



*Driven by performance*

## Backflush filter

**R8-30W**

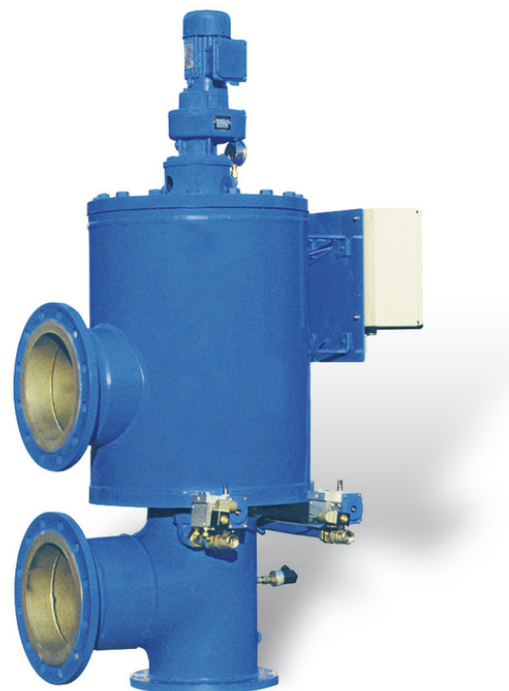
With internal pressure segment cleaning, rated pressure to 40 bar (580 psi)

Connection sizes: DN 200 to DN 500, welded design

### 1. Features

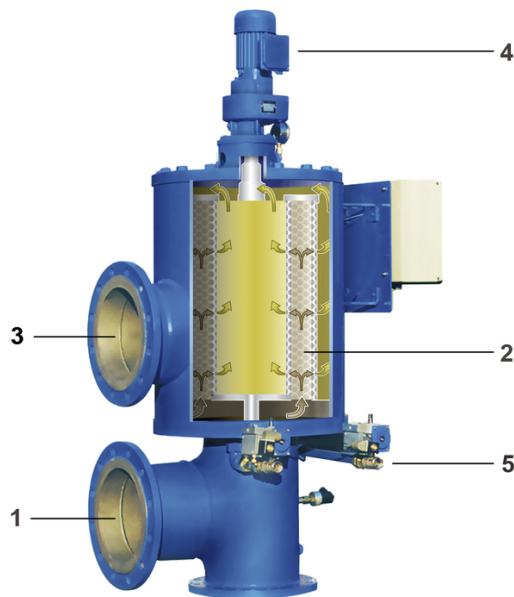
#### Powerful, fully automatic filtration

- Used in industry
- Continuous filtration supports rational production processes
- Large filter surface area due to 2-cylinder filter elements
- Low backflush flow rates and optimal cleaning of the filter element improve filtration efficiency
- Perfect synthesis of ecology and economy
- Mature engineering and robust design
- Compact design
- Filter ratings from 25 to 1000  $\mu\text{m}$  absolute, other ratings on request
- Easy to service
- Worldwide distribution



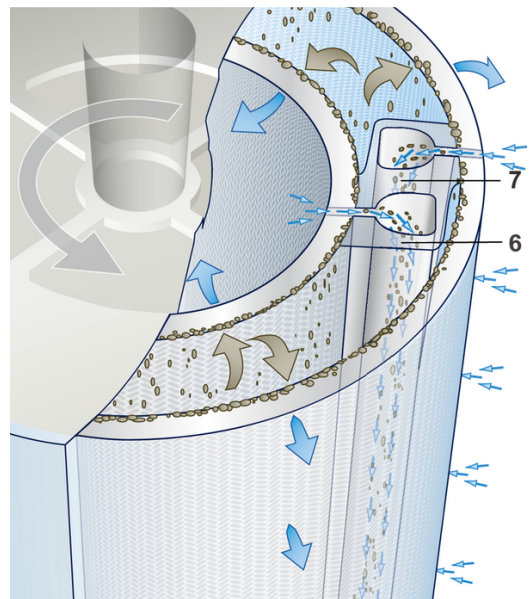
## 2. Operating principle

- The filter housing contains two filter elements with pleated wire cloth cylinders through which the medium flows and contaminants are trapped on the inside of the element (2).
- When a defined differential pressure is reached or after a settable time interval, the fully automatic backflush process starts.
- When the backflush start time is reached, first of all one of the flush valves (5) opens and the gear motor (4) starts to turn the external filter element. Thereby the whole filter surface bypasses the cleaning nozzle (6 and 7).
- The process medium that has already been filtered flows at high speed in the opposite direction through the vertical slot (6 and 7), which is located directly on the filter element. The trapped contaminants are discharged from the system via the flush pipe.
- The flush valve closes when the filter element has been turned approximately 400° and the second flush valve opens in order to clean the internal filter element similarly. Afterwards the gear motor is switched off and the flush valve closes again. The backflush process is completed in only a few seconds.
- Since the element is turned, only the part covered by the cleaning nozzle is actually cleaned; the remainder can continue to be used for filtration → operation is not interrupted.

