

Fig. 1: Backwash filter BOXER® R

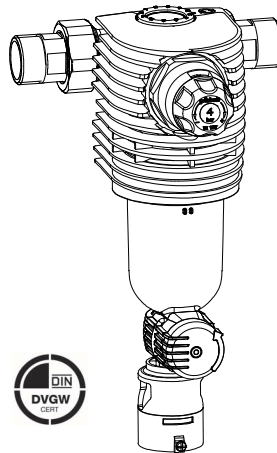


Fig. 2: Backwash filter BOXER® RD

### Designated application

The backwash filters BOXER® R / RD are designed for the filtration of drinking and process water. They protect the water pipes and connected water-carrying system parts from disturbances and corrosion damage due to undissolved impurities (particles), such as rust particles, sand, etc. The filters are neither suitable for oils, greases, solvents, soaps and other lubricating media, nor for the separation of water-soluble substances. According to DIN EN 806-2, a filter as per DIN EN 13443-1 needs to be installed into the drinking water system and must be mounted directly downstream of the water meter system. The BOXER® filters can be used for pressure and negative pressure applications. However, a backwash can only be performed if the filter is used in the pressure range.

### Function

#### The filtration process

The unfiltered raw water flows into the filter via the inlet of the connection block. The polluted water flows through the filter element from the outside in. Dirt particles of > 100 µm are thus retained. The cleaned water flows through the inside of the filter to the pure water outlet.

#### The backwash process

If the water pressure in the pipe system drops due to the increasing pollution of the filter element, a backwash needs to be carried out. DIN EN 806-5 stipulates that backwash filters must be inspected and serviced every six months. Grünbeck recommends to carry out a backwash process every second month.

By turning the backwash knob to the stop position, the drain is opened. Thus, the filter element is pulled into the backwash position - the polluted water flows through the primary screen. The cleaned water flows through the filter element in the opposite direction and thus

flushes the clogged filter element.

The water consumption for a backwash process is reduced to a minimum (refer to fig. 6 "backwash water volume"). Depending on the degree of impurities, the backwash process should take about 5 - 10 seconds. If the filter element has not been cleaned completely, the backwash process must be repeated.

Even during the backwash, the filtration process continues running without interruption if water is withdrawn.

On the upper side of the backwash filter's housing, a rotatable maintenance ring is located. During start-up and later on after each maintenance, the maintenance ring must be set to the next maintenance date.

#### BOXER® R

Backwash filter with pivotable connection flange. The connection flange is included in the packing by itself and therefore can be installed either in horizontal or vertical pipes.

#### BOXER® RD (combination of filter/pressure reducer)

Design as for BOXER® R, however, with pressure reducer and integrated pressure gauge.

### Design

Connection block incl. water meter screw connections (made of dezincification-resistant brass) with seals and stainless steel screws.

Filter made of pressure-resistant plastic and maintenance ring. Filter element with stainless steel filter fabric. Drain connection (DN 40) acc. to DIN EN 1717

All water-contacting parts meet the requirements of the German Food and Feed Act (LFGB). All water-contacting parts meet the requirements of the German Drinking Water Ordinance. Testing based on KTW, DVGW W 270, DIN 50930-6 specifications

**All materials are recyclable.**

### Backwash filter BOXER® R / RD

### Scope of supply

BOXER® R / RD, complete with filter element (filter fabric made of stainless steel), connection flange, drain connection, water meter screw connections and connection material.

### Accessories

Differential pressure monitoring of the filter

**For order number, please inquire**



Insert with non-return valve 1 "

**Order no. 101 644e**

Conversion kit for conversion to a different model of the BOXER®-series

**For order number, please inquire**

**Inserts required for the replacement of an older Grünbeck filter by a BOXER®.**

Insert for		Order no.
FS 1"/Ultra 99 R	1 "	101 647e
Connection flange	¾"	101 862
A + D (V.2, V.3)	1 "	101 646e
 1 ¼"	1 ¼"	101 864
Connection flange D (V1) supplied until year of construction 06/99	1 "	101 865
 1 ¼"	1 ¼"	101 866

### Installation requirements

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

The installation site must be frost-proof and ensure the filter's protection from chemicals, dyes, solvents, vapours and direct sunlight.

