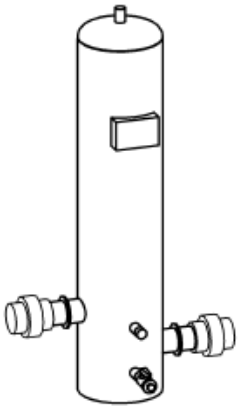

Fig. 1: GENO-activated carbon filter AKF 1600

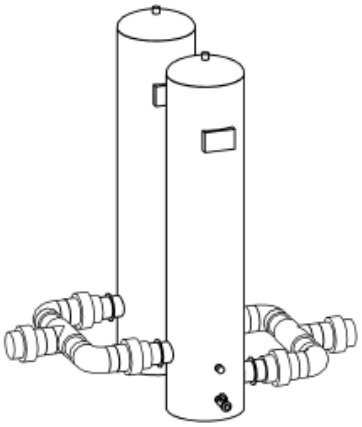

Fig. 2: GENO-activated carbon filter AKF 9000

GENO-activated carbon filter
AKF 1600
AKF 3000
AKF 4500
AKF 6000
AKF 9000
AKF 12000

Designated application

The activated carbon filter is designed for the dechlorination of feed water intended for reverse osmosis systems. If possible, the water to be dechlorinated should be free of mechanical impurities.

By means of surface reaction, the activated carbon filter AKF is able to react with the free, active chlorine still remaining. The resulting chloride does not load the activated carbon but is discharged with the water. The surface reaction capacity is reduced by the amount of impurities contained in the water subject to the operating time.

However, the filter element has to be replaced every 3 months at the latest.

An earlier replacement of the filter elements will be required if chlorine breaks through or the max. differential pressure value (2.5 bar) is reached.

Function

The raw water flows into the filter housing through the raw water inlet (01) and then from the outside in through the filter element (10) and to the pure water outlet (02). Foreign particles are retained at the outside of the filter element.

Grünbeck's filter elements have been designed for a wide range of applications in the filtration of liquids. The point in time when the filter element must be replaced is determined by your experience with the filter system. However, in general we recommend replacing the filter elements if the differential pressure reaches 2.0 bar.

Design

The GENO-activated carbon filter AKF consists of the stainless steel filter housing (pressure tank) and the filter elements and is characterised by its high strength. The filter was specifically developed for industrial applications.

Scope of supply

- Stainless steel housing for AKF
- Filter elements
- Draining valve R ½“
- Vent valve
- PVC screw connections/parallel piping made of PVC
- Operation manual

Installation

When connecting the pipes, make sure not to mix up the filter housing's inlet and outlet.

The upper connecting piece at the cylindrical part of the filter housing is the inlet for the liquid, the lower connecting piece is the filtrate outlet. The pipes must be connected without any loads and stresses.

The filter elements are inserted into the filter housing while the filter is installed, i.e. above the filter housing adequate space must be available to work on the filter elements!

Installation and replacement of the filter elements

1. Close the inlet and outlet valves.
2. Relieve the filter housing by opening the vent valve on the connecting piece (05).
3. Drain the filter housing by means of the ball valve (04).
4. Loosen the V profile clip (06) at the filter tank cover and remove it from the tank edge in an upward movement (do not bend it open!)
5. Remove the filter tank cover in an upward movement (07) and remove the housing seal
6. Loosen the screw knob (18) and unscrew the pressure plate (17) from the centre bar.
7. Remove the springs and sealing caps (11) of the filter elements.
8. Lift the filter elements (10) upwards from the guiding bars (19).
9. Discharge the used filter elements (10) and clean the components in contact with the liquid, if necessary.
10. Slide the new filter element (10) onto the guide bars which are loosely inserted in the lower sealing caps (12) and align it vertically.

Note: When implementing the filter cartridges order no. 109 615 into the filter housing make sure that the filter cartridges are placed into the housing with the circumferential bores upwards.

11. Complete the filter housing in reverse sequence (points 7/6/5/4). Prior to putting back the housing seal, check it for damage and replace it, if necessary.
12. In case of leakages, check the seat/state of the housing seal. It might be necessary to retighten the V profile clip (06).

The filter elements can be discharged with the household waste.

After replacing the filter cartridge, the filter must be vented by means of the vent valve (05).

