

Backwash filter MR65/MR80/MR100

Intended use

The MR backwash filters are designed for the filtration of drinking and industrial water.

The filters are suitable for the filtration of process, boiler feed, cooling and air conditioning water (only in partial flow).

The filters protect the water pipes and connected water-carrying system parts from malfunctions and corrosion damage due to undissolved impurities (particles) such as rust particles, sand, etc.

Application limits

- Water temperature $\leq 90\text{ °C}$
- Water temperature $\leq 30\text{ °C}$ when used in the drinking water sector (DVGW)
- Pressure range $\leq 16\text{ bar}$
- Pressure range $\leq 10\text{ bar}$ in case of a media temperature of 90 °C
- Not suitable for circulation water treated with chemicals
- Not suitable for media such as oils, greases, solvents, soaps and other lubricating media, nor for the separation of water-soluble substances
- Not suitable for installation in vertical water pipes

The filters are designed according to the stipulations of DIN EN 13443-1 as well as DIN 19628 and are intended for installation into drinking water system according to DIN EN 806-2 (installation immediately downstream of the water meter).

Mode of operation

The unfiltered raw water flows into the filter from the inlet side and from the inside out through the filter element and to the pure water outlet. Thus, foreign particles $> 100\text{ }\mu\text{m}$ in size are retained.

Depending on their size and weight, foreign particles stick to the filter element or they fall straight down into the filter funnel.

Due to the growing contamination of the filter element, the differential pressure between the raw water inlet and the pure water outlet increases.

The differential pressure can be read on the pressure gauges.

The drain is opened by turning the backwash handwheel to the right as far as it will go, and backwash is carried out. When the backwash handwheel is turned, the brush rotates with the backwash handwheel and sweeps over the filter surface of the filter element. The filter element is cleaned.

The impurities are removed by the brush and the suction nozzle sucks them into the drain outlet.

The drain outlet is closed by turning the backwash handwheel to the left as far as it will go, and the backwash process is terminated.

