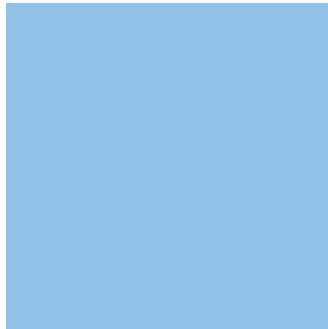




## Product catalogue 2011/2012

Air and liquid filtration



Powerful. Energy efficient. Reliable.

Industrial air filtration | Liquid filtration | Human protection

# Product range overview



Filter mats 19-23



Filter cells 25-26



Pocket filters 27-35



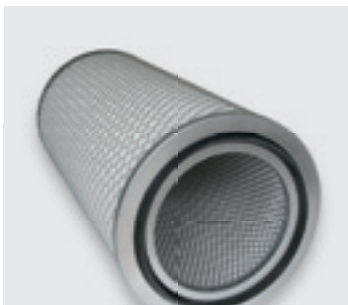
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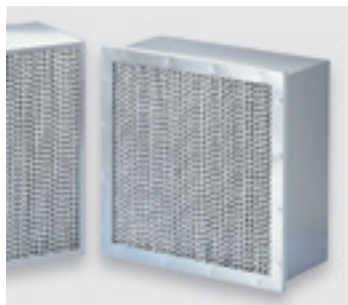
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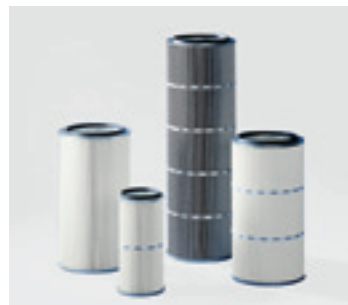
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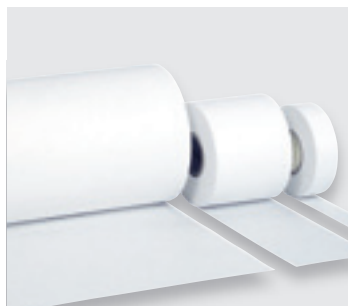
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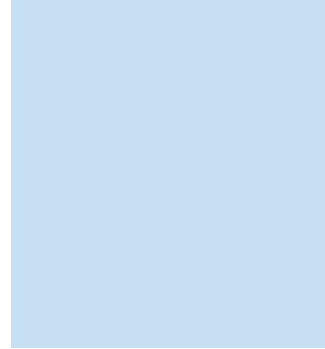


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# Superior filtration solutions for a better quality of life



One of the big challenges facing society today is safeguarding the cleanliness of air and liquids. Innovative solutions are called for and Freudenberg Filtration Technologies has the answers. We develop solutions that make processes more efficient, save resources and protect our environment, thereby raising the quality of life.

## Responsibility for the environment begins with development and production

We are committed to promoting sustainable technologies and product solutions while at the same time providing the highest product quality. Our activities here are diverse: we conserve resources during production, avoid waste, reduce the use of materials and energy, use recycled raw materials, and offer disposal-friendly and space-saving product alternatives.

## Our contribution to your improved energy efficiency and climate protection balance

Ventilation systems require a disproportionate amount of energy. In office buildings, the percentage is around 40% of the total consumption; in clean rooms, the proportion is as high as 80%. A large part of the energy consumption of variable-speed fans in ventilation and air conditioning (HVAC) systems can be attributed to pressure drop. Up to half of the

energy consumption results from the use of filters. Here, acting responsibly means reducing the pressure drop in the air filter systems to thereby save valuable energy, avoid unnecessary costs, and reduce CO<sub>2</sub> emissions. Our energy efficiency classification that we present on page 13 shows you the way to particularly energy efficient Viledon® products.

Numerous case studies have shown that the use of our filtration solutions makes a valuable contribution to energy saving and climate protection.



energy efficiency  
performance

Our customers gladly use the energy efficiency logo in their documentation and thereby show: "We save energy and reduce CO<sub>2</sub> emissions with Viledon® air filters." As a partner of Freudenberg Filtration Technologies, you too can benefit from the prestige of our solutions, for example, by using the Viledon® energy efficiency logo.

# Reliable protection for man, material and machine

With their innovative and efficient filter concepts, Freudenberg Filtration Technologies ensure protection against air-borne and liquid-borne particles with maximum cost effectiveness. We bundle our activities in five segments:

## Industrial air filtration

Viledon® stands for the highest standards in industrial air filtration worldwide. Our system solutions are used e.g. in the fields of general HVAC / clean room technology, turbomachinery, surface technology and dust removal technology.



## Human protection air filtration

Our Viledon® filter media contribute to effectively protecting people from dusts and gases. In this segment we develop solutions for respiratory masks, secondary filters for vacuum-cleaners, filter media and filters for HVAC systems as well as customer-specific filter media.



## Industrial liquid filtration

Viledon® sets the standard for quality, dependability and versatility also in industrial liquid filtration. Well-known brands are our hydrotexx for drinking water filtration, nutritexx for the filtration of foodstuffs, cooltexx for coolant and lubricant filtration, pluratexx for hydraulic and lubricating oil filtration and novatexx as supporting media for membranes.



## Automotive air filtration

micronAir® is the number 1 in cabin air filters and guarantees effective protection against fine dust and odours. micronAir® engine intake air filters, based on fully synthetic media, achieve unique performance values and open up new possibilities for installation space utilization.

*Not part of this catalogue. Product information at [www.freudenberg-filter.com](http://www.freudenberg-filter.com).*



## Office air filtration

micronAir® office fine dust filters for indoors provide protection against emissions from laser printers, photocopiers and paper shredders. They are certified by the German TÜV Nord and bear the ECARF quality seal for anti-allergic products and services.

*Not part of this catalogue. Product information at [www.freudenberg-filter.com](http://www.freudenberg-filter.com).*



### Examples of our broad spectrum of branches

- Automotive
- Offices
- Chemistry
- Power generation
- Emission control
- Health services
- Food and beverages
- Surface treatment
- Pharmaceuticals
- Production
- Cleanrooms
- Transport (rail, ship, air)
- Residential buildings

# Innovative filter media

developed and produced by Viledon®

As part of the Freudenberg group, we have all the known technologies for filter media production at our disposal. That is the basis for our innovation leadership in industrial filtration. Because we develop and produce our nonwoven filter media ourselves we guarantee process reliability and the highest quality of our filter solutions, and we are able to react quickly and efficiently to changing market situations. And all to the benefit of our customers.

## Innovations that set standards

Developments from Viledon® change the market and advance industrial filtration. Here are a few examples:



The NanoPleat filter material proven in long-term water test.



- NanoPleat cassette filters with innovative HSN (Hybrid Synthetic Nanofiber) technology have an outstanding performance profile: They are extremely sturdy, water-repellent and exhibit hygiene quality.
- Evolon® is a patented microfiber material which offers a large number of advantages in dust removal technology. It is used for NEXX filter bags making them lighter, more efficient, more durable and more cost-effective than conventional competitors' products.

- The jetSpin technology is a high-tech, high-performance and unmistakable filter medium for pocket filters from filter class F6.



- Single or multilayer progressively structured high-efficiency non-wovens of unbreakable synthetic and organic fibers ensure maximum performance in filter mats and pocket filters.



### jetSpin and Nano jetSpin

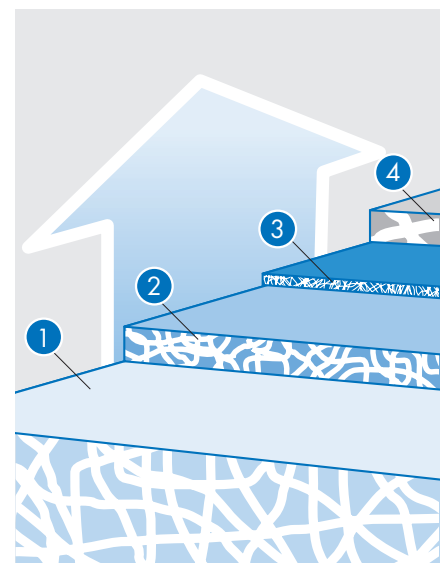
The pocket filters of the Nano jetSpin series exhibit the unmistakable "Embossed Plus".

- The Nano jetSpin technology with its four layers offers the ultimate in filtration. It is used in Compact pocket filters of filter classes F7 and F8.



The structure of the 4-layer Nano jetSpin filter medium at a glance:

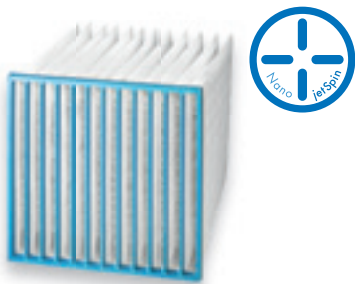
- 1 Prefilter
- 2 jetSpin layer
- 3 Nano jetSpin layer
- 4 Support nonwoven



# High-efficiency solutions for industrial air filtration

## Advantage Viledon® – advantage customer

Thanks to its special design features, the Viledon® filters developed for air intake, air exhaust and air circulation systems are characterized by a high filtration rate with at the same time an extremely cost-effective and reliable operating behavior.



### Proven storage specialist: Viledon® Compact pocket filters

- The sturdy design of the whole filter element ensures uniform dust storage with full utilization of the filter surface area thanks to the foamed, self-contained filter pockets with aerodynamic spacers welded leak-free into the PUR front frame.

### Sturdy and durable: Viledon® MaxiPleat cassette filters

- Thermal embossing process with optimum V-shaped pleat geometry.
- Full utilization and uniform loading of the filter area for homogeneous air flow rates.
- High stability and torsional rigidity thanks to patented plastic frame construction.
- Uncompromisingly good in the separation of fine particles.

### Tough and water-repelling: Viledon® NanoPleat filters

- No irreversible damage even under light pressure.
- Easy installation: The filter pardons minor carelessness.
- Highly water-repellent and moisture resistant up to 100% relative humidity. Water droplets just roll off the filter medium.

## Advantages in technology and performance

- Long service lives and high dust storage capacity thanks to special depth-loading filter media → Reduces waste
- Low pressure differences and hence reduced energy costs thanks to aerodynamically optimized design.
- According to the allocation to energy efficiency classes, particularly energy-saving or energetically favorable. High savings in the whole filter-related system costs for the user.



- The outstanding operational reliability results from the interplay of high-strength filter media, high dimensional stability and mechanical load-bearing strength as well as very careful processing of the filter elements and their quality control.
- Viledon® filters are corrosion-free, 100% moisture-resistant, microbiologically inactive and in some cases completely ashable.
- Viledon® filters satisfy all the demands of the Hygiene Directive VDI 6022 (VDI = German Association of Engineers).



Plug-in connection for space-saving combination of two filter stages. (left)



The welded spacers in the Compact pocket filters ensure the optimum form of the pockets during operation. (right)

## Human protection to improve the quality of life



The smallest dust particles can have a major effect. The breathing in of fine dust, for example, can be extremely harmful to health. As these particles are smaller than two micrometers, they can enter the lower respiratory tracts (respirable dusts) and settle there. That applies equally to high concentrations over a short period of time and to low concentrations over a longer period of time. Dust particles can also become a problem for motors, for example in vacuum-cleaners. Here the dust picked up must not be allowed to enter the machine. In its human protection segment, Viledon® develops reliable solutions for man, material and machine.

### Filter media for respiratory masks

Our classified filter media for respiratory masks guarantee the highest reliability and easy processing. Reasons for this are the high quality of our nonwovens made from synthetic fibers, and the high technical standards of our production processes that are protected by patents worldwide. Thanks to the combination of electrostatic filter effects with mechanical filter function, our filter media reliably remove aerosols from the air before they can enter the lungs.

### Vacuum-cleaners

Freudenberg Filtration Technologies has developed motor protection and exhaust filters made from high-quality nonwovens specially for use in household vacuum-cleaners. These are installed behind the filter bag and thus act as secondary filters. Their function is to protect the motor from the fine dust particles and hence prolong the service life of the vacuum-cleaner. As the final instance, the exhaust filters hold back the smallest particles, microorganisms, bacteria and pollen in the vacuum-cleaner and allow allergy-sufferers to breathe easily.

### Customized filters

In close cooperation with our customers, we develop specific solutions tailored to the respective requirements. In this way we ensure that the most efficient solutions at the cutting edge of technology are available at all times. The basis for this successful strategy are our in-depth know-how of all the relevant materials and processes paired with our decades of experience in filtration.



Highest purity  
in liquid filtration



Whether for food and beverage filtration, drinking water filtration, coolant and lubricant filtration or membrane support media: Freudenberg Filtration Technologies ensures the highest purity and dependability in all areas with a comprehensive product spectrum of high-quality nonwovens.

## hydrotexx

### For drinking water filtration

Under the brand name hydrotexx, Viledon® develops filter mats made from 100% food-safe fibers. They are thus ideally suited for the filtration of foodstuffs and drinking water. Physiologically safe raw materials in combination with the latest production technologies guarantee a filter medium that satisfies the high demands of the foodstuffs industry with respect to hygiene, efficiency and extractable constituents at all times.

## cooltexx

### For coolant and lubricant filtration

Durable, application-specific nonwovens for all vacuum, pressure and gravity belt filter systems, in all standard reel widths and lengths: That's what cooltexx stands for. These filter media are matched in filter mesh size, fiber type and media structure to the respective machining processes, the materials to be machined and the different process liquids. These include, for example, emulsions and oils, washing, phosphating and coagulation baths.

## pluratexx

### For hydraulic and fuel filters

Modern hydraulic filter systems demand first-class filter media which thanks to their high mechanical and chemical resistance can also withstand high differential pressures, pressure peaks and volumetric flows. Modern diesel injection systems operate with extremely high pressures and demand outstanding particle and water separation. With pluratexx we have developed filter media that excellently meet all these demands.

## nutritexx

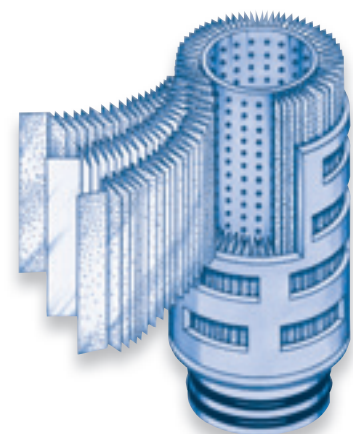
### For food and beverage filtration

Viledon® foodstuff nonwovens are fabricated into pockets and bags for the filtration of beverages such as milk, wine and beer. Apart from a foodstuffs approval, our media also exhibit a high wet strength and long service life thanks to the production from PET cellulose fibers. The product advantages: Good processability to produce bags (sewing, welding, punching), long service life, low differential pressure, high wet strength.

## novatexx

### Membrane support media

In many cases, polymer-based membranes require an additional mechanical reinforcement. Only then can they withstand the physical loads during the production, further processing and application. novatexx has proven to be extremely successful here as a carrier and drainage medium. The brand name is a by-word for customized filtration media for liquids in the industrial and foodstuffs sectors and for products for the manufacture of membranes and filter plugs.



## Tailored complete solutions for filtration systems and air quality management



We are at your disposal with help and advice to enable you to make optimum use of our high-quality filtration solutions. We provide you with our know-how in comprehensive service programs: From the construction of new systems through maintenance and modernization right up to training programs.

### Viledon® filterCair service

In order to allow you to make maximum use of the high quality of our filters in your complex and sensitive systems, we have developed a unique and comprehensive filter management system: Viledon® filterCair – an individually tailored package consisting of a comprehensive filter program, services and warranties.

### A few examples of our Viledon® filterCair services

- Particle measurements using laser particle counters (stationary or as ProSim measurement)
- Measurement of precipitation rates, cabin balance, ventilation balance, temperature and moisture. Paint inclusion and soiling analyses on site or in Viledon® laboratories (REM, EDX, IR microscopy)
- CFD (computational fluid dynamics) computer-aided flow analyses prior to modifications, re-engineering or readjustment
- Use of a mist generator to visualize the air streams
- Measurement of electrostatic charge and discharge processes
- Hygiene inspections and hygiene controls in accordance with VDI 6022 with trained personnel
- Filter changing, cleaning incl. disposal and acceptance measurement
- Filter monitoring
- Filter procurement, stocking, planning
- Filter comparison measurements
- Energy efficiency measurements

**viledon®**  
filterCair

Viledon® Engineering comprises a complete development and installation program for retrofitting and new construction of air filter systems. The service packages tailored to the respective customers' requirements include the analysis of the existing situation on site, consultation, design of filter systems, drawing up of quotations with 3D CAD models, profitability analyses, order handling, documentation, personnel training and after-sales support.

Our many years of plant engineering experience in the fields of indoor climate control, machine process air and intake air filtration for turbomachinery is documented in numerous successfully completed projects worldwide. These include, for example, air intake systems for co-generation power stations, refineries, compressor stations, waterworks, bottling plants, laboratories and office buildings. We would be happy to present individual project references to you in a personal meeting.

Our teams of engineers are on hand around the globe and work in close cooperation with our customers in order to find the right filtration solution, no matter how large the project is. Each plant engineering project is planned and carried out individually according to the respective customer's requirements.

Part of Viledon® Engineering is Viledon® eee.Sy. It stands for "energy efficiency-enhancement System" and is a turnkey system which ensures improved energy efficiency of turbomachinery and at the same time waste heat utilization for a lower energy consumption and higher system profitability.



### Construction

- Retrofittings / new constructions
- Concrete filter housings
- Steel filter housings
- Filter modules
- Filter covers

### Components

- Single or multi stage Viledon® filter wall solutions
- Air cooling systems (Viledon® eee.Sy)
- Weather hood constructions
- Anti-icing systems (Viledon® IceProtect)
- Droplet separators
- Ventilation ducts
- Fans
- Transition pieces
- Bends
- Silencers
- Support construction
- Electrical equipment
- Measuring instruments

Viledon® Engineering	
<b>Construction</b>	<b>Operations services and support</b>
<b>01</b> Retrofitting / new build	<b>02</b> Viledon® filters & spare parts
<ul style="list-style-type: none"> <li>▪ Comprehensive status quo analysis</li> <li>▪ Complete cost analysis</li> <li>▪ 3D CAD models to illustrate the concept</li> <li>▪ Customised end-to-end solutions</li> <li>▪ Standardized modular filter system components</li> <li>▪ Small to large turn-key installations</li> <li>▪ Final on-site inspections</li> <li>▪ Close cooperation with our customers</li> </ul>	<ul style="list-style-type: none"> <li>▪ High-quality Viledon® filters</li> <li>▪ Full range of spare parts</li> </ul>
	<b>03</b> Comprehensive service support
	<ul style="list-style-type: none"> <li>▪ "Repair or replace" concept</li> <li>▪ Inspections</li> <li>▪ Measurements</li> <li>▪ Maintenance programs</li> </ul>
	<b>04</b> Key personnel training
	<ul style="list-style-type: none"> <li>▪ Choice of selection of training courses</li> </ul>

# Performance and certified quality that you can rely on

Freudenberg Filtration Technologies stands for the highest quality. For you that means: More safety in day-to-day use. Our unrelenting commitment to the highest standards is reflected also in the wide variety of our certifications and initiatives for quality improvement.

## Our obligation: External quality criteria

As technology leader in filtration, we comply with all important standardization and test procedures, and we furthermore play an active role in standardization committees. Apart from the specifications listed below, some of our products for liquid filtration also conform to EU 2002/72 and FDA. In addition we are approved in accordance with the KTW Guideline of the German Federal Environmental Office in accordance with the requirements of DVGW Code of Practice W 270.



## Our voluntary program: Internal quality criteria

We see ourselves as the technology drivers in the industry. We therefore perform not only the required external tests and inspections, but are furthermore committed to satisfying even stricter internal quality criteria. We are certified in accordance with DIN EN ISO 9001. Our interdisciplinary integral management system is based on the latest rules and regulations ISO/TS 16949 (Requirements of the Automotive Industry), DIN EN ISO 14001 (Environmental Management) and OHSAS 18001 (Occupational Health and Safety). Six Sigma forms an integral part of our corporate culture. At the Freudenberg filter laboratory, we guarantee the quality of our filters with particularly stringent series of tests.

QS 9000  
OHSAS 18001



# A classification system for energy efficiency

## Your guide to energetically favorable filters



### Considerable cost reductions

The fan in an HVAC system consumes electrical energy during operation, for example, to overcome the filter's resistance. In the case of variable-speed fans, energy consumption will continually increase as a result of the air filters' pressure drop. Many brands of filters exhibit unfavorable resistance behavior. Not Viledon®: our filters have a large dust storage capacity; the pressure drop increases only slowly.

The five-stage classification system developed by us allows the user to find energetically favorable filters quickly and easily: Filters that contribute to reducing energy costs, and hence to climate and environmental protection thanks to their high dust storage capacity and a generally low differential pressure which rises very slowly over the service life.

### Note

The signets below help you in finding particularly energy efficient Viledon® products.



### Example: 4.7 t less CO<sub>2</sub> emissions per year with Viledon®.

1st filter stage: 9 x conventional F6 pocket filters  
2nd filter stage: 9 x conventional F9 cassette filters  
Volume flow: 30,000 m<sup>3</sup>/h

1st filter stage: 9 x F6 Viledon® Compact pocket filters T60  
2nd filter stage: 9 x F9 Viledon® MaxiPleat cassette filters MX98  
Volume flow: 30,000 m<sup>3</sup>/h

#### Conventional filters

Power consumption  
**27,820 kWh/year**

Electricity costs  
(27,820 kWh x 0.10 €/kWh)  
**2,782 €**

CO<sub>2</sub> emissions\*  
(27,820 kWh x 0.593 kg/kWh)  
**≈ 16,497 kg/year**

#### Viledon® system

Power consumption  
**19,930 kWh/year**

Electricity costs  
(19,930 kWh x 0.10 €/kWh)  
**1,993 €**

CO<sub>2</sub> emissions\*  
(19,930 kWh x 0.593 kg/kWh)  
**≈ 11,818 kg/year**

**789 € / year**  
Cost savings  
with Viledon®

**≈ 4,7 t / year**  
CO<sub>2</sub> reduction  
with Viledon®

**44 €**  
Cost saving  
per filter / year

\* Specific carbon dioxide emissions of the German electricity mix (0.593 kg/kWh CO<sub>2</sub> emission factor)  
Source: German Federal Environment Office, FG/2.5., correct as of April 2009

# A partnership for your long-lasting success

With Viledon® at your side

## Your direct route to us

To find your customer service contact details for your region, please visit our website [www.freudenberg-filter.com](http://www.freudenberg-filter.com) and go to "Contact".



Apart from the high-quality filter solutions, our portfolio also includes a comprehensive range of services to help our customers make optimum use of their filter systems in every respect. Our services at a glance:

- **Personal, competent on-site advice**  
Our network of filtration consultants has numerous branches and distribution partners in Europe and worldwide.
- **Reliable delivery service**  
Delivery reliability is a key factor in our performance spectrum.
- **Filter program comprising more than 10,000 articles**  
You will find the right product for every demand in our product range.
- **Tailored filtration solutions on demand**  
Individual solutions lead to better results. We develop them together with you.
- **Accessories**  
A large number of extras support the effective use of our high-quality filters (see right).
- **Viledon® academy**  
In seminars, we pass on practical know-how and theoretical background knowledge related to filtration.
- **Filter measurement technology**  
Using the latest test rig technologies, we subject our filters to standardized performance tests in accordance with national and international standards, as well as more stringent tests in our own test laboratory.

## Our product portfolio also includes high-quality accessories, for example:

- Mounting frames of stainless steel or galvanized sheet steel with force-locking press-in spring system and rubber seal.
- Differential pressure gauges: Display and switching device for basic to very challenging applications.
- Rotational nozzle systems for effective cleaning of filter cartridges.
- Pressure surge reflectors to optimize the pulse-jet cleaning.
- Supporting baskets to prevent deformation of filter cartridges.
- Particulate filter accessories: Terminal housings, hood modules, fan-filter units, safe-change housings.

## Viledon® Product catalogue

Air and liquid filtration



# Product overview

## by filter classes

					Filter mats	Filter cells	Pocket filters	Cassette filters						
		Suitable for	Group designation	Filter standard	Filter classes	Filter mats (p. 20+21)	Roll filters (p. 23)	MP 45 (p. 26)	Compact (p. 28-31)	WinAir (p. 32-35)	MaxiPleat (p. 38-40)	NanoPleat (p. 41)	MVP (p. 42)	MVPGT (p. 43)
2 <sup>nd</sup> filter stage (fine filtration)	1 <sup>st</sup> filter stage (prefiltration)	Coarse dust	G	EN 779 Average arrestance efficiency	G1 < 65%									
					G2 ≥ 65%	•								
					G3 ≥ 80%	•	•	•	•	•				
					G4 ≥ 90%	•		•	•	•				
	Fine dust	F	EN 779 Average efficiency with 0.4 µm	F5* ≥ 40%	•				•	•				
				F6* ≥ 60%	•			•	•	•	•	•	•	
				F7 ≥ 80%				•	•	•	•	•	•	
				F8 ≥ 90%				•	•	•	•	•	•	
				F9 ≥ 95%					•	•		•	•	
	3 <sup>rd</sup> filter stage (final filtration)	Suspended dust	EN 1822 Total arrestance efficiency (integral value)	E10 ≥ 85%							•			
				E11 ≥ 95%							•			
				E12 ≥ 99.5%								•		
				H13 ≥ 99.95%										
				H14 ≥ 99.995%										
				U15 ≥ 99.9995%										
				U16 ≥ 99.99995%										
				U17 ≥ 99.999995%										

\* When the revised EN 779 filter standard comes into force, filter classes F5 and F6 will be renamed as M5 and M6.





# Air filtration



## Filter mats

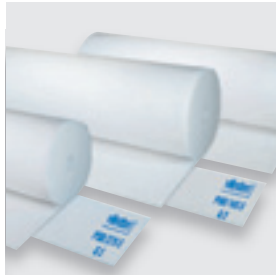
Filter mats, paint mist arrestors, roll filters



Viledon® filter mats are progressively structured, with the density of the fiber layers increasing towards the clean air side. This ensures an optimum in terms of defined filter performance and dust holding capacity, coupled with a low pressure drop. All filter mats are produced using an eco-friendly formula. They are moisture-resistant up to 100 % relative humidity and thermally stable up to at least 100 °C.

# Filter mats

## Coarse dust



Key data	
Filter medium	P15 and T3 / 290 S: Polyolefin fibers; Other: Polyester fibers
Recommended final pressure drop	250 Pa
Thermal stability	up to 100 °C
Moisture resistance	100% rel. hum.
Fire class	F1 acc. to DIN 53438
Packing	1 roll
Nominal media velocity	P15- and PSB series: G2: 2 m/s; G3: 1.5 m/s; G4: 1 m/s T3 / 290 S: G4: 0.25 m/s

### PSB series

#### Application

The PSB filter mats are used for intake air filtration in air-conditioning systems of all kinds, particularly for coarse-dust arresstance or as a prefilter stage.

The PSB range comprises of

- PSB / 145 S
- PSB / 275 S
- PSB / 290 S

#### Special features of the PSB series

- By virtue of their high dust holding capacity and their long lifetime, PSB filter mats are exceptionally cost-efficient.
- All types in this series prove their worth in application categories where stable arresstance performance is required when coping with a large dust loading and a high air flow rate.
- When used in exhaust air filtration, one of the advantages of the PSB series is that arresstance efficiency and dust holding capacity are ideally matched to each other.

### P15 series

#### Application

All types in this series can cope with heavy-duty operation and are suitable for filtration in air-conditioning systems of all kinds.

The P15 series features the familiar and continually design-enhanced Viledon® filter mats

- P15 / 150 S
- P15 / 350 S
- P15 / 500 S

#### Special features of the P15 series

- High arresstance efficiency right from the start over the entire operational lifetime, for maximized operational dependability.
- The material's high mechanical strength ensures good dimensional stability, even when subjected to large air volumes, over the entire operational lifetime.
- Thanks to the polyolefin fibers used, P15 filter mats are largely resistant to chemicals such as solvents, acids and lyes. They must be protected against continuous UV irradiation.
- The filter mats can be cleaned by careful washing, beating or spraying. Even after being washed, they remain dimensionally stable and retain their technical filtering characteristics. Our eco-friendly series of filters is much in demand among users prioritizing waste avoidance and filtration cost savings.

### T3 / 290 S

This ultra-efficient G4 filter mat is suitable for filtration in confined spaces, e. g. in control cabinets or electrical equipment. Thanks to the use of polyolefin fibers, it is highly resistant to chemicals, and hydrophobic.

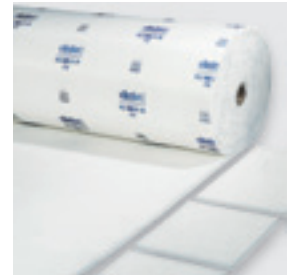
#### Delivery notes

All the filter mats we supply are airtight packed as roll goods in standard dimensions in plastic sheets. Other dimensions are available as roll goods or blanks. Special shapes like diecuts and bags, welded or sewn, are available on request.

Article number	Article	Filter class*	Dimensions (W x L) [mm / m]	Average arresstance efficiency [%]	Initial pressure drop [Pa]	Dust holding capacity [g / m <sup>2</sup> ]	Weight per unit area approx. [g / m <sup>2</sup> ]	Thickness approx. [mm]
7833647	PSB / 145 S 40 / 2000	G2	2000 / 40	70	22	600	120	10
8039227	P15 / 150 S 40 / 2000	G2	2000 / 40	75	30	600	100	8
53375688	PSB / 275 S 30 / 2000	G3	2000 / 30	83	22	700	180	15
8039427	P15 / 350 S 30 / 2000	G3	2000 / 30	84	30	600	200	14
8019407	PSB / 290 S 20 / 2000	G4	2000 / 20	91	22	750	300	20
8040248	P15 / 500 S 20 / 2000	G4	2000 / 20	94	30	600	350	20
8105365	T3 / 290 S 40 / 2000	G4	2000 / 40	96	14	250	200	8

\* In accordance with EN 779.

Key data	
Filter medium	PES
Recommended final pressure drop	450 Pa
Thermal stability	up to 100 °C; PA/ProfAir: Briefly up to 120 °C
Moisture resistance	up to 100% rel. hum.
Migration test class	S0
Fire class	F1 acc. to DIN 53438
Nominal media velocity	0.25 m/s



### A 3 / 300 S

#### Application

The A 3 / 300 S filter mat is designed primarily for high-quality final filtration in air-conditioning devices and systems, and as prefilters in multi stage intake air systems.

#### Special features

- The special smoothing of the clean air side increases the rigidity of the filter mat, rendering it sturdy and installation-friendly.
- By virtue of its very good arrestance performance, the A3 / 300 S filter mat can be used universally in all applications in which high-quality filtration in the fine-dust range is demanded in order to protect both, humans and machinery.

#### ProfAir

#### Application

ProfAir is a fine filter for final filtration of intake air in repair paint-spray booths. The filter mat ensures high arrestance performance for particles > 10 µm and thus provides a high degree of protection against paintwork damage.

### PA / 500-10, PA / 560 G-10 and PA-5 micron

#### Application

The PA / 500-10 and PA / 5560 G-10 filter mats, acknowledged as the standard in surface treatment technology, are used for final filtration of the intake air in paint shops and paint-spray booths. The principal application category for the PA-5 micron filter mat is final filtration of the intake air in paint-spray processes with particularly stringent requirements for air purity.

#### Special features of the PA series

- PA / 500-10 and PA / 560 G-10 assure practically 100% arrestance of particles >10 µm, which are able to cause visually perceptible surface blemishes. This offers their users maximized security against paintwork defects.
- With practically 100% arrestance of particles > 5 µm, the PA-5 micron filter mat meets even the most stringent of requirements in surface treatment technology and offers its users maximized dependability in the production process.
- The adherent surface of each individual fiber in the filter media can be relied upon to retain already-arrested particles over the entire operational lifetime.
- Thanks to the adherent surface of the fibers, the PA-5 micron is able to lastingly bond more than 3 kg / m<sup>2</sup> of pourable aloxite dust.
- PA / 560 G-10 and PA-5 micron additionally possess a reinforcing mesh fabric on the clean air side, which increases the filter mat's stability and reduces the risk of the clean air side being damaged during installation.
- All PA filter mats are resistant to solvent vapours and contain no silicone.

#### Delivery notes

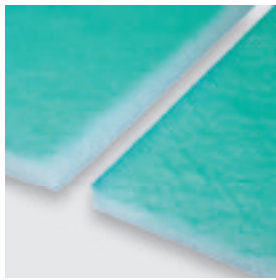
All the filter mats we supply are airtight packed as roll goods in standard dimensions in plastic sheets.  
Other dimensions available on rolls or as blanks.  
Special shapes like diecuts and bags, welded or sewn, are available on request.

Article number	Article	Filter class*	Dimensions (W x L) [mm / m]	Average arrestance efficiency [%]	Average efficiency [%]	Initial pressure drop [Pa]	Dust holding capacity [g / m <sup>2</sup> ]	Weight per unit area approx. [g / m <sup>2</sup> ]	Thickness approx. [mm]
8422288	A3 / 300 S 20 / 2000	F5	2000 / 20	97	46	20	330	300	20
53350549	ProfAir N 20 / 2000	F5	2000 / 20	96	45	30	250	545	22
7700072	PA / 500-10 18 / 1600	F5	1600 / 18	98	50	25	300	500	25
7802106	PA / 500-10 20 / 2000	F5	2000 / 20	98	50	25	300	500	25
53253198	PA / 560 G-10 20 / 1600	F5	1600 / 20	99	55	30	300	580	25
7802206	PA / 560 G-10 20 / 2000	F5	2000 / 20	99	55	30	300	580	25
8887232	PA / 560 G-10 22 / 1600	F5	1600 / 22	99	55	30	300	580	25
8238130	PA / 560 G-10 22 / 2000	F5	2000 / 22	99	55	30	300	580	25
53296957	PA-5 micron BK 20 / 2000	F6	2000 / 20	99	70	55	300	650	25

\* In accordance with EN 779.

# Filter mats

## Paint mist arrestors, glass-fiber



Key data	
Filter medium	Glass-fibers
Thermal stability	up to at least 80 °C
Face velocity	0.7- 1.75 m/s
Fire behaviour	non-flammable acc. to DIN 4102

### Application

High-quality filtration for paint-spray booth exhaust air. The types PS 100 and PSH 75, thanks to their higher arrestance efficiency, are particularly well suited for use in installations featuring heat recovery systems.

During the intended use as a paint mist arrestor, the safety regulations for avoiding self-ignition must be complied with.

### Special features PS 50/ PS 100

- Dimensionally elastic glass-fiber medium with a progressive structure, i. e. openly structured face side (green) and increasing fiber density towards the clean air side (white)
- High dimensional stability even when loaded thanks to low compressibility, which means the entire material depth is used for storing paint mist
- Non-flammable in conformity with DIN 4102 and thermally stable up to 140 °C

### Special features of the PSH 75

- Ideally suited for arresting water-based paints
- Thanks to its elastic, fine material structure, it prevents premature clogging of the surface
- Increased paint holding capacity for hydro-paints, with a long operational lifetime
- Enhanced material rigidity thanks to special finish

### Delivery notes

PS 50/PS 100 and PSH 75 are available on request in all commonly encountered roll lengths and widths, and as rectangular blanks.

Article	Dimensions (W×L) [mm/ m]	Nominal media velocity [m/s]	Initial pressure drop [Pa]	Paint mist arrestance efficiency	Paint holding capacity (at 80 Pa and 0.7 m/s) [g/m <sup>2</sup> ]	Weight per unit area approx. [g/m <sup>2</sup> ]	Thickness approx. [mm]
PS 50 20/1000	1000/20	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 20/1524	1524/20	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 20/2000	2000/20	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 25/1000	1000/25	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 25/1250	1250/25	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 25/1524	1524/25	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 25/2000	2000/25	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 25/500	0500/25	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 50/1000	1000/50	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 50/1250	1250/50	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 50/1524	1524/50	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 50/500	0500/50	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 91/1000	1000/91	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 91/1250	1250/91	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 91/1524	1524/91	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 91/2000	2000/91	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 91/500	0500/91	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 91/610	0610/91	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 91/660	0660/91	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 91/760	0760/91	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 91/860	0860/91	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 50 91/910	0910/91	0.75	7-40	93-97	3500-4700	220-240	50-65
PS 100 20/1000	1000/20	0.75	14-60	98-99	3900-5050	350	100
PS 100 20/1524	1524/20	0.75	14-60	98-99	3900-5050	350	100
PS 100 20/2000	2000/20	0.75	14-60	98-99	3900-5050	350	100
PSH 75 20/1000	1000/20	0.75	10-50	98,5	>4000	300	75

Subject to technical changes.

# Filter mats

## Roll filters | Coarse dust

Key data	
Initial pressure drop	50 Pa at 2.5 m/s
Dust holding capacity	400 g/m <sup>2</sup>
Gravimetric efficiency	80% (EN 779)
Weight	250 g/m <sup>2</sup>



### Application

The R/260 filter mat is used for filtration in roll filter equipment.

