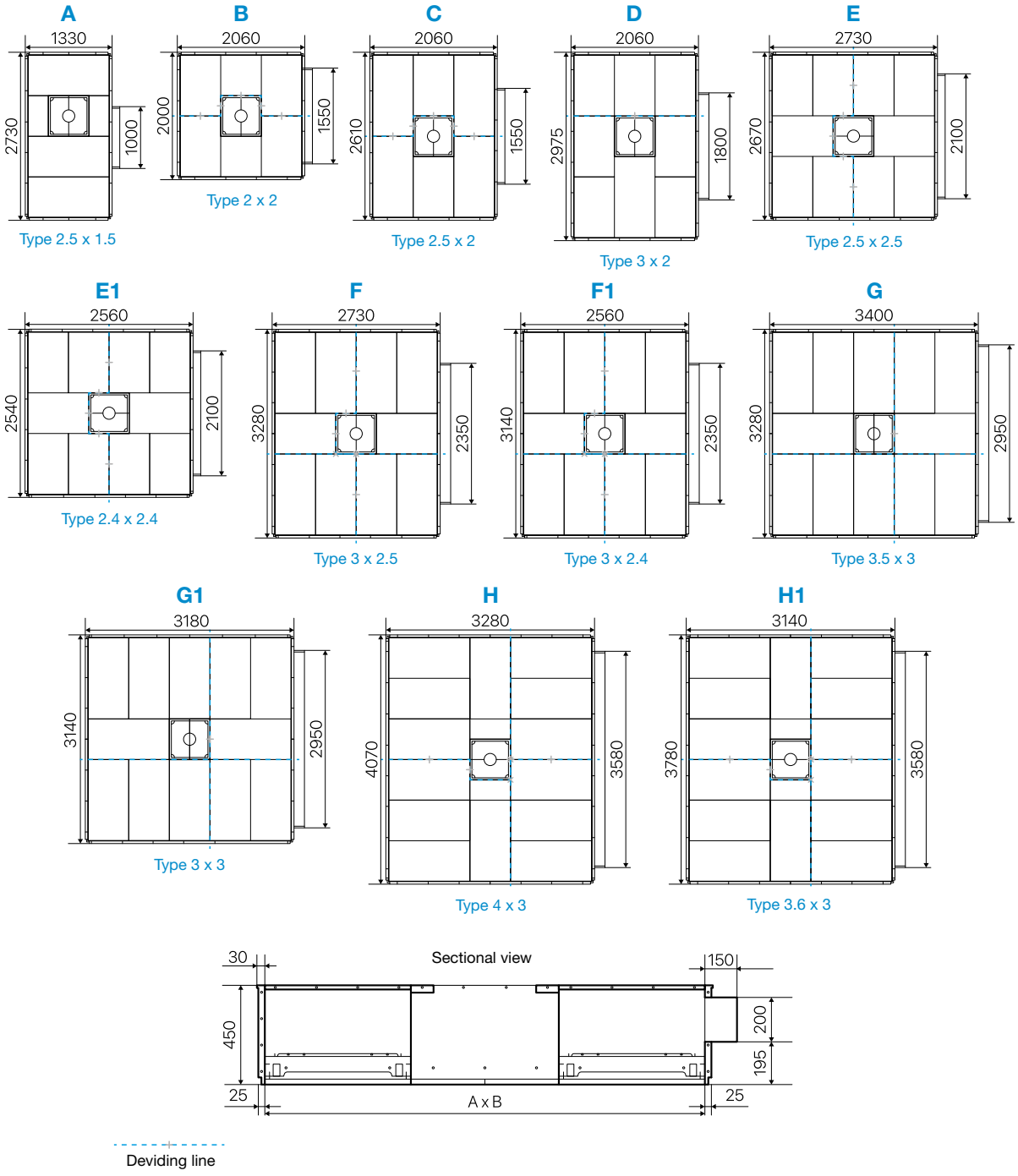
Type	Dimensions AxBxH (mm)	Number of parts	Number of filters				Flow rate (m^3/h)		Weight (kg)
			260×560×68	560×560×68	560×860×68	560×1160×68	à 0.25 m/s	à 0.32 m/s	
E1	2510x2530x450	2	-	-	10	-	4330	5540	210
F1	3110x2530x450	4	-	-	2	8	5530	7075	290
G1	3110x3150x450	4	-	-	-	12	7000	8960	340
H1	3770x3110x450	4	2	-	-	14	8430	10780	420

Construction variants and options

- Stainless steel construction
- Construction without a scialytic passage (WS) or with an eccentric scialytic passage (ES)
- Construction for mounting filters with a gel seal
- Construction for 110 mm high filters for lower resistance
- Specially sized air inlet
- Lowered construction of 300 mm possible, max. height air inlet is 100 mm

HD-CE terminal unit continued

Schedule standard configurations



HL-HD terminal unit

Characteristics

- Galvanised Steel RAL 9010 epoxy paint
- Top or side connection
- 68/110 mm or 150 mm thick HEPA filters
- 2 differential pressure connection ports
- Interchangeable diffusion grid: perforated, swirl or 4-way
- Wall and ceiling mounting

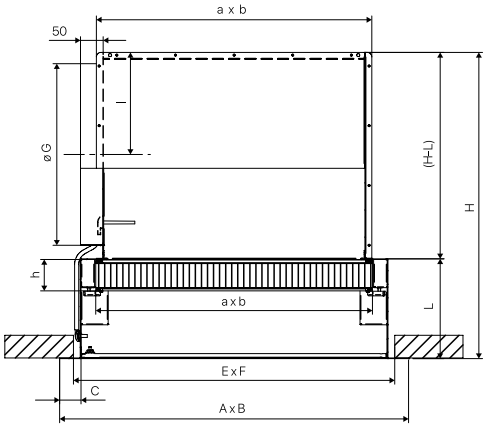
Advantages

- Multifunctional application: air supply/ extraction, wall or ceiling installation
- 3 diffuser models adapted to different types of diffusion:
  - Perforated Grill for vertical diffusion
  - Helicoidal grid for a diffusion of air by mixing
  - 4-way grid for a multidirectional diffusion
- L1 tightness according to EN1881, class C EN1775

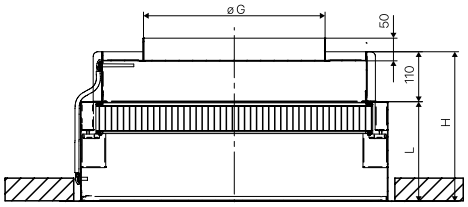
Type	Filter dimensions (mm)			Cut out dimensions			Connection height		Overall (mm)		Flange	Shaft connection	
	a	b	h	E	F	L	S	T	A	B	C	I	ØG
HL-HD-HD/BBE	305	305	68-110	410	410	180	390	290	469	469	47	105	159
HL-HD-HD/BBQ	305	305	68-110	410	410	180	430	290	469	469	47	125	199
HL-HD-HD/BBL	305	305	150	410	410	220	470	330	469	469	47	125	199
HL-HD-HD/BEE	305	610	68-110	410	710	180	430	290	469	769	47	125	199
HL-HD-HD/BEQ	305	610	68-110	410	710	180	480	290	469	769	47	150	249
HL-HD-HD/BEL	305	610	150	410	710	220	520	330	469	769	47	150	249
HL-HD-HD/CCE	457	457	68-110	560	560	180	430	290	635	635	55	125	199
HL-HD-HD/CCQ	457	457	68-110	560	560	180	480	290	635	635	55	150	249
HL-HD-HD/CCL	457	457	150	560	560	220	520	330	635	635	55	150	249
HL-HD-HD/EEE	610	610	68-110	710	710	180	480	290	769	769	47	150	249
HL-HD-HD/EEQ	610	610	68-110	710	710	180	630	290	769	769	47	225	399
HL-HD-HD/EEL	610	610	150	710	710	220	670	330	769	769	47	225	399
HL-HD-HD/EGE	915	610	68-110	1010	710	180	545	290	1069	769	47	182.5	314
HL-HD-HD/EGQ	915	610	68-110	1010	710	180	630	290	1069	769	47	225	399
HL-HD-HD/EGL	915	610	150	1010	710	220	670	330	1069	769	47	225	399
HL-HD-HD/EHE	1220	610	68-110	1310	710	180	545	290	1369	769	47	182.5	314
HL-HD-HD/EHQ	1220	610	68-110	1310	710	180	630	290	1369	769	47	225	399
HL-HD-HD/EHL	1220	610	150	1310	710	220	670	330	1369	769	47	225	399
HL-HD-HD/CCE-FPE	457	457	68-110	560	560	180	430	290	595	595	35	125	199
HL-HD-HD/CCQ-FPQ	457	457	68-110	560	560	180	480	290	595	595	35	150	249
HL-HD-HD/CCL-FPL	457	457	150	560	560	220	520	330	595	595	35	150	249
HL-HD-HD/CQE-FPE	1057	457	68-110	1160	560	180	545	290	1195	595	35	182.5	314
HL-HD-HD/CQQ-FPQ	1057	457	68-110	1160	560	180	630	290	1195	595	35	225	399
HL-HD-HD/CQL-FPL	1057	457	150	1160	560	220	670	330	1195	595	35	225	399

