

Fig. 1: Filter system GENO-mat® F 600 AK

**GENO-mat® F**  
**500/600/610 AK; AC/RC**

### Designated application

The system is designed for the filtration and heating up of pool water in private swimming pools, whirlpools or ornamental pools. Other applications (e. g. well or circulation filtration) are possible upon consultation with Grünbeck.

### Function

#### Filtration

The pool water sucked in by means of a circulation pump is delivered into the filter via the distribution system at the top. The pool water flows through the filter layers from top to bottom, and the top and the bottom distribution systems make sure that the filter material is flown through equally. While flowing through the filter layers, even the finest dirt particles are being filtered from the water. The filtered water flows through the bottom distribution system which is equipped with small slots and is then returned to the pool.

#### Backwash

Due to the dirt retained, the indicated pressure (pressure gauge) at the filter system increases. If the pressure increases by 0.2 – 0.3 bar above the initial pressure, the filter has to be backwashed. For hygienic reasons, however, a backwash has to take place at least once a week. Depending on the degree of pollution, the backwash process takes about two to three minutes. Furthermore, we recommend a backwash before and after longer periods of standstill. The timer-controlled backwash is initiated by the GENO®-BW-tronic but can just as well be released manually or by differential pressure control (option). The automatic multi-way valve deviates the rinsing water in a way that it flows into the filter via the bottom distribution system. That way, the various filter layers are lifted, flown through and the dirt particles are discharged to the drain via the top distribution system. The outgoing rinsing water can be observed through a transparent piece of pipe.

According to DIN EN 1717, the rinsing water pipe leading to the drain pipe must have a free outlet.

#### Rinsing

During the rinsing process (approx. 0.8 min.), the remaining dirt as well as abrasions of the filter material are discharged to the drain. This process works from top to bottom, in the same way as during filtration.

#### Draining

By means of the circulation pump, the pool volume is delivered to the drain. Avoid suction of air.

### Design

Filter tank made of glass fibre reinforced plastic (GRP), completely pre-assembled, manual aeration and deaeration.

Control unit GENO®-BW-tronic (only RC version) for semi or fully automatic operation of filter system via timer programming. Display and operation via keypad and 4-line, backlit LC display, 6 languages to choose from. The control unit GENO®-BW-tronic features a two-point temperature controller, including voltage-free outlet and serial interface RS 485.

Compact heat exchanger made of stainless steel (V4A), incl. high-efficient heating circulation pump and ball valves to heat up the pool.

Automatic multi-way valve DN 40 (Ø 50 mm), version with automatic actuator.

Circulation pump made of plastic, low-noise model with integrated hair and fibre strainer. The circulation pump should be installed below the water surface. In exceptional cases, the circulation pump may be installed max. 2 m above the water surface.

### Scope of supply

Complete filter system, pre-assembled and wired on base plate, incl. control unit GENO®-BW-tronic, heat exchanger, circulation pump, automatic multi-way valve and operation manual.

### Accessories

Quartz sand filter filling F 500

**Order no. 200 840**

AFM filter filling F 500 (glass granulate)

**Order no. 240 180**

Quartz sand filter filling F 600

**Order no. 200 560**

AFM filter filling F 600 (glass granulate)

**Order no. 241 800**

Hydro-anthrasite filter filling F 600

**Order no. 200 565**

**Differential pressure switch 500/600/610 A/AK**

For automatic release of a demand dependent backwash (0.16-1.6 bar).

**Order no. - Please inquire**

#### Remote control

##### GENO®-BW-tip-control

Simplified remote control for GENO®-BW-tronic, the most important functions can be selected by pressing a button.

**Order no. 208 645**

#### Touch panel 5.7"

Remote control resp. remote display of all relevant components to interconnect the GENO®-BW-tronic and the measuring and control unit GENO®-CPR-tronic 02.

**Order no. 203 545**

### Installation requirements

Please observe local installation directives, general guidelines and technical specifications. The installation has to be made by a specialist. The installation site must be sufficiently ventilated, should be frost-proof and must not be prone to flooding. Drainage respectively a floor drain (DN 100) is required. The system must be easily accessible for maintenance and repair purposes. A minimum room height of 1200 resp. 1600 mm is required for the replacement of the filter material.

