

The MAHLE logo is displayed in a bold, blue, sans-serif font.

Industrial Filtration

FILTRATION AND SEPARATION

THE COST-EFFECTIVE COMPLETE RANGE

INDUSTRIAL PARTS CLEANING

The NFV logo consists of the letters 'NFV' in a bold, blue, sans-serif font, enclosed within a blue rectangular border.

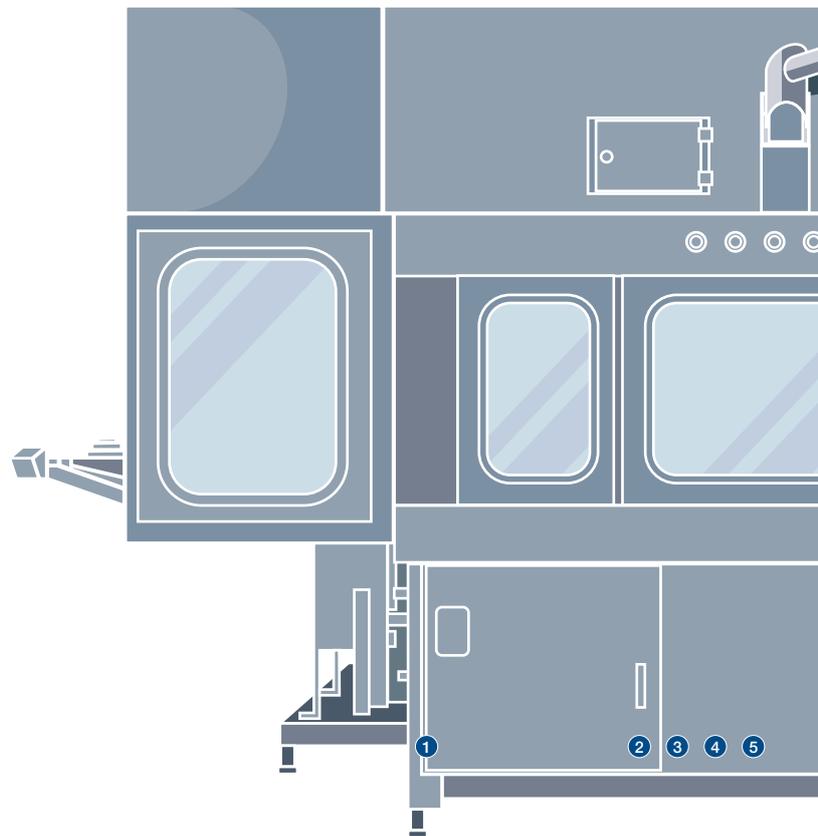
FILTRATION AND SEPARATION – SINGLE-SOURCE INDUSTRIAL

MAHLE Industriefiltration

While continuing to expand its expertise in industrial filtration, MAHLE is also tapping new potential in industrial parts cleaning. As an innovative solutions partner, MAHLE Industriefiltration has been producing high-quality industrial filters for fluid technology, dust filtration, and process technology for many decades. MAHLE Industriefiltration is an independent service division with its own engineering, production, and sales teams, integrated in the MAHLE Group, one of the thirty largest automotive suppliers worldwide. Together with amafilter and NFV products, MAHLE has all bases covered when it comes to filtration in industrial parts cleaning.

Solutions expertise for the entire spectrum of industrial parts cleaning

In metalworking, an increasing emphasis is being placed on the industrial cleaning of workpieces and components. The requirements on modern cleaning processes are growing, not only with regard to surface condition, surface cleanliness, and the defined residual dirt values or residual particle values. Process reliability and environmental friendliness are also at center stage. High-performance filtration and separation systems from MAHLE ensure that cleaning fluids are available at a high degree of purity for