* To adjust based on the installation height of the grids. Perforated grids are generally used with 68mm filters

HL-HD-S
Side connection

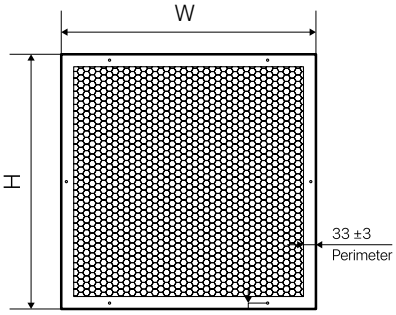


HL-HD-T
Top connection

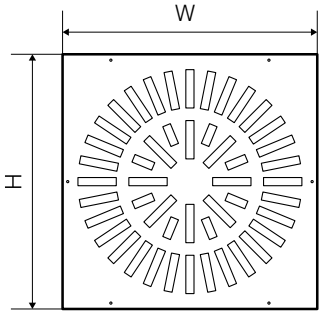


HL-HD terminal unit grid

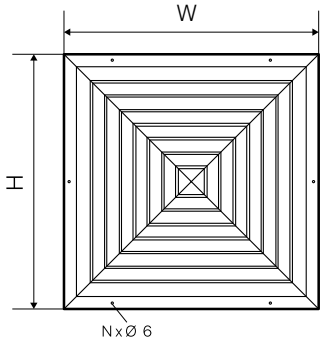
P



S



4W

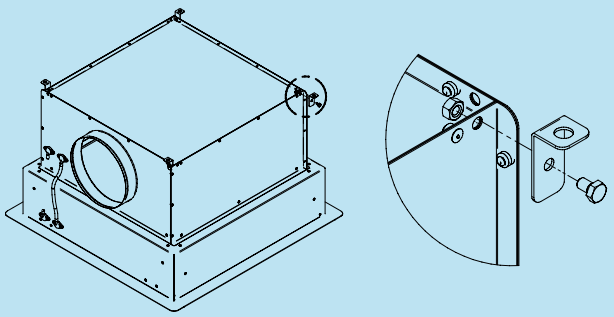


Type	Overall (WxH) (mm)	Perforated grid* Maximum Flow (m³/h)		Helicoid grid Maximum Flow (m³/h)		4-way grid Maximum Flow (m³/h)	
		Filter E11	Filter H14	Filter E10	Filter H14	Filter E10	Filter H14
GR-HD/BBE	373x373	240	150	200	150	240	150
GR-HD/BBQ	373x373	350	300	200	200	350	300
GR-HD/BBL	373x373	480	300	200	200	480	300
GR-HD/BEE	373x673	480	300	480	300	480	300
GR-HD/BEQ	373x673	700	600	480	400	700	600
GR-HD/BEL	373x673	700	600	480	400	800	650
GR-HD/CCE	523x523	500	335	500	335	600	335
GR-HD/CCQ	523x523	700	700	500	500	750	750
GR-HD/CCL	523x523	700	700	500	500	750	750
GR-HD/EEE	673x673	700	600	700	600	700	600
GR-HD/EEQ	673x673	1000	1000	1000	1000	1200	1200
GR-HD/EEL	673x673	1400	1200	800	800	1500	1500
GR-HD/EGE	673x973	1200	900	1200	900	1200	900
GR-HD/EGQ	673x973	1300	1300	1350	1350	1550	1550
GR-HD/EGL	673x973	1300	1550	1350	1350	1550	1550
GR-HD/EHE	673x1273	1200	1200	1200	1200	1200	1200
GR-HD/EHQ	673x1273	1800	1800	1800	1800	1850	1850
GR-HD/EHL	673x1273	1800	1800	1800	1800	1850	1850
GR-HD/CCE-FPE	523x523	500	335	500	335	600	350
GR-HD/CCQ-FPQ	523x523	700	700	500	500	750	750
GR-HD/CCL-FPL	523x523	700	700	500	500	750	750
GR-HD/CQE-FPE	1123x523	1100	780	1150	780	1200	780
GR-HD/CQQ-FPQ	1123x523	1500	1500	1500	1500	1500	1500
GR-HD/CQL-FPL	1123x523	1500	1500	1500	1500	1600	1600

* To adjust based on the installation height of the grids. Perforated grids are generally used with 68mm filters

Options

- HL-HD-S version available with damper adjustable from the room
- Mounting kit (see adjacent drawing)



HL-HD terminal unit grid continued

Example of a configuration: HL-HD/

BB	Q	T	B	P	T	G	-
1	2	3	4	5	6	7	8

1-Dimensions	
BB	305x305
CC	457x457
CC.FP	457x457
BE	305x610
EE	610x610
EG	610x915
EH	610x1220
CQ.FP	457x1057

2-Filter depth	
E	68/110 mm
Q	68/110 mm
L	150 mm

3-Connector type	
T	Top connection
S	Side connection

4-Connector diameter	
A	160 mm
B	200 mm
C	250 mm
D	315 mm
E	355 mm
F	400 mm

5- Filter seal applied	
P	Polyurethane

6-Closing system	
S	Screwed
T	1/4 turn closures

7-Material	
G	Steel EZ RAL 9010
S	Stainless steel 304L
SS	Stainless steel 316L

8-Options	
R	Register

BAG IN - BAG OUT UNITS

SF-CH canister unit

Characteristics

- Application For installation in contaminated air extraction networks and secure replacement of the filter in a plastic bag
- 20/10e steel welded
- Baked epoxy paint RAL 9010
- Tear-resistant bag with integrated elastic
- Tightening of the filter by eccentric cams
- Maximum service temperature: 90°C

Advantages

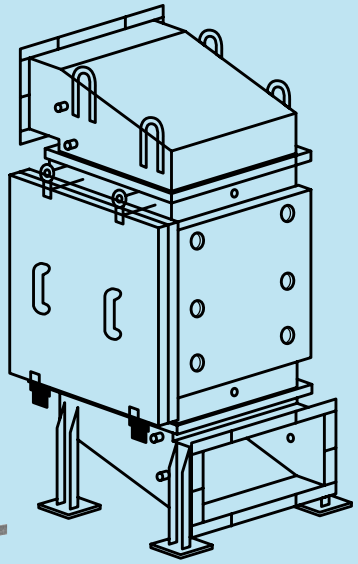
- Continuous welded
- Robust and modular
- Closing hatch with polarizing system, guaranteeing the correct installation of the filter
- Mechanical resistance +/-5000 Pa
- Qualified casing: Class D according to EN12237, Class C according to Eurovent 2/2, L1 according to EN1886
- Pressure taps with valves

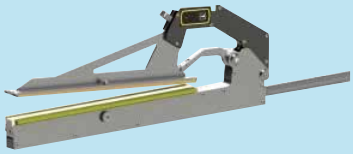
Type	Unit dimensions (mm)				Filter dimensions (mm)			Weight (Kg)
	C	B	B double unit	A	L	W*	H	
SF-CH BB	450	498	996	376	305	305	98	16,2
SF-CH BBL	450	498	996	428	305	305	150	19,8
SF-CH BBM	450	498	996	570	305	305	292	26,6
SF-CH BE	450	804	1608	376	305	610	98	20,6
SF-CH BEL	450	804	1608	428	305	610	150	24,2
SF-CH BEM	450	804	1608	570	305	610	292	31
SF-CH EB	755	498	996	376	610	305	98	27,4
SF-CH EBL	755	498	996	428	610	305	150	31
SF-CH EBM	755	498	996	570	610	305	292	37,8
SF-CH EE	755	804	1608	376	610	610	98	31,8
SF-CH EEL	755	804	1608	428	610	610	150	35,4
SF-CH EEM	755	804	1608	570	610	610	292	42,2
SF-CF/EEM-DUO	755	804	-	900	610	610	98 + 292	42,2
SF-CH EF	755	956	1912	376	610	762	98	36,8
SF-CH EFM	755	956	1912	570	610	762	292	44

* Consider Wx2 for the double unit since this version contains 2 filters.

