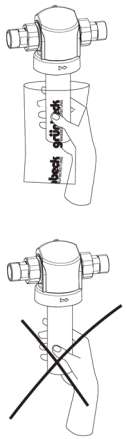
In addition **maintenance** has to be carried out every six months either by the user or by the installation company.

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 every start-up and after every maintenance.

Warning! Acc. to DIN EN 806-5, the filter element must be replaced every 6 months for hygienic reasons. We recommend to exchange the O-ring of the filter housing (available as set of seals) every 2 years.

Replacing the filter element



Procedure

- Place a bucket under the filter.
- Shut the stop valves.
- Depressurise the pipe.
- Unscrew the filter cylinder by hand.
- Take off the dirty filter element from the support mesh and replace it by a new one. For hygienic reasons, the new filter element may not be touched (fig. 4).
- Make sure that sealing surfaces and O-ring are clean; screw-in the filter cylinder by hand as far as it will go.
- Start-up as described under point 6.

Fig. 4: Replacing the filter element

9 Spare parts

Description	Order no.
Filter element 80 µm (2 pc.)	103 075
Filter element 50 µm (2 pc.)	103 068
Filter element 20 µm (2 pc.)	103 071
Filter element 5 µm (2 pc.)	103 081
Set of seals to BOXER®	101 635e
Pressure reducing cartridge	107 605
Support mesh	101 631e
Replacement filter cylinder	101 636e

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.

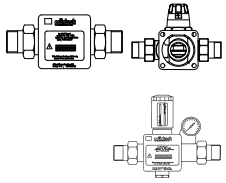
Note: Seals are wearing parts.

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® series	upon request

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



Insert part for		Order no
FS 1" / Ultra 99 R1"	1"	101 647e
FS 1¼"	1¼"	101 852
Connection flange	¾"	101 862
	1"	101 646e
	1¼"	101 864
Connection flange D (V1) manufactured until 06/99	1"	101 865
	1¼"	101 866

Pressure loss curve

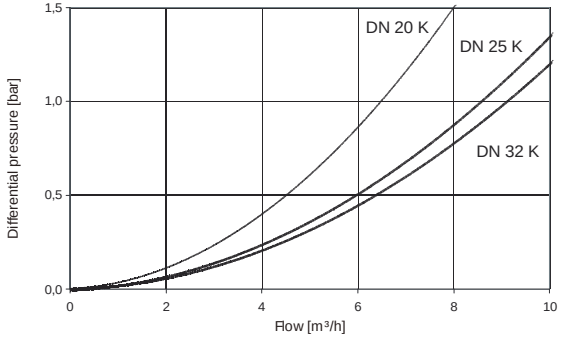
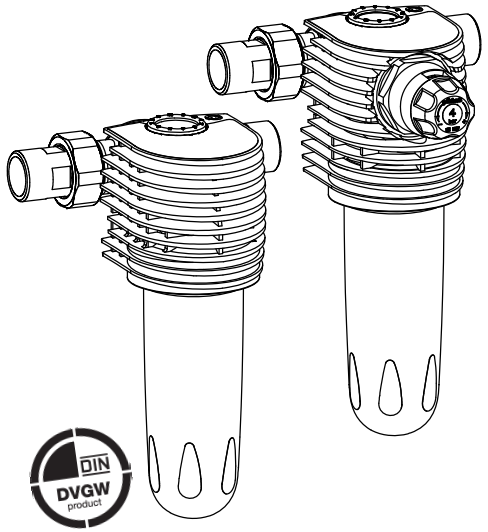


Fig. 3: Pressure loss curve K and KD

grünbeck

Operation Manual
Fine filter BOXER® K / KD



Edition March 2015
Order no. 126 101 294-inter

Grünbeck Wasseraufbereitung GmbH
Josef-Gruenbeck-Str. 1 · 89420 Hoechstaedt
GERMANY
✆ +49 9074 41-0 · 🖷 +49 9074 41-100
www.gruenbeck.com · info@gruenbeck.com

General information

Our systems are to be installed by an authorised specialist dealer of the sanitary and heating trade.

Check the components for transportation damage.

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 is to be installed upstream.

1 Application

The filters BOXER® K, KD 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 filter BOXER® K is applicable in pressure and low pressure range.

2 Technical specifications

Fine filter BOXER®		**K, KD**		
Connection size		¾"	1"	1 ¼"
Nominal diameter	[DN]	DN 20	DN 25	DN 32
Filter fineness (upper/lower fineness)	[µm]	80 (140/80)		
Max. water/ambient temperature	[°C]	30/40		
Overall length with and without screw connections	[mm]	185/100	182/100	191/100
Replacement height	[mm]	150		

		K		
Nominal flow Δp 0,2	[m³/h]	2.8	3.7	4.0
Nominal flow Δp 0,5	[m³/h]	4.5	6.0	6.3
Total height	[mm]	260		
Empty weight	[kg]	1.7	1.9	2.2
Reg. number		NW-9301BR0532		
Order no.		**101 205**	**101 210**	**101 215**

		KD		
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]	277		
Empty weight	[kg]	2	2.1	2.4
Reg. number		NW-9301BR0533		
Order no.		**101 255**	**101 260**	**101 265**

3 Installation requirements

The local installation guidelines and general regulations 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.

4 Supplied components

Filter including connection flange with screw connections and 80 µm filter element.

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. 1). Mount the filters 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. 2. Tighten locking nuts crosswise.

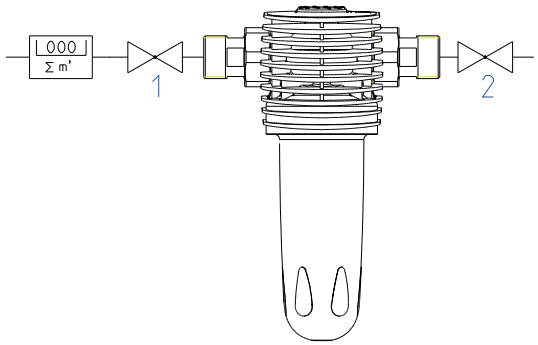


Fig. 1: Installation drawing BOXER® K front view

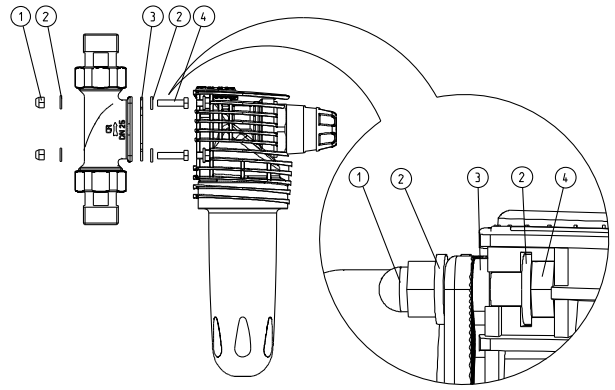


Fig. 2: Side view BOXER® KD

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.

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.
Applies for BOXER® KD only. After the start-up of the filter, the pressure reducer component may be set individually by turning the adjusting ring (see fig. 3). (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.

7 Setting of pressure reducer

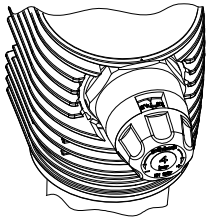


Fig. 3: Setting of pressure reducer

8 Inspection / maintenance

DIN EN 806-5 stipulates that the filters must be **inspected / serviced** by the user or authorised sanitary companies every six months (function check). Here the filter element has to be controlled in respect of deposits. If required (impurities and/or increased pressure difference), the filter element must be replaced. Check for tightness.

erstellt: KONS-khi-rg G:\BA-101294-INTER-BOXER_K-KD