

viledon®

DUST REMOVAL SYSTEMS

FILTER SOLUTIONS AND SERVICE SUPPORT FOR MAXIMIZED EFFICIENCY

FREUDENBERG
FILTRATION TECHNOLOGIES

FREUDENBERG
INNOVATING TOGETHER



VILEDON FILTER SOLUTIONS

FOR CUSTOMIZED DUST REMOVAL CONCEPTS

Choosing the right filter or the optimum filter combination is crucial to ensuring the efficacy of a dust removal system. Freudenberg Filtration Technologies here provides a comprehensive range of products and services: starting with filter cartridges like DIN, Twist & Fix or Snap & Fix, plus filter bags, filter plates and filter media, all the way through to accessories. The Viledon® range includes everything you need for efficient dust removal.

Maximized dependability

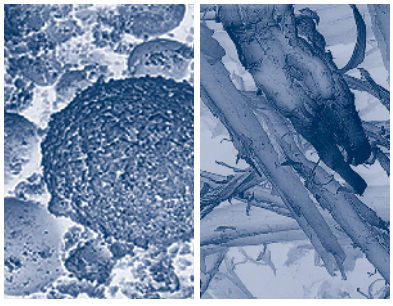
Thanks to our comprehensive corporate expertise, we are able to develop customized dust removal concepts for protecting the environment, the workplace or the system involved or for product recovery. Viledon® filters give excellent service in numerous applications where problematic dusts have to be removed. These include welding smoke extraction, for example, laser and flame-cutting, color powder and plasma coating, blasting and grinding jobs, and wood dust removal.

Besides our extensive range of top-quality filters, we also support you in technical questions. When it comes to dimensioning a system in your plant, for instance, you can always rely on us.

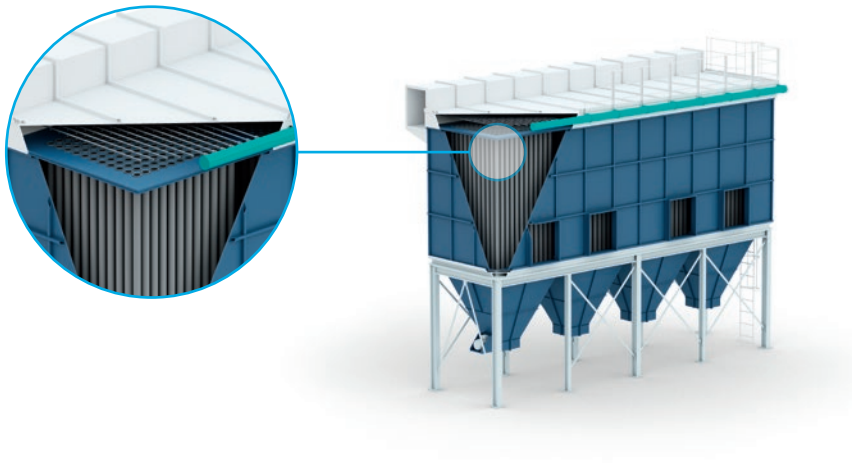
On the basis of an as-is analysis, we select the appropriate filter medium for your own particular needs, and the right dust removal element, from a choice of shapes, installation heights, nominal diameters and pleat geometries. This analysis is a crucial factor in the success of our filtration concepts, because depending on the nature of the dusts involved different measures have to be taken.

In our filter laboratory, we analyze the dust meticulously and prepare the relevant damage analyses. Drawing on this in-depth knowledge, we then develop solutions able to solve even the most intractable of arrestance problems.





Not all dusts are alike: SEM images reveal the differences.



Evolon®

A unique structure featuring endless microfilaments that give the material its toughness and mechanical stability.

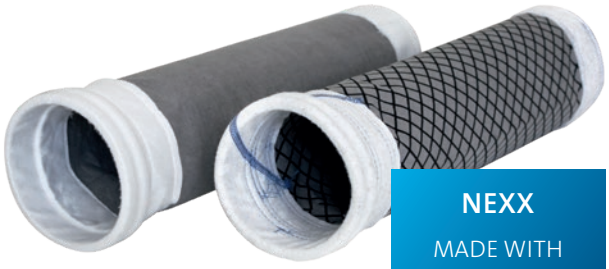
Minimized use of raw materials during production process saves ressources.