Options

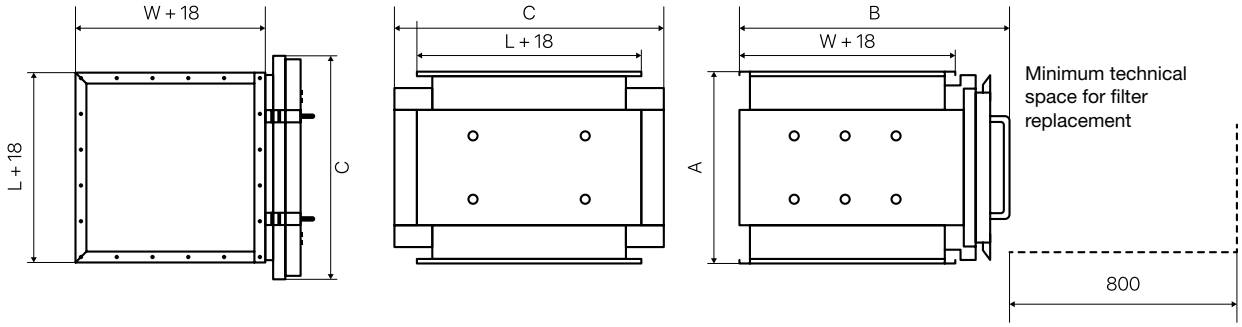
- Horizontal airflow
- SF-CH WALL for wall integration (room walls)
- Upper/lower manifold - Support feet
- AISI 304 or AISI 316 stainless steel version
- ATEX version
- Built-in manual test scan. Global integrity check according to ISO 14644-3
- Double version with only one door
- Reinforced version for mechanical resistance up to 50 000 Pa
- Casing with integrated pre-filter DUO Version
- Integrated maintenance table
- Door with inspection window
- Manometer with support
- Factory assembly or pre-assembly
- Individual test report according to EN12237 class D
- Scissors heat sealer



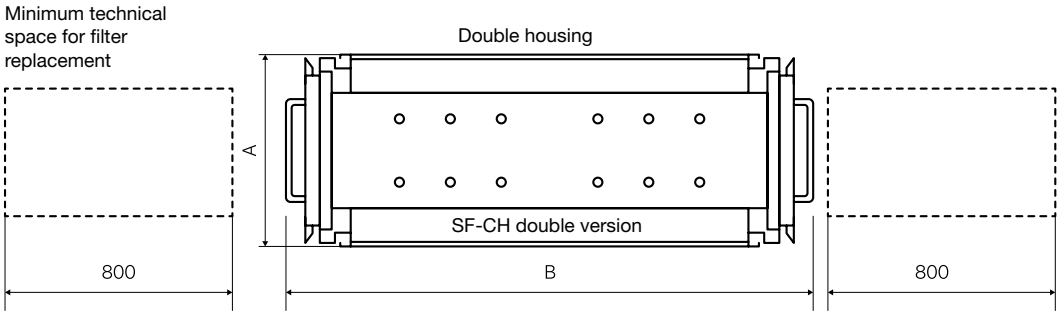


SF-CH canister unit continued

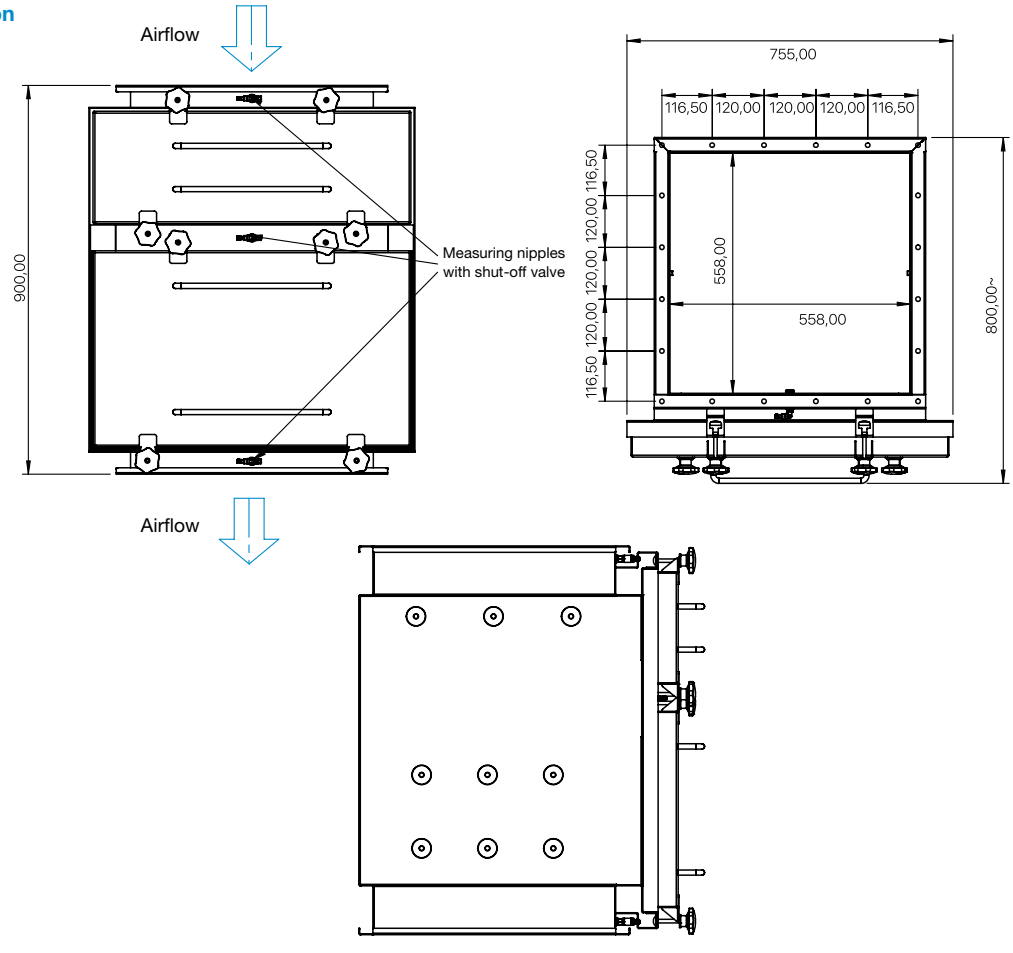
Single entry version



Double entry version

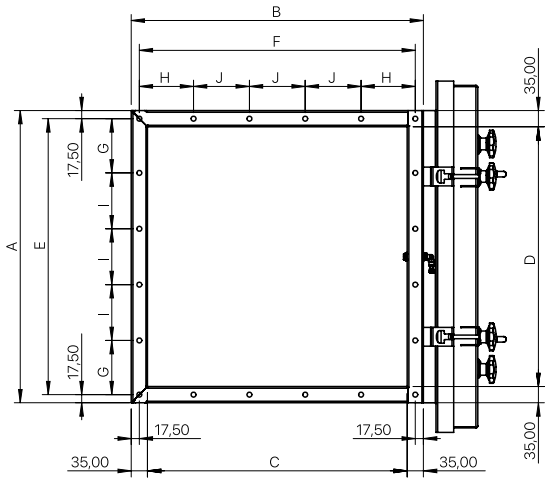


DUO version



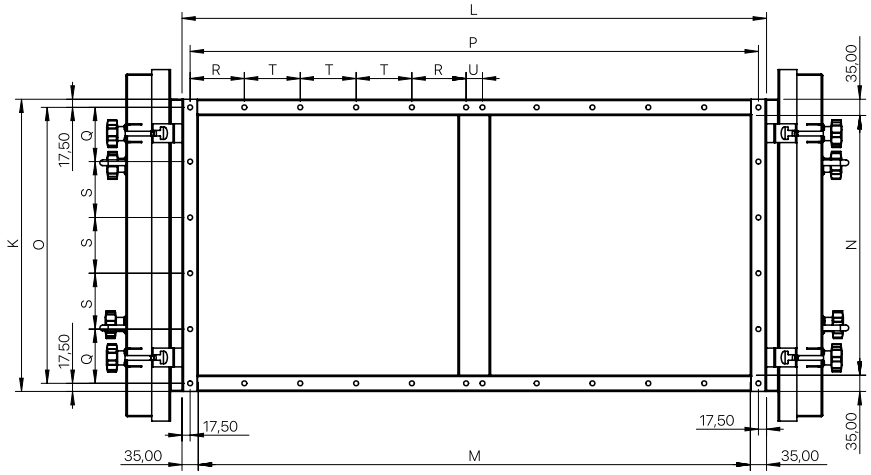
SF-CH canister unit continued

Single door flange hole pattern



Type	Dimensions (mm)										
	A	B	C	D	E	F	G	H	I	J	Number of holes
EEM EEL EE	628	628	558	558	593	593	116,5	116,5	120	120	20
EBM EBL EB	628	323	253	558	593	288	116,5	96	120	96	16
BEM BEL BE	323	628	558	253	288	593	96	116,5	96	120	16
BBM BBL BB	323	323	253	253	288	288	96	96	96	96	12
EFM EF	628	780	710	558	593	745	116,5	116,5	120	128	22