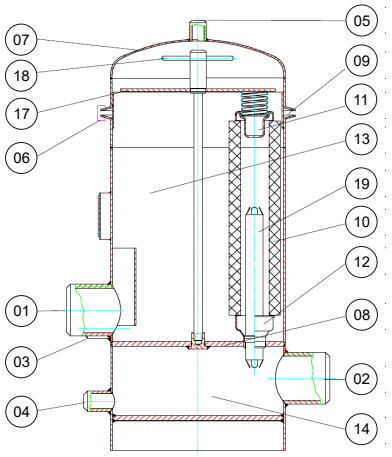

Fig. 3 Exploded drawing of a GENO-activated carbon filter AKF

Start-up

Insert the filter element into the filter housing. While the vent valve in the cover is open, **slowly** fill the filter housing with liquid, i.e. the liquid volume flowing through must absolutely be reduced at the inlet valve!

As soon as liquid is escaping at the deaeration, it must be closed! Then, open the inlet valve completely.

The valve for residual draining and the backwash connection remain closed.

The GENO-activated carbon filter AKF is now ready for operation.

Consumables

Activated carbon filter element 250-M
Order no. 109 615

Installation requirements

Please observe local installation directives, general guidelines and technical specifications.

The installation site must be frost-proof and ensure the system's protection from chemicals, dyes, solvents and vapours. The ambient temperature as well as the radiation temperature next to the system must not exceed 40 °C.

The GENO-activated carbon filters AKF should be installed in pipes of the same dimension as the nominal diameters of the filters.

A drinking water filter (e. g. BOXER) has to be installed upstream of the GENO-activated carbon filter AKF.

Technical specifications		**GENO-activated carbon filter**			
		AKF 1600	**AKF 3000**	**AKF 4500**	**AKF 6000**
Connection data					
Nominal connection diameter (bonded socket joint)	mm	DN 40	DN 50		
Draining connection		female thread 1/2"			
Deaeration connection		female thread 3/8"			
Performance data					
Flow rate[1)]	l/h	1600	3000	4500	6000
Recommended differential pressure for the replacement of the filter elements*	bar	≤ 2.0			
Differential pressure	bar	≤ 2.5			
Nominal pressure		PN 10			
Dimensions and weights					
A Installation length without piping	mm	234	275		
B Installation length with piping	mm	470	550		
C Total height	mm	813	823	1073	1323
D Space required for the replacement of the filter elements	mm	410	410	670	920
E Connection height feed water	mm	177	180		
F Connection height filtrate	mm	93	93		
G Connection height draining	mm	63			
Empty weight, approx.	kg	13	18	21	25
Operating weight, approx.	kg	29	46	58	70
Ambient data					
Filter elements size 10"	piece(s)	6	12	18	24
Water temperature	°C	≤ 30			
Ambient temperature	°C	≤ 40			
Order no.		**109 460**	**109 240**	**109 250**	**109 260**

[1)] In case of a Cl_2-concentration in the feed water of max. 0.2 mg/l!

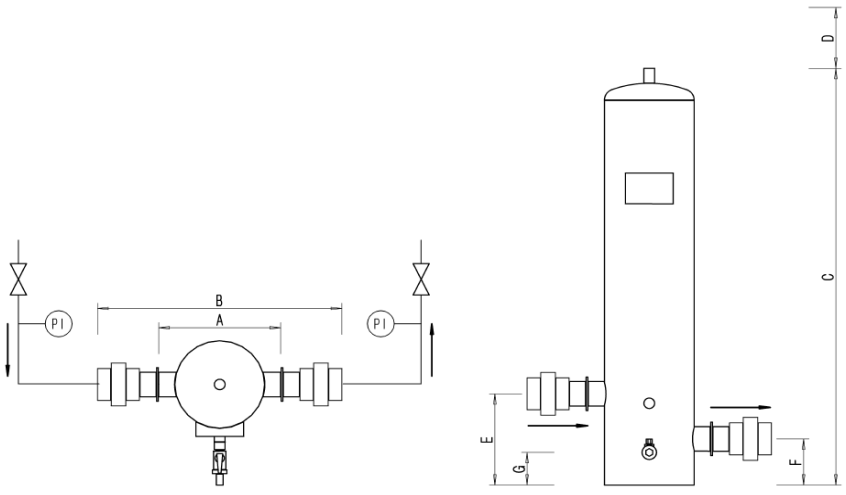

Fig. 4: Installation/dimensional drawing of a GENO-activated carbon filter AKF 1600/6000

