

Technical Manual  
***WATER SOFTENER***



Models: **PF-SOF1-SIM**  
**PF-SOF1-ALT**  
**PF-SOF1-PRL**  
**PF-SOF1,5-SIM**  
**PF-SOF1,5-ALT**  
**PF-SOF1,5-PRL**  
**PF-BTA**

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## WARNING & SAFETY INSTRUCTIONS

- Before you begin the installation of the appliance, we advise you read and carefully follow the instructions contained in this manual. It contains important information about safety, installation, use and maintenance of the product. The actual system that you have received, may differ from the pictures/illustrations/descriptions in these Instructions.
- Failure to follow the instructions could cause personal injury or damage to the appliance or property. Only when installed, commissioned and serviced correctly, the appliance will offer you many years of trouble-free operation.
- The appliance is intended to 'soften' the water, meaning it will remove hardness minerals; it will not necessarily remove other contaminants present in the water. The appliance will not purify polluted water or make it safe to drink!
- Installation of the appliance should only be undertaken by a competent person, aware of the local codes in force. All plumbing and electrical connections must be done in accordance with local codes.
- Before setting up the appliance, make sure to check it for any externally visible damage; do not install or use when damaged.
- Use a hand truck to transport the appliance. To prevent accident or injury, do not hoist the appliance over your shoulder. Do not lay the appliance on its side.
- Keep these Instructions in a safe place and ensure that new users are familiar with the content.
- The appliance is designed and manufactured in accordance with current safety requirements and regulations. Incorrect repairs can result in unforeseen danger for the user, for which the manufacturer cannot be held responsible. Therefore repairs should only be undertaken by a competent technician, familiar and trained for this product.
- In respect of the environment, this appliance should be disposed of in accordance with Waste Electrical and Electronic Equipment requirements. Refer to national/local laws and codes for correct recycling of this appliance.

## OPERATING CONDITIONS & REQUIREMENTS

- **OPERATING PRESSURE MIN-MAX: 1,4-8,0 bar / 20-116 psi**
  - this appliance is configured to perform optimally at an operating pressure of 3 bar (45 psi)  $\pm \frac{1}{2}$  bar (7 psi); in case of a lower or higher operating pressure the performance may be affected negatively!
  - check water pressure regularly; it may fluctuate severely depending on the time of day, the day of the week or even the season of the year.
  - take into account that night time water pressure may be considerably higher than day time water pressure.
  - install a pressure reducer ahead of the appliance if necessary.
  - install a pressure booster, if it is likely that water pressure may drop below the minimum.
  
- **OPERATING TEMPERATURE MIN-MAX: 2-48 °C / 35-120 °F**
  - do not install the appliance in an environment where high ambient temperatures (e.g. unvented boiler house) or freezing temperatures can occur.
  - the appliance cannot be exposed to outdoor elements, such as direct sunlight or atmospheric precipitation.
  - do not install the appliance too close to a water heater; keep at least 3 m (10 ft) of piping between the outlet of the appliance and the inlet of the water heater; water heaters can sometimes transmit heat back down the cold pipe into the appliance; always install a check valve at the outlet of the appliance.
  
- **ELECTRICAL CONNECTION:**
  - this appliance only works on 24 V; always use it in combination with the supplied transformer.
  - in case of damage to the power supply cable of the transformer, immediately disconnect the transformer from the power outlet and replace the transformer.
  - make sure to plug the transformer into a power outlet, which is installed in a dry location, with the proper rating and over-current protection.
  
- **OPTIONAL Wi-Fi:**
  - to order your system with the optional Wi-Fi function, indicate this by adding “-W” to the corresponding part number:

PN 35810	Softener 1", Simplex 25L
PN 35810-W	Softener 1", Simplex 25L - Wi-Fi enabled

EV1.5TF/J/150/AIR	Control Valve 1.5", Oxydizer 4 cuft
EV1.5TF/J/150/AIR-W	Control Valve 1.5", Oxydizer 4 cuft - Wi-Fi enabled

## ASSEMBLY

### CONTENT CHECK

☑ *Actual parts that you have received, may differ from the pictures/illustrations in these Instructions!*

☑ *For ease of transportation and installation, the softening resin is NOT loaded in the pressure tank, but delivered in separate bags of 25 ltr; it must be loaded on-site, after positioning of the pressure tank.*

Check the content of the system, using the Composition Overview in these Instructions. Identify and lay-out the different components to facilitate the assembly.

### SIMPLEX (PF-SOF1-SIM & PF-SOF1,5-SIM)

A Simplex system consists of 1 single softening module (pressure tank, resin, control valve and accessories).

**During normal operation, the Simplex system delivers softened water.** As soon as it initiates a regeneration, it automatically goes into hard water bypass, guaranteeing uninterrupted supply of untreated water

It is possible to upgrade a Simplex system to a Duplex Parallel system, by adding a second Simplex system.

### DUPLEX ALTERNATING (PF-SOF1-ALT & PF-SOF1,5-ALT)

A Duplex **ALTERNATING** system consists of 2 Simplex systems, that:

- are hydraulically installed **in parallel**;
- are electronically interconnected by means of an InterConnect cable;
- have a Normally Closed solenoid operated diaphragm valve (so called Service Valve) in the outlet of each Simplex system; this Service Valve is controlled by the electronic timer of the Simplex system and is activated during the service cycle to open the outlet of the respective Simplex system;
- share 1 brine tank, that contains 2 brine valves.

**During normal operation, only 1 of the 2 Simplex systems is in service, while the other one is regenerating or 'in standby'!** As soon as the first Simplex system initiates a regeneration, the second system goes into service, guaranteeing uninterrupted supply of treated water. In case of a power failure, both Service Valves will be deactivated, meaning the outlet of both Simplex systems will be closed off, cutting off the water supply (potentially hard water!) to the application.

### DUPLEX PARALLEL (PF-SOF1-PRL & PF-SOF1,5-PRL)

A Duplex **PARALLEL** system consists of 2 Simplex systems, that:

- are hydraulically installed **in parallel**;
- are electronically interconnected by means of an InterConnect cable;
- have a Normally Open solenoid operated diaphragm valve (so called Service Valve) in the outlet of each Simplex system; this Service Valve is controlled by the electronic

timer of the Simplex system and is activated during the entire duration of the regeneration, to close-off the control valve's standard 'hard water bypass during regeneration';

- share 1 brine tank, that contains 2 brine valves.

**During normal operation, both Simplex systems are in service, doubling the service flow rate!** When one of the Simplex systems initiates a regeneration, it immediately communicates it's status to the other Simplex system via the InterConnect cable, to make sure the other Simplex system remains in service, guaranteeing uninterrupted supply of treated water. In case of a power failure, both Service Valves will be deactivated, meaning the outlet of both Simplex systems will be open, guaranteeing uninterrupted supply of water.

For correct assembly, repeat the different assembly steps, until both Simplex systems are assembled and positioned correctly.

For large installations, with an important need for treated water, 2 or more Duplex systems can easily be installed in parallel hydraulically, to double/triple/... the flow rate and softening capacity.

### RESIN LOADING

1. Move the pressure tank to the correct installation location; position it on a flat and level surface. Make sure to leave enough space for ease of service.
2. Position the riser assembly upright and centred in the pressure tank; plug the top of the riser tube with a piece of tape or clean rag, to prevent resin from entering the tube.
3. Add water to the pressure tank to a height of  $\pm 30$  cm from the bottom; this water will protect the bottom of the pressure tank and the bottom distributor, during filling of the pressure tank.
4. Place a funnel on the pressure tank opening and fill the pressure tank with resin; make sure the riser assembly remains centered in the pressure tank.
5. Rinse the pressure tank opening to remove any resin beads from the threaded section.
6. Unplug the top of the riser tube.

### CONTROL VALVE

#### *only for PF-SOF1*

1. Make sure the O-ring in the riser insert and the tank O-ring (around the threaded section of the control valve) are in the correct position.
2. Screw the top distributor onto the control valve.
3. Lubricate the threaded section of the pressure tank, the top of the riser tube and the tank O-ring of the control valve; use a silicon-based lubricant.
4. Lower the control valve straight down onto the riser tube, until the riser tube is correctly inserted in the riser insert; then push it down firmly and screw it onto the pressure tank.

**only for PF-SOF1,5**

### **Picture 1**

1. On the brass valve seat:
  - make sure the O-ring in the riser insert is in the correct position;
  - install the top distributor and fix it by means of the 2 stainless steel screws;
  - install the tank O-ring in the groove on the flange around the threaded section.
2. Lubricate the threaded section of the pressure tank, the top of the riser tube and the tank O-ring of the valve seat; use a silicon-based lubricant.
3. Lower the valve seat straight down onto the riser tube, until the riser tube is correctly inserted in the riser insert inside the valve seat; then push it down firmly and screw it onto the pressure tank.
4. Install the valve seat O-ring in the groove on the valve seat.
5. Install the control valve onto the valve seat; mind the alignment pin!
6. Bolt the control valve to the valve seat by means of the 4 stainless steel bolts; tighten firmly.

### **BRINE TANK ASSEMBLY (PF-BTA) (optional)**

### **Picture 2&3**

1. Move the brine tank to the correct installation location; position it on a flat and level surface. Make sure to leave enough space for ease of service.
2. Insert the polytube into the brine line connection on the control valve (❶); make sure to push the polytube in all the way; tighten the nut.
3. Remove the lid from the brine tank.
4. Remove the lid from the brine well.
5. Make sure the correct elbow connection is installed on the brine valve ( $\frac{3}{8}$ " for PF-SOF1 or  $\frac{1}{2}$ " for PF-SOF1,5); replace if necessary.
6. Run the polytube from the control valve through the hole in the sidewall of the brine tank, to the inside of the brine tank.
7. *Only for PF-SOF1,5:* insert the reinforcement tube in the end of the  $\frac{1}{2}$ " polytube.
8. Insert the polytube into the elbow connection on the brine valve; make sure to push the polytube in all the way.
9. *Only for PF-SOF1,5:* tighten the nut.
10. Install the lid on the brine well.
11. Add water to the brine tank to a height of  $\pm 10$  cm from the bottom.
12. Add salt to the brine tank.
13. Install the lid on the brine tank.

# INSTALLATION

## INLET & OUTLET

☑ *In case of high concentration of impurities in the inlet water, we recommend the installation of a sediment filter, ahead of the appliance.*

☑ *We strongly recommend the use of flexible hoses to connect the appliance to the water distribution system; use hoses with a large diameter in order to limit the pressure loss.*

☑ *We strongly recommend the installation of a bypass system (not included with this product!) to isolate the appliance from the water distribution system in case of repairs. It allows to turn off the water to the appliance, while maintaining full-flow (untreated) water supply to the user.*

**only for PF-SOF1-SIM:**

**SIMPLEX with factory bypass (optional)**

### Picture 4

❶ = mains water supply (untreated water)

❷ = inlet of control valve (untreated water)

❸ = outlet of control valve (treated water)

❹ = application (treated water)

1. Screw the factory bypass onto the in/out ports on the control valve (❷&❸); make sure to install the gasket seals. Tighten the nuts firmly by hand.
2. Screw the connection kit with nuts onto the factory bypass (❶&❹); make sure to install the gasket seals. Tighten the nuts firmly by hand.
3. Connect the mains water supply to the adaptor on the inlet port of the factory bypass (❶).
4. Connect the application to the adaptor on the outlet port of the factory bypass (❹).

**only for PF-SOF1-SIM:**

**SIMPLEX with 3-valve connection kit (not included)**

### Picture 5

❶ = inlet of control valve (untreated water)

❷ = outlet of control valve (treated water)

1. Install the 3-valve connection kit.
2. Screw the connection kit with nuts onto the in/out ports on the control valve (❶&❷); make sure to install the gasket seals. Tighten the nuts firmly by hand.
3. Connect the IN valve of the 3-valve connection kit to the adaptor on the in port of the control valve (❶).
4. Connect the OUT valve of the 3-valve connection kit to the adaptor on the out port of the control valve (❷).
5. Connect the mains water supply to the inlet of the 3-valve connection kit.
6. Connect the application to the outlet of the 3-valve connection kit.

**only for PF-SOF1-ALT and PF-SOF1-PRL:**

**DUPLEX with multiple valve connection kit (not incl.)**

### Picture 6

❶ = inlet of control valve (untreated water)

❷ = outlet of control valve (treated water)

❸ = Service Valve

1. Install the multiple valve connection kit.
2. Screw the connection kit with nuts onto the in/out ports on the control valve (❶&❷); make sure to install the gasket seals. Tighten the nuts firmly by hand.
3. Screw the Service Valve (❸) onto the adaptor at the out port of the control valve (❷); make sure to respect the flow direction (see indication arrow on the bottom of the Service Valve); use an appropriate sealant.
4. Connect the IN valve of the multiple valve connection kit to the adaptor on the in port of the control valve (❶).
5. Connect the OUT valve of the multiple valve connection kit to the outlet of the Service Valve (❸).
6. Repeat steps 2-5 for both Simplex systems.
7. Connect the mains water supply to the inlet of the multiple valve connection kit.
8. Connect the application to the outlet of the multiple valve connection kit.

**only for PF-SOF1,5-SIM:**

**SIMPLEX with 3-valve connection kit (not incl.)**

### Picture 7

❶ = inlet of control valve (untreated water)

❷ = outlet of control valve (treated water)

❸ = PVC elbow

❹ = inlet of flow meter

❺ = outlet of flow meter

1. Install the 3-valve connection kit.
2. Insert the adaptors in the in/out ports on the control valve (❶&❷); make sure not to damage the O-rings. Install the nuts and tighten them firmly by hand.
3. Screw the PVC elbow (❸) onto the adaptor at the out port of the control valve (❷); use an appropriate sealant.
4. Insert the adaptors in the in/out ports on the flow meter (❹&❺); make sure not to damage the O-rings. Install the nuts and tighten them firmly by hand.
5. Screw the flow meter (❹) into the PVC elbow (❸); make sure to respect the flow direction (see indication arrow); use an appropriate sealant.
6. Connect the flow meter cable from the control valve to the flow meter; secure it by means of the screw.
7. Connect the IN valve of the 3-valve connection kit to the adaptor on the in port of the control valve (❶).
8. Connect the OUT valve of the 3-valve connection kit to the adaptor on the out port of the flow meter (❺).
9. Connect the mains water supply to the inlet of the 3-valve connection kit.
10. Connect the application to the outlet of the 3-valve connection kit.

**only for PF-SOF1,5-ALT and PF-SOF1,5-PRL:**

**DUPLEX with multiple valve connection kit (not incl.)**

### Picture 8

❶ = inlet of control valve (untreated water)

❷ = outlet of control valve (treated water)

❸ = PVC elbow

❹ = inlet of flow meter

❺ = outlet of flow meter

❻ = Service Valve

1. Install the multiple valve connection kit.
2. Insert the adaptors in the in/out ports on the control valve (❶&❷); make sure not to damage the O-rings. Install the nuts and tighten them firmly by hand.

## INSTALLATION

3. Screw the PVC elbow (❸) onto the adaptor at the out port of the control valve (❷); use an appropriate sealant.
4. Insert the adaptors in the in/out ports on the flow meter (❹&❺); make sure not to damage the O-rings. Install the nuts and tighten them firmly by hand.
5. Screw the flow meter (❹) into the PVC elbow (❸); make sure to respect the flow direction (see indication arrow); use an appropriate sealant.
6. Connect the flow meter cable from the control valve to the flow meter; secure it by means of the screw.
7. Screw the Service Valve (❻) onto the adaptor on the out port of the flow meter (❺); make sure to respect the flow direction (see indication arrow on the bottom of the Service Valve); use an appropriate sealant.
8. Connect the IN valve of the multiple valve connection kit to the adaptor on the in port of the control valve (❶).
9. Connect the OUT valve of the multiple valve connection kit to the outlet of the Service Valve (❻).
10. Repeat steps 2-9 for both Simplex systems.
11. Connect the mains water supply to the inlet of the multiple valve connection kit.
12. Connect the application to the outlet of the multiple valve connection kit.

