



Drufi+
max DFR



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max FR

Instructions of use

Drufi+ DFR / FR

Field of application

The SYR backwash filters Drufi+ max FR conforming with the European standard EN 13443, part 1 (with pressure reducing valve DFR also complying with EN 1567) are valves designed for potable water installations (DIN 1988).

The filters are also suitable for self-supply water systems!

Design

The FR type is a backwash filter with a stainless steel filter element.

All backwash models include a stainless steel filter element (lower mesh width 90µm, upper mesh width 125µm), a tundish, a flange seal, hexagon socket screws for the flange assembly, a mounting wrench and a service ring indicating when filter maintenance is due.

The DFR type also includes a pressure reducing valve with an adjustment range from 1.5 to 6 bar. The outlet pressure is factory set to 4 bar. It is equipped with an external adjustment knob for individual pressure setting and an 0-10 bar outlet pressure gauge.

All materials used are state-of-the-art. The synthetic and elastomeric parts in contact with potable water are approved by the German Public Health Office (KTW).

Installation

Observe the direction of flow when installing the device!

An arrow on the flange indicates the correct direction of flow. The product can be installed both in vertical and horizontal pipes. All filters should be mounted with the main axis in vertical position.

However, the horizontal position is possible as well.

Pull the filters pressure-tight by means of the hexagon socket screws and make sure that the flange seal is in correct position.

Caution: Pull the hexagon socket screws pressure-tight crosswise!

When connecting the tundish to a HT pipe, do not apply stresses.

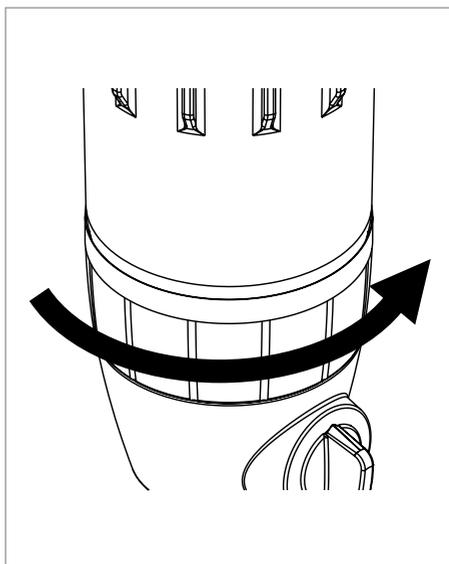
How to set the outlet pressure

The pressure reducer in the DRUFI+ max DFR is factory set to 4 bar and can be adjusted in a range from 1.5 to 6 bar as follows:

Make sure that the inlet pressure is at least one bar higher than the desired outlet pressure.

Turn the knob clockwise up to the stop (direction „-“). Open and close a proximate draw-off point for depressurization.

Watch the manometer and turn the knob anticlockwise (direction „+“) until reaching the desired outlet pressure.



Backwashing

The filters have to be backwashed in the event of a reduced flow rate, but every six months at the latest (as set in EN 806, part 5), in order ensure perfect functionality.

Prior to backwashing, connect the tundish of the DFR /FR filters to a drain line (for instance DN 50 HT-sleeve).

As an alternative solution, you may also place an appropriate receptacle below the filter.

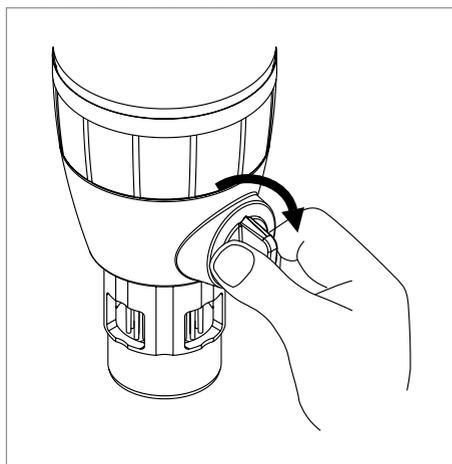
Caution: The drain pipe must be able to collect the drain quantity. The receptacle shall not be higher than the tundish's lower edge.

The backwash process can also be started with an automatic backwash system (order number: 2316.00.081).

A connection to a drain line is mandatory when using the automatic backwash system.

For backwashing, proceed as follows:

Turn the backwash knob clockwise by 90° in order to backwash the filter.