Hole pattern flange double door



Type	Dimensions (mm)											
	K	L	M	N	O	P	Q	R	S	T	U	Number of holes
EEM EEL EE	628	1256	1186	558	593	1221	116,5	116,5	120	120	35	20

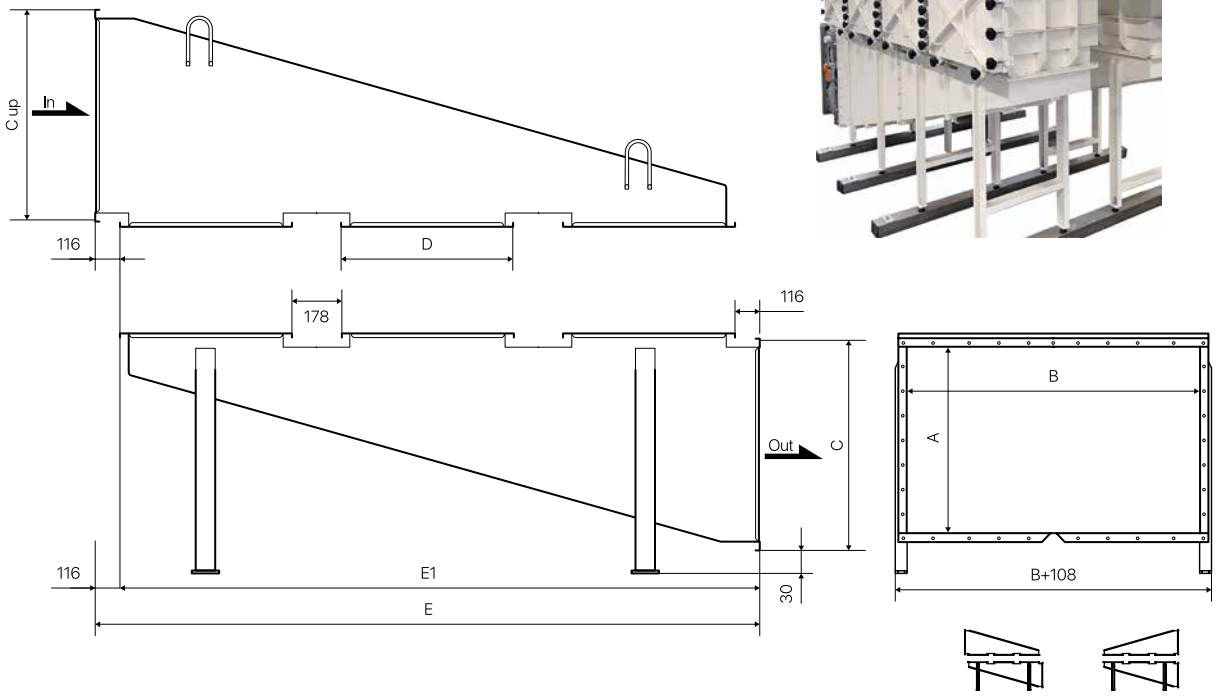
SF-CH canister unit continued

Standard version

ATEX Version

Reinforced version

Standard version



Number of units	A	B	C	C up	D	E	E1
1	254	558	376	346	628	860	744
2	254	558	376	346	628	1666	1550
3	406	558	528	498	628	2472	2356
4	558	558	680	650	628	3278	3162
5	558	558	680	650	628	4084	3968
6	812	558	934	904	628	4890	4774
7	812	558	934	904	628	5696	5580
8	915	558	1037	1007	628	6502	6386

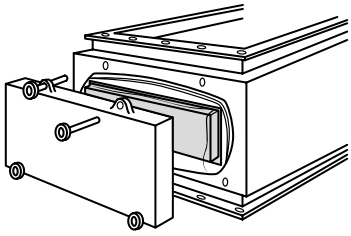
N.B.: the dimensions of the connectors apply to filter sizes 610x610 mm
Check the airflow at the entrance/exit of the collectors, it must be < 10 m/s

BAG IN - BAG OUT UNITS

SF-CH canister unit filter replacement procedure

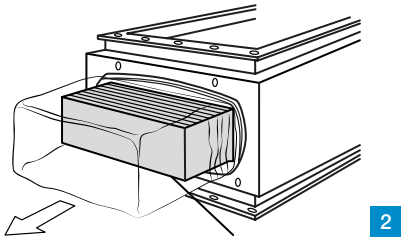
Replace filter

- Turn off the fan
- Close the registers upstream and/or downstream (if present)
- Adjust the pressure using the balancing valve (if present)
- Loosen the star knobs and remove the door



1

- Release the filters by turning the handles horizontally
- Unroll the plastic bag
- Pull the filter into the plastic bag and place it on a flat surface or maintenance table

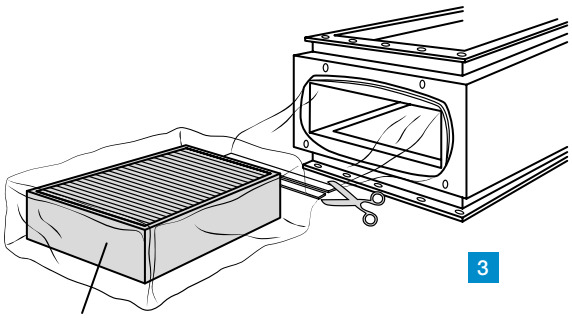


2

Old filter

Sealing the plastic bag

- Flatten the bag without creases
- Seal the bag with a thermal welding machine at 2 points and cut the bag between the 2 welds

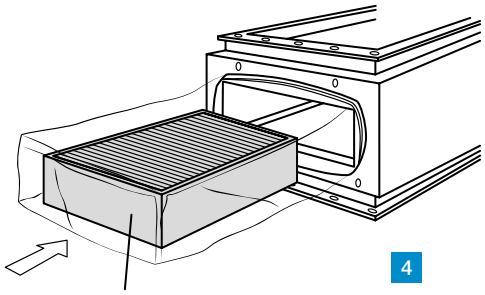


3

Old filter

Placing a new filter

- Place the filter in the bag with the seal facing up towards the air inlet
- Place the elastic of the new plastic bag over the groove around the opening of the housing

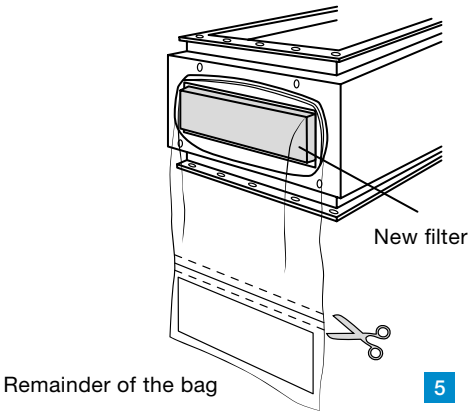


4

New filter

Remove the rest of the old plastic bag

- Detach the remainder of the old bag from the housingand pull it into the recess provided in the new bag
- Slide the new filter with the gasket on the top to prevent gasket damage and ensure the airtightness
- Use the lever system to tighten the filter
- Roll up the plastic bag with the remainder of the old bag and place it against the filter
- Replace the door and tighten the knobs



New filter

Remainder of the bag

5

SF-CH canister unit continued

Example of a configuration: SF-CH/

EF	M	S	G	DUO
1	2	3	4	5

1-Dimensions	
BB	305x305
BE	305x610
EB	610x305
EE	610x610
EF	610x762

2-Filter depth	
-	98 mm
L	150 mm
M	1292 mm

3-Version	
S	Single version
B-Side	dual version

4-Material	
G	RAL 9010 painted steel
S	Stainless steel 304L
SS	Stainless steel 316L

5-Option	
DUO	Filter 610*610*292 + 610*610*98 (48)

«Our energy-saving air filters and terminal units help food- and pharmaceutical companies to safely produce the highest quality products in a clean and safe environment»


«Our activated carbon
filters are protecting
works of art and archives
in museums and libraries
around the globe»

ACTIVATED CARBON FILTERS

AFPRO Filters carbon filters are used for the filtration of gaseous particles. The use of either loose charcoal or media impregnated with activated carbon is highly efficient for the filtering of gases. Various types of carbon filter are used, depending on the application, contamination and concentration in question.

