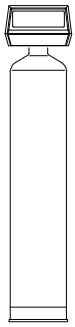

Fig. 1: GENO-mat® AK-Z

GENO-mat® activated carbon filter

AK-Z 20/10
AK-Z 25/13
AK-Z 30/14
AK-Z 40/17
AK-Z 40/18
AK-Z 50/19
AK-Z 60/20

Designated application

The activated carbon filter is designed for the dechlorination of water. If possible, the water to be dechlorinated should be free of mechanic impurities.

By means of surface reaction, the activated carbon 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.

For this reason, and to remove any carbon abrasions that might have occurred, it is essential to backwash the filter on a weekly basis.

If the residual chlorine concentration exceeds the set admissible value on leaving the activated carbon filter, the activated carbon should be replaced. A replacement, however, should take place every two years at the latest.

Function

Filtration
The raw water flows through the raw water inlet of the control valve into the filter cylinder and then from the top to the bottom through the filter material. According to the filter type, the dirty water is filtered from top to bottom.

The filtered pure water is then directed via the lower distributing nozzles and the riser pipe through the pure water outlet into the piping system.

Backwash
During the backwash process, the filter bed is forcibly flushed *from bottom to top* and thus loosened up. Impurities retained during the filtration process are washed out via the drain outlet at the control valve. The filter system has to be backwashed every 6 days at the latest.

First filtrate
By an automatic switch-over of the central control valve, the filter bed will forcibly be flushed *from top to bottom*. This first filtrate is discharged to the drain and afterwards the filter system is ready for operation once again.

Control unit
The GENO-mat® AK-Z activated carbon filters are time-controlled via an electrical timer.

In order to use the time-dependent, automatic control, the time interval between two filter sequences (backwash interval in days) must be set. If the differential pressure is exceeded, the backwash has to be activated after 4 days already and the timer has to be readjusted.

Design

5-cycle control valve made of red bronze with time-dependent control via an electric timer. Control valve top with rotating discs to set the backwash intervals; cover for protection against splash water and unauthorised access.

Exchanger tank made of pressure resistant plastic with fixtures for water flow control and retention of filter material. The control unit is interference-free. Power supply by means of a transformer plug with 1.5 m feed line. The system operation itself runs with protective low voltage 24 V/50 Hz.

Scope of supply

Activated carbon filter system with corresponding filter material filling and operation manual.

Options

Mounting set 1
For convenient hydraulic connection. Compact valve block R 1'' female thread, integrated bypass with shut-off valve, shut-off valves for hard and soft water, outlet for raw water (e.g. garden hose), 2 connection hoses
Mounting set R 1" (up to type 30/14)
Order no. 125 845

GENO-STOP®1"
The new safety device GENO-STOP® provides reliable protection against water damage.
The GENO-STOP® may be equipped with up to two wired water sensors and with five wireless water sensors.

- For further variants, please inquire -
Order no. 126 875

Installation requirements

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

The installation site must be frost-proof, have a drain connection 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.

For the electrical connection, a separate socket (230 V/50 Hz) is required within a range of approx. 1.2 m of the system.

For the discharge of the backwash water, a drain connection must be available. If the waste water is directed to a lifting system, make sure that this is sufficiently dimensioned in order to cope with the waste water volume to be expected.

The installation room must have a floor drain (DN 100). If no floor drain is available, an appropriate safety device has to be installed.

According to DIN EN 806-5, filter systems routinely require a functional check to be performed by the operator and maintenance to be performed by an authorised customer service company.

Technical specifications/Dimensions

GENO-mat® AK-Z		20/10	25/13	30/14	40/17	40/18	50/19	60/20
Connection data								
Nominal connection diameter		DN 25 (1")			DN 40 (1½")			
Min. drain connection		DN 50					DN 70	
Max. nominal flow	[m³/h]	0.25	0.5	1.0	1.2	1.5	2.0	3.0
Power supply	[V]/[Hz]	230 V, 50 Hz operation with protective low voltage 24 V/50 Hz						
Connected load	[VA]	10						
Protection		IP 54						
Performance data								
Nominal pressure (PN)		8.0						
Min./max. operating pressure	[bar]	2.5/6.0						
Filling volumes and consumption data								
Quartz gravel 3.15 - 5.6 I	[kg]	9	15	20	20	20	30	30
Hydrafin CC 8 x 30 0.5 - 2.5 II	[kg]	10	16	25	40	50	90	140
Dimensions and weights[1)]								
Total weight empty	[kg]	29	44	61	67	98	160	219
Operating weight (incl. water)	[kg]	45	77	125	164	193	339	462
Filling level in mm	a	880	1100	1130	1430	1460	1380	1620
	b	270	460	540	650	660	600	630
A Total height	[mm]	1360	1620	1620	1900	1900	1870	2100
B Pressure cylinder ∅	[mm]	210	260	340	370	420	550	620
E Connection height/raw water piping	[mm]	1160	1420	1420	1710	1710	1680	1910
F Connection height/pure water piping	[mm]	1210	1470	1470	1735	1735	1705	1935
H Distance to wall	[mm]	200	230	280	280	300	365	405
I Depth of foundation	[mm]	400	450	500	500	550	600	650
K Length of foundation	[mm]	705	755	860	860	900	1030	1110
Amount of regeneration agent required								
Backwash capacity	[m³/h]	1.6	2.3		3.4		5.7	
Duration of backwash	[min]	10						
Ambient data								
Max. water/ambient temperature	[°C]	30/40						
Order no.		**129 800**	**129 805**	**129 810**	**129 815**	**129 820**	**129 825**	**129 830**

[1)] All indications are approximate.

Filling of filter layers
Filter layer I bottom
Filter layer II top

① Pump (provided by others)
② Membrane expansion vessel (provided by others)
③ Pressure gauge inlet pressure (provided by others)
④ Control valve for operating voltage 24 V / 50 Hz
⑤ Activated carbon filter system
⑥ Pressure gauge outlet pressure (provided by others)

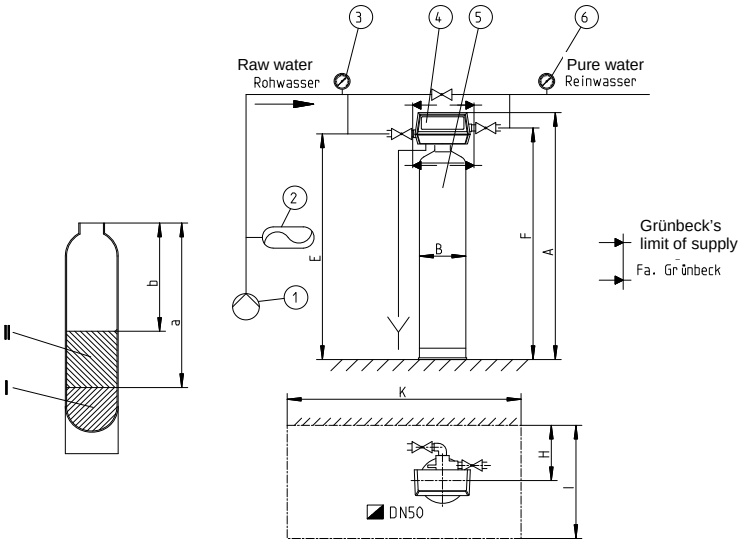

Fig. 2: Erection drawing with foundation plan