1 Basket strainer duplex filter



2 Vario automatic filter series



3 Bag filter housings



4 Filter bags

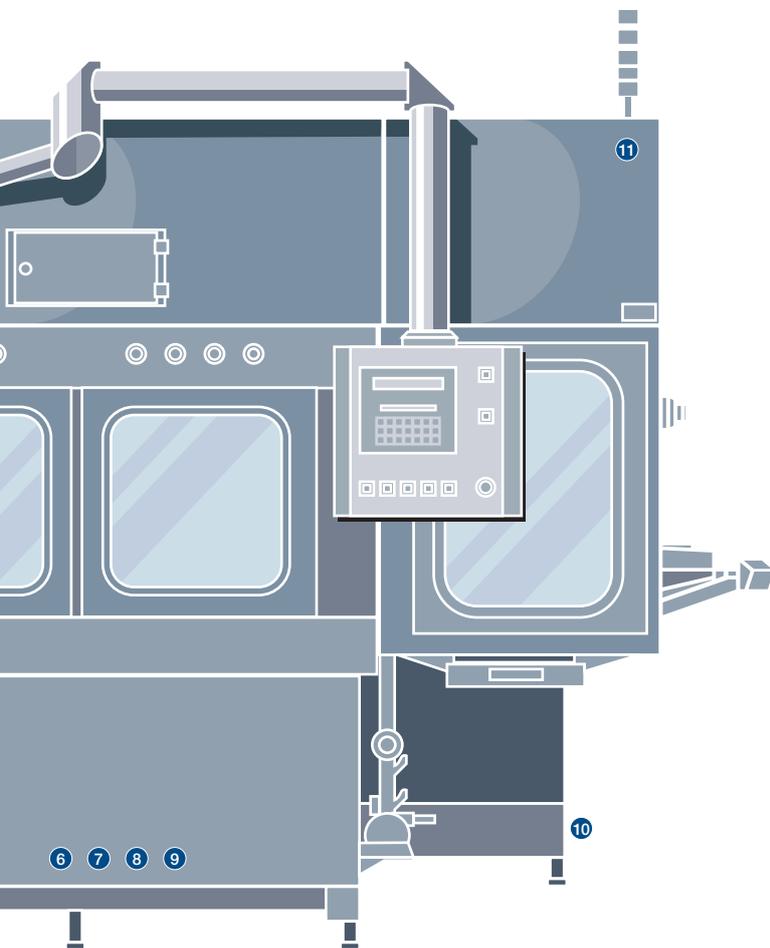


5 Cartridge filter housings



6 Cartridge filter elements

EXPERTISE FOR PARTS CLEANING



as long as possible—to ensure greater economic efficiency, environmental compatibility, and shorter process times. MAHLE also offers products for dust removal from process air and intake air.

Clean separation from coarse to fine— from solid-liquid to gas-liquid

Filter solutions for particle filtration

MAHLE industrial filters provide high-efficiency particle separation from coarse to fine—with consistently high performance, a long service life, and operational reliability.

Filter solutions for oil-from-water separation

For the efficient separation of oil from circulating water, we provide solutions with cutting-edge technology that is both ecological and economical.

Filter solutions for oil mist separation

Our innovative, reliable solutions enable cost-effective mist separation of wash oil from exhaust air.



7 Topchange filter elements



8 High-end cartridge filter housings



9 High-end cartridge filter elements



10 Mechanical emulsion breaker



11 Oil mist separator

OPTIMAL FILTER PERFORMANCE FOR EVERY APPLICATION

Strict purity requirements

Industrial production processes require ever higher levels of purity. Industrial cleaning technology must rise to this challenge, with the use of a wide variety of cleaning media and methods. Dirt must be removed from these cleaning media continuously and efficiently. Our high-performance, innovative filter technology provides even better cleaning performance.

Filtration of industrial process fluids, such as:

- Cooling water and other types of process water
- Low-viscosity oils
- Emulsions (cooling lubricants)
- Alkaline, neutral, and acidic aqueous cleaning solutions
- Solvent cleaners based on hydrocarbons, or modified alcohols
- Test liquids

Basket strainer filter—perfect protection against coarse particles

Dirt, which leads to premature wear of components, remains one of the major causes of faults and operating failures. To prevent this, MAHLE offers basket strainer filters, which represent a cost-effective method for the protection of pipes or the conditioning and maintenance of fluids. These basket strainer filters are available as single or duplex filters and are suitable for use

with fluids of any kind, due to their fully developed design. They are equipped with cleanable metal filter elements that combine ease-of-use and cleaning with high durability and long service life.

Automatic filters—functional filtration

Automatic filters ensure a reduction of relatively coarse contaminants in cooling lubricants as early as the production phase for complex parts. At an early stage, this reduces cleaning costs and prevents potential quality losses during the process. Automatic filters are used directly in washing bays, for example, as a central installation or in decentralized applications.