The filters can be largely split into three fields or application:

- Organic gases
- Acidic gases
- Alkaline gases

Construction

Our activated carbon filters are available in the form or elements which can be filled with loose activated carbon pellets. These filters are a reliable solution and are characterized by their combination of high adsorption capacity and low flow rate.

Applications

Activated carbon filters are regularly used in airports, archives, museums and the semiconductor industry. Although various types of carbon filter are used, depending on the field of application, it should be noted that all carbon has to be impregnated to guarantee suitable efficiency for both acidic and alkaline gases. Furthermore, the preferred product variant has to be selected based upon the concentration in question. For instance in case of high concentrations of gas, a cylinder containing loose carbon pellets is used as it has a higher adsorption capacity than a pleated filter element.

Support

Selecting the appropriate carbon filter nevertheless remains a complicated process. AFPRO Filters sales expert are pleased to assist you in doing so. Furthermore, AFPRO Filters can test existing filters to establish their remaining adsorption capacity and lifespan. We then advise you on when to replace them.

Discover our activated carbon filter range

Type of activated carbon	Dimensions	Application
M-CARB	2, 3 and 4 mm	• Unimpregnated (untreated to capture specific molecules) • (Captures a wide range of organic compounds, VOCs Volatile Organic Compounds) • For regular air handling units, spray booths and kitchens
S-CARB	3 mm	• Impregnated • Adsorption of acid gases (H2S, SO2, HCl and Cl) • For slaughterhouses, the food industry and the protection of control rooms
R-CARB	3 and 4 mm	• Impregnated • Adsorption of acid vapors (SO2 / NOx) and NH3 and O3 • For museums, archives and libraries

ACTIVATED CARBON FILTERS

Carbon cylinder

Specifications

Application: Airports, industry, catering
Frame: Galvanized steel or stainless steel (RVS)
Bonding: -
Activated carbon: M-CARB generic activated carbon, specific impregnated carbon used for airports and industry
Gasket: Neoprene
Maximum final pressure drop: -
Maximum temperature: 40°C
Maximum relative humidity: 70%
Comments: Possibility to apply different types of impregnated carbon to filter specific gases

Advantages

- Refillable
- High dust holding capacity
- Straightforward assembly

Type	Dimensions WxHxD (mm)	Carbon type	Volume (L)	Filling weight (kg)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)
AC-2-12	Length: 250 mm Tickness: 25 mm Galvanized steel	M2-3	3	1.2	85	80	4	300x300x275
AC-2-26	Length: 450 mm Tickness: 25 mm Galvanized steel	M2-3	5	2.1	150	80	4	300x475x275
AC-2-26/SS	Length: 450 mm Tickness: 25 mm Stainless steel	M2-3	5	2.1	150	80	4	300x475x275
AC-2-60	Length: 600 mm Tickness: 25 mm Galvanized steel	M2-3	6	2.8	205	75	4	300x625x275

Gasket

Type	Used for cylinders
AC-P-25	AC-2-12 & AC-2-26

This activated carbon filter is designed to adsorb small amounts of gaseous impurities (<100 ppm vol.) At higher concentrations, a risk of spontaneous combustion. For instructions on using these filters, refer to enclosed installation and maintenance instructions.

ACTIVATED CARBON FILTERS

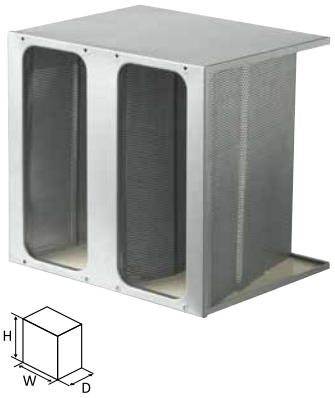
AC12

Specifications

Application: Museums, archives, industry
Frame: Galvanized steel
Bonding: -
Activated carbon: M-carb generic activated carbon. R-CARB/S-CARB specific impregnated carbon used for museums and archives
Gasket: Extruded rubber
Maximum final pressure drop: -
Maximum temperature: 40°C
Maximum relative humidity: 70%

Advantages

- Compact design
- Low pressure drop
- High dust holding capacity



Type	Dimensions WxHxD (mm)	Carbon type	Volume (L)	Filling weight (kg)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)
AC12-4/M-CARB	296x292x296	M-CARB	6	2.9	425	70	1	311x313x311
AC12-4/R-CARB	296x292x296	R-CARB	6	3.9	425	70	1	311x313x311
AC12-4/S-CARB	296x292x296	S-CARB	6	3.9	425	70	1	311x313x311

This activated carbon filter is designed to adsorb small amounts of gaseous impurities (<100 ppm vol.) At higher concentrations, a risk of spontaneous combustion. For instructions on using these filters, refer to enclosed installation and maintenance instructions.

ACTIVATED CARBON FILTERS

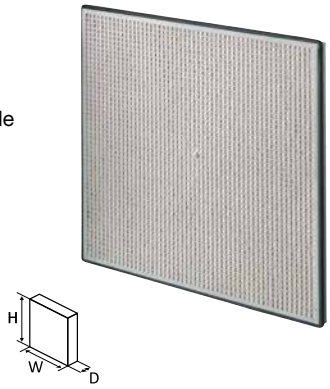
Activated carbon panel

Specifications

Application: Museums, archives, industry
Frame: Galvanized steel
Bonding: 2 component polyurethane
Activated carbon: M-carb generic activated carbon. R-CARB/S-CARB specific impregnated carbon used for museums and archives
Maximum final pressure drop: -
Maximum temperature: 40°C
Maximum relative humidity: 70%

Advantages

- Robust design
- High dust holding capacity
- Other dimensions are available



Type	Dimensions WxHxD (mm)	Carbon type	Volume (L)	Filling weight (kg)	Airflow (m^3/h)	# Filters/ box	Dimensions box (mm)
AK/605x605x32-MC	605x605x32	M-CARB	12	5.3	500	2	616x616x89
AK/605x605x32-RC	605x605x32	R-CARB	12	7.1	500	2	616x616x89
AK/605x605x32-SC	605x605x32	S-CARB	12	7.8	500	2	616x616x89

This activated carbon filter is designed to adsorb small amounts of gaseous impurities (<100 ppm vol.) At higher concentrations, a risk of spontaneous combustion. For instructions on using these filters, refer to enclosed installation and maintenance instructions.

ACTIVATED CARBON FILTERS

HPQ-AK series

ISO Coarse | ePM10

Specifications

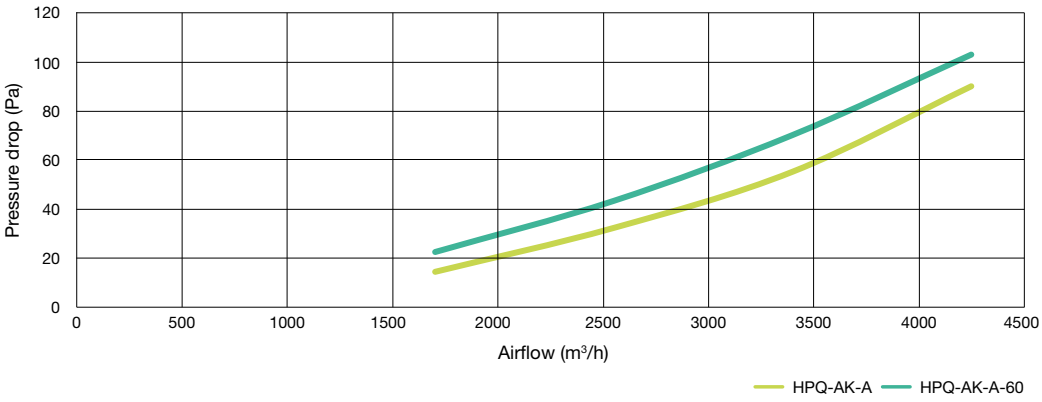
Application: HVAC, industry
Frame: Plastic
Spacers: Hotmelt
Bonding: 2 component polyurethane
Medium: Synthetic medium combined with activated carbon
Gasket: Optional, Continuous poured gasket
Filter class according to ISO 16890: ISO Coarse, ePM10
Maximum final pressure drop: 350Pa
Maximum temperature: 65°C
Maximum relative humidity: 90%
Maximum relative humidity: It is preferred to use a prefilter with these products