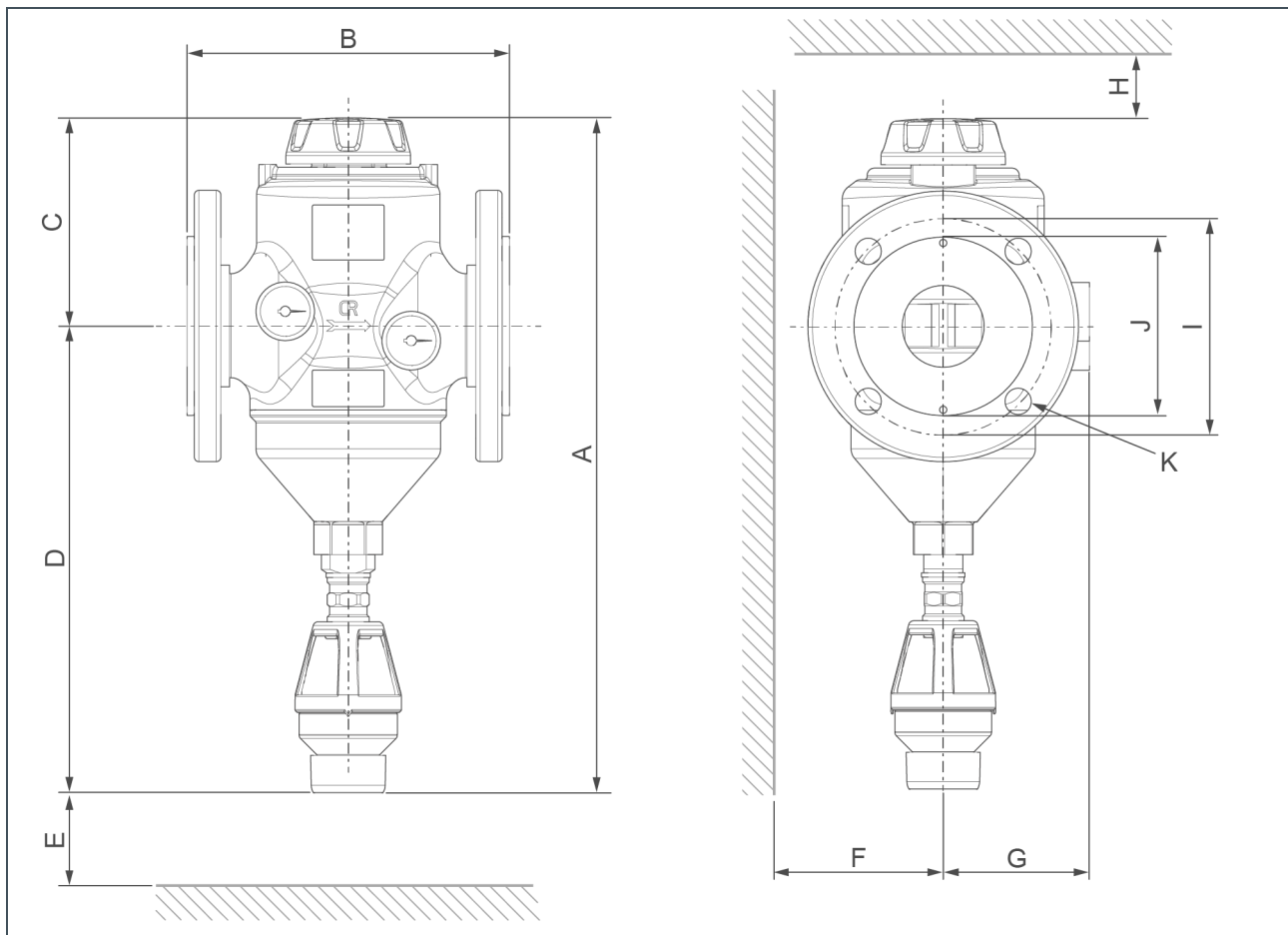
Structure

- Filter housing made of brass with a low level of dezincification
- Modular filter element made of high-grade, industrial plastic with filter mesh ($100\text{ }\mu\text{m}$) made of stainless steel
- Flushing water connection with free outlet according to DIN EN 1717 for DN 50
- Pressure gauge for inlet and outlet pressure
- Flange connection according to DIN EN 1092-1, without counterflanges and seals
- All water-contacting parts comply with the German Drinking Water Ordinance

Scope of supply

- Backwash filter complete, including 2 pressure gauges $0 - 16\text{ bar}$
- Flange connection
- Flushing water connection
- Operation manual

Technical specifications



Dimensions and weights		MR65	MR80	MR100	
A	Total height	mm	461	560	560
B	Installation length without counterflanges; flanges PN 16 acc. to DIN EN 1092-1	mm	220	250	250
C	Overall height above centre of connection	mm	142	151	151
D	Overall height up to centre of connection	mm	319	409	409
E	Clearance required for the replacement of the fil-	mm	≥ 215	≥ 315	≥ 315
F	Distance to wall	mm	≥ 95	≥ 105	≥ 105
G	Overall depth up to centre of connection	mm	98	105	105
H	Space above upper edge of filter	mm		≥ 80	
I	Bolt circle diameter of flange	mm	145	160	180
Y	Sealing surface	mm	≤ 122	≤ 140	≤ 158
K	Number of screws M16	pc(s)	4	8	8
	Empty weight	kg	~ 10.9	~ 15.3	~ 16.8
Connection data		MR65	MR80	MR100	
Nominal connection diameter		DN 65	DN 80	DN 100	
Drain connection			DN 50		