### The medium and its features

The medium used is a high-performance nonwoven produced in-house and made of polyester fibers with thermal fiber bonding, i. e. without any bonding agents. The filter medium is progressively structured, featuring fiber layers with different fiber diameters, arranged one after the other in such a way that the density of the fiber layers increases towards the clean air side. This ensures an optimum in terms of defined filter performance and dust holding capacity. Result: longer operational lifetime of the filter.

### Fire behaviour

Viledon® filter media meet the stringent requirements of fire class F1 in conformity with DIN 53438, and are thus self-extinguishing.

### Delivery notes

Available on a cardboard core or a metal spool.

The roll goods R/260 (40 running meters) are manufactured in three different widths:

2200 mm, 1900 mm and 1600 mm.

Article number	Article	Filter class*	Thickness [mm]
53329914	LH_R 260/838	G3	8 mm
53329915	LH_R 260/1143	G3	8 mm
53329916	LH_R 260/1448	G3	8 mm
53329917	LH_R 260/1753	G3	8 mm
53329918	LH_R 260/2058	G3	8 mm
53329934	LH_R 260/810	G3	8 mm
53329936	LH_R 260/1110	G3	8 mm
53329938	LH_R 260/1410	G3	8 mm
53329940	LH_R 260/1710	G3	8 mm
53355829	LH_R 260/2010 D-spool	G3	8 mm
53361322	LH_R 260/1250	G3	8 mm

Subject to technical changes.

\* In accordance with EN 779.





## Filter cells

MP 45



Viledon® filter cells give excellent service in prefiltration jobs for intake, exhaust and recirculated air systems. They extend the operational lifetimes of the downstream fine filters.

# Filter cells

## MP 45 | Coarse dust



Key data	
Thermal stability	up to 70 °C
Moisture resistance	100% rel. hum.

### Principal application category

Filter cells are used for prefiltration in ventilation and air-conditioning units, and in intake air systems and lines, so as to extend the operational lifetimes of the downstream fine filters.

Almost all commercially available filter cells and filter mats can be replaced in the removable frame by the filter cells MP 45 (frame material cardboard) and MP 45 K (frame material plastic).

The MP 45 KTC filter cells can be used as prefilters for the Viledon® MaxiPleat filters, simply by clipping them on thus enabling another filter stage to be inserted without any structural modifications.

### Characteristics and pluses of the MP 45 KTC

- Four coupling holes are provided in the frame corners of the clean air side. This means the prefilter can be simply clipped onto an already-installed MaxiPleat basic filter fitted with black connecting pins. The connecting pins anchored in the basic filter can no longer be detached. The MP 45 KTC prefilter, however, can easily be removed again and replaced. Even while the intake air system is still operating, the prefilter can be quickly and safely replaced.
- Velcro fastenings to the main filter increase the retention forces during operation. Additional metal brackets are available on request, which secure the filter in place when it is installed overhead.
- The entire filter element contains no metal, and is therefore non-corroding and fully incinerable.

### Delivery notes

Customized dimensions and regionally divergent versions are available on request.

Article	Filter class*	Dimensions (W×H×D) [mm]	Average arrestance efficiency [%]	Face velocity [m/s]	Nominal volume flow [m³/h]	Initial pressure drop [Pa]	Recommended final pressure drop [Pa]	Filtering area [m²]	Frame
MP 45 0595x0595x48	G3	595×595×48	88	3.3	4250	95	200	1.1	cardboard
MP 45 K 0595x0595x48	G3	595×595×48	88	3.3	4250	95	200	1.1	plastic
MP 45 0595x0595x48	G4	595×595×48	90	2.7	3400	75	200	1.1	cardboard
MP 45 K 0595x0595x48	G4	595×595×48	90	2.7	3400	75	200	1.1	plastic
MP 45 KTC 0555x0555x048 LKB	G4	555×555×92	91	3.1	3400	50	250	2.0	nonwoven

\* In accordance with EN 779.

## Pocket filters

Compact, WinAir



Viledon® pocket filters are made from non-breaking synthetic-organic fibers and microfibers. The pockets are welded and foamed into the front frame in a leakproof configuration so as to provide maximized security against dust breakthrough. Their high cost-efficiency is rooted in low average pressure drops and optimized aerodynamics coupled with full utilization of the filtering area available.

# Pocket filters

## Compact | Coarse dust



Key data	
Filter medium	Polyester fibers
Recommended final pressure drop	250 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Polyurethan
Fire class	F1 acc. to DIN 53438

### Special features of all Compact pocket filters

- Progressively structured high-performance nonwovens made from non-breaking synthetic-organic fibers.
- High arrestance, low pressure drop, long operational lifetime, high cost-efficiency.
- Free of glass-fibers, non-corroding, moisture-resistant up to 100% rel. hum., self-extinguishing according to DIN 53438 (fire class F1) and microbiologically inactive. They meet all the criteria laid down in VDI Guideline 6022 "Hygiene Requirements for HVAC Systems".
- High functional dependability thanks to the leak proof welded configuration of the filter pockets, foam-sealed into a PUR front frame with aerodynamically optimized welded-in spacers and a dimensionally stable construction of the filter element as a whole.

### Application

- Compact pocket filters of filter classes G3-G4 are used in intake, exhaust and recirculated air filtration for air-conditioning systems of all kinds, e.g. in air-conditioning for production facilities and factory halls.
- As prefilters for fine and ultra-fine filters in industrial processes (metalworking, chemicals, pharmaceuticals, food and beverages, optics, electronics, etc.), in ventilation and air-conditioning systems, in paint shops/booths and in turbo-machinery.

### Special features

- Stable arrestance performance even with high coarse-dust loadings and high air flow rate. They achieve medium clean air quality coupled with particularly cost-efficient operating behaviour and low energy costs.
- High functional dependability even when subjected to extreme humidity and moisture.
- G 35 SL and F 40 achieve energy efficiency class EE1, thus ensuring reduced energy costs and downsized CO<sub>2</sub> emissions.
- By reason of their shorter pockets, the G 35 S and the F 45 S provide a space-saving solution for systems in which the G 35 SL and F 40 long-pocket filters cannot be used due to space constraints.

### Delivery notes

Customized dimensions are available on request.

Article number	Article	Filter class*	EE class	Dimensions (W x H x D) [mm]	Number of pockets	Average arrestance efficiency [%]	Nominal volume flow [m <sup>3</sup> /h]	Initial pressure drop [Pa]	Filtering area [m <sup>2</sup> ]	Dust holding capacity (ASHRAE/450 Pa) [g]	Weight [kg]	Packing unit [units/carton]
7515413	G 35 S 1/1	G3	2	592x592x330	5	86	3400	20	2.0	1180	1.2	4
7521289	G 35 S 5/6	G3	2	492x592x330	4	86	2700	20	1.6	950	1.0	2
7521389	G 35 S 1/2	G3	2	289x592x330	3	86	2000	20	1.2	700	0.8	2
7579317	G 35 SL 1/1	G3	1	592x592x650	5	87	4250	20	4.0	2300	1.7	2
7599437	G 35 SL 5/6	G3	1	492x592x650	4	87	3400	20	3.2	1850	1.5	2
7580138	G 35 SL 1/2	G3	1	289x592x650	3	87	2500	20	2.4	1350	1.2	2
7580238	G 35 SL 1/4	G3	1	289x289x650	4	87	1500	20	1.5	800	0.7	2
7526134	F 45 S 1/1	G4	2	592x592x330	5	95	3400	40	2.0	590	1.2	4
7528456	F 45 S 5/6	G4	2	492x592x330	4	95	2700	40	1.6	470	1.0	2
7529267	F 45 S 1/2	G4	2	289x592x330	3	95	2000	40	1.2	350	0.8	2
8256138	F 40 1/1	G4	1	592x592x650	5	95	4250	30	4.0	1425	1.7	2
8500259	F 40 5/6	G4	1	492x592x650	4	95	3400	30	3.2	1150	1.5	2
8498114	F 40 1/2	G4	1	289x592x650	3	95	2500	30	2.4	850	1.2	2
8500359	F 40 1/4	G4	1	289x289x650	4	95	1500	30	1.5	500	0.7	2

\* In accordance with EN 779.

# Pocket filters

## Compact | Fine dust

Key data	
Filter medium	PES (F50, T60), polyolefin (others)
Recommended final pressure drop	450 Pa
Bursting pressure	> 3000 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Polyurethan
Fire class	F1 acc. to DIN 53438



### Special features of all Compact pocket filters

High-performing, extremely cost-effective and energy efficient: Viledon® Compact pocket filters offer dependable operating characteristics even during temporary overload operation, plus freedom from maintenance over the entire operational lifetime. They constitute an optimum combination of stable arresstance performance for fine dusts, high dust holding capacity, low pressure drop and long operational lifetime.

- Single- or multi-layered progressively structured high-performance nonwovens made from non-breaking synthetic-organic fibers
- High arresstance, low pressure drop, long operational lifetime, high cost-efficiency
- Free of glass-fibers, non-corroding, moisture-resistant up to 100 % relative humidity, self-extinguishing according to DIN 53438 (fire class F1) and microbiologically inactive. They meet all criteria laid down in VDI Guideline 6022 "Hygiene Requirements for HVAC Systems".
- High functional dependability thanks to filter pockets welded in a leakproof configuration foamed onto a PUR front frame, with welded-in aerodynamic spacers and a dimensionally stable construction of the entire filter element.

### F 50 und T 60

#### Application

F 50 and T 60 are used for filtering intake, exhaust and recirculated air in air-conditioning systems with stringent requirements for sturdiness and cost-efficiency.

- In industrial processes (chemicals, pharmaceuticals, food and beverages, optics, electronics, etc.)
- In intake and exhaust air filtration for paint shops
- In intake air filtration for gas turbines and turbocompressors onshore and offshore (especially T 60)
- For intake and exhaust air filtration in sophisticated air-conditioning technology (hospitals, laboratories, libraries, museums, airports), plus production facilities and factory halls (especially F 50)

#### Special features

- T 60 and F 50 pocket filters are indestructible in continuous operation and achieve superlative performance in terms of high clean air quality.
- Both pocket filter series achieve energy efficiency class EE1 and thus ensure reduced energy costs and downsized CO<sub>2</sub> emissions.
- In the intake air systems of gas turbines, T 60 filters can be relied upon to retain aggressive, abrasive particles, to minimize blade fouling and erosion, thus enhancing the efficiency and availability of turbomachinery. They give excellent service even under extreme weather conditions, and in intake air systems on offshore installations, not least when subjected to increased volume flows.

### MF 70

#### Application

- MF 70 pocket filters are used for intake, exhaust and recirculated air filtration in air-conditioning systems of all kinds, particularly in indoor climate control (office buildings, trade fair halls, shopping centers).
- In industrial processes (chemicals, pharmaceuticals, food and beverages, optics, electronics, etc.)

#### Special features

MF 70 retains a large proportion even of critical fine particles while maintaining a low pressure drop.

### T 90, MF 90 and MF 95

#### Application

T 90, MF 90 and MF 95 filters are used for intake, exhaust and recirculated air filtration in air-conditioning systems with special requirements for arresstance performance, e. g.:

- In sophisticated air-conditioning technology (hospitals, laboratories, libraries, museums, airports, etc.)
- In industrial processes (chemicals, pharmaceuticals, food and beverages, optics, electronics, etc.)
- In intake air filtration for gas turbines and turbocompressors onshore and offshore (especially T 90)
- As prefilters for EPA / HEPA / ULPA filters (MF 90 and MF 95)
- As downstream "police filters" in dust removal systems

#### Special features

- T 90, MF 90 and MF 95 pocket filters featuring Nano jetSpin technology provide a sustainedly high level of mechanical filtering performance under all duty conditions. The advantage for the user: maximized operational reliability.
- The filters meet the toughest of requirements in terms of fine filtration and create very high clean air quality, thus making a crucial contribution to cost-efficient operation of sensitive lines and processes.
- T 90 pocket filters achieve energy efficiency class EE1, thus ensuring reduced energy costs and downsized CO<sub>2</sub> emissions.
- In intake air filtration for gas turbines, T 90 filters can be relied upon to arrest aggressive, abrasive particles, to minimize blade fouling and erosion, and thus to upgrade the efficiency and availability of turbomachinery.

# Pocket filters

## Compact | Fine dust



Key data	
Filter medium	PES (F50, T60), polyolefin (others)
Recommended final pressure drop	450 Pa
Bursting pressure	>3000 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Polyurethan
Fire class	F1 acc. to DIN 53438

### Delivery notes

Customized dimensions are available on request.

Article number	Article	Filter class*	EE class	Dimensions (W x H x D) [mm]	Number of pockets	Average arrestance efficiency [%]	Average efficiency [%]	Nominal volume flow [m³/h]
7581349	F 50 1/1	F5	1	592x592x650	5	97	51	4250
7581449	F 50 5/6	F5	1	492x592x650	4	97	51	3400
7582150	F 50 1/2	F5	1	289x592x650	3	97	51	2500
7582250	F 50 1/4	F5	1	289x289x650	4	97	51	1525
53362189	F 50-8 1/1	F5	-	592x592x650	8	94	-	3400
7532400	F8 1/1	F5	-	592x592x510	8	97	50	4250
8032250	F8 1/4	F5	-	289x289x510	4	97	50	1000
8473449	T 60 1/1	F6	1	592x592x650	8	99	63	4250
8474150	T 60 5/6	F6	1	492x592x650	4	99	63	2175
8474250	T 60 1/2	F6	1	289x592x650	3	99	63	1600
8474350	T 60 1/4	F6	1	289x289x650	4	99	63	975
8934261	MF 70 1/1	F6	2	592x592x650	8	>99	75	4250
8738181	MF 70 5/6	F6	2	492x592x650	6	>99	75	3175
8738281	MF 70 1/2	F6	2	289x592x650	4	>99	75	2125
8738381	MF 70 1/4	F6	2	289x289x650	4	>99	75	975
53449490	T 90 PRE	F7	2	592x592x650	12	>99	85	4250
53444184	T 90 1/1	F7	1	592x592x650	12	>99	89	4250
53444180	T 90 5/6	F7	1	492x592x650	6	>99	89	2200
53444179	T 90 1/2	F7	1	289x592x650	4	>99	89	1450
53444178	MF 90 1/1	F7	2	592x592x650	8	>99	88	4250
53444175	MF 90 5/6	F7	2	492x592x650	6	>99	88	3175
53444172	MF 90 1/2	F7	2	289x592x650	4	>99	88	2125
53444170	MF 90 1/4	F7	2	289x289x650	4	>99	88	975
53444168	MF 95 1/1	F8	2	592x592x650	12	>99	95	4250
53444167	MF 95 5/6	F8	2	492x592x650	6	>99	95	2200
53444166	MF 95 1/2	F8	2	289x592x650	4	>99	95	1450
53444165	MF 95 1/4	F8	2	289x289x650	4	>99	95	675

Subject to technical changes.

\* In accordance with EN 779.

# Pocket filters

## Compact | Fine dust

Key data	
Filter medium	PES (F50, T60), polyolefin (others)
Recommended final pressure drop	450 Pa
Bursting pressure	>3000 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Polyurethan
Fire class	F1 acc. to DIN 53438



Initial pressure drop [Pa]	Dust holding capacity (AC Fine / 450 Pa) [g]	Dust holding capacity (AC Fine / 800 Pa) [g]	Filtering area [m <sup>2</sup> ]	Weight [kg]	Packing unit [units / carton]
50	3650	-	4.0	2.0	2
50	2900	-	3.2	1.6	2
50	2150	-	2.4	1.2	2
50	1300	-	1.4	0.7	2
28	-	-	6.2	2.3	3 / 6
45	-	-	4.7	1.2	2
45	-	-	1.1	0.6	2
65	-	5000	6.2	3.0	2
65	-	2550	3.2	1.5	2
65	-	1900	2.4	1.1	2
65	-	1150	1.5	0.6	2
65	1800	-	6.2	2.7	3 / 5
65	1350	-	4.7	2.0	4
65	900	-	3.1	1.2	6
65	400	-	1.5	0.6	12 / 6
80	-	-	9.0	3.0	2
115	-	3000	9.0	3.0	2
115	-	1600	4.7	1.6	4
115	-	1100	3.1	1.1	6
140	-	2000	6.2	2.5	6
140	-	1500	4.7	1.6	4
140	-	1000	3.1	1.2	6
140	-	460	1.5	0.6	6 / 12
190	-	2200	9.0	3.4	2 / 5
190	-	1150	4.7	1.8	4
190	-	800	3.1	1.2	6
190	-	350	1.5	0.6	6 / 12

Subject to technical changes.

# Pocket filters

## WinAir | Coarse dust



Key data	
Filter medium	Polyester fibers
Recommended final pressure drop	250 Pa
Thermal stability	80 °C
Moisture resistance	100 % rel. hum.
Frame	Polyurethan
Fire class	F1

### Application

The WinAir 35 and WinAir 45 coarse filters provide stable arresstance of coarse dusts, and are particularly suitable as prefilters.

### Special features

- Very good filtration characteristics thanks to progressively structured filter media made of synthetic-organic fibers
- Filter pockets foamed into the PU front frame, and welded in a leakproof configuration, but in comparison to the Compact without spacers
- The microbiologically inactive filters offer no breeding grounds for the growth of micro-organisms
- Free of glass-fibers, non-corroding, moisture-resistant up to 100 % relative humidity, self-extinguishing according to DIN 53438 (fire class F1)
- Simple, secure installation, suitable for all commonly used mounting frames

### Delivery notes

Customized dimensions are available on request.

Article number	Article	Filter class*	Dimensions (W x H x D) [mm]	Number of pockets	Average arresstance efficiency [%]	Nominal volume flow [m <sup>3</sup> /h]	Initial pressure drop [Pa]	Filtering area [m <sup>2</sup> ]	Weight [kg]	Packing unit [units/ carton]
53393071	WinAir 35 1 / 1 330 mm	G3	592 x 592 x 330	5	86	3400	28	2.0	1.2	2
53393073	WinAir 35 5 / 6 330 mm	G3	492 x 592 x 330	4	86	2700	28	1.6	1.0	2
53393072	WinAir 35 1 / 2 330 mm	G3	289 x 592 x 330	3	86	2050	28	1.2	0.8	2
53393159	WinAir 35 1 / 4 330 mm	G3	289 x 289 x 330	4	86	1200	28	0.7	0.7	2
53390774	WinAir 45 1 / 1 330 mm	G4	592 x 592 x 330	5	90	3400	30	2.0	1.2	2
53390780	WinAir 45 5 / 6 330 mm	G4	492 x 592 x 330	4	90	2700	30	1.6	1.0	2
53390777	WinAir 45 1 / 2 330 mm	G4	289 x 592 x 330	3	90	2050	30	1.2	0.8	2
53393160	WinAir 45 1 / 4 330 mm	G4	289 x 289 x 330	4	90	1200	30	0.7	0.7	2
53390775	WinAir 45 1 / 1 510 mm	G4	592 x 592 x 510	5	91	3400	27	3.1	1.2	8
53390781	WinAir 45 5 / 6 510 mm	G4	492 x 592 x 510	4	91	2700	27	2.5	1.2	10
53390778	WinAir 45 1 / 2 510 mm	G4	289 x 592 x 510	3	91	2050	27	1.9	0.8	10
53393161	WinAir 45 1 / 4 510 mm	G4	289 x 289 x 510	4	91	1200	27	1.1	0.7	2
53390776	WinAir 45 1 / 1 625 mm	G4	592 x 592 x 625	5	92	3400	24	3.8	1.2	8
53390782	WinAir 45 5 / 6 625 mm	G4	492 x 592 x 625	4	92	2700	24	3.0	1.2	4
53390779	WinAir 45 1 / 2 625 mm	G4	289 x 592 x 625	3	92	2050	24	2.3	0.8	6
53393162	WinAir 45 1 / 4 650 mm	G4	289 x 289 x 650	4	92	1250	24	1.4	0.7	2

\* In accordance with EN 779.

Subject to technical changes.



Key data	
Filter medium	Polyester (WinAir 50), polyolefin (others)
Recommended final pressure drop	450 Pa
Thermal stability	70 °C, brief peaks up to 80 °C
Moisture resistance	100% rel. hum.
Frame	Polyurethan
Fire class	F1 acc. to DIN 53438



### Application

The WinAir fine filters create good room air quality based on very good arrestance coupled with a low pressure drop.

### Special features

- Very good filtration characteristics thanks to progressively structured filter media made of synthetic-organic fibers and microfibers
- Filter pockets foamed into the PU front frame, and welded in a leakproof configuration, but in comparison to the Compact without spacers
- The microbiologically inactive filters offer no breeding grounds for the growth of micro-organisms
- Free of glass-fibers, non-corroding, moisture-resistant up to 100 % relative humidity, self-extinguishing according to DIN 53438 (fire class F1)
- Simple, secure installation, suitable for all commonly used mounting frames

### Delivery notes

Customized dimensions are available on request.

WinAir 50 and WinAir 90 are also available in the subsizes 1/2 and 5/6 for transverse installation.

Article number	Article	Filter class*	Dimensions (W x H x D) [mm]	Number of pockets	Average arrestance efficiency [%]	Average efficiency [%]	Nominal volume flow [m <sup>3</sup> /h]	Initial pressure drop [Pa]	Filtering area [m <sup>2</sup> ]	Weight [kg]	Packing unit [units/carton]
53390783	WinAir 50 1/1 330 mm	F5	592x592x330	5	95	50	2500	40	2.0	1.0	2
53390795	WinAir 50 5/6 330 mm	F5	492x592x330	4	95	50	2000	40	1.6	1.0	2
53390787	WinAir 50 1/2 330 mm	F5	289x592x330	3	95	50	1500	40	1.2	0.8	2
53393163	WinAir 50 1/4 330 mm	F5	289x289x330	4	95	50	900	40	0.7	0.6	2
53390784	WinAir 50 1/1 510 mm	F5	592x592x510	5	96	40	3400	51	3.1	1.2	6
53390796	WinAir 50 5/6 510 mm	F5	492x592x510	4	96	40	2700	51	2.5	1.3	10
53390788	WinAir 50 1/2 510 mm	F5	289x592x510	3	96	40	2000	51	1.9	0.9	10
53393169	WinAir 50 1/4 510 mm	F5	289x289x510	4	96	40	1200	51	1.1	0.6	2
53390785	WinAir 50 1/1 625 mm	F5	592x592x625	5	97	44	3400	47	3.8	1.3	6
53390797	WinAir 50 5/6 625 mm	F5	492x592x625	4	97	44	2700	47	3.1	1.5	6
53390794	WinAir 50 1/2 625 mm	F5	289x592x625	3	97	44	2000	47	2.3	1.0	10
53393170	WinAir 50 1/4 650 mm	F5	289x289x650	4	97	44	1250	47	1.4	0.7	2
53390798	WinAir 75 1/1 510 mm	F6	592x592x510	8	>99	72	3400	93	4.9	2.5	6
53390803	WinAir 75 5/6 510 mm	F6	492x592x510	6	>99	72	2550	93	3.7	1.3	4
53390801	WinAir 75 1/2 510 mm	F6	289x592x510	4	>99	72	1700	93	2.5	0.9	6
53393171	WinAir 75 1/4 510 mm	F6	289x289x510	4	>99	72	800	93	1.2	0.5	12

Subject to technical changes.

\* In accordance with EN 779.

# Pocket filters

## WinAir | Fine dust



Key data	
Filter medium	Polyester (WinAir 50), polyolefin (others)
Recommended final pressure drop	450 Pa
Thermal stability	70 °C, brief peaks up to 80 °C
Moisture resistance	100 % rel. hum.
Frame	Polyurethan
Fire class	F1 acc. to DIN 53438

**Delivery notes**

Customized dimensions are available on request.

WinAir 50 and WinAir 90 are also available in the sub sizes 1/2 and 5/6 for transverse installation.

Article number	Article	Filter class*	Dimensions (W x H x D) [mm]	Number of pockets	Average arrestance efficiency [%]
53390799	WinAir 75 1/1 625 mm	F6	592x592x625	8	>99
53390804	WinAir 75 5/6 625 mm	F6	492x592x625	6	>99
53390802	WinAir 75 1/2 625 mm	F6	289x592x625	4	>99
53393172	WinAir 75 1/4 650 mm	F6	289x289x650	4	>99
53390805	WinAir 90 1/1 510 mm	F7	592x592x510	8	>99
53390810	WinAir 90 5/6 510 mm	F7	492x592x510	6	>99
53390808	WinAir 90 1/2 510 mm	F7	289x592x510	4	>99
53393173	WinAir 90 1/4 510 mm	F7	289x289x510	4	>99
53390806	WinAir 90 1/1 625 mm	F7	592x592x625	8	>99
53390811	WinAir 90 5/6 625 mm	F7	492x592x625	6	>99
53390809	WinAir 90 1/2 625 mm	F7	289x592x625	4	>99
53393174	WinAir 90 1/4 650 mm	F7	289x289x650	4	>99
53390812	WinAir 95 1/1 510 mm	F8	592x592x510	8	>99
53390817	WinAir 95 5/6 510 mm	F8	492x592x510	6	>99
53390815	WinAir 95 1/2 510 mm	F8	289x592x510	4	>99
53393175	WinAir 95 1/4 510 mm	F8	289x289x510	4	>99
53390813	WinAir 95 1/1 625 mm	F8	592x592x625	8	>99
53390818	WinAir 95 5/6 625 mm	F8	492x592x625	6	>99
53390816	WinAir 95 1/2 625 mm	F8	289x592x625	4	>99
53393176	WinAir 95 1/4 650 mm	F8	289x289x650	4	>99
53408578	WinAir 98 1/1 510 mm	F9	592x592x510	8	>99
53408577	WinAir 98 5/6 510 mm	F9	492x592x510	6	>99
53408576	WinAir 98 1/2 510 mm	F9	289x592x510	4	>99
53408575	WinAir 98 1/4 510 mm	F9	289x289x510	4	>99
53408590	WinAir 98 1/1 625 mm	F9	592x592x625	8	>99
53408589	WinAir 98 5/6 625 mm	F9	492x592x625	6	>99
53408588	WinAir 98 1/2 625 mm	F9	289x592x625	4	>99
53408585	WinAir 98 1/4 650 mm	F9	289x289x650	4	>99

Subject to technical changes.

\* In accordance with EN 779.

# Pocket filters

## WinAir | Fine dust

Key data	
Filter medium	Polyester (WinAir 50), polyolefin (others)
Recommended final pressure drop	450 Pa
Thermal stability	70 °C, brief peaks up to 80 °C
Moisture resistance	100% rel. hum.
Frame	Polyurethan
Fire class	F1 acc. to DIN 53438



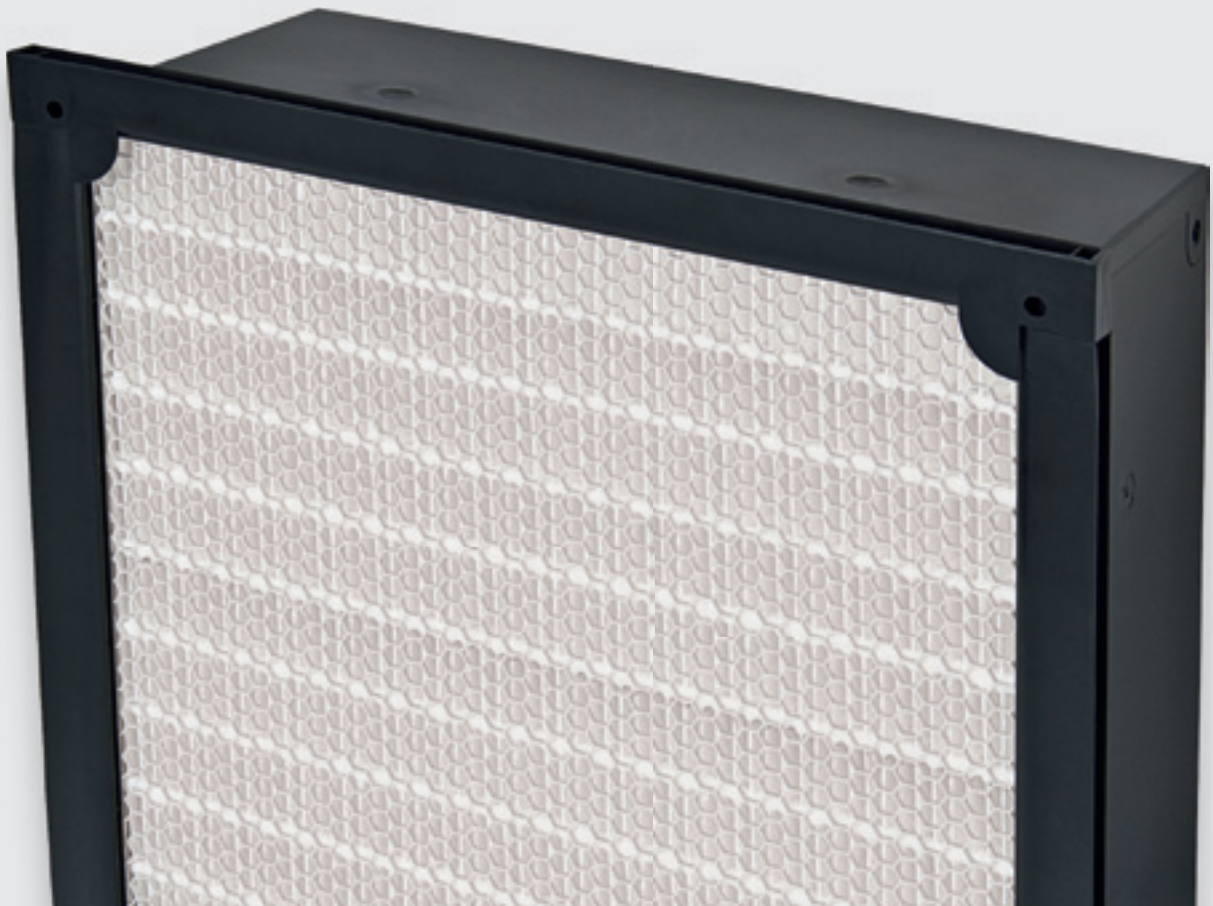
	Average efficiency [%]	Nominal volume flow [m³ / h]	Initial pressure drop [Pa]	Filtering area [m²]	Weight [kg]	Packing unit [units / carton]
	77	3400	76	6.0	2.7	8
	77	2550	76	4.5	1.6	4
	77	1700	76	3.0	1.4	6
	77	800	76	1.4	0.5	12
	85	3400	117	4.9	2.5	6
	85	2550	117	3.7	1.3	4
	85	1700	117	2.5	0.9	6
	85	800	117	1.2	0.5	12
	88	3400	101	6.0	2.7	8
	88	2550	101	4.5	1.5	4
	88	1700	101	3.0	1.0	6
	88	800	101	1.4	0.5	12
	91	3400	153	4.9	2.5	6
	91	2550	153	3.7	1.4	4
	91	1700	153	2.5	1.0	6
	91	800	153	1.2	0.5	12
	93	3400	135	6.0	2.7	8
	93	2550	135	4.5	1.6	4
	93	1700	135	3.0	1.1	6
	93	800	135	1.4	0.5	12
	96	3400	216	4.9	2.5	6
	96	2550	216	3.7	1.5	-
	96	1700	216	2.5	1.0	-
	96	800	216	1.2	0.5	-
	97	3400	185	6.0	2.7	8
	97	2550	185	4.5	1.7	-
	97	1700	185	3.0	1.2	-
	97	800	185	1.4	0.5	-

Subject to technical changes.



## Cassette filters

MaxiPleat, NanoPleat, MVP, MVPGT



In the category of cassette filters, Freudenberg Filtration Technologies offers a broad choice of products. All models are characterized by high performance capabilities: Viledon® cassette filters excel in terms of optimum media velocity with low pressure drop even at high volume flows. Plus a large dust holding capacity and exceptionally high stability of the entire filter construction for operational dependability in actual use.

# Cassette filters

## MaxiPleat | Fine dust



Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	650 Pa
Bursting pressure	>6000 Pa
Thermal stability	up to 80 °C
Moisture resistance	100% rel. hum.
Frame	Halogen-free plastic with 25 mm front frame (N), also available with 20.5 mm thick front frame (U) or without (D)
Seal	Without (ZO), on request foamed-on PU seal (N1)
Protection grids	On both sides, halogen-free plastic

### Application

Viledon® MaxiPleat cassette filters offer maximized operational dependability and cost-efficiency for intake, exhaust and recirculated air filtration in air-conditioning systems with stringent requirements for clean air quality, particularly in the case of critical local conditions, high volume flows, restricted space available, and when process dependability does not admit of any compromises, e.g.

- In intake air filtration of turbomachinery
- In industrial processes (chemicals, pharmaceuticals, food and beverages, optics, electronics, surface treatment technology, etc.)
- In sophisticated air-conditioning technology (laboratories, museums, airports, office buildings, etc.)
- As "police filters" in dust removal systems

### Special features

- The optimum V-shaped pleat geometry of the filter medium, as created by the thermal embossing process, enables the entire filtering area to be utilized, with uniform dust loading, and a homogeneous media velocity with a low average pressure drop.

- The high dust holding capacity of the MaxiPleat filters, in conjunction with a low pressure drop and superlative constructional stability, ensures cost-efficient and dependable operation over a very long operational lifetime.
- MaxiPleat cassette filters achieve energy efficiency class EE1 (MX 95 and MX 98) and EE2 (MX 85), thus ensuring reduced energy costs and downsized CO<sub>2</sub> emissions.
- Casting the dimensionally stable pleat package in the torsion-resistant plastic frame assures exceptional sturdiness plus high security against dust breakthrough. Gripping lugs facilitate installation and removal, and the protection grid on both sides minimizes the risk of damage to the filter medium.
- With the MaxiPleat modular filter system, MaxiPleat filters of different filter classes and construction depths can be positively combined simply by clipping them on, thus enabling another filter stage to be inserted without any structural modifications.
- MaxiPleat filters meet in full the requirements laid down in VDI 6022.

### Delivery notes

MaxiPleat cassette filters are also available in filter classes E10, E11 and E12 (formerly H10, H11 and H12) and in 140 mm construction depth, with and without a front frame and seal. An optional water barrier reduces the passage of intake water to the clean air side. Customized dimensions are available on request.

Article number	Article	Filter class *	EE class	Dimensions (W x L x D) [mm]	Average efficiency [%]	Nominal volume flow [m <sup>3</sup> / h]	Initial pressure drop [Pa]	Dust holding capacity (AC Fine/ 800 Pa) [g]	Filtering area [m <sup>2</sup> ]	Weight [kg]	Packing unit [units / carton]
53360086	MX75-R-0592x0287x292x25-Z08N-A84	F6	-	592x287x292	75	2000	135	960	7.5	4.0	2
53360087	MX75-R-0592x0490x292x25-Z08N-A84	F6	-	592x492x292	75	3500	135	1850	14.5	6.0	1
53360088	MX75-R-0592x0579x292x25-N18N-A84	F6	-	592x579x292	75	4150	135	2250	17.5	7.0	1
53392076	MX75-R-0592x0592x292x25-Z08D-A84	F6	-	592x592x292	75	4250	105	2600	21.0	7.0	1
53415630	MX75-M-0592x0592x292x25-Z08N-A84	F6	-	592x592x292	75	4250	135	2300	18.0	7.0	1
53360039	MX85-R-0592x0287x292x25-Z08N-B84	F7	2	592x287x292	86	2000	140	790	7.5	4.0	2
53360040	MX85-R-0592x0490x292x25-Z08N-B84	F7	2	592x492x292	86	3500	140	1530	14.5	6.0	1
53360043	MX85-R-0592x0579x292x25-N18N-B84	F7	2	592x579x292	86	4150	140	1860	17.5	7.0	1
53375079	MX85-R-0592x0592x292x25-Z08D-B84	F7	2	592x592x292	86	4250	110	2200	21.0	7.0	1
53415632	MX85-M-0592x0592x292x25-Z08N-B84	F7	2	592x592x292	86	4250	140	1900	18.0	7.0	1
53360024	MX95-R-0592x0287x292x25-Z08N-C84	F8	1	592x287x292	92	2000	150	710	7.5	4.0	2
53360025	MX95-R-0592x0490x292x25-Z08N-C84	F8	1	592x492x292	92	3500	150	1370	14.5	6.0	1
53397444	MX95-R-0592x0579x292x25-N18U-C84	F8	1	592x579x292	92	4150	150	1660	17.5	7.0	1
53370948	MX95-R-0592x0592x292x25-Z08D-C84	F8	1	592x592x292	92	4250	120	1900	21.0	7.0	1
53415637	MX95-M-0592x0592x292x25-Z08N-C84	F8	1	592x592x292	92	4250	150	1700	18.0	7.0	1
53360019	MX98-R-0592x0287x292x25-Z08N-D84	F9	1	592x287x292	96	2000	175	625	7.5	4.0	2
53360020	MX98-R-0592x0490x292x25-Z08N-D84	F9	1	592x492x292	96	3500	175	1200	14.5	6.0	1
53360021	MX98-R-0592x0579x292x25-N18N-D84	F9	1	592x579x292	96	4150	175	1535	17.5	7.0	1
53372259	MX98-R-0592x0592x292x25-Z08D-D84	F9	1	592x592x292	96	4250	135	1700	21.0	7.0	1
53415639	MX98-M-0592x0592x292x25-Z08N-D84	F9	1	592x592x292	96	4250	175	1500	18.0	7.0	1

\* In accordance with EN 779.