Advantages

- Small construction space
- Low pressure drop
- Combination filter

Type	Dimensions HxWxD (mm)	Filter class ISO 16890	Filter surface (m^2)	Airflow (m^3/h)	Pressure drop (Pa)	# Filters/ box	Dimensions box (mm)	Energy label*
HPQ-AK-A	592x592x292	ISO Coarse 80%	8.3	3400	55	1	605x300x605	-
HPQ-AK-B	490x592x292	ISO Coarse 80%	6.9	2800	55	1	605x300x505	-
HPQ-AK-C	288x592x292	ISO Coarse 80%	4.0	1700	55	2	605x300x605	-
HPQ-AK-A-60	592x592x292	ePM10 60%	6.0	3400	70	1	605x300x605	-
HPQ-AK-B-60	490x592x292	ePM10 60%	4.9	2800	70	1	605x300x505	-
HPQ-AK-C-60	288x592x292	ePM10 60%	2.9	1700	70	2	605x300x605	-

* According to Eurovent ECP-11-FIL



HPQ-AK SERIES

«Our filter medium is made of high quality fibers, which are progressively built up to create a medium with a high particle interception capacity»

FILTER MEDIA

AFPRO Filters filter medium is made of high quality fibers, which are progressively built up to create a medium with a high particle interception capacity. These filter media are available both in loose sheets or on large rolls, which can be conveniently cut to size. Depending on the particular application in question, the best suited medium can be chosen from filter classes ISO Coarse 50% to ISO Coarse 80% with various particle interception capacities.

Advantages

- High particle interception capacities
- Easy installation
- Readily cut to size

Discover our filter media range

Synthetic medium

ISO Coarse

Specifications

Application: Pre-filters for air treatment systems and spray-painting booths
Material: Polyester
Filter class according to ISO 16890: ISO Coarse
Maximum final pressure drop: 250Pa
Maximum temperature: 70°C
Maximum relative humidity: 90%

Advantages

- High dust holding capacity
- Easily custom fitted

Options

- Loose sheets, complete rolls, pre-cut media

Type	Dimensions WxH (m)	Filter class ISO 16890	Color	Airflow ($m^3/h/m^2$)	Pressure drop (Pa)	Weight (g/m^2)	Thickness (mm)	Activated carbon content (g/m^2)
T15/150	a m²	ISO Coarse 50%	White	5400	55	150	11	-
T15/150-40x1N	40x1	ISO Coarse 50%	White	5400	55	150	11	-
T15/150-40x2N	40x2	ISO Coarse 50%	White	5400	55	150	11	-
T15/500	a m²	ISO Coarse 70%	White	5400	64	300	20	-
T15/500-20x1N	20x1	ISO Coarse 70%	White	5400	64	300	20	-
T15/500-20x2N	20x2	ISO Coarse 70%	White	5400	64	300	20	-
PST290	a m2	ISO Coarse 50%	White	5400	39	200	19	-
PST290-20x1N	20x1	ISO Coarse 50%	White	5400	39	200	19	-
PST290-20x2N	20x2	ISO Coarse 50%	White	5400	39	200	19	-
PST640	a m²	ISO Coarse 50%	White/Blue	5400	88	400	50	-
PST640-10x1	10x1	ISO Coarse 50%	White/Blue	5400	88	400	50	-
PST640-10x2	10x2	ISO Coarse 50%	White/Blue	5400	88	400	50	-
F360*	a m²	ISO Coarse 80%	White	900	15	306	22	-
F360-20x1*	20x1	ISO Coarse 80%	White	900	15	306	22	-
F360-20x2*	20x2	ISO Coarse 80%	White	900	15	306	22	-
F560G	a m²	ISO Coarse 80%	White	900	24	580	22	-
F560G-20x1*	20x1	ISO Coarse 80%	White	900	24	580	22	-
F560G-20x2*	20x2	ISO Coarse 80%	White	900	24	580	22	-
CM3	2.6 mm	-	Gray	0.5 m/s	35	280	2,6	100
CM12	12 mm	-	Gray	0.5 m/s	15	1000	12	500

* Air velocity 0.25m/s


«AFPRO Filters holding
frames make the correct
installation of a filter a
simple task»

HOLDING FRAMES

AFPRO Filters holding frames make the correct installation of a filter a simple task. The standard clips provided facilitate the swift and leak-tight installation of filters onto their frames. All bag-filter holding frames comprise an endless spray-on gasket, which renders leakage literally impossible, provided the frame is installed correctly. The special pre-drilled holes make it easy to fit the frames. In the event that a large filter wall is to be constructed, it is advisable to fit additional reinforcing.

Advantages

- Easy fitting using clips
- Endless gasket
- Option of fitting several filters in a single frame
- Robust frame
- Swift fitting of frames, thanks to pre-drilled holes

Construction

The holding frames are made of either galvanized of stainless steel 304 or 316. On request, an epoxy coating can be applied to frames as well. High quality steel is used in the manufacturing of the frames to ensure ample rigidity. Furthermore, the construction design pays consideration to optimum frame stability and easy installation.

Application

These holding frames are widely used in air treatment cabinets and air inlet systems for equipment such as gas turbines. The frames have standard dimensions and can be used to replace older holding frames which are removed during the renovation of air treatment cabinets.

AFPRO Filters has devised a number or innovative solutions for the swift and convenient installation of filters in High efficiency air filters holding frames. As leak-tightness is a crucial requirement in the case of a High efficiency air filters frame, star nuts can be fitted to ensure a tight fit between the filter and the gasket.

In addition to the standard 2” model, there is a 3” model available, which facilitates the installation of a 2” pre-filter and a 1” bag filter in a single frame. This solution is particularly useful in air treatment cabinets which are rather cramped, but nevertheless requires an upgrade to an additional filter.

Discover our holding frames range

HOLDING FRAMES

HF Bag filters

Specifications

Application: HVAC
Frame: Galvanized steel or stainless steel (RVS)
Gasket: Continuous poured gasket
Maximum temperature: 40°C
Comments: When 3 or more frames are mounted together, the frames need to be reinforced
Extra clips are available as accessories

Advantages

- Very quick and straight-forward assembly
- Continuous poured gasket

Type	Dimensions frame WxHxD (mm)	Montage Dimensions filter (mm)			Material	# Frames /box
Hold.Fr.A/G-2	610x610x70	592x592x25	592x592x48	-	Galvanized steel	4
Hold.Fr.B/G-2	508x610x70	490x592x25	492x592x48	-	Galvanized steel	4
Hold.Fr.C/G-2	305x610x70	288x592x25	288x592x48	-	Galvanized steel	8
Hold.Fr.CC/G-2	305x305x70	288x288x25	288x288x48	-	Galvanized steel	16
Hold.Fr.A/G-3	610x610x97	592x592x25	592x592x48	592x592x75	Galvanized steel	3
Hold.Fr.B/G-3	508x610x97	490x592x25	492x592x48	490x592x75	Galvanized steel	3
Hold.Fr.C/G-3	305x610x97	288x592x25	288x592x48	288x592x75	Galvanized steel	6
Hold.Fr.CC/G-3	305x305x97	288x288x25	288x288x48	288x288x75	Galvanized steel	12
Hold.Fr.HA/G-2	610x910x70	592x892x25	592x892x48	-	Galvanized steel	4
Hold.Fr.HB/G-2	508x910x70	490x892x25	490x892x48	-	Galvanized steel	4
Hold.Fr.HC/G-2	305x910x70	288x892x25	288x892x48	-	Galvanized steel	8
Hold.Fr.HA/G-3	610x910x97	592x892x25	592x892x48	592x892x75	Galvanized steel	3
Hold.Fr.HB/G-3	508x910x97	490x892x25	490x892x48	490x892x75	Galvanized steel	3
Hold.Fr.HC/G-3	305x910x97	288x892x25	288x892x48	288x892x75	Galvanized steel	6
Hold.Fr.A/RVS-2	610x610x70	592x592x25	592x592x48	-	Stainless steel	4
Hold.Fr.B/RVS-2	508x610x70	490x592x25	492x592x48	-	Stainless steel	4
Hold.Fr.C/RVS-2	305x610x70	288x592x25	288x592x48	-	Stainless steel	8
Hold.Fr.CC/RVS-2	305x305x70	288x288x25	288x288x48	-	Stainless steel	16
Hold.Fr.A/RVS-3	610x610x97	592x592x25	592x592x48	592x592x75	Stainless steel	3
Hold.Fr.B/RVS-3	508x610x97	490x592x25	492x592x48	490x592x75	Stainless steel	3
Hold.Fr.C/RVS-3	305x610x97	288x592x25	288x592x48	288x592x75	Stainless steel	6
Hold.Fr.CC/RVS-3	305x305x97	288x288x25	288x288x48	288x288x75	Stainless steel	12
Hold.Fr.HA/RVS-2	610x910x70	592x892x25	592x892x48	-	Stainless steel	4
Hold.Fr.HB/RVS-2	508x910x70	490x892x25	490x892x48	-	Stainless steel	4
Hold.Fr.HC/RVS-2	305x910x70	288x892x25	288x892x48	-	Stainless steel	8
Hold.Fr.HA/RVS-3	610x910x97	592x892x25	592x892x48	592x892x75	Stainless steel	3
Hold.Fr.HB/RVS-3	508x910x97	490x892x25	490x892x48	490x892x75	Stainless steel	3
Hold.Fr.HC/RVS-3	305x910x97	288x892x25	288x892x48	288x892x75	Stainless steel	6