### PF-BTA: brine tank assembly (optional)

1. Connect the 19 mm hose to the overflow elbow on the brine tank; secure it by means of the clamp.
2. Run the drain hose to the sewerage system and connect it, ensuring sufficient air gap between the end of the hose and the sewerage system. This drain line does NOT operate under pressure, so it may NOT be installed higher than the brine tank.

### SERVICE VALVES (only for Duplex)

#### Picture 11

1. Plug the DIN plug on the connection cable of the Service Valve into the DIN socket at the back of the electronic timer head of the respective control valve (❶).

### DRAIN

- ☒ *We recommend the use of a stand pipe with P-trap.*
- ☒ *To prevent backflow from the sewerage system into the appliance, always ensure sufficient air gap between the end of the drain hose or pipe and the sewerage system.*
- ☒ *Always use separate drain hoses for the control valve(s) (discharge of rinse water) and the brine tank overflow.*
- ☒ *Lay-out the drain hoses in such a way that pressure loss is minimized; avoid kinks and unnecessary elevations.*
- ☒ *Make sure that the sewerage system is suitable for the rinse water flow rate of the appliance.*

### only for PF-SOF1

#### Picture 9

1. Connect the 19 mm hose to the drain connection of the control valve (❶); secure it by means of the clamp.
2. Run the drain hose to the sewerage system and connect it, ensuring sufficient air gap between the end of the hose and the sewerage system. This drain line operates under pressure, so it may be installed higher than the appliance.
3. *For Duplex:* repeat steps 1-2 for both Simplex systems.

### only for PF-SOF1,5

#### Picture 10

1. Connect a pipe to the 1" BSP Male drain connection of the control valve (❶); use an appropriate sealant.
2. Run the pipe to the sewerage system and connect it, ensuring sufficient air gap between the end of the pipe and the sewerage system. This drain line operates under pressure, so it may be installed higher than the appliance.
3. *For Duplex:* repeat steps 1-2 for both Simplex systems.



## COMMISSIONING

### ELECTRICAL

1. Connect the appliances power cord to the transformers output.
2. Plug the transformer into an electrical outlet.

### PRESSURIZING

1. Put the bypass system in 'bypass' position.
2. Make sure the electronic controller(s) of the appliance is (are) in service mode.
3. Open the mains water supply.
4. Open a cold treated water faucet nearby the appliance and let the water run for a few minutes until all air is purged and all foreign material that may have resulted from the installation is washed out; close the tap.
5. Gently pressurize the appliance, by putting it into service:
  - close the 'BYPASS' valve;
  - open the 'OUT' valve;
  - slowly open the 'IN' valve.
6. After 2-3 minutes, open a cold treated water faucet nearby the appliance and let the water run for a few minutes until all air is purged from the installation and the resin bed is rinsed (it is normal for the rinse water to show some discoloration!); close the tap.
7. Check the appliance and all hydraulic connections for leaks.
8. *For Duplex*: repeat steps 5-7 for both Simplex systems.

### ELECTRONIC CONTROL PANEL

1. Program the electronic controller.
2. *For Duplex*: repeat step 1 for both Simplex systems.

### ADJUSTMENT RESIDUAL HARDNESS (only for PF-SOF1)

☒ *In practice the residual hardness is influenced by the inlet pressure, flow rate and hardness of the incoming untreated water. When adjusting the residual hardness, make sure these conditions are similar to the actual operating conditions.*

#### ON CONTROL VALVE

#### Picture 12.a

1. Adjust the residual hardness of the water that leaves the softener, by means of the adjusting screw, incorporated at the right side of the control valve:
  - to raise the residual hardness: turn the screw counter clockwise;
  - to reduce the residual hardness: turn the screw clockwise.
2. Measure the residual water hardness with a water hardness test kit; readjust if necessary.


#### WITH FACTORY BYPASS (optional)

#### Picture 12.b


1. Adjust the residual hardness of the water that leaves the softener, by means of the adjusting screw, incorporated in the 'outlet' valve of the factory bypass:

- to raise the residual hardness: turn the screw counter clockwise.
  - to reduce the residual hardness: turn the screw clockwise.
2. Measure the residual water hardness with a water hardness test kit; readjust if necessary.

### INITIATE A REGENERATION

1. Manually initiate a regeneration, by pressing the **scroll**  button; the display will show:

**Regen in 10 sec**


2. Leave the appliance in this position; the count-down timer will count down to 0 sec and start a regeneration; to save time you may skip, or terminate prematurely, the second cycle of the regeneration by pressing the **scroll**  button once, as soon as the display indicates that the system is in the second regeneration position.
3. *For Duplex*: repeat steps 1-2 for both Simplex systems.

### INTERCONNECT CABLE (only for Duplex)


#### Picture 13

1. Connect the control valves to each other by means of the InterConnect cable; simply plug the DIN plugs on the InterConnect cable in the DIN sockets at the back of the electronic timer of each control valve (❶).

### INITIATE ALTERNATING MODE (only for Duplex Alternating)

1. On one of the 2 control valves, manually initiate a regeneration, by pressing the **scroll**  button; the display will show:




**Regen in 10 sec**

2. Leave the appliance in this position; the count-down timer will count down to 0 sec and start a regeneration.
3. Press the **scroll**  button repeatedly, to advance the control valve through the regeneration cycles and put it in Standby mode, until the display shows:

**Stdby 1000 L -**  
**TotVol: 1234567L**

## ELECTRONIC CONTROL PANEL

### Picture 14

symbol	button	function
	SCROLL	to advance to the next parameter
	UP	to increase the value of the parameter
	DOWN	to decrease the value of the parameter

### POWER-UP

After power-up the display will show the installed software version for a period of 5 seconds.

### POWER FAILURE

In the event of a power failure, the program will remain stored in the NOVRAM® during an undefined period, while an incorporated SuperCap will maintain the correct time of day during a period of several hours; consequently, in case of prolonged power failure, the time of day might not be maintained; if this happens, the time of day will be reset to 8:00 when the power supply is re-established, while the indication will *flash*, indicating that the time of day needs to be set.

*When the power failure occurs during the execution of an automatic regeneration, the control valve will remain in its last position; when the power supply is re-established, the control valve will return to the service position, stay there for 60 sec. and restart a complete regeneration from the beginning.*

### TIMER FAILURE

In the event of a timer failure, the display will show the message:

**Service Required**

The buzzer, if enabled (see Basic Settings), will beep continuously. If powering off/on the appliance doesn't solve this problem, professional service is required.

### MAINTENANCE REMINDER

☒ *Only available if the maintenance reminder function has been activated and programmed by your supplier!*

Once the maintenance interval is reached, the following will happen:

- the display will intermittently show the message:

**8:01      1000L -  
Maintenance Now**

- the buzzer, if enabled (see Basic Settings), will beep 3 times every 5 minutes.

While the appliance will continue to operate normally, it is recommended to have preventive maintenance performed by a professional.

### SERVICE MODE

In **service mode** the display shows:

- Simplex, Duplex Parallel:** the time of day and the remaining capacity:

**8:01      1000L -  
TotVol: 1234567L**

- Duplex Alternating:** the systems status (Service or Standby) and the remaining capacity:

**Srvc      1000L -  
TotVol: 1234567L**

**Stdb      1000L -  
TotVol: 1234567L**

### REGENERATION MODE

In **regeneration mode** the display shows:

- Simplex, Duplex Parallel:** the total remaining regeneration time and remaining cycle time:


**Rgn:XXX CycY:ZZZ**

- Duplex Alternating:** the total remaining regeneration time and remaining cycle time:

**Rgn:XXX CycY:ZZZ**


When the regeneration is finished, the system remains in Standby, until the other system starts a regeneration:

**Stdb      1000L -  
TotVol: 1234567L**

*The appliance can be **reset to service mode** at any time by pressing the **scroll**  button, as such manually advancing it through the regeneration cycles.*

### MANUAL REGENERATION

It is possible to manually initiate an immediate regeneration or a delayed regeneration (at the preprogrammed time of regeneration).

- Press the **scroll**  button; the display will show:

**Regen in 10 sec**

- If the control panel is left in this position, the countdown timer will countdown to 0 sec and **start an immediate regeneration**.

## ELECTRONIC CONTROL PANEL

- To cancel this mode, press the **scroll** ⏮ button before the countdown timer has reached 0 sec; the display will show:

Regen @ 2:00

- If the control panel is left in this position, a **delayed regeneration** will be started at the indicated preprogrammed time of regeneration.
- To cancel this mode, press the **scroll** ⏮ button; the control panel will return to the service mode.

### HOLIDAY MODE

It is possible to put the appliance in holiday mode; this will prevent automatic regeneration from taking place, yet will ensure the appliance is automatically regenerated at the end of the holiday cycle.

1. Press the **scroll** ⏮ button repeatedly until the display shows:

Holiday: OFF

- Press the **up** ▲ or **down** ▼ button to *activate the holiday mode by setting the number of full days away from home, or deactivate the holiday mode (OFF).*

Once the control panel is back in service mode, the display will show:

8:01 Holiday

- ☒ *The holiday mode is automatically cancelled when a regeneration is manually initiated!*

### PROGRAMMING INSTRUCTIONS - BASIC SETTINGS

- ☒ *Before entering the programming mode, make sure that the appliance is in the service mode.*
- ☒ *In case no button is pressed in a period of 5 min, the control panel will automatically return to the service mode; any changes made will NOT be saved!*

1. Press the **scroll** ⏮ button and hold it for 2 sec until the display shows:

Language: English

- Press the **up** ▲ or **down** ▼ button to set the language.
2. Press the **scroll** ⏮ button again; the display will show:

Set time: 8:01

- Press the **up** ▲ or **down** ▼ button to set the time of day.
3. Press the **scroll** ⏮ button again; the display will show:

HardUnit: °f

- Press the **up** ▲ or **down** ▼ button to set the unit of measure for water hardness. Make sure it is identical to the unit of measure of the water hardness test kit or water analysis report that is used to determine the hardness of the incoming untreated water!
4. Press the **scroll** ⏮ button again; the display will show:

Set hardn: XX °f

- Press the **up** ▲ or **down** ▼ button to set the hardness of the incoming untreated water.
5. Press the **scroll** ⏮ button again; the display will show:

Buzzer: 2

- Press the **up** ▲ or **down** ▼ button to enable the buzzer by setting the sound level, or disable the buzzer (OFF).
6. Press the **scroll** ⏮ button again; the display will show:

Exit

- Press the **up** ▲ or **down** ▼ button to save the settings into the NOVRAM® and exit the programming mode.

# ELECTRONIC CONTROL PANEL

## PROGRAMMING INSTRUCTIONS - CONFIGURATION PARAMETERS

☑ Before entering the programming mode, make sure that the appliance is in the service mode.

☑ All configuration parameters on this appliance have been pre-programmed in the factory, to offer optimal performance in a wide range of applications and situations. Nevertheless it may be necessary or desirable to change any of these parameters, to further optimize the appliances performance or to adapt it to the specific requirements of the installation. See table at the end of this manual for default configuration parameter settings.

☑ In case no button is pressed in a period of 5 min, the control panel will automatically return to the service mode; any changes made will NOT be saved!

**only for PF-SOF1-SIM & PF-SOF1,5-SIM**

1. Press the **scroll** ⏮ button and hold it for 6 sec until the display shows:

**System Check**

2. Within 10 sec, press the **up** ⬆ button; the display will show:

**Units:Metric**

- Press the **up** ⬆ or **down** ⬇ button to set the units of measure (Metric or US).

3. Press the **scroll** ⏮ button again; the display will show:

**MaintInt: 24mths**

- Press the **up** ⬆ or **down** ⬇ button to activate the maintenance reminder function by setting the maintenance interval, or deactivate the maintenance reminder function.

4. Press the **scroll** ⏮ button again; the display will show:

**ExCap: 5.5° f M3/L**

- Press the **up** ⬆ or **down** ⬇ button to set the exchange capacity per litre of resin.

5. Press the **scroll** ⏮ button again; the display will show:

**Age corr.: 2.0%**

- Press the **up** ⬆ or **down** ⬇ button to set the age correction factor (%/year) to compensate for capacity loss of the resin due to aging.

6. Press the **scroll** ⏮ button again; the display will show:

**Resin:XXX liters**

- Press the **up** ⬆ or **down** ⬇ button to set the volume of resin.

7. Press the **scroll** ⏮ button again; the display will show:

**Override: 7 days**

- Press the **up** ⬆ or **down** ⬇ button to set the number of days between regenerations.

8. Press the **scroll** ⏮ button again; the display will show:

**Cycle 1: XX min**

- Press the **up** ⬆ or **down** ⬇ button to set the length of the regeneration cycle.
- Press the **scroll** ⏮ button again to advance to the next regeneration cycle.

Cycle 1	Backwash
Cycle 2	Brine draw/slow rinse
Cycle 3	Fast rinse/brine tank refill (PF-SOF1) Fast rinse (PF-SOF1,5)
Cycle 4	Brine tank refill (PF-SOF1,5)

9. Press the **scroll** ⏮ button again; the display will show:


**Regen:Dlyd/Immd**

- Press the **up** ⬆ or **down** ⬇ button to set the regeneration mode:
    - **Dlyd/Immd**: when the remaining capacity equals the reserve capacity, a *delayed regeneration* is started; however when the remaining capacity equals 0 before the programmed time of regeneration is reached, an *immediate regeneration* is started.
    - **Immediate**: when the remaining capacity equals 0, an *immediate regeneration* is started.
- Note:** Delayed manual regeneration is not available when this regeneration mode is selected.
- **Delayed**: when the remaining capacity equals the reserve capacity, a *delayed regeneration* at the programmed time of regeneration is started.






10. Press the **scroll** ⏮ button again; the display will show (only when the regeneration mode is set to 'Delayed' or 'Dlyd/Immd'):


**Regen @ 2:00**

- Press the **up** ⬆ or **down** ⬇ button to set the time of regeneration.






11. Press the **scroll**  button again; the display will show (only when the regeneration mode is set to 'Dlyd' or 'Dlyd/Immd'):


**Rsrv      Variable**

- Press the **up**  or **down**  button to set *the reserve capacity*:
  - **Variable**: the reserve capacity is calculated automatically, based on the registered daily water usage.
  - **Fxd**: press the **scroll**  button again and press the **up**  or **down**  button to set *the reserve capacity to a fixed amount*.



12. Press the **scroll**  button again; the display will show:

**AUX2:    Regen**

- Press the **up**  or **down**  button to set *the function of auxilliary contact 2*:
  - **Regen**: aux. contact is powered during entire regeneration (does not include refill and brine preparation cycles!).
  - **Chlor.Cell**: aux. contact is powered at start of brine draw/slow rinse cycle. Press the **scroll**  button again and press the **up**  or **down**  button to set *the duration of activation of the chlorination cell*.
  - **Maintenance**: aux. contact is powered when Maintenance Reminder is triggered.
  - **Error**: aux. contact is powered when timer failure occurs.

13. Press the **scroll**  button again; the display will show:

**Exit**

- Press the **up**  or **down**  button to save the program into the NOVRAM® and exit the programming level.