### Technical specifications/Dimensions

		BOXER® R			BOXER® RD		
		¾"	1"	1 ¼"	¾"	1"	1 ¼"
Connection data							
Nominal connection diameter	[DN]	20	25	32	20	25	32
Performance data							
Nominal flow at Δp 0.2 (0.5) bar	[m³/h]	2.9 (4.7)	3.8 (5.9)	4.2 (6.7)	-	-	-
Flow rate as per DIN EN 1567	[m³/h]	-	-	-	2.3	3.6	5.8
Kv-value	[m³/h]	6.7	8.4	9.6	-	-	-
Pore size	[µm]	100					
Largest/smallest pore size	[µm]	120/80					
Operating pressure	[bar]	2-16					
Nominal pressure	[bar]	PN 16					
Dimensions and weights							
A Total height	[mm]	280			298		
B Installation length with/without screw connection	[mm]	185/100	182/100	191/100	185/100	182/100	191/100
C Min. distance to wall	[mm]	60					
D Height up to centre of connection	[mm]	242			257		
E Depth from centre of connection to pressure reducer	[mm]	-	-	-	163	167	170
F Depth from centre of connection to backwash	[mm]	130	134	137	130	134	137
Empty weight, approx.	[kg]	1.7	1.9	2.2	2.0	2.2	2.5
Test certificate/Certification mark							
DVGW registration number		NW-9301BR0532			NW-9301BR0533		
Ambient data							
Max. water temperature	[°C]	30					
Max. ambient temperature	[°C]	40					
Order no.		101 305	101 310	101 315	101 355	101 360	101 365

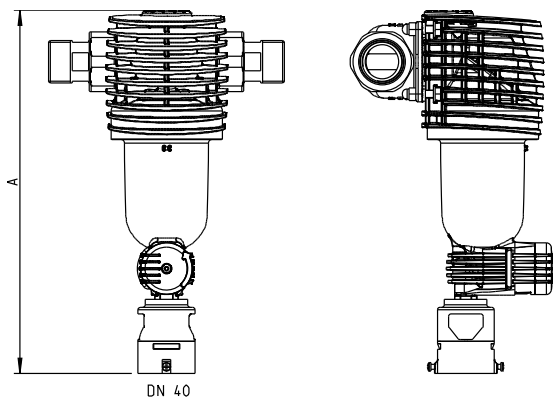


Fig. 3: Installation example backwash filter BOXER® R

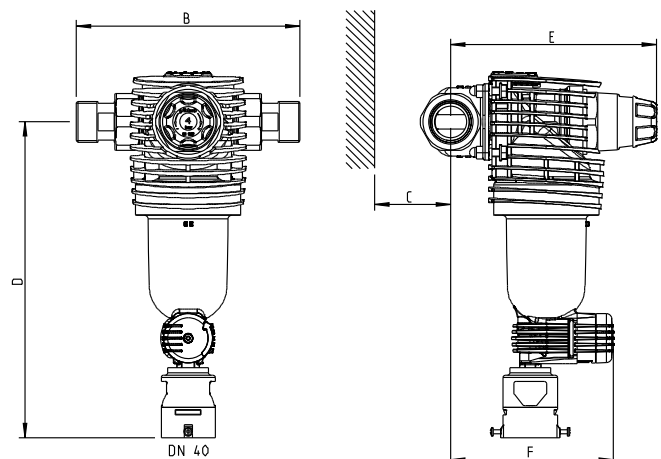


Fig. 4: Installation example backwash filter BOXER® RD

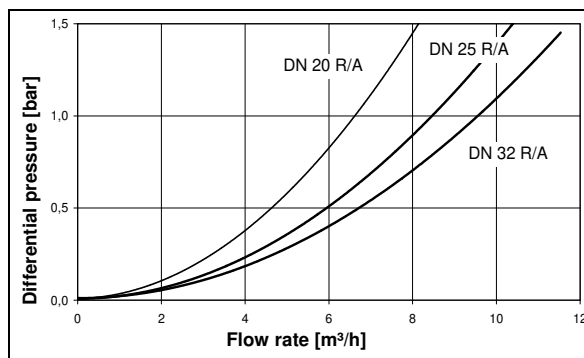


Fig. 5: Pressure loss curve BOXER® R / A

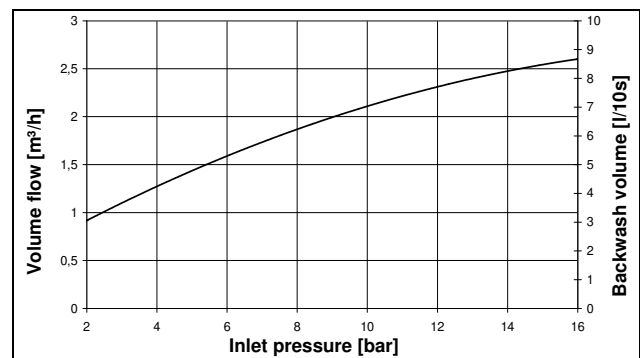


Fig. 6: Backwash water volume at a backwash duration of approx. 10 sec.