HOLDING FRAMES

HF High efficiency air filters

Specifications

Application: Cleanrooms, hospitals
Frame: Galvanized steel or stainless steel (RVS)
Gasket: -
Maximum temperature: 70°C
Comments: Assembly tools for filters with a depth of 292 mm are included standard.
Assembly tools for filters with a depth of 60-150 mm can be delivered on request

Advantages

- Straightforward assembly
- Good seal between filter and frame by mounting accessories

Type	Dimensions frame **WxHxD** (mm)	Montage **Dimensions filter** (mm)	Material	# Frames /box
HP.HOLD.FR.EE/G	625x625x125	610x610x292	Galvanized steel	1
HP.HOLD.FR.BE/G	320x625x125	305x610x292	Galvanized steel	2
HP.HOLD.FR.DD/G	607x607x125	592x592x292	Galvanized steel	1
HP.HOLD.FR.AD/G	303x607x125	288x592x292	Galvanized steel	2
HP.HOLD.FR.EE/SS	625x625x125	610x610x292	Stainless steel	1
HP.HOLD.FR.BE/SS	320x625x125	305x610x292	Stainless steel	2
HP.HOLD.FR.DD/SS	607x607x125	592x592x292	Stainless steel	1
HP.HOLD.FR.AD/SS	303x607x125	288x592x292	Stainless steel	2

HOLDING FRAMES

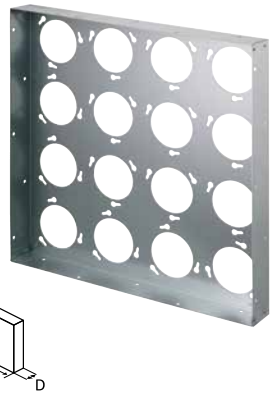
HF Activated Carbon

Specifications

Application: Airports, industry
Frame: Galvanized steel or stainless steel (RVS)
Gasket: -
Maximum temperature: 70°C
Comments: When 3 or more frames are mounted together, the frames need to be reinforced

Advantages

- Straightforward assembly



Type	Dimensions **WxHxD** (mm)	Material	Number of holes	#Frame /box
AC.H.FR.A	610x610x70	Galvanized steel	16	4
AC.H.FR.B	508x610x70	Galvanized steel	12	4
AC.H.FR.C	305x610x70	Galvanized steel	8	8
AC.H.FR.CC	305x305x70	Galvanized steel	4	16
AC.H.FR.A.SS	610x610x70	Stainless steel	16	4
AC.H.FR.B.SS	508x610x70	Stainless steel	12	4
AC.H.FR.C.SS	305x610x70	Stainless steel	8	8
AC.H.FR.CC.SS	305x305x70	Stainless steel	4	16

«Our high quality air filters protect highly sensitive processes and help to save energy at the same time»

INSTALLATION AND MAINTENANCE GUIDELINES

Air filters and extraction and exhaust systems must be designed and installed in such a way that they can be regularly inspected and maintained. For optimal technical and hygienic operation, the inspection should preferably be carried out by internal or independent professionals. If you arrange for your own maintenance and inspection, then observe the EN 13779, VDI 6022-2 (2006) and VDI 3802 (2002) standards.

Bag filters, compact filters, panel filters

- Ensure that the filter is fitted correctly: dirty side - clean air side.
- Filter should be correctly installed: no leaks.
- Bag filters must be installed with vertical (upright) bags.
- Gaskets should be completely undamaged.
- Filter should be secured at four points.
- Ensure that the filter medium is not folded in half.
- Avoid touching the filter medium during installation.
- Avoid damaging the filter during installation.
- System should be run in for several hours to achieve the desired result.
- Filter installation records; note the date, type and initial resistance.

High efficiency air filters

It is essential that the following rules be observed when installing High efficiency air filters:

- Avoid touching the pleat package, as this may cause damage.
- Ensure that every High efficiency air filters is validated following installation, to ensure that it is correctly fitted and properly mounted and free from damage.
- Keep copies of test and validation reports of the filters.
- Ensure that the flow rate of High efficiency air filters is never exceeded by more than 125%. Such excesses may cause performance deterioration or may even damage the filter.
- When fitting, ensure that the frames and filters are clean and that gaskets and any other seals are completely intact.
- Always use suitable protective equipment, especially when replacing used filters.
- Maintain filter installation records; note the date, type and initial resistance.

Activated carbon filters

The filters can be installed in either standard AFPRO holding frames or frames specially designed for the activated carbon cylinders. It is important that separate filters are fitted in front and behind the carbon filters. A pre-filter is required to prevent the activated carbon filter from becoming clogged with dust particles. An after-filter is also required to avoid the possibility of activated carbon particles entering the airflow. It is essential that the following rules are observed when installing activated carbon filters:

- Ensure that no leakage can occur (new gaskets can be supplied together with filters).
- Ensure that the frame and the cabinet in which the new filter will be fitted are cleaned beforehand.
- Activated carbon pellets may be spilled either during installation or throughout the lifespan of the filter; ensure that these are removed before the system is turned on.
- Maintain filter installation records; note the date, type and initial resistance.

INSTALLATION AND MAINTENANCE GUIDELINES

Continued

Filter media

It is essential that the following rules are observed when installing filter media:

- Ensure that the filter medium is fitted correctly (clean filter side - contaminated air side).
- Ensure that the medium is installed in a flat manner.
- Filter media must be properly secured to prevent loosening or possible leakage during its lifetime.
- Maintain filter installation records; note the date, type and initial resistance.

Holding frames

It is essential that the following rules are observed when installing holding frames:

- If several frames have to be mounted next to each other, it is advisable to also provide additional reinforcement.
- Once the frames are fitted, sealant should be applied around the edges to prevent any leakage.

GENERAL TERMS AND CONDITIONS

General Conditions of Afpro Filters B.V. Deposited with the Chamber of Commerce of Alkmaar on 26 June 2007 under number 37053830

1 General

1.1 In these Conditions "customer" means: every (legal) person who has made or wishes to make a contract with Afpro Filters B.V., and his representative(s), agent(s), legal successor(s) and heirs.

1.2 In these Conditions "assignment" means: every assignment for the providing of services and/or making of deliveries which the customer grants to Afpro Filters B.V.

1.3 All offers and contracts are exclusively governed by these Conditions. The applicability of general conditions of the customer is explicitly rejected.

2 Offers

2.1 All offers are without commitment, unless the contrary explicitly ensues therefrom.

2.2 All price specifications are made subject to the reservation that price changes may be made. Prices are:
- based on delivery ex warehouse Afpro Filters B.V.
- exclusive of VAT, import duties and othertaxes, levies and charges
- exclusive of costs of packing, loading and unloading, transport and insurance

2.3 The customer guarantees the accuracy of details, drawings and/or calculations presented by him or on his behalf in the framework of an offer.

3 Intellectual property/confidentiality

3.1 Afpro Filters B.V. reserves all intellectual property rights relating to details furnished, services provided by and/or goods delivered by Afpro Filters B.V.

3.2 The customer undertakes to only use all (technical) details which Afpro Filters B.V. has made available to it, such as schedules, drawings and designs, for his own (internal) use and not to allow third parties to inspect such in any way.

3.3 In the event of breach of our intellectual property or breach of Art. 3.2, the customer will forfeit an immediately due penalty of € 20,000 per breach and for each day that the breach continues, without prejudice to the right to full compensation.

4 Contract

4.1 A contract will first be made after Afpro Filters B.V. has explicitly accepted and confi rmed an assignment in writing, or if Afpro Filters B.V. has started execution of the assignment. The assignment confi rmation is deemed to accurately and fully represent the contract.