## ELECTRONIC CONTROL PANEL

**only for PF-SOF1-ALT & PF-SOF1,5-ALT**

☒ *The 2 Simplex systems, that make up a Duplex system, must be programmed individually; the program does NOT necessarily have to be the same on the 2 Simplex systems!*

1. Press the **scroll** ⏮ button and hold it for 6 sec until the display shows:

**System Check**

2. Within 10 sec, press the **up** ⬆ button; the display will show:

**Units: Metric**

- Press the **up** ⬆ or **down** ⬇ button to set the units of measure (Metric or US).

3. Press the **scroll** ⏮ button again; the display will show:

**MaintInt: 24mths**

- Press the **up** ⬆ or **down** ⬇ button to activate the maintenance reminder function by setting the maintenance interval, or deactivate the maintenance reminder function.

4. Press the **scroll** ⏮ button again; the display will show:

**ExCap: 5.5° f M3/L**

- Press the **up** ⬆ or **down** ⬇ button to set the exchange capacity per litre of resin.

5. Press the **scroll** ⏮ button again; the display will show:

**Age corr.: 2.0%**

- Press the **up** ⬆ or **down** ⬇ button to set the age correction factor (%/year) to compensate for capacity loss of the resin due to aging.

6. Press the **scroll** ⏮ button again; the display will show:

**Resin: XXX liters**

- Press the **up** ⬆ or **down** ⬇ button to set the volume of resin.

7. Press the **scroll** ⏮ button again; the display will show:

**Override: 7 days**

- Press the **up** ⬆ or **down** ⬇ button to set the number of days between regenerations.

8. Press the **scroll** ⏮ button again; the display will show:

**Cycle 1: XX min**

- Press the **up** ⬆ or **down** ⬇ button to set the length of the regeneration cycle.
- Press the **scroll** ⏮ button again to advance to the next regeneration cycle.

Cycle 1	Backwash
Cycle 2	Brine draw/slow rinse
Cycle 3	Fast rinse/brine tank refill (PF-SOF1) Fast rinse (PF-SOF1,5)
Cycle 4	Brine tank refill (PF-SOF1,5)

9. Press the **scroll** ⏮ button again; the display will show:

**AUX2: Regen**

- Press the **up** ⬆ or **down** ⬇ button to set the function of auxiliary contact 2:
  - **Regen:** aux. contact is powered during entire regeneration (does not include refill and brine preparation cycles!).
  - **Chlor.Cell:** aux. contact is powered at start of brine draw/slow rinse cycle. Press the **scroll** ⏮ button again and press the **up** ⬆ or **down** ⬇ button to set the duration of activation of the chlorination cell.
  - **Maintenance:** aux. contact is powered when Maintenance Reminder is triggered.
  - **Error:** aux. contact is powered when timer failure occurs.

10. Press the **scroll** ⏮ button again; the display will show:

**Exit**

- Press the **up** ⬆ or **down** ⬇ button to save the program into the NOVRAM® and exit the programming level.

11. Repeat steps 1-10 for both Simplex systems.

## ELECTRONIC CONTROL PANEL

**only for PF-SOF1-PRL & PF-SOF1,5-PRL**

☒ *The 2 Simplex systems, that make up a Duplex system, must be programmed individually; the program does NOT necessarily have to be the same on the 2 Simplex systems!*

1. Press the **scroll** ⏮ button and hold it for 6 sec until the display shows:

**System Check**

2. Within 10 sec, press the **up** ⬆ button; the display will show:

**Units: Metric**

- Press the **up** ⬆ or **down** ⬇ button to set the units of measure (Metric or US).

3. Press the **scroll** ⏮ button again; the display will show:

**MaintInt: 24mths**

- Press the **up** ⬆ or **down** ⬇ button to activate the maintenance reminder function by setting the maintenance interval, or deactivate the maintenance reminder function.

4. Press the **scroll** ⏮ button again; the display will show:

**ExCap: 5.5° f M3/L**

- Press the **up** ⬆ or **down** ⬇ button to set the exchange capacity per litre of resin.

5. Press the **scroll** ⏮ button again; the display will show:

**Age corr.: 2.0%**

- Press the **up** ⬆ or **down** ⬇ button to set the age correction factor (%/year) to compensate for capacity loss of the resin due to aging.

6. Press the **scroll** ⏮ button again; the display will show:

**Resin: XXX liters**

- Press the **up** ⬆ or **down** ⬇ button to set the volume of resin.

7. Press the **scroll** ⏮ button again; the display will show:

**Override: 7 days**

- Press the **up** ⬆ or **down** ⬇ button to set the number of days between regenerations.

8. Press the **scroll** ⏮ button again; the display will show:

**Cycle 1: XX min**

- Press the **up** ⬆ or **down** ⬇ button to set the length of the regeneration cycle.
- Press the **scroll** ⏮ button again to advance to the next regeneration cycle.

Cycle 1	Backwash
Cycle 2	Brine draw/slow rinse
Cycle 3	Fast rinse/brine tank refill (PF-SOF1) Fast rinse (PF-SOF1,5)
Cycle 4	Brine tank refill (PF-SOF1,5)

9. Press the **scroll** ⏮ button again; the display will show:

**Regen: Immediate**

- Press the **up** ⬆ or **down** ⬇ button to set the regeneration mode:
  - **Immediate**: when the remaining capacity equals 0, an immediate regeneration is started.  
**Note**: Delayed manual regeneration is not available when this regeneration mode is selected.
  - **Dlyd/Immd**: when the remaining capacity equals the reserve capacity, a delayed regeneration is started; however when the remaining capacity equals 0 before the programmed time of regeneration is reached, an immediate regeneration is started.
  - **Delayed**: when the remaining capacity equals the reserve capacity, a delayed regeneration at the programmed time of regeneration is started.

10. Press the **scroll** ⏮ button again; the display will show (only when the regeneration mode is set to 'Delayed' or 'Dlyd/Immd'):

**Regen @ 2:00**


- Press the **up** ⬆ or **down** ⬇ button to set the time of regeneration.

11. Press the **scroll** ⏮ button again; the display will show (only when the regeneration mode is set to 'Delayed' or 'Dlyd/Immd'):






**Rsrv Variable**


- Press the **up** ⬆ or **down** ⬇ button to set the reserve capacity:
  - **Variable**: the reserve capacity is calculated automatically, based on the registered daily water usage.
  - **Fxd**: press the **scroll** ⏮ button again and press the **up** ⬆ or **down** ⬇ button to set the reserve capacity to a fixed amount.

## ELECTRONIC CONTROL PANEL



12. Press the **scroll**  button again; the display will show:

**AUX2 : Regen**

- Press the **up**  or **down**  button to set *the function of auxilliary contact 2*:
  - **Regen**: aux. contact is powered during entire regeneration (does not include refill and brine preparation cycles!).
  - **Chlor.Cell**: aux. contact is powered at start of brine draw/slow rinse cycle. Press the **scroll**  button again and press the **up**  or **down**  button to set *the duration of activation of the chlorination cell*.
  - **Maintenance**: aux. contact is powered when Maintenance Reminder is triggered.
  - **Error**: aux. contact is powered when timer failure occurs.

13. Press the **scroll**  button again; the display will show:

**Exit**

- Press the **up**  or **down**  button to save the program into the NOVRAM® and exit the programming level.

14. Repeat steps 1-13 for both Simplex systems.



## DIAGNOSTICS MODE

- ☑ In the Diagnostics mode several operating parameters can be consulted; particularly during a service intervention, these parameters can be helpful to identify the cause of a problem or malfunction.
- ☑ Before entering the Diagnostics mode, make sure that the appliance is in service mode.
- ☑ In case no button is pressed in a period of 5 min, the control panel will automatically return to the service mode!

### Accessing the Diagnostics mode

1. Press the **scroll** ⤴ button and hold it for 6 sec until the display shows:

**System Check**

2. Within 10 sec, press the **down** ⬇ button; the display will show:

**Regen XXdays ago**

- You are now in the Diagnostics mode.
- Press the **scroll** ⤴ button to advance to the next diagnostics parameter.

### Available diagnostics parameters

- **Regen X days ago**: number of days since last regeneration.
- **In Srvc**: total number of days in service.
- **# of Regens**: number of regenerations since installation.
- **TotVol**: total volume of treated water since installation.
- **LastRgn@**: consumed capacity at last regeneration.
- **InstFlow**: instantaneous flow rate through appliance.
- **AvgVol**: calculated average daily water usage.
- **Capacity**: calculated capacity between regenerations.
- **Hardness**: setting of water hardness.
- **Rsrv**: setting of reserve capacity.
- **Regen @**: setting of time of regeneration.
- **Override**: setting of number of days between regenerations.
- **Cycle X**: setting of length of corresponding regeneration cycle.
- **Units**: control is programmed for Metric units.
- **MTR**: setting of the water meter.
- **Capacity**: control is programmed for hardness setting.
- **Regen**: setting of the regeneration mode.
- **Valve Type**: setting of valve type.
- **MP Resets**: number of resets of the microprocessor.
- **Memory Reset**: number of corrupt memory start-ups.
- **EZRSDg**: software version.
- **CapToUse**: remaining capacity.

### Exiting the Diagnostics mode

1. Press the **scroll** ⤴ button repeatedly until the display shows:

**Exit**

- Press the **up** ⬆ or **down** ⬇ button to exit the Diagnostics mode.

## MAINTENANCE

### RECOMMENDATION

Notwithstanding the reliability of the appliance, we strongly recommend to have it serviced and maintained on a regular basis by a competent and duly trained technician. He will be able to determine the appropriate maintenance interval for the appliance, depending on your specific application and the local operating conditions. The advantages of performing regular maintenance are:

- regular check of the local operating conditions (water quality, pressure, etc);
- regular control and adjustment of the settings of the appliance, to guarantee it operates at maximum efficiency;
- minimize the risk of unexpected break-down.

Contact your dealer or installer for more information, or visit our website.

### ROUTINE CHECKS

Regularly the user should perform a basic check to verify if the appliance is functioning correctly, on the basis of the following control points:

1. Check settings of electronic control panel.
2. Measure water hardness before/after appliance.
3. Check drain line from control valve; there shouldn't be any water flow (unless appliance is in regeneration).
4. Check drain line from brine tank overflow; there shouldn't be any water flow.
5. Check appliance and surrounding area; there shouldn't be any water leakages.

### BYPASSING THE APPLIANCE

Occasionally it may be necessary to put the appliance hydraulically in bypass, i.e. to isolate it from the water distribution system; f.e.:

- in case of an urgent technical problem;
- when it is not necessary to supply treated water to the application.

#### WITH FACTORY BYPASS (optional) (only for PF-SOF1)

#### Picture 15.a

##### SERVICE POSITION

- ❶ = inlet valve to appliance is OPEN
- ❷ = outlet valve from appliance is OPEN

#### Picture 15.b

##### BYPASS POSITION

- ❶ = inlet valve to appliance is CLOSED
- ❷ = outlet valve from appliance is CLOSED

#### Picture 15.c

##### MAINTENANCE POSITION

- ❶ = inlet valve to appliance is OPEN
- ❷ = outlet valve from appliance is CLOSED

### WATER CONDITIONER SALT

This appliance needs 'brine' for its periodic regenerations. This brine solution is made from water, that is automatically dosed in the brine tank by the control valve, and water conditioner salt. The user should make sure that the brine tank is always kept full of water conditioner salt. Therefore he should periodically check the salt level inside the brine tank and refill it if necessary. Simply lift the brine tank cover to check the salt level inside the brine tank.

Ideally the level of water conditioner salt inside the brine tank is kept between 1/3 and 2/3. A lower level of water conditioner salt can cause insufficient brine saturation, resulting in a loss of softening capacity. A higher level of water conditioner salt can cause salt bridging (hard crust or salt bridges in the brine tank). When you suspect salt bridging:

- carefully pound on the outside of the brine tank to break loose the salt bridges;
- using a broom (or like blunt tool) carefully push the salt to break it apart;
- pour warm water over the top of the salt to dissolve it.

### RESIN CLEANER

Other contaminants (f.e. iron) present in the feed water can cause the resin bed to foul up, resulting in a loss of softening capacity. An approved resin cleaner can be used periodically to thoroughly clean the resin bed.

### SANITIZING THE APPLIANCE

This appliance is manufactured from premium quality material and assembled in safe conditions to assure it is clean and sanitary. If installed and serviced correctly, this appliance will not infect or contaminate your water supply. However, as in any 'device' plumbed-in in your water distribution system, a proliferation of bacteria is possible, especially in case of 'stagnant water'. Therefore this appliance is equipped with a 'days override' feature, that will automatically rinse the resin bed periodically, even in case of low or absence of water usage.

If the power supply to the appliance is disconnected for a longer period of time, we recommend, when the power supply is re-established, to manually initiate a complete regeneration.

### NORMALLY CLOSED SERVICE VALVES (only for PF-SOF1-ALT & PF-SOF1,5-ALT)

#### Picture 16

- ❶ = automatically operated = normally closed
- ❷ = manually operated = constantly open

The Normally Closed Service Valve in the outlet of each Simplex system will only be opened when it is powered. To manually open the Normally Closed Service Valve (f.e. in case of a power failure), simply turn the white solenoid coil counter clockwise.