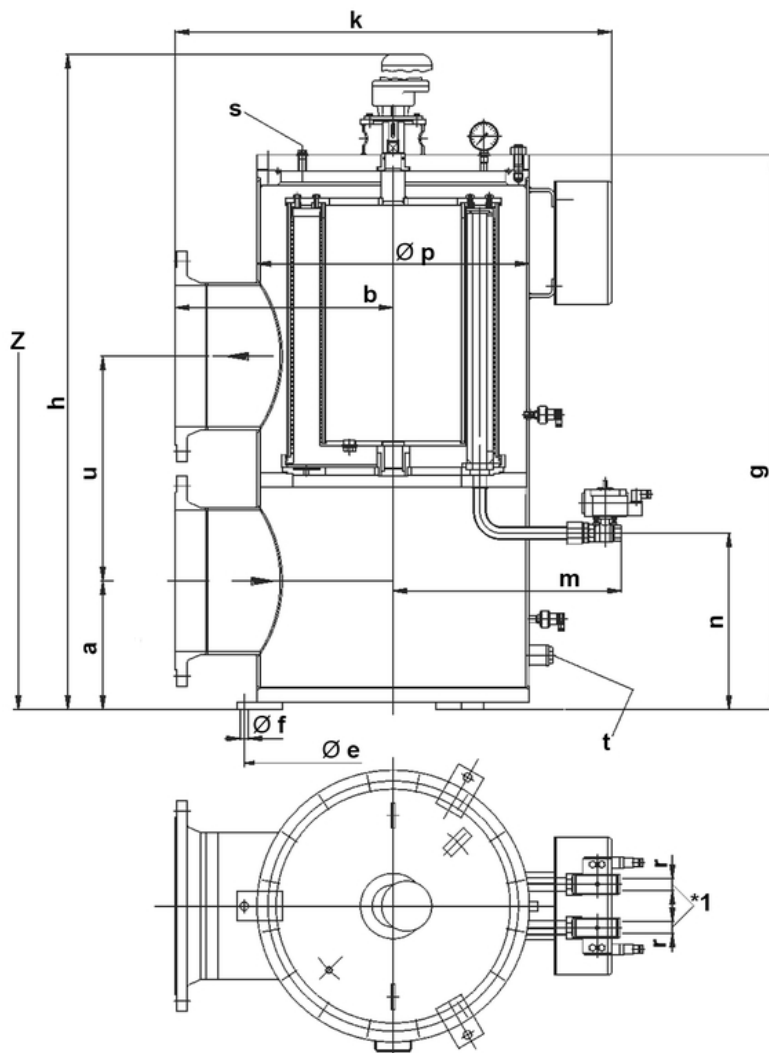


## 3. Technical Data

Connection:	DN 200 to DN 500
Material:	H II-Steel 1.0425, CrNi-Steel 1.4571
Max. operating pressure:	16 bar
Test overpressure	
DGRL 97/23:	23 bar
Test overpressure	
Germ. Lloyd:	24 bar
Max. operating temperature:	120 °C
Filter element:	Screen basket with wire cloth (smooth or pleated), perforated sheet (profiled), screen sieve
Filter rating:	25 to 1000 µm absolute, other ratings on request



## 4. Dimensions



t = Drain  
s = Vent  
Z = Clearance required  
\*1 = Flush pipe

All dimensions except "r", "s" and "t" in mm.

Type	DN	a	b	$\varnothing e$	$\varnothing f$	g	h	k	m	n	$\varnothing p$	r	s	t	u	Z	Filter area [cm <sup>2</sup> ]	Capacity [l]	Weight [kg]
RX143110F63	200	220	325	475	3x23	880	1260	775	350	290	406	G $\frac{3}{4}$	G $\frac{1}{4}$	G1	400	1550	11050	110	300
RX143110F64	200	250	380	525	3x23	1040	1540	820	410	320	457	G $\frac{3}{4}$	G $\frac{1}{4}$	G1	450	1800	18050	175	400
RX153110F64	250	250	380	525	3x23	1040	1540	820	410	320	457	G $\frac{3}{4}$	G $\frac{1}{4}$	G1	450	1800	18050	175	400
RX153110F65	250	280	450	630	3x23	1230	1685	970	437	385	559	G $\frac{3}{4}$	G $\frac{1}{4}$	G1	500	2050	28100	300	500
RX163110F65	300	280	450	630	3x23	1230	1685	970	437	385	559	G $\frac{3}{4}$	G $\frac{1}{4}$	G1	500	2050	28100	300	500
RX173110F67	350	325	550	720	3x23	1370	1830	1100	580	402	650	G1	G $\frac{1}{2}$	G1 $\frac{1}{2}$	580	2300	38500	440	640
RX163110F66	300	355	600	820	3x23	1531	1990	1170	630	480	750	G1	G $\frac{1}{2}$	G1 $\frac{1}{2}$	620	2450	53500	670	1165
RX173110F66	350	355	600	820	3x23	1531	1990	1170	630	480	750	G1	G $\frac{1}{2}$	G1 $\frac{1}{2}$	620	2450	53500	670	1180
RX183110F66	400	355	600	820	3x23	1531	1990	1170	630	480	750	G1	G $\frac{1}{2}$	G1 $\frac{1}{2}$	620	2450	53500	670	1200
RX203110F66	500	450	600	820	3x23	1700	2160	1170	630	580	750	G1	G $\frac{1}{2}$	G1 $\frac{1}{2}$	750	2650	53500	800	1400