Technical specifications		GENO-activated carbon filter AKF 9000	AKF 12000
Connection data			
Nominal connection diameter (bonded socket joint)	mm	DN 50	
Draining connection		female thread 1/2"	
Deaeration connection		female thread 3/8"	
Performance data			
Flow rate[1)]	l/h	9000	12000
Recommended differential pressure for the replacement of the filter elements*	bar	2.0	
Differential pressure	bar	≤ 2.5	
Nominal pressure		PN 10	
Dimensions and weights			
A Installation length without piping	mm	275	
B Installation length with piping	mm	1035	
C Total height	mm	1073	1323
D Space required for the replacement of the filter elements	mm	670	920
E Connection height feed water	mm	180	
F Connection height filtrate	mm	93	
G Distance between filter housings	mm	400	
H Connection height draining	mm	63	
Empty weight, approx.	kg	44	52
Operating weight, approx.	kg	116	142
Ambient data			
Filter elements size 10“	piece(s)	36	48
Water temperature	°C	≤ 30	
Ambient temperature	°C	≤ 40	
Order no.		**109 016**	**109 021**

[1)] In case of a Cl_2-concentration in the feed water of max. 0.2 mg/l!

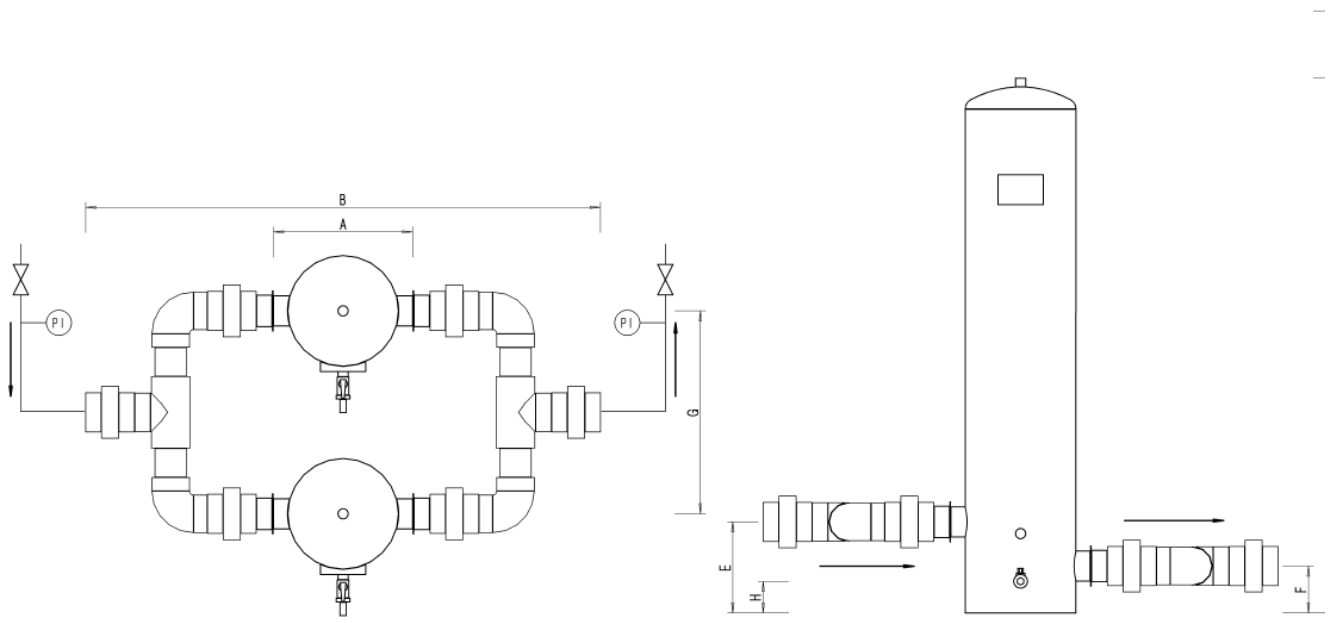

Fig. 5: Installation/dimensional drawing of a GENO-activated carbon filter AKF 9000/12000