

8 Inspection maintenance

DIN EN 806-5 stipulates that backwash filters must be **inspected and serviced** every six months. Here the user has to carry out a backwash process. Grünbeck recommends to carry out a backwash process every second month. In addition the filter must be checked for tightness. Defective parts are to be replaced by qualified personnel.

A rotatable maintenance ring is provided on the upper part of the casing of the fine filter. This ring is set to the next maintenance date on start-up and after each maintenance.

Backwash

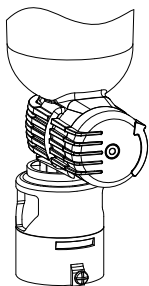


Fig. 5: Backwash unit

When the pressure in the water pipe decreases because of increasing contamination of the filter element, a backwash process has to be carried out, at the latest every six months. For this purpose turn the backwash knob (see fig. 5) in direction of arrow as far as it will go. Hold the backwash knob in this position for approx. 5 - 10 seconds. Then let go of the backwash knob. In case of persistent contamination, carry out several backwash processes. Do not turn the backwash knob over the limit as this might cause any damage to the filter!

9 Spare parts

Description	Order no
Set of seals to BOXER®/FS-B	101 635e
Pressure reducing cartridge	107 605
Filter element 100 µm R/RD, A/AD	101 632e
Backwash unit R/RD	101 633e
Replacement filter cylinder (backwash filter)	101 638e

Consumables and spare parts can be obtained from the sanitary specialised trade, from the responsible Grünbeck agent or from the head office.

Always specify the filter type, the filter size and the serial number (refer to type designation plate or original packing) when inquiring.



Note: The filter element and seals are wear parts.

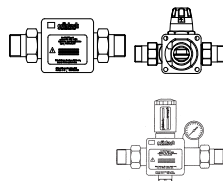
Although these are wearing parts, we grant a limited warranty period of 6 months.

10 Accessories

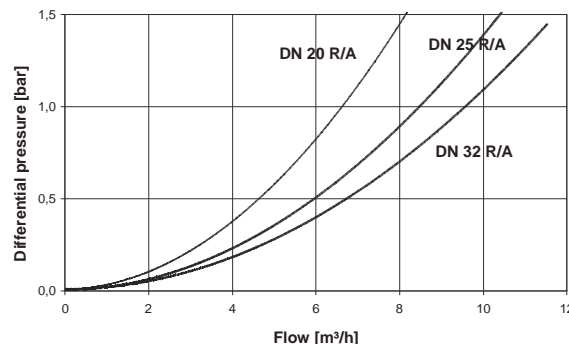
Description	Order no
Differential pressure monitoring of the filter	upon request
Insert part with non-return valve 1"	101 644e
Conversion kit to other model of the BOXER® type series	upon request

Insert parts for changing an older Grünbeck filter into a **BOXER®**.

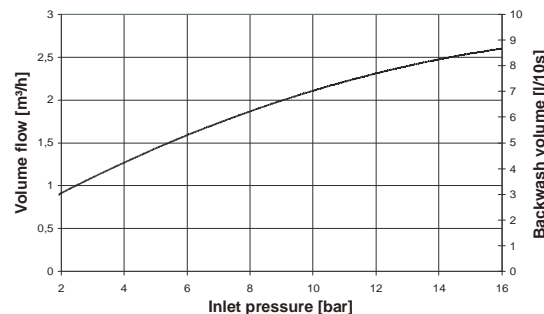
Insert part for	Order no.
FS 1"/Ultra 99 R	1" 101 647e
Connection flange A + D (V.2, V.3)	3/4" 101 862
	1" 101 646e
	1 1/4" 101 864
Connection flange D (V1) manufactured until 06/99	1" 101 865
	1 1/4" 101 866



Pressure loss curve

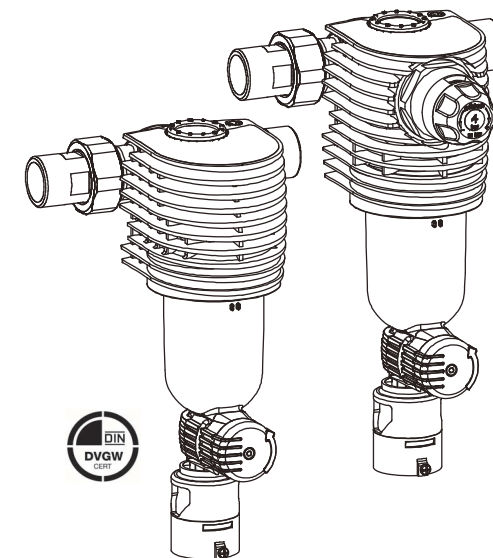


Backwash water volume at approx. 10 sec. backwash time



grünbeck

Operation Manual Backwash filter BOXER® R / RD



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A company certified by TÜV SÜD
in accordance with DIN EN ISO 9001,
DIN EN ISO 14001 and SCC

General information

Our systems are to be installed by an authorised specialist dealer of the sanitary and heating trade. In Germany, the installation company must be registered in a water company installation directory as per §12(2) AVBWasserV (German Ordinance on General Conditions for the Supply of Water).

Protect the devices against frost and do not install them next to heat sources with high radiation temperature.



Attention: Do not clean the filter with detergents containing alcohol or solvents!