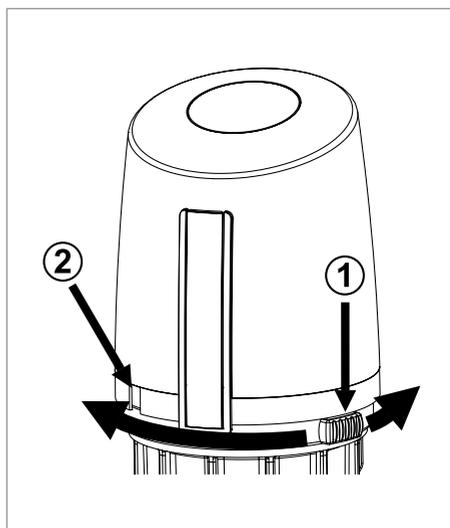


When the backwash operation is completed, turn the backwash knob anticlockwise by 90° back into the initial position.

Repeat this process, if required.

After backwashing, set the maintenance indicator by means of the slide (1) to the month of the next backwash operation.

This setting can be read in the inspection window (2).



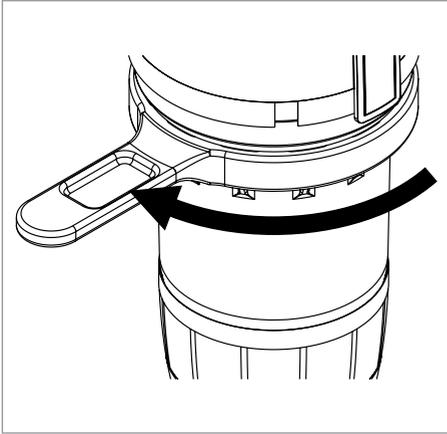
How to service the pressure reducing valve

Verify the set outlet pressure of the DRUF1+ DFR pressure reducer cartridge (EN 806, part 5) once per year and clean or replace the cartridge if required.

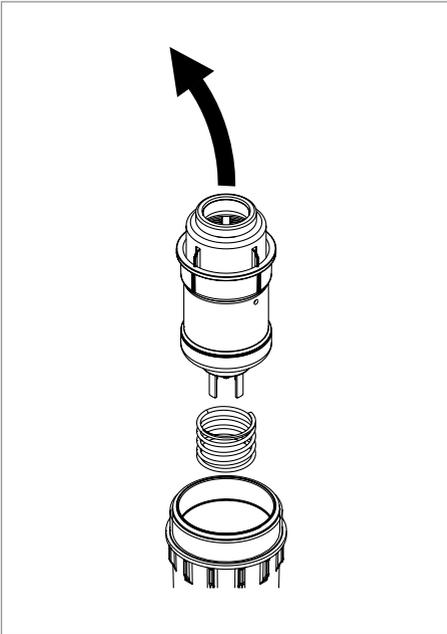
Close the installation's shut-off valve upstream of the filter (also close the downstream stop valve if available).

Turn the backwash knob clockwise by 90° for pressure relief (see section Backwashing) and put it back into the initial position.

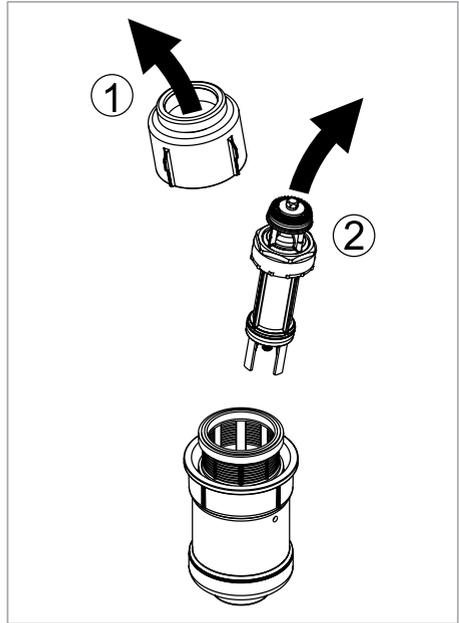
Unscrew the filter cap by means of the filter cap wrench (order number: 2000.25.907).



Remove the pressure reducer cartridge together with the suction casing and the suction pot by pulling out upwards. The spring remains in the filter cap.



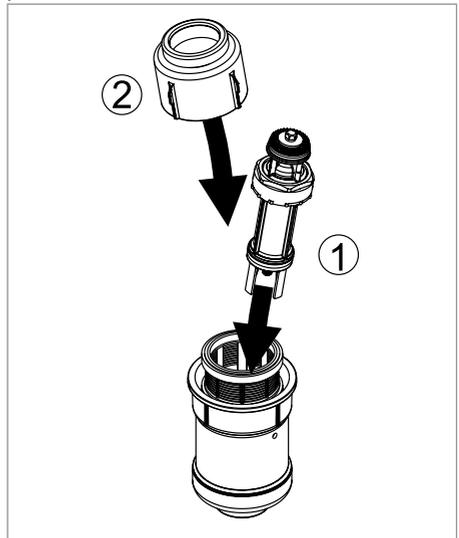
First remove the cover and then take the pressure reducer cartridge out of the sleeve.



