

**MAHLE**

MAHLE Industrial Filters  
Automatic Filters



Trend-setting systems, modules and components with the highest precision and quality for engines and motor vehicles as well as for industrial applications – 33,000 employees of the MAHLE Group are working to meet this target worldwide at 60 production facilities. Research and development, production and worldwide sales for the fluid technology, dust removal and automatic filters are located at the Öhringen plant where industrial filters have been developed since 1962.

## Process Optimization Through MAHLE Automatic Filters

The worldwide success of the MAHLE automatic filter program is based on broad know-how and the intensive development of innovative product systems. MAHLE automatic filters optimize production processes and work extremely efficiently. They can be used without interruption in many

industrial areas, which include machine and plant construction, the automobile industry, marine applications and extraction technology as well as different areas in the chemical, paint and foodstuff industries.





MAHLE Automatic filter elements

#### Non-stop operation with MAHLE automatic filters

To remain competitive, companies must use every potential to raise their productivity. For this reason, production processes are being increasingly automated. The capacity of machine and plant should be utilized completely. They can run in 24-hour operation only if certain requirements are fulfilled. To be able to comply with the high quality requirements on the workpieces to be manufactured, working fluids must be treated and regenerated. Product media must satisfy the requirements exactly and high safety requirements on plants and processes must be maintained. Furthermore, maintenance and disposal activities must not interfere with plant operation or interrupt it. The filtering of liquids, pastes and similar materials with automatic filter systems is therefore becoming increasingly popular in industry because it enables economic operation without downtimes. MAHLE automatic filters have captured further areas of application through the advantage of rational non-stop operation with automatic cleaning processes which eliminate the need for further disposal activities.

#### MAHLE automatic filters are used with:

- Cooling lubricants for metal cutting operations as well as sheet metal shaping,
- Marine consumables such as engine oil and fuel,

- Washing fluids for industrial parts and vehicles,
- The manufacturing and processing of grease, oil, pastes or adhesives,
- Other fluids or products such as miscella, water, chocolate, dough and fruit pulp.

#### Innovative solutions for vario demands

The success of the MAHLE automatic filter program is based on decades of experience in industrial filtration, early recognition of market requirements and consistent implementation of innovative ideas in reliable and economic solutions tailored to suit the needs of the market. Continuous further development and new developments are targeted to meet the differentiated requirements of industry while new areas of application are discovered over and over again.

Patent-protected, innovative MAHLE automatic filters cover the widest range of needs optimally. In-line pressure filters which can be cleaned during operation have none of the extra maintenance and disposal requirements which are necessary with consumable filter materials. The cleaning systems and filter materials used in the compact filters enable their use in a full range of filter applications from particulate through to coarse filtration and homogenization.

Different cleaning systems, filter materials and the possibility to combine them make it possible to adapt the compact MAHLE automatic filters flexibly to filtration needs. For this reason, MAHLE automatic filters always offer an optimum solution for the filtration of widely different materials under extremely different conditions.

## The Right Filter For Every Application



*Automatic Metal Edge filter with scraper cleaning for isocyanate (a component of PU)*



