

General instructions:

This filter is designed and manufactured to meet the highest standards of quality and workmanship. The UDI brush filter is an automatic self-cleaning filter for large quantities of contaminants and dirt particles of relatively large dimensions.

Operation

The raw water enters the filter inlet and passes through the fine screen.
As the water passes through the screen, the solids accumulate creating a “cake” of dirt on the surface of the screen. This cake performs finer filtration than the screen itself, resulting in increased filters efficiency. The cake creates also a pressure differential across the screen. Filtered water is supplied to the consumer through the outlet of the filter.
During flushing the drain valve is opened. The electric gear motor is rotating the brushes shaft and the self adjusting brushes are rotating all over the screen surface, cleaning the whole screen area. The dirt is flushed through the open drain valve.

Installation:

The filter must be installed horizontally for proper operation. Allow sufficient space around the filter for easy maintenance. Water inlet and outlet are marked clearly by arrows.
The filter is designed to withstand a maximum pressure of 10 bar. A pressure relief valve must be installed upstream of the filter if the pressure is not sufficiently under control. The feed pipe from the pump to the filter must be larger than or the same as the filter inlet. Inlet/outlet and by-pass valves can be installed in situations where a constant supply of water is required downstream during filter servicing.

The downstream valve can be used to adjust the flow if needed. It is recommended that you install a check valve downstream of the filter in order to prevent backflow and protect the filter against water surge.

Provide each drain valve with a drain pipe, ensure that no more than 0.3 bar of back pressure arises. Piping should be installed level or pitch down to avoid back-pressure and must be firmly fixed.

A pressure gauge on the inlet and the outlet will provide a quick visual check of the operational pressure and the differential pressure.

Acid injection:

The filter is suitable for water with pH values 5 to 9. In the case of acid injection into the system, it is recommended to inject the acid after the filter to prevent acid accumulation in case of system failure.

It is also advisable to install a check valve after the filter before the acid injection pot.

Putting the filter into operation:

Slowly open the inlet valve to the filter allowing the filter to pressurize. Check for and repair any leaks. When the inlet pressure exceeds 2 bar, the outlet valve may be opened slowly.
Set the main switch to ‘1’.
Initiate a manual flushing cycle by pressing the manual push button on the control box and check the function of the system, by checking the operational pressures and the quantity of drain water. The flushing frequency will be determined by the time that is needed to reach the maximum differential pressure of 0.4 bar. Normal operating conditions are achieved when the pressure loss across a clean filter is less than 0.2.

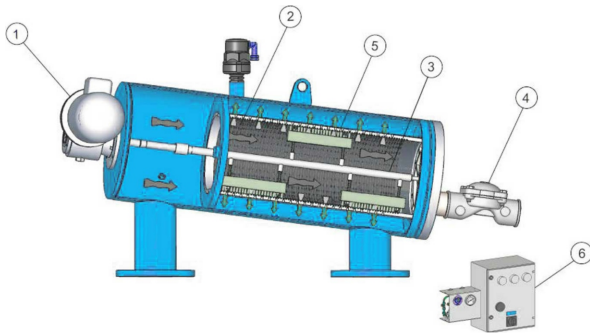
Type	Unit	741804F	741806F	741808F	741810F	741812F	741814F
Connection	inch	4"	6"	8"	10"	12"	14"
Max capacity *	m ³ /h	80	160	300	500	650	1000
Max pressure.	bar	10	10	10	10	10	10
Flush. press. min.	bar	1	1	1	1	1	1
Flushing capacity	m ³ /h	30	60	75	150	150	150

* See the application guideline for the brush filter later on.

1) When ordering, state the desired micron spec: 200, 400, 800, 1500 or 3000 microns

Flushing mode:

The flushing process can be activated either by DP (differential pressure switch) when a predetermined head loss is reached or by a time basis interval, whichever ever comes first. On a flushing command the controller activates the cleaning process; the hydraulic drain valve (4) opens and the electric gear motor (1) rotates the self adjusting brushes assembly. The electric gear motor is rotating the brushes shaft (3) and the self adjusting brushes (5) are rotating all over the screen surface, cleaning the whole screen area. The dirt is flushed through the open drain valve. The efficient cleaning is achieved due to the accurate contact between the self adjusting brushes and the screen inner surface; each brush is gently pressed to the screen surface by two springs. The brushes are sliding on two bars, adjusting themselves according to the screen shape, enabling flexibility of each brush during rotation. When the flushing cycle ends the drain valve (4) closes and the electric motor (1) stops.



Maintenance:

Any damage to the protective coating of the filter must be repaired immediately. Before applying the protective paint, the damaged spot must be cleaned thoroughly using a steel wire brush. The moving parts of the hydraulic cylinder/valve should be provided with a new film of grease every year to prevent wear.

Do not open the filter cover and do not tighten it while the filter is being used or under pressure!

Preventive maintenance and inspections:

Before filter shut down or draining, perform two cycles of manual flush, verify that head loss on the filter does not exceed 0.1-0.2 bar

Following is a schedule of preventive maintenance and inspections based on average filtration duty, and should be used as a guideline only. For best results, a maintenance schedule should be compiled based on experience gained from using the filter.

Notes:

Before installing bolts back to their places spread the bolts threads with "MOLYKOTE G-n Plus Paste" or equivalent. Before installing seals and O-rings back to their places, apply silicone grease "OKS 1110/0" or equivalent grease (unless otherwise noted).

Daily maintenance:

Regularly check the work pressures and the pressure difference over the filter.

Monthly maintenance:

On units equipped with by-pass valve, the by-pass should be engaged at least once a month. This will clean the valve seat of any accumulated dirt, as well as ensuring proper by-pass operation.

Quarterly maintenance:

After switching off the filter, the water must be drained filter and the screen visually checked (3 on the component drawing)

Yearly maintenance:

It is recommended to remove the filter screen annually for cleaning and inspection or when the pressure drop does not decrease after three successive flushing cycles using the pressure difference switch.

Prior to disassembly, the filter must be depressurized.

Disassemble the filter and visually inspect the surfaces on the inside and outside of the screen. Rinse the screen thoroughly with clean water, using bristle brush to remove particles. If organic dirt is accumulated on the filter, immerse it in an acid or alkali solution and clean it thoroughly. Apply the lubricants mentioned in 'notes' when assembling. Manually start a flushing cycle and make sure that the system works well.

Bi-annual maintenance:

Complete the annual maintenance and replace the gaskets, rubber rings and brushes.

Application guideline for UDI brush filters

For selecting the right automatic filter it is important to take a number of variables into account. The origin of the water to be used, the degree of contamination and the application for the filtered water.

For any questions feel free to contact your supplier.

All our recommendations are without obligation, and we cannot be held liable for any adverse consequences resulting from these recommendations.

maximum flow in m ³ /h		
filter micron	water quality	≥ 200
4" (3500 cm²)	good	80
	fair	54
	contaminated	40
6" (5000 cm²)	good	160
	fair	107
	contaminated	80
8" (6000 cm²)	good	300
	fair	200
	contaminated	150
10" (7500 cm²)	good	500
	fair	330
	contaminated	250
12" (10400 cm²)	good	650
	fair	430
	contaminated	325
14" (10400 cm²)	good	1000
	fair	660
	contaminated	500



Manual
Brush filters - parts drawing