Subject to technical changes.

Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Bursting pressure	> 6000 Pa
Thermal stability	up to 80 °C
Moisture resistance	100% rel. hum.
Frame	Halogen-free plastic with 25 mm front frame (N), also available with 20.5 mm thick front frame (U) or without (D)
Seal	Without (Z0), on request foamed-on PU seal (N1)
Protection grids	On both sides, halogen-free plastic



### Application

Viledon® MaxiPleat cassette filters offer maximized operational dependability and cost-efficiency for intake, exhaust and recirculated air filtration in air-conditioning systems with stringent requirements for clean air quality, particularly in the case of critical local conditions, high volume flows, restricted space available, and when process dependability does not admit of any compromises, e.g.

- In intake air filtration of turbomachinery
- In industrial processes (chemicals, pharmaceuticals, food and beverages, optics, electronics, surface treatment technology, etc.)
- In sophisticated air-conditioning technology (laboratories, museums, airports, office buildings, etc.)
- As "police filters" in dust removal systems

### Special features

- The optimum V-shaped pleat geometry of the filter medium, as created by the thermal embossing process, enables the entire filtering area to be utilized, with uniform dust loading over the filtering area and a homogeneous media velocity with a low average pressure drop.
- The high dust holding capacity of the MaxiPleat filters, in conjunction with a low pressure drop and superlative constructional stability, ensures cost-efficient and dependable operation over a very long operational lifetime.
- Casting the dimensionally stable pleat package in the torsion-resistant plastic frame assures exceptional sturdiness plus high security against dust breakthrough. Gripping lugs facilitate installation and removal, and the protection grids on both sides minimize the risk of damage to the filter medium.
- With the MaxiPleat modular filter system, MaxiPleat filters of different filter classes and construction depths can be positively combined simply by clipping them on, thus enabling another filter stage to be inserted without any structural modifications.
- MaxiPleat filters meet in full the requirements laid down in VDI 6022.

### Delivery notes

MaxiPleat cassette filters are also available in filter classes F6-F9 and in 140 mm construction depth, with and without a front frame and seal. An optional water barrier reduces the passage of intake water to the clean air side.

Article number	Article	Filter class*	Dimensions (W x L x D) [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³/h]	Initial pressure drop [Pa]	Dust holding capacity [AC Fine/800 Pa] [g]	Face velocity [m/s]	Filtering area [m²]	Packing unit [units/carton]
53438221	MXH10-M-0592x0592x292x25-Z08N-E84	E10	592 x 592 x 292	≥85	4250	235	1000	3.2	18.0	1
53360015	MX100-R-0592x0287x292x25-Z08N-F84	E11	592 x 287 x 292	≥95	1500	195	600	2.3	7.5	2
53360016	MX100-R-0592x0490x292x25-Z08N-F84	E11	592 x 490 x 292	≥95	2700	195	1150	2.4	14.5	1
53360017	MX100-R-0592x0579x292x25-N18N-F84	E11	592 x 579 x 292	≥95	3350	195	1400	2.5	17.5	1
53372031	MX100-R-0592x0592x292x25-Z08D-F84	E11	592 x 592 x 292	≥95	3400	185	1550	2.5	21.0	1
53415622	MX100-M-0592x0592x292x25-Z08N-F84	E11	592 x 592 x 292	≥95	3400	195	1450	2.5	18.0	1
53359975	MX120-R-0592x0287x292x25-Z08N-G60	E11	592 x 287 x 292	≥99.9	1500	320	475	2.3	11.0	2
53359976	MX120-R-0592x0490x292x25-Z08N-G60	E12	592 x 490 x 292	≥99.9	2700	320	825	2.4	19.0	1
53359977	MX120-R-0592x0579x292x25-N18N-G60	E12	592 x 579 x 292	≥99.9	3300	320	950	2.5	22.0	1
53415627	MX120-M-0592x0592x292x25-Z08N-G60	E12	592 x 592 x 292	≥99.9	3400	320	1000	2.5	23.0	1

Subject to technical changes.

\* In accordance with EN 1822.

# Cassette filters

## MaxiPleat | Modular filter system | Fine dust + EPA



Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	650 Pa
Bursting pressure	>6000 Pa
Thermal stability	up to 80 °C
Moisture resistance	100 % rel. hum.
Frame	Halogen-free plastic with 25 mm front frame (N), also available with 20.5 mm thick front frame (U) or without (D)
Seal	Without (Z0), on request glued-on / foamed-on PU seal (N5)
Protection grids	On both sides, halogen-free plastic

### Application

The Viledon® MaxiPleat modular filter system is used for intake, exhaust and recirculated air filtration in air-conditioning systems with stringent requirements for the clean air quality, particularly when the space available is restricted, e. g.

- In intake air filtration for turbomachinery
- In industrial processes
- In sophisticated air-conditioning technology

With the MaxiPleat modular filter system, MaxiPleat filters of different filter classes and construction depths can be positively combined simply by clipping them on, thus enabling another filter stage to be inserted without any structural modifications.

### Special features

- The optimum V-shaped pleat geometry of the filter medium, as created by the thermal embossing process, enables the entire filtering area to be utilized, with uniform dust loading over the filtering area and a homogeneous media velocity with a low pressure drop.
- The high dust holding capacity of the MaxiPleat filters, in conjunction with a low pressure drop and superlative constructional stability, ensures cost-efficient and dependable operation over a very long operational lifetime.

- To install the MaxiPleat modular filter system, the MaxiPleat basic filter fitted with the black connecting pins is inserted in the existing support system. The prefilter with the white connecting caps can now be simply clipped onto the installed basic filter. The connecting pins anchored in the basic filter can no longer be detached. The clipped-on prefilter can be removed again and replaced.
- Casting the dimensionally stable pleat package in the torsion-resistant plastic frame assures exceptional sturdiness plus high security against dust breakthrough. Gripping lugs facilitate installation and removal, and the protection grids on both sides minimize the risk of damage to the filter medium.
- MaxiPleat filters meet in full the requirements laid down in VDI 6022.

### Delivery notes

The MaxiPleat basic filters are supplied with connecting pins inserted (RB types).

The MaxiPleat modular prefilters (RC types) are available in 292 and 140 mm construction depths.

The standard version does not include a front frame, but is delivered with a clean air side seal and connecting caps inserted. An additional mounting/retaining bracket, which precludes the possibility of the prefilter becoming detached under any operating conditions, is included in the delivery package of the 292 mm types (for vertical installation). In the case of overhead installation, an additional bracket is required, which can be ordered separately. An optional water barrier reduces the passage of intake water to the clean air side.

Customized dimensions are available on request.

Article number	Article	Filter class*	Dimensions (W x L x D) [mm]	Average efficiency [%]	Initial arrestance efficiency [%]	Nominal volume flow [m³ / h]	Initial pressure drop [Pa]	Dust holding capacity [AC Fine / 800 Pa] [g]	Filtering area [m²]	Weight [kg]	Packing unit [units / carton]
53372039	MX75-RC-0554x0554x140x10-N58D-A45	F6	554x554x140	75	-	3400	135	> 1500	12.0	4.0	1
53378239	MX75-RC-0554x0554x292x25-N58D-A84	F6	554x554x292	75	-	3400	95	> 2300	18.0	7.0	1
53403631	MX85-RB-0592x0592x292x25-Z08N-B84	F7	592x592x292	86	-	3400	100	> 1900	18.0	7.0	1
53371192	MX85-RC-0554x0554x140x10-N58D-B45	F7	554x554x140	86	-	3400	140	> 1250	12.0	4.0	1
53375083	MX85-RC-0554x0554x292x25-N58D-B84	F7	554x554x292	86	-	3400	100	> 1900	18.0	7.0	1
53371193	MX95-RB-0592x0592x292x25-Z08N-C84	F8	592x592x292	92	-	3400	105	> 1700	18.0	7.0	1
53372040	MX95-RC-0554x0554x140x10-N58D-C45	F8	554x554x140	92	-	3400	150	> 1150	12.0	4.0	1
3379914	MX95-RC-0554x0554x292x25-N58D-C84	F8	554x554x292	92	-	3400	105	> 1700	18.0	7.0	1
53372041	MX98-RB-0592x0592x292x25-Z08N-D84	F9	592x592x292	96	-	3400	125	> 1500	18.0	7.0	1
53431249	MX98-RC-0554x0554x140x10-N58D-D45	F9	554x554x140	96	-	3400	175	> 1000	12.0	4.0	1
53372421	MX98-RC-0554x0554x292x25-N58D-D84	F9	554x554x292	96	-	3400	125	> 1500	18.0	7.0	1
53440228	MXH10-RB-0592x0592x292x25-Z08N-E84	E10	592x592x292	-	≥85	3400	175	1000	18.0	7.0	1
53381884	MX100-RB-0592x0592x292x25-Z08N-F84	E11	592x592x292	-	≥95	3400	195	1500	18.0	7.0	1
53372043	MX120-RB-0592x0592x292x25-Z08N-G60	E12	592x592x292	-	≥99.9	3400	320	1450	23.0	8.3	1

\* In accordance with EN 779 and EN 1822.

Subject to technical changes.



Key data	
Filter medium	Hybrid-synthetic nanofiber nonwoven
Recommended final pressure drop	450 Pa
Bursting pressure	5000 Pa
Thermal stability	up to 70 °C
Moisture resistance	100% rel. hum.
Frame	Top frame 25 mm, halogen-free plastic



### Application

The Viledon® NanoPleat filter, thanks to its innovative hybrid-synthetic nanofiber (HSN) technology, ensures superlative results in sophisticated air-conditioning technology. Wherever stringent requirements apply in terms of clean air quality, operational dependability, and cost-efficiency, this premium filter sets new standards.

### Special features

- **Extremely sturdy:** a significantly higher withstand capability than conventional glass-fiber-paper filters of this kind.
- **Simple handling:** thanks to the sturdy construction, installation is considerably easier.
- **Highly water-repellent:** the filter is moisture-resistant up to 100% relative humidity and extremely hydrophobic. Water droplets roll off the filter; the pressure drop shows only a marginal and temporary rise.
- **Microbiologically inactive, conforms to VDI Guideline 6022:** Viledon® NanoPleat meets all the relevant criteria in terms of hygiene requirements. It is thus ideal for use in sensitive applications, e.g. the food and beverage industries (particularly in humid environments entailed by the production process involved), pharmaceuticals, chemicals, and in operating theaters and intensive care units.
- **Cost savings:** consistently high arrestance with efficient, energy-economical operating characteristics and long lifetime.
- **Eco-friendliness:** the entire filter element is free of metals, halogens and glass-fibers, and is therefore fully incinerable, leaving almost no residues behind when it is burned. This means it is eco-friendly and easy to dispose of.

Article number	Article	Filter class*	EE class	Dimensions (W x L x D) [mm]	Nominal volume flow [m³/h]	Weight [kg]
53429114	MV 75 HSN 1 / 2 MP	F6	-	287 x 592 x 292	1500	3.3
53429115	MV 75 HSN 5 / 6 MP	F6	-	490 x 592 x 292	2700	4.8
53424217	MV 75 HSN 1 / 1 MP	F6	-	592 x 592 x 292	3400	5.8
53429116	MV 85 HSN 1 / 2 MP	F7	1	287 x 592 x 292	1500	3.3
53441273	MV 85 HSN 4 / 6 MP	F7	1	405 x 592 x 292	2100	4.6
53429117	MV 85 HSN 5 / 6 MP	F7	1	490 x 592 x 292	2700	4.8
53424218	MV 85 HSN 1 / 1 MP	F7	1	592 x 592 x 292	3400	5.8
53429118	MV 95 HSN 1 / 2 MP	F8	1	287 x 592 x 292	1500	3.3
53441279	MV 95 HSN 4 / 6 MP	F8	1	405 x 592 x 292	2100	4.6
53429124	MV 95 HSN 5 / 6 MP	F8	1	490 x 592 x 292	2700	4.8
53424229	MV 95 HSN 1 / 1 MP	F8	1	592 x 592 x 292	3400	5.8

Subject to technical changes.

\* In accordance with EN 779.

# Cassette filters

## MVP | Fine dust



Key data	
Recommended final pressure drop	450 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Top frame 25 mm, halogen-free plastic

### Application

Viledon® MVP cassette filters are used for intake, exhaust and recirculated air filtration in air-conditioning systems, such as

- Office buildings
- Factory/production halls
- Airports, libraries
- Museums
- Laboratories
- Hospitals
- Old people's and nursing homes, etc.

### Special features

- MVP cassette filters excel in terms of a high dust holding capacity and low pressure drop values.
- Casting the dimensionally stable pleat package in the plastic frame assures a high degree of security against dust breakthrough over the entire operational lifetime.

### Delivery notes

MVP cassette filters are available on request in filter classes E10 to E12, and with a glued-on seal on the clean air side. Also available with 6 instead of 8 panels.

Article number	Article	Filter class*	Dimensions (W x L x D) [mm]	Average efficiency [%]	Nominal volume flow [m³/h]	Initial pressure drop [Pa]	Filtering area [m²]
53412029	MVP75-P-0288x0593x292/V08x25-Z00N	F6	288 x 593 x 292	≥70	2000	100	8.5
53412623	MVP75-P-0402x0593x292/V08x25-Z00N	F6	402 x 593 x 292	≥70	2800	100	11.8
53412030	MVP75-P-0491x0593x292/V08x25-Z00N	F6	491 x 593 x 292	≥70	3500	100	14.5
53412032	MVP75-P-0593x0593x292/V08x25-Z00N	F6	593 x 593 x 292	≥70	4250	100	18.0
53412033	MVP85-P-0288x0593x292/V08x25-Z00N	F7	288 x 593 x 292	≥85	2000	115	8.5
53412634	MVP85-P-0402x0593x292/V08x25-Z00N	F7	402 x 593 x 292	≥85	2800	115	11.8
53412034	MVP85-P-0491x0593x292/V08x25-Z00N	F7	491 x 593 x 292	≥85	3500	115	14.5
53412035	MVP85-P-0593x0593x292/V08x25-Z00N	F7	593 x 593 x 292	≥85	4250	115	18.0
53412036	MVP95-P-0288x0593x292/V08x25-Z00N	F8	288 x 593 x 292	≥90	2000	130	8.5
53412635	MVP95-P-0402x0593x292/V08x25-Z00N	F8	402 x 593 x 292	≥90	2800	130	11.8
53412037	MVP95-P-0491x0593x292/V08x25-Z00N	F8	491 x 593 x 292	≥90	3500	130	14.5
53412038	MVP95-P-0593x0593x292/V08x25-Z00N	F8	593 x 593 x 292	≥90	4250	130	18.0
53412044	MVP98-P-0288x0593x292/V08x25-Z00N	F9	288 x 593 x 292	≥95	2000	140	8.5
53412637	MVP98-P-0402x0593x292/V08x25-Z00N	F9	402 x 593 x 292	≥95	2800	140	11.8
53412045	MVP98-P-0491x0593x292/V08x25-Z00N	F9	491 x 593 x 292	≥95	3500	140	14.5
53412046	MVP98-P-0593x0593x292/V08x25-Z00N	F9	593 x 593 x 292	≥95	4250	140	18.0

\* In accordance with EN 779.

Subject to technical changes.

Key data	
Recommended final pressure drop	600 Pa
Bursting pressure	3700 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Halogen-free plastic
Seal	Flat seal, glued
Protection grids	Plastic, on the clean air side



### Application

Viledon® MVPGT cassette filters are used in intake air filtration for gas turbines and turbocompressors on the mainland. They are particularly well suited for locations with low dust concentrations, with volume flows of  $\leq 5,000 \text{ m}^3/\text{h}$  per filter unit and for systems with  $\leq 6,000$  operating hours/year.

### Advantages

- Low pressure drop values
- Filtering area in accordance with industrial standard
- High dust holding capacity
- Casting the dimensionally stable pleat package into the plastic frame assures a high degree of security against dust breakthrough and a high pressure surge withstand capability over the entire operational lifetime.

Article number	Article	Filter class *	Dimensions (W x L x D) [mm]	Average efficiency [%]	Nominal volume flow [m <sup>3</sup> /h]	Initial pressure drop [Pa]	Filtering area [m <sup>2</sup> ]
53416790	MVPGT85-P-0288x0593x420/V08x25-N19N	F7	288 x 593 x 420	85	2250	150	14.0
53416792	MVPGT85-P-0491x0593x420/V08x25-N19N	F7	491 x 593 x 420	85	4100	150	22.0
53413481	MVPGT85-P-0593x0593x420/V08x25-N19N	F7	593 x 593 x 420	85	5000	150	30.0
53413482	MVPGT95-P-0593x0593x420/V08x25-N19N	F8	593 x 593 x 420	95	5000	175	30.0
53413483	MVPGT98-P-0593x0593x420/V08x25-N19N	F9	593 x 593 x 420	98	3400	110	30.0

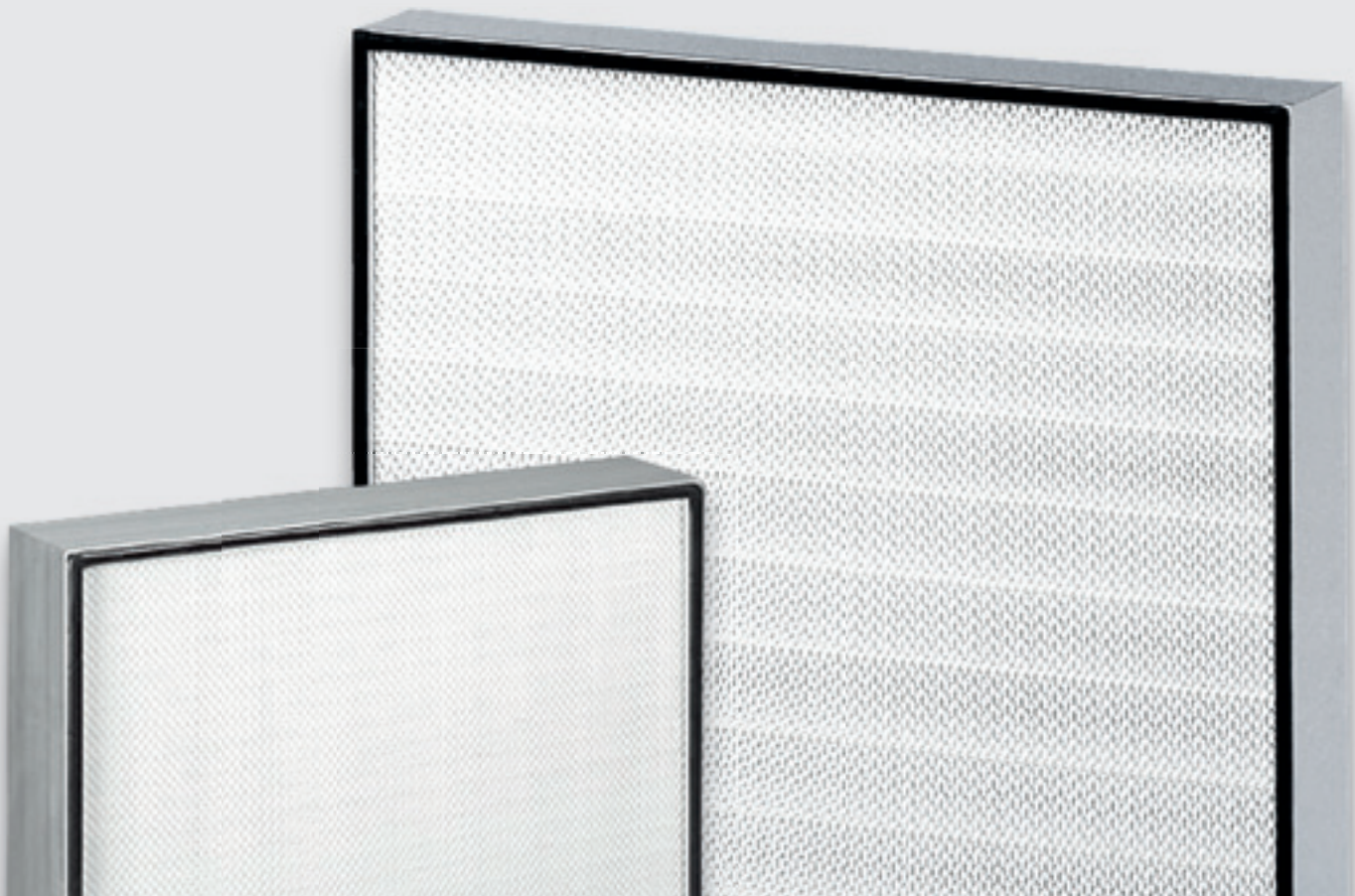
Subject to technical changes.

\* In accordance with EN 779.



## EPA / HEPA / ULPA filters

Aluminum frame, plastic frame, MDF frame, steel sheet frame,  
high volume flow, cartridge, plastic plenum hood, accessories



Whether EPA, HEPA, ULPA or high-volume HEPA / ULPA filters: all Viledon® models guarantee effective protection for sensitive products and processes, by dependably arresting critical particles from intake and recirculated air flows in accordance with EN 1822. Even when subjected to high volume flows, they ensure optimum media velocity coupled with low pressure drop.

# EPA / HEPA / ULPA filters

Aluminum frame | Construction depths 68 + 88 mm | HEPA



Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Extruded aluminum profile, anodized
Seal	Semicircular PU profile, endlessly foamed
Protection grids	On both sides, steel grid, powder-coated

## Application

Viledon® HEPA filters of filter classes H13–H14 are used in intake and recirculated air filtration for cleanrooms and in laminar flow boxes with ultra-stringent requirements for clean air quality and sterility, e.g.

- In hospitals/ medical institutes, pharmacies, sterile rooms, laboratories, research centers, etc.
- In highly sensitive industrial processes (pharmaceuticals, biotechnology, chemicals, optics, food and beverage processing, micro-electronics, etc.)
- In ceiling outlets and modules for flexible cleanroom systems

## Special features

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation plus a quasi-laminar outflow.

- Each filter element is tested using state-of-the-art scanning equipment for arrestance efficiency and leakproofing in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of extruded, anodized aluminum. The sturdy construction is moisture-resistant and provides a high degree of security against the growth of bacteria and fungi (thus permissible according to VDI 6022).
- Simple handling and installation thanks to high torsion-resistance plus endlessly and homogeneously foamed-on polyurethane seal.
- The filter elements feature protection grids on both sides made of powder-coated expanded metal.

## Delivery notes

Also available as ULPA filters.

Customized dimensions are available on request.

Article number	Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³ / h]	Initial pressure drop [Pa]
53417676	SF13-A-0305x0610x068x05-N13N	H13	305x305x68	50	≥99.95	600	250
53417677	SF13-A-0305x0762x068x05-N13N	H13	305x762x68	50	≥99.95	750	250
53417679	SF13-A-0457x0457x068x05-N13N	H13	457x457x68	50	≥99.95	670	250
53417681	SF13-A-0610x0610x068x05-N13N	H13	610x610x68	50	≥99.95	1200	250
53417683	SF13-A-0610x0762x068x05-N13N	H13	610x762x68	50	≥99.95	1500	250
53417686	SF13-A-0610x1220x068x05-N13N	H13	610x1220x68	50	≥99.95	2400	250
53417688	SF13-A-1220x1220x068x05-N13N	H13	1220x1220x68	50	≥99.95	4800	250
53411760	SF14-A-0305x0305x068x05-N13N	H14	305x305x68	50	≥99.995	120	120
53411849	SF14-A-0305x0305x088x07-N13N	H14	305x305x88	70	≥99.995	120	90
53411822	SF14-A-0610x0610x068x05-N13N	H14	610x610x68	50	≥99.995	600	120
53411851	SF14-A-0610x0610x088x07-N13N	H14	610x610x88	70	≥99.995	600	90
53411835	SF14-A-0610x1220x068x05-N13N	H14	610x1220x68	50	≥99.995	1200	120
53411853	SF14-A-0610x1220x088x07-N13N	H14	610x1220x88	70	≥99.995	1200	90
53411836	SF14-A-0610x1525x068x05-N13N	H14	610x1525x68	50	≥99.995	1500	120
53411854	SF14-A-0610x1525x088x07-N13N	H14	610x1525x88	70	≥99.995	1500	90
53411837	SF14-A-0610x1830x068x05-N13N	H14	610x1830x68	50	≥99.995	1800	120
53411855	SF14-A-0610x1830x088x07-N13N	H14	610x1830x88	70	≥99.995	1800	90
53411842	SF14-A-0762x1220x068x05-N13N	H14	762x1220x68	50	≥99.995	1500	120
53411858	SF14-A-0762x1220x088x07-N13N	H14	762x1220x88	70	≥99.995	1500	90
53411844	SF14-A-0762x1830x068x05-N13N	H14	762x1830x68	50	≥99.995	2250	120
53411846	SF14-A-0915x1220x068x05-N13N	H14	915x1220x68	50	≥99.995	1800	120
53427337	SF14-A-0915x1220x088x07-N13N	H14	915x1220x88	70	≥99.995	1800	90
53411848	SF14-A-0915x1830x068x05-N13N	H14	915x1830x68	50	≥99.995	2700	120

\* In accordance with EN 1822.

Subject to technical changes.

# EPA / HEPA / ULPA filters

## Aluminum frame | Construction depth 78 mm | HEPA

Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Extruded aluminum profile, anodized
Seal	Semicircular PU profile, endlessly foamed
Protection grids	On both sides, steel grid, powder-coated



### Application

Viledon® HEPA filters of filter class H13 are used in intake and recirculated air filtration for cleanrooms and in laminar flow boxes with ultra-stringent requirements for clean air quality and sterility, e.g.

- In hospitals / medical institutes, pharmacies, sterile rooms, laboratories, research centers, etc.
- In highly sensitive industrial processes (pharmaceuticals, biotechnology, chemicals, optics, food and beverage processing, micro-electronics, etc.)
- In ceiling outlets and modules for flexible cleanroom systems

### Special features

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation, plus a quasi-laminar outflow.
- Each filter element is tested using state-of-the-art scanning equipment for arrestance efficiency and leakproofing in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of extruded, anodized aluminum. The sturdy construction is moisture-resistant and provides a high degree of security against the growth of bacteria and fungi (thus permissible according to VDI 6022).
- Simple handling and installation thanks to high torsion-resistance plus endlessly and homogeneously foamed-on polyurethane seal.
- The filter elements feature protection grids on both sides made of powder-coated expanded metal.

### Delivery notes

Customized dimensions are available on request.

Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³ / h]	Initial pressure drop [Pa]
SF13-A-0305x0305x078x05-N13N	H13	305 x 305 x 78	50	≥99.95	250	250
SF13-A-0305x0457x078x05-N13N	H13	305 x 457 x 78	50	≥99.95	400	250
SF13-A-0305x0610x078x05-N13N	H13	305 x 610 x 78	50	≥99.95	600	250
SF13-A-0305x0762x078x05-N13N	H13	305 x 762 x 78	50	≥99.95	750	250
SF13-A-0305x0915x078x05-N13N	H13	305 x 915 x 78	50	≥99.95	900	250
SF13-A-0305x1120x078x05-N13N	H13	305 x 1120 x 78	50	≥99.95	1200	250
SF13-A-0457x0457x078x05-N13N	H13	457 x 457 x 78	50	≥99.95	670	250
SF13-A-0457x0610x078x05-N13N	H13	457 x 610 x 78	50	≥99.95	900	250
SF13-A-0545x0545x078x05-N13N	H13	545 x 545 x 78	50	≥99.95	1000	250
SF13-A-0545x1155x078x05-N13N	H13	545 x 1155 x 78	50	≥99.95	2000	250
SF13-A-0610x0610x078x05-N13N	H13	610 x 610 x 78	50	≥99.95	1200	250
SF13-A-0610x0762x078x05-N13N	H13	610 x 762 x 78	50	≥99.95	1500	250
SF13-A-0610x0915x078x05-N13N	H13	610 x 915 x 78	50	≥99.95	1800	250
SF13-A-0610x1220x078x05-N13N	H13	610 x 1220 x 78	50	≥99.95	2400	250
SF13-A-0610x1525x078x05-N13N	H13	610 x 1525 x 78	50	≥99.95	3000	250
SF13-A-0610x1830x078x05-N13N	H13	610 x 1830 x 78	50	≥99.95	3600	250
SF13-A-0762x0762x078x05-N13N	H13	762 x 762 x 78	50	≥99.95	1900	250
SF13-A-0762x0915x078x05-N13N	H13	762 x 915 x 78	50	≥99.95	2250	250
SF13-A-0762x1220x078x05-N13N	H13	762 x 1220 x 78	50	≥99.95	3000	250
SF13-A-0762x1525x078x05-N13N	H13	762 x 1525 x 78	50	≥99.95	3750	250
SF13-A-0762x1830x078x05-N13N	H13	762 x 1830 x 78	50	≥99.95	4500	250
SF13-A-0915x0915x078x05-N13N	H13	915 x 915 x 78	50	≥99.95	2700	250
SF13-A-0915x1220x078x05-N13N	H13	915 x 1220 x 78	50	≥99.95	3600	250
SF13-A-0915x1525x078x05-N13N	H13	915 x 1525 x 78	50	≥99.95	4500	250
SF13-A-0915x1830x078x05-N13N	H13	915 x 1830 x 78	50	≥99.95	5400	250

Subject to technical changes.

\* In accordance with EN 1822.

# EPA / HEPA / ULPA filter

Aluminum frame | Construction depth 78 mm | HEPA



Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Extruded aluminum profile, anodized
Seal	Semicircular PU profile, endlessly foamed
Protection grids	On both sides, steel grid, powder-coated

## Application

Viledon® HEPA filters of filter class H14 are used in intake and recirculated air filtration for cleanrooms and in laminar flow boxes with ultra-stringent requirements for clean air quality and sterility, e.g.

- In hospitals / medical institutes, pharmacies, sterile rooms, laboratories, research centers, etc.
- In highly sensitive industrial processes (pharmaceuticals, biotechnology, chemicals, optics, food and beverage processing, micro-electronics, etc.)
- In ceiling outlets and modules for flexible cleanroom systems

## Special features

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation plus a quasi-laminar outflow.

- Each filter element is tested using state-of-the-art scanning equipment for arrestance efficiency and leakproofing in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of extruded, anodized aluminum. The sturdy construction is moisture-resistant and provides a high degree of security against the growth of bacteria and fungi (thus permissible according to VDI 6022).
- Simple handling and installation thanks to high torsion-resistance plus endlessly and homogeneously foamed-on polyurethane seal.
- The filter elements feature protection grids on both sides made of powder-coated expanded metal.

## Delivery notes

Customized dimensions are available on request.

Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³ / h]	Initial pressure drop [Pa]
SF14-A-0305x0305x078x05-N13N	H14	305 x 305 x 78	50	≥99.995	120	120
SF14-A-0305x0457x078x05-N13N	H14	305 x 457 x 78	50	≥99.995	200	120
SF14-A-0305x0610x078x05-N13N	H14	305 x 610 x 78	50	≥99.995	280	120
SF14-A-0305x0762x078x05-N13N	H14	305 x 762 x 78	50	≥99.995	375	120
SF14-A-0305x0915x078x05-N13N	H14	305 x 915 x 78	50	≥99.995	450	120
SF14-A-0305x1120x078x05-N13N	H14	305 x 1120 x 78	50	≥99.995	600	120
SF14-A-0457x0457x078x05-N13N	H14	457 x 457 x 78	50	≥99.995	335	120
SF14-A-0457x0610x078x05-N13N	H14	457 x 610 x 78	50	≥99.995	450	120
SF14-A-0545x0545x078x05-N13N	H14	545 x 545 x 78	50	≥99.995	500	120
SF14-A-0545x1155x078x05-N13N	H14	545 x 1155 x 78	50	≥99.995	1000	120
SF14-A-0610x0610x078x05-N13N	H14	610 x 610 x 78	50	≥99.995	600	120
SF14-A-0610x0762x078x05-N13N	H14	610 x 762 x 78	50	≥99.995	750	120
SF14-A-0610x0915x078x05-N13N	H14	610 x 915 x 78	50	≥99.995	900	120
SF14-A-0610x1220x078x05-N13N	H14	610 x 1220 x 78	50	≥99.995	1200	120
SF14-A-0610x1525x078x05-N13N	H14	610 x 1525 x 78	50	≥99.995	1500	120
SF14-A-0610x1830x078x05-N13N	H14	610 x 1830 x 78	50	≥99.995	1800	120
SF14-A-0762x0762x078x05-N13N	H14	762 x 762 x 78	50	≥99.995	950	120
SF14-A-0762x0915x078x05-N13N	H14	762 x 915 x 78	50	≥99.995	1125	120
SF14-A-0762x1220x078x05-N13N	H14	762 x 1220 x 78	50	≥99.995	1500	120
SF14-A-0762x1525x078x05-N13N	H14	762 x 1525 x 78	50	≥99.995	1875	120
SF14-A-0762x1830x078x05-N13N	H14	762 x 1830 x 78	50	≥99.995	2250	120
SF14-A-0915x0915x078x05-N13N	H14	915 x 915 x 78	50	≥99.995	1350	120
SF14-A-0915x1220x078x05-N13N	H14	915 x 1220 x 78	50	≥99.995	1800	120
SF14-A-0915x1525x078x05-N13N	H14	915 x 1525 x 78	50	≥99.995	2250	120
SF14-A-0915x1830x078x05-N13N	H14	915 x 1830 x 78	50	≥99.995	2700	120

\* In accordance with EN 1822.



# EPA / HEPA / ULPA filter

## Aluminum frame | Construction depth 150 mm | HEPA

Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Extruded aluminum profile, anodized
Seal	Semicircular PU profile, endlessly foamed
Protection grids	On both sides, steel grid, powder-coated



### Application

Viledon® HEPA filters of filter class H13 are used in intake and recirculated air filtration for cleanrooms and in laminar flow boxes with ultra-stringent requirements for clean air quality and sterility, e.g.

- In hospitals / medical institutes, pharmacies, sterile rooms, laboratories, research centers, etc.
- In highly sensitive industrial processes (pharmaceuticals, biotechnology, chemicals, optics, food and beverage processing, micro-electronics, etc.)
- In ceiling outlets and modules for flexible cleanroom systems

### Special features

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation plus a quasi-laminar outflow.
- Each filter element is tested using state-of-the-art scanning equipment for arrestance efficiency and leakproofing in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of extruded, anodized aluminum. The sturdy construction is moisture-resistant and provides a high degree of security against the growth of bacteria and fungi (thus permissible according to VDI 6022).
- Simple handling and installation thanks to high torsion-resistance plus endlessly and homogeneously foamed-on polyurethane seal
- The filter elements feature protection grids on both sides made of powder-coated expanded metal.

### Delivery notes

Customized dimensions are available on request.

Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³ / h]	Initial pressure drop [Pa]
SF13-A-0305x0305x150x05-N13N	H13	305x305x150	50	≥99.95	250	250
SF13-A-0305x0457x150x05-N13N	H13	305x457x150	50	≥99.95	400	250
SF13-A-0305x0610x150x05-N13N	H13	305x610x150	50	≥99.95	600	250
SF13-A-0305x0762x150x05-N13N	H13	305x762x150	50	≥99.95	750	250
SF13-A-0305x0915x150x05-N13N	H13	305x915x150	50	≥99.95	900	250
SF13-A-0457x0457x150x05-N13N	H13	457x457x150	50	≥99.95	670	250
SF13-A-0457x0610x150x05-N13N	H13	457x610x150	50	≥99.95	900	250
SF13-A-0610x0610x150x05-N13N	H13	610x610x150	50	≥99.95	1200	250
SF13-A-0610x0762x150x05-N13N	H13	610x762x150	50	≥99.95	1500	250
SF13-A-0610x0915x150x05-N13N	H13	610x915x150	50	≥99.95	1800	250
SF13-A-0610x1220x150x05-N13N	H13	610x1220x150	50	≥99.95	2400	250
SF13-A-0610x1525x150x05-N13N	H13	610x1525x150	50	≥99.95	3000	250
SF13-A-0610x1830x150x05-N13N	H13	610x1830x150	50	≥99.95	3600	250
SF13-A-0762x0762x150x05-N13N	H13	762x762x150	50	≥99.95	1900	250
SF13-A-0762x0915x150x05-N13N	H13	762x915x150	50	≥99.95	2250	250
SF13-A-0762x1220x150x05-N13N	H13	762x1220x150	50	≥99.95	3000	250
SF13-A-0762x1525x150x05-N13N	H13	762x1525x150	50	≥99.95	3750	250
SF13-A-0762x1830x150x05-N13N	H13	762x1830x150	50	≥99.95	4500	250
SF13-A-0915x0915x150x05-N13N	H13	915x915x150	50	≥99.95	2700	250
SF13-A-0915x1220x150x05-N13N	H13	915x1220x150	50	≥99.95	3650	250
SF13-A-0915x1525x150x05-N13N	H13	915x1525x150	50	≥99.95	4500	250
SF13-A-0915x1830x150x05-N13N	H13	915x1830x150	50	≥99.95	5400	250

Subject to technical changes.

\* In accordance with EN 1822.