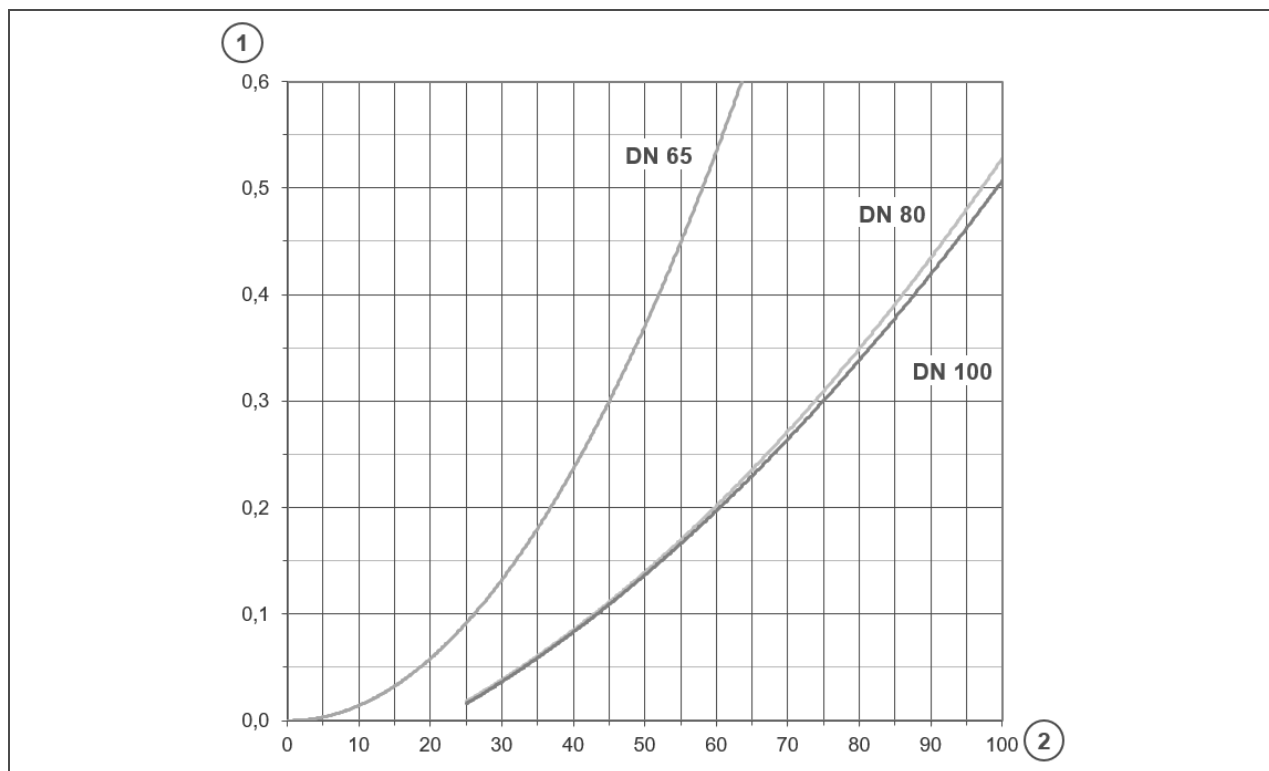
Performance data		MR65	MR80	MR100
Nominal flow at Δp 0.2 (0.5) bar	m ³ /h	30 (47)	60 (96.5)	60 (98)
Kv value	m ³ /h	69	124	138
Pore size	µm	100		
Largest/smallest pore size	µm	110/90		
Operating pressure	bar	2 – 16		
Operating pressure at a water temperature of 90°C	bar	≤ 10		
Nominal pressure		PN 16		

Consumption data		MR65	MR80	MR100
Backwash water volume at a water pressure of 3 bar and a backwash time of 1.5 min	l		~ 40	
Backwash volume flow at 9 bar	m ³ /h		~ 4.0	
Allowable differential pressure	bar		0.4	

General data		MR65	MR80	MR100
Water temperature (drinking water applications)	°C		5 – 30	
Water temperature	°C		5 – 90	
Ambient temperature	°C		5 – 40	
DVGW registration number			NW-9301DO0260	
ÜA registration number <i>The Office of the Vienna Provincial Government – City of Vienna</i>			R-15.2.3-21-17496 R-15.2.1-22-17624	