4.2 Any later additions, changes, (verbal) agreements and/or commitments are only binding on Afpro Filters B.V. if Afpro Filtertechniek has confirmed such in writing.

4.3 Afpro Filters B.V. is entitled to engage third parties in the execution of an assignment, and to pass on the costs to the customer in accordance with the price specification or the cost price.

5 Price changes

5.1 If within 3 months after granting the assignment the execution thereof has not yet been completed, Afpro Filters B.V. is entitled to charge the customer an increase in the cost-price determining factors accordingly. If this increase is greater than 5%, the customer has the right to dissolve the contract.

5.2 Pricing subject to change at any time without notice,

6 Delivery and delivery/completion term

6.1 Unless otherwise agreed delivery will be ex warehouse Afpro Filters B.V.

6.2 Delivery of goods will be effected because the goods leave the warehouse of Afpro Filters B.V. or, in the event of delivery by a third party, leave the warehouse of such third party, or if they are otherwise at the disposition of the customer, unless a different delivery time is agreed in writing.

6.3 Completion of work executed by or on behalf of Afpro Filters B.V. takes place at the time that the work has been completed or when the customer puts the work into use. Defects or incomplete points of a subordinate nature will not stand in the way of completion.

6.4 Time is never of the essence with regard to delivery/completion terms and are approximates. Terms will be reasonably extended if changes occur in the scope of the assignment and/or the circumstances under which the assignment is executed.

6.5 Exceeding the delivery/completion term does not give any entitlement to compensation.

6.6 If the term for delivery or the day when repaired goods are to be picked up expires and the customer has not accepted or picked up the goods, they will be stored at the customer's risk and expense. If the customer has not picked up the goods three weeks after storage, Afpro Filters B.V. is entitled and has the power to sell and deliver the goods to third parties and to pay itself from the proceeds, without prejudice to other rights under the heading of the assignment.

7 Transport and risk

7.1 Transport is at the customer's expense and risk. The customer must take out insurance against such risks.

7.2 As of the time of delivery as referred to in Art. 6.2 the goods are at the customer's expense, even when goods must be processed or installed subsequently by or on behalf of Afpro Filters B.V.

7.3 The customer is liable for all loss resulting from loss or theft of or damage to goods which are used in the execution of an assignment and which are located at the place there the activities are carried out. This is not the case when said goods are used in a workplace of Afpro Filters B.V. or a third party engaged by it.

8 Force majeure

8.1 Afpro Filters B.V. is not bound to perform any obligation to the customer if it is prevented from doing so as a result of a circumstance which is not due to fault, and is not at its expense either under the law, a legally binding transaction or custom.

8.2 In these General Conditions force majeure means, in addition to everything it is understood to mean in the law and jurisprudence, all external causes, foreseen or unforeseen, which are beyond the control of Afpro Filters B.V., but in consequence of which Afpro Filters B.V. is not able to perform its obligations. This in any event includes work strikes in the business of Afpro Filters B.V. or in the business of third parties and non-performance of their obligations by suppliers/customers of Afpro Filters B.V. Afpro Filters B.V. also has the right to claim force majeure if the circumstance which impedes (further) performance of the contract arises after Afpro Filters B.V. should have performed its obligation.

8.3 During the period that the force majeure continues Afpro Filters B.V. can suspend the obligations under the contract. If this period lasts longer than two months, each of the parties is entitled to dissolve the contract, without an obligation to compensate loss to the other party.

8.4 Insofar as Afpro Filters B.V. has already partly performed its obligations under the contract at the time the force majeure arises or will be able to do so, and the part performance has an independent

value, Afpro Filters B.V. is entitled to separately invoice the part already performed or to be performed. The customer is bound to pay this invoice as if it were a separate contract.

9 Guarantee

9.1 Afpro Filters B.V. guarantees the soundness of goods delivered and work carried out for a period of 6 months after delivery/completion, without prejudice to the provisions of Arti. 9 of these General Conditions. A guarantee in respect of goods taken from third parties or work executed by third parties will only be given if and insofar as the relevant third party gives a guarantee in such respect.

9.2 No guarantee whatsoever is given with regard to alleged shortcomings in the degree of functionality, as this functionality is greatly determined by circumstances which lie outside of Afpro Filters B.V.'s area of influence.

9.3 Defects must be reported to Afpro Filters B.V. in writing within 14 days after they are detected, precisely setting out the nature, scope and (suspected) cause of the defect; failure to do so will result in lapsing of the guarantee.

9.4 No guarantee is given in respect of normal wear and tear, when changes or repairs have been made by third parties, the goods are used for purposes other than the normal use and/or when there is (was) faulty maintenance, storage or any other form of inexpert use.

9.5 In the event of a guarantee claim Afpro Filters B.V. can, at its own election, replace or repair the item or credit the customer for a proportional part of the invoice.

9.6 The existence of a guarantee claim is without prejudice to the customer's (payment) obligations and does not constitute grounds for suspension or dissolution.

10 Liability

10.1 The liability of Afpro Filters B.V. goes no further than as worded in Art. 9 of these General Conditions. Should Afpro Filters B.V. nevertheless be subject to a further-reaching liability, then such is limited to the amount which is paid out under the insurance taken out by Afpro Filters B.V. in such case, increased by the excess under such insurance. If no (full) cover is provided and/or if no insurance was taken out for the relevant loss, any liability of Afpro Filters B.V. is limited to € 15,000.

10.2 Any liability of Afpro Filters B.V. for damage as a result of mistakes of agents is excluded, including cases of intent or gross negligence of such agents.

10.3 Afpro Filters B.V. is in no way liable, i.e. including up to the limit mentioned in Art. 9.1, for consequential damage, lost profit and other pure financial loss suffered by the customer and/or third parties.

10.4 The customer indemnifies Afpro Filters B.V. against all claims of third parties under the heading of product liability, and furthermore against all claims of third parties which are directly or indirectly connected with work executed/ goods delivered by Afpro Filters B.V. in the framework of the execution of the assignment, or the use of goods by the customer or third parties.

11 Retention of title

11.1 Afpro Filters B.V. remains the owner of all goods it has delivered, up to the time when the customer has performed all obligations under the heading of goods which have been or are to be delivered, work which has been or is to be executed, and with regard to claims relating to default on the performance of such contracts.

11.2 The customer is entitled to use or supply the goods in the framework of the normal course of business. Any retention of title which the customer stipulates in respect of the supply of goods supplied by Afpro Filters B.V. will be on behalf of Afpro Filters B.V.

11.3 If the retention of title cannot be enforced as a result of change in form, processing or accession, the customer is bound upon fi rst request to provide substitute real security on behalf of Afpro Filters B.V.

11.4 If goods which are subject to a retention of title are destroyedor damaged, as of that time Afpro Filters B.V. is entitled to the insurance payout which the customer receives as a result of the destruction or damage. At the time of destruction or damage the customer is bound to immediately inform Afpro Filters B.V. there of. On the first request of Afpro Filters B.V. the customer is obliged to pledge any insurance payout and compensation claims to Afpro Filters B.V. and to fully cooperate with regard to all formalities required in this respect.

12 Payment, interest, costs and dissolution

12.1 Payment is to be cash on delivery/ completion, or within 30 days after the invoice date by means of deposit on or transfer to a bank or giro account designated by Afpro Filters B.V. Every claim for set-off or suspension is excluded.

12.2 As of the time that the customer is in default he will owe interest of 1.5% per month, as well as compensation to cover extrajudicial costs, which are fixed at 15% of the principal with a minimum of € 250. Payments will first be applied to payment of interest and extrajudicial costs.

12.3 If the customer loses the (free) disposition of his assets or a petition for such has been presented, Afpro Filters B.V. is entitled to dissolve contracts with immediate effect. The receiver or administrator does not have the power mentioned in Art. 11.2.

13 Applicable law and choice of forum

13.1 All offers, contracts and the performance thereof are exclusively governed by Dutch law, with the exclusion of the applicability of the Vienna Sales Convention and any other international regulations, the exclusion of which is permitted.

13.2 With regard to the interpretation of international trade terms the "Incoterms" as compiled by the International Chamber of Commerce in Paris apply.

13.3 Disputes can only be brought before the District Court of Alkmaar, unless Afpro Filters B.V. chooses another court.

13.4 This translation has no legal force. The original Dutch text of these General Conditions will be binding and shall prevail in case of any variance between the Dutch text and the English translation.

«With superior indoor air quality, we strive to provide the most optimum visitor experience»

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