

### General instructions:

This filter has been designed and manufactured to meet the highest requirements as to quality and finish. The UdiMatic filter is an automatically self-cleaning filter for use in medium-sized processing, cooling, recirculation and irrigation systems. The automatic cleaning enables a continuous supply of high-quality water.

Allow sufficient room around the filter to facilitate maintenance. Installing valves at the inlet and outlet simplifies filter maintenance. Install a check valve after the filter if a pressure drop or backflow of water is undesirable. Provide the drain valve with a discharge pipe while ensuring minimal back pressure.

### Working:

The raw water enters the filter through the inlet on the underside. Dirt particles settle on the filter element and create a cake of deposit. The differential pressure increases until it reaches the preset value (usually 0.5 bar) and activates the flushing process. At this command, the drain valve opens, relieving the pressure in the flushing chamber. This causes a rotor to suck dirt parts off the filter screen. With the hydraulic motor, the rotor rotates over the screen. At the same time, a cylinder causes the rotor to move vertically. These two simultaneous processes result in a spiral movement of the rotor over the entire filter screen, which provides a complete and effective cleaning process lasting  $\pm 8$  sec. This self-cleaning process can also be triggered by a timer or manually.

### Putting into operation:

The inlet valve must open slowly so as to enable the pressure in the filter to build up. Check for leaks and, if found, repair them. Check the inlet pressure which must be at least 1 bar or higher. Release the air from the hydraulic cylinder or valve by detaching the control tube until all air has been eliminated from the cylinder or valve, and reconnect the control tube. Slowly open the outlet valve of the filter. Normal operating conditions are achieved when the differential pressure across a clean filter is less than 0.2 bar (Difference between incoming and outgoing pressure). Manually start a flushing cycle by pressing the push button on the controller box. Follow the flushing phase and check the pressure in the flushing chamber; this must be 0.6-1.5 bar less than the inlet pressure. The flushing frequency is determined by the time needed to reach the maximum differential pressure of 0.5 bar. In order to be assured of a properly operating system, it is advisable to monitor at least one complete cycle.

### Installation:

Install the filter in a vertical position only. The inlet and outlet are marked by an arrow indicating the direction of flow. The filter is designed to withstand a maximum pressure of 10 bar. A pressure relief valve must be installed before the filter if this pressure is not sufficiently under control. Fix the filter to the wall or a frame using a support, and secure the supply and discharge pipes with clips.

NB. The differential-pressure switch and timer have been preset at the correct values. Do not adjust these values before starting up.

Type	Unit	785191	785192	785193	785194	785196	785198
Connection	Inch	1½"	2"	3"	4"	6"	8"
Capacity *	m <sup>3</sup> /h	15	25	40	60	150	300
Working pressure max.	bar	10	10	10	10	10	10
Flushing pressure min.	bar	1	1	1	1	1	1
Flushing capacity approx.	m <sup>3</sup> /h	5	5	5	5	10	14

\* see our application guidelines for UDI automatic filters.

- 1) When ordering, state the number of microns required. Choice from: 400, 300, 200, 130, 100 and 75 mic.
- 2) Available on request: 50 and 30 mic.

### Periodic cleaning:

Regularly activate a flushing cycle by way of routine inspection by pressing the push button on the controller box. Clean the filter once or twice a year at the beginning or the end of a season or if the flushing frequency greatly increases due to insufficient cleaning.

Stop the flow to the filter. Let the pressure in the filter escape by detaching the control tube of the drain valve. Open the flushing-chamber cover by evenly loosening the bolts. Check the filter inside and the flushing-rotor bearing ring. First remove the flushing chamber and then the rotor. Carefully pull the filter element up from the filter body. Check the filter element and clean it thoroughly with clean water and use a brush to remove particles (NEVER USE A STEEL WIRE BRUSH!). When the filter has growth on it, dip the element into an acid or alkaline solution. Wait a few minutes for the solution to have its effect and then thoroughly clean the element. Check to ensure that the filter element is intact and not damaged; if necessary, replace it immediately. Apply non-aggressive grease on the rubber rings of the filter, the flushing-rotor guide and the piston of the cylinder or valve. Place the filter element into the filter, push the rotor into place, and position the flushing chamber correctly on the filter element. Check the rotor bearing ring. Then place the cover on the flushing chamber, centring it on the bolt holes, and tighten the bolts evenly. To start up, follow the instruction for: **“Putting into operation”**.