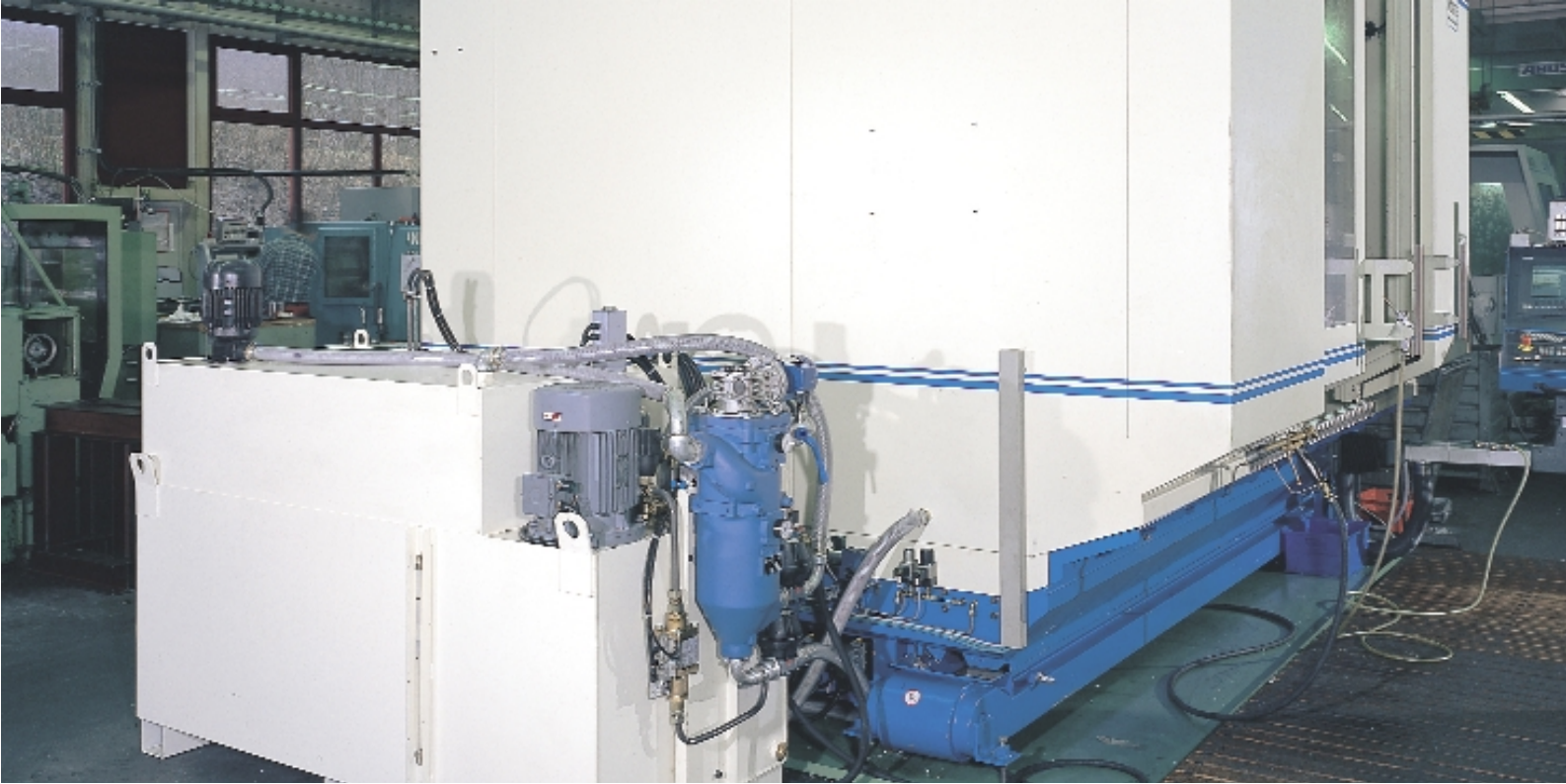
*Automatic Metal Edge filter with scraper cleaning for adhesive*



*Automatic filter with internal pressure segment cleaning for engine oil in marine application*



*Automatic Metal Edge filter with scraper cleaning for chocolate*



*Automatic filter for cooling lubricant at a machining center*

The selection of the most suitable filter type depends upon the operating parameters. The filter size as well as the filtration and cleaning behavior of the suspensions are evaluated as a function of viscosity and characteristics as the size, appearance and concentration of the particles or materials to be dealt with. If reliable evaluation data are not available, pilot tests can be performed with test filters in practice to convince the customer himself of their suitability.

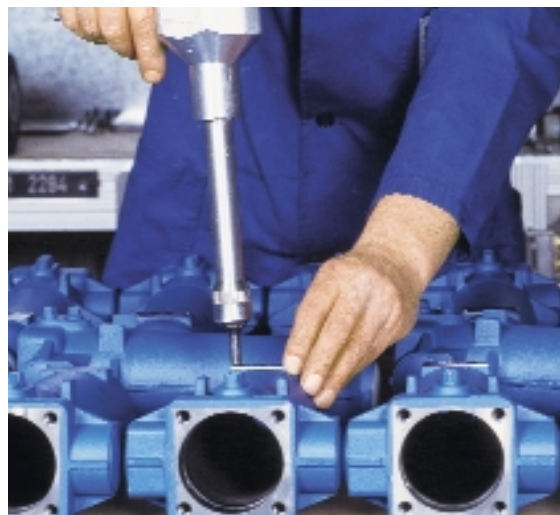
An applications laboratory with the best of equipment is available for basic tests, volume flow measurements, sample examinations and grain size analyses as well as pressure and tightness tests.

The continuous development of filter systems and manufacturing technologies guarantee technically and economically optimum products of the highest quality.

MAHLE automatic filters offer convincing filtration solutions for machine and plant manufacturers as well as the widest range of production operations.