Technical specifications/Dimensions	Filter system GENO-mat® F			
	500 AK; RC	500 AK; AC	600 AK; RC	600 AK; AC
<b>Connection data</b>				
Nominal connection diameter	R 2" / DN 40			
Nominal diameter of drain connection	DN 100			
Nominal connection diameter heating system	R 1"			
Filter pump	GENO®-Top 8		GENO®-Top 14	
Power supply [V]/[Hz]	400 / 50	230 / 50	400 / 50	230 / 50
Protection/protection class	IP 54/I			
Power input of motor [kW]	0.48	0.58	0.90	0.97
Current input [A]	1.2	3.2	2.1	5.7
Fuse protection by others [A]	10			
<b>Performance data</b>				
Nominal pressure [bar]	2			
Max. operating pressure on heating side [bar]	6			
Max. filter/backwash capacity [m³/h]	6/8		12/15	
Pump capacity (at 8 mWC) [m³/h]	8.5		14	
Max. pool volume [m³]	35		70	
Max. suction height [m]	2			
Min. heating circulation [m³/h]	2			
Heating capacity (inlet: 90 °C, pool water 20°C) [kW]	42			
Heating capacity (inlet: 60 °C, pool water 20°C) [kW]	24			
<b>Dimensions and weights</b>				
A Height of filter system [mm]	1025		1250	
B Width of filter system [mm]	610		780	
C Depth of filter system [mm]	831		915	
D Height of drain connection [mm]	692		523	
E Min. room height [mm]	1200		1600	
F Height of suction connection [mm]	198			
G Height of pool return [mm]	91			
H Offset of suction connection/pool return [mm]	180		-	
J Operating height [mm]	958		1160	
Empty weight [kg]	47		65	
Filter tank Ø [mm]	510		630	
<b>Ambient data</b>				
Max. temperature [°C]	40			
<b>Order no.</b>	<b>240 460</b>	<b>240 480</b>	<b>241 460</b>	<b>241 480</b>

\* According to the standards, the nominal power of pumps (< 1.3 kW) may be 20 % above the indications by the manufacturer (indicated on the type designation plate); this tolerance has been taken into consideration in the control unit GENO®-BW-tronic and above table.

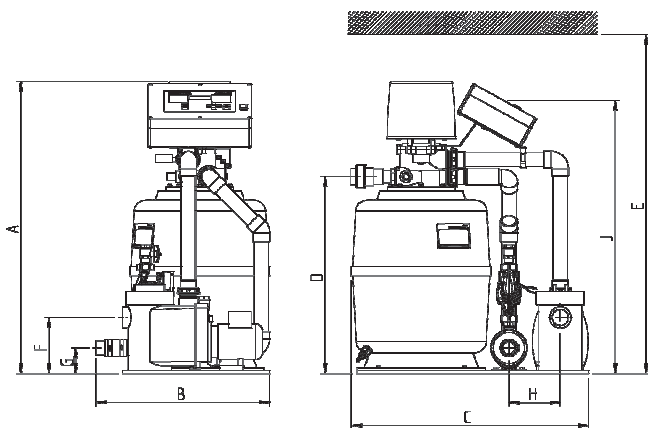


Fig. 2 Dimensional drawing of filter system GENO-mat® F 500 AK; RC

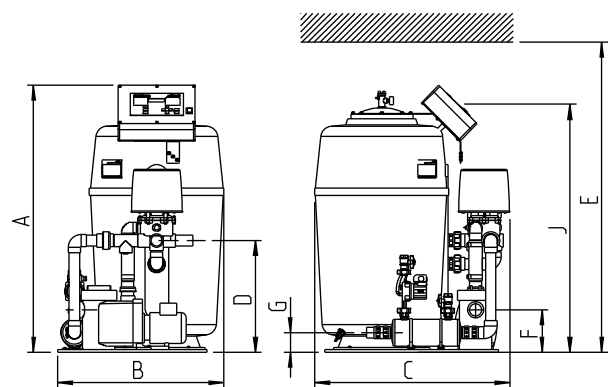


Fig. 3 Dimensional drawing of filter system GENO-mat® F 600 AK; RC