Special applications include:

- Final washers
- Deburring machines

Inline pressure filters require no filter material—subsequent disposal is therefore unnecessary. Cleaning can take place without service interruptions.



*Basket strainer
single filter*



*Basket strainer
duplex filter*



*Vario automatic
filter series*

Bag and cartridge filtration—clean and clear

For standard applications in industrial parts cleaning, there are various bag filter designs to choose from. The housings have been developed specifically for filtration in water applications and are made entirely of stainless steel. The multilayer, needle-felt filter bags work on the depth filtration principle and offer advantages for the removal of difficult-to-filter particles. Filter bags made of monofilament mesh are used primarily for a more precise screen filtration.

Just like bag filters, cartridge filters are available in a wide variety of designs for any application. The filter cartridge assortment ranges from nominal to pleated elements.

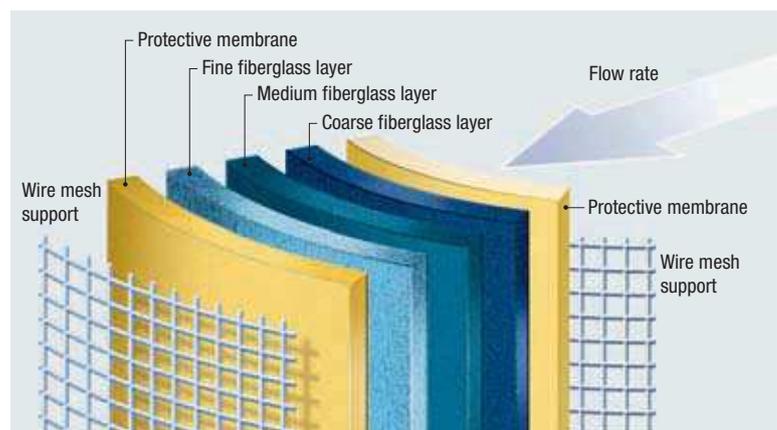
Topchange—the alternative

Often, typical bag filters can no longer meet the increasing requirements of industrial parts cleaning.

Our high-efficiency series provides high-performance topchange elements as a premium alternative to bag filters. The pleated elements stand out due to their:

- long service life and
- significant dirt-holding capacity.

Simple replacement, without changes to the housing, is possible. The MAHLE topchange filter has the exact same construction as the MAHLE cartridge element for ultra-fine particles. This means that the MAHLE cartridge filter technology can be used at any time, in any bag filter housing.



Bag filter housings

Filter bags



Cartridge filter housings



Cartridge filter elements

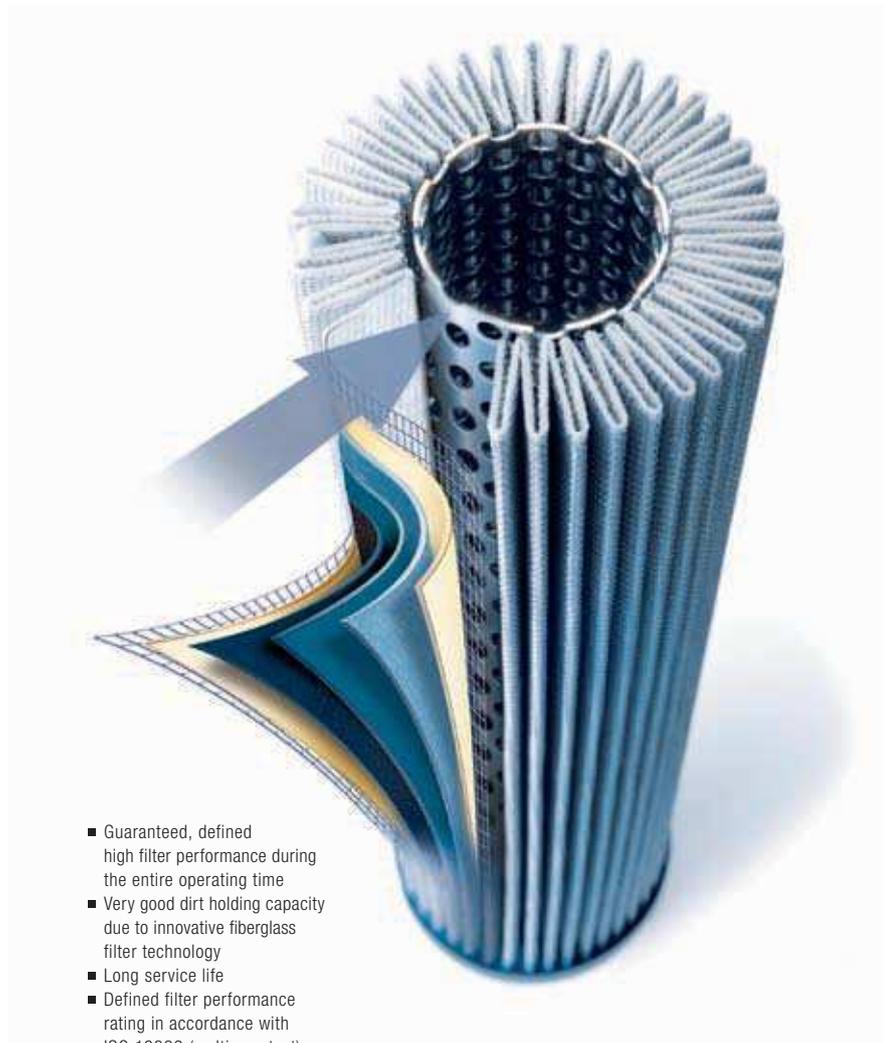


Topchange filter elements

High-end filter solutions for fine particles

Our high-performance filters have a large effective filter surface to catch the dirt load, while minimizing the pressure loss. The filter material captures nearly all particles of any shape and size, down to the defined filter rating, without having a significant effect on pressure loss.

These high-performance filters are outstanding in that they achieve excellent performance rating results according to ISO 16889 (multipass test) over the entire operating time. Their superior dirt-holding capacity based on innovative fiberglass filter technology and high differential pressure stability ensure that the media used remain consistently clean over the entire operating time. MAHLE high-performance filters offer a longer service life than conventional filters—with the same high retention efficiency—thus offering an excellent price/performance ratio.



- Guaranteed, defined high filter performance during the entire operating time
- Very good dirt holding capacity due to innovative fiberglass filter technology
- Long service life
- Defined filter performance rating in accordance with ISO 16889 (multipass test)
- Constant cleanliness of media used during the entire operating time
- High differential pressure stability
- Excellent price/performance ratio, due to longer service life than typical filters—at the same level of retention efficiency



High-end cartridge filter housings



High-end cartridge filter elements

CLEAN SEPARATION

SEPARATING OIL OUT OF WATER AND AIR

Effective media conditioning

Individual user requirements are a decisive factor when selecting products for industrial parts cleaning. In addition to the filter solutions already described for particles, we also provide mechanical emulsion breakers (MESB) for thorough oil separation in critical process media.

The MESB series for treating washing water works according to the basic principle of coalescence. Dispersed ultra-fine droplets continuously consolidate into larger droplets, which then precipitate out of the main phase as a secondary phase under gravity. The separation of emulsified process media into an oil and a water phase is a basic prerequisite for an environmentally friendly treatment, and in case recycling is to be included in the process. Emulsion breakers work with homogeneous components and can also be used with heavily contaminated media, enabling reliable removal of even fluid contaminants.



Mechanical emulsion breaker

Oil mist separation

For the efficient separation of aerosol mists from washing bays with wash oils, the MAHLE LGA series provides a cost-effective solution. During the cleaning of metal blanks, for example, the oil-laden air stream is separated into the supporting medium and oil, based on the principle housing and can then be returned.

Whatever the application—we are there for you

Based on our experience across many industries, we combine all our expertise in a worldwide network, use synergies, and, as your partner, use the power of innovation to develop the optimal solution for your application, from filter elements to modules. With certified quality, of course. Designed and tested to DIN and ISO standards, with associated industrial approvals. In short, an engineering partnership for complete system solutions, with the extra service. For more functionality, more safety, more reliability and efficiency.

Let us provide you with a customized solution based on your specific application.



Oil mist separator

MAHLE

Industrial Filtration

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Photo: Dürr EcoClean