*Final assembly of specially-manufactured MAHLE automatic filters*

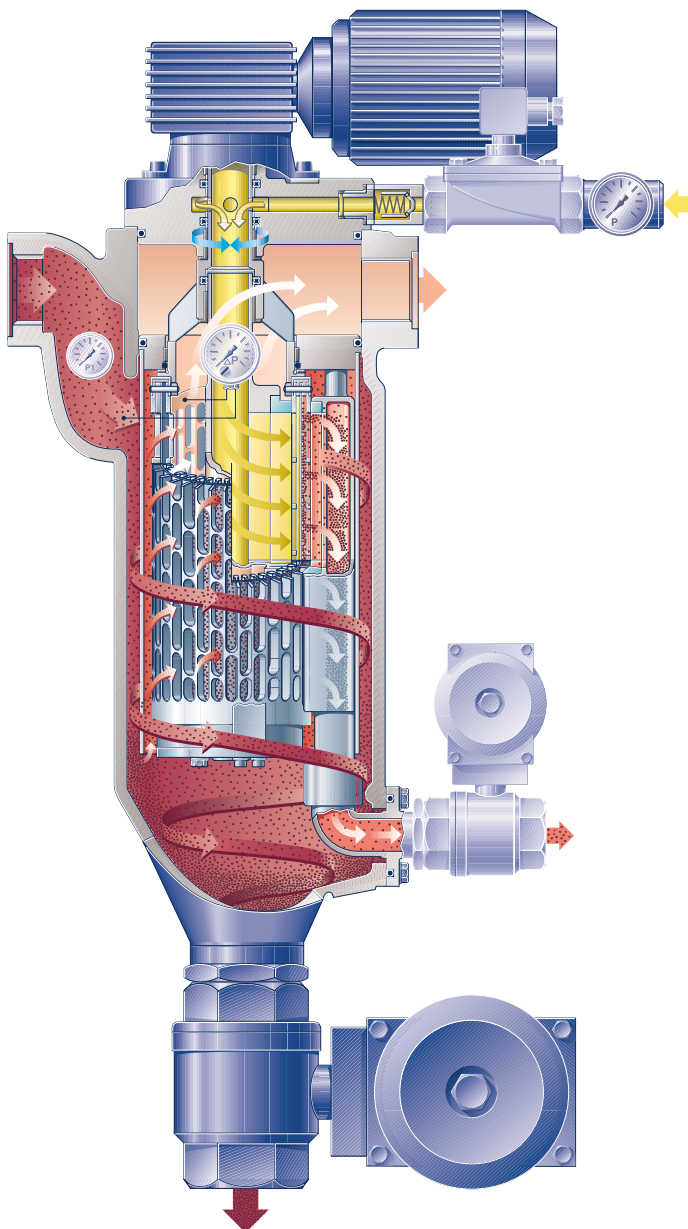


*Pre-assembly of MAHLE automatic filters manufactured in series*

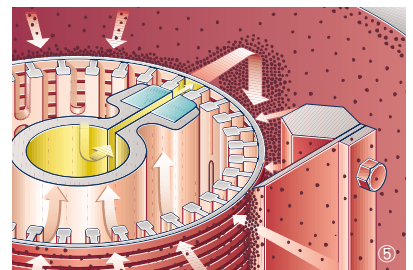
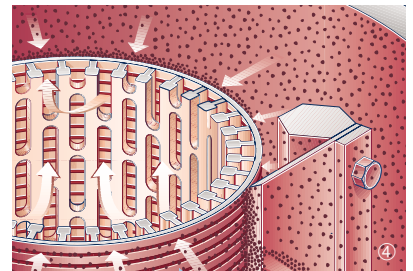
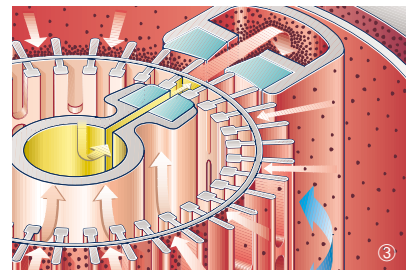
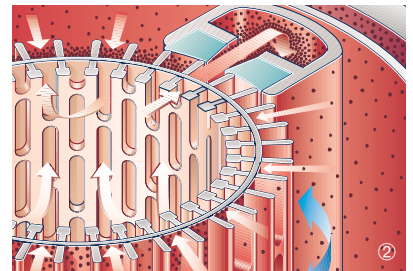
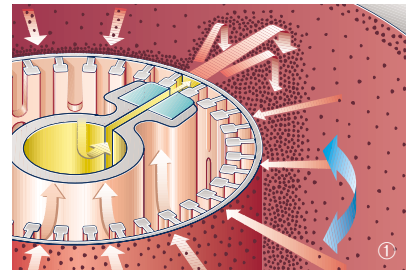
### The MAHLE Vario Automatic Filter series

The advantages of the vario system: With one basic filter concept and variably useable cleaning systems and filter materials, it is possible to react very flexibly to the most different filtration requirements, even under extreme loads.

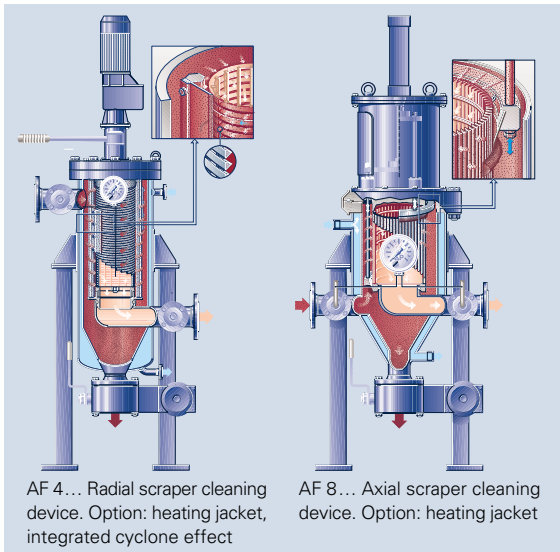
If necessary, it is even possible to change to a different cleaning system in a short time should operating conditions change.



Structure of an automatic filter of the vario series



- 1 Principle of the patented external pressure impulse segment cleaning
- 2 Internal pressure segment cleaning
- 3 Patented external pressure impulse segment cleaning with a continuous flow of filtrate
- 4 Scraper cleaning
- 5 Scraper with patented external pressure impulse segment cleaning



AF 4... Radial scraper cleaning device. Option: heating jacket, integrated cyclone effect

AF 8... Axial scraper cleaning device. Option: heating jacket

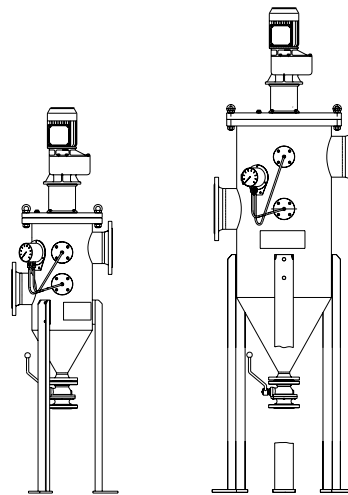
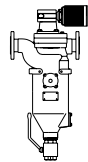
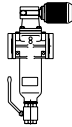
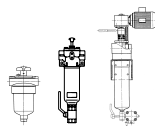
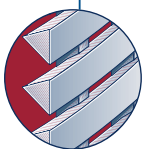
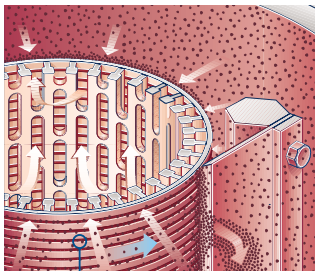
### MAHLE Automatic Metal Edge filters

The classic MAHLE Metal Edge filter program with connection sizes ranging from G 1/2 to DN 300 can be used for a variety of low to high viscosity liquids, pastes and similar materials.

Compact designs with one or more rotating elements offer ideal conditions for the optimum selection of the model size. They come in a variety of designs and materials, facilitating a wide choice of applications - through to high pressure designs.

Minor adaptations of available standard solutions frequently satisfy customer-specific requirements.

Automatic Metal Edge filter with filtrate chamber emptying function



	AF 71 L/G/H/S	AF 72 G/S	AF 73/93 G/S	AF 74/94 S	AF 75/95 S AF 76/96 S
Connection-size	G1/2, G 1, G 1¼	G 1½ DN 40/50	G 2 DN 50/65/80	DN 100/125/150	DN 200/250/300
Permissible standard operating pressure	40, 100 und 400 bar	16, 40 und 100 bar	16 und 63 bar	16 bar	16 bar
Rotating cartridges mm	1xØ 42x70 1xØ 42x190 3xØ 110x265	1xØ 65x230 3x4xØ 110x265	1xØ 110x265 2xØ 110x265	3x2xØ 110x265 3x3xØ 110x265	6/12x2xØ 110x265 6/12x3xØ 110x265 6/12x4xØ 110x265
Height mm	239 362	595	814-1974	1870-2680	2620-3160 2857-3397
Gap width µm	30, 40, 50, 60, 80, 100, 130, 160, 200, 250, 360, 500, 1000, 1500, 2000				

Automatic Metal Edge filter with radial scraper cleaning. Option: Integrated cyclone effect

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