Clean the cartridge's diaphragm with cold and clear water.

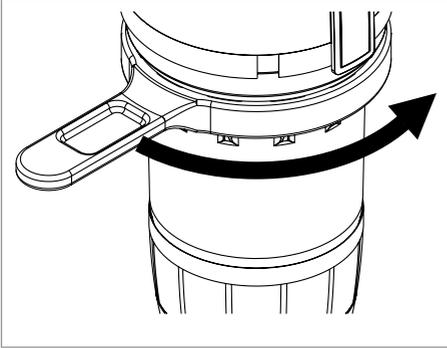
Fit the pressure reducer cartridge back into the sleeve and the cover onto the sleeve.

Make sure that the spring is in correct position!



Re-mount the filter cap.

Ensure that the O-ring is in correct position (has to lie loosely on the upper convolution - **do not slip it over the thread!**)



Troubleshooting

What to do when the outlet pressure rises?

The pressure increase is probably due to an unvented water heater located downstream and has not been hold off by the check valve upstream of the water heater.

With the water heating system being disconnected, this problem should not occur anymore once hot water has been drawn off.

If this effect does not occur again, the check valve in the water heater's safety group has to be serviced or replaced.

Should this effect still occur with the water heating system being disconnected, the problem is due to wear of the pressure reducer cartridge.

In this case, replace the cartridge as described in the section "How to service the pressure reducing valve" on page 3.

Technical specifications

Lower mesh width:	90µm
Upper mesh width:	125µm
Min. service pressure:	2 bar
Max. service pressure:	16 bar
Max. service temperature:	30°C
Medium:	Potable water (DIN 1988)

Flow rate Drufi+ max DFR:

	DN 32	DN 40	DN 50
Δp 1,1 bar	5,8 m³/h	9,1 m³/h	14,0 m³/h

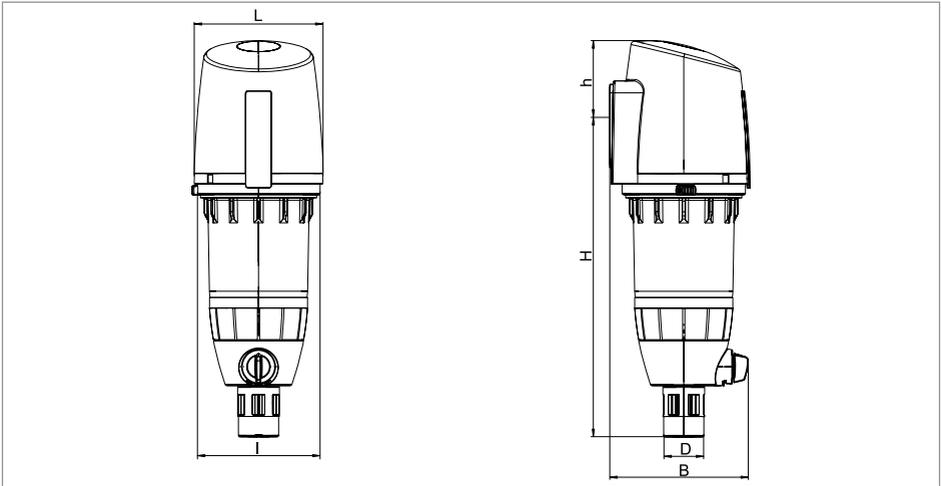
Flow rate Drufi+ max FR:

	DN 32	DN 40	DN 50
Δp 0,2 bar	8,4 m³/h	9,0 m³/h	9,2 m³/h
Δp 0,5 bar	13,0 m³/h	14,5 m³/h	15,0 m³/h

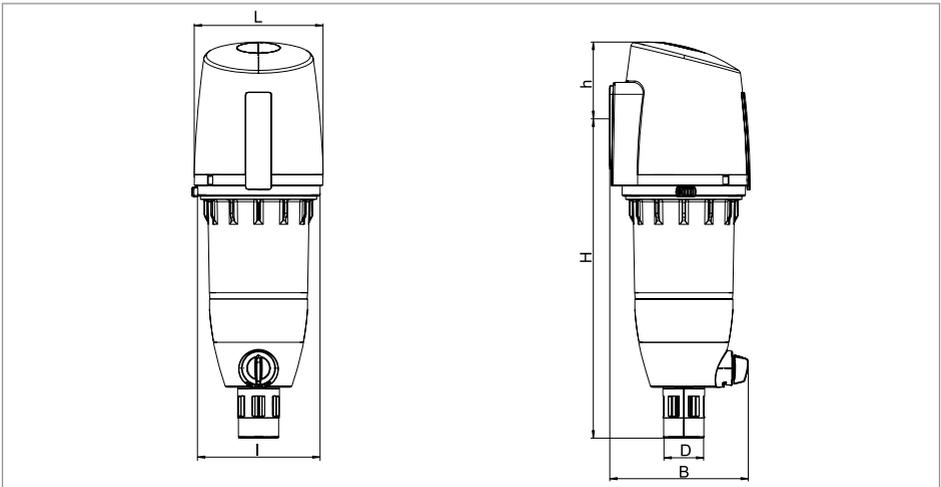
Only qualified installers are authorised to install and service the device. Observe the maintenance instructions! Do not clean synthetic parts with solvent-based detergents. Do not install filters in areas, which are exposed to UV-radiation (sunlight) or solvent vapours. Protect the filter against frost. When submitted to hard shocks, the synthetic part concerned shall be exchanged (even when no damage is visible). Avoid strong water hammers, caused for instance by downstream solenoid valves (danger of burst).

The packaging serves as protection during transport. Should it be severely damaged, do not install the device!

Dimensions



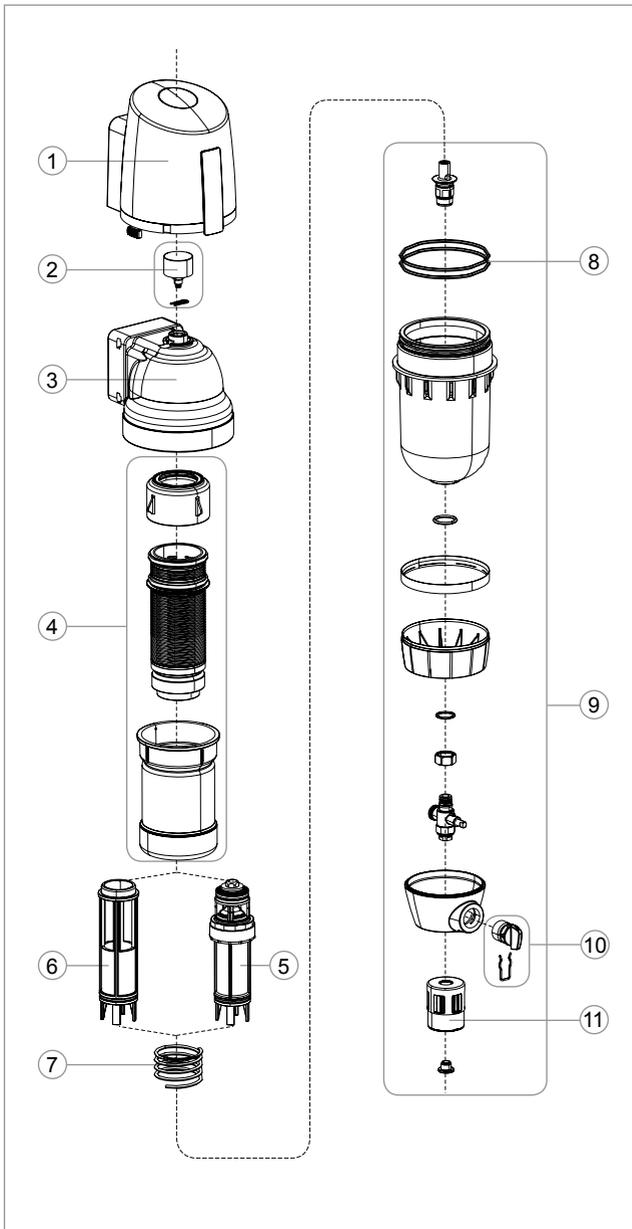
DFR model



FR model

Type		Drufi+ max DFR	Drufi+ max FR
Nominal size		R 1¼" - 2"	R 1¼" - 2"
Dimensions	L	159,6 (mm)	159,6 (mm)
	I	153,4 (mm)	153,4 (mm)
	H	384,5 (mm)	384,5 (mm)
	h	105,7 (mm)	105,7 (mm)
	D	50 (mm)	50 (mm)
	B	172,3 (mm)	172,3 (mm)

Spare parts



- ①
Cover
2315.01.928
- ②
Pressure gauge (DFR)
2315.01.930
- ③
Valve body
2315.01.931
- ④
Filter insert (komplete)
2315.00.932
- ⑤
Pressure reducer
cartridge (DFR)
2315.01.934
- ⑥
Guide sleeve (FR)
2315.01.933
- ⑦
Spring
2315.01.935
- ⑧
O-Rings Filter cap
2315.01.940
- ⑨
Filter cap komplette
Drufi DFR
2315.01.936
Drufi FR
2315.01.937
- ⑩
Knob
2315.01.941
- ⑪
Tundish
2315.01.943
- No picture
Filter cap wrench
2315.01.927