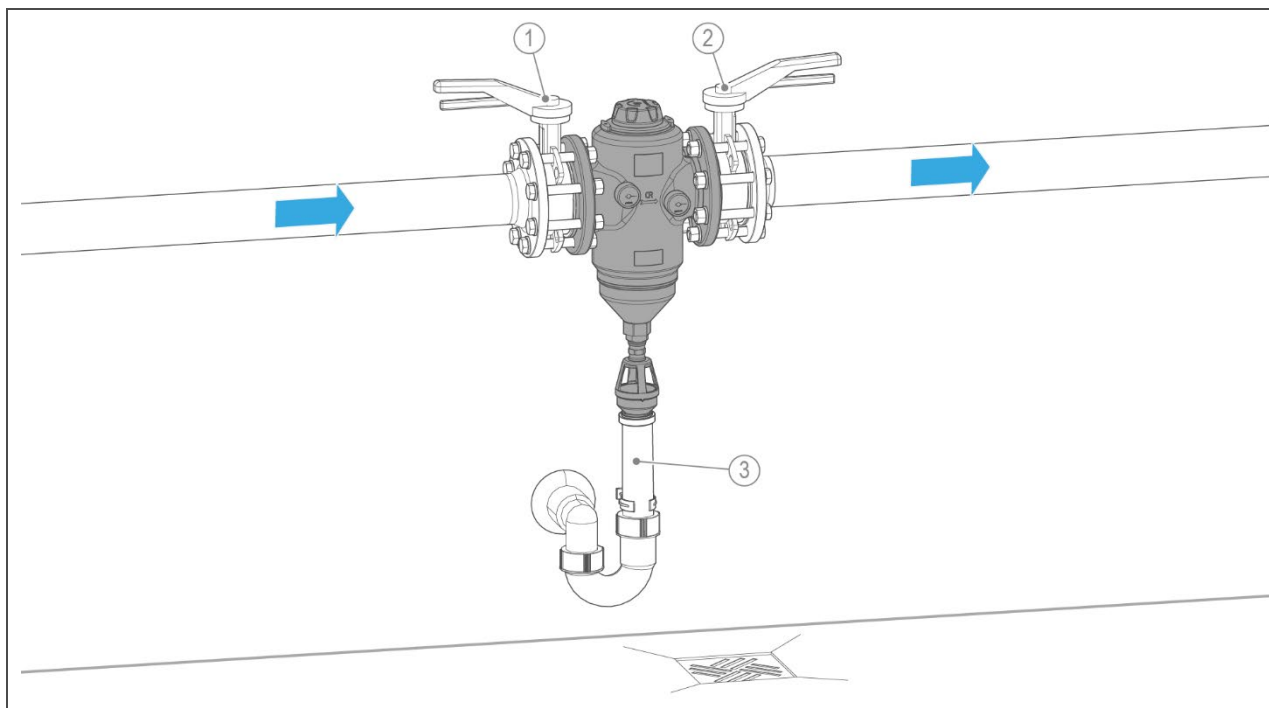
Order no.	107000050000	107000060000	107000070000
-----------	--------------	--------------	--------------

Pressure loss curves of backwash filter MR65/MR80/MR100



Item	Designation	Item	Designation
1	Pressure loss in bar	2	Flow rate in m ³ /h

Installation example



Item	Designation	Item	Designation
1	Inlet shut-off valve	2	Outlet shut-off valve
3	Drain connection provided by the client on site		

Requirements for the installation site

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

- Protection from frost, severe heat exposure and direct sunlight
- Protection from chemicals, dyes, solvents and their vapours
- Ambient temperature and radiation temperature in the immediate vicinity
 - $\leq 25\text{ °C}$ for applications in the drinking water sector
 - $\leq 40\text{ °C}$ for purely technical applications
- Protection from heat sources in the drinking water sector (e.g. heating systems, boilers and warm water pipes)
- Access for maintenance work (take required space into consideration)
- Sufficiently illuminated as well as aerated and ventilated

Water installation

- Floor drain or corresponding safety device with water stop function
- Drain connection \geq DN 50
- Shut-off valves upstream and downstream of the product

Accessories

Adapter kit

Order no. **106 804e** **DN 80**

Order no. **106 805e** **DN 100**

As spacer flange, to ensure the function of the shut-off valves directly mounted on the filter.

Filter elements

As per DIN EN 13433-1, filter elements with pore sizes of 50 μm , 200 μm and 500 μm are not permitted for drinking water systems.

Order no.:

DN 65

107 053 Filter element	50 μm
107 062 Filter element	100 μm
107 073 Filter element	200 μm
107 083 Filter element	500 μm

DN 80/DN 100

107 054 Filter element	50 μm
107 063 Filter element	100 μm
107 074 Filter element	200 μm
107 084 Filter element	500 μm

Contact

Grünbeck AG
Josef-Grünbeck-Str. 1
89420 Hoehstaedt
GERMANY

☎ +49 9074 41-0

☎ +49 9074 41-100

info@gruenbeck.com
www.gruenbeck.com