### How to proceed in case of frost:

Install the filter preferably in a frost-free room. Ensure proper insulation and/or heating if nevertheless work must be done at temperatures about freezing point. Pay attention to pipes and valves; they contain practically stagnant water that can freeze due to draught and put the filter out of service. In the case of seasonal work, draw off the filter, and blow out pipes and valves before the frosty period. **Point of special attention:** Empty the hydraulic cylinder by detaching it and pushing in the cylinder!

### Maintenance:

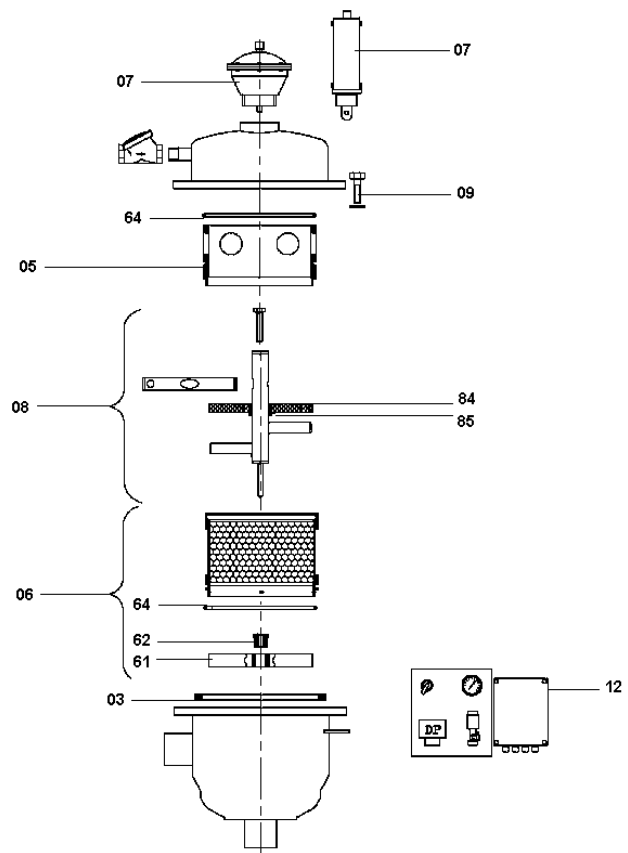
Each filter comes with these installation, operating and maintenance instructions. Any damage to the protective coating of the filter must be repaired immediately. Before applying the protective paint, the damaged spot must be cleaned properly using a steel wire brush.

The moving parts of the hydraulic cylinder/piston should annually be provided with a new layer of grease to prevent wear.

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

### Note:

In view of ongoing improvements, we reserve the right to change specifications without prior notice.



## Control panel:



This panel is provided with a pressure gauge and a three-position cock to measure the pressure:

1<sup>st</sup> Inlet pressure (High pressure)

2<sup>nd</sup> Outlet pressure (Low pressure)

The difference between these two pressures is the loss of pressure across the filter element and reflects the degree of filter soiling. At a difference of  $\geq 0.5$  bar, it is necessary to flush. This takes place automatically and is started by the differential-pressure switch.

3<sup>rd</sup> Flushing-chamber pressure

To be measured during the flushing operation. This pressure must be 0.6-1.5 bar lower than the pressure at the inlet of the filter. The greater the difference in pressure, the greater the cleaning force. This pressure also indicates the drain-valve and discharge-pipe resistance, which should be as low as possible.

### Controller box

The power supply is 220 V "ready to be plugged in". The output for the valve is 24VAC max. 10W.

The flushing program can be activated in the following three ways:

- **Manually** using the push button on the controller box. A routine inspection can be carried out using this push button. This enables you to check the operation of the automatic filter.

- By the **differential-pressure switch** that is set at a  $\Delta P$  of approx. 0.5 bar.

The flushing operation will start after a response time of 10 sec after the maximum differential pressure has been reached.

- By the **interval timer** (S2) that is set at approx. 2 hours after the last flushing operation.

The differential-pressure switch and timer (S1) have already been set at the correct values. Do not adjust these values before starting up.

### Control light indication:

LED constantly ON:

Okay - wait for a rinse cycle.