## TROUBLESHOOTING

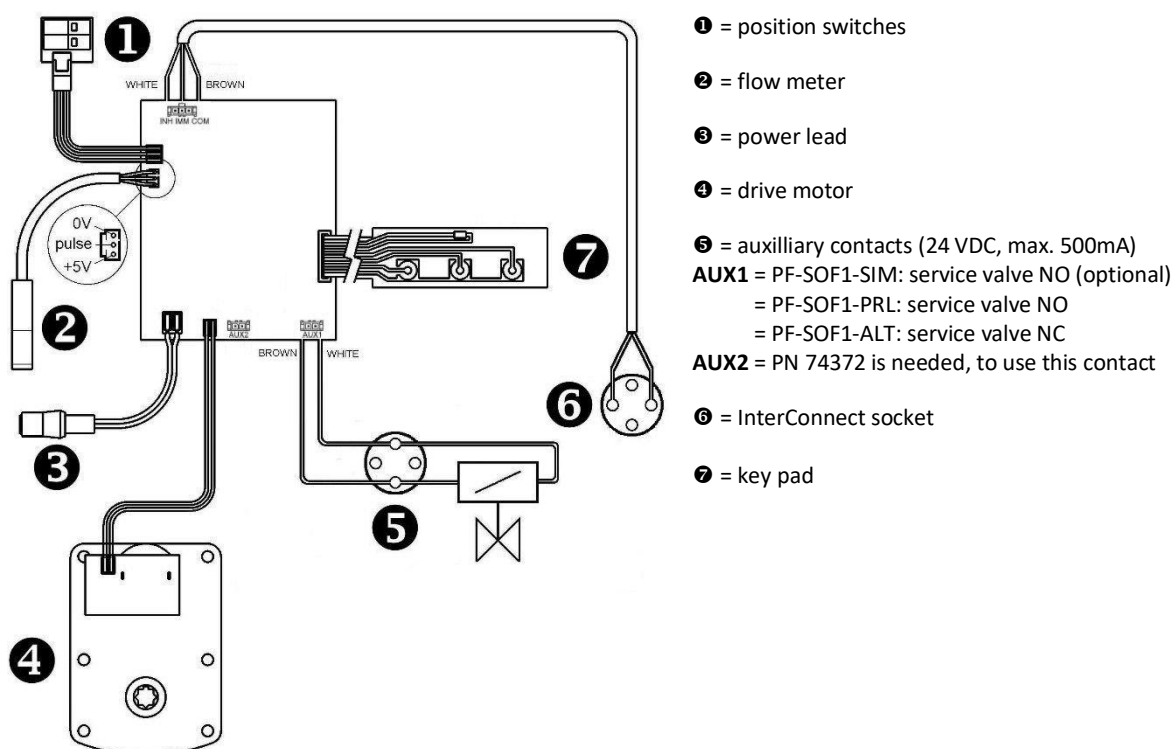
PROBLEM	CAUSE	SOLUTION
<b>Hard (untreated) water to service</b>	Open or defective bypass	Close or replace bypass
	<i>Simplex only:</i> appliance in regeneration	Wait until regeneration finishes or manually advance regeneration to end
	<i>Duplex only:</i> one of the Simplex systems in regeneration and Service Valve not closing off properly	Refer to problem "Service Valve not closing off properly"
	No salt in brine tank	Add salt and initiate regeneration manually
	Salt bridging in brine tank	Break salt bridge(s) and initiate regeneration manually
	Change in raw water hardness	Measure hardness of incoming untreated water and adjust programming accordingly
	Appliance fails to start a regeneration	Refer to problem "Appliance fails to start a regeneration"
	<i>PF-SOF1 only:</i> valve body and timer out of synchronisation	Synchronise valve body and timer
	Control valve fails to draw brine	Refer to problem "Valve fails to draw brine"
	Decreasing exchange capacity of resin	Clean or replace resin bed
	Loss of resin	Refer to problem "Loss of resin"
	Leak at riser tube	Verify that riser tube is seated correctly and is not cracked
<b>Residual hardness in treated water</b>	Bypass not completely closed	Close bypass
	<i>PF-SOF1 only:</i> mixing valve open	Verify setting of mixing valve
<b>Appliance fails to start a regeneration</b>	Faulty electrical supply	Verify electrical service (fuse, transformer,...)
	Defective flow meter	Clean and/or replace flow meter
	Defective PCB	Replace PCB
	Defective drive motor	Replace drive motor
<b>Appliance uses too much salt</b>	Excessive water in brine tank	Refer to problem "Excessive water in brine tank"
	Appliance regenerates too frequently	Verify program
<b>Excessive water in brine tank</b>	Control valve fails to draw brine	Refer to problem "Control valve fails to draw brine"
	Improper refill time setting	Verify that refill time corresponds to the proper salt level and amount of resin
	Missing refill flow control	Verify that refill flow control is installed and properly sized
	Leak from control valve to brine tank	<i>PF-SOF1 only:</i> check synchronisation between valve body and timer <i>PF-SOF1,5 only:</i> check brine line shut-off valve of valve body
<b>Salt taste in treated water</b>	Excessive water in brine tank	Refer to problem "Excessive water in brine tank"
	Injector undersized	Verify injector selection and operating pressure
	Improper brine/slow rinse time setting	Verify that brine/slow rinse time corresponds to the proper salt level and amount of resin
<b>Loss of water pressure</b>	Mineral or iron build-up in resin tank	Clean resin bed and control valve; increase regeneration frequency
	Plugged lower and/or upper distributor	Verify that distributors are free of debris
<b>Drain line from control valve flows continuously</b>	Appliance in regeneration	Wait until regeneration finishes or manually advance regeneration to end
	Faulty electrical supply	Verify electrical service (fuse, transformer,...)
	Defective drive motor	Replace drive motor
	<i>PF-SOF1 only:</i> defective micro switch	Replace micro switches
	<i>PF-SOF1,5 only:</i> defective optical switch	Replace optical switch
	Defective PCB	Replace PCB
	<i>PF-SOF1 only:</i> valve body and timer out of synchronisation	Synchronise valve body and timer
<b>Drain line from brine tank overflow flows continuously</b>	Excessive water in brine tank	Refer to problem "Excessive water in brine tank"

## TROUBLESHOOTING

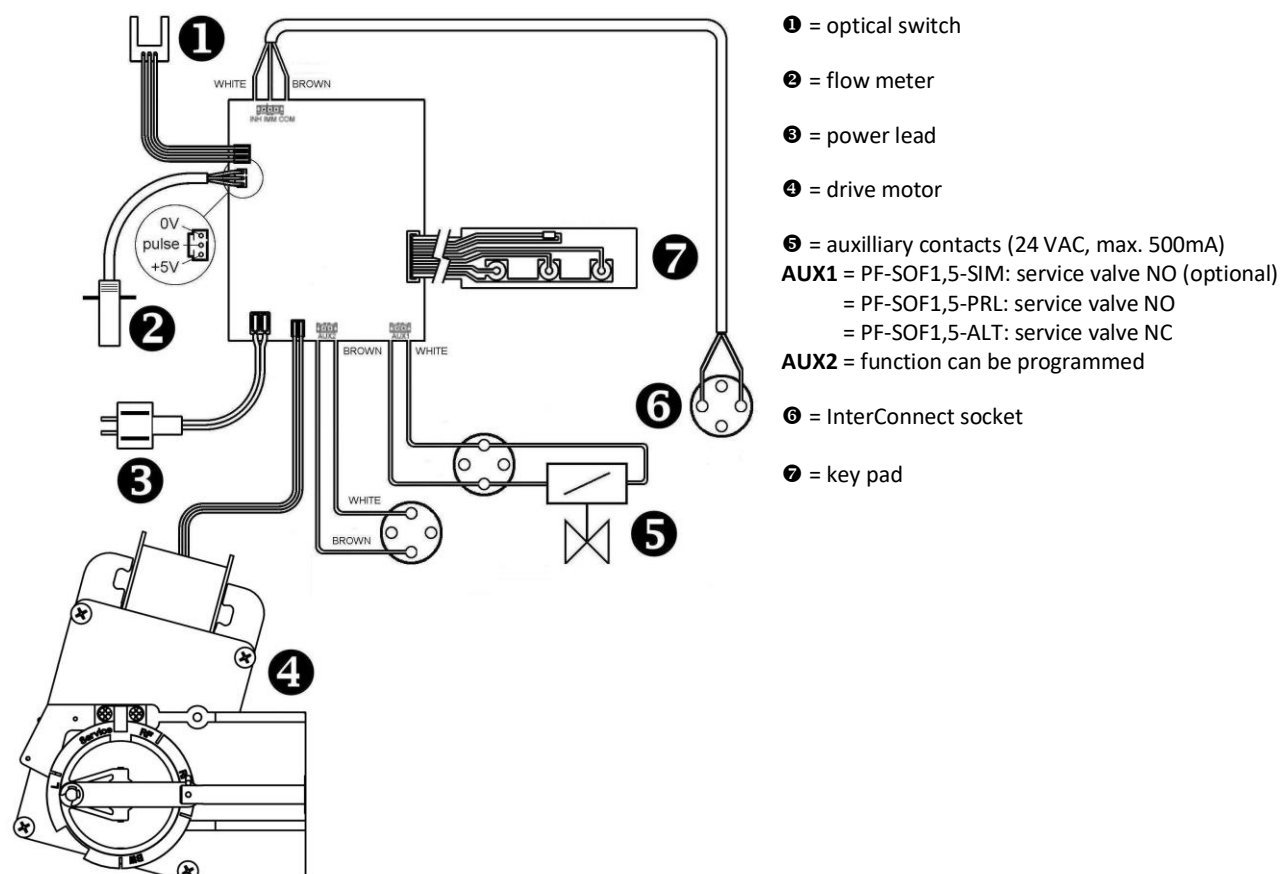
PROBLEM	CAUSE	SOLUTION
<b>Control valve fails to refill brine tank</b>	Improper refill time setting	Verify that refill time corresponds to salt level and amount of resin
	Plugged refill flow control	Clean refill flow control
<b>Loss of resin</b>	Lower and/or upper distributor damaged	Replace distributor(s)
	Leak between riser tube and upper distributor	Verify that riser tube is seated correctly and is not cracked
<b>Control valve fails to draw brine</b>	Low operating pressure	Check operating pressure; must be higher than 1,4 bar
	Plugged injector	Clean injector
	Restricted drain line	Verify drain line for kinks or restrictions
	Restricted brine line	Verify brine line for kinks or restrictions
	Leak in brine line	Verify brine line and connections for air leakage
	No water in brine tank	Refer to problem "Control valve fails to refill brine tank"
<b>Control valve cycles continuously</b>	<i>PF-SOF1 only</i> : defective micro switch	Replace micro switches
	<i>PF-SOF1,5 only</i> : defective optical switch	Replace optical switch
<b>Duplex Parallel: both Simplex systems regenerate simultaneously</b>	InterConnect communication does not function correctly	Check connections of InterConnect cable(s)
	Defective PCB	Replace PCB
<b>Duplex Alternating: both Simplex systems are in service simultaneously</b>	InterConnect communication does not function correctly	Check connections of InterConnect cable
	Defective PCB	Replace PCB
	Defective Service Valve	Replace Service Valve

# ELECTRICAL WIRING DIAGRAMS

## PF-SOF1



## PF-SOF1,5





## DEFAULT CONFIGURATION PARAMETER SETTINGS - PF-SOF1

Model	PF-SOF1-SIM				
Resin	25	50	75	100	150
MaintInt (mths)	24	24	24	24	24
Exchange capacity per liter resin (°f M <sup>3</sup> /L) <sup>(1) (2)</sup>	5,5	5,5	5,5	5,5	5,5
Age correction (%)	2,0	2,0	2,0	2,0	2,0
Resin (liters)	25	50	75	100	150
Override (days)	7	7	7	7	7
Cycle 1: BACKWASH (min)	5	5	5	5	5
Cycle 2: BRINE DRAW/SLOW RINSE (min)	48	76	104	77	87
Cycle 3: FAST RINSE/REFILL (min) <sup>(2)</sup>	6	6	9	12	17
Regen	Dlyd/Immd	Dlyd/Immd	Dlyd/Immd	Dlyd/Immd	Dlyd/Immd
Regen @	2:00	2:00	2:00	2:00	2:00
Rsrv	Variable	Variable	Variable	Variable	Variable
Auxilliary contact 2 (PN 74372 is needed)	Regen	Regen	Regen	Regen	Regen

(1) When the Hardness Unit is changed in the Basic Settings, the Exchange capacity per liter resin is automatically converted to the new Hardness Unit.

(2) When the Exchange capacity per liter resin is changed, the refill cycle time needs to be adjusted accordingly.

Model	PF-SOF1-ALT				
Resin	25	50	75	100	150
MaintInt (mths)	24	24	24	24	24
Exchange capacity per liter resin (°f M <sup>3</sup> /L) <sup>(1) (2)</sup>	5,5	5,5	5,5	5,5	5,5
Age correction (%)	2,0	2,0	2,0	2,0	2,0
Resin (liters)	25	50	75	100	150
Override (days)	7	7	7	7	7
Cycle 1: BACKWASH (min)	5	5	5	5	5
Cycle 2: BRINE DRAW/SLOW RINSE (min)	48	76	104	77	87
Cycle 3: FAST RINSE/REFILL (min) <sup>(2)</sup>	6	6	9	12	17
Auxilliary contact 2 (PN 74372 is needed)	Regen	Regen	Regen	Regen	Regen

(1) When the Hardness Unit is changed in the Basic Settings, the Exchange capacity per liter resin is automatically converted to the new Hardness Unit.

(2) When the Exchange capacity per liter resin is changed, the refill cycle time needs to be adjusted accordingly.

Model	PF-SOF1-PRL				
Resin	25	50	75	100	150
MaintInt (mths)	24	24	24	24	24
Exchange capacity per liter resin (°f M <sup>3</sup> /L) <sup>(1) (2)</sup>	5,5	5,5	5,5	5,5	5,5
Age correction (%)	2,0	2,0	2,0	2,0	2,0
Resin (liters)	25	50	75	100	150
Override (days)	7	7	7	7	7
Cycle 1: BACKWASH (min)	5	5	5	5	5
Cycle 2: BRINE DRAW/SLOW RINSE (min)	48	76	104	77	87
Cycle 3: FAST RINSE/REFILL (min) <sup>(2)</sup>	6	6	9	12	17
Regen	Immediate	Immediate	Immediate	Immediate	Immediate
Auxilliary contact 2 (PN 74372 is needed)	Regen	Regen	Regen	Regen	Regen

(1) When the Hardness Unit is changed in the Basic Settings, the Exchange capacity per liter resin is automatically converted to the new Hardness Unit.

(2) When the Exchange capacity per liter resin is changed, the refill cycle time needs to be adjusted accordingly.



## DEFAULT CONFIGURATION PARAMETER SETTINGS - PF-SOF1,5

Model	PF-SOF1,5-SIM						
Resin	75	100	150	200	250	350	500
Units	Metric	Metric	Metric	Metric	Metric	Metric	Metric
MaintInt (mths)	24	24	24	24	24	24	24
Exchange capacity per liter resin (°f M <sup>3</sup> /L) <sup>(1)(2)</sup>	5,5	5,5	5,5	5,5	5,5	5,5	5,5
Age correction (%)	2,0	2,0	2,0	2,0	2,0	2,0	2,0
Resin (liters)	75	100	150	200	250	350	500
Override (days)	7	7	7	7	7	7	7
Cycle 1: BACKWASH (min)	5	5	5	5	5	5	5
Cycle 2: BRINE DRAW/SLOW RINSE (min)	43	39	58	42	53	62	88
Cycle 3: FAST RINSE (min) <sup>(2)</sup>	11	14	17	16	16	13	14
Cycle 4: REFILL (min)	5	7	10	8	10	14	20
Regen	Dlyd/Immd	Dlyd/Immd	Dlyd/Immd	Dlyd/Immd	Dlyd/Immd	Dlyd/Immd	Dlyd/Immd
Regen @	2:00	2:00	2:00	2:00	2:00	2:00	2:00
Rsrv	Variable	Variable	Variable	Variable	Variable	Variable	Variable
Auxilliary contact 2	Regen	Regen	Regen	Regen	Regen	Regen	Regen

(1) When the Hardness Unit is changed in the Basic Settings, the Exchange capacity per liter resin is automatically converted to the new Hardness Unit.

(2) When the Exchange capacity per liter resin is changed, the refill cycle time needs to be adjusted accordingly.

Model	PF-SOF1,5-ALT						
Resin	75	100	150	200	250	350	500
Units	Metric	Metric	Metric	Metric	Metric	Metric	Metric
MaintInt (mths)	24	24	24	24	24	24	24
Exchange capacity per liter resin (°f M <sup>3</sup> /L) <sup>(1)(2)</sup>	5,5	5,5	5,5	5,5	5,5	5,5	5,5
Age correction (%)	2,0	2,0	2,0	2,0	2,0	2,0	2,0
Resin (liters)	75	100	150	200	250	350	500
Override (days)	7	7	7	7	7	7	7
Cycle 1: BACKWASH (min)	5	5	5	5	5	5	5
Cycle 2: BRINE DRAW/SLOW RINSE (min)	43	39	58	42	53	62	88
Cycle 3: FAST RINSE (min) <sup>(2)</sup>	11	14	17	16	16	13	14
Cycle 4: REFILL (min)	5	7	10	8	10	14	20
Auxilliary contact 2	Regen	Regen	Regen	Regen	Regen	Regen	Regen

(1) When the Hardness Unit is changed in the Basic Settings, the Exchange capacity per liter resin is automatically converted to the new Hardness Unit.

(2) When the Exchange capacity per liter resin is changed, the refill cycle time needs to be adjusted accordingly.