VILEDON FILTER BAGS

THE RIGHT SOLUTION FOR EACH AND EVERY REQUIREMENT

Viledon® filter bags are available in a multitude of sizes, lengths, models, and in different top and bottom section variants. Whatever the consistency of the dust involved – whether it's sticky or oily – they can be precoated with appropriate efficacy. Whatever requirements you may have, we find the right filter concept for you.





NEXX
MADE WITH EVOLON®

Fiber Bags
Functionally validated many times over in the woodworking industry

In operation, these filter bags achieve high collection efficiency coupled with a low pressure drop, particularly when extracting fibrous dusts. They reach significantly lengthier useful lifetimes than conventional needlefelts, and possess very high abrasion-resistance. Using recycled polyester means enhanced economy with valuable resources.

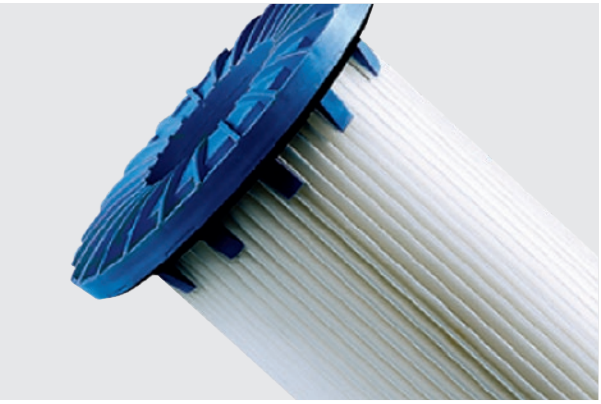
NEXX Bags with Evolon® technology
The next generation of surface filters

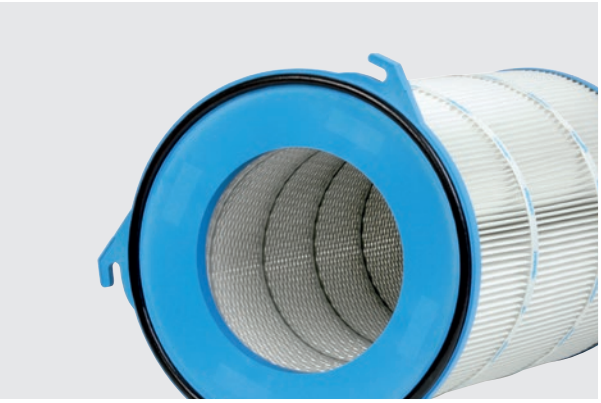
Definite advantages over conventional filters with needlefelt: dusts can be quickly and easily removed from the microfiber layer. Thanks to optimized filtration performance, there are savings in compressed air for cleaning and power consumption at the fan. Moreover: low emissions (sustained clean-gas values < 1 mg/m³) and 50 % less resources during production – for the same or even higher filtration performance.

VILEDON FILTER CARTRIDGES

HIGH PERFORMANCE. LONG LIFETIMES.

In terms of shape, installation height, nominal diameter and pleat geometry, we match our Viledon® filter cartridges to your own particular requirements. To make sure you get precisely the solution you need.





Snap & Fix filter cartridges
Bag filter or cartridge filter systems optimally equipped

This series of models snaps neatly into place and provides a perfect axial seal, without needing any additional aids like metal sleeves or spring washers. Easy installation, requiring no tools, on the clean-gas side, without any elaborate screw-in procedures – just apply a bit of pressure and the patented snap hooks will engage.

Ideally suited for use in suction excavators and cleaning vehicles.

Twist & Fix filter cartridges
High performance for any kind of difficult dust removal job

A perfect fit and maximized protection for the filter medium thanks to a centering collar. Patented spacer ribs on both sides ensure correct installation and an optimum seal against the system's raw-gas compartment. Fitted with a foamed-in seal on each side, Twist & Fix cartridges can be installed on both the raw- and clean-gas sides. They are available in all the geometries and versions customarily demanded by the market.