LED blinking once in a second.:

Flushing in progress.

LED blinking fast:

DP problem, waiting between cycles.

LED blinks 3 times per second:

DP problem, flushing by time in progress.

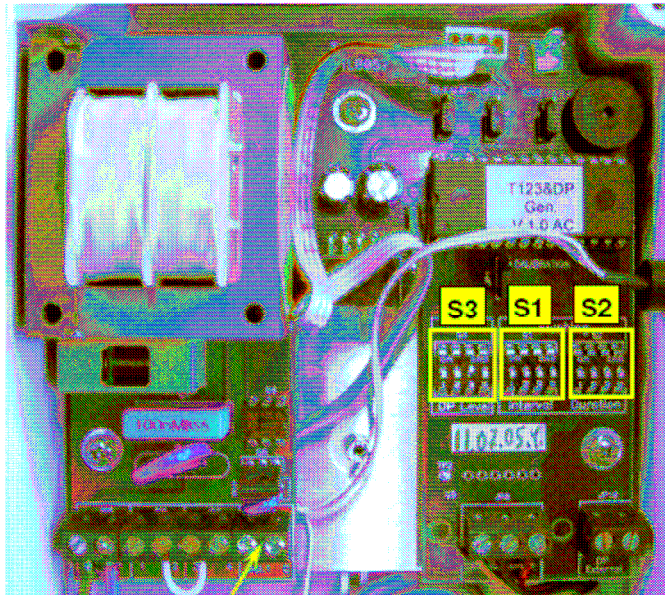
LED is OFF:

Problem with the controller:

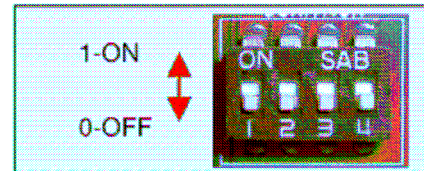
- No power! Plug in touch?

- Glass fuse F1 is defective? Replace these and check for overloading.

- Reset the "manual" button and restart the controller; it begins with a rinse cycle.



**SOLENOID CONNECTIONS**



Interval between flushing cycles					Flushing time						
1-on 0-off	S1				Time	1-on 0-off	S2				Time
	1	2	3	4		1	2	3	4		
01	0	0	0	0	DP only	01	0	0	0	0	5 sec
02	1	0	0	0	5 min.	02	1	0	0	0	8 sec
03	0	1	0	0	10 min.	03	0	1	0	0	10 sec
05	0	0	1	0	20 min.	04	1	1	0	0	12 sec
06	1	0	1	0	30 min.	05	0	0	1	0	16 sec
07	0	1	1	0	45 min.	06	1	0	1	0	20 sec
08	1	1	1	0	1 hour	07	0	1	1	0	25 sec
09	0	0	0	1	2 hours	08	1	1	1	0	30 sec
10	1	0	0	1	4 hours	09	0	0	0	1	45 sec

**Overzicht van de geluidsindicaties:**

- 1 piepje elke 15 seconden – normale werking
- 2 piepjes elke 15 seconden – endless-loop probleem gedetecteerd