Model	PF-SOF1,5-PRL						
Resin	75	100	150	200	250	350	500
Units	Metric	Metric	Metric	Metric	Metric	Metric	Metric
MaintInt (mths)	24	24	24	24	24	24	24
Exchange capacity per liter resin (°f M <sup>3</sup> /L) <sup>(1)(2)</sup>	5,5	5,5	5,5	5,5	5,5	5,5	5,5
Age correction (%)	2,0	2,0	2,0	2,0	2,0	2,0	2,0
Resin (liters)	75	100	150	200	250	350	500
Override (days)	7	7	7	7	7	7	7
Cycle 1: BACKWASH (min)	5	5	5	5	5	5	5
Cycle 2: BRINE DRAW/SLOW RINSE (min)	43	39	58	42	53	62	88
Cycle 3: FAST RINSE (min) <sup>(2)</sup>	11	14	17	16	16	13	14
Cycle 4: REFILL (min)	5	7	10	8	10	14	20
Regen	Immediate	Immediate	Immediate	Immediate	Immediate	Immediate	Immediate
Auxilliary contact 2	Regen	Regen	Regen	Regen	Regen	Regen	Regen

(1) When the Hardness Unit is changed in the Basic Settings, the Exchange capacity per liter resin is automatically converted to the new Hardness Unit.

(2) When the Exchange capacity per liter resin is changed, the refill cycle time needs to be adjusted accordingly.

## COMPOSITION OVERVIEW

Model	Resin volume	PN	Control valve, incl. transformer, 1" BSP Male connections		InterConnect cable	Service Valve 1" BSP Female		Pressure tank, incl. distributor assy		Resin (25 ltr bag)
	ltr		model	#		model	#	model	#	
PF-SOF1-SIM	25	35810	2400VS/J4JB/PRL1	1	0	/	0	10x35	1	1
	50	35811	2400VS/J1KD/PRL1	1	0	/	0	12x48	1	2
	75	35812	2400VS/J1LD/PRL1	1	0	/	0	13x54	1	3
	100	35813	2400VS/J2MD/PRL1	1	0	/	0	14x65	1	4
	150	35814	2400VS/J2ND/PRL1	1	0	/	0	16x65	1	6
PF-SOF1-ALT	2 x 25	35815	2400VS/J4JB/ALT	2	1	NC <sup>(1)</sup>	2	10x35	2	2
	2 x 50	35816	2400VS/J1KD/ALT	2	1	NC <sup>(1)</sup>	2	12x48	2	4
	2 x 75	35817	2400VS/J1LD/ALT	2	1	NC <sup>(1)</sup>	2	13x54	2	6
	2 x 100	35818	2400VS/J2MD/ALT	2	1	NC <sup>(1)</sup>	2	14x65	2	8
	2 x 150	35819	2400VS/J2ND/ALT	2	1	NC <sup>(1)</sup>	2	16x65	2	12
PF-SOF1-PRL	2 x 25	35820	2400VS/J4JB/PRL1	2	1	NO <sup>(2)</sup>	2	10x35	2	2
	2 x 50	35821	2400VS/J1KD/PRL1	2	1	NO <sup>(2)</sup>	2	12x48	2	4
	2 x 75	35822	2400VS/J1LD/PRL1	2	1	NO <sup>(2)</sup>	2	13x54	2	6
	2 x 100	35823	2400VS/J2MD/PRL1	2	1	NO <sup>(2)</sup>	2	14x65	2	8
	2 x 150	35824	2400VS/J2ND/PRL1	2	1	NO <sup>(2)</sup>	2	16x65	2	12

(1) NC = Normally Closed

(2) NO = Normally Open

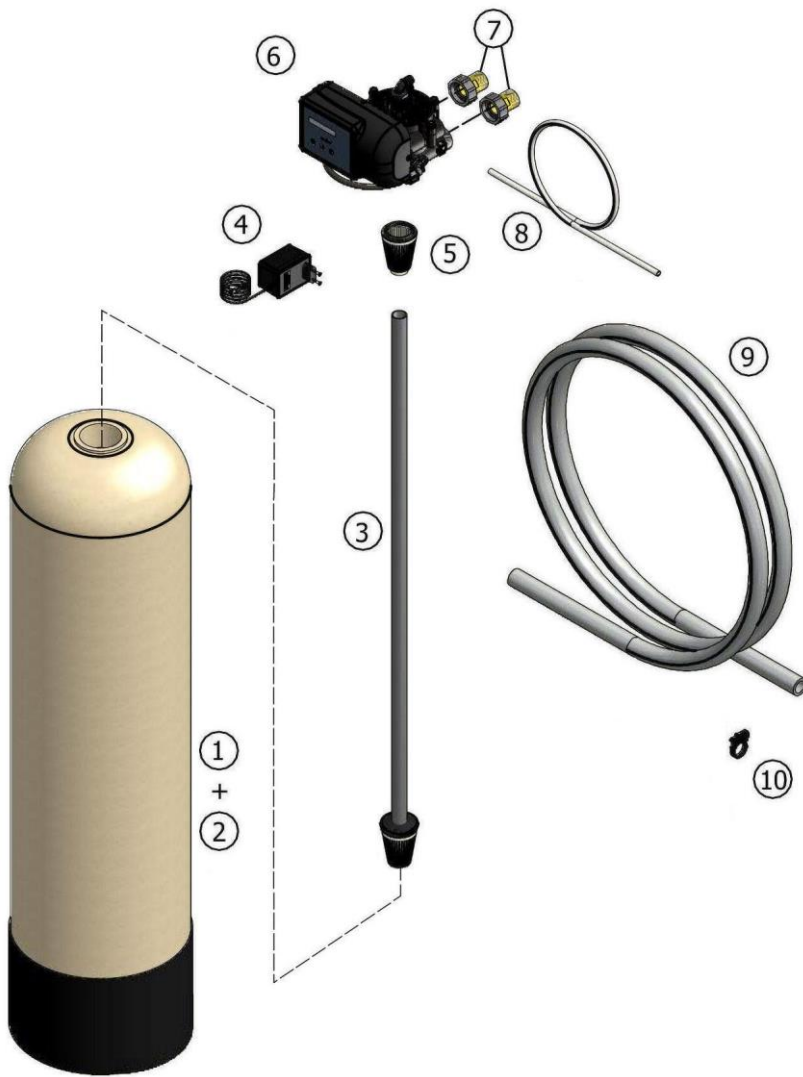
Model	Resin volume	PN	Control valve, incl. transformer, flow meter, 1,5" BSP Male connections		InterConnect cable	Service Valve 1,5" BSP Female		Pressure tank, incl. distributor assy		Resin (25 ltr bag)
	ltr		model	#		Model	#	model	#	
PF-SOF1,5-SIM	75	35825	EV1.5VS/J/5A/40/12	1	0	/	0	13x54	1	3
	100	35826	EV1.5VS/J/5A/50/12	1	0	/	0	14x65	1	4
	150	35827	EV1.5VS/J/5A/60/12	1	0	/	0	16x65	1	6
	200	35828	EV1.5VS/J/5/80/20	1	0	/	0	18x65	1	8
	250	35829	EV1.5VS/J/5/100/20	1	0	/	0	21x62	1	10
	350	35830	EV1.5VS/J/6/150/20	1	0	/	0	24x72	1	14
	500	35831	EV1.5VS/J/6/200/20	1	0	/	0	30x72	1	20
PF-SOF1,5-ALT	2 x 75	35832	EV1.5VS/J/5A/40/12/ALT	2	1	NC <sup>(1)</sup>	2	13x54	2	6
	2 x 100	35833	EV1.5VS/J/5A/50/12/ALT	2	1	NC <sup>(1)</sup>	2	14x65	2	8
	2 x 150	35834	EV1.5VS/J/5A/60/12/ALT	2	1	NC <sup>(1)</sup>	2	16x65	2	12
	2 x 200	35835	EV1.5VS/J/5/80/20/ALT	2	1	NC <sup>(1)</sup>	2	18x65	2	16
	2 x 250	35836	EV1.5VS/J/5/100/20/ALT	2	1	NC <sup>(1)</sup>	2	21x62	2	20
	2 x 350	35837	EV1.5VS/J/6/150/20/ALT	2	1	NC <sup>(1)</sup>	2	24x72	2	28
	2 x 500	35838	EV1.5VS/J/6/200/20/ALT	2	1	NC <sup>(1)</sup>	2	30x72	2	40
PF-SOF1,5-PRL	2 x 75	35839	EV1.5VS/J/5A/40/12	2	1	NO <sup>(2)</sup>	2	13x54	2	6
	2 x 100	35840	EV1.5VS/J/5A/50/12	2	1	NO <sup>(2)</sup>	2	14x65	2	8
	2 x 150	35841	EV1.5VS/J/5A/60/12	2	1	NO <sup>(2)</sup>	2	16x65	2	12
	2 x 200	35842	EV1.5VS/J/5/80/20	2	1	NO <sup>(2)</sup>	2	18x65	2	16
	2 x 250	35843	EV1.5VS/J/5/100/20	2	1	NO <sup>(2)</sup>	2	21x62	2	20
	2 x 350	35844	EV1.5VS/J/6/150/20	2	1	NO <sup>(2)</sup>	2	24x72	2	28
	2 x 500	35845	EV1.5VS/J/6/200/20	2	1	NO <sup>(2)</sup>	2	30x72	2	40

(1) NC = Normally Closed

(2) NO = Normally Open



## EXPLODED VIEW - PF-SOF1-SIM



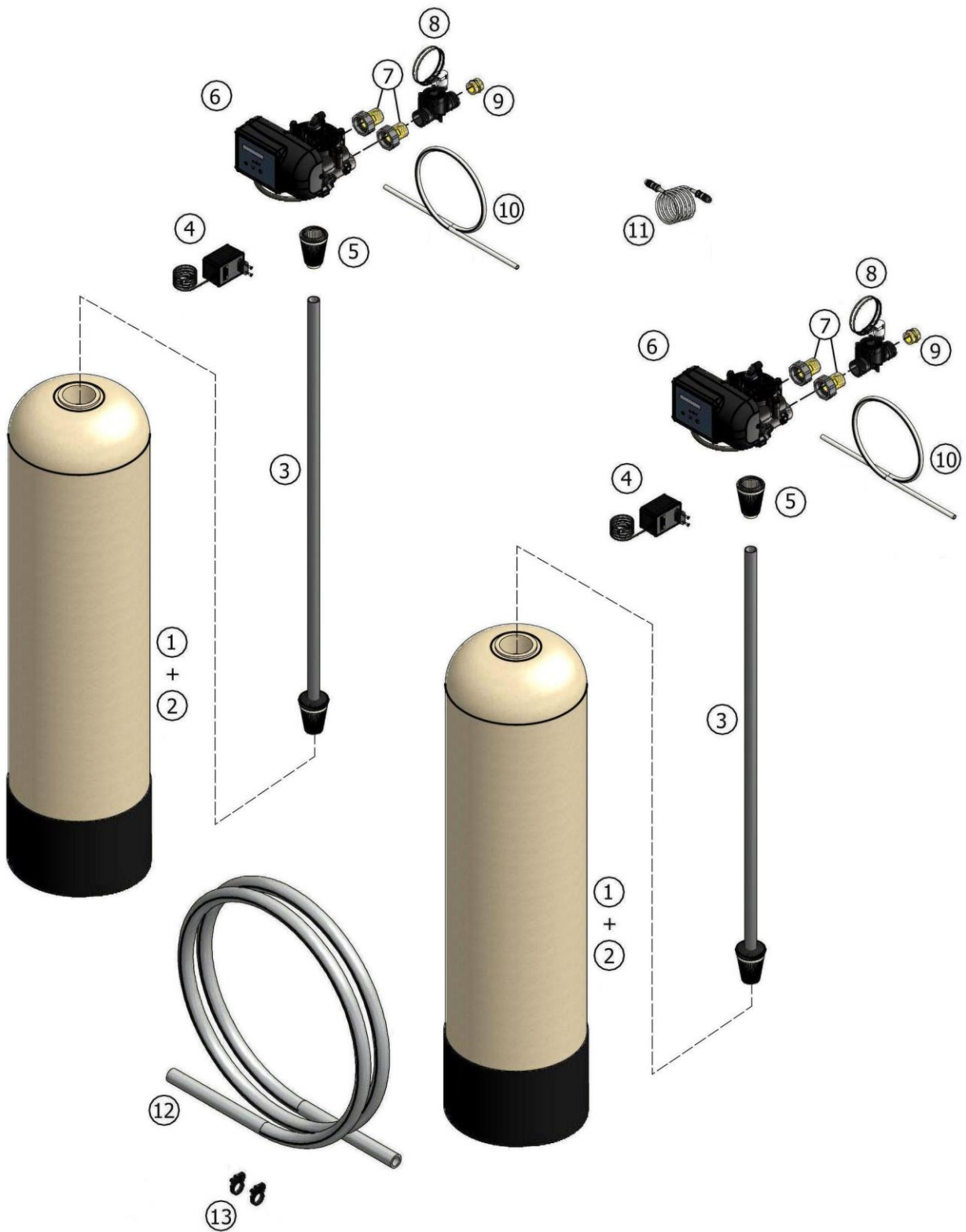
## EXPLODED VIEW - PF-SOF1-SIM

Item	PN	Description	Remark	(*)
1	PT/1035/BA	Pressure tank 10x35	25 Ltr	✓
	PT/1248/BA	Pressure tank 12x48	50 Ltr	✓
	PT/1354/BA	Pressure tank 13x54	75 Ltr	✓
	PT/1465/BA	Pressure tank 14x65	100 Ltr	✓
	PT/1665/BA	Pressure tank 16x65	150 Ltr	✓
2	E8000	Softening resin	multiple of 25 Ltr	✓
3	38534	Riser tube assembly	to be cut to length, 20mm below pressure tank opening	✓
4	74312	Transformer 100-230/24 VDC - 50 Hz, 24VA, EuroT plug		✓
	74313	Transformer 100-230/24 VDC - 50 Hz, 24VA, UK plug		✓
5	287/166	Top distributor		✓
6	2400VS/J4JB/PRL1	Control valve (**)	25 Ltr	
	2400VS/J1KD/PRL1	Control valve (**)	50 Ltr	
	2400VS/J1LD/PRL1	Control valve (**)	75 Ltr	
	2400VS/J2MD/PRL1	Control valve (**)	100 Ltr	
	2400VS/J2ND/PRL1	Control valve (**)	150 Ltr	
7	568/303/1	Connection kit 1" BSP male		✓
8	H1015/2	Brine line polytube	to be ordered per meter	✓
9	39132	Drain hose 19x26 mm	3 mtr	✓
	39133		5 mtr	
10	39124	Clamp, drain hose 19 mm		