In case of drinking water with coarse dirt particles, a coarse filter must be installed upstream.

1 Application

The filters BOXER® R, RD are designed for the filtration of drinking water. They must not be used in circulation water treated with chemicals. They are neither suitable for oil grease, solvents, soap and other lubricating media, nor for the separation of water-soluble substances. The filters are applicable in pressure and low pressure range. Backwash is only possible under pressure.

2 Technical specifications

Backwash filter BOXER®		R, RD		
Connection size		¾"	1"	1 ¼"
Nominal diameter	[DN]	DN 20	DN 25	DN 32
Filter fineness (upper/lower fineness)	[µm]	100 (120/80)		
Max. water/ambient temperature	[°C]	30/40		
Overall length w. and w/o screw connections	[mm]	185/100	182/100	191/100
Operating pressure	[bar]	2-16		
		R		
Nominal flow Δp 0.2	[m³/h]	2.9	3.8	4.2
Nominal flow Δp 0.5	[m³/h]	4.7	5.9	6.7
Total height	[mm]	280		
Empty weight	[kg]	1.7	1.9	2.2
DVGW Reg. number		NW-9301BR0532		
Order no.		101 305	101 310	101 315
		RD		
Nominal flow rate acc. to DIN RN 1567:1999	[m³/h]	2.3	3.6	5.8
Adjustable back pressure	[bar]	1-6		
Total height	[mm]	298		
Empty weight	[kg]	2	2.2	2.5
DVGW Reg. number		NW-9301BR0533		
Order no.		101 355	101 360	101 365

3 Installation requirements

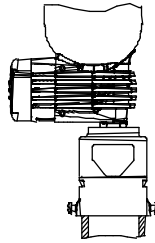


Fig. 1: Drain connection

4 Supplied components

Filter including connection flange with screw connections, drain connection according to DIN EN 1717 (drain connection DN 40) and filter element with stainless steel fabric 100 µm.

5 Installation

The BOXER® filter is installed according to DIN EN 806-2 and DIN 1988-200 in the cold water pipe downstream of the water meter and upstream of the distributor or the devices which are to be protected. Stop valves have to be installed down- and upstream of the filter (see fig. 2). Mount the filter only by means of the connection flange included in delivery. It must always be installed vertically. The connection flange can be installed horizontally or vertically. For mounting, see fig. 3. Tighten locking nuts crosswise.

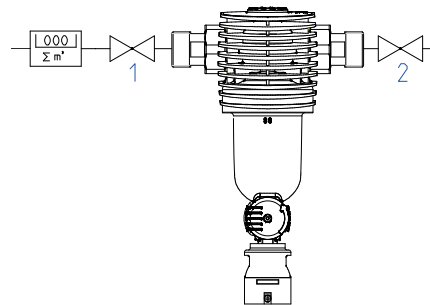


Fig. 2: Installation drawing BOXER® R front view

The local installation guidelines, general must be observed.

The installation site must ensure the protection of the filter against chemicals, dyes, solvents, vapours and direct sunlight. Observe flow direction (→ on the connection flange), install stress-relieved. The installation site must be frost-proof.

The filter must be installed in equally dimensioned pipes according to its nominal diameter.

We recommend a direct drain connection. The discharge of backwash water must be backflow-free (see fig. 1).

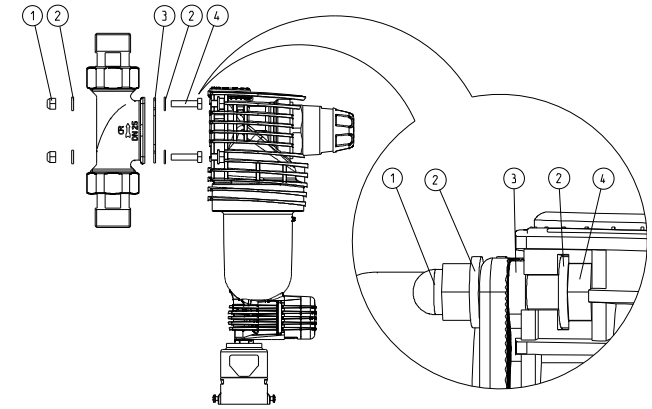


Fig. 3: Side view BOXER® RD

- ① Locking nut
- ② Washer

- ③ Flange seal
- ④ Screw

6 Start-up

After mounting the filter, put it into operation by opening the stop valves. Afterwards the pipe has to be deaerated via the nearest connection. Carry out backwash process (see point 8 inspection /maintenance).

Leakage test

After the installation and after each maintenance, the filter must be checked for tightness by applying the highest, possibly occurring operating pressure and by visually checking the filter for leakage.

7 Setting of pressure reducer

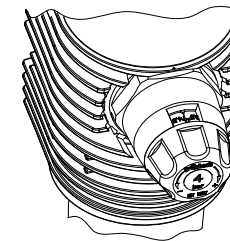


Fig. 4: Setting of pressure reducer

Applies for BOXER® RD only. After the start-up of the filter, the pressure reducer component may be set individually by turning the adjusting ring (see fig. 4) (Factory-setting 4 bar).

The adjusted back pressure can be read at the scale of the pressure reducer in steps of 0.5 bar. The measured value of the adjusted back pressure can be read at the manometer integrated in the casing.