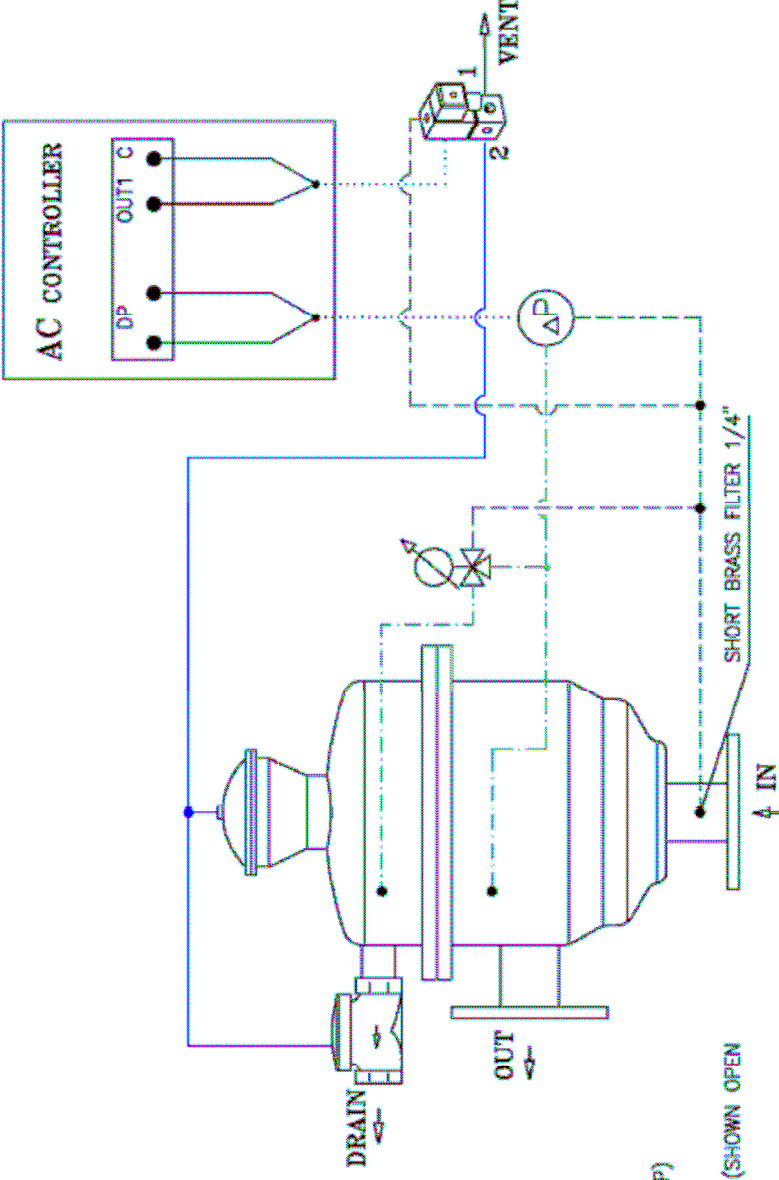
**Instelling S3 dip switch**

De dip switch S3 moet op “0 0 0 0” ingesteld worden om de interne drukverschilmeting uit te schakelen (niet inbegrepen).



UVAR

Subject to changes and/or reprints



**LEGEND**

— COMMAND LINE

..... ELECTRICAL LINE

— HIGH PRESSURE LINE

..... LOW PRESSURE LINE

(DP) DIFFERENTIAL PRESSURE SWITCH (DP)

(Solenoid Valve Symbol) SOLENOID VALVE --GEM--SOL--AC (SHOWN OPEN DURING FILTERING PROCESS)

(Gauge Symbol) PRESSURE GAUGE

(3-Way Valve Symbol) 3 WAY VALVE

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# Instruction Manual UdiMatic



<b>UDI</b> filters	
TITLE	
DATE 26.09.05	DWC No.987033-W-AC-ODP
CONTROL DIAGRAM	
ISSUE 5	

### Guidelines for correct choice of UDI Automatic filter UdiMatic

For choosing the correct automatic filter, men have to take a few points into account:

- What is the water source: rainwater, leaching water, surface water etc...
- What is the sediment accumulation and sort.
- What is the application of the filtered water; pre-filtration for disinfection unit, sprinkler system etc.

The table below can be used as a guideline for choosing the correct UdiMatic filter. This information is based on an average sediments accumulation which determines the flushing frequency.

If you have any questions, consult your supplier.

All our advises are not obligatory and we cannot be held responsible for any possible disadvantageous consequences by the advises we have provided.

<b>UdiMatic - Maximum flow in m<sup>3</sup>/h</b>					
<b>Filter mic.</b>	<b>80</b>	<b>100</b>	<b>130</b>	<b>200</b>	<b>300</b>
Applied>> Filter	Stocks Disinfecting	Capillary Drippers	Nozzles Drippers Sprinklers <1.3mm	Sprinklers 1,3 – 1,8 mm	Sprinklers.>1,8 Back Flushing water
<b>1½"</b>	8	10	12	15	15
	6	8	10	12	15
<b>2"</b>	10	13	16	20	20
	8	10	12	16	20
<b>3"</b>	25	30	35	38	40
	15	20	25	30	35
<b>4"</b>	30	40	50	55	60
	20	25	30	35	40
<b>6"</b>	110	130	140	150	150
	80	90	100	110	120
<b>8"</b>	180	230	250	300	300
	100	120	140	160	200