# EPA / HEPA / ULPA filter

Aluminum frame | Construction depth 150 mm | HEPA



Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Extruded aluminum profile, anodized
Seal	Semicircular PU profile, endlessly foamed
Protection grids	On both sides, steel grid, powder-coated

## Application

Viledon® HEPA filters of filter class H14 are used in intake and recirculated air filtration for cleanrooms and in laminar flow boxes with ultra-stringent requirements for clean air quality and sterility, e.g.

- In hospitals / medical institutes, pharmacies, sterile rooms, laboratories, research centers, etc.
- In highly sensitive industrial processes (pharmaceuticals, biotechnology, chemicals, optics, food and beverage processing, micro-electronics, etc.)
- In ceiling outlets and modules for flexible cleanroom systems

## Special features

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation plus a quasi-laminar outflow.

- Each filter element is tested using state-of-the-art scanning equipment for arrestance efficiency and leakproofing in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of extruded, anodized aluminum. The sturdy construction is moisture-resistant and provides a high degree of security against the growth of bacteria and fungi (thus permissible according to VDI 6022).
- Simple handling and installation thanks to high torsion-resistance plus endlessly and homogeneously foamed-on polyurethane seal.
- The filter elements feature protection grids on both sides made of powder-coated expanded metal.

## Delivery notes

Customized dimensions are available on request.

Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³ / h]	Initial pressure drop [Pa]
SF14-A-0305x0305x150x05-N13N	H14	305x305x150	50	≥99.995	120	120
SF14-A-0305x0457x150x05-N13N	H14	305x457x150	50	≥99.995	200	120
SF14-A-0305x0610x150x05-N13N	H14	305x610x150	50	≥99.995	280	120
SF14-A-0305x0762x150x05-N13N	H14	305x762x150	50	≥99.995	375	120
SF14-A-0305x0915x150x05-N13N	H14	305x915x150	50	≥99.995	450	120
SF14-A-0457x0457x150x05-N13N	H14	457x457x150	50	≥99.995	335	120
SF14-A-0457x0610x150x05-N13N	H14	457x610x150	50	≥99.995	450	120
SF14-A-0610x0610x150x05-N13N	H14	610x610x150	50	≥99.995	600	120
SF14-A-0610x0762x150x05-N13N	H14	610x762x150	50	≥99.995	750	120
SF14-A-0610x0915x150x05-N13N	H14	610x915x150	50	≥99.995	900	120
SF14-A-0610x1220x150x05-N13N	H14	610x1220x150	50	≥99.995	1200	120
SF14-A-0610x1525x150x05-N13N	H14	610x1525x150	50	≥99.995	1500	120
SF14-A-0610x1830x150x05-N13N	H14	610x1830x150	50	≥99.995	1800	120
SF14-A-0762x0762x150x05-N13N	H14	762x762x150	50	≥99.995	950	120
SF14-A-0762x0915x150x05-N13N	H14	762x915x150	50	≥99.995	1125	120
SF14-A-0762x1220x150x05-N13N	H14	762x1220x150	50	≥99.995	1500	120
SF14-A-0762x1525x150x05-N13N	H14	762x1525x150	50	≥99.995	1875	120
SF14-A-0762x1830x150x05-N13N	H14	762x1830x150	50	≥99.995	2250	120
SF14-A-0915x0915x150x05-N13N	H14	915x915x150	50	≥99.995	350	120
SF14-A-0915x1220x150x05-N13N	H14	915x1220x150	50	≥99.995	1800	120
SF14-A-0915x1525x150x05-N13N	H14	915x1525x150	50	≥99.995	2250	120
SF14-A-0915x1830x150x05-N13N	H14	915x1830x150	50	≥99.995	2700	120

\* In accordance with EN 1822.

# EPA / HEPA / ULPA filter

Aluminum frame | Construction depth 80 mm | Silgel seal | HEPA

Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Extruded aluminum profile, anodized
Seal	Silgel
Protection grids	On both sides, steel grids, powder-coated; also available in a stainless steel version



## Application

Viledon® HEPA filters of filter class H14 are used in intake and recirculated air filtration for cleanrooms and in laminar flow boxes with ultra-stringent requirements for clean air quality and sterility, e.g.

- In hospitals / medical institutes, pharmacies, sterile rooms, laboratories, research centers, etc.
- In highly sensitive industrial processes (pharmaceuticals, biotechnology, chemicals, optics, food and beverage processing, micro-electronics, etc.)
- In ceiling outlets and modules for flexible cleanroom systems

## Special features

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation plus a quasi-laminar outflow.
- Each filter element is tested using state-of-the-art scanning equipment for arrestance efficiency and leakproofing in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of extruded, anodized aluminum. The sturdy construction is moisture-resistant and provides a high degree of security against the growth of bacteria and fungi (thus permissible according to VDI 6022).
- Simple handling and installation thanks to high torsion-resistance
- The filter elements feature protection grids on both sides made of powder-coated expanded metal.
- Silgel seal for mounting systems with a sword profile.

## Delivery notes

Customized dimensions are available on request.

Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³ / h]	Initial pressure drop [Pa]
SF14-A-0305x0305x080x05-F13N	H14	305x305x80	50	≥99.995	120	120
SF14-A-0305x0457x080x05-F13N	H14	305x457x80	50	≥99.995	200	120
SF14-A-0305x0610x080x05-F13N	H14	305x610x80	50	≥99.995	280	120
SF14-A-0305x0762x080x05-F13N	H14	305x762x80	50	≥99.995	375	120
SF14-A-0305x0915x080x05-F13N	H14	305x915x80	50	≥99.995	450	120
SF14-A-0457x0457x080x05-F13N	H14	457x457x80	50	≥99.995	335	120
SF14-A-0457x0610x080x05-F13N	H14	457x610x80	50	≥99.995	450	120
SF14-A-0610x0610x080x05-F13N	H14	610x610x80	50	≥99.995	600	120
SF14-A-0610x0762x080x05-F13N	H14	610x762x80	50	≥99.995	750	120
SF14-A-0610x0915x080x05-F13N	H14	610x915x80	50	≥99.995	900	120
SF14-A-0610x1220x080x05-F13N	H14	610x1220x80	50	≥99.995	1200	120
SF14-A-0610x1525x080x05-F13N	H14	610x1525x80	50	≥99.995	1500	120
SF14-A-0610x1830x080x05-F13N	H14	610x1830x80	50	≥99.995	1800	120
SF14-A-0762x0762x080x05-F13N	H14	762x762x80	50	≥99.995	950	120
SF14-A-0762x0915x080x05-F13N	H14	762x915x80	50	≥99.995	1125	120
SF14-A-0762x1220x080x05-F13N	H14	762x1220x80	50	≥99.995	1500	120
SF14-A-0762x1525x080x05-F13N	H14	762x1525x80	50	≥99.995	1875	120
SF14-A-0762x1830x080x05-F13N	H14	762x1830x80	50	≥99.995	2250	120
SF14-A-0915x0915x080x05-F13N	H14	915x915x80	50	≥99.995	1350	120
SF14-A-0915x1220x080x05-F13N	H14	915x1220x80	50	≥99.995	1800	120
SF14-A-0915x1525x080x05-F13N	H14	915x1525x80	50	≥99.995	2250	120
SF14-A-0915x1830x080x05-F13N	H14	915x1830x80	50	≥99.995	2700	120

Subject to technical changes.

\* In accordance with EN 1822.

# EPA / HEPA / ULPA filter

Aluminum frame | Construction depth 80 mm | Silgel seal | ULPA



Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Extruded aluminum profile, anodized
Seal	Silgel
Protection grids	On both sides, steel grids, powder-coated; also available in a stainless steel version

## Application

Viledon® ULPA filters of filter class U15 are used in intake and recirculated air filtration for cleanrooms and in laminar flow boxes with ultra-stringent requirements for clean air quality and sterility, e.g.

- In hospitals / medical institutes, pharmacies, sterile rooms, laboratories, research centers, etc.
- In highly sensitive industrial processes (pharmaceuticals, biotechnology, chemicals, optics, food and beverage processing, micro-electronics, etc.)
- In ceiling outlets and modules for flexible cleanroom systems

## Special features

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation plus a quasi-laminar outflow.

- Each filter element is tested using state-of-the-art scanning equipment for arrestance efficiency and leakproofing in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of extruded, anodized aluminum. The sturdy construction is moisture-resistant and provides a high degree of security against the growth of bacteria and fungi (thus permissible according to VDI 6022).
- Simple handling and installation thanks to high torsion-resistance.
- The filter elements feature protection grids on both sides made of powder-coated expanded metal.
- Silgel seal for mounting systems with a sword profile.

## Delivery notes

Customized dimensions are available on request.

Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³/h]	Initial pressure drop [Pa]
SF15-A-0305x0305x080x05-F13N	U15	305 x 305 x 80	50	≥99.9995	120	140
SF15-A-0305x0457x080x05-F13N	U15	305 x 457 x 80	50	≥99.9995	200	140
SF15-A-0305x0610x080x05-F13N	U15	305 x 610 x 80	50	≥99.9995	280	140
SF15-A-0305x0762x080x05-F13N	U15	305 x 762 x 80	50	≥99.9995	375	140
SF15-A-0305x0915x080x05-F13N	U15	305 x 915 x 80	50	≥99.9995	450	140
SF15-A-0457x0457x080x05-F13N	U15	457 x 457 x 80	50	≥99.9995	335	140
SF15-A-0457x0610x080x05-F13N	U15	457 x 610 x 80	50	≥99.9995	450	140
SF15-A-0610x0610x080x05-F13N	U15	610 x 610 x 80	50	≥99.9995	600	140
SF15-A-0610x0762x080x05-F13N	U15	610 x 762 x 80	50	≥99.9995	750	140
SF15-A-0610x0915x080x05-F13N	U15	610 x 915 x 80	50	≥99.9995	900	140
SF15-A-0610x1220x080x05-F13N	U15	610 x 1220 x 80	50	≥99.9995	1200	140
SF15-A-0610x1525x080x05-F13N	U15	610 x 1525 x 80	50	≥99.9995	1500	140
SF15-A-0610x1830x080x05-F13N	U15	610 x 1830 x 80	50	≥99.9995	1800	140
SF15-A-0762x0762x080x05-F13N	U15	762 x 762 x 80	50	≥99.9995	950	140
SF15-A-0762x0915x080x05-F13N	U15	762 x 915 x 80	50	≥99.9995	1125	140
SF15-A-0762x1220x080x05-F13N	U15	762 x 1220 x 80	50	≥99.9995	1500	140
SF15-A-0762x1525x080x05-F13N	U15	762 x 1525 x 80	50	≥99.9995	1875	140
SF15-A-0762x1830x080x05-F13N	U15	762 x 1830 x 80	50	≥99.9995	2250	140
SF15-A-0915x0915x080x05-F13N	U15	915 x 915 x 80	50	≥99.9995	1350	140
SF15-A-0915x1220x080x05-F13N	U15	915 x 1220 x 80	50	≥99.9995	1800	140
SF15-A-0915x1525x080x05-F13N	U15	915 x 1525 x 80	50	≥99.9995	2250	140
SF15-A-0915x1830x080x05-F13N	U15	915 x 1830 x 80	50	≥99.9995	2700	140

\* In accordance with EN 1822.

Subject to technical changes.

# EPA / HEPA / ULPA filter

## Aluminum frame | Construction depth 102 mm | Silgel seal | HEPA

Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Extruded aluminum profile, anodized
Seal	Silgel
Protection grids	On both sides, steel grids, powder-coated; also available in a stainless steel version



### Application

Viledon® HEPA filters of filter class H14 are used in intake and recirculated air filtration for cleanrooms and in laminar flow boxes with ultra-stringent requirements for clean air quality and sterility, e.g.

- In hospitals / medical institutes, pharmacies, sterile rooms, laboratories, research centers, etc.
- In highly sensitive industrial processes (pharmaceuticals, biotechnology, chemicals, optics, food and beverage processing, micro-electronics, etc.)
- In ceiling outlets and modules for flexible cleanroom systems

### Special features

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation plus a quasi-laminar outflow.
- Each filter element is tested using state-of-the-art scanning equipment for arrestance efficiency and leakproofing in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of extruded, anodized aluminum. The sturdy construction is moisture-resistant and provides a high degree of security against the growth of bacteria and fungi (thus permissible according to VDI 6022).
- Simple handling and installation thanks to high torsion-resistance.
- The filter elements feature protection grids on both sides made of powder-coated expanded metal.
- Silgel seal for mounting systems with a sword profile.

### Delivery notes

Customized dimensions are available on request.

Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³ / h]	Initial pressure drop [Pa]
SF14-A-0305x0305x102x07-F13N	H14	305 x 305 x 102	70	≥99.995	120	90
SF14-A-0305x0457x102x07-F13N	H14	305 x 457 x 102	70	≥99.995	200	90
SF14-A-0305x0610x102x07-F13N	H14	305 x 610 x 102	70	≥99.995	280	90
SF14-A-0305x0762x102x07-F13N	H14	305 x 762 x 102	70	≥99.995	375	90
SF14-A-0305x0915x102x07-F13N	H14	305 x 915 x 102	70	≥99.995	450	90
SF14-A-0305x1120x102x07-F13N	H14	305 x 1120 x 102	70	≥99.995	600	90
SF14-A-0457x0457x102x07-F13N	H14	457 x 457 x 102	70	≥99.995	335	90
SF14-A-0457x0610x102x07-F13N	H14	457 x 610 x 102	70	≥99.995	450	90
SF14-A-0545x0545x102x07-F13N	H14	545 x 545 x 102	70	≥99.995	500	90
SF14-A-0545x1155x102x07-F13N	H14	545 x 1155 x 102	70	≥99.995	1000	90
SF14-A-0610x0610x102x07-F13N	H14	610 x 610 x 102	70	≥99.995	600	90
SF14-A-0610x0762x102x07-F13N	H14	610 x 762 x 102	70	≥99.995	750	90
SF14-A-0610x0915x102x07-F13N	H14	610 x 915 x 102	70	≥99.995	900	90
SF14-A-0610x1220x102x07-F13N	H14	610 x 1220 x 102	70	≥99.995	1200	90
SF14-A-0610x1525x102x07-F13N	H14	610 x 1525 x 102	70	≥99.995	1500	90
SF14-A-0610x1830x102x07-F13N	H14	610 x 1830 x 102	70	≥99.995	1800	90
SF14-A-0762x0762x102x07-F13N	H14	762 x 762 x 102	70	≥99.995	940	90
SF14-A-0762x0915x102x07-F13N	H14	762 x 915 x 102	70	≥99.995	1125	90
SF14-A-0762x1220x102x07-F13N	H14	762 x 1220 x 102	70	≥99.995	1500	90
SF14-A-0762x1525x102x07-F13N	H14	762 x 1525 x 102	70	≥99.995	1875	90
SF14-A-0762x1830x102x07-F13N	H14	762 x 1830 x 102	70	≥99.995	2250	90
SF14-A-0915x0915x102x07-F13N	H14	915 x 915 x 102	70	≥99.995	1350	90
SF14-A-0915x1220x102x07-F13N	H14	915 x 1220 x 102	70	≥99.995	1800	90
SF14-A-0915x1525x102x07-F13N	H14	915 x 1525 x 102	70	≥99.995	2250	90
SF14-A-0915x1830x102x07-F13N	H14	915 x 1830 x 102	70	≥99.995	2700	90

Subject to technical changes.

\* In accordance with EN 1822.

# EPA / HEPA / ULPA filter

Aluminum frame | Construction depth 102 mm | Silgel seal | ULPA



Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100 % rel. hum.
Frame	Extruded aluminum profile, anodized
Seal	Silgel
Protection grids	On both sides, steel grids, powder-coated; also available in a stainless steel version

## Application

Viledon® ULPA filters of filter class U15 are used in intake and recirculated air filtration for cleanrooms and in laminar flow boxes with ultra-stringent requirements for clean air quality and sterility, e.g.

- In hospitals / medical institutes, pharmacies, sterile rooms, laboratories, research centers, etc.
- In highly sensitive industrial processes (pharmaceuticals, biotechnology, chemicals, optics, food and beverage processing, micro-electronics, etc.)
- In ceiling outlets and modules for flexible cleanroom systems

## Special features

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation plus a quasi-laminar outflow.

- Each filter element is tested using state-of-the-art scanning equipment for arrestance efficiency and leakproofing in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of extruded, anodized aluminum. The sturdy construction is moisture-resistant and provides a high degree of security against the growth of bacteria and fungi (thus permissible according to VDI 6022).
- Simple handling and installation thanks to high torsion-resistance
- The filter elements feature protection grids on both sides made of powder-coated expanded metal.
- Silgel seal for mounting systems with a sword profile.

## Delivery notes

Customized dimensions are available on request.

Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³ / h]	Initial pressure drop [Pa]
SF15-A-0305x0305x102x07-F13N	U15	305 x 305 x 102	70	≥99.9995	120	115
SF15-A-0305x0457x102x07-F13N	U15	305 x 457 x 102	70	≥99.9995	200	115
SF15-A-0305x0610x102x07-F13N	U15	305 x 610 x 102	70	≥99.9995	280	115
SF15-A-0305x0762x102x07-F13N	U15	305 x 762 x 102	70	≥99.9995	375	115
SF15-A-0305x0915x102x07-F13N	U15	305 x 915 x 102	70	≥99.9995	450	115
SF15-A-0305x1120x102x07-F13N	U15	305 x 1120 x 102	70	≥99.9995	600	115
SF15-A-0457x0457x102x07-F13N	U15	457 x 457 x 102	70	≥99.9995	335	115
SF15-A-0457x0610x102x07-F13N	U15	457 x 610 x 102	70	≥99.9995	450	115
SF15-A-0545x0545x102x07-F13N	U15	545 x 545 x 102	70	≥99.9995	500	115
SF15-A-0545x1155x102x07-F13N	U15	545 x 1155 x 102	70	≥99.9995	1000	115
SF15-A-0610x0610x102x07-F13N	U15	610 x 610 x 102	70	≥99.9995	600	115
SF15-A-0610x0915x102x07-F13N	U15	610 x 915 x 102	70	≥99.9995	900	115
SF15-A-0610x1220x102x07-F13N	U15	610 x 1220 x 102	70	≥99.9995	1200	115
SF15-A-0610x1525x102x07-F13N	U15	610 x 1525 x 102	70	≥99.9995	1500	115
SF15-A-0610x1830x102x07-F13N	U15	610 x 1830 x 102	70	≥99.9995	1800	115
SF15-A-0610x0762x102x07-F13N	U15	610 x 762 x 102	70	≥99.9995	750	115
SF15-A-0762x0762x102x07-F13N	U15	762 x 762 x 102	70	≥99.9995	940	115
SF15-A-0762x0915x102x07-F13N	U15	762 x 915 x 102	70	≥99.9995	1125	115
SF15-A-0762x1220x102x07-F13N	U15	762 x 1220 x 102	70	≥99.9995	1500	115
SF15-A-0762x1525x102x07-F13N	U15	762 x 1525 x 102	70	≥99.9995	1875	115
SF15-A-0762x1830x102x07-F13N	U15	762 x 1830 x 102	70	≥99.9995	2250	115
SF15-A-0915x0915x102x07-F13N	U15	915 x 915 x 102	70	≥99.9995	1350	115
SF15-A-0915x1220x102x07-F13N	U15	915 x 1220 x 102	70	≥99.9995	1800	115
SF15-A-0915x1525x102x07-F13N	U15	915 x 1525 x 102	70	≥99.9995	2250	115
SF15-A-0915x1830x102x07-F13N	U15	915 x 1830 x 102	70	≥99.9995	2700	115

\* In accordance with EN 1822.

Subject to technical changes.

Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Extruded aluminum profile, anodized
Protection grids	On both sides, steel grid, powder-coated

### Application

Viledon® HEPA filters of filter class H14 are used in intake and recirculated air filtration for cleanrooms and in laminar flow boxes with ultra-stringent requirements for clean air quality and sterility, e.g.

- In hospitals / medical institutes, pharmacies, sterile rooms, laboratories, research centers, etc.
- In highly sensitive industrial processes (pharmaceuticals, biotechnology, chemicals, optics, food and beverage processing, micro-electronics, etc.)
- In ceiling outlets and modules for flexible cleanroom systems

### Special features

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation plus a quasi-laminar outflow.
- Each filter element is tested using state-of-the-art scanning equipment for arrestance efficiency and leakproofing in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of extruded, anodized aluminum. The sturdy construction is moisture-resistant and provides a high degree of security against the growth of bacteria and fungi (thus permissible according to VDI 6022).
- Simple handling and installation thanks to high torsion-resistance.
- The filter elements feature protection grids on both sides made of powder-coated expanded metal.
- Filter with sword profile for mounting systems with a fluid gel channel.

### Delivery notes

Customized dimensions are available on request.

Article	Filter class *	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³ / h]	Initial pressure drop [Pa]
SF14-A-0305x0305x109x05-Z03N	H14	305 x 305 x 109	50	≥99.995	120	120
SF14-A-0305x0457x109x05-Z03N	H14	305 x 457 x 109	50	≥99.995	200	120
SF14-A-0305x0610x109x05-Z03N	H14	305 x 610 x 109	50	≥99.995	280	120
SF14-A-0305x0762x109x05-Z03N	H14	305 x 762 x 109	50	≥99.995	375	120
SF14-A-0305x0915x109x05-Z03N	H14	305 x 915 x 109	50	≥99.995	450	120
SF14-A-0305x1120x109x05-Z03N	H14	305 x 1120 x 109	50	≥99.995	600	120
SF14-A-0457x0457x109x05-Z03N	H14	457 x 457 x 109	50	≥99.995	335	120
SF14-A-0457x0610x109x05-Z03N	H14	457 x 610 x 109	50	≥99.995	450	120
SF14-A-0545x0545x109x05-Z03N	H14	545 x 545 x 109	50	≥99.995	500	120
SF14-A-0545x1155x109x05-Z03N	H14	545 x 1155 x 109	50	≥99.995	1000	120
SF14-A-0610x0610x109x05-Z03N	H14	610 x 610 x 109	50	≥99.995	600	120
SF14-A-0610x0762x109x05-Z03N	H14	610 x 762 x 109	50	≥99.995	750	120
SF14-A-0610x0915x109x05-Z03N	H14	610 x 915 x 109	50	≥99.995	900	120
SF14-A-0610x1220x109x05-Z03N	H14	610 x 1220 x 109	50	≥99.995	1200	120
SF14-A-0610x1525x109x05-Z03N	H14	610 x 1525 x 109	50	≥99.995	1500	120
SF14-A-0610x1830x109x05-Z03N	H14	610 x 1830 x 109	50	≥99.995	1800	120
SF14-A-0762x0762x109x05-Z03N	H14	762 x 762 x 109	50	≥99.995	950	120
SF14-A-0762x0915x109x05-Z03N	H14	762 x 915 x 109	50	≥99.995	1125	120
SF14-A-0762x1220x109x05-Z03N	H14	762 x 1220 x 109	50	≥99.995	1500	120
SF14-A-0762x1525x109x05-Z03N	H14	762 x 1525 x 109	50	≥99.995	1875	120
SF14-A-0762x1830x109x05-Z03N	H14	762 x 1830 x 109	50	≥99.995	2250	120
SF14-A-0915x0915x109x05-Z03N	H14	915 x 915 x 109	50	≥99.995	1350	120
SF14-A-0915x1220x109x05-Z03N	H14	915 x 1220 x 109	50	≥99.995	1800	120
SF14-A-0915x1525x109x05-Z03N	H14	915 x 1525 x 109	50	≥99.995	2250	120
SF14-A-0915x1830x109x05-Z03N	H14	915 x 1830 x 109	50	≥99.995	2700	120

Subject to technical changes.

\* In accordance with EN 1822.

# EPA / HEPA / ULPA filter

Aluminum frame | Construction depth 109 mm | Sword profile | ULPA

Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Extruded aluminum profile, anodized
Protection grids	On both sides, steel grid, powder-coated

## Application

Viledon® ULPA filters of filter class U15 are used in intake and recirculated air filtration for cleanrooms and in laminar flow boxes with ultra-stringent requirements for clean air quality and sterility, e.g.

- In hospitals / medical institutes, pharmacies, sterile rooms, laboratories, research centers, etc.
- In highly sensitive industrial processes (pharmaceuticals, biotechnology, chemicals, optics, food and beverage processing, micro-electronics, etc.)
- In ceiling outlets and modules for flexible cleanroom systems

## Special features

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation plus a quasi-laminar outflow.

- Each filter element is tested using state-of-the-art scanning equipment for arrestance efficiency and leakproofing in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of extruded, anodized aluminum. The sturdy construction is moisture-resistant and provides a high degree of security against the growth of bacteria and fungi (thus permissible according to VDI 6022).
- Simple handling and installation thanks to high torsion-resistance.
- The filter elements feature protection grids on both sides made of powder-coated expanded metal.
- Filter with sword profile for mounting systems with a fluid gel channel.

## Delivery notes

Customized dimensions are available on request.

Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³ / h]	Initial pressure drop [Pa]
SF15-A-0305x0305x109x05-Z03N	U15	305 x 305 x 109	50	≥99.9995	120	140
SF15-A-0305x0457x109x05-Z03N	U15	305 x 457 x 109	50	≥99.9995	200	140
SF15-A-0305x0610x109x05-Z03N	U15	305 x 610 x 109	50	≥99.9995	280	140
SF15-A-0305x0762x109x05-Z03N	U15	305 x 762 x 109	50	≥99.9995	375	140
SF15-A-0305x0915x109x05-Z03N	U15	305 x 915 x 109	50	≥99.9995	450	140
SF15-A-0305x1120x109x05-Z03N	U15	305 x 1120 x 109	50	≥99.9995	600	140
SF15-A-0457x0457x109x05-Z03N	U15	457 x 457 x 109	50	≥99.9995	335	140
SF15-A-0457x0610x109x05-Z03N	U15	457 x 610 x 109	50	≥99.9995	450	140
SF15-A-0545x0545x109x05-Z03N	U15	545 x 545 x 109	50	≥99.9995	500	140
SF15-A-0545x1155x109x05-Z03N	U15	545 x 1155 x 109	50	≥99.9995	1000	140
SF15-A-0610x0610x109x05-Z03N	U15	610 x 610 x 109	50	≥99.9995	600	140
SF15-A-0610x0762x109x05-Z03N	U15	610 x 762 x 109	50	≥99.9995	750	140
SF15-A-0610x0915x109x05-Z03N	U15	610 x 915 x 109	50	≥99.9995	900	140
SF15-A-0610x1220x109x05-Z03N	U15	610 x 1220 x 109	50	≥99.9995	1200	140
SF15-A-0610x1525x109x05-Z03N	U15	610 x 1525 x 109	50	≥99.9995	1500	140
SF15-A-0610x1830x109x05-Z03N	U15	610 x 1830 x 109	50	≥99.9995	1800	140
SF15-A-0762x0762x109x05-Z03N	U15	762 x 762 x 109	50	≥99.9995	950	140
SF15-A-0762x0915x109x05-Z03N	U15	762 x 915 x 109	50	≥99.9995	1125	140
SF15-A-0762x1220x109x05-Z03N	U15	762 x 1220 x 109	50	≥99.9995	1500	140
SF15-A-0762x1525x109x05-Z03N	U15	762 x 1525 x 109	50	≥99.9995	1875	140
SF15-A-0762x1830x109x05-Z03N	U15	762 x 1830 x 109	50	≥99.9995	2250	140
SF15-A-0915x0915x109x05-Z03N	U15	915 x 915 x 109	50	≥99.9995	1350	140
SF15-A-0915x1220x109x05-Z03N	U15	915 x 1220 x 109	50	≥99.9995	1800	140
SF15-A-0915x1525x109x05-Z03N	U15	915 x 1525 x 109	50	≥99.9995	2250	140
SF15-A-0915x1830x109x05-Z03N	U15	915 x 1830 x 109	50	≥99.9995	2700	140

\* In accordance with EN 1822.

Subject to technical changes.



# EPA / HEPA / ULPA filter

Plastic frame | Construction depths 150 + 292 mm | EPA

Key data	
Filter medium	Micro-glass-fiber paper, highly resistant to moisture and oils
Bursting pressure	> 3000 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Halogen-free plastic; on request also with frame made from galvanized steel or stainless steel sheeting
Seal	Semicircular PU profile, endlessly foamed, on one side; on request with flat seal
Protection grids	Plastic, on both sides (N18N), with 200 mm pleat depth standard version without protection grid (N 10N)



## Application

Viledon® EPA filters of filter class E11 are used in intake, exhaust and recirculated air filtration in air-conditioning systems with special requirements for clean air quality, e. g.

- In sophisticated air-conditioning technology (laboratories, cleanrooms, museums, etc.)
- In sensitive industrial processes (pharmaceuticals, biotechnology, chemicals, optics, food and beverages, micro-electronics, etc.)
- As downstream "police filters" in dust removal systems

## Special features

- The patented thermal embossing process ensures the optimum V-shaped geometry and equidistance of the pleats, with maximized homogeneous media velocity and a very low pressure drop. This means particularly cost-efficient and dependable operation.
- The frame consists of halogen-free plastic and is exceptionally torsion-resistant, moisture-resistant and fully incinerable. The patented design provides a high degree of security against the growth of bacteria and fungi (permissible according to VDI 6022 as evidenced by independent test certificates).
- Simple handling and installation thanks to exceptionally low weight.
- Non-corroding and disposal-friendly, since there are no metal parts.

## Delivery notes

Customized dimensions are available on request. Also available as MaxiPleat filters with and without a top frame.

Article number	Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³/h]	Initial pressure drop [Pa]
53392321	SF11-K-0305x0305x150x10-N18N-F45	E11	305x305x150	100	≥95	440	160
53359319	SF11-K-0457x0457x150x10-N10N-F45	E11	457x457x150	100	≥95	1100	160
53360528	SF11-K-0610x0610x150x10-N10N-F45	E11	610x610x150	100	≥95	2000	160
53386630	SF11-K-0610x0610x150x10-N18N-F45	E11	610x610x150	100	≥95	2000	160
53352684	SF11-K-0610x0305x292x20-N10N-F60	E11	610x305x292	200	≥95	1400	160
53352648	SF11-K-0610x0610x292x20-N10N-F60	E11	610x610x292	200	≥95	3000	160
53357238	SF11-K-0610x0762x292x20-N10N-F60	E11	610x762x292	200	≥95	4000	160
53351145	SF11-K-0610x0305x292x28-N18N-F60	E11	610x305x292	280	≥95	1600	160
53351144	SF11-K-0610x0610x292x28-N18N-F60	E11	610x610x292	280	≥95	3400	160
53357518	SF11-K-0610x0762x292x28-N18N-F60	E11	610x762x292	280	≥95	4300	160

Subject to technical changes.

\* In accordance with EN 1822.

# EPA / HEPA / ULPA filter

Plastic frame | Construction depths 150 + 292 mm | HEPA



Key data	
Filter medium	Micro-glass-fiber paper, highly resistant to moisture and oils
Bursting pressure	>3000 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Halogen-free plastic; on request also with frame made of galvanized steel sheeting or stainless steel sheeting
Seal	Semicircular PU profile, endlessly foamed, on one-side; on request with flat seal
Protection grids	Plastic on both sides (N 18N), with 200 mm pleat depth standard version without protection grid (N 10N)

## Application

Viledon® HEPA filters of filter classes H13–H14 are used in intake, exhaust and recirculated air filtration in air-conditioning systems with ultra-stringent requirements for clean air quality and sterility, e.g.

- In sophisticated air-conditioning technology (operating theaters/ intensive care units in hospitals, cleanrooms, museums, etc.)
- In highly sensitive industrial processes (pharmaceuticals, biotechnology, chemicals, optics, food and beverages, micro-electronics, etc.)
- In treating hazardous substances (asbestos disposal, heavy metals, carcinogenic dusts, cooling lubricants, etc.)

## Special features

- The patented thermal embossing process ensures the optimum V-shaped geometry and equidistance of the pleats, with maximized homogeneous media velocity and a very low pressure drop, particularly in the case of large pleat depths. This means exceptionally cost-efficient and dependable operation.

- Each filter element is tested using state-of-the-art scanning equipment for arrestance efficiency and leakproofing in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of halogen-free plastic and is exceptionally torsion-resistant, moisture-resistant and fully incinerable. The patented design provides a high degree of security against the growth of bacteria and fungi (permissible according to VDI 6022 in accordance with independent test certificates).
- Simple handling and installation thanks to particularly low weight.
- Non-corroding and disposal-friendly, since there are no metal parts.
- Meets the requirements laid down in EN 60335-2-69 for filters being used in dust-eliminating machines and equipment of dust class "H".

## Delivery notes

Customized dimensions are available on request.

Article number	Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Arrestance efficiency acc. to EN 60335-2-69 [%]	Nominal volume flow [m³ / h]	Initial pressure drop [Pa]
53357911	SF13-K-0305x0305x150x10-N18N-H45	H13	305x305x150	100	≥99.95	-	325	220
53380609	SF13-K-0305x0305x292x20-N10N-H60	H13	305x305x292	200	≥99.95	-	500	250
53358438	SF13-K-0305x0305x292x28-N18N-G60	H13	305x305x292	280	≥99.95	>99.995	700	250
53361285	SF13-K-0457x0457x150x10-N18N-H45	H13	457x457x150	100	≥99.95	-	800	220
53352681	SF13-K-0457x0457x292x20-N10N-H60	H13	457x457x292	200	≥99.95	-	1300	250
53353934	SF13-K-0457x0457x292x28-N18N-G60	H13	457x457x292	280	≥99.95	>99.995	1800	250
53440647	SF13-K-0575x0575x150x10-N18N-H45	H13	575x575x150	100	≥99.95	-	1400	220
53364637	SF13-K-0610x0305x150x10-N18N-H45	H13	610x305x150	100	≥99.95	-	700	220
53352680	SF13-K-0610x0305x292x20-N10N-H60	H13	610x305x292	200	≥99.95	-	1100	250
53351143	SF13-K-0610x0305x292x28-N18N-G60	H13	610x305x292	280	≥99.95	>99.995	1550	250
53383118	SF13-K-0610x0305x292x28-N18N-J60	H13	610x305x292	280	≥99.95	-	1800	330
53367419	SF13-K-0610x0457x292x20-N10N-H60	H13	610x457x292	200	≥99.95	-	1800	250
53363063	SF13-K-0610x0457x292x28-N18N-G60	H13	610x457x292	280	≥99.95	>99.995	2500	250
53392755	SF13-K-0610x0610x150x10-N18N-H45	H13	610x610x150	100	≥99.95	-	1500	220
53352647	SF13-K-0610x0610x292x20-N10N-H60	H13	610x610x292	200	≥99.95	-	2500	250
53351139	SF13-K-0610x0610x292x28-N18N-G60	H13	610x610x292	280	≥99.95	>99.995	3400	250
53383117	SF13-K-0610x0610x292x28-N18N-J60	H13	610x610x292	280	≥99.95	-	4000	330
53373991	SF13-K-0610x0762x292x20-N10N-H60	H13	610x762x292	200	≥99.95	-	3150	250
53373837	SF13-K-0610x0762x292x28-N18N-G60	H13	610x762x292	280	≥99.95	>99.995	4300	250
53390438	SF14-K-0305x0305x292x28-N18N-J60	H14	305x305x292	280	≥99.995	-	375	150
53381017	SF14-K-0457x0457x292x28-N18N-J60	H14	457x457x292	280	≥99.995	-	900	150
53367662	SF14-K-0610x0305x292x28-N18N-J60	H14	610x305x292	280	≥99.995	-	850	150
53388895	SF14-K-0610x0305x292x28-N18N-V60	H14	610x305x292	280	≥99.995	-	1500	350
53358594	SF14-K-0610x0457x292x28-N18N-J60	H14	610x457x292	280	≥99.995	-	1250	150
53353557	SF14-K-0610x0610x292x28-N18N-J60	H14	610x610x292	280	≥99.995	-	1700	150
53361167	SF14-K-0610x0762x292x28-N18N-J60	H14	610x762x292	280	≥99.995	-	2150	150

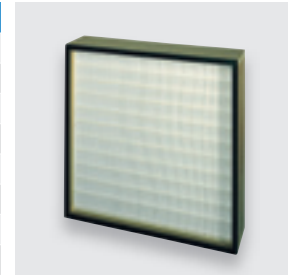
\* In accordance with EN 1822.

Subject to technical changes.

# EPA / HEPA / ULPA filter

## MDF frame | Construction depth 78 mm | EPA + HEPA

Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	MDF
Seal	Semicircular PU profile, endlessly foamed



### Application

Viledon® EPA and HEPA filters of filter classes E11 + H13 are used in intake, exhaust and recirculated air filtration in air-conditioning systems with stringent requirements for clean air quality and sterility, e.g.

- In sophisticated air-conditioning technology (operating theaters, intensive care units in hospitals, laboratories, cleanrooms, etc.)
- In sensitive industrial processes
- As final filters in ceiling air outlets

### Characteristics and pluses

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation plus a quasi-laminar outflow.
- Each filter is tested in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of MDF (medium-density fiber panel) and is fully incinerable.
- The filter elements are non-corroding and disposal-friendly, since there are no metal parts.
- Endlessly and homogeneously foamed-on polyurethane seal; on request available with flat seal.
- On request with protection grid.

### Delivery notes

Customized dimensions are available on request.

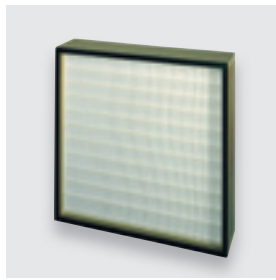
Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³/h]	Initial pressure drop [Pa]
SF11-M-0305x0305x078x05-N10N	E11	305 x 305 x 78	50	≥95	300	160
SF11-M-0305x0610x078x05-N10N	E11	305 x 610 x 78	50	≥95	600	160
SF11-M-0457x0305x078x05-N10N	E11	457 x 305 x 78	50	≥95	450	160
SF11-M-0457x0457x078x05-N10N	E11	457 x 457 x 78	50	≥95	680	160
SF11-M-0457x0610x078x05-N10N	E11	457 x 610 x 78	50	≥95	900	160
SF11-M-0610x0610x078x05-N10N	E11	610 x 610 x 78	50	≥95	1200	160
SF11-M-0610x0915x078x05-N10N	E11	610 x 915 x 78	50	≥95	1800	160
SF11-M-0762x0305x078x05-N10N	E11	762 x 305 x 78	50	≥95	750	160
SF11-M-0762x0610x078x05-N10N	E11	762 x 610 x 78	50	≥95	1500	160
SF11-M-0762x0762x078x05-N10N	E11	762 x 762 x 78	50	≥95	1800	160
SF13-M-0305x0305x078x05-N10N	H13	305 x 305 x 78	50	≥99.95	300	250
SF13-M-0305x0610x078x05-N10N	H13	305 x 610 x 78	50	≥99.95	600	250
SF13-M-0457x0305x078x05-N10N	H13	457 x 305 x 78	50	≥99.95	450	250
SF13-M-0457x0457x078x05-N10N	H13	457 x 457 x 78	50	≥99.95	680	250
SF13-M-0457x0610x078x05-N10N	H13	457 x 610 x 78	50	≥99.95	900	250
SF13-M-0610x0610x078x05-N10N	H13	610 x 610 x 78	50	≥99.95	1200	250
SF13-M-0610x0915x078x05-N10N	H13	610 x 915 x 78	50	≥99.95	1800	250
SF13-M-0762x0305x078x05-N10N	H13	762 x 305 x 78	50	≥99.95	750	250
SF13-M-0762x0610x078x05-N10N	H13	762 x 610 x 78	50	≥99.95	1500	250
SF13-M-0762x0762x078x05-N10N	H13	762 x 762 x 78	50	≥99.95	1800	250

Subject to technical changes.

\* In accordance with EN 1822.

# EPA / HEPA / ULPA filter

MDF frame | Construction depth 78 mm | HEPA



Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	110 % rel. hum.
Frame	MDF
Seal	Semicircular PU profile, endlessly foamed

## Application

Viledon® HEPA filters of filter class H14 are used in intake, exhaust and recirculated air filtration in air-conditioning systems with stringent requirements for clean air quality and sterility, e. g.

- In sophisticated air-conditioning technology (operating theaters, intensive care units in hospitals, laboratories, cleanrooms, etc.)
- In sensitive and highly sensitive industrial processes
- As final filters in ceiling air outlets

## Characteristics and pluses

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation plus a quasi-laminar outflow.
- Each filter is tested in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of MDF (medium-density fiber panel) and is fully incinerable.
- The filter elements are non-corroding and disposal-friendly, since there are no metal parts.
- Endlessly and homogeneously foamed-on polyurethane seal; on request available with flat seal.
- On request with protection grid.

## Delivery notes

Customized dimensions are available on request.

Article	Filter class*	Dimensions (W×L×D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³/h]	Initial pressure drop [Pa]
SF14-M-0305x0305x078x05-N10N	H14	305×305×78	50	≥99.995	150	120
SF14-M-0305x0610x078x05-N10N	H14	305×610×78	50	≥99.995	300	120
SF14-M-0457x0305x078x05-N10N	H14	457×305×78	50	≥99.995	220	120
SF14-M-0457x0457x078x05-N10N	H14	457×457×78	50	≥99.995	340	120
SF14-M-0457x0610x078x05-N10N	H14	457×610×78	50	≥99.995	450	120
SF14-M-0610x0610x078x05-N10N	H14	610×610×78	50	≥99.995	600	120
SF14-M-0610x0915x078x05-N10N	H14	610×915×78	50	≥99.995	900	120
SF14-M-0762x0305x078x05-N10N	H14	762×305×78	50	≥99.995	375	120
SF14-M-0762x0610x078x05-N10N	H14	762×610×78	50	≥99.995	750	120
SF14-M-0762x0762x078x05-N10N	H14	762×762×78	50	≥99.995	900	120

\* In accordance with EN 1822.

# EPA / HEPA / ULPA filter

## MDF frame | Construction depth 150 mm | EPA + HEPA

Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	MDF
Seal	Semicircular PU profile, endlessly foamed



### Application

Viledon® EPA and HEPA filters of filter classes E11 + H13 are used in intake, exhaust and recirculated air filtration in air-conditioning systems with stringent requirements for clean air quality, e.g.

- In sophisticated air-conditioning technology (operating theaters, intensive care units in hospitals, laboratories, cleanrooms, etc.)
- In sensitive industrial processes

### Characteristics and pluses

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation plus a quasi-laminar outflow.
- Each filter is tested in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of MDF (medium-density fiber panel) and is fully incinerable.
- The filter elements are non-corroding and disposal-friendly, since there are no metal parts.
- Endlessly and homogeneously foamed-on polyurethane seal; on request available with flat seal.
- On request with protection grid.

### Delivery notes

Customized dimensions are available on request.

Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³/h]	Initial pressure drop [Pa]
SF11-M-0305x0305x150x12-N10N	E11	305 x 305 x 150	125	≥95	230	140
SF11-M-0305x0610x150x12-N10N	E11	305 x 610 x 150	125	≥95	750	140
SF11-M-0457x0305x150x12-N10N	E11	457 x 305 x 150	125	≥95	560	140
SF11-M-0457x0457x150x12-N10N	E11	457 x 457 x 150	125	≥95	850	140
SF11-M-0457x0610x150x12-N10N	E11	457 x 610 x 150	125	≥95	1100	140
SF11-M-0610x0610x150x12-N10N	E11	610 x 610 x 150	125	≥95	1500	140
SF11-M-0762x0305x150x12-N10N	E11	762 x 305 x 150	125	≥95	950	140
SF11-M-0762x0610x150x12-N10N	E11	762 x 610 x 150	125	≥95	1900	140
SF11-M-0762x0762x150x12-N10N	E11	762 x 762 x 150	125	≥95	2400	140
SF13-M-0305x0305x150x12-N10N	H13	305 x 305 x 150	125	≥99.95	230	250
SF13-M-0305x0610x150x12-N10N	H13	305 x 610 x 150	125	≥99.95	750	250
SF13-M-0457x0305x150x12-N10N	H13	457 x 305 x 150	125	≥99.95	560	250
SF13-M-0457x0457x150x12-N10N	H13	457 x 457 x 150	125	≥99.95	850	250
SF13-M-0457x0610x150x12-N10N	H13	457 x 610 x 150	125	≥99.95	1100	250
SF13-M-0610x0610x150x12-N10N	H13	610 x 610 x 150	125	≥99.95	1500	250
SF13-M-0762x0305x150x12-N10N	H13	762 x 305 x 150	125	≥99.95	950	250
SF13-M-0762x0610x150x12-N10N	H13	762 x 610 x 150	125	≥99.95	1900	250
SF13-M-0762x0762x150x12-N10N	H13	762 x 762 x 150	125	≥99.95	2400	250

Subject to technical changes.

\* In accordance with EN 1822.

# EPA / HEPA / ULPA filter

MDF frame | Construction depth 150 mm | HEPA



Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100 % rel. hum.
Frame	MDF
Seal	Semicircular PU profile, endlessly foamed

## Application

Viledon® HEPA filters of filter class H14 are used in intake, exhaust and recirculated air filtration in air-conditioning systems with stringent requirements for clean air quality and sterility, e.g.

- In sophisticated air-conditioning technology (operating theaters, intensive care units in hospitals, laboratories, cleanrooms, etc.)
- In sensitive and highly sensitive industrial processes

## Characteristics and pluses

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation plus a quasi-laminar outflow.
- Each filter is tested in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of MDF (medium-density fiber panel) and is fully incinerable.
- The filter elements are non-corroding and disposal-friendly, since there are no metal parts.
- Endlessly and homogeneously foamed-on polyurethane seal; on request available with flat seal.
- On request with protection grid.

## Delivery notes

Customized dimensions are available on request.

Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³/h]	Initial pressure drop [Pa]
SF14-M-0305x0305x150x12-N10N	H14	305 x 305 x 150	125	≥99.995	225	120
SF14-M-0305x0610x150x12-N10N	H14	305 x 610 x 150	125	≥99.995	375	120
SF14-M-0457x0305x150x12-N10N	H14	457 x 305 x 150	125	≥99.995	280	120
SF14-M-0457x0457x150x12-N10N	H14	457 x 457 x 150	125	≥99.995	425	120
SF14-M-0457x0610x150x12-N10N	H14	457 x 610 x 150	125	≥99.995	550	120
SF14-M-0610x0610x150x12-N10N	H14	610 x 610 x 150	125	≥99.995	750	120
SF14-M-0762x0305x150x12-N10N	H14	762 x 305 x 150	125	≥99.995	475	120
SF14-M-0762x0610x150x12-N10N	H14	762 x 610 x 150	125	≥99.995	800	120
SF14-M-0762x0762x150x12-N10N	H14	762 x 762 x 150	125	≥99.995	1200	120

\* In accordance with EN 1822.

Subject to technical changes.

# EPA / HEPA / ULPA filter

## MDF frame | Construction depth 292 mm | EPA + HEPA

Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	MDF
Seal	Semicircular PU profile, endlessly foamed



### Application

Viledon® EPA and HEPA filters of filter classes E11 + H13–H14 are used in intake, exhaust and recirculated air filtration in air-conditioning systems with stringent requirements for clean air quality and sterility, e.g.

- In sophisticated air-conditioning technology (operating theaters, intensive care units in hospitals, laboratories, cleanrooms, etc.)
- In sensitive and highly sensitive industrial processes

### Delivery notes

Customized dimensions are available on request.

### Characteristics and pluses

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation plus a quasi-laminar outflow.
- Each filter is tested in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of MDF (medium-density fiber panel) and is fully incinerable.
- The filter elements are non-corroding and disposal-friendly, since there are no metal parts.
- Endlessly and homogeneously foamed-on polyurethane seal; on request available with flat seal.
- On request with protection grid.

Article	Filter class *	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³ / h]	Initial pressure drop [Pa]
SF11-M-0288x0593x292x20-N10N	E11	288x593x292	200	≥95	900	140
SF11-M-0305x0305x292x20-N10N	E11	305x305x292	200	≥95	500	140
SF11-M-0305x0610x292x20-N10N	E11	305x610x292	200	≥95	1000	140
SF11-M-0457x0457x292x20-N10N	E11	457x457x292	200	≥95	1200	140
SF11-M-0457x0610x292x20-N10N	E11	457x610x292	200	≥95	1500	140
SF11-M-0593x0593x292x20-N10N	E11	593x593x292	200	≥95	2000	140
SF11-M-0610x0610x292x20-N10N	E11	610x610x292	200	≥95	2000	140
SF11-M-0610x0762x292x20-N10N	E11	610x762x292	200	≥95	2750	140
SF13-M-0288x0593x292x20-N10N	H13	288x593x292	200	≥99.95	900	250
SF13-M-0305x0305x292x20-N10N	H13	305x305x292	200	≥99.95	500	250
SF13-M-0305x0610x292x20-N10N	H13	305x610x292	200	≥99.95	1000	250
SF13-M-0457x0457x292x20-N10N	H13	457x457x292	200	≥99.95	1200	250
SF13-M-0457x0610x292x20-N10N	H13	457x610x292	200	≥99.95	1500	250
SF13-M-0593x0593x292x20-N10N	H13	593x593x292	200	≥99.95	2000	250
SF13-M-0610x0610x292x20-N10N	H13	610x610x292	200	≥99.95	2000	250
SF13-M-0610x0762x292x20-N10N	H13	610x762x292	200	≥99.95	2750	250
SF14-M-0288x0593x292x20-N10N	H14	288x593x292	200	≥99.995	900	280
SF14-M-0305x0305x292x20-N10N	H14	305x305x292	200	≥99.995	500	280
SF14-M-0305x0610x292x20-N10N	H14	305x610x292	200	≥99.995	1000	280
SF14-M-0457x0457x292x20-N10N	H14	457x457x292	200	≥99.995	1200	280
SF14-M-0457x0610x292x20-N10N	H14	457x610x292	200	≥99.995	1500	280
SF14-M-0593x0593x292x20-N10N	H14	593x593x292	200	≥99.995	2000	280
SF14-M-0610x0610x292x20-N10N	H14	610x610x292	200	≥99.995	2000	280
SF14-M-0610x0762x292x20-N10N	H14	610x762x292	200	≥99.995	2750	280

Subject to technical changes.

\* In accordance with EN 1822.

# EPA / HEPA / ULPA filter

Steel sheet frame | Construction depth 150 mm | EPA + HEPA



Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100 % rel. hum.
Frame	Steel sheeting, galvanized
Seal	Semicircular PU profile, endlessly foamed

## Application

Viledon® EPA and HEPA filters of filter classes E11 + H13 are used in intake, exhaust and recirculated air filtration in air-conditioning systems with stringent and ultra-stringent requirements for clean air quality and sterility, e.g.

- In sophisticated air-conditioning technology (operating theaters, intensive care units in hospitals, laboratories, cleanrooms, etc.)
- In sensitive and highly sensitive industrial processes

## Characteristics and pluses

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation.
- Each filter is tested in accordance with EN 1822, and delivered together with the corresponding test certificate.
- Endlessly and homogeneously foamed-on polyurethane seal; on request available with flat seal.
- On request with protection grid.
- The frame consists of galvanized steel sheeting. The sturdy construction is moisture-resistant and provides a high degree of security against the growth of bacteria and fungi (thus permissible according to VDI 6022).

## Delivery notes

Customized dimensions are available on request.

Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³/h]	Initial pressure drop [Pa]
SF11-B-0203x0203x150x12-N10N	E11	203 x 203 x 150	125	≥95	140	140
SF11-B-0305x0305x150x12-N10N	E11	305 x 305 x 150	125	≥95	350	140
SF11-B-0305x0610x150x12-N10N	E11	305 x 610 x 150	125	≥95	750	140
SF11-B-0457x0457x150x12-N10N	E11	457 x 457 x 150	125	≥95	860	140
SF11-B-0575x0575x150x12-N10N	E11	575 x 575 x 150	125	≥95	700	140
SF11-B-0610x0610x150x12-N10N	E11	610 x 610 x 150	125	≥95	1600	140
SF11-B-0610x0915x150x12-N10N	E11	610 x 915 x 150	125	≥95	2400	140
SF11-B-0610x1220x150x12-N10N	E11	610 x 1220 x 150	125	≥95	3200	140
SF11-B-0762x0610x150x12-N10N	E11	762 x 610 x 150	125	≥95	2000	140
SF13-B-0203x0203x150x12-N10N	H13	203 x 203 x 150	125	≥99.95	140	250
SF13-B-0305x0305x150x12-N10N	H13	305 x 305 x 150	125	≥99.95	350	250
SF13-B-0305x0610x150x12-N10N	H13	305 x 610 x 150	125	≥99.95	750	250
SF13-B-0457x0457x150x12-N10N	H13	457 x 457 x 150	125	≥99.95	860	250
SF13-B-0575x0575x150x12-N10N	H13	575 x 575 x 150	125	≥99.95	700	250
SF13-B-0610x0610x150x12-N10N	H13	610 x 610 x 150	125	≥99.95	1600	250
SF13-B-0610x0915x150x12-N10N	H13	610 x 915 x 150	125	≥99.95	2400	250
SF13-B-0610x1220x150x12-N10N	H13	610 x 1220 x 150	125	≥99.95	3200	250
SF13-B-0762x0610x150x12-N10N	H13	762 x 610 x 150	125	≥99.95	2000	250

\* In accordance with EN 1822.



# EPA / HEPA / ULPA filter

Steel sheet frame | Construction depth 150 mm | HEPA

Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Steel sheeting, galvanized
Seal	Semicircular PU profile, endlessly foamed



## Application

Viledon® HEPA filters of filter class H14 are used in intake, exhaust and recirculated air filtration in air-conditioning systems with stringent and ultra-stringent requirements for clean air quality and sterility, e. g.

- In sophisticated air-conditioning technology (operating theaters, intensive care units in hospitals, laboratories, cleanrooms, etc.)
- In sensitive and highly sensitive industrial processes

## Characteristics and pluses

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation.
- Each filter is tested in accordance with EN 1822, and delivered together with the corresponding test certificate.
- Endlessly and homogeneously foamed-on polyurethane seal; on request available with flat seal.
- On request with protection grid.
- The frame consists of galvanized steel sheeting. The sturdy construction is moisture-resistant and provides a high degree of security against the growth of bacteria and fungi (thus permissible according to VDI 6022).

## Delivery notes

Customized dimensions are available on request.

Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³/h]	Initial pressure drop [Pa]
SF14-B-0203x0203x150x12-N10N	H14	203 x 203 x 150	125	≥99.995	70	120
SF14-B-0305x0305x150x12-N10N	H14	305 x 305 x 150	125	≥99.995	175	120
SF14-B-0305x0610x150x12-N10N	H14	305 x 610 x 150	125	≥99.995	370	120
SF14-B-0457x0457x150x12-N10N	H14	457 x 457 x 150	125	≥99.995	430	120
SF14-B-0575x0575x150x12-N10N	H14	575 x 575 x 150	125	≥99.995	700	120
SF14-B-0610x0610x150x12-N10N	H14	610 x 610 x 150	125	≥99.995	800	120
SF14-B-0610x0915x150x12-N10N	H14	610 x 915 x 150	125	≥99.995	1200	120
SF14-B-0610x1220x150x12-N10N	H14	610 x 1220 x 150	125	≥99.995	1600	120
SF14-B-0762x0610x150x12-N10N	H14	762 x 610 x 150	125	≥99.995	1000	120

Subject to technical changes.

\* In accordance with EN 1822.

# EPA / HEPA / ULPA filter

Steel sheet frame | Construction depth 292 mm | EPA + HEPA



Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Steel sheeting, galvanized
Seal	Semicircular PU profile, endlessly foamed

## Application

Viledon® EPA and HEPA filters of filter classes E11 + H13 + H14 are used in intake, exhaust and recirculated air filtration in air-conditioning systems with stringent and ultra-stringent requirements for clean air quality and sterility, e. g.

- In sophisticated air-conditioning technology (operating theaters, intensive care units in hospitals, laboratories, cleanrooms, etc.)
- In sensitive and highly sensitive industrial processes

## Characteristics and pluses

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation.

- Each filter is tested in accordance with EN 1822, and delivered together with the corresponding test certificate.
- Endlessly and homogeneously foamed-on polyurethane seal; on request available with flat seal.
- On request with protection grid.
- The frame consists of galvanized steel sheeting. The sturdy construction is moisture-resistant and provides a high degree of security against the growth of bacteria and fungi (thus permissible according to VDI 6022).

## Delivery notes

Customized dimensions are available on request.

Article	Filter class *	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³ / h]	Initial pressure drop [Pa]
SF11-B-0288x0593x292x20-N10N	E11	288 x 593 x 292	200	>95	900	140
SF11-B-0305x0305x292x20-N10N	E11	305 x 305 x 292	200	>95	550	140
SF11-B-0305x0610x292x20-N10N	E11	305 x 610 x 292	200	>95	1000	140
SF11-B-0457x0457x292x20-N10N	E11	457 x 457 x 292	200	>95	1200	140
SF11-B-0457x0610x292x20-N10N	E11	457 x 610 x 292	200	>95	1750	140
SF11-B-0593x0593x292x20-N10N	E11	593 x 593 x 292	200	>95	2270	140
SF11-B-0610x0610x292x20-N10N	E11	610 x 610 x 292	200	>95	2400	140
SF11-B-0610x0762x292x20-N10N	E11	610 x 762 x 292	200	>95	3000	140
SF13-B-0288x0593x292x20-N10N	H13	288 x 593 x 292	200	>99.95	900	250
SF13-B-0305x0305x292x20-N10N	H13	305 x 305 x 292	200	>99.95	550	250
SF13-B-0305x0610x292x20-N10N	H13	305 x 610 x 292	200	>99.95	1000	250
SF13-B-0457x0457x292x20-N10N	H13	457 x 457 x 292	200	>99.95	1200	250
SF13-B-0457x0610x292x20-N10N	H13	457 x 610 x 292	200	>99.95	1750	250
SF13-B-0593x0593x292x20-N10N	H13	593 x 593 x 292	200	>99.95	2270	250
SF13-B-0610x0610x292x20-N10N	H13	610 x 610 x 292	200	>99.95	2400	250
SF13-B-0610x0762x292x20-N10N	H13	610 x 762 x 292	200	>99.95	3000	250
SF14-B-0288x0593x292x20-N10N	H14	288 x 593 x 292	200	>99.995	900	280
SF14-B-0305x0305x292x20-N10N	H14	305 x 305 x 292	200	>99.995	550	280
SF14-B-0305x0610x292x20-N10N	H14	305 x 610 x 292	200	>99.995	1000	280
SF14-B-0457x0457x292x20-N10N	H14	457 x 457 x 292	200	>99.995	1200	280
SF14-B-0457x0610x292x20-N10N	H14	457 x 610 x 292	200	>99.995	1750	280
SF14-B-0593x0593x292x20-N10N	H14	593 x 593 x 292	200	>99.995	2270	280
SF14-B-0610x0610x292x20-N10N	H14	610 x 610 x 292	200	>99.995	2400	280
SF14-B-0610x0762x292x20-N10N	H14	610 x 762 x 292	200	>99.995	3000	280

\* In accordance with EN 1822.

Subject to technical changes.

# EPA / HEPA / ULPA filter

## High volume flow | Construction depth 292 mm | HEPA

Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Frame	Steel sheeting, galvanized; also available with a stainless steel frame
Seal	Semicircular PU profile, endlessly foamed, inset



### Application

Viledon® high volume flow HEPA filters are used in intake, exhaust and recirculated air filtration in cleanrooms in air-conditioning systems with ultra-stringent requirements for clean air quality and sterility, e. g.

- In hospitals / medical institutes, pharmacies, sterile rooms, laboratories, research centers, etc.
- In highly sensitive industrial processes (pharmaceuticals, biotechnology, chemicals, optics, food and beverage processing, micro-electronics, etc.)

### Special features

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed, plus the V-shaped configuration of the pleat package, ensure a particularly large filtering area for maximum air flow rate per filter element together with homogeneous media velocity, coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation with a very long lifetime.
- Each filter element is tested for leakproofing in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame consists of galvanized steel or stainless steel sheeting. The exceptionally sturdy construction is moisture-resistant and offers a high degree of security against the growth of bacteria and fungi (thus permissible according to VDI 6022).
- In the standard version the filters are fitted with an endlessly and homogeneously foamed-on semicircular-profile polyurethane seal. On request also available with a flat seal.
- The elements feature recessed grips at the side and a gripping lug for easier handling and installation.

### Delivery notes

Also available as ULPA filter.

Customized dimensions and variants available on request.

Article number	Article	Filter class*	Dimensions (W x L x D) [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³/h]	Initial pressure drop [Pa]
53411980	SF13-B-0305x0305x292 / V06x25-N10N	H13	305 x 305 x 292	≥99.95	1000	250
53412052	SF13-B-0305x0610x292 / V06x25-N10N	H13	305 x 610 x 292	≥99.95	2000	250
53412060	SF13-B-0610x0610x292 / V10x25-N10N	H13	610 x 610 x 292	≥99.95	4000	250
53412054	SF13-B-0610x0610x292 / V12x25-N10N	H13	610 x 610 x 292	≥99.95	4000	250
53412056	SF13-B-0610x0762x292 / V14x25-N10N	H13	610 x 762 x 292	≥99.95	5000	250
53415772	SF14-B-0305x0305x292 / V06x25-N10N	H14	305 x 305 x 292	≥99.995	1000	320
53418697	SF14-B-0305x0610x292 / V06x25-N10N	H14	305 x 610 x 292	≥99.995	2000	320
53412194	SF14-B-0610x0610x292 / V12x25-N10N	H14	610 x 610 x 292	≥99.995	4000	320

\* In accordance with EN 1822.

Subject to technical changes.

# EPA / HEPA / ULPA filter

## Cartridge | EPA + HEPA



Key data	
Filter medium	Micro-glass-fiber paper
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.
Sheathing	Perforated grid (aluminum)
Seal	Semicircular PU profile, foamed

### Application

Viledon® EPA/HEPA cartridge filters offer in a minimized space highly efficient arrestance in a compactly dimensioned unit. They are used for various applications in medical technology and the pharmaceutical industry.

Article	Filter class*	Dimensions (W x L x D) [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³ / h]	Initial pressure drop [Pa]
SP11-A-0175x0175	E11	175 x 110 x 175	>95	130	120
SP11-A-0175x0226	E11	175 x 110 x 226	>95	170	120
SP13-A-0175x0175	H13	175 x 110 x 175	>99.95	130	200
SP13-A-0175x0226	H13	175 x 110 x 226	>99.95	170	200

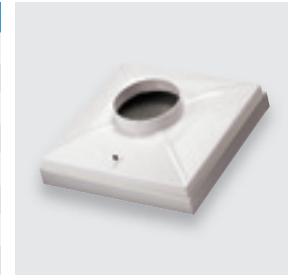
\* In accordance with EN 1822.

Subject to technical changes.

# EPA / HEPA / ULPA filter

## Plastic plenum hood | HEPA

Key data	
Filter medium	Micro-glass-fiber paper
Initial pressure drop at 0.45 m/s	140 Pa
Recommended final pressure drop	600 Pa
Thermal stability	70 °C
Moisture resistance	100% rel. hum.



### Application

Viledon® HEPA filters/hood modules of filter class H14 are used for intake and recirculated air filtration of cleanrooms and flexible cleanroom systems with ultra-stringent requirements for clean air quality and sterility, e. g.

- In hospitals/ medical institutes, pharmacies, sterile rooms, laboratories, research centers, etc.
- In highly sensitive industrial processes (pharmaceuticals, biotechnology, chemicals, optics, food and beverage processing, micro-electronics, etc.)

### Special features

- The filter media used are high-arrestance micro-glass-fiber papers.
- The MiniPleat technology employed ensures flow-friendly geometry and equidistance of the pleats, with homogeneous media velocity coupled with a very low pressure drop. This means particularly cost-efficient and dependable operation, and a quasi-laminar outflow.
- Each filter element is tested using state-of-the-art scanning equipment for arrestance efficiency and leakproofing in accordance with EN 1822, and delivered together with the corresponding test certificate.
- The frame is made from extruded, anodized aluminum with a plastic plenum hood cast in an airtight configuration on the face side. An integrated perforated plate serves as a baffle plate, and evens out the entering air flow. The sturdy construction is moisture-resistant and provides a high degree of security against the growth of bacteria and fungi (thus permissible according to VDI 6022).
- Simple handling and installation, since it is torsion-resistant and particularly light thanks to the integrated plastic plenum hood.
- The filter/hood modules feature a protection grid on the clean air side made from powder-coated expanded metal and a connection for measuring aerosol/pressure drop.

### Delivery notes

On request also with integrated control and stop valve plus clean air side seal.

Also available as ULPA filter of class U15.

Customized dimensions (then with metal hood) available on request.

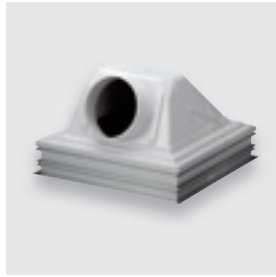
Subject to technical changes.

Article number	Article	Filter class*	Dimensions (W x L x D) [mm]	Pleat depth [mm]	Arrestance efficiency MPPS [%]	Nominal volume flow [m³/h]
53417702	SF14-A-0305x0610x150x05-Z02H-250x50	H14	305 x 610 x 150	50	≥ 99.995	300
53412922	SF14-A-0610x0610x150x05-Z02H-250x50	H14	610 x 610 x 150	50	≥ 99.995	600
53413831	SF14-A-0610x1220x150x05-Z02H-250x50	H14	610 x 1220 x 150	50	≥ 99.995	1200

\* In accordance with EN 1822.

# EPA / HEPA / ULPA filter

## Accessories | Ceiling air outlets | With ceiling connection profile



Key data	
Outlet housing	Extruded, anodized aluminum frame and deep-drawn plastic plenum made of polystyrene and cast in an airtight configuration, with round connection piece on the side; on request also available with a metal plenum and a connection at the top / side
Diffusor	As vortex flow outlet with adjustable air guide elements in powder-coated steel sheeting (RAL 9010), as a rectangular outlet with fixed-position guide fins in anodized aluminum and painted, as perforated-plate diffusor for low-turbulence displacement flow in anodized aluminum, painted, and stainless steel
Filter elements	Associated filter elements must be ordered separately. The ceiling air outlets are suitable for Viledon® HEPA filters with a 68 or 88 mm deep aluminum frame and a foamed-on seal; ceiling air outlets for filter construction depth 80 mm with gel seal are likewise available on request

### Application

Viledon® filter ceiling air outlets are used for intake and recirculated air filtration of cleanrooms and air-conditioning systems with ultra-stringent requirements for clean air quality and sterility, e. g.

- In hospitals / medical institutes, pharmacies, sterile rooms, laboratories, research centers, etc.
- In highly sensitive industrial processes (pharmaceuticals, biotechnology, chemicals, optics, food and beverage processing, micro-electronics, etc.)

### Special features

- The housings feature a connection for measuring the raw-gas concentration and the operating pressure drop.
- The stable construction is moisture-resistant and provides a high degree of security against the growth of bacteria and fungi (thus permissible according to VDI 6022).
- Simple handling and installation, since its is torsion-resistant and particularly light
- Filter replacement, cleaning and maintenance can easily be performed from the clean air side.

### Delivery notes

On request also available with integrated control and stop valve.

Customized dimensions (then with metal housing) and variants available on request.

Please order suitable filters as a separate item.

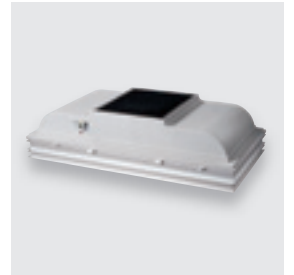
Article number	Article	Dimensions (W x L x D) [mm]	Dimensions of matching filters (W x L x D) [mm]	Plenum material	Diffusor	Diffusor material
53425088	SFDLA-CA-0380x0380x355-EV-0-200-0-T	380 x 380 x 355	305 x 305 x 68 / 88 / 80	Plastic	Vortex flow outlet	Powder-coated steel (RAL 9010)
53424466	SFDLA-CA-0380x0685x380-LA-0-200-0-0	380 x 685 x 380	305 x 610 x 68 / 88 / 80	Plastic	Rectangular outlet	Anodized aluminum
53427694	SFDLA-CA-0532x0532x390-LV-0-250-0-0	532 x 532 x 390	457 x 457 x 68 / 88 / 80	Plastic	Rectangular outlet	Powder-coated steel (RAL 9010)
53427199	SFDLA-CA-0620x0620x410-EV-0-250-0-0	620 x 620 x 410	545 x 545 x 68 / 88 / 80	Plastic	Vortex flow outlet	Powder-coated steel (RAL 9010)
53424467	SFDLA-CA-0685x0685x420-FX-0-250-0-0	685 x 685 x 420	610 x 610 x 68 / 88 / 80	Plastic	Perforated-plate diffusor	Stainless steel
53427696	SFDLA-CA-0685x0990x430-LV-Z-250-0-0	685 x 990 x 430	610 x 915 x 68 / 88 / 80	Galvanized steel	Rectangular outlet	Powder-coated steel (RAL 9010)
53424468	SFDLA-CA-0685x1295x450-FX-0-250-0-0	685 x 1295 x 450	610 x 1220 x 68 / 88 / 80	Plastic	Perforated-plate diffusor	Stainless steel
53427698	SFDLA-CA-0837x0837x450-LV-Z-250-0-0	837 x 837 x 450	762 x 762 x 68 / 88 / 80	Galvanized steel	Rectangular outlet	Powder-coated steel (RAL 9010)

Subject to technical changes.

# EPA / HEPA / ULPA filter

## Accessories | Fan-filter unit | HEPA + ULPA

Key data	
Description	Fan with AC motor (220 V, 50–60 Hz single-phase, 0.9 A/0.17 kW) Integrated electronic control system with main switch and heat protection Noise level <52 dB (A) 1.5 m below the filter element Outflow velocity max. 0.6 m/s, depending on the filter efficiency involved



### Housing

The housing consists of an extruded, anodized aluminum frame and a deep-drawn plastic plenum cast in an airtight configuration, with an integrated fan, a connection for measuring the raw-gas concentration and operating pressure drop, plus an operating light. The removable diffuser, fixed in place with tension closures, is made of perforated aluminum sheeting.

### Filter element

HEPA/ULPA filters of filter classes H14 to U17 with aluminum frames can be used (see table for technical data). A prefilter panel is integrated as a standard feature.

### Delivery notes

A prefilter panel is integrated as a standard feature.  
Please order suitable filters as a separate item.

Housing							
Article	Article number	Filter class*	Dimensions (W x L x D) [mm]	Outflow area (W x L) [mm <sup>2</sup> ]	Nominal volume flow [m <sup>3</sup> /h]	Initial pressure drop [Pa]	Weight [kg]
53413832	FFU-AK-0660x1270x380-AC	-	660 x 1270 x 380	580 x 1190	1200	-	26.0

Matching filters							
Article	Article number	Filter class*	Dimensions (W x L x D) [mm]	Outflow area (W x L) [mm <sup>2</sup> ]	Nominal volume flow [m <sup>3</sup> /h]	Initial pressure drop [Pa]	Weight [kg]
53411835	SF14-A-0610x1220x068x05-N13N	H14	610 x 1220 x 068	-	1200	120	-
53411853	SF14-A-0610x1220x088x07-N13N	H14	610 x 1220 x 088	-	1200	90	-
53427808	SF15-A-0610x1220x068x05-N13N	U15	610 x 1220 x 068	-	1200	145	-
53431655	SF15-A-0610x1220x088x07-N13N	U15	610 x 1220 x 088	-	1200	115	-

Subject to technical changes.

\* In accordance with EN 1822.

# EPA / HEPA / ULPA filter

## Accessories | Safe-change system



Key data	
Accessories / Options	Housing: Safety bag and elastic O-ring (featured as standard) Bench: Aerosol connection for checking leakproofing and filter's seal fit, and for measuring the operating pressure drop (T) Manometer for checking the pressure drop (M) Pressure equalization valve (R)

### Housing

The entire housing consists of powder-coated steel in the colour RAL 7035 (Type V) or stainless steel (Type X). The system provides for contamination-free filter replacement using a safety bag (bag in / bag out). The filter element is fixed in place using two eccentric rods made of stainless steel. The hinged and removable maintenance cover is fixed in position with manually operated clamping wheels, and sealed with a circumferential leakproof rubber seal.

### Bench

For putting together a larger or multi stage filter system, up to six housings can be combined with each other in parallel. These are fitted as standard with a rectangular intake and exhaust air duct. The entire unit stands on stable feet.

### Filter element

Fine or EPA/HEPA/ULPA filters can be used with plastic, steel-sheeting or MDF frames in various dimensions.

### Delivery notes

Accessories (see above) can be integrated in the SF-benches on request.  
Please order the suitable filter as a separate item.

Housing				
Article number	Article	Dimensions (W x L x D) [mm]	Dimensions of matching filters (W x L x D) [mm]	Housing material
53424126	SFSafe-V-363	755 x 495 x 570	610 x 305 x 292	Steel, powder-coated RAL 7035
53412788	SFSafe-V-663	755 x 800 x 570	610 x 610 x 292	Steel, powder-coated RAL 7035
-	SFSafe-V-763	755 x 950 x 570	610 x 762 x 292	Steel, powder-coated RAL 7035
53419671	SFSafe-X-663	755 x 800 x 570	610 x 610 x 292	Stainless steel (AISI 304)

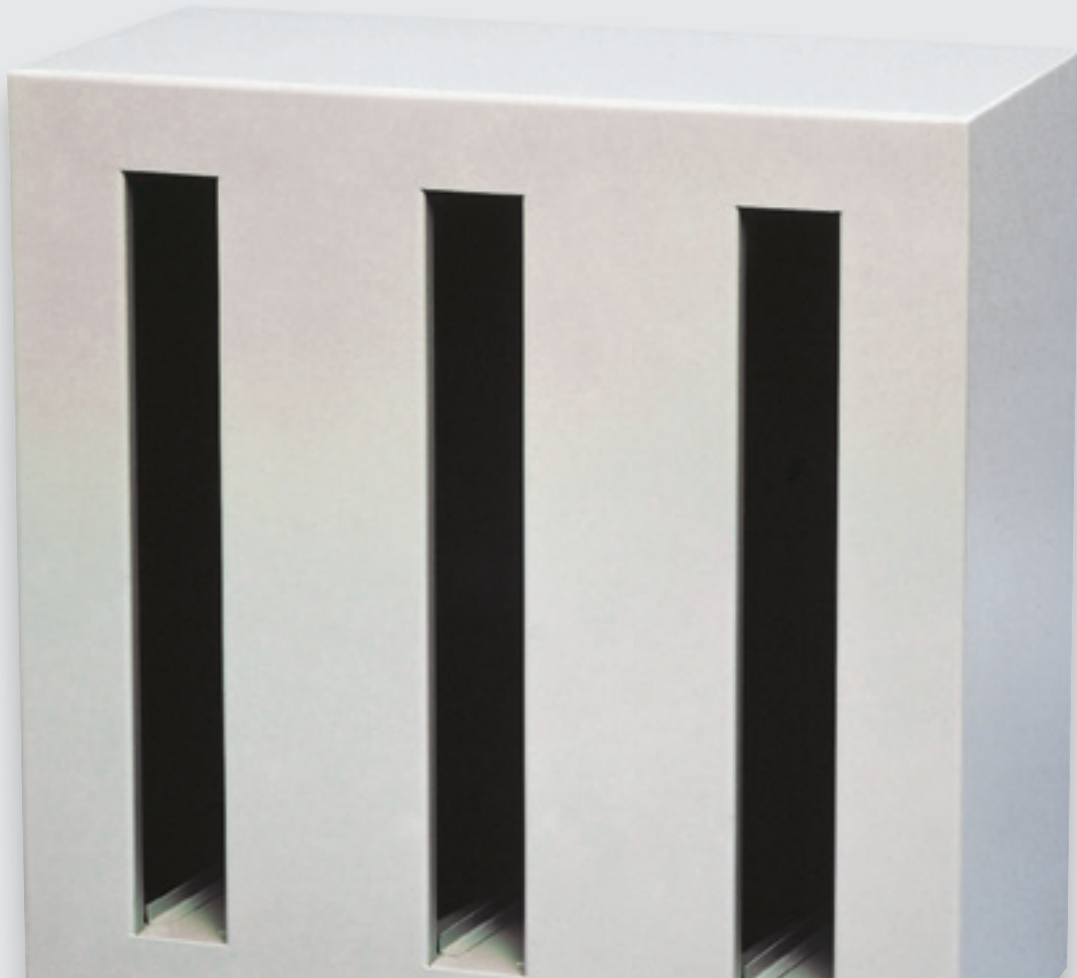
Bench				
Article number	Article	Number of filter stages	Integrated option	Housing material
-	SFBench-1-V-663-C-N-S-M-R	1	Pressure drop manometer, pressure equalization valve	Steel, powder-coated RAL 7035
-	SFBench-2-V-663-C-N-S-M-R	1	Pressure drop manometer, pressure equalization valve	Steel, powder-coated RAL 7035
53430511	SFBench-1-X-363-C-N-S-M-R-T	1	Pressure drop manometer, pressure equalization valve, aerosol connection	Stainless steel (AISI 304)
-	SFBench-1-X-6613-C-N-S-2M-R-T	2	Pressure drop manometer (2 x), pressure equalization valve, aerosol connection	Stainless steel (AISI 304)
-	SFBench-2-X-6613-C-N-S-2M-R-T	2	Pressure drop manometer (2 x), pressure equalization valve, aerosol connection	Stainless steel (AISI 304)

Subject to technical changes.



## Adsorption filters

CarboPleat, DuoPleat, activated-carbon cartridges, activated-carbon bulk-layer filters



Adsorption filters are used predominantly in air-conditioning systems in public buildings, at airports, in offices and industrial facilities, so as to eliminate unwanted and health-hazardous gases and odours.

# Gas adsorption filters

## CarboPleat / DuoPleat | Fine dust



Key data	
Recommended duty temperature	<30 °C
Thermal stability	70 °C
Recommended duty humidity	<60% rel. hum.

### Application

CarboPleat activated-carbon and DuoPleat combi filters improve the air quality in indoor environments and protect both, humans and sensitive products, processes and lines, by eliminating or reducing environmental pollutants and unwanted odours.

The activated-carbon media of both filters are fixed in place using a special bonding process, and provide a maximum of active surface area for efficient gas adsorption. DuoPleat combi filters simultaneously provide particle filtration of class F7, thanks to their additional 3-layered high-performance nonwoven on the face side. The large filtering area installed and the special structure of the filter media involved create not only a particularly high holding capacity and a long operational lifetime, but also very low pressure drop.

The filter capacities stated are referenced to DIN 71460, part 2.

Article number	Article	Filter class *	Dimensions (W x H x D) [mm]	Average efficiency [%]	Nominal volume flow [m <sup>3</sup> / h]	Initial pressure drop [Pa]	Recommended final pressure drop [Pa]	Filter capacity toluene [g]	Filter capacity SO <sub>2</sub> [g]	Filter capacity n-butane [g]
53439756	CP 1 / 1	-	593 x 593 x 292	-	3400	70	-	910	210	105
53439758	CP 5 / 6	-	593 x 491 x 292	-	2700	70	-	740	170	85
53439770	CP 1 / 2	-	593 x 288 x 292	-	1500	70	-	410	95	48
53438699	DP85 1 / 1	F7	593 x 593 x 292	85	3400	130	450	715	165	85
53438701	DP85 5 / 6	F7	593 x 491 x 292	85	2700	130	450	570	132	68
53438700	DP85 1 / 2	F7	593 x 288 x 292	85	1500	130	450	310	72	37

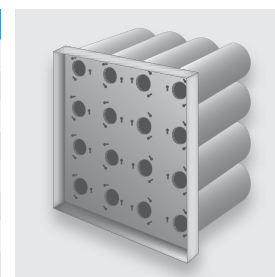
\* In accordance with EN 779.

Subject to technical changes.

# Adsorption filters

## Activated-carbon cartridges | Modules + individual elements

Key data	
Adsorption medium	Activated-carbon, granulated
Operating temperature	≤ 50 °C
Thermal stability	70 °C
Moisture resistance	70 % rel. hum.
Top plate	Steel, painted
Cartridge sheathing	Expanded metal
Seal	Flat seal



### Application

The filters are used in air-conditioning systems in public buildings, at airports, in offices and industrial facilities, in order to eliminate unwanted odours.

### Special features

- Stable construction, quick and easy installation
- Compact-size product with a small volume (430 mm construction depth)
- Two different cartridge diameters (140 mm and 160 mm)
- Three different activated-carbon qualities

Article	Suitable for	Dimensions (W × H × D) [mm]	Number of cartridges	Nominal volume flow [m <sup>3</sup> / h]	Initial pressure drop [Pa]	Activated-carbon volume [dm <sup>3</sup> ]
<b>Module</b>						
C bank B-0305x0610x430 / 08x140 odour	Odours / organic solvents	305 × 610 × 430	8	1700	200	32
C bank B-0507x0610x430 / 12x140 odour	Odours / organic solvents	507 × 610 × 430	12	2500	200	48
C bank B-0610x0610x430 / 16x140 odour	Odours / organic solvents	610 × 610 × 430	16	3400	200	64
C bank B-0305x0610x430 / 08x140 acid	Acidic gases	305 × 610 × 430	8	1700	200	32
C bank B-0507x0610x430 / 12x140 acid	Acidic gases	507 × 610 × 430	12	2500	200	48
C bank B-0610x0610x430 / 16x140 acid	Acidic gases	610 × 610 × 430	16	3400	200	64
C bank B-0305x0610x430 / 08x140 iodine	Radioactive iodine	305 × 610 × 430	8	1700	200	32
C bank B-0507x0610x430 / 12x140 iodine	Radioactive iodine	507 × 610 × 430	12	2500	200	48
C bank B-0610x0610x430 / 16x140 iodine	Radioactive iodine	610 × 610 × 430	16	3400	200	64
C bank B-0305x0610x430 / 05x160 odour	Odours / organic solvents	305 × 610 × 430	5	1500	150	30
C bank B-0507x0610x430 / 07x160 odour	Odours / organic solvents	507 × 610 × 430	7	2550	150	42
C bank B-0610x0610x430 / 09x160 odour	Odours / organic solvents	610 × 610 × 430	9	3000	150	54
C bank B-0305x0610x430 / 05x160 acid	Acidic gases	305 × 610 × 430	5	1500	150	30
C bank B-0507x0610x430 / 07x160 acid	Acidic gases	507 × 610 × 430	7	2550	150	42
C bank B-0610x0610x430 / 09x160 acid	Acidic gases	610 × 610 × 430	9	3000	150	54
C bank B-0305x0610x430 / 05x160 iodine	Radioactive iodine	305 × 610 × 430	5	1500	150	30
C bank B-0507x0610x430 / 07x160 iodine	Radioactive iodine	507 × 610 × 430	7	2550	150	42
C bank B-0610x0610x430 / 09x160 iodine	Radioactive iodine	610 × 610 × 430	9	3000	150	54
<b>Individual elements</b>						
C cart B-0140x0400x035 odour	Odours / organic solvents	140 × 400 × 35	-	-	-	-
C cart B-0140x0400x035 acid	Acidic gases	140 × 400 × 35	-	-	-	-
C cart B-0140x0400x035 iodine	Radioactive iodine	140 × 400 × 35	-	-	-	-
C cart B-0160x0400x035 odour	Odours / organic solvents	160 × 400 × 35	-	-	-	-
C cart B-0160x0400x035 acid	Acidic gases	160 × 400 × 35	-	-	-	-
C cart B-0160x0400x035 iodine	Radioactive iodine	160 × 400 × 35	-	-	-	-
C plate B-0305x0610x40 / 08x140	-	305 × 610 × 40	8	-	-	-
C plate B-0507x0610x40 / 12x140	-	507 × 610 × 40	12	-	-	-
C plate B-0610x0610x40 / 16x140	-	610 × 610 × 40	16	-	-	-
C plate B-0305x0610x40 / 05x160	-	305 × 610 × 40	5	-	-	-
C plate B-0507x0610x40 / 07x160	-	507 × 610 × 40	7	-	-	-
C plate B-0610x0610x40 / 09x160	-	610 × 610 × 40	9	-	-	-

Subject to technical changes.

# Adsorption filters

## Activated-carbon bulk-layer filters



Key data	
Adsorption medium	Activated-carbon, granulated (three different qualities available)
Filter type	Adsorbing
Operating temperature	≤ 50 °C
Thermal stability	70 °C
Moisture resistance	70 % rel. hum.
Frame	Steel sheeting, galvanized
Grid	Perforated sheeting, galvanized
Seal	Semicircular PU profile, endlessly foamed

### Application

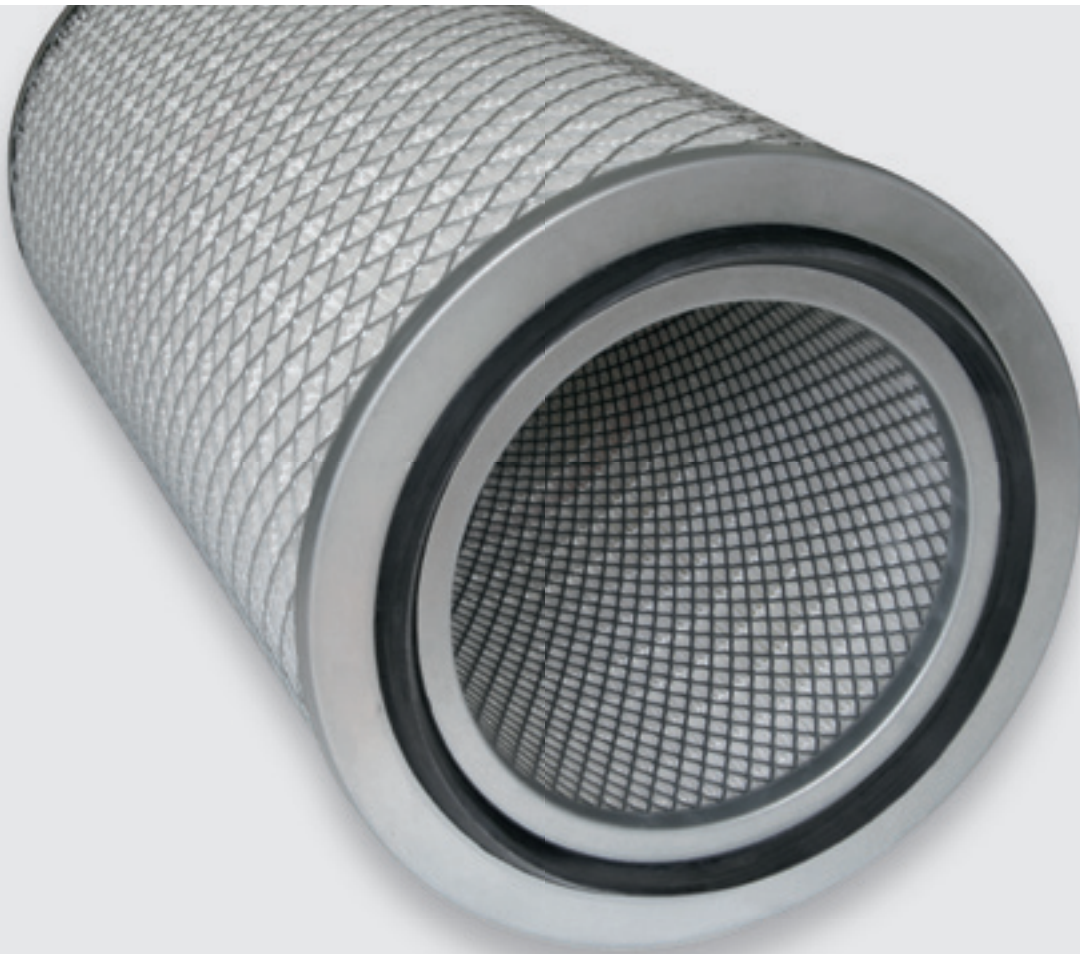
The filters are used in air-conditioning systems in public buildings, at airports, in offices and industrial facilities, so as to eliminate unwanted odours.

Article	Dimensions (W × H × D) [mm]	Nominal volume flow [m <sup>3</sup> /h]	Initial pressure drop [Pa]	Depth [mm]	Volume [dm <sup>3</sup> ]
C bulk 0305x0610x292 odour-N10N	305 × 610 × 292	1000	350	50	32
C bulk 0610x0610x292 odour-N10N	610 × 610 × 292	2000	350	50	65
C bulk 0305x0610x292 acid-N10N	305 × 610 × 292	750	270	50	32
C bulk 0610x0610x292 acid-N10N	610 × 610 × 292	1500	270	50	65
C bulk 0305x0610x292 iodine-N10N	305 × 610 × 292	500	200	50	32
C bulk 0610x0610x292 iodine-N10N	610 × 610 × 292	1000	200	50	65

Subject to technical changes.

## Filter cartridges (turbomachinery)

Pulse-jet, depth-loading filters



Viledon® pulse-jet filter cartridges and depth-loading filter cartridges achieve optimum results in intake air filtration for turbomachinery. They are, for instance, the ideal solution for pulse-jet systems, where very high dust concentrations and/or fine, pourable dusts predominate.

# Filter cartridges for turbomachinery

Pulse-jet | GTS | Fine dust



Key data	
Filter medium	Innovative high-performance nonwoven with water-repellent finish, made of synthetic microfibers
Recommended final pressure drop	800 Pa
Thermal stability	80 °C
Moisture resistance	100 % rel. hum.
Material for cover, base and support cages	Steel, galvanized
Seal	EPDM

## Application

Pulse-jet filter cartridges are used for intake air filtration at gas turbines and turbocompressors at both onshore and offshore installations.

## Characteristics and pluses

- With their optimum cleaning characteristics, GTS filter cartridges maximize the lifetimes of intake air systems for turbomachinery and reduce the operating costs significantly.
- Innovative high-performance nonwovens with a water-repellent finish and made of synthetic microfibers enable GTS filter cartridges to retain their excellent performance features under all climatic duty conditions.
- The filter medium achieves high arrestance performance, large dust holding capacity, a low average pressure drop and high cost-efficiency. The GTS series is particularly well suited for locations with high dust concentrations in the outside air.
- GTS filter cartridges have been optimized in terms of filtering area and pleat geometry. The active filtering area remains effective over the entire operational lifetime.
- In order to avoid corrosion, the inner and outer support cages, plus the cover and base, are made from galvanized steel or stainless steel. These components are cast in a leakproof configuration, so as to ensure maximum security against dust breakthrough during pulse-jet cleaning.
- Optimum seal with the mounting plate using a foamed-on EPDM seal.

## Delivery notes

Customized variants and adapters (bayonet, etc.) plus cover, base and support cage in stainless steel version available on request.

Article number	Article	Filter class*	Average efficiency [%]	Average arrestance efficiency [%]	Nominal volume flow [m³/h]	Initial pressure drop [Pa]	Outer diameter [mm]	Construction height [mm]	Filtering area [m²]
53412163	GTS 445 K66S0	F9	99.9	>97	1400	60	445/324	660	25.0
53412162	GTS 324 S66S0	F9	99.9	>97	1100	115	324	660	20.0

\* Modeled on EN 779.

Subject to technical changes.

# Filter cartridges for turbomachinery

## Depth-loading filters | TFP | Fine dust

Key data	
Filter medium	TFP 60: Synthetic-organic high-performance nonwoven; TFP 95: 3-layered synthetic-organic high-performance nonwoven; TFP 98: Hybrid-synthetic nanofiber nonwoven
Recommended final pressure drop	800 Pa
Maximum permitted operating pressure	3000 Pa
Material cover, base and support cages	TFP 60/TFP 95: Polystyrene; TFP 98: Steel, galvanized
Seal	Foamed-on polyurethane



### Application

Depth-loading filter cartridges are used in intake air filtration for gas turbines and turbocompressors at both onshore and offshore installations.

### Characteristics and pluses of the TFP 98 series

- Innovative hybrid-synthetic nanofiber (HSN) nonwovens produced in-house from water-repellent synthetic-organic fibers.
- In conjunction with the stable construction, the HSN filter medium achieves high arrestance performance, large dust holding capacity, low pressure drop, high cost-efficiency.
- The series is particularly well suited for locations with a high proportion of fine dust in the outside air.
- Optimum ratio between filtering area, pleat depth and number of pleats. Complete efficacy of the active filtering area over the entire operational lifetime. The pleats will not collapse, even in the case of high pressure drop, thanks to the very stable pleat geometry.
- The construction of the filter cartridges withstands the mechanical stresses of a pulse-jet cleaning routine. With the depth-loading filter media, however, this is recommended only in individual cases.
- Pleat pack, plus the inner and outer support cages, are cast into the steel-galvanized cover and base in a leakproof configuration. Optimum seal with the mounting plate using a foamed-on polyurethane seal.
- The TFP 98 set is space-savingly delivered in a single packing unit.

### Delivery notes

TFP 60/95: Other versions (e. g. metal version) and adapter (bayonet, Tenkay etc.) available on request.

Article number	Article	Filter class*	Average arrestance efficiency [%]	Average efficiency [%]	Nominal volume flow [m <sup>3</sup> /h]	Initial pressure drop [Pa]	Dust holding capacity (AC Fine / 800 Pa) [g]	Outer diameter [mm]	Construction height [mm]	Filtering area [m <sup>2</sup> ]
53279363	TFP 60 P66P2	F6	>99	65.0	1000	110	1200	330	660	2.9
53371572	TFP 95 P66P2	F8	>99	92.0	1000	110	1300	330	660	11.0
53431246	TFP 98 S66S0-327	F9	>99	97.2	1100	115	2200	327	660	10.0
53431247	TFP 98 S66S0-445	F9	>99	97.2	1400	65	2800	445	660	14.0
53431248	TFP 98 S66S0-327+445-set	F9	>99	97.2	2500	125	5000	327+445	1330	24.0

\* Modeled on EN 779.

Subject to technical changes.





## High-temperature filters

HT filter mats, HT filter packs, HT cassette filters



For air filtration at temperatures above 100 °C up to a maximum of 260 °C, the Viledon® high-temperature filters are the right choice. The silicone-free filter elements meet particularly stringent requirements for air purity, process dependability and cost-efficiency. The pleated filter media are made from special, thermally stable micro-glass-fiber papers.

# High-temperature filters

## HT filter mats | Fine dust



Key data	
Filter medium	LH 243: Filter medium made from ultra-fine, homogeneously spun glass-fibers, Clean air side with special final layer made of glass-fiber nonwoven; LH 244: Filter medium made from ultra-fine homogeneously spun glass-fibers, Clean air side with special final layer made of synthetic staple-fiber nonwoven; HTX: Synthetic high-temperature-resistant staple-fiber nonwoven
Recommended final pressure drop	250 Pa
Thermal stability	LH 244: 150 °C; LH 243 und LH 620: 200 °C
Moisture resistance	100% rel. hum.
Fire class	F1

### Application

- Filtration of recirculated air in drying booths or drying ovens in surface treatment systems
- Filtration of air and acid/gases at high temperatures

### Delivery notes

Rolls are available up to a maximum of 10 m x 1.5 m, customized dimensions are available as roll goods or blanks on request.

Article	Filter class*	Average arrestance efficiency [%]	Average efficiency [%]	Nominal volume flow [m <sup>3</sup> / h × m <sup>2</sup> ]	Initial pressure drop [Pa]	Thickness [mm]
LH 243	F5	97	46	2200	125	20
LH 244	F5	97	46	2200	125	20
LH 620	F5	97	46	2200	125	20

\* In accordance with EN 779.

Subject to technical changes.

# High-temperature filters

## HT filter packs

Key data	
Filter medium	LH 350/LH 1000: Glass-fiber nonwoven framed in expanded aluminum metal, type sticker on the clean air side; LH 1000 OV: Glass-fiber nonwoven framed in expanded aluminum metal, type sticker on the clean air side, Clean air side with additional glass-fiber nonwoven; LH 370: Progressively structured PES staple-fiber nonwoven with a scrim on the clean air side in expanded aluminum metal
Recommended final pressure drop	250 Pa
Thermal stability	LH 350: 200 °C; LH 1000 und LH 1000 OV: 300 °C; LH 370: 120 °C
Moisture resistance	100% rel. hum.
Fire class	F1



### Application

HT filter packs are used for recirculated air filtration in drying booths and drying ovens for surface treatment systems, and for the filtration of air and acidic gases at high temperatures.

### Delivery notes

Standard dimensions: Approx. 480×480×14 mm, customized dimensions available on request.  
Delivery unit: 30 pcs./carton

Subject to technical changes.

Article	Dimensions (W×L) [mm]	Average arrestance efficiency [%]	Nominal volume flow [m <sup>3</sup> /h]	Initial pressure drop [Pa]	Dust holding capacity (AC Fine /450 Pa) [g]	Weight [kg]
LH 350	480×480	99	350	75	40	0.25
LH 1000	480×480	94	1000	85	75	0.30
LH 1000/OV	480×480	92	1000	60	100	0.30
LH 370	480×480	99	900	30	75	0.30

# High-temperature filters

HT cassette filters | Construction depth up to 78 mm | Fine dust



Key data	
Recommended final pressure drop	300 Pa
Thermal stability	385 °C (aluminum frame) / 260 °C (steel sheeting frame)
Frame	P-3-G: Extruded aluminum profile I; P-2-F: Steel sheeting, galvanized
Seal	Textile glass round-cord seal; G1: Raw air side; G2: Clean air side

## Application

The principal application category for Viledon® high-temperature HT 60 and HT 90 cassette filters with construction depths of up to 78 mm is air filtration in paint driers for the automotive industry. The filters are mounted in the booth ceilings or the side channels of the dryer pipes, and meet particularly stringent requirements for air purity, process dependability and cost-efficiency. Besides the applications in surface treatment technology, the filters also meet the toughest of quality stipulations for general drying technology. Type HT 60 A 480x480 mm (class F6) frequently serves as an upgrade for expanded-metal filter packs and cells.

## Special features

- The Viledon® HT 60 and HT 90 high-temperature cassette filters excel in terms of a high dust holding capacity and very good mechanical sturdiness even when subjected to inhomogeneous air flows.
- Thanks to low filter resistances, very long operational lifetimes can be achieved, coupled with exceptionally cost-efficient operating characteristics.

## Delivery notes

Available in all dimensions commonly encountered on the market.  
Customized dimensions, filtering areas or frame materials available on request.

Article number	Article	Filter class*	Dimensions (L x W x D) [mm]	Average arrestance efficiency [%]	Average efficiency [%]	Nominal volume flow [m³/h]	Initial pressure drop [Pa]	Filtering area [m²]	Weight [kg]	Seal position
53391947	HT60-S-0915x0457x055-G-1-M-3-P-3-G	F6	915x457x55	99	65	1800	90	8.0	4.5	Raw air side
53412739	HT60-S-0915x0457x055-G-2-M-3-P-3-G	F6	915x457x55	99	65	1800	90	8.0	4.5	Clean air side
53377182	HT60-A-0915x0457x055-G-1-M-3-P-2-F	F6	915x457x55	99	65	1800	90	8.0	5.5	Raw air side
53412936	HT60-A-0915x0457x055-G-2-M-3-P-2-F	F6	915x457x55	99	65	1800	90	8.0	5.5	Clean air side
53360881	HT60-S-0915x0457x078-G-2-M-3-P-3-G	F6	915x457x78	99	65	-	-	9.0	5.0	Clean air side
53347420	HT60-S-0915x0457x078-G-1-M-3-P-3-G	F6	915x457x78	99	65	-	-	9.0	5.0	Raw air side
53388008	HT60-A-0610x0610x055-G-1-M-3-P-2-F	F6	610x610x55	99	65	-	-	7.0	5.5	Raw air side
53299750	HT60-S-0610x0610x078-G-2-M-3-P-3-G	F6	610x610x78	99	65	1700	75	8.0	5.0	Clean air side
53372102	HT60-S-0610x0610x078-G-1-M-3-P-3-G	F6	610x610x78	99	65	1700	75	8.0	5.0	Raw air side
53391944	HT60-A-0490x0490x040-G-1-M-3-P-2-F	F6	490x490x40	99	65	1500	125	4.0	1.5	Raw air side
53381929	HT60-A-0490x0490x040-G-2-M-3-P-2-F	F6	490x490x40	99	65	1500	125	4.0	1.5	Clean air side
53401084	HT60-A-0480x0480x022-G-2-M-3-P-2-F	F6	480x480x22	99	60	1000	100	2.0	1.5	Clean air side
53391945	HT90-S-0915x0457x055-G-1-M-3-P-3-G	F8	915x457x55	>99	93	1800	120	8.0	4.5	Raw air side
53391799	HT90-A-0915x0457x055-G-1-M-3-P-2-F	F8	915x457x55	>99	93	1800	120	8.0	5.5	Raw air side
53437105	HT90-A-0915x0457x055-G-2-M-3-P-2-F	F8	915x457x55	>99	93	1800	120	8.0	5.5	Clean air side
53324333	HT90-S-0915x0457x078-G-1-M-3-P-3-G	F8	915x457x78	>99	93	-	-	9.0	5.0	Raw air side
53341711	HT90-S-0915x0457x078-G-2-M-3-P-3-G	F8	915x457x78	>99	93	-	-	9.0	5.0	Clean air side
53395124	HT90-A-0610x0610x055-G-1-M-3-P-2-F	F8	610x610x55	>99	93	-	-	7.0	5.5	Raw air side
53342005	HT90-S-0610x0610x078-G-1-M-3-P-3-G	F8	610x610x78	>99	93	1700	100	8.0	5.0	Raw air side
53320071	HT90-S-0610x0610x078-G-2-M-3-P-3-G	F8	610x610x78	>99	93	1700	100	8.0	5.0	Clean air side

\* In accordance with EN 779.

Subject to technical changes.

Key data	
Recommended final pressure drop	300 Pa
Thermal stability	at least 260 °C
Frame	25 mm top frame (type B) or box shape (type A)
Frame material	Steel sheeting, galvanized; Aluminum extruded section
Seal	Textile glass round-card seal



## Application

The principal application category for the Viledon® HT 60 and HT 90 high-temperature cassette filters with an construction depth of 292 mm is air filtration in recirculated air equipment of paint drying processes in the automotive industry. The filters meet particularly stringent requirements for air purity, process dependability and cost-efficiency.

Besides the applications in surface treatment technology, the filters also meet the toughest of quality stipulations for general drying technology.

## Special features

- The Viledon® HT 60 and HT 90 high-temperature cassette filters excel in terms of a particularly high dust holding capacity and very good mechanical strength, even when subjected to inhomogeneous air flows.
- Thanks to low filter resistances, very long operational lifetimes can be achieved, coupled with exceptionally cost-efficient operating characteristics.
- High resistance to solvent vapours.

## Special variants

For confined space situations, the filters are available with a top frame (type B) featuring a reduced through-hole width of 547 mm (designation: -547).

For unfavourable flow conditions in the system, the filters can be supplied in a stronger version (designation: -reinforced).

For temperatures up to 350 °C, the filters are also available with a frame made of aluminized steel sheeting (designation: -D).

For systems with only a confined space at their disposal, the filter elements are also available in an construction depth of 150 mm.

## Delivery notes

Customized dimensions, different frame materials, higher thermal stability or a specially reinforced version available on request.

Article number	Article	Filter class*	Dimensions [L x W x D] [mm]	Average arrestance efficiency [%]	Average efficiency [%]	Nominal volume flow [m³/h]	Initial pressure drop [Pa]	Filtering area [m²]	Weight [kg]	Seal position
53366788	HT60-A-0610x0610x292-G-2-M-3-Q-2-F	F6	610x610x292	99	71	3400	80	12.0	10.0	Clean air side
53414743	HT60-A-0610x0610x292-G-1-M-3-Q-2-F	F6	610x610x292	99	71	3400	80	12.0	10.0	Raw air side
53367242	HT60-A-0305x0610x292-G-2-M-3-Q-2-F	F6	305x610x292	99	71	1700	90	6.0	6.0	Clean air side
53366698	HT60-B-0592x0592x292-G-2-M-3-Q-2-F	F6	592x592x292	99	71	3400	100	9.0	7.0	Clean air side
53366787	HT60-B-0592x0592x292-G-1-M-3-Q-2-F	F6	592x592x292	99	71	3400	100	9.0	7.0	Raw air side
53429703	HT60-B-0490x0592x292-G-2-M-3-Q-2-F	F6	490x592x292	99	71	2800	100	9.0	7.0	Clean air side
53366705	HT60-B-0287x0592x292-G-2-M-3-Q-2-F	F6	287x592x292	99	71	1700	110	4.5	4.5	Clean air side
53366706	HT60-B-0287x0592x292-G-1-M-3-Q-2-F	F6	287x592x292	99	71	1700	110	4.5	4.5	Raw air side
53394224	HT60-B-0287x0592x292-G-2-M-3-Q-2F-547 mm	F6	287x592x292	99	71	1700	110	4.5	4.5	Clean air side
53394225	HT60-B-0592x0592x292-G-2-M-3-Q-2F-547 mm	F6	592x592x292	99	71	3400	100	9.0	7.0	Clean air side
53414564	HT60-B-0592x0592x292-G-2-M-3-Q-2F-547-Re	F6	592x592x292	99	71	3400	100	9.0	7.0	Clean air side
53426898	HT60-A-0305x0610x292-G-2-M-3-Q-2F-reinfo	F6	305x610x292	99	71	1700	90	6.0	6.0	Clean air side
53414564	HT60-B-0592x0592x292-G-2-M-3-Q-2F-547-Re	F6	592x592x292	99	71	3400	100	9.0	7.0	Clean air side
53340443	HT90-A-0610x0610x292-G-2-M-3-Q-2-F	F8	610x610x292	>99	93	3400	120	12.0	10.0	Clean air side
53433314	HT90-A-0610x0610x292-G-1-M-3-Q-2-F	F8	610x610x292	>99	93	3400	120	12.0	10.0	Raw air side
53371208	HT90-A-0305x0610x292-G-2-M-3-Q-2-F	F8	305x610x292	>99	93	1700	130	6.0	6.0	Clean air side
53366717	HT90-B-0592x0592x292-G-2-M-3-Q-2-F	F8	592x592x292	>99	93	3400	140	9.0	7.0	Clean air side
53409792	HT90-B-0592x0592x292-G-1-M-3-Q-2-F	F8	592x592x292	>99	93	3400	140	9.0	7.0	Raw air side
53366727	HT90-B-0287x0592x292-G-2-M-3-Q-2-F	F8	287x592x292	>99	93	1700	150	4.5	4.5	Raw air side
53382668	HT90-B-0287x0592x292-G-1-M-3-Q-2-F	F8	287x592x292	>99	93	1700	150	4.5	4.5	Raw air side

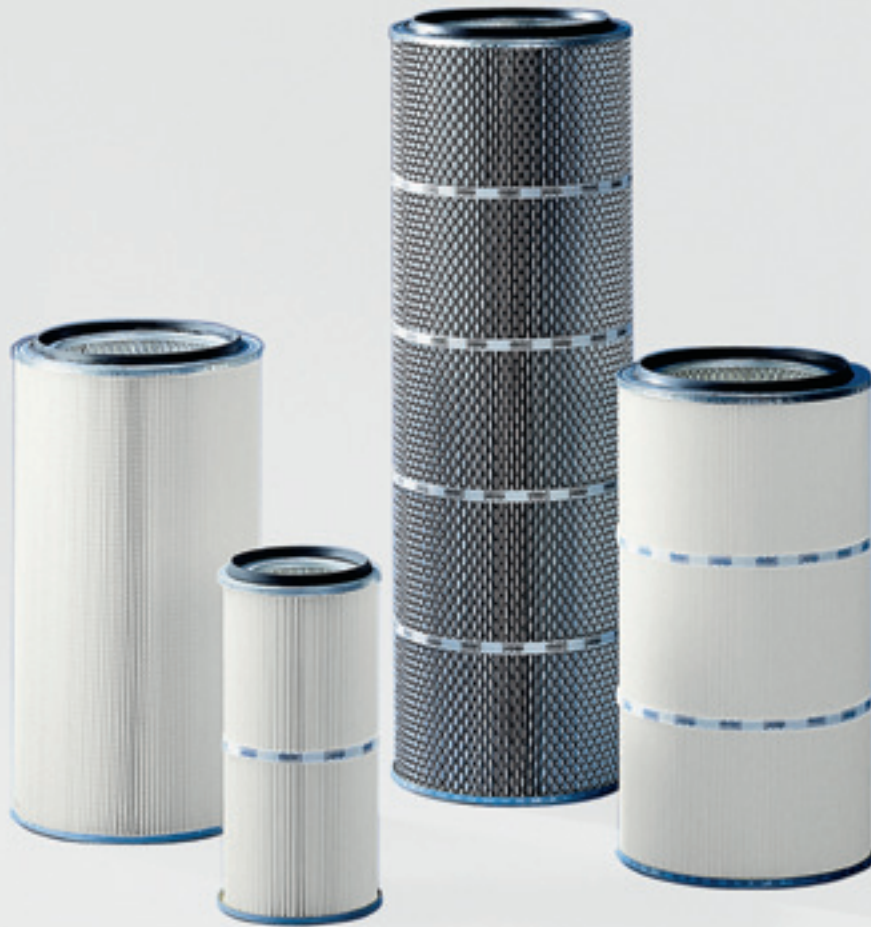
Subject to technical changes.

\* In accordance with EN 779.



## Filters for dust removal

Filter cartridges, filter bags, filter plates, filter media



We develop customized dust removal concepts for enhancing occupational safety and protecting both, the environment and technical systems, as well as for product recovery. We customize Viledon® filter media for dust removal, filter cartridges and filter plates in terms of model, construction height, nominal diameters and pleat geometry to suit the particular requirements involved.

# Filters for dust removal

## Filter cartridges



### DIN standard cartridges

Cylindrical filter cartridges for horizontal and vertical installation with integrated interior support cage in various heights. Simple installation using a tie-rod or a closure cover. Available in nominal diameters of 327 mm and 200 mm, and in the standard heights of 400, 600, 660, 1000 and 1200 mm.

### Twist&Fix filter cartridges

- Cylindrical filter cartridges with four nominal diameters 145, 156, 218 and 324 mm, with standard heights of 300, 600, 1000, 1200 and 1500 mm and with 3- or 4-hook flanges. Perfect fit of the filter cartridge and protection of the filter medium thanks to centering collar.
- Spacer ribs (patented) on both sides at the flange ensure correct installation and an optimum seal to the system's raw-gas compartment.
- A foamed-on seal on both sides – for installation on the raw or clean-gas side as desired.

### Snap&Fix filter cartridges

- The cartridge series snaps into place “properly”, for a perfect axial seal achieved without any further aids like metal sleeves or spring washers.
- Suitable for upgrading old bag filter systems or for new installations.
- Installation: on the clean-gas side without any elaborate screwing work: simply press into place and the patented snap-on hooks will engage.
- Dismantling: just takes a matter of seconds with the aid of a snap-ring lifter.

### Pluses

- Low pressure drop values
- Minimized compressed-air-consumption for the cleaning routine
- Pleat geometry optimally matched to the application concerned
- All cartridges are fitted with surface media, and can be cleaned using a pulse-jet procedure or rotary nozzles
- Long operational lifetimes
- Low replacement costs
- Low disposal outlay thanks to long operational lifetimes
- Antistatic variants have DEKRA certification.
- The pleat geometry has been optimally matched to the application involved.

### Delivery notes

Available in the nominal diameters of 327 mm and 200 mm, and in the standard heights 400, 600, 660, 1000 and 1200 mm.

Article number	Article	Version	Filter medium	Nominal diameter / Nominal height [mm]	Number of pleats	Filtering area [m <sup>2</sup> ]	Pleat depth [mm]	Dust class
53322727	LP 200 S-40-A 20-07	DIN standard cartridge	FE 2507-sinus, PES	200/400	175	2.0	48	M
8931038	LP 30 S 12S0C	DIN standard cartridge	FE 2521, PES+ PTFE membrane	327/1205	135	15.6	48	M
53343700	LP 327 S-12-A 15-06	DIN standard cartridge	FE 2506-sinus, PES (antistatic)	327/1205	135	15.6	48	M
53279884	LP 02 S 30S0N	DIN standard cartridge	FE 2509, PP	327/305	175	5.0	48	M
8905042	LP 02 D 66S2N	DIN standard cartridge	FE 2509, PP	327/660	175	11.0	48	M
7572040	LP 02 S 66S2N	DIN standard cartridge	FE 2509, PP	327/660	175	11.0	48	M
53421628	LP 327 S-66-A 1407-L	DIN standard cartridge	FE 2507-sinus, PES	327/660	220	14.0	48	M
53274360	LP 02 S 76S2N	DIN standard cartridge	FE 2509, PP	327/765	175	12.8	48	M
8980677	LP 01 S 10S4N	DIN standard cartridge	FE 2509, PP	327/1005	135	13.0	48	M
53324309	LP 327 S-12-A 25-07	DIN standard cartridge	FE 2507-sinus, PES	327/1205	220	25.0	48	M
53321826	LP 152 B-15-A 54-07	Snap&Fix filter cartridge	FE 2507-sinus, PES	152/1505	72	5.4	25	M
53327406	LP 155 B-15-A 54-07	Snap&Fix filter cartridge	FE 2507-sinus, PES	155/1505	72	5.4	25	M
53375277	LP 145 G-10-A 27-06	Twist&Fix cartridge	FE 2506-sinus, PES (antistatic)	145/1005	54	2.7	25	M
53372251	LP 156 G-10-A 36-06	Twist&Fix cartridge	FE 2506-sinus, PES (antistatic)	156/1005	72	3.6	25	M
53295115	LP 218 G-15-A 75-09	Twist&Fix cartridge	FE 2509, PP drainage nonwoven	218/1505	79	7.5	32	M
53306324	LP 324 G-60-B 77-21	Twist&Fix cartridge	FE 2521, PES+ PTFE membrane	324/605	148	7.7	48	M

Subject to technical changes.



# Filters for dust removal

## Filter bags



Viledon® filter bags are available in a large number of different sizes, lengths and models, and in different top and bottom section variants. On request, Viledon® filter bags are available made from almost all the filter media commonly encountered on the market.

Viledon® filter bags can be precoated to suit your own particular needs, e.g. with FHM-1500 for sticky dusts or with lime for oily dusts.

### Viledon® NEXX Bags

- Viledon® NEXX filter bags are the next generation of surface filters, with outstanding advantages compared to conventional filters featuring needlefelt.
- Original Viledon® NEXX: This high-quality patented filter medium possesses unique properties for surface filtration.
- Worry-free cleaning: Dusts can be quickly and easily cleaned off the microfiber layer of the Viledon® NEXX filter bags.
- Reduced energy costs: Thanks to optimized filter performance, less compressed air is used during the cleaning process, and the fan's power consumption downsized.
- Low emissions: With Viledon® NEXX, clean-gas values of  $< 1 \text{ mg/m}^3$  can be lastingly achieved.
- In comparison to needlefelts, Viledon® NEXX requires around 50% less resources to produce. Coupled with the same (or an even higher) filtration performance! This means you're making a proactive contribution to protecting the natural environment and ensuring sustainable resource-economy.

### Viledon® MAXX Bags

- For maximized filtration performance.
- MAXX Bags are finished with a PTFE membrane on the face side.
- Ultra-fine dusts in the nm range are efficiently arrested, and clean-gas concentrations of  $< 1 \text{ mg/m}^3$  achieved.
- Very good regenerability using a pulse-jet routine.

### Viledon® Fiber Bags

- Patented filter bag with unique characteristics.
- For arresting fibrous dusts, in particular, extremely low pressure drop can be achieved in conjunction with high arrestance.
- Significantly longer useful lifetimes than conventional needlefelts.
- Very high resistance to abrasion.
- Viledon® FE 2519 + FE 2520 are made from recycled polyester. So we manage to bring back into industrial circulation a plastic that would have been dumped on a landfill, thus making a proactive contribution towards resource-economy.
- Has proved its worth many times over in the wood industry.

### Delivery notes

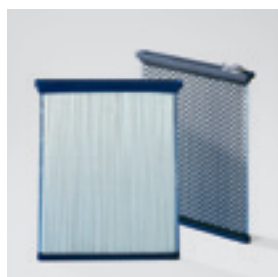
The innovative Viledon® filter media are also available as roll material: Antistatic (gray-black raster print) or in the standard version (gray).

Article	Filter medium	Weight per unit area approx. [g/m <sup>2</sup> ]	Maximum tensile force along/ across [N/5 cm]	Thermal stability [°C]	Application
Viledon® NEXX Bags	NEXX	240	700/800	150	E.g. pigment, cement, metal industries, fine dusts
Viledon® NEXX Bags as	NEXX as	240	700/800	150	E.g. pigment, cement, metal industries, fine dusts
Viledon® MAXX Bags	FE 2921	280	750/750	150	Ultra-fine dusts
Viledon® MAXX Bags as	FE 2923	280	750/750	150	Ultra-fine dusts
Viledon® Fiber Bags	FE 2920	250	750/750	150	Wood industry, paper industry, fibrous dusts
Viledon® Fiber Bags as	FE 2919	260	750/750	150	Wood industry, paper industry, fibrous dusts

Subject to technical changes.

# Filters for dust removal

## Filter plates



Key data	
Note	Electrostatically conductive filter plates must be properly earthed

### Product characteristics

- High-performance filter plates for every application, to ensure compliance with the statutory residual-dust emission values
- Long lifetime coupled with low maintenance and operating costs
- Space-saving thanks to compact construction with pleated, synthetic filter media
- Can be regenerated using all customary cleaning processes and by washing

### Delivery notes

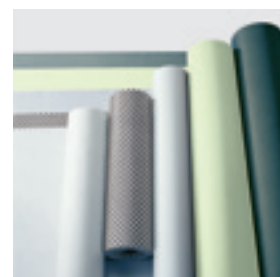
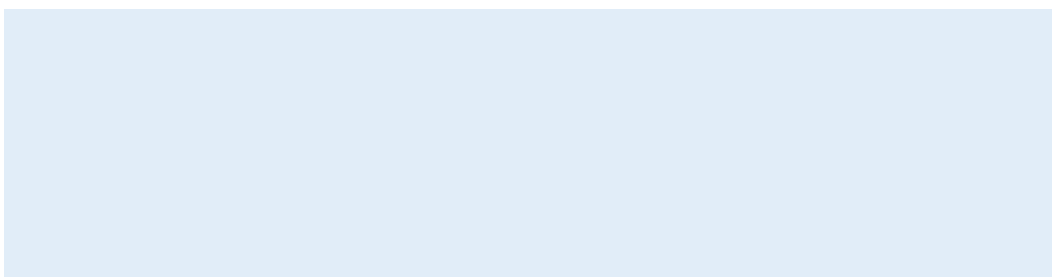
Customized product variants and dimensions available on request.

Article number	Article	Dimensions (W x H x D) [mm]	Filter medium	Filtering area [m <sup>2</sup> ]	Dust class
53253430	FP 90 P1250N	490 x 1208 x 33	FE 2502 PES	4.3	M
53268395	FP 90 P1250L	490 x 1208 x 33	FE 2501 PES (antistatic), with earthing lead	4.3	M
53253513	FP 90 P1250C	490 x 1200 x 33	FE 2521 PES + PTFE membrane	4.3	M
53344264	FP 90 P1250D	490 x 1200 x 33	FE 2523 PES (antistatic) + PTFE membrane, with earthing lead	4.3	M
53253636	FP 90 P1050N	490 x 1000 x 33	FE 2502 PES	3.6	M
53268394	FP 90 P1050L	490 x 1000 x 33	FE 2501 PES (antistatic), with earthing lead	3.6	M
53253639	FP 90 P1050C	490 x 1000 x 33	FE 2521 PES + PTFE membrane	3.6	M
53253515	FP 90 P6050N	490 x 600 x 33	FE 2502 PES	2.1	M
53268396	FP 90 P6050L	490 x 600 x 33	FE 2501 PES (antistatic), with earthing lead	2.1	M
53253432	FP 90 P6050C	490 x 600 x 33	FE 2521 PES + PTFE membrane	2.1	M
53253518	FP 91 P1250N	490 x 1200 x 33	FE 2502 PES	2.8	M
53268400	FP 91 P1250L	490 x 1200 x 33	FE 2501 PES (antistatic), with earthing lead	2.8	M
53253520	FP 91 P1250C	490 x 1200 x 33	FE 2521 PES + PTFE membrane	2.8	M
53294462	FP 91 P1250D	490 x 1200 x 33	FE 2523 PES (antistatic) + PTFE membrane, with earthing lead	2.8	M
53253521	FP 91 P1050N	490 x 1000 x 33	FE 2502 PES	2.4	M
53268397	FP 91 P1050L	490 x 1000 x 33	FE 2501 PES (antistatic), with earthing lead	2.4	M
53253522	FP 91 P1050C	490 x 1000 x 33	FE 2521 PES + PTFE membrane	2.4	M
53253525	FP 91 P6050N	490 x 600 x 33	FE 2502 PES	1.4	M
53268402	FP 91 P6050L	490 x 600 x 33	FE 2501 PES (antistatic), with earthing lead	1.4	M
53254315	FP 91 P6050C	490 x 600 x 33	FE 2521 PES + PTFE membrane	1.4	M
53308422	FP 91 P6050D	490 x 600 x 33	FE 2523 PES (antistatic) + PTFE membrane, with earthing lead	1.4	M

Subject to technical changes.

# Filters for dust removal

## Filter media for dust removal elements



### Antistatic filter media

- **High operational dependability** without restricting the filters' performance
- **Retain their antistatic effect** even with abrasive dusts or after being washed in conformity with the washing instructions
- **DMT test reports** with electric surface and resistances to ground  $< 10^8 \Omega$  are on file

Full-area thermal bonding of the media involved creates very smooth nonwoven surfaces. This means removal of the dust cake during cleaning is significantly better than with spunbonded nonwovens featuring punctiform or linear bonding.

### FE 2506-sinus and FE 2507-sinus

- Save up to 35 % energy costs when operating your cartridge system. How? Because the pleat grooving significantly reduces the pressure drop, and the material, thanks to its full-area thermal bonding, exhibits a considerably smoother surface than do linearly embossed spunbonded nonwovens. A plus that additionally has a beneficial effect on the cleaning characteristics.
- You benefit from an extended operational lifetime and reduced maintenance costs.

- The patented pleat stabilization is thermally stable up to 90 °C and remains mechanically stable even under alternating loads in the filtration and cleaning phases.
- Increase your filters' air flow rate, since the cartridges finished with FE 2507-sinus offer a higher effective filtering area.

The measurements of the fractional arrestance efficiencies prove it: FE 2507-sinus meets the requirements of increasingly stringent dust emission guidelines. This applies especially to arrestance of particles measuring  $< 2.5 \mu\text{m}$ , since the fiber structure is significantly more homogeneous compared to spunbonded nonwovens.

### NEXX + NEXX as

- This patented microfiber material has been developed specifically for the stringent requirements obtaining in dust removal systems, and possesses unique properties for surface filtration.
- Dusts can be quickly and easily washed off the microfiber layer of the Viledon® NEXX filter medium.
- With Viledon® NEXX clean-gas values of  $< 1 \text{ mg/m}^3$  can be lastingly achieved.
- In comparison to needlefelts, Viledon® NEXX requires around 50 % less resources to produce. Coupled with the same (or an even higher) filtration performance! This means you're making a proactive contribution to protecting the natural environment and ensuring sustainable resource-economy.

### Delivery notes

Customized dimensions are available on request, not available as roll goods.

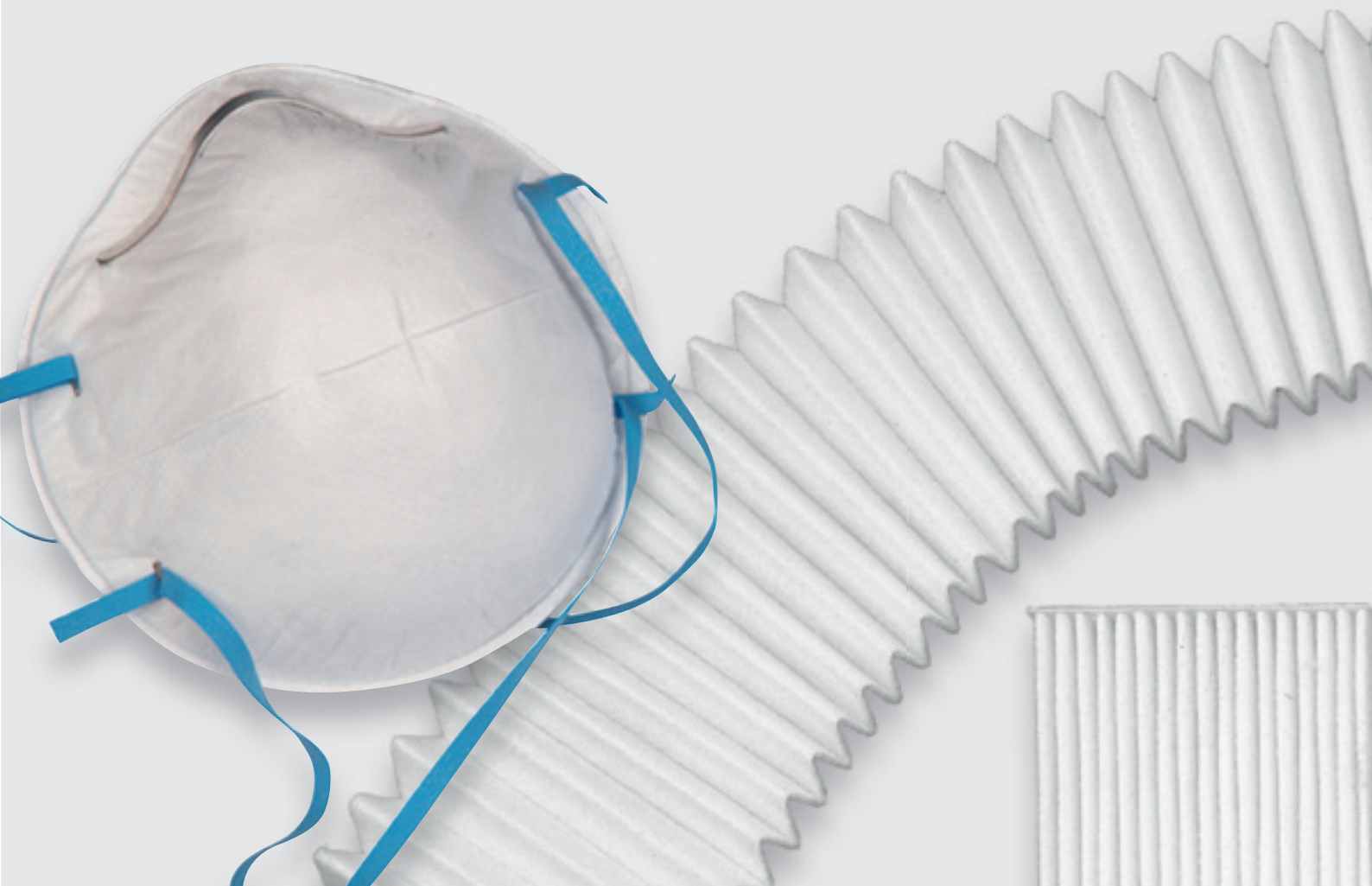
Article	Filter medium	Weight per unit area [g/m <sup>2</sup> ]	Air-permeability at 200 Pa [m <sup>3</sup> /m <sup>2</sup> x h]	Dust class	Elongation at maximum tensile force along/across [%]	Maximum tensile force along/ across [N/5 cm]	Thickness [mm]
FE 2501	PES, thermally bonded, antistatic halftone print	260	280	M	12/25	300/600	0.45
FE 2502	PES, thermally bonded	250	280	M	12/25	300/600	0.45
FE 2506	PES, thermally bonded, antistatic halftone print	250	300	M	25/40	300/600	0.45
FE 2507	PES, thermally bonded	240	300	M	25/40	300/600	0.45
FE 2508	100 % Polyolefin, thermally bonded, antistatic halftone print	130	500	M	25/25	350/600	0.3
FE 2509	100 % Polyolefin, thermally bonded	120	500	M	25/25	350/200	0.3
FE 2519	PES, thermally bonded, antistatic halftone print	260	3400	-	35/35	750/750	1.0
FE 2520	PES, thermally bonded	250	3400	-	35/35	750/750	1.0
FE 2521	PES, thermally bonded, + PTFE membrane	270	220	M	35/35	750/750	1.0
FE 2523	PES, thermally bonded, antistatic halftone print, + PTFE membrane	280	220	M	35/35	750/750	1.0
NEXX	PES/PA, microfilaments	240	360	M	35/35	700/800	1.0
NEXX as	PES/PA, microfilaments; antistatic finish	240	360	M	35/35	700/800	1.0

Subject to technical changes.



## Filters for human protection

Filter media for vacuum-cleaners and respirators



When it comes to protecting human health, Freudenberg Filtration Technologies have very specific solutions for ensuring dependable safety: e. g. with respirator media made from top-quality synthetic nonwovens. As downstream secondary filters, motor protection and discharge filters made of Separet nonwovens extend the operational lifetime of your vacuum-cleaner.

# Vacuum-cleaner filters

## Filter media for vacuum-cleaners



Key data	
Filter medium	Polyester, polypropylene, polyacrylonitrile fibers

Motor protection and discharge filters made from Separet nonwovens for domestic vacuum-cleaners are installed downstream of the filter bag, and are accordingly designated as secondary filters. The motor protection filter extends the lifetime of the vacuum-cleaner, by retaining fine dust particles that have passed through the filter bag, and functions as a “police filter” if the bag bursts or has been incorrectly inserted by mistake. As the final back-up the discharge filter arrests ultra-fine particles, micro-organisms, bacteria and pollens in the vacuum-cleaner. The Separet filter media excel in terms of high arrestance performance coupled with extremely low air resistance, optimum air-permeability and long operational lifetimes. The combination of electrostatic filter efficacy with a mechanical filtering effect enables these media to be used even when the space available for installation is very small. They are available in the form of blanks or diecuts in almost any desired geometry, and can be supplied with an imprint on request. Separet filters are easy to handle and pose no health hazard whatsoever.

### Delivery notes

Customized diecuts and blanks available on request.

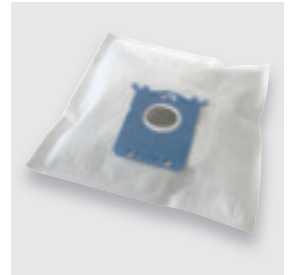
Article number	Article	Weight per unit area [g/m <sup>2</sup> ]	Colour	Air-permeability at 200 Pa [l/s x m <sup>2</sup> ]	NaCl penetration at 8 cm/s [%]	Pressure drop at 8 cm/s [Pa]	Thickness approx. [mm]
53253077	Separet 402 BG 150/1900	190	white	>1400	<6	<12	2.5
53253079	Separet 404 BG 150/1900	380	white	>600	<1	<30	3.5
53257958	Separet 405 BG 150/1900	210	white	>700	<0.9	<20	2.4
53376948	Separet 410 BG 150/1900	140	white	-	<8	<9	1.7

Subject to technical changes.

# Vacuum-cleaner filters

## Filter media for vacuum-cleaner bags

Key data	
Filter medium	Polypropylene fibers and polypropylene jetSpin



### Special features

For use in vacuum-cleaners, Viledon® Separet and LRM filter media offer the following advantages:

- Maximized arrestance performance
- Extremely low air resistance
- Optimum air-permeability/suction capacity
- Large dust holding capacity and a long operational lifetime

They are, moreover, amenable to customization, available in many different dimensions, and simple to handle.

### Delivery notes

Delivery form: In rolls, width up to 2030 mm.  
Customized dimensions are available on request.

Subject to technical changes.

Article number	Article	Weight per unit area [g/m <sup>2</sup> ]	Air-permeability at 200 Pa [l/s x m <sup>2</sup> ]	NaCl penetration at 8 cm/s [%]	Pressure drop at 8 cm/s [Pa]	Separation efficacy at 25 cm/s [%]	Thickness [mm]
53365669	LRM 201 1000/320 76	84	450	18	38	92	0.62
53432227	LRM 302 110/ 130	170	≥ 150	0.5	< 100	-	2.1
53379267	LRM 401 Mo 3000/315 76	23	4400	-	-	-	0.25

# Respirator filters

## Filter media for respirators | Fine dust



Key data	
Filter medium	FA types: PP fibers, thermally bonded; Separet types: PP/PAN fibers, mechanically bonded

### Special features

Separet filter media for respirators provide high arrestance efficiency coupled with low breath resistance. The extremely low breath resistance means the filtering area can be kept small.

Other advantages of the Separet filter media for respirators:

- Low production costs for masks thanks to easy handling of the single-layered material
- Low production costs for masks, since by reason of the low breath resistance no exhalation valve is required
- Higher consumer acceptance levels, thanks to the masks' extremely low breath resistance

### Applications-engineering information

#### Welding and forming conditions

Heat/ pressure

- Temperature: Approx. 170–180 °C
- Pressure: Approx. 4–5 bar
- Time: Approx. 4–5 s
- Weldable types: All Separet types

Ultrasonics

- Time: Approx. 0.5 s
- Energy: Approx. 1 kW
- Pressure: Approx. 3–5 bar
- Weldable types: All Separet types

#### Delivery notes

Customized dimensions are available on request.

Article number	Article	Filter class*	Filter medium	Mask type	Weight per unit area [g/m <sup>2</sup> ]	Air-permeability at 200 Pa [l/s x m <sup>2</sup> ]	Air-permeability at 8 cm/s [Pa]	NaCl penetration at 8 cm/s [%]	Thickness [mm]
53258196	FA 2356 150/200 70 A	-	PP fibers	Disposable mask	170	2200	<6	-	4.0
53262080	FA 2374 40/333 70 A	-	PP fibers	Disposable mask	150	2200	<5	-	10.0
53349381	SEPARET 2402 100/900 70 A	FFP1 / 2/3 fixed	PP-+ PAN fibers	Disposable mask	210	-	<20	<0.9	2.4
53250702	SEPARET 2396 80/1900 70 A	FFP1 fixed	PP-+ PAN fibers	Disposable mask	160	-	<8	<6	2.5
53255581	SEPARET 2397 60/1900 70 A	FFP1 / 2 fixed	PP-+ PAN fibers	Disposable mask	250	-	<13	<2.5	3.0
53393092	FA30WEI-1050-800P76-V	-	PP-jetSpin	Disposable mask	30	>350	<45	<1	0.4
53395326	FA50WEI-210-1200-P76-V	-	PP-jetSpin	Disposable mask	50	>240	<75	<0.8	0.5
53392802	FA2040WEI-215-1200P76	-	PP-jetSpin	Disposable mask	60	>260	<75	<0.4	0.6
53398644	FA4050WEI-170-830P76	-	PP-jetSpin	Disposable mask	90	>200	<90	<0.3	0.8
53398299	FA20WEI 1200/1050 76	-	PP-jetSpin	Disposable mask	20	>420	<42	<1.5	0.25
53425044	FA 760 20/1500	-	Polyurethane foam with activated-carbon modified for acidic gases	-	240	3100	<1.5	-	2.6
53359934	FA 2372 300/650 A 70	-	PES fibers	-	50	2350	-	-	0.23
53287035	FA 2371 RO (186)	-	Cellulose fibers	-	120	1000 at 0.5 mbar	-	-	1.0
53263528	FA 2370 RO (163)	-	100% Viscose	-	50	>850 at 0.5 mbar	-	-	0.4
53428980	FA 2689 RO (185)	-	25% Cellulose / 75% Synthetic	-	130	>550 at 0.5 mbar	-	-	0.9

\* In accordance with EN 149.

Subject to technical changes.





Liquid filtration



nutritexx, hydrotexx, cooltexx, pluratexx, novatexx



Viledon® sets the standard for industrial liquid filtration in terms of quality, reliability and versatility: with hydrotexx for drinking water filtration, with nutritexx for food and beverage filtration, with cooltexx for coolant and lubricant filtration, and with novatexx as support media for membranes.

# Liquid filtration

## nutritexx | Food-grade nonwovens



Key data	
Production process	Wet-laid nonwoven process
Material	Polyester and cellulose
Bonding	Chemical
Food-grade testing	2002 / 72 / EC

### Application

For filtering beverages like milk, wine and beer, Viledon®'s food-grade nonwovens are made into bags. Besides a food-grade approval, our media also, thanks to being made from polyester-cellulose fibers, exhibit a high wet strength and a long operational lifetime.

Our nutritexx portfolio also includes filter media that can withstand the high temperatures and meet the chemical-related requirements encountered in deep-frying-oil filtration.

### Product advantages

- Good processability for making bags (sewing, welding, diecutting)
- Long operational lifetime
- Low pressure drop
- High wet strength

### Delivery notes

Customized roll dimensions available on request.

Article	Weight per unit area [g / m <sup>2</sup> ]	Air-permeability at 100 Pa [l / s x m <sup>2</sup> ]	Maximum tensile force along / across [N / 5 cm]	Thickness [mm]
FFM 2681	30	3500	20 / 14	0.25
FFM 2682	20	2800	18 / 14	0.18
FFL 2686	75	2500	130 / 90	0.55
FFL 2690	75	1600	90 / 60	0.6
FFL 2693N	65	1800	80 / 60	0.5
FFL 2640	100	150	130 / 220	0.24
FFL 2641	100	900	120 / 75	0.64

Subject to technical changes.

# Liquid filtration

## hydrotexx | Drinking water filter mats



Key data	
Fiber	Polyester
Principal application	Drinking water filtration

### Application

hydrotexx 2020 and 2040 are the newly developed filter mats that are made from 100% food-grade fibers. They are therefore particularly well suited for filtering ideally suited food, beverages and drinking water. Physiologically safe raw materials in conjunction with state-of-the-art production technology guarantee a filter medium that consistently meets the food and beverage industries' stringent requirements in terms of hygiene, efficiency and extractable constituents.

### Food-grade testing to:

- EU 2002/72/EC
- FDA 21 CFR 177.1630
- KTW (Plastic, Drinking Water) Guideline of the UBA (German Federal Environmental Agency)
- DVGW (German Association of the Gas and Water Industry) Worksheet W 270

Subject to technical changes.

Article	Dimensions (W x L) [mm/m]	Weight per unit area [g/m <sup>2</sup> ]	Air-permeability at 100 Pa [l/s x m <sup>2</sup> ]	Thickness [mm]
hydrotexx 2020	1600 x 20	300	2700	17.0
hydrotexx 2040	2000 x 12	400	2300	38.0

# Liquid filtration

## cooltexx | Polyester spunbonded nonwovens



Key data	
Standard dimensions	Length [m]: 150, 250, 500; width max. [mm]: 2400

### Product advantages

- Long lifetime
- Maximized process dependability
- Good filter cake detachment
- Optimum process matching

### Product characteristics

- Maximized mechanical strength
- Filtration based on sieving effect
- Smooth surface
- High separation efficacy

### Delivery notes

Customized lengths available on request.

Article	Fiber structure	Weight per unit area [g/ m <sup>2</sup> ]	Band filter principle	Machining process	Air-permeability at 100 Pa [l/ s x m <sup>2</sup> ]	Maximum tensile force along/ across [N/ 5 cm]	Thickness [mm]
cooltexx 6430	Fine fibers	30	Gravity / pressure	Turning / drilling / milling	3300	42 / 22	0.14
cooltexx 6430	Fine fibers	30	Gravity / pressure	Turning / drilling / milling	3300	42 / 22	0.14
cooltexx 7230	Coarse fibers	30	Gravity / pressure	Turning / drilling / milling [roughing]	4420	63 / 62	0.14
cooltexx 7230	Coarse fibers	30	Gravity / pressure	Turning / drilling / milling [roughing]	4420	63 / 62	0.14
cooltexx 6534	Fine fibers - punctiform-bonded	34	Gravity / pressure	Turning / drilling / milling	2000	88 / 37	0.16
cooltexx 6534	Fine fibers - punctiform-bonded	34	Gravity / pressure	Turning / drilling / milling	2000	88 / 37	0.16
cooltexx 6550	Fine fibers - punctiform-bonded	50	Pressure / vacuum	Turning / drilling / milling [smoothing]	1200	135 / 62	0.24
cooltexx 6550	Fine fibers - punctiform-bonded	50	Pressure / vacuum	Turning / drilling / milling [smoothing]	1200	135 / 62	0.24
cooltexx 6450	Fine fibers	50	Pressure / vacuum	Turning / drilling / milling [smoothing]	2500	78 / 55	0.22
cooltexx 6450	Fine fibers	50	Pressure / vacuum	Turning / drilling / milling [smoothing]	2500	78 / 55	0.22
cooltexx 7250	Coarse fibers	50	Pressure / vacuum	Turning / drilling / milling [smoothing]	3630	116 / 108	0.23
cooltexx 7250	Coarse fibers	50	Pressure / vacuum	Turning / drilling / milling [smoothing]	3630	116 / 108	0.23
cooltexx 6570	Fine fibers - punctiform-bonded	70	Pressure / vacuum	Grinding [ultra-precision machining]	600	170 / 83	0.30
cooltexx 6570	Fine fibers - punctiform-bonded	70	Pressure / vacuum	Grinding [ultra-precision machining]	600	170 / 83	0.30
cooltexx 6470	Fine fibers	70	Pressure / vacuum	Grinding [ultra-precision machining]	2000	110 / 67	0.32
cooltexx 6470	Fine fibers	70	Pressure / vacuum	Grinding [ultra-precision machining]	2000	110 / 67	0.32
cooltexx 7270	Coarse fibers	70	Pressure / vacuum	Turning / drilling / milling [smoothing]	2520	175 / 170	0.29
cooltexx 7270	Coarse fibers	70	Pressure / vacuum	Turning / drilling / milling [smoothing]	2520	175 / 170	0.29
cooltexx H7210	Coarse fibers	100	Pressure / vacuum	Grinding / honing / lapping [fine-smoothing]	1870	230 / 220	0.38
cooltexx H7210	Coarse fibers	100	Pressure / vacuum	Grinding / honing / lapping [fine-smoothing]	1870	230 / 220	0.38

Subject to technical changes.

# Liquid filtration

## cooltexx | Polypropylene spunbonded nonwovens



Key data	
Standard dimensions	Length [m]: 100, 150, 200, 250, 500; width max. [mm]: 2400
Band filter principle	Pressure / vacuum
Filter medium	Polypropylene fibers
Bonding	Thermal, punctiform-bonded

### Product advantages

- Adsorption of foreign oil from the emulsion
- High chemical stability
- Good filter cake detachment

### Product characteristics

- Oleophilic and hydrophobic fibers
- Pure polypropylene
- Smooth surface

### Delivery notes

Customized lengths available on request.

Article	Weight per unit area [g/m <sup>2</sup> ]	Machining process	Air-permeability at 100 Pa [l/s × m <sup>2</sup> ]	Maximum tensile force along/across [N/5 cm]	Thickness [mm]
cooltexx 3440	40	Turning / drilling / milling [smoothing]	1400	106 / 60	0.38
cooltexx 3440	40	Turning / drilling / milling [smoothing]	1400	106 / 60	0.38
cooltexx 3450	50	Turning / drilling / milling [smoothing]	1200	90 / 60	0.40
cooltexx 3450	50	Turning / drilling / milling [smoothing]	1200	90 / 60	0.40
cooltexx 3470	70	Grinding [ultra-precision machining]	700	188 / 107	0.50
cooltexx 3470	70	Grinding [ultra-precision machining]	700	188 / 107	0.50

Subject to technical changes.

# Liquid filtration

## cooltexx | Cellulose-polyester media



Key data	
Production process	Wet-laid nonwoven process
Material	Cellulose + Polyester
Bonding	Chemical
Max. width	2.3 m
Band filter principle	Gravitation and where appropriate vacuum
Machining process	Grinding / honing / lapping [fine-smoothing]

### Application

Filter media with a cellulose content are used predominantly in aqueous solutions, where a low pressure drop is a primary consideration, e. g. with pure gravity systems. The hydrophilic properties of the cellulose ensure good wettability for water, so that despite the fine fibers used and the good particle arrestance only a low pressure drop ensues. Since cellulose can be bonded only chemically, not thermally, the mechanical strengths will usually be lower than with polyester spun-bonded nonwovens, so that their use is restricted to systems with low tensile stresses.

### Product advantages

- Hydrophilic fine-fiber medium with good water wettability
- Long operational lifetime thanks to depth-loading filtration
- Low pressure drop thanks to good wettability
- High separation efficacy, even with fine particles

Article	Weight per unit area [g / m <sup>2</sup> ]	Air-permeability at 100 Pa [l / s x m <sup>2</sup> ]	Pore size: Largest pore / MFP [µm]	Thickness [mm]
cooltexx 2652	17	3000	>200	0.19
cooltexx 2653	23	1900	300 / 160	0.19
cooltexx 2654	32	1500	230 / 100	0.28
cooltexx 2662	25	4000	>200	0.28
cooltexx 2663	50	1800	250 / 130	0.37
cooltexx 2666	60	1600	220 / 130	0.45
cooltexx 2693	70	2000	200 / 100	0.53
cooltexx 2689	130	1000	140 / 75	1.0

Subject to technical changes.



# Liquid filtration

## cooltexx | Mechanically needled polyester nonwovens



Key data	
Production process	Mechanically needled nonwoven process
Material	Polyester
Bonding	Mechanical (needled) + thermal
Max. width	Length [m]: 100, 150, 200, 250, 500; width max. [mm]: 2000
Band filter principle	Pressure/vacuum
Machining process	Grinding/honing/lapping [fine-smoothing]

### Product advantages

- Particularly long operational lifetime thanks to graduated structure
- Low pressure drop
- High separation efficacy, even for fine particles

### Product characteristics

- High holding volume thanks to multi-layered structure
- Depth-loading filter – high fleece thickness
- Progressive nonwoven structure

### Delivery notes

Customized lengths available on request.

Subject to technical changes.

Article	Dimensions (W x L) [mm / m]	Weight per unit area [g / m <sup>2</sup> ]	Air-permeability at 100 Pa [l / s x m <sup>2</sup> ]	Maximum tensile force along / across [N / 5 cm]	Elongation at maximum tensile force along / across [%]	Particle size at 50% arrestance efficiency [µm]	Particle size at 90% arrestance efficiency [µm]	Dust holding capacity [g / m <sup>2</sup> ]	Thickness [mm]
cooltexx 9210	500 / 150	100	1200	90 / 130	15 / 35	28	50	350	0.9
cooltexx 9210	1000 / 250	100	1200	90 / 130	15 / 55	-	-	-	0.9
cooltexx 9215	750 / 150	150	715	160 / 200	15 / 55	25	40	450	1.1
cooltexx 9215	1500 / 250	150	715	160 / 200	15 / 55	-	-	-	1.1

# Liquid filtration

pluratexx | Hydraulic filters | Wet-laid nonwovens

**pluratexx**

Key data	
Production process	Wet-laid nonwoven process
Material	Polyester
Bonding	Thermal

## Application

Modern-day hydraulic filter systems demand top-class filter media, which by virtue of their high mechanical strength and resistance to chemicals will withstand even extremely high pressure drop, pressure surges and high volume flows. Only very homogeneous materials meet the stringent requirements for consistently constant arrestance efficiencies coupled with simultaneously high dust holding capacity. Fully synthetic media made of Viledon® do without conventional glass-fibers, thus preventing filter breakage even at low temperatures and fiber release in filter operation and during production. With Viledon®, there are no compromises in terms of occupational safety.

## Product advantages

- High arrestance efficiency thanks to fine fibers
- Long operational lifetime (high dust holding capacity)
- High mechanical strength and resistance to chemicals
- No fiber release, no glass-fibers

## Delivery notes

Customized roll dimensions available on request.

Article	Weight per unit area [g/m <sup>2</sup> ]	Air-permeability at 200 Pa [l/s × m <sup>2</sup> ]	Pore size: Largest pore/ MFP [µm]	Particle size at 90% arrestance efficiency [µm]	Particle size at 99% arrestance efficiency [µm]	Dust holding capacity [g/m <sup>2</sup> ]	Thickness [mm]
pluratexx 5120	120	500	50/20	20	30	80	0.54
pluratexx 5121	120	800	80/30	23	35	85	0.7
pluratexx 5100	190	200	40/20	10	15	100	1.1
pluratexx 2037	155	400	55/22	15	22	150	0.9
pluratexx 2033	165	650	72/32	24	30	180	0.95

Subject to technical changes.



Key data	
Production process	Split-fiber process
Material	Polyester, polyamide
Bonding	Thermal

### Application

Modern-day hydraulic filter systems demand top-class filter media, which by virtue of their high mechanical strength and resistance to chemicals will withstand even extremely high pressure drop, pressure surges and high volume flows. Only very homogeneous materials meet the stringent requirements for consistently constant arrestance efficiencies coupled with simultaneously high dust holding capacity. Fully synthetic media made of Viledon® do without glass-fibers, thus preventing filter breakage even at low temperatures and fiber release in filter operation and during production. With Viledon®, there are no compromises in terms of occupational safety.

### Product advantages

- Extremely high arrestance efficiency thanks to ultra-fine fibers
- Long operational lifetime (high dust holding capacity)
- Very high mechanical strength and resistance to chemicals
- No fiber release, no glass-fibers

### Delivery notes

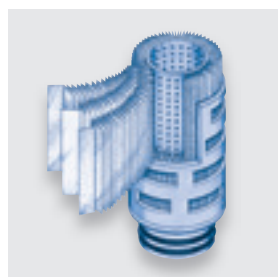
Customized roll dimensions available on request.

Article	Weight per unit area [g/m <sup>2</sup> ]	Air-permeability at 200 Pa [l/s x m <sup>2</sup> ]	Pore size: Largest pore / MFP [µm]	Particle size at 90% arrestance efficiency [µm]	Particle size at 99% arrestance efficiency [µm]	Dust holding capacity [g/m <sup>2</sup> ]	Thickness [mm]
pluratexx 2310S	100	90	60/21	7	11	100	0.45
pluratexx 2313S	130	40	45/15	<4	7	100	0.5
pluratexx 2317S	170	40	32/13	<4	6	150	0.7

Subject to technical changes.

# Liquid filtration

## novatexx | Drainage nonwoven for filter cartridges



Key data	
Maximum width	2000 mm
Standard lengths	500 m, 1000 m

In the production of filter cartridges, novatexx spunbonded nonwovens serve as “spacers” between the pleats on the face side and as a drainage layer on the clean side. The performance profiles of the media concerned can be very specifically designed to requirements. The nonwovens involved can be easily pleated together with the membrane without damaging the latter.

In the products of the 20xx series, the use of special bi-component fibers creates particularly high rigidity, which is indispensable for the pleating operation and significantly enhances the stability of the filter cartridge.

The raw materials used meet the requirements laid down for safety in food, beverage, medical and pharmaceutical applications.

### Delivery notes

Customized dimensions are available on request.

Please protect products from exposure to direct sunlight.

Article	Filter medium	Weight per unit area [g/m <sup>2</sup> ]	Air-permeability at 100 Pa [l/s × m <sup>2</sup> ]	Maximum tensile force along/across [N/5 cm]	Elongation at maximum tensile force along/across [%]	Thickness [mm]
novatexx 6317	PP	17	2100 [50 Pa]	25/25	50/50	0.21
novatexx 6320	PP	20	1900 [50 Pa]	35/30	40/40	0.24
novatexx 6330	PP	30	2000	55/55	60/60	0.33
novatexx 6340	PP	40	1300	85/85	70/70	0.40
novatexx 6350	PP	50	1000	100/100	60/60	0.42
novatexx 2010	PP Bico	50	1300	155/90	60/70	0.24
novatexx 2019	PP Bico	70	1200	170/90	60/70	0.44
novatexx 2035	PP Bico	30	1800	85/50	50/50	0.15
novatexx 2036	PP Bico	30	3900	60/35	60/60	0.23
novatexx 2043	PP Bico	50	1800	140/70	60/70	0.32
novatexx 2044	PP Bico	15	5000	25/15	60/60	0.12

Subject to technical changes.

# Liquid filtration

## novatexx | Carrier materials for flat membranes

Key data	
Minimum width	15 mm
Standard lengths	500 m, 1000 m



novatexx products for flat membranes stand for superior results in membrane production. The carrier materials are made of synthetic polymers, and are crucial to the mechanical and filtering properties of the filtration membranes. The specially created surface porosity enables the membrane solution to penetrate into the nonwoven, so as to achieve good adhesion results.

There is an option for additionally customizing the products by modifying the surface to suit the particular membrane production process involved.

All polymers used are suitable for contact with food and beverages.

### Delivery notes

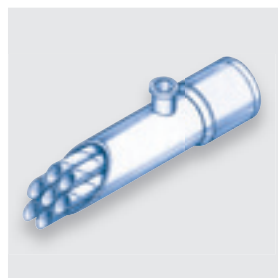
Customized lengths, widths and surface modification available on request.  
Please protect products from exposure to direct sunlight.

Article	Filter medium	Weight per unit area [g/m <sup>2</sup> ]	Air-permeability at 200 Pa [l/s x m <sup>2</sup> ]	Maximum tensile force along/across [N/5 cm]	Elongation at maximum tensile force along/across [%]	Thickness [mm]
novatexx 2413	PET	100	300	125/240	10/25	0.19
novatexx 2429	PET/PBT	90	190	240/200	25/30	0.15
novatexx 2430	PP/PE	100	150	200/300	65/65	0.22
novatexx 2431	PP/PE	60	500	110/170	60/85	0.14
novatexx 2432	PP/PE	32	700	60/80	50/70	0.11
novatexx 2442	PET	25	1800	30/17	10/10	0.06
novatexx 2463	PP/PE	50	2500	100/85	30/30	0.35
novatexx 2465	PP/PE	30	4000	65/60	25/30	0.31
novatexx 2470	PP/PE	60	200	200/150	28/28	0.12
novatexx 2471	PP/PE	85	150	270/170	25/30	0.18
novatexx 2473	PP/PE	27	2100	80/55	20/25	0.11
novatexx 2481	PET/PBT	100	120	270/180	25/30	0.15
novatexx 2483	PET/PBT	70	100	170/110	25/30	0.10
novatexx 2597	PA66/PA6	70	1300	300/150	40/40	0.20

Subject to technical changes.

# Liquid filtration

## novatexx | Carrier materials for tubular membranes



Key data	
Minimum width	15 mm
Roll length	500 m

novatexx products for tubular membranes are very well established in the membrane industry. The products are predominantly made of polyester fibers, and offer a high degree of stability. Combined with specially created surface porosity, novatexx products stand for superlative results in terms of membrane production.

There is an option for additionally customizing the products to suit the particular membrane production process involved, by surface modification or by providing an adhesive-compound finish.

All polymers used are suitable for contact with food and beverages.

### Delivery notes

Customized lengths, adhesive-compound coating and surface modification available on request.  
Please protect products from exposure to direct sunlight.

Article	Filter medium	Weight per unit area [g / m <sup>2</sup> ]	Air-permeability at 200 Pa [l / s x m <sup>2</sup> ]	Maximum tensile force along / across [N / 5 cm]	Elongation at maximum tensile force along / across [%]	Thickness [mm]
novatexx 2413	PET	100	300	125 / 240	10 / 25	0.19
novatexx 2416	PET	205	6	500 / 550	25 / 30	0.25
novatexx 2429	PET / PBT	90	190	240 / 200	23 / 28	0.15
novatexx 2436	PET	235	4	550 / 600	20 / 35	0.27
novatexx 2472	PP / PE	200	90	650 / 380	25 / 28	0.42
novatexx 2481	PET / PBT	100	120	270 / 180	25 / 30	0.15
novatexx 2482	PET / PBT	220	6	800 / 380	28 / 28	0.25

Subject to technical changes.



A large, white, spherical object, possibly a balloon or a light fixture, is the central focus. It has a small, green, cylindrical cap or opening at its top. A white, thin ribbon is attached to this opening and extends downwards, forming a loop and then continuing straight down. The background is a solid, light blue color. In the top left corner, there is a solid blue square.

## Accessories



## Mounting frames, seals, dust removal accessories



Freudenberg Filtration Technologies offer high-quality accessories matched to the entire range of filters. These include mounting frames for air filters, clip-on seals for mounting frames, pressure drop measuring instruments, and an extensive range of accessories for dust removal filters.

# Accessories

## Mounting frames



Key data	
Note	ARV = Mounting frame galvanized; ARE = Mounting frame stainless steel

### Design features

- High inherent rigidity thanks to special jointing process and large construction depth.
- Centering guides assure optimum positioning of the filter elements.
- Consistent leakproofing thanks to four friction-locked clamping springs, which are fixed in position in "locking noses".
- The shape of the springs enables the filters to be easily installed and removed, since the free cross-sectional area of the mounting frame is available in full.
- The boreholes for the screws have been selected so as to ensure that mounting frames of different sizes can be combined without any problems.
- An ultra-flexible, silicone-free rubber clip-on seal with a hollow compartment is supplied with the frame. The clip-on seal is weatherproof and thermally stable within a range of approx. -40 °C to +100 °C, with good resistance to alcohols, lyes and weak acids, and very long-lived.
- Depending on the size of the filter wall, and the stresses acting on it, we recommend providing additional reinforcements as a substructure. M 6 x 8 screws should be used for affixing the frames; if reinforcements are provided, then correspondingly longer screws must be selected.

### Application category

Designing new air-conditioning systems and modifying existing ones with variable dimensions.

### Use

Supporting Viledon® filters with a top frame, e.g. Compact pocket filters or MaxiPleat cassette filters. Panel filters featuring the standard depth of 48 mm can also be installed.

### Execution

Non-corroding stainless steel (material 1.4301) or galvanized steel sheeting (U-St 1203), burr-free, inherently rigid, in four sizes. Operationally dependable clamping spring system with four clamping springs and mechanical locking, including rubber clip-on seal enclosed loose. The mitered corners are rendered airtight with a permanently elastic sealing compound.

Article number	Article	Dimensions (W x H x D) [mm]	Suitable for filters in the dimensions [mm, approx. ]
53373316	ARV-LD NF 1 / 1 Mounting frame galvanized with seal	610x610x75	1 / 1 592x592
53373325	ARE-LD NF 1 / 1 Mounting frame stainless steel with seal	610x610x75	1 / 1 592x592
53435027	ARV-LD NF 5 / 6 Mounting frame galvanized with seal	508x610x75	5 / 6 490x592
53435039	ARE-LD NF 5 / 6 Mounting frame stainless steel with seal	508x610x75	5 / 6 490x592
53377509	ARV-LD NF 1 / 2 Mounting frame galvanized with seal	305x610x75	1 / 2 287x592
53377510	ARE-LD NF 1 / 2 Mounting frame stainless steel with seal	305x610x75	1 / 2 287x592
53435028	ARV-LD NF 1 / 4 Mounting frame galvanized with seal	305x305x75	1 / 4 287x287
53435040	ARE-LD NF 1 / 4 Mounting frame stainless steel with seal	305x305x75	1 / 4 287x287

Subject to technical changes.



### Clip-on seal

- U-shaped seal profile made of closed-pore EPDM soft rubber with embedded wire clamping band and formed sealing lips plus a hollow compartment made of EPDM cellular rubber; colour: black.
- The seal can be installed without needing any tools simply by pressing it in place by hand.
- The clip-on seal is held in position by the clamping effect of the rubber lips; no adhesives or other attachment aids are required.
- The Viledon® clip-on seal is weatherproof and thermally stable in the range from  $-40\text{ °C}$  to  $+100\text{ °C}$ , possesses good resistance to alcohols, lyes and weak acids, and is durable. It is not resistant to concentrated acids, chlorinated hydrocarbons, aromatic hydrocarbons, oil and fuel.
- Good paint-compatibility, silicone-free.

Subject to technical changes.

### Delivery notes

Other seals available on request.

# Accessories

## Dust removal | Support cages + pulse-jet reflectors + displacer units



### Support cages

In order to avoid deformations of Viledon® filter cartridges in the case of high pressure drop, they are fitted with reusable support cages.

### Pulse-jet reflectors

To optimize the pulse-jet cleaning function, when support cages of the type series 145, 156, 218 and 324 are being used, pulse-jet reflectors can additionally be affixed.

### Displacer unit

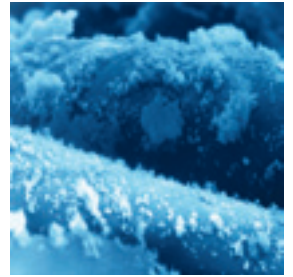
Use of the displacer unit leads to a significant increase in cleaning intensity, which means real savings in terms of operating and capital investment costs. The tank pressure must be restricted to a maximum of 3 bar, or if the maximum tank pressure is retained, the valves must be reduced by one size.

### Delivery notes

Customized dimensions are available on request.

Article number	Article	Construction height [mm]	Diameter [mm]	Outer diameter [mm]	Inner diameter [mm]	Material thickness [mm]
53280727	Pulse-jet-reflector 145 / P946010	50	-	79	62	1.0
53296351	Pulse-jet-reflector 156 / P946013	50	-	90	71	1.0
53280134	Pulse-jet-reflector 218 / P946011	60	-	139	92	1.0
53280728	Pulse-jet-reflector 324 / P946012	70	-	210	156	1.0
53366927	Support cage 145 / 0600	585	84	-	-	2.9
53366928	Support cage 145 / 1000	985	84	-	-	2.9
53366935	Support cage 145 / 1200	1185	84	-	-	2.9
53366936	Support cage 145 / 1500	1485	84	-	-	2.9
53366945	Support cage 156 / 0600	585	95	-	-	2.9
53366947	Support cage 156 / 1000	985	95	-	-	2.9
53366946	Support cage 156 / 1200	1185	95	-	-	2.9
53366949	Support cage 156 / 1500	1485	95	-	-	2.9
53366951	Support cage 218 / 0500	485	143	-	-	2.9
53366952	Support cage 218 / 0600	585	143	-	-	2.9
53366953	Support cage 218 / 1000	985	143	-	-	2.9
53366954	Support cage 218 / 1200	1185	143	-	-	2.9
53366955	Support cage 218 / 1500	1485	143	-	-	2.9
53366956	Support cage 324 / 0600	585	215	-	-	2.9
53366957	Support cage 324 / 0660	645	215	-	-	2.9
53366958	Support cage 324 / 1000	985	215	-	-	2.9
53366959	Support cage 324 / 1200	1185	215	-	-	2.9
53366960	Support cage 324 / 1500	1485	215	-	-	2.9
53283768	Displacer unit 327 / 0600	585	-	-	-	-
53283767	Displacer unit 327 / 1000	985	-	-	-	-
53281463	Displacer unit 327 / 1200	1185	-	-	-	-
53283766	Displacer unit 327 / 1500	1485	-	-	-	-

Subject to technical changes.



### Application

In what application categories does precoating with FHM 1500 offer advantages?

- Plasma/flame and laser-cutting of metals
- Welding
- Cleanable "police filter" stages
- Sticky dusts
- Coating processes like spray-galvanizing, spray-aluminizing
- Applications with low raw-gas concentrations

Why precoating?

- To improve the cleaning characteristics
- For lower stable pressure drops

How is precoating performed with FHM 1500?

- With Filtering Aid 1500 as a one-off routine on new filter cartridges (approx. 10 g/m<sup>2</sup>)
- Precoating duration: Minimum 15 min. compression with process dust to 2000-2500 Pa

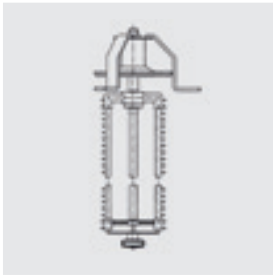
**Important:** Precoating and compression without cleaning. In accordance with the relevant DIN safety data sheet, wearing a respirator mask of protection level FFP1 is recommended when handling the FHM 1500.

Subject to technical changes.

Article number	Article	Weight [kg]
53301586	Filtering Aid 1500	1.0

# Accessories

## Dust removal | Rotary nozzle systems



Key data	
Suitable filter cartridges	Ø=327 mm, H=602 mm und 1202 mm, particularly with small pleat spacings

### Application

The ROG 600 F-PL and ROG 1200 F-PL rotary nozzle systems ensure effective cleaning of filter cartridges with Ø=327 mm, H=602 mm und 1202 mm, particularly with small pleat spacings.

### Special features

- Lasting operational dependability
- The nozzle vane is mounted on life-time-lubricated ball-bearings encapsulated on both sides
- Air distributor pipes and lower supporting rib plus stop plate made from high-quality, glass-fiber-reinforced plastic
- High accuracy of fit of all joints to assure optimum concentricity
- Quasi-offline cleaning featuring clean-gas-side stop plate operated by compressed air
- Additional devices for securing the cartridge not required

Article number	Article	Operating pressure [bar]	Solenoid valve + air feed line [„]	Pulse time [s]	Air-consumption per pulse [standard liters]
8928695	Rotary nozzle 1200/F-PL/P946713	2.5-3.5	3/4	0.8-1	160
8925662	Rotary nozzle 600/F-PL/P946712	3-4	1	1-1.5	250

Subject to technical changes.



### Pneumatic components

Correct dimensioning of the cleaning unit is essential for effective, cost-efficient operation of dust removal systems. It is vital to select the right individual components and in the right dimensions too, in order to ensure trouble-free, cost-efficient filtration.

Corrosion-proofed solenoid valves, optimized for maximum air flow rate with the shortest possible pulses, in conjunction with optimally dimensioned compressed-air tanks, ensure gentle and nonetheless effective cleaning of the filter's surface.

Integral valves or corner valves with screw or quick-release locks are matched to the geometry used in the filter cartridges involved.

Ready-for use customized cleaning units, consisting of compressed-air tank, valves and blowing pipes, can be supplied.

Ready-to-connect BUS systems, e. g. for large filter systems, reduce the amount of work involved in installation and connection.

Filter wall connections in various versions and sizes are available for simple installation of the cleaning unit.

Subject to technical changes.

### Delivery notes

Compressed-air tanks, valves and blowing pipes are individually matched to each filter system, and have to be inquired for separately in each individual case.

# Accessories

## Dust removal | Cleaning control



### Cleaning control systems

- Cleaning control systems governed by pressure drop and time for highest requirements
- Ultra-simple operator control of adjustments, and optimum visualization of the ongoing values
- A huge range of different sizes for matching your own filter system
- Ideal for utilizing the full potential of your filter inserts
- Display and switching device with electrical and pressure connections for one or two switching points used to monitor the pressure differential. Alarm function, plus switch-on / switch-off functions

### Delivery notes

Customized product variants available on request.

Subject to technical changes.





The CPSs are made from a fully synthetic PES filter medium, that excels particularly in terms of very high air-permeability measuring approx.  $3880 \text{ l/m}^2 \cdot \text{s}$  and a mean pore size of approx.  $50 \mu\text{m}$ . Fine particles can penetrate the filter medium, while coarse ones are arrested.

### Use

For protecting a filter cartridge against irreversible dust deposits of coarse particles or fibrous dusts in the pleat package.

### Application category

Arresting fibrous dusts, for example.

### Montage

The CPSs are secured in accordance with the illustration above with a cable tie underneath the flange of the filter cartridge, and cut off approx. 5–10 cm above the base of the filter cartridge.

### Delivery notes

Cartridge protection sleeves are individually matched to each filter system, and have to be inquired for separately in each particular case. Cartridge protection sleeves are available for the following cartridge diameters: 145 mm, 218 mm and 327 mm.

Subject to technical changes.



Order form / Order inquiry form  
General Terms and Conditions  
Legal notes



# Order form | Order inquiry form

(Please enter all particulars legibly and in block letters.)



Customer number: \_\_\_\_\_

Company name: \_\_\_\_\_

If you do not know your customer number, please state complete contact data.

**Your contact data:**

Company name: \_\_\_\_\_

Street/No. \_\_\_\_\_

Post code/Town: \_\_\_\_\_

Contact person: \_\_\_\_\_

Telephone: \_\_\_\_\_

Email: \_\_\_\_\_

## Your direct route to us

To find your customer service contact details for your region, please visit our website [www.freudenberg-filter.com](http://www.freudenberg-filter.com) and go to "Contact".

- Order
- Inquiry

Article number	Article designation	Quantity (pcs./m <sup>2</sup> /rolls)	Application/Remark

\_\_\_\_\_  
Place, date

\_\_\_\_\_  
Signature

# General Terms and Conditions of Delivery and Payment

## 1. Scope

These General Terms and Conditions apply to all our offers, contracts, deliveries and other services (hereinafter "delivery"), including all future business relations, even if not explicitly and separately stipulated. The Terms and Conditions shall be considered as accepted at order placement or receipt of goods at the latest. Conditions to the contrary set by our customer shall not be accepted. These may only be applicable with our express written consent. If any one clause of these Terms and Conditions becomes invalid the validity of the remaining stipulations shall not be affected. For framework contracts concluded before 01 January 2002, these Terms and Conditions shall apply only as of 01 January 2003; until then our previous Terms and Conditions are valid.

## 2. Completion of contract, documents, industrial property rights

2.1 Our offers are not binding. A contract shall only be completed upon our written order confirmation. Only our written order confirmation is relevant for the date and scope of delivery. If the order is not confirmed by us in writing the contract shall be completed upon order execution at the latest. Statements made by our representatives orally or by phone shall be legally binding only if confirmed in writing.

2.2 We reserve all proprietary rights and copyrights of estimates, designs, drawings and other documents; these may be made available to third parties only with our express approval. Drawings and other documents provided as part of an offer must be returned to us on request at any time; this is mandatory when the order is not placed with us. In case of our delivery of items according to drawings, models, samples or other documents provided by the customer, the latter shall ensure that industrial property rights of third parties are not infringed upon. If a third party, referring to proprietary rights, prohibits in particular the manufacturing and delivery of such items we shall be entitled to suspend all relevant activities and to claim damages without being obliged to analyze legal responsibilities. In addition, the customer shall undertake to indemnify us immediately from third-party claims related to documents made available to us.

2.3 We reserve the right to charge the costs for samples and testing parts as well as tools required for their manufacturing. We shall charge the manufacturing costs for tools required for serial production, unless agreed upon otherwise. All tools shall in any case remain in our ownership even if their manufacturing costs have been wholly or partly covered by the customer.

2.4 For call orders we shall be entitled to procure materials for the entire order and to manufacture the total order quantity immediately. Any customer requests for changes after order placement can, therefore, not be taken into consideration, unless explicitly agreed upon otherwise.

## 3. Performance description

3.1 The quality of the delivery item shall be finally described by explicitly agreed features (e.g. specifications, labels, approvals, other information). Warranty for a special purpose or particular suitability shall be given only in case of explicit written agreement; otherwise the risk of suitability and use shall be assumed by the customer. Features or other qualities of deliveries and services, other than the ones expressly stipulated, shall not be warranted. We shall reserve any customary or technically unavoidable deviations from physical and chemical quantities, including colours, formula, recipes, processes and the use of raw materials as well as order sizes, as far as this may not be accepted as unreasonable by the customer.

3.2 Details of the delivery item (e.g. provided in catalogues, product information, electronic media or on labels) are based on our general experience and knowledge and are thus reference values or markings only. These product details as well as expressly stipulated features/purposes shall not relieve the customer of the need to test the product for the intended purpose.

3.3 Details on quality and possible uses of our products do not include any warranties, in particular as stipulated in Sec. 444, 639 German Civil Code (BGB), unless these are explicitly specified as such in writing.

## 4. Delivery and delivery time

4.1 Delivery time information-even if a delivery date has been agreed upon with the customer-is provisional and not binding, unless the delivery date has been fixed explicitly as binding in writing. Confirmed delivery dates shall be subject to the correct, complete and timely obtaining of supplies by ourselves. Delivery deadlines shall be considered as met if prior to deadline expiry the delivery item has left our factory or if we have informed the customer that the order is ready for shipment. Delivery deadlines shall remain ineffective as long as the customer has not properly fulfilled his obligations, such as furnishing technical data and documents, approvals as well as making a down payment or providing a payment guarantee.

4.2 We shall be entitled to deliver by installments. The quantities to be delivered may be increased or reduced by up to 10%. In case of small orders, to be defined as orders of quantities smaller than the respective packing unit we reserve the right to charge either the price for the respective packing unit as a minimum quantity or a minimum lump sum for costs.

4.3 Acts of God or other events beyond our control that render the timely execution of accepted orders impossible shall relieve us of our delivery commitment as long as these events prevail.

4.4 It is generally not possible to return sold and non-defective goods.

4.5 In case that customer becomes insolvent or subject to bankruptcy proceedings, reorganization proceedings, or comparable proceedings, customer's statements in lieu of an oath according to Sec. 807 German Code of Civil Procedure (ZPO), shortages of liquid funds or a significant deterioration of financial circumstances we shall be entitled to suspend deliveries immediately and to refuse the fulfillment of current contracts unless the customer executes counterperformance or, on our request, provides appropriate securities.

## 5. Securities

5.1 We shall reserve the ownership of all and any goods delivered until all existing claims, including conditional and subsidiary claims, maintained by us towards the customer from our business relation have been satisfied; all deliveries shall be considered as one inclusive delivery transaction. The reserved ownership shall be security for our current account claims. All aforementioned stipulations shall also apply to future claims.

5.2 The customer shall be entitled to resell or process the purchased item or mix or combine it with other goods in the scope of his ordinary business only; however, he will thus now assign to us all claims resulting from resale, processing, mixing, combining or other causes in law related to the purchased item (in particular from insurance contracts or unlawful acts) in the amount of the mutually agreed final invoice total (incl. VAT). The same applies if an item is not sold but subject to a contract for work and materials or a contract for work and services.

5.3 Reservation of ownership shall also apply to such new products resulting from the processing, mixing or combining of the purchased items with other goods in their full amount. These processes shall be performed on our part so that we shall be deemed to be the manufacturer. If third-party ownership rights extinguish after processing, mixing or combining with goods from those parties, we shall acquire joint ownership at a ratio of the objective value of those goods. If our ownership ceases as a result of combining or mixing, the customer shall transfer to us now his ownership and/or expectant rights of the new stock or item to the extent of the invoice value of goods delivered by us, and shall hold them in custody on our behalf at no charge.

5.4 The customer shall be authorized to collect debt claims from the resale despite the assignment, as long as we have not revoked this authority. We will not collect debt claims ourselves, as long as the customer meets his payments with us in due course. Upon our first written request the customer shall be obliged to inform us about the debtors of assigned claims as well as to notify debtors of the assignment.

5.5 We shall have the right to revoke the customer's authority for resale according to point 5.2 and collection of assigned claims with immediate effect if the customer is in arrears with payments to us, experiences a shortage of liquid funds due to a significant deterioration of financial circumstances or does not carry out mutually agreed contractual obligations properly. In case that customer becomes insolvent or subject to bankruptcy proceedings, reorganization proceedings, or comparable proceedings, discontinues payments, gives statements in lieu of an oath according to Sec. 807 German Code of Civil Procedure (ZPO), or if due to a shortage of liquid funds a change of ownership occurs in the customer's business, the authority for resale and collection of assigned claims will cease automatically.

5.6 The customer shall hold our (jointly) owned materials in custody on our behalf at no charge with due care and diligence as a prudent businessman and shall insure them against fire, burglary and other usual risks.

5.7 Any pledge or assignment as security by the customer of goods delivered under reservation of ownership is forbidden. Prior to any pledge or any other infringement of our ownership rights by third parties the customer shall notify us immediately and confirm the right of ownership in writing both to us and the third parties. Any residual costs arising from resulting legal action despite our winning a case shall be covered by the customer.

5.8 If the customer violates the contract, in particular by delays in payment, we shall be entitled to recover the goods; the customer hereby gives his advance consent to this recovery in such a case. The recovery shall be considered as a termination of contract only if explicitly stated by us. All costs incurred by the recovery (in particular transport costs) shall be charged to the customer. The customer may demand the delivery of goods recovered without an express notice of withdrawal only once the purchase price and all costs have been fully paid.

5.9 Securities which we are entitled to shall not be accounted for so far as the value of our securities exceeds the nominal amount of claims to be secured by 20%.

## 6. Prices and payment

6.1 Our prices are in Euro ex works excluding VAT.

6.2 Unforeseen changes in costs for raw materials, wages, energy and others beyond our control shall entitle us to adjust prices accordingly. For deliveries

by installments each delivery may be invoiced separately. If no prices have been agreed at the completion of contract, our delivery day prices shall be applicable.

6.3 Our invoices are due immediately and payable without discount.

6.4 We shall not be obliged to accept bills, checks and other promises to pay, their acceptance shall at all times be on account of performance.

6.5 The receipt of payment date shall be the day on which the amount is in our possession or has been credited to our bank account. In case of delays in payment by the customer we shall be entitled to charge an annual rate of interest of 8% above the base interest rate for the duration of the delay. This shall not restrict the right to claim additional damages.

6.6 In case of the customer's payment delay we may additionally choose to call outstanding purchase price installments or other existing claims against the customer due as well as to make future deliveries under this or other contracts dependent on an advance security or a contemporaneous payment against delivery.

6.7 Advance or part payments are non-interest bearing.

6.8 The customer may set off or withhold payments only if his counterclaim is undisputed or *res judicata*.

## 7. Claims for defects

7.1 We shall be liable for defects of goods delivered by us only according to the following stipulations:

7.2 The customer shall properly fulfil his duties regarding inspection and lodging complaints according to Sec. 377 German Commercial Code (HGB).

7.3 If defective goods are delivered we shall be given the opportunity, prior to manufacturing (processing or installing), to sort out such goods and rectify the defect or to make an additional delivery, unless this cannot reasonably be expected from the customer. In case we are unable to accomplish this or fail to conform with it in due course the customer may rescind the contract to this extent and return the goods at our risk. In urgent cases he may, after consulting with us, correct the defects himself or have this done by a third party. Expenses incurred by this shall be reimbursed by us according to point 8.

7.4 If the defect comes to light only after the start of manufacturing, despite the fulfilment of duties according to point 7.1, the customer may demand subsequent performance (rework or substitute delivery by our choice).

7.5 In case of substitute delivery the customer is obliged to return the defective material on request.

7.6 Claims for rescission of contract or reduction of purchase price shall be granted only if the defect cannot be remedied within an appropriate period, if subsequent performance will incur unreasonable expenses, is unacceptable or must be considered as failed for other reasons. The customer shall, however, have no right to rescind the contract in case of minor defects.

7.7 The customer shall allow us to promptly inspect any rejected goods, in particular these shall be made available to us on request and at our cost. If complaints are unfounded we shall reserve the right to charge transport costs and inspection expenses to the customer.

7.8 No claims for defects may be lodged if the defect can be put down to a

violation of operating, maintenance and installation instructions, improper use or holding, faulty or negligent handling or assembly, natural wear and tear or tampering with the delivery item by the customer or a third party.

7.9 Damages, compensation and reimbursement of expenses may only be claimed according to point 8.

7.10 For products other than new goods, delivered as mutually agreed upon, the customer may not make the aforementioned claims.

## 8. Liability

8.1 We shall be liable for any damages, in particular resulting from culpa in contrahendo, breach of duty and unlawful acts (Sec. 823 ff. German Civil Code), insofar as we, our employees or assistants are charged with intent or gross negligence.

8.2 For damages resulting from injury to life, body or health, guarantees or violation of material contractual duties, we shall also be liable for ordinary negligence. In case of a violation of contractually relevant duties our liability shall be limited to the direct average damage, predictable and typical according to the type of goods. Aforementioned stipulation shall also apply to breach of duty by our employees and assistants.

8.3 We shall be liable for the infringement of third parties' industrial property rights in connection with the sale of our goods only if such third parties' industrial property rights are valid in the Federal Republic of Germany and have been published at the time of delivery and only to the extent that such third parties' proprietary rights are infringed upon when using the products as agreed. This shall not apply if we have manufactured the delivery items according to drawings, models, descriptions or other documents or data provided by the customer and if we thus do not or need not have knowledge of any infringement of industrial property rights in connection with products developed by us. In this case our customer undertakes to warrant that there has been and will be no infringement of third parties' industrial property rights, to inform us without delay of any potential and alleged cases of infringement of third parties' industrial property rights which may become known to him, to indemnify us from third parties' claims and, to bear all costs and expenses incurred.

8.4 Claims for defects of delivered products shall lapse 1 year after delivery of the products. This shall not apply to items that consistent with their common application are used in buildings and have caused the latter's defectiveness; in that case claims shall lapse 5 years after delivery. All other claims governed by points 8.1 to 8.3 shall lapse as provided by the law.

8.5 Claims for price reduction and rights to rescind the contract shall be rejected so far as the claim for subsequent performance has lapsed.

8.6 Our liability pursuant to the provisions of the Product Liability Act and Sec. 478, 479 German Civil Code (last seller recourse) shall remain unaffected by the aforementioned stipulations.

8.7 Otherwise we shall be exempt from liability.

## 9. Place of performance and jurisdiction, other provisions

9.1 The customer may assign his claims from the contractual relationship only with our prior consent. 9.2 For all claims from business relations, in particular our deliveries, the place from which performance/delivery is made shall be the place of performance.

9.3 For all claims from business relations, in particular our deliveries, the place of jurisdiction shall be Weinheim/Bergstrasse, Federal Republic of Germany. This shall also apply to disputes as to the creation and validity of a contractual relationship. We shall, however, have the option to proceed against the customer in appropriate courts at the customer's place of business. If a customer's place of business is located out of Germany, we shall be entitled to have all disputes, claims or differences arising out of, or in connection with business relations finally settled under the rules of Arbitration of the Zurich Chamber of Commerce by one or more arbitrators appointed in accordance with the said rules. The place of arbitration shall be Zurich, Switzerland. The arbitration proceedings shall be conducted in the English language. The award rendered by the arbitrators shall be final and binding upon the parties concerned.

9.4 The business relations with our customers shall be exclusively governed by the laws of the Federal Republic of Germany to the exclusion of its private international law as far as it refers to the applicability of another legal system. The UN-Convention on the International Sale of Goods (C.I.S.G.) and other international conventions on uniform law on the sale of goods shall not be applicable.

## Legal notes

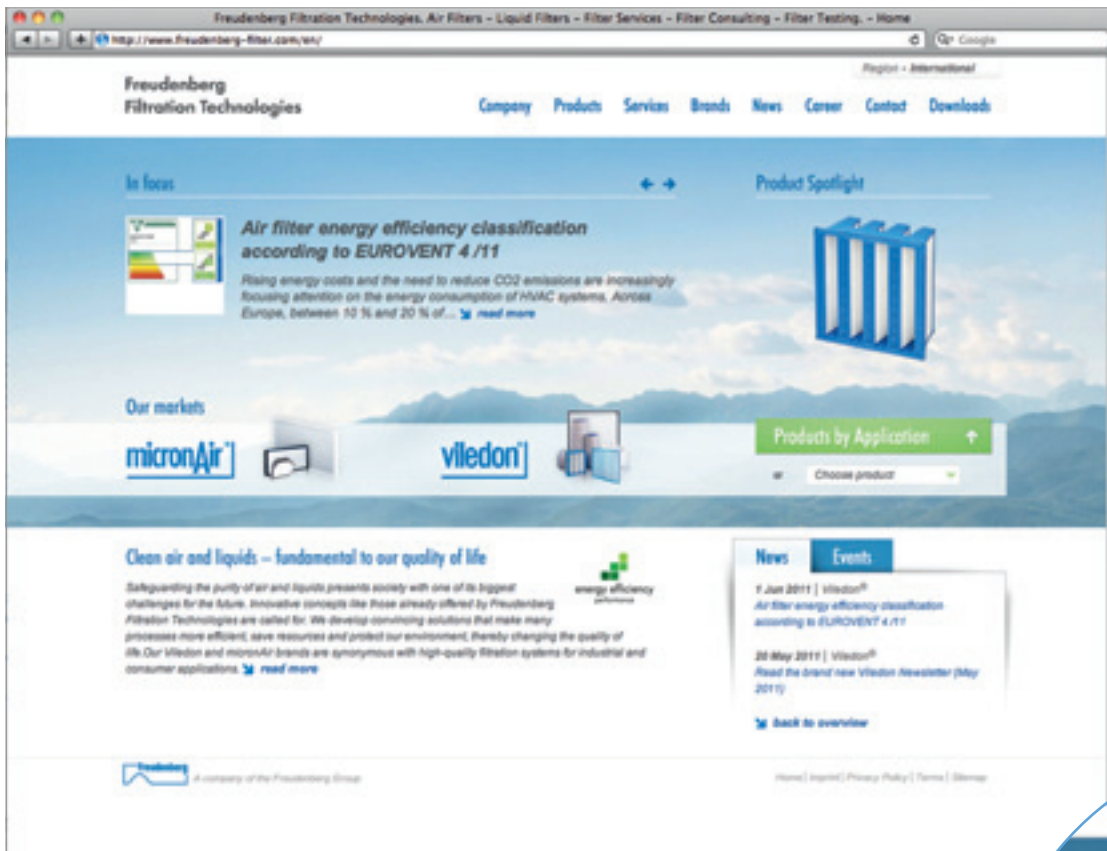
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