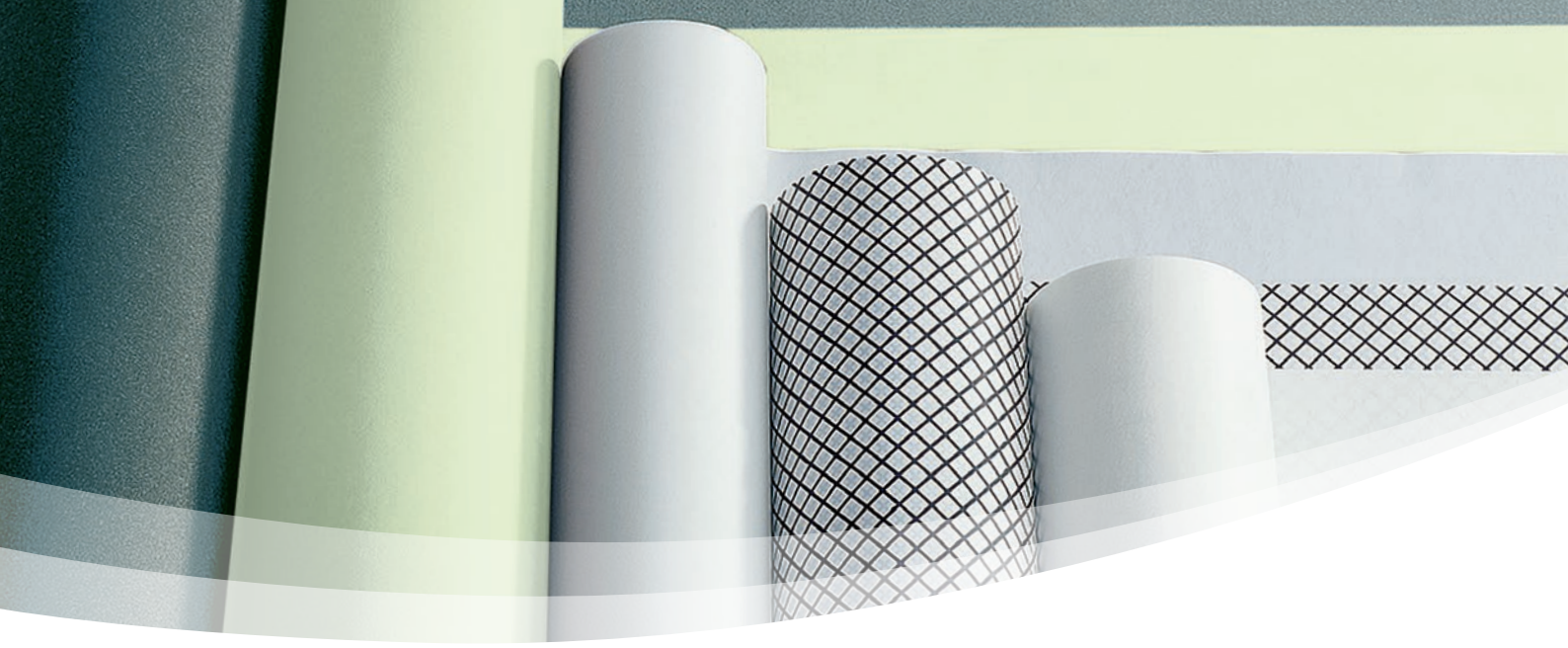
energy efficiency
performance

DIN Standard filter cartridges
Field-validated in all the market's customary dust removal systems

Maximized extraction performance coupled with low filter resistance, thanks to optimally combined selection of the appropriate filter material and pleat geometry. The synthetic filter media used have been IFA-tested (German Institute for Occupational Safety), and exhibit significantly more consistent qualitative excellence than conventional spunbonded nonwoven media. Residual-dust content levels are complied with even when subjected to alternating loads during compressed-air cleaning.

sinTexx Plus filter cartridges
High efficiency against smoke and fine dusts

Developed specifically for removing dust from fine smoke in welding, cutting and coating processes. The corrugated polyester medium with its nanofiber lining, offers numerous advantages compared to conventional, corrugated polyester material and to ePTFE membranes: higher collection efficiency right from the start, lower flow resistance, and elimination of initial precoating, which avoids additional possibilities of mistakes in handling. Available in all the usual Viledon® cartridge geometries.



VILEDON FILTER PLATES AND FILTER MEDIA

HIGH-PERFORMING AND OPERATIONALLY DEPENDABLE

Viledon® filter plates are the compact, space-saving solution for dust removal. Viledon® filter media, though, constitute the heart of all our filter products. Developed specifically for the multifaceted requirements of dust removal systems, the filter media satisfy even the toughest of quality stipulations.

Filter media for all applications

To ensure an affordably customized solution for your dust removal job, our product range includes high-performance filter media with unique characteristics created using patented production processes. Exclusive use of thermally bonded polyester and polypropylene nonwovens, produced with many different processes (staple-fiber, wet-laid and spunbonded nonwovens), enables them to be responsively matched to ultra-stringent technical requirements.