## 5. Design and application

The design of the backflush filters is based on the respective customer's requirements. The material, type of construction and filter surface and rating are expertly adapted to the specific filtration task based on the medium and capacity.

The task can be optimized with the freely variable options available for the backflush filters.

### Options:

- **Heater**  
Capacity and size optimally matched to filter sizes.  
Steam and electric versions available.  
Heating jackets for steam/thermal oil offer highest surface areas for high performance at contemporaneously low temperature gradients.
- **Magnetic elements**  
Strong permanent magnets can be used.
- **Control**  
Control by means of a switch box with a programmable automation module.  
Easy parameterising with buttons and display.  
Programming and simulation on a PC.
- **Pressure transmitter**  
Differential pressure monitored with a pressure transmitter.  
This permits precise monitoring of the differential pressure using the PLC module in the switch box.  
Max. temperature: 150 °C  
Max. operating pressure: 40 bar  
Measuring tolerance: 0.3 %
- **Bypass filter**  
Manual, semi-automatic, fully automatic with change-over unit (manual, fully automatic).

Backflush filters are not at all complicated to use and they guarantee continuous filtration. The necessary steps are described in the following:

- The filter comprises a bowl with a cover and a gear motor.
- The bowl contains a vent port, a drain port and a filter element.
- The filter must be filled and vented before it is put into service. It must not be operated with the full pump flow when empty.
- Switch on the filter controller and start a flushing process with the hand release. If the viscosity of the medium is very sensitive to temperature, the filter controller should not be switched on until the filter reaches its normal service temperature.
- The filter controller must be switched off if the plant is not in service.
- In order for the backflushing process to be efficient, there must be operating overpressure during the flushing process on the outlet side of the filter.
- Backflushing starts automatically after a defined time or when the maximum differential pressure is reached. If the differential pressure exceeds 3 bar, the filter must be removed from service or changed over to bypass. Then dismantle the filter and clean the wire cloth cylinder (refer to "Cleaning").
- When a flushing process is tripped, the gear motor is switched on and a flush valve for the flushing medium outlet opens. The medium flows from the clean side through the filter element and into the internal nozzle as the element is turned by the gear motor. After turning approximately one time the first flush valve closes and the second one opens. As the filter element is still turned by the gear motor, the second filter element is cleaned.
- The flushing medium flows through the wire cloth at high speed, so that the contaminants trapped in the filter are detached and discharged via the flushing outlet and the flush pipe connected to it.
- The filter controller is programmed so that the flush valves close again and the gear motor is switched off after approximately 2¼ turns of the filter elements.
- To clean the filter, switch off the filter controller, dismantle the gear motor, loosen the cover fixing screws and remove the cover. The complete filter element can now be lifted vertically out of the filter. To clean the filter element manually, spray it with steam, compressed air or water from the outside towards the inside. Pre-treat the element with a suitable solvent if the dirt cannot be removed easily. It may be necessary to dismantle the pleated wire cloth cylinder.
- The service of the filter has to be done biannual. The operation of the filter controller, flush valves, and the gear motor has to be checked. All gaskets, O-rings and bearing bushes also have to be checked for wear or damage and replaced as necessary. The pleated wire cloth cylinders have to be checked for damage to the wire cloth and the seals as well.

## 6. Type number key

### Type number key with selection example for R8-30W backflush filter DN 200 to DN 500

#### Main product group

R Automatic filter

#### Series

X Welded design

#### Inlet and outlet connections

14 Flange DN 200

15 Flange DN 250

16 Flange DN 300

17 Flange DN 350

18 Flange DN 400

20 Flange DN 500

#### Filter connection standard + rated pressure

3 EN 1092 PN 16 bar

4 EN 1092 PN 25 bar

5 EN 1092 PN 40 bar

#### Position of main connections

1 Above one another on the same side

#### Cover fastening

1 Stud bolts or hexagon screws

#### Options

0 Standard version

2 Electric cartridge heater

3 Steam/thermal cartridge heater

7 Version without non-ferrous metals

G Rubber Coating

D Step nozzle

#### Type of inner assembly

F Inner assemblies for automatic filter with internal medium

#### Inner assembly size

XX

#### Housing version

B Coated

#### Nozzle material

4 Cast bronze

#### Number for special types or design features

20 Standard

R X 15 3 1 1 0 F 65 B 4 20



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