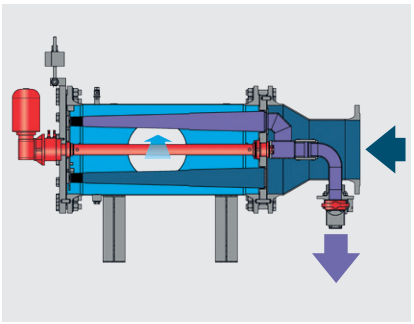
Automatic Filter AutoFilt® RF7



Sectional drawing for AutoFilt® RF7

Self-cleaning automatic back-flushing filter for low installation heights

The AutoFilt® RF7 is used for removing solid particles from low viscosity fluids. It supplements the HYDAC back-flushing filter product range with an additional user-friendly and compact series, which is particularly suitable for use in systems with limited space.

Features

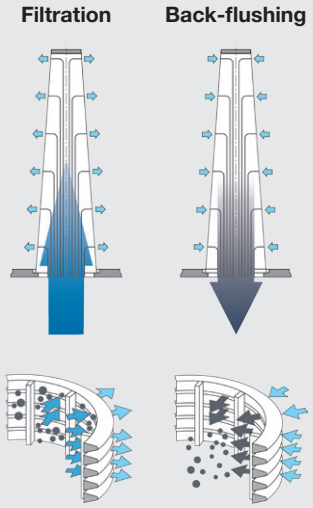
- Space-saving, horizontal design
- Pivoting lid device supplied as standard, for easy access to the inside of the filter
- Separation of solid particles from low viscosity fluids
- Filtration ratings from 25 to 3000 µm
- Flow rates up to 7500 m^3/h
- Conical filter elements provide greater efficiency

Advantages

- Ideally suited to systems with limited space
- Fully automatic operation
- Ready-to-operate unit
- Maximum utilisation of the filter area
- Isokinetic filtration and back-flushing

Technical specifications	AutoFilt® RF7
Connection sizes	● DN 50 to DN 900
Flow rates	● 7500 m^3/h
P_{min} / P_{max}	● 2 bar / 16 bar
Max. operating temperature	● 90 °C
Filtration ratings	● 25 to 3000 µm
Filter elements	● Wedge wire ● SuperMesh wire mesh, sintered ● Optional: SuperFlush non-stick coating
Filter housing materials	● Carbon steel ● Stainless steel
Corrosion protection	● 2K epoxy coating ● 2K highly cross-linked polyurethane coating ● Rubber lining
Material of internal parts and filter elements	● Stainless steel
Control parameters	● EPT ● EU ● PT ● PTZ ● EPU

Function



Filtration

- The medium being filtered flows through the filter elements from the inside to the outside
- Contamination particles then collect on the smooth inside of the filter elements
- As the level of contamination increases, the differential pressure between the contaminated and clean sides of the filter increases
- When the differential pressure reaches the pre-set trigger point, back-flushing starts automatically

Automatic back-flushing is triggered:

- When the differential pressure trigger point is exceeded
- By means of set timer function
- By pressing the “Test” button

As soon as back-flushing has been triggered, the back-flushing filter starts to clean the filter elements.

Control parameters

EPT – Electro-pneumatic cyclic control

- The gear motor rotates the flushing arm to the filter elements to be cleaned and stops
- The back-flush valve is opened and cleaned due to the pressure drop between filtrate side and back-flush line
- After the back-flushing time per filter element has elapsed, the back-flush valve is closed
- The gear motor rotates the flushing arm further to the next filter element
- A full back-flush cycle is complete once all filter elements have been cleaned

PT – Pneumatic cyclic control

Like EPT but with purely pneumatic components.

PTZ – Pneumatic cyclic control with timer function

Like PT but with the option of setting a maximum filtration time between two back-flush cycles, independently of the differential pressure.

EU – Electrical circulation control

- The electrical back-flush valve opens
- The gear motor continuously rotates the flushing arm underneath the filter elements to be cleaned
- The pressure drop between filtrate side and back-flush line flushes a small amount of the filtrate back through the contaminated filter elements
- The contamination particles collected on the inside of the filter elements are loosened and flushed into the back-flush line via the flushing arm
- When the flushing arm reaches its starting position, the gear motor stops and the electrical back-flush valve closes automatically

EPU – Electro-pneumatic circulation control

Like EU but with the back-flush unit operated pneumatically.

Application examples	Areas of application
Power plants	● Conditioning of industrial water used to cool generators ● Filtration of sealing water to increase the service life of the turbine floating ring seals
Steel industry	● Filtration of process water to protect the nozzles and pumps in high pressure descaling ● Water conditioning for cooling blast furnaces and rolling mills ● Emulsion filtration in hot and cold rolling mills ● Filtration of rolling emulsions