Filter plates
The compact, space-saving option

In order to comply with the statutory emission values for residual dust, you will find the right high-performance filter plate for each and every application in our extensive range. All the geometries usually requested on the market can be supplied. Our products score heavily in terms of long useful lifetimes coupled with low maintenance and operating costs. Thanks to their compact construction, with pleated synthetic filter media, they are exceptionally space-saving. They can be regenerated using all the customary cleaning processes and by washing.





Sinus-shaped corrugated filter media

Pleatable polyester filter media with a sinus-shaped cross-section and microfibers. Savings of up to 35 % in energy costs are possible during operation. Why? Because the pleat corrugation significantly downsizes the pressure drop, and the material concerned, thanks to full-area thermal bonding, exhibits a considerably smoother surface than linearly embossed spunbonded nonwovens. An advantage with beneficial effects on the cleaning behavior, which extends the useful lifetime and reduces the maintenance costs involved. The patented pleat stabilization feature is preserved even under the alternating loads of the filtration and cleaning phases. There is increased air flow rate through the filters since filter cartridges with sinus-shaped corrugated filter media exhibit a higher effective filtering area.

Antistatic filter media

Various polyester or polypropylene nonwovens, finished with a patented raster print on both sides, applied by carbon suspension. The filter media provide high operational dependability without restricting the filter's performance. The antistatic effect is preserved even when arresting abrasive dusts or after being washed in accordance with the relevant instructions. DEKRA test reports confirming electrical surface and volume resistances of < 10^8 Ohm are on file.

sinTexx Plus filter media

Viledon® sinTexx Plus media are a design enhancement of the corrugated Viledon® Sinus filter media, field-validated by many years of actual operation, and now combined with an optimized surface coating made of nanofibers. Viledon® sinTexx Plus filter media outperform the media used hitherto with a higher collection efficiency right from the start, and substantially lower flow resistance, resulting in reduced power and compressed-air consumption and extended lifetimes for the filter cartridges.







ACCESSORIES

THE PERFECT COMPLEMENTS

Besides our comprehensive range of top-quality filters for dust removal, we also offer you a multifaceted choice of accessories.





PJR Pulse-jet reflectors
Insert. Press in. Click & fix.

PJR pulse-jet reflectors are the perfect match for filter cartridges. They improve air pressure behavior during the filtration operation by optimizing the intake of secondary air.
When using Viledon® filter cartridges and other commercially available filter cartridges with nominal diameters of 145, 218, 324 and 327 mm, PJR pulse-jet reflectors can be easily attached with snap hook technology.

Rotary nozzles

Rotary nozzles can be used instead of pulse-jet cleaning. The air exiting from the rotary nozzles during the cleaning procedure flows evenly over the filter cartridge's entire length, from inside through the filter material and detaches the dust cake from the filter's outside surface. At a low tank pressure, rotary nozzles ensure low-noise energy-efficient operation.

Displacement unit

Using the displacement unit results in a significant increase in cleaning intensity, thus reducing the operating and capital investment costs. The tank pressure has to be limited to a maximum of 3 bar, or if the maximum tank pressure is retained the valves can be downsized by one gradation.

Pneumatic components

Ideal for effective and individualized cleaning of your filter elements: corrosion-proofed solenoid valves, optimized for maximum air flow rate coupled with minimized pulse lengths, 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 a screw or quick-release fastening are matched to the geometries of the filter cartridges being used. We can also supply ready-for-use customized cleaning units, consisting of a compressed-air tank, valves and blowing pipes. Ready-for-connecting BUS systems, e. g. for large-size filter installations, reduce the amount of installation and connection work involved. In addition, we can supply filter wall connections in different versions and sizes for simple mounting of the cleaning unit.



Cartridge Protection Sleeve (CPS)

The Cartridge Protection Sleeve guards the filter cartridge against irreversible dust deposits, thus efficaciously preventing the pleats from becoming clogged by fibers, chips or large-area particles. It consists of a fully synthetic PES filter medium, scoring very well in terms of a very high air-permeability measuring approx. 3,880 l/m²·s and a mean pore size of approx. 50 µm. Fine particles are able to penetrate the filter medium while coarse particles are arrested.





Filter aid FHM 1500

The FHM 1500 filter aid assists in the initial precoating process. It is applied in a one-off procedure on new filter cartridges (approx. 10 g/m²). This initial precoating improves the cleaning behavior, and ensures lower, stable pressure drops. Typical applications include: plasma-/flame- and laser-cutting of metals, welding, cleanable policing filter stages, sticky dusts, coating processes like zinc-spraying and aluminizing, plus applications featuring low raw-gas concentrations.

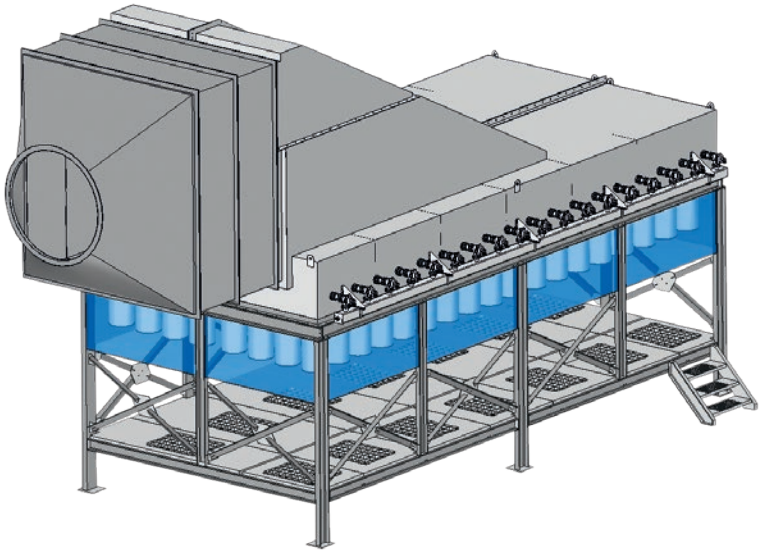




VILEDON SERVICE AND ADVANTAGES

ADDED VALUE FOR YOUR DUST REMOVAL SYSTEM

Besides the high quality of the products, Viledon® also stands for superlative service support. We offer you responsively customized dust removal concepts tailored specifically to your particular needs and upon request our Viledon® filter service management system as a complete package. Because the efficient use of any dust removal system is crucially dependent on choosing the appropriate filter in conjunction with the system parameters involved.



Recommendations on dimensioning

We give you soundly based recommendations for dimensioning your system, and perform the requisite process-engineering computations. For this purpose, we analyze existing dust removal problems and processes, and develop filter media and products that can be appropriately varied in terms of shape, height, nominal diameter, and pleat geometry.

In our laboratories, we subject the dust to meticulous scrutiny: with particle measurements of all kinds, determination of dust densities and bulk weights, plus dust analyses using a scanning electron microscope. In addition, we offer an on-site measuring service. The results of all these analyses, supplemented by our long years of experience, form the foundation for a dust removal solution customized for optimum cost-efficiency and technical excellence.



Always the right choice

Our comprehensive range of dust removal equipment is rounded off by the top-quality Viledon® air filters. These include pocket filters, cassette filters or EPA / HEPA / ULPA filters. Depending on the requirement involved, you achieve maximized efficiency from a combination of filters.

When it comes to oil mist arrestance, a multi-stage filtration concept featuring T 60 pocket filters (ISO ePM10 60 % to ISO 16890; filter class M 6 to EN 779) in the first stage and MX 95 cassette filters (ISO ePM1 70 % to ISO 16890; filter class F 8 to EN 779) in the second has proved an optimal choice. For hall air recirculation, HEPA / ULPA filters of Filter classes H 13 and H 14 ensure superlative filtration results.



Your advantages with Viledon®

- **Customized dust removal concepts**
- **Viledon® filter service management system**
  Our complete package, consisting of filter changes + leak tests + disposal
- **Technical damage analyses**
  We help you if you have any dust-related problems. In our laboratories, we examine the problem dust with the aid of microscopic analyses under optical and electron microscopes (SEM, EDX).
- **Internal and external checks**
  We subject Viledon® filters to ultra-stringent internal and external checks, including IFA tests (arrestance of health-hazardous substances), DEKRA test reports (testing of antistatic filter media) and food-grade quality in accordance with the LFGB (German Food and Feed Code).
- **Certification under EUROVENT**
  The fine-filter and energy classification system applies for additional filters installed downstream, e. g. Viledon® pocket filters and cassette filters in ISO group classification ePM1, ePM2,5 and ePM10 to ISO 16890 (Filter classes M 5 – F 9 to EN 779).

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