(\*) Recommended Spare Part

(\*\*) Optional Wi-Fi available

## EXPLODED VIEW - PF-SOF1-ALT & PF-SOF1-PRL



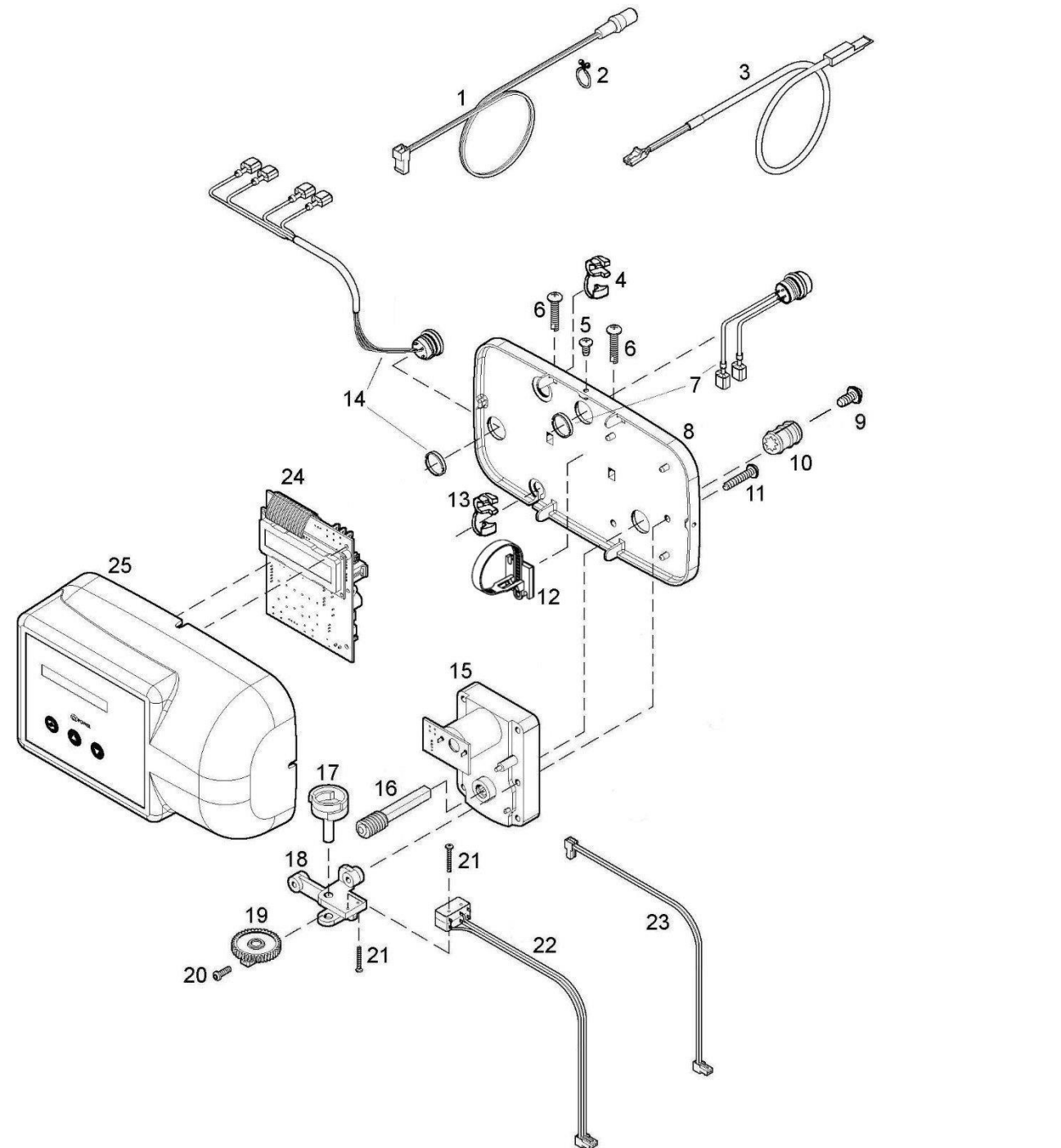
## EXPLODED VIEW - PF-SOF1-ALT & PF-SOF1-PRL

Item	PN	Description	Remark	(*)
1	PT/1035/BA	Pressure tank 10x35	25 Ltr	✓
	PT/1248/BA	Pressure tank 12x48	50 Ltr	✓
	PT/1354/BA	Pressure tank 13x54	75 Ltr	✓
	PT/1465/BA	Pressure tank 14x65	100 Ltr	✓
	PT/1665/BA	Pressure tank 16x65	150 Ltr	✓
2	E8000	Softening resin	multiple of 25 ltr	✓
3	38534	Riser tube assembly	to be cut to length, 20mm below pressure tank opening	✓
4	74312	Transformer 100-230/24 VDC - 50 Hz, 24VA, EuroT plug		✓
	74313	Transformer 100-230/24 VDC - 50 Hz, 24VA, UK plug		✓
5	287/166	Top distributor		✓
6	2400VS/J4JB/ALT	Control valve for Duplex Alternating (**)	PF-SOF1-ALT-25 Ltr	
	2400VS/J1KD/ALT	Control valve for Duplex Alternating (**)	PF-SOF1-ALT-50 Ltr	
	2400VS/J1LD/ALT	Control valve for Duplex Alternating (**)	PF-SOF1-ALT-75 Ltr	
	2400VS/J2MD/ALT	Control valve for Duplex Alternating (**)	PF-SOF1-ALT-100 Ltr	
	2400VS/J2ND/ALT	Control valve for Duplex Alternating (**)	PF-SOF1-ALT-150 Ltr	
	2400VS/J4JB/PRL1	Control valve for Duplex Parallel (**)	PF-SOF1-PRL-25 Ltr	
	2400VS/J1KD/PRL1	Control valve for Duplex Parallel (**)	PF-SOF1-PRL-50 Ltr	
	2400VS/J1LD/PRL1	Control valve for Duplex Parallel (**)	PF-SOF1-PRL-75 Ltr	
	2400VS/J2MD/PRL1	Control valve for Duplex Parallel (**)	PF-SOF1-PRL-100 Ltr	
	2400VS/J2ND/PRL1	Control valve for Duplex Parallel (**)	PF-SOF1-PRL-150 Ltr	
7	568/303/1	Connection kit 1" BSP male		✓
8	74369	Service valve, Normally Closed - 24 VDC	PF-SOF1-ALT	✓
	74368	Service valve, Normally Open - 24 VDC	PF-SOF1-PRL	✓
9	74089	Brass adaptor 1" male		
10	H1015/2	Brine line polytube	to be ordered per meter	✓
11	74069	InterConnect cable		✓
12	39132	Drain hose 19x26 mm	3 mtr	✓
	39133		5 mtr	
13	39137	Clamp, drain hose 19 mm (2x)		

(\*) Recommended Spare Part

(\*\*) Optional Wi-Fi available

## EXPLODED VIEW - PF-SOF1 - TIMER ASSEMBLY



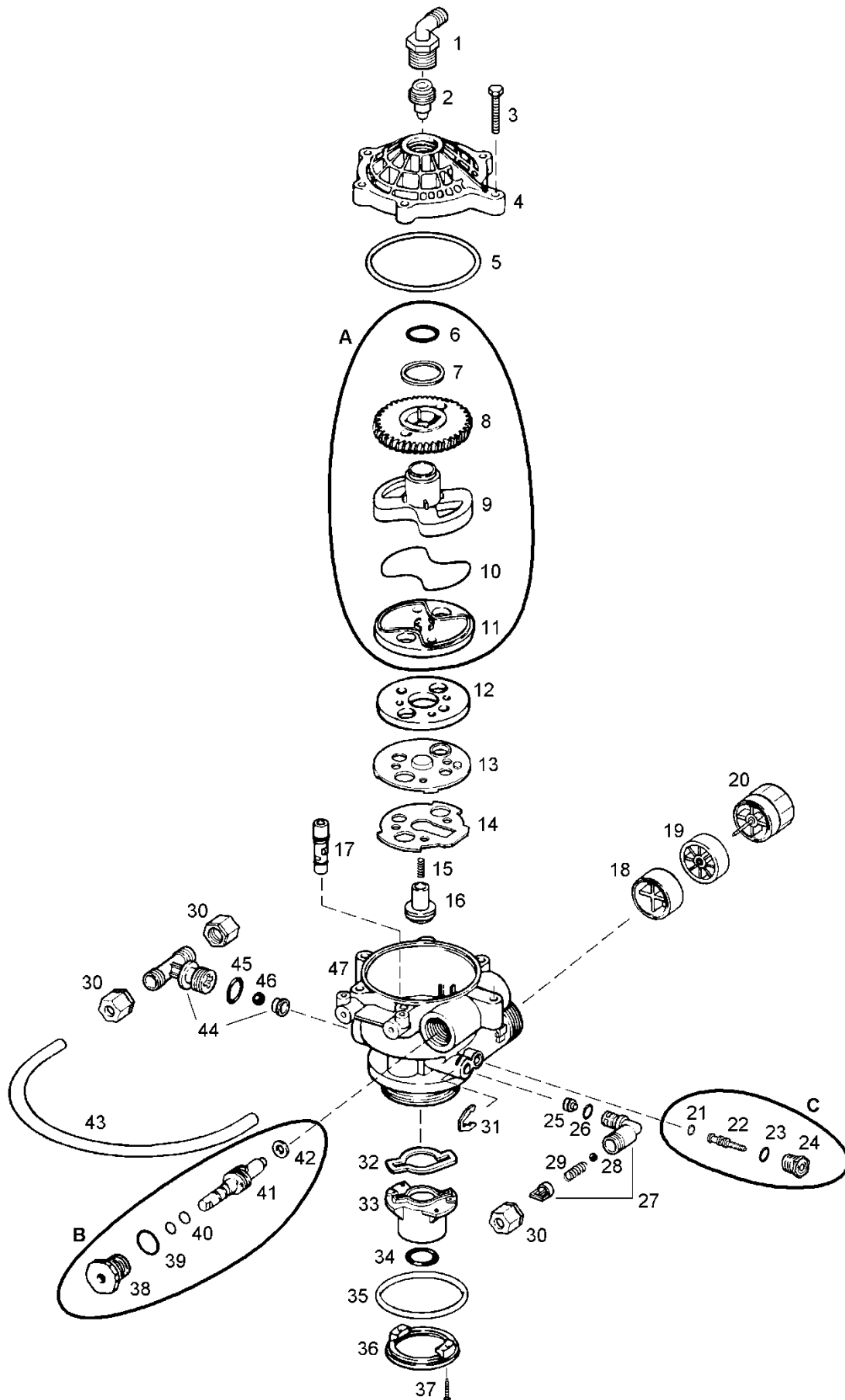


## EXPLODED VIEW - PF-SOF1 - TIMER ASSEMBLY

Item	PN	Description	Remark	(*)
1	74307	Power lead with plug		✓
2	72263	Clamp		
3	72519	Flow meter cable		✓
4	28/8/7	Strain relief, flow meter cable		
5	71502	Screw, timer cover (3x)		
6	15/222	Screw, back plate (2x)		
7	74367	Socket and cable assembly, Service Valve - 24 VDC		
8	72369	Back plate		
9	15/102	Screw, worm coupling	Incl. in repair kit A	
10	75157	Worm coupling	Incl. in repair kit A	✓
11	15/222	Screw, drive motor assembly (2x)		
12	74267	Cable clamp		
13	70312	Strain relief, power lead		
14	74370	Socket & cable assembly, InterConnect - 24 VDC		
15	72261	Drive motor		✓
16	75156	Worm drive shaft	Incl. in repair kit A	✓
17	70965	Switch cam		
18	568/386	Bracket, micro switches		
19	568/310	Gear, switch cam		
20	15/184/7	Locking screw, switch cam		
21	15/173/12	Screw, micro switches (2x)		
22	72451	Micro switch assy		✓
23	71679	Cable set, drive motor		✓
24	74412	Printed Circuit Board, Alternating - Wi-Fi enabled - 24 VDC	PF-SOF1-ALT	✓
	74410	Printed Circuit Board, Simplex & Parallel - Wi-Fi enabled - 24VDC	PF-SOF1-SIM & PF-SOF1-PRL	✓
	74357	Printed Circuit Board, Alternating - 24 VDC	PF-SOF1-ALT	✓
	74354	Printed Circuit Board, Simplex & Parallel - 24VDC	PF-SOF1-SIM & PF-SOF1-PRL	✓
25	72614	Timer cover assembly		
A	RK/75157	Repair kit worm coupling and worm drive shaft		✓

(\*) Recommended Spare Part

# EXPLODED VIEW - PF-SOF1 - VALVE BODY

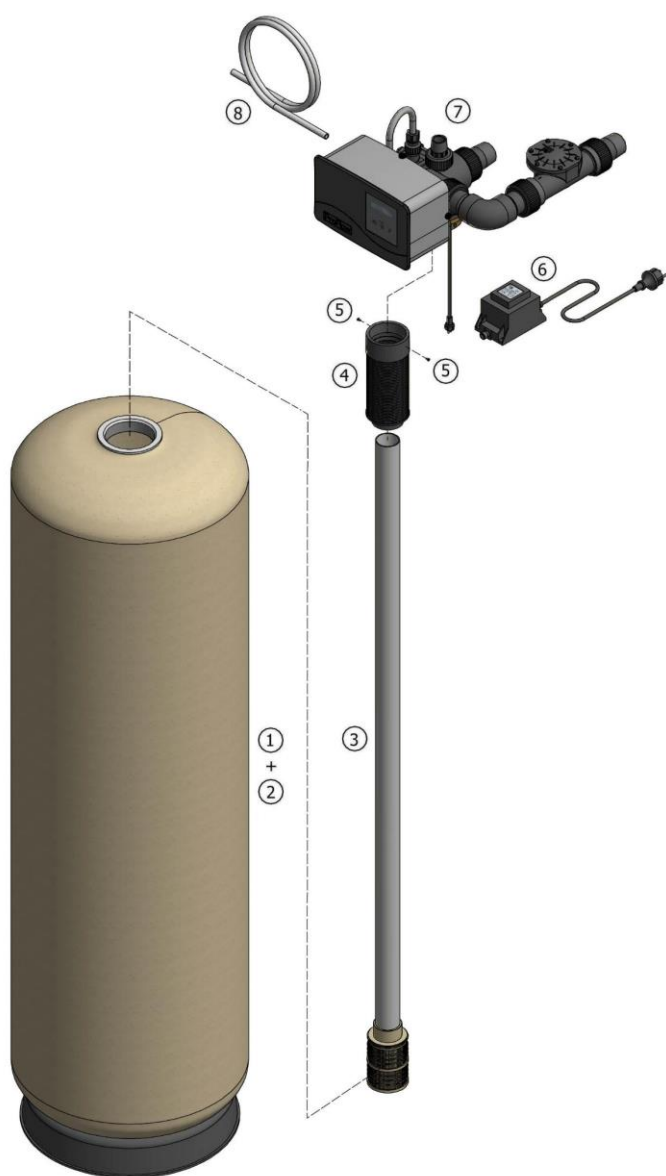


## EXPLODED VIEW - PF-SOF1 - VALVE BODY

Item	PN	Description	Remark	(*)
1	39121	Drain elbow 19 mm		✓
2	568/271/J 568/271/K 568/271/L 568/271/M 568/271/N	Drain Line Flow Control J (9,8 Ltr/min) Drain Line Flow Control K (13,2 Ltr/min) Drain Line Flow Control L (15,1 Ltr/min) Drain Line Flow Control M (18,9 Ltr/min) Drain Line Flow Control N (22,7 Ltr/min)	25 Ltr 50 Ltr 75 Ltr 100 Ltr 150 Ltr	
3	72678	Bolt, valve cover (6x)		
4	568/254/3	Valve cover		
5	185/154/1	O-ring, valve cover		
6	186/112	O-ring, Teflon		
7	72327	Washer, PE		
8	568/260	Worm gear		
9	568/259	Rotor cam		
10	185/041/1	O-ring, rotor		
11	568/345/2	Rotor plate		✓
12	568/256	Seal disk		✓
13	568/383	Insert plate		
14	568/384	Gasket		
15	51/5/105	Spring, float valve		
16	568/270/4	Float valve		
17	568/274/4 568/274/1 568/274/2	Injector (purple) Injector (red) Injector (yellow)	25 Ltr 50 Ltr, 75 Ltr 100 Ltr, 150 Ltr	
18	72458	Diffuser, impeller	Eco	
19	72544	Impeller	Eco	✓
20	72545	Hub, impeller	Eco	
21	185/007/6	O-ring, mixing valve		
22	568/406	Mixing valve		
23	186/118	O-ring, sleeve		
24	568/407/L	Sleeve, mixing valve		
25	568/385/2/B 568/385/2/D	Refill Flow Control 1,9 ltr/min Refill Flow Control 3,8 ltr/min	25 Ltr 50 Ltr, 75 Ltr, 100 Ltr, 150 Ltr	
26	186/118	O-ring, refill elbow		
27	568/336	Refill elbow ¾"		
28	541/275	Check ball, refill elbow		
29	413/62	Spring, refill elbow		
30	21/88	Nut, refill elbow/brine tee		
31	541/254	Spring clip		
32	570/251	Gasket, riser		
33	568/334	Riser insert		
34	185/214/1	O-ring, riser tube		
35	185/337/1	O-ring, tank		
36	541/232	Adapter ring		
37	15/207/12	Screw, adapter ring (2x)		
38	72772	Packing gland nut (plastic)		
39	185/211/1	O-ring, packing gland nut		
40	186/115	O-ring, worm drive shaft (2x)		
41	568/208/2	Worm drive shaft		
42	14/43	Washer, worm drive shaft		
43	EB64/33	Refill tube		
44	568/340	Brine Tee ¾"		✓
45	185/208/1	O-ring, brine tee		
46	26/47/12N	Check ball, brine tee		
47	72801	Valve body		
A	568/359	Repair kit rotor	Without PN 72327	
B	RK/75154	Repair kit packing gland nut		
C	RK/568/406	Repair kit mixing valve		

(\*) Recommended Spare Part

## EXPLODED VIEW - PF-SOF1,5 - SIM



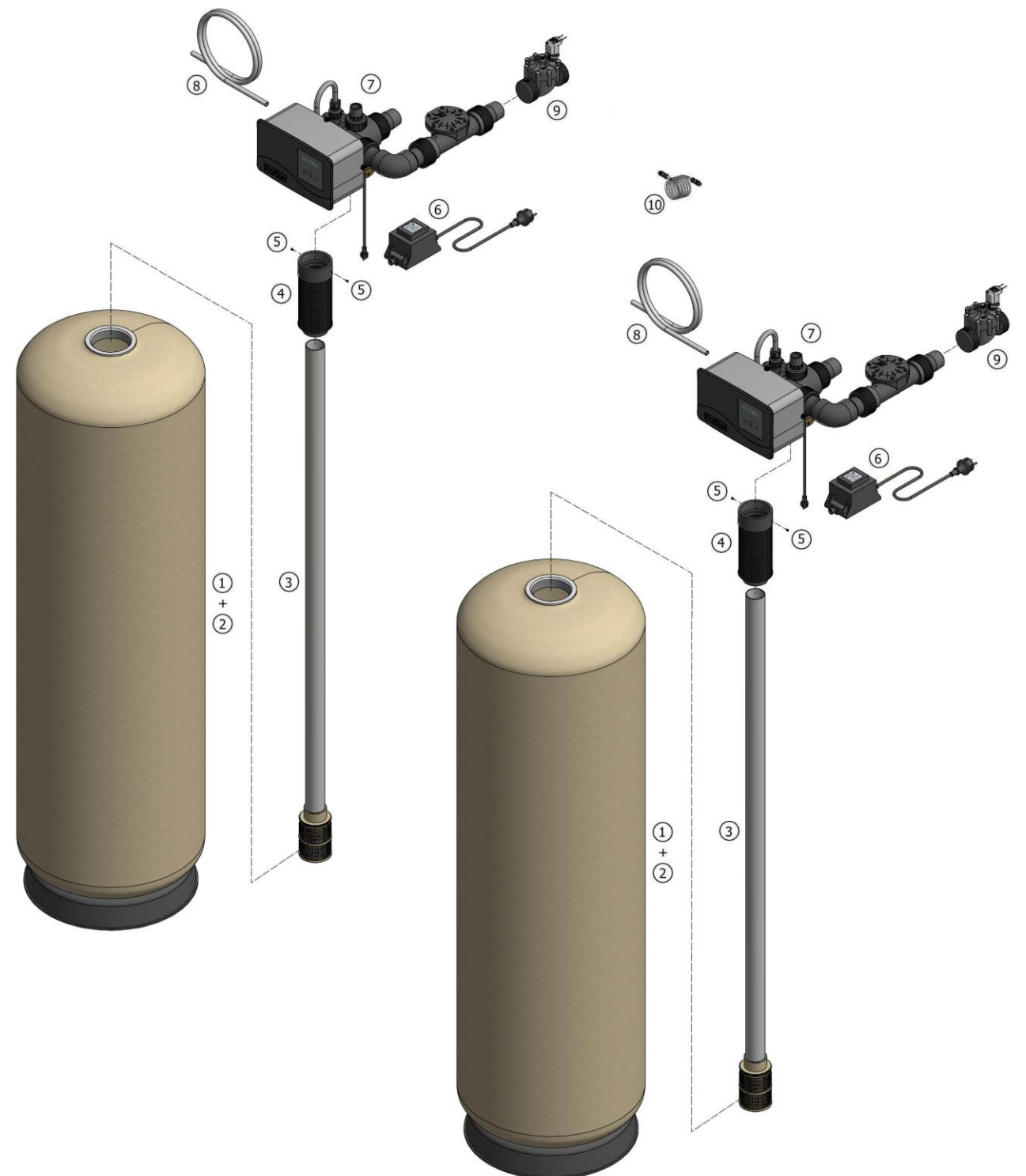
## EXPLODED VIEW - PF-SOF1,5 - SIM

Item	PN	Description	Remark	(*)
1	PT/1354/4/BA	Pressure tank 13x54, 4" top opening	75 Ltr	✓
	PT/1465/4/BA	Pressure tank 14x65, 4" top opening	100 Ltr	✓
	PT/1665/4/BA	Pressure tank 16x65, 4" top opening	150 Ltr	✓
	PT/1865/4/BA	Pressure tank 18x65, 4" top opening	200 Ltr	✓
	PT/2162/4/BA	Pressure tank 21x62, 4" top opening	250 Ltr	✓
	PT/2472/4/BA	Pressure tank 24x72, 4" top opening	350 Ltr	✓
	PT/3072/4/BA	Pressure tank 30x72, 4" top opening	500 Ltr	✓
2	E8000	Softening resin	multiple of 25 ltr	✓
3	39107	Riser tube assembly	to be cut to length, 18mm below pressure tank opening	✓
4	EV/TD	Top distributor		✓
5	EV/20533	Screw, top distributor		
6	28/500/11/IL	Transformer 230/24 VAC - 50 Hz, 120VA, EuroT plug		✓
	28/500/18/IL	Transformer 230/24 VAC - 50 Hz, 120VA, UK plug		✓
7	EV1.5VS/J/5A/40/12	Control valve (**)	75 Ltr	
	EV1.5VS/J/5A/50/12	Control valve (**)	100 Ltr	
	EV1.5VS/J/5A/60/12	Control valve (**)	150 Ltr	
	EV1.5VS/J/5/80/20	Control valve (**)	200 Ltr	
	EV1.5VS/J/5/100/20	Control valve (**)	250 Ltr	
	EV1.5VS/J/6/150/20	Control valve (**)	350 Ltr	
	EV1.5VS/J/6/200/20	Control valve (**)	500 Ltr	
8	H1015/5	Brine line polytube	to be ordered per meter	✓

(\*) Recommended Spare Part

(\*\*) Optional Wi-Fi available

**EXPLODED VIEW - PF-SOF1,5 - PRL/ALT**



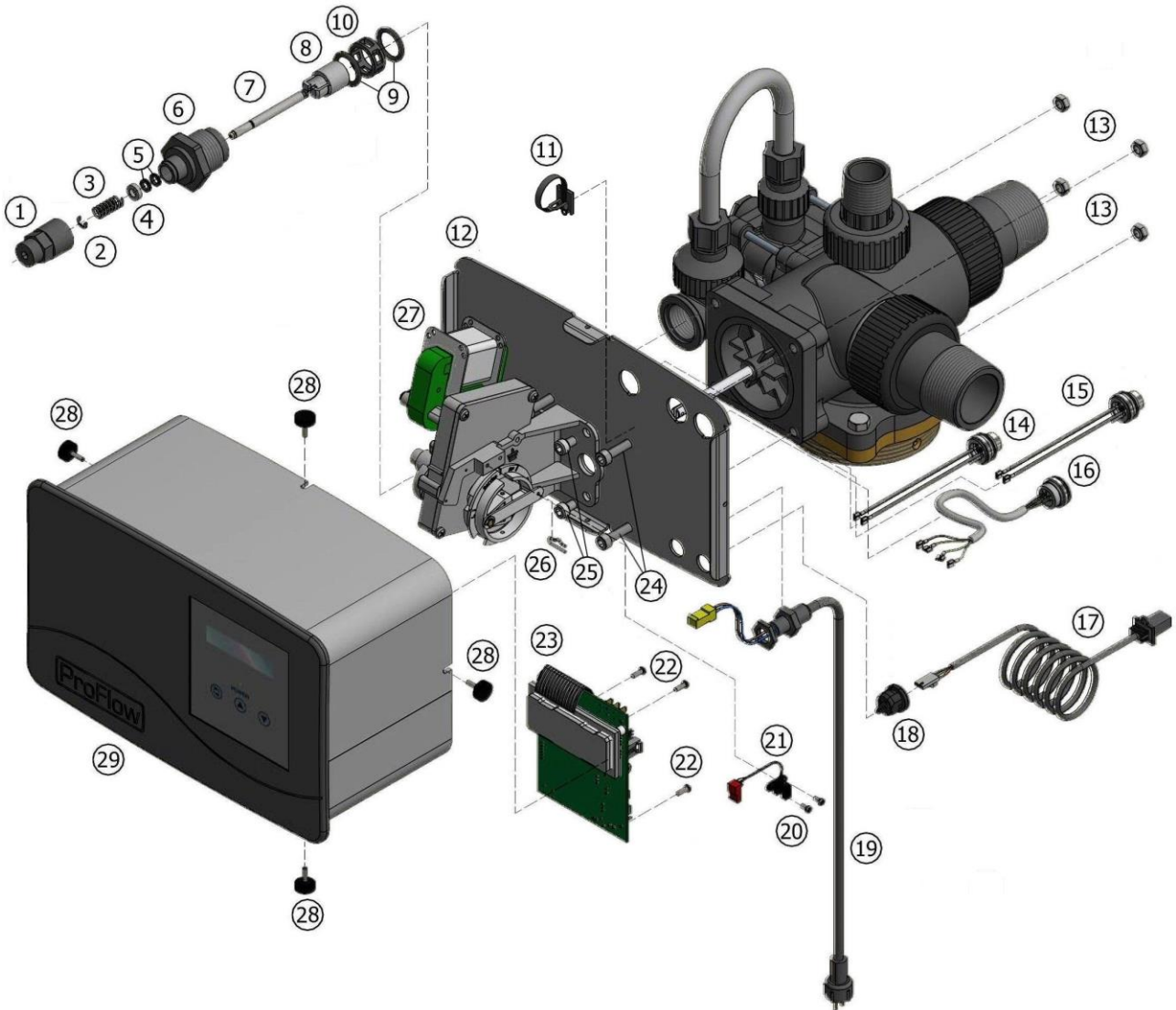
## EXPLODED VIEW - PF-SOF1,5 - PRL/ALT

Item	PN	Description	Remark	(*)
1	PT/1354/4/BA	Pressure tank 13x54, 4" top opening	75 Ltr	✓
	PT/1465/4/BA	Pressure tank 14x65, 4" top opening	100 Ltr	✓
	PT/1665/4/BA	Pressure tank 16x65, 4" top opening	150 Ltr	✓
	PT/1865/4/BA	Pressure tank 18x65, 4" top opening	200 Ltr	✓
	PT/2162/4/BA	Pressure tank 21x62, 4" top opening	250 Ltr	✓
	PT/2472/4/BA	Pressure tank 24x72, 4" top opening	350 Ltr	✓
	PT/3072/4/BA	Pressure tank 30x72, 4" top opening	500 Ltr	✓
2	E8000	Softening resin	multiple of 25 ltr	✓
3	39107	Riser tube assembly	to be cut to length, 18mm below pressure tank opening	✓
4	EV/TD	Top distributor		✓
5	EV/20533	Screw, top distributor		
6	28/500/11/IL	Transformer 230/24 VAC - 50 Hz, 120VA, EuroT plug		✓
	28/500/18/IL	Transformer 230/24 VAC - 50 Hz, 120VA, UK plug		✓
7	EV1.5VS/J/5A/40/12/ALT	Control valve for Duplex Alternating (**)	PF-SOF1-ALT-75 Ltr	
	EV1.5VS/J/5A/50/12/ALT	Control valve for Duplex Alternating (**)	PF-SOF1-ALT-100 Ltr	
	EV1.5VS/J/5A/60/12/ALT	Control valve for Duplex Alternating (**)	PF-SOF1-ALT-150 Ltr	
	EV1.5VS/J/5/80/20/ALT	Control valve for Duplex Alternating (**)	PF-SOF1-ALT-200 Ltr	
	EV1.5VS/J/5/100/20/ALT	Control valve for Duplex Alternating (**)	PF-SOF1-ALT-250 Ltr	
	EV1.5VS/J/6/150/20/ALT	Control valve for Duplex Alternating (**)	PF-SOF1-ALT-350 Ltr	
	EV1.5VS/J/6/200/20/ALT	Control valve for Duplex Alternating (**)	PF-SOF1-ALT-500 Ltr	
	EV1.5VS/J/5A/40/12	Control valve for Duplex Parallel (**)	PF-SOF1-PRL-75 Ltr	
	EV1.5VS/J/5A/50/12	Control valve for Duplex Parallel (**)	PF-SOF1-PRL 100 Ltr	
	EV1.5VS/J/5A/60/12	Control valve for Duplex Parallel (**)	PF-SOF1-PRL 150 Ltr	
	EV1.5VS/J/5/80/20	Control valve for Duplex Parallel (**)	PF-SOF1-PRL 200 Ltr	
	EV1.5VS/J/5/100/20	Control valve for Duplex Parallel (**)	PF-SOF1-PRL 250 Ltr	
	EV1.5VS/J/6/150/20	Control valve for Duplex Parallel (**)	PF-SOF1-PRL 350 Ltr	
	EV1.5VS/J/6/200/20	Control valve for Duplex Parallel (**)	PF-SOF1-PRL 500 Ltr	
8	H1015/5	Brine line polytube	to be ordered per meter	✓
9	74210	Service valve, Normally Closed	PF-SOF1,5-ALT	✓
	74208	Service valve, Normally Open	PF-SOF1,5-PRL	✓
10	74069	InterConnect cable		✓

(\*) Recommended Spare Part

(\*\*) Optional Wi-Fi available

## EXPLODED VIEW - PF-SOF1,5 - TIMER ASSEMBLY





## EXPLODED VIEW - PF-SOF1,5 - TIMER ASSEMBLY

Item	PN	Description	Remark	(*)
1	EV/11107	Cap, brine shut-off valve		
2	EV/20760	Split washer		
3	EV/20655	Spring		
4	EV/11109	Washer		
5	EV/10624	X-ring (2x)		
6	EV/11108	Nut, brine shut-off valve		
7	EV/20656	Rod, brine shut-off valve		
8	EV/20657	Piston, brine shut-off valve		
9	EV/11085	O-ring (2x)		
10	EV/11084	Spacer		
11	74267	Cable clamp		
12	EV/20644/1	Back plate		
13	EV/20648	Nut, back plate (4x)		
14	N/A	Socket and cable assembly, Service Valve	See next section	
15	N/A	Socket and cable assembly, AUX2	See next section	
16	N/A	Socket & cable assembly, InterConnect	See next section	
17	74236	Flow meter cable		
18	EV/10828	Strain relief, flow meter cable		
19	28/500/11	Power lead with plug	incl. with transformer	
20	EV/20761	Screw, optical sensor (2x)		
21	N/A	Optical sensor	See next section	✓
22	15/102	Screw, PCB (3x)		
23	74422	Printed Circuit Board, Alternating - Wi-Fi enabled - 24 VAC	PF-SOF1,5-ALT	✓
	74420	Printed Circuit Board, Simplex & Parallel - Wi-Fi enabled - 24 VAC	PF-SOF1,5-SIM &-PRL	✓
	74223	Printed Circuit Board, Alternating - 24 VAC	PF-SOF1,5-ALT	✓
	74222	Printed Circuit Board, Simplex & Parallel - 24 VAC	PF-SOF1,5-SIM &-PRL	✓
24	EV/20647	Bolt, back plate (4x)		
25	EV/20649	Bolt, drive motor assembly (2x)		
26	EV/20653	R spring pin		
27	EV/20960	Drive motor assembly		
28	EV/11125	Screw, timer cover (4x)		
29	74206	Timer cover assembly		

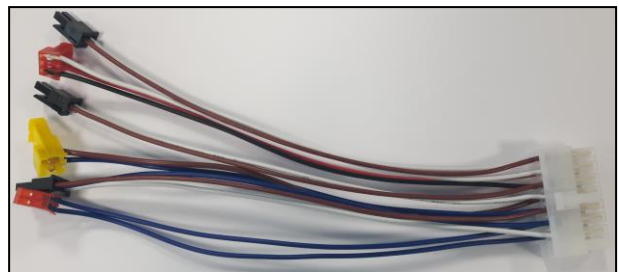
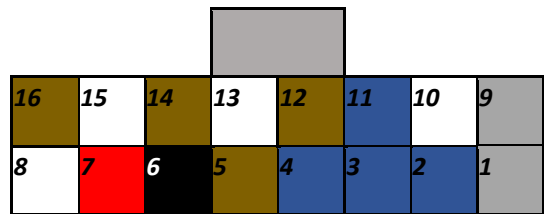
(\*) Recommended Spare Part

## EXPLODED VIEW - PF-SOF1,5 - CABLING

### Connector (M) assy with cabling from PCB to connector

#### Molex-16 connector

Position	Wire colour	Wire size	Function
16	Brown	22	AUX 1
15	White	22	
14	Brown	22	AUX 2
13	White	22	
12	Brown	22	COM
11	N/A		
10	White	22	
9	N/A		
8	White	22	Optical sensor
7	Red	22	
6	Black	22	
5	Brown	18	POWER
4	Blue	18	
3	Blue	22	Motor
2	Blue	22	
1	N/A		



Item	PN	Description	Remark	(*)
1	74377	Connector (M) assy with cabling from PCB to connector		✓
2	74385	Connector (F) assy with cabling from motor to connector		✓

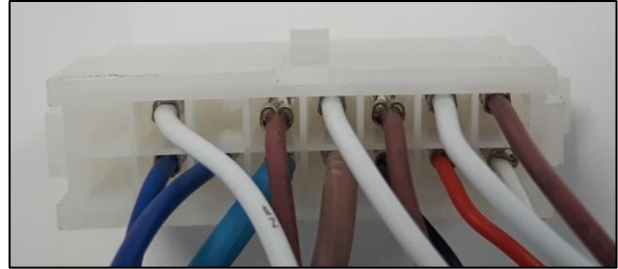
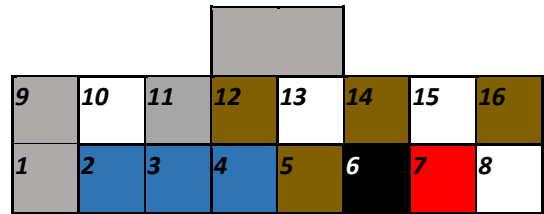
(\*) Recommended Spare Part

## EXPLODED VIEW - PF-SOF1,5 - CABLING

*Connector (F) assy with cabling from Motor to connector*

### Molex-16 connector

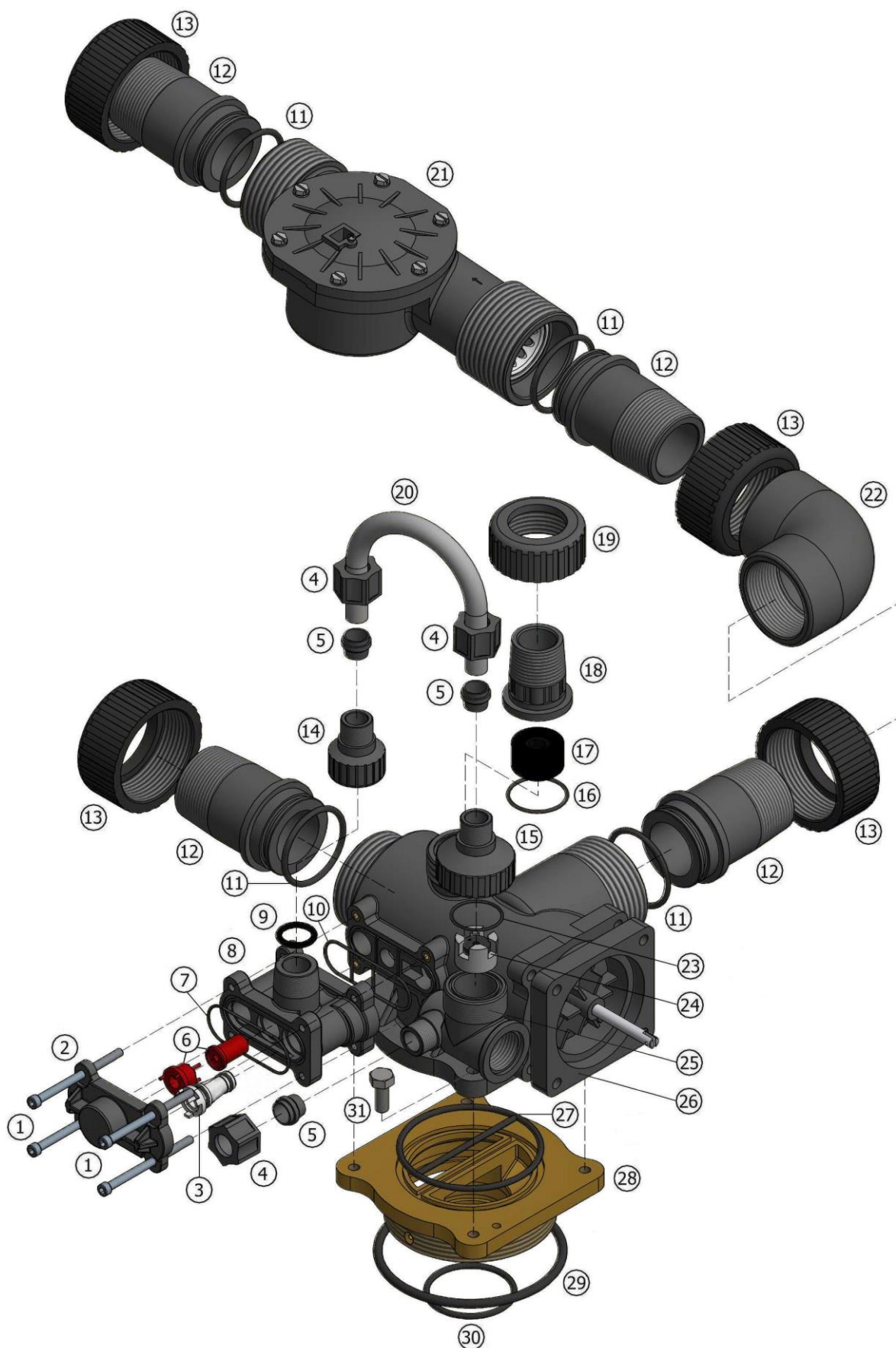
Position	Wire colour	Wire size	Function
16	Brown	22	AUX 1
15	White	22	
14	Brown	22	AUX 2
13	White	22	
12	Brown	22	COM
11	N/A		
10	White	22	
9	N/A		
8	White	22	Optical sensor
7	Red	22	
6	Black	22	
5	Brown	18	POWER
4	Blue	18	
3	Blue	22	Motor
2	Blue	22	
1	N/A		



Item	PN	Description	Remark	(*)
1	74377	Connector (M) assy with cabling from PCB to connector		✓
2	74385	Connector (F) assy with cabling from motor to connector		✓

(\*) Recommended Spare Part

# EXPLODED VIEW - PF-SOF1,5 - VALVE BODY

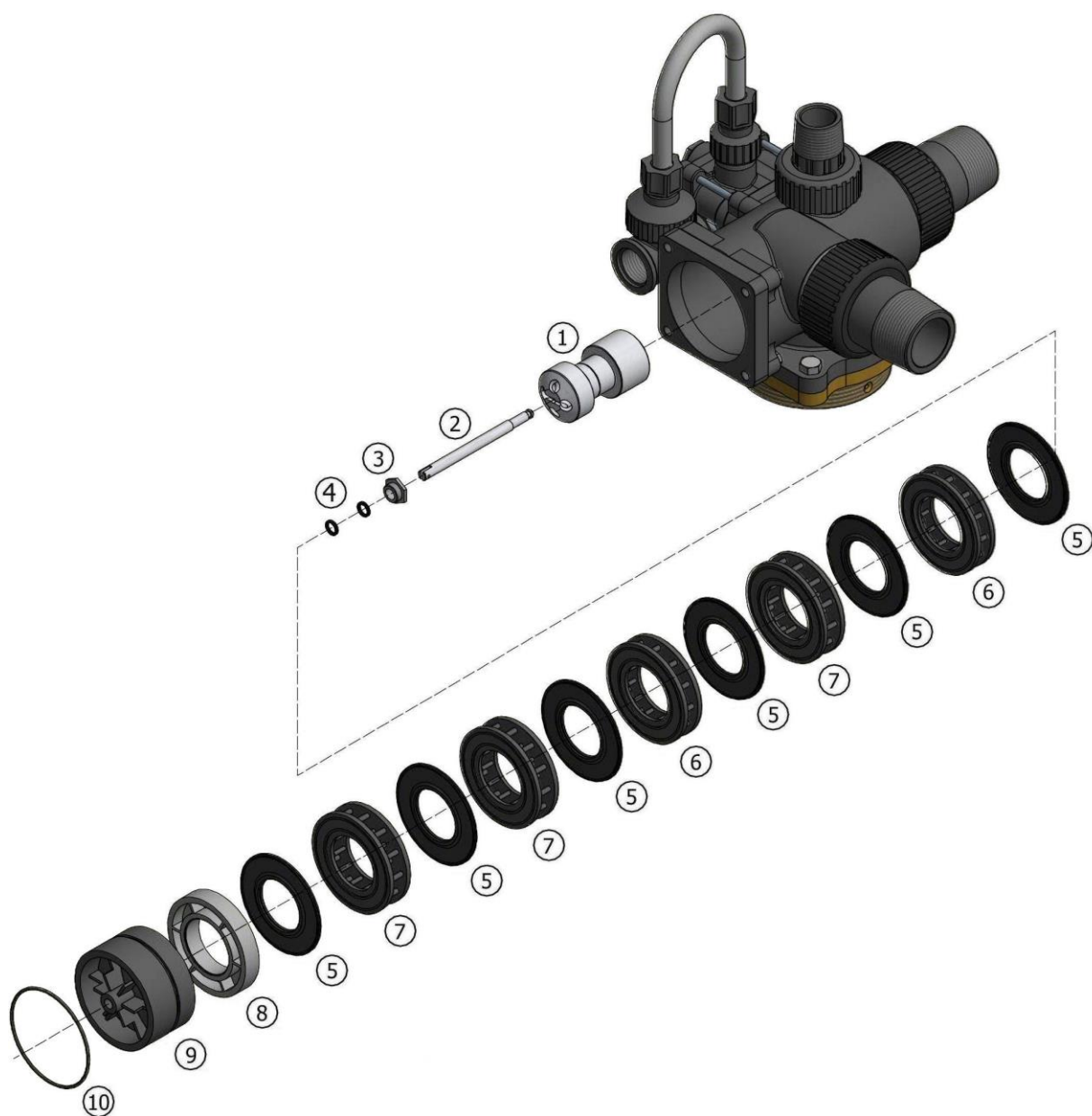


## EXPLODED VIEW - PF-SOF1,5 - VALVE BODY

Item	PN	Description	Remark	(*)
1	EV/20660	Bolt, cover plate (4x)		
2	EV/11101/1	Cover plate		
3	EV/11537	Plug		
4	EV/10982	Nut, compression connection ½" (3x)		
5	EV/10983	Compression ring ½" (3x)		
6	74237 74238 74239	Injector 5A (red) Injector 5 (blue) Injector 6 (orange)	75 Ltr, 100 Ltr, 150 Ltr 200 Ltr, 250 Ltr 350 Ltr, 500 Ltr	
7	EV/11118	Gasket, cover plate		✓
8	EV/11097	Injector block		
9	EV/11085	Gasket, injector block adaptor		
10	EV/11115	Gasket, injector block		✓
11	EV/11092	O-ring, inlet/outlet adaptor (4x)		✓
12	EV/11094-1	Inlet/outlet adaptor 1,5" BSP Male (4x)		
13	EV/11093	Nut, inlet/outlet adaptor (4x)		
14	EV/11095	Adaptor, injector block		
15	EV/11086	Adaptor, brine shut-off valve		
16	EV/11088	O-ring, drain adaptor		
17	74241 74242 74243 74244 74245 74246 74247	Drain Line Flow Controller 4.0 GPM Drain Line Flow Controller 5.0 GPM Drain Line Flow Controller 6.0 GPM Drain Line Flow Controller 8.0 GPM Drain Line Flow Controller 10.0 GPM Drain Line Flow Controller 15.0 GPM Drain Line flow Controller 20.0 GPM	75 Ltr 100 Ltr 150 Ltr 200 Ltr 250 Ltr 350 Ltr 500 Ltr	
18	EV/11090	Drain adaptor 1" BSP male		
19	EV/11089	Nut, drain adaptor		
20	EV/11091	Connection tube		
21	EV/83566	Flow meter assembly	incl.: 2x EV/11092, 2x EV/11094-1, 2x EV/11093	✓
22	74219	PVC elbow 1,5" BSP Female		
23	EV/11111	O-ring, brine shut-off valve adaptor		
24	74248 74249	Refill flow control 1.2 GPM Refill flow control 2.0 GPM	75 Ltr, 100 Ltr, 150 Ltr 200 Ltr, 250 Ltr, 350 Ltr, 500 Ltr	
25	EV/11110	Housing, brine shut-off valve		
26	EV/11075	Front plate		
27	EV/11114	Gasket, valve seat		
28	EV/11113	Valve seat		
29	EV/11273	O-ring, tank		
30	EV/11374	O-ring, riser tube		
31	EV/20658	Bolt, valve seat (4x)		

(\*) Recommