

**MAHLE**

MAHLE Industrial Filters  
Dedusting



Pioneering systems, modules and components of the highest precision and quality for engines and vehicles as well as for industrial applications – that’s what approximately 38,000 employees are working on around the world at more than 75 production locations. Research and development, production, and worldwide marketing for fluid technology, dedusting, and automatic filters are concentrated in the Öhringen plant, where industrial filters have been developed and manufactured since 1962.

## Optimal dust separation and air pollution control

### **MAHLE Industrial Filters**

Decades of know-how, the outstanding characteristics of our unique filter materials, pioneering processes, and a versatile product line of filter elements

and devices, which have been proven in practical applications for optimal dust separation and air pollution control are the strong foundation of MAHLE dedusting technology.

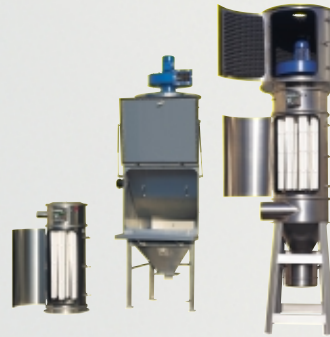




Filter elements



Cleaning units



Round devices



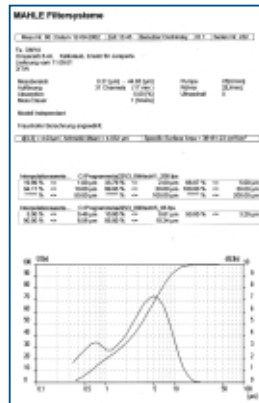
Rectangular devices

### MAHLE dedusting filters

For over 40 years MAHLE has been involved with filtration that extracts the finest particles out of the air. Based on our experience in the automotive sector, the folded filter elements have also been implemented with increasing success in the industrial sector. Now the Industrial Filtration Profit Center has developed itself into one of the leading manufacturers of dedusting technology through the extensive know-how of the MAHLE Group, and the outstanding quality of the products.

Continuous further development of materials and manufacturing technologies guarantees economical and technically optimal products in the highest quality. Consequently MAHLE industrial filters are the first choice for machine manufacturers as well as for users.

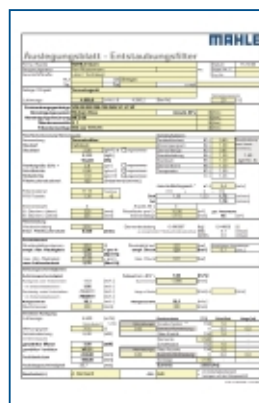
We also develop coordinated special solutions for special requirements in close collaboration with our large customers. Naturally in this regard, confidential collaboration is a prerequisite for us.



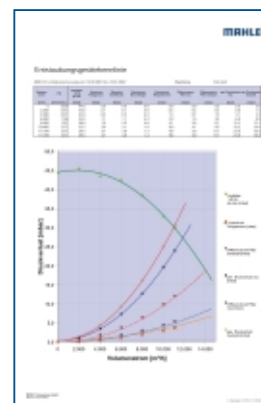
Particle size distribution



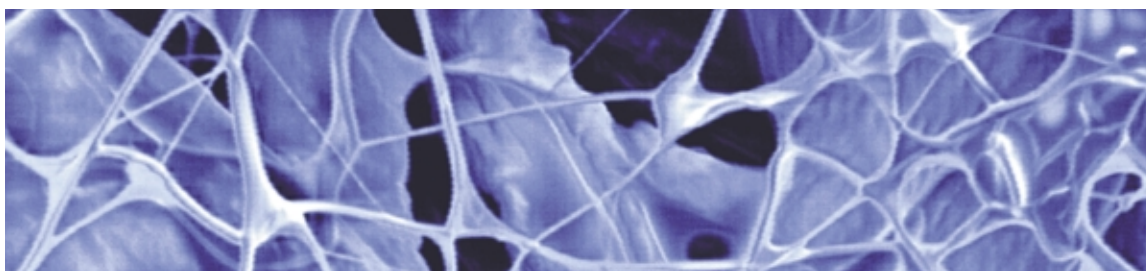
Degree of separation



Interpretation sheet



Device characteristic curve



## Dust filter requirements

Highly-effective filtration is the prerequisite for problem-free operation of modern process engineering plants. Impurities are often the cause of abrasion, wear, or corrosion, and have a negative impact on product quality.

MAHLE filter elements are optimized through our technical application experience in such a manner that they can be combined with specially developed cleaning systems to produce compact, reliable filter systems, which have an economical service life.

### Product range

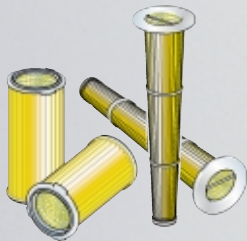
- Filter elements
- Dedusting units
- Cleaning systems
- Small dedusters
- Top filters and plug-in filters
- Product separators
- Bag dumpers
- Standalone extraction units
- Central dedusters
- Cleanable extraction air filters
- Ex-areas filters
- Pressure-shock resistant filters
- Filter controllers, dosages of auxiliary filtering agents, etc.
- Accessories
- Customer-specific designs



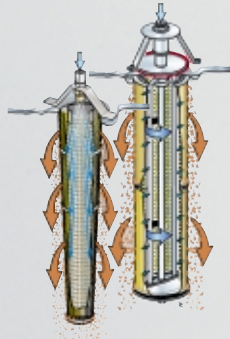
*Conic filter elements*



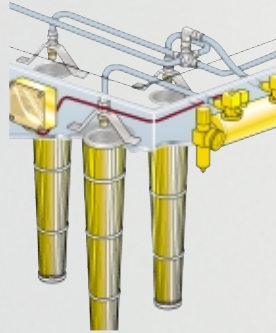
*MAHLE multi-jet nozzles*



Filter elements



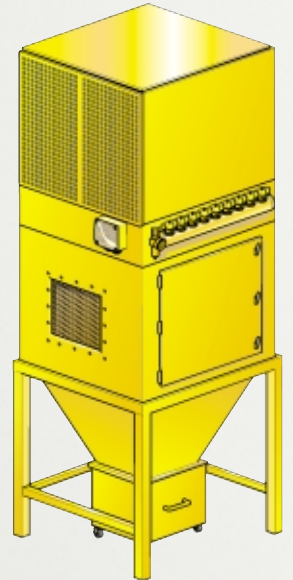
Multi-jet nozzle + AE 36



Cleaning system



Compact deduster



Rectangular device

### Filter elements

We manufacture folded filter elements to dedust air and gases for almost all branches of industry. Here MAHLE offers a variety of high-quality solutions – ranging from filtration of gas turbine intake air to product separation in manufacturing and transport processes, to measured gas filtration. Materials with FDA approval are used for the pharmaceutical and foodstuffs industries.

### Cleaning systems

The complete line of MAHLE cleaning systems, which are particularly adapted to our filter elements, enable reliable and energy-efficient operation of dedusting equipment. In addition to easy installation and the design, which offers technical flow advantages, we also ensure minimum noise development.



### Cleaning units

With the MAHLE rotating wing and the multijet nozzle, there are two optimized cleaning units available for star-folded filter elements. The special technical details of these components are the result of years of practical experience and extensive development experiments.



### Top filters and plug-in filters

Top filters and plug-in filters are complete dedusting units that can be used for venting silos, tanks and mixers. Moreover, they are excellently suited for retrofitting existing plants, as all elements essential to a dedusting system are already integrated.



### Compact dedusters

Compact dedusters based on the Jacob pipe system are recommended for applications that require dedusting low volume flows. They are compact, robust, they can easily be integrated in existing systems, and they have proven themselves as mixer set top filters, product separators after conveyor systems, sluice vents, and transportable extraction units.



### Product separators

Filters with tangential intake are primarily used for separating high dust levels, e.g. in the chemical industry or in the foodstuffs industry. Improved preliminary separation means that the filter load and thus cleaning frequency are reduced. Product is discharged via a cone, and then, for example, a cellular wheel sluice.



### Bag dumpers

Bag dumpers minimize dust development when adding bagged products. Here, the important factors are primarily a large fill opening, low noise development, and a robust structure.



### Central extraction

If multiple extraction points are brought together and channeled to a dedusting device, this is referred to as central extraction. In this case, rectangular device types are frequently used because the air quantities are often very high. The extremely compact design of MAHLE filters represents a clear advantage, particularly for indoor set-up.



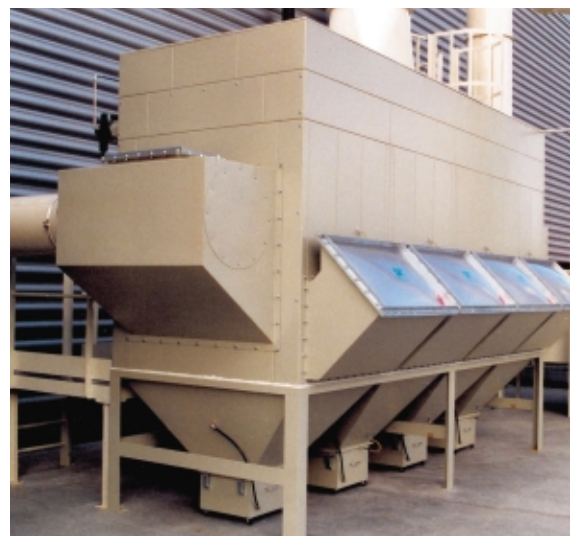
### Standalone extraction

Work stations where jet, grinding, welding, or other activities are performed that involve intensive dust development often require dedusting that is separate from the central extraction unit. The most compact devices are sought after here, for space reasons.



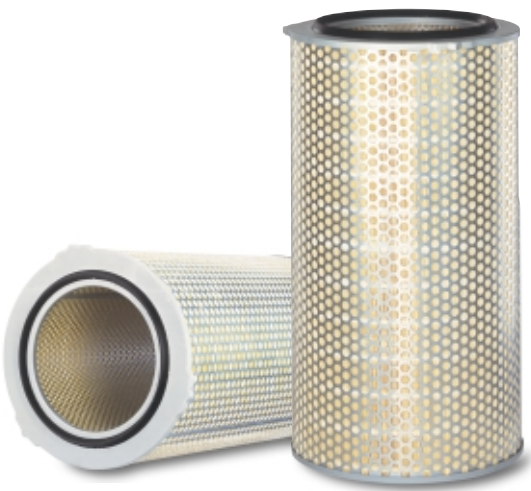
### Ex-area filters

Special design guidelines must be complied with for filtration in Ex areas or for filtration of explosive dusts. Easily flammable dusts frequently require pressure shock-resistant construction for filter devices. This design corresponds to the new ATEX guidelines, and in part even exceeds them.



### Cleanable intake air filters

To minimize wear, intake air must be filtered for gas turbines and large diesel engines. Cleanable filter systems that work on low differential pressure are required for temporary peak dust levels as they occur in desert areas for example. MAHLE supplies star-folded filter elements and cleaning systems for these filter systems which are often huge.



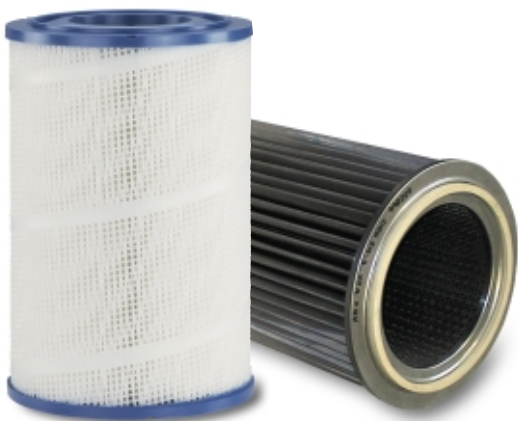
### Accessories

The accessories required for dedusting devices like controllers, measuring instruments or dosages of auxiliary filter agents, round out our offering.



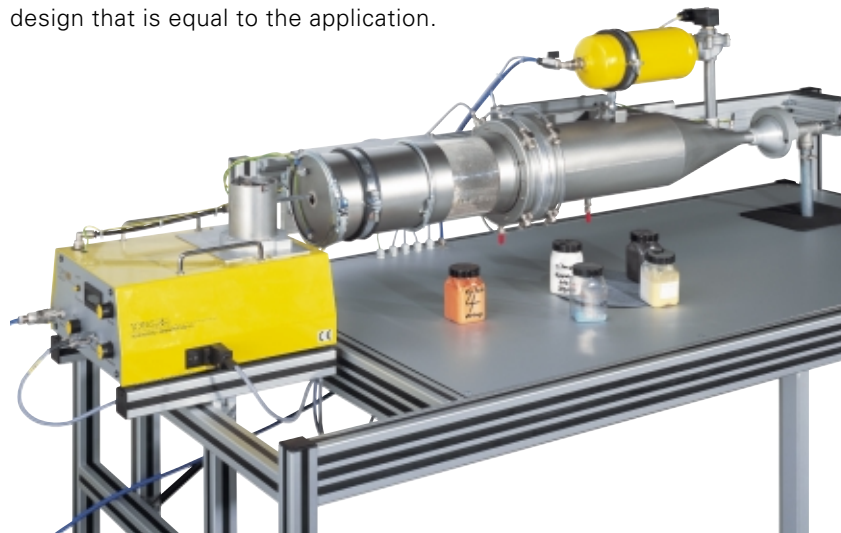
### Customer-specific designs

In collaboration with our large customers we develop filter elements, cleaning systems and dedusting devices, which are optimally tailored to their needs. Of course these jointly developed solutions are subject to strict customer protection, which we honor with exactness.

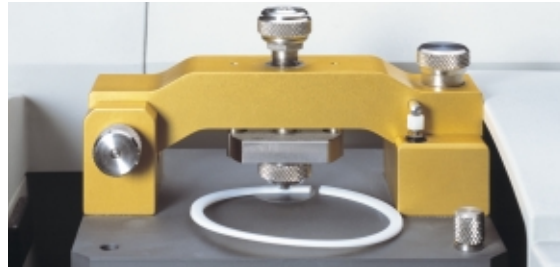
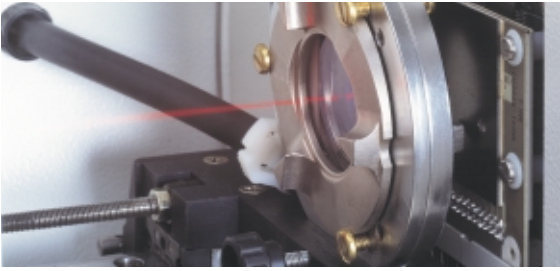


### Test stand in accordance with VDI/DIN guideline 3926

Indicator values, particularly relative to cleaning behavior, can be determined with this test rig. These indicator values serve as the basis for a design that is equal to the application.







## Competent system partner

Due to the variety of information that must be taken into consideration, (i.e. data, facts, and system parameters), a filter design that is both technically and economically optimal is a difficult task, which can only be mastered in its complexity by expert personnel.

As an innovative development partner with decades of experience with dedusting technology, and

a reliable supplier, MAHLE is esteemed by leading manufacturers of dedusting systems and devices the world over as a competent system partner in the area of dust filtration.

Our practice-proven and reliable MAHLE industrial filters ensure problem-free economic operation in countless devices, machines and systems around the world.



*Filter test stand in the MAHLE Industrial Filter Pilot Plant with continuous cleaning and residual dust monitoring.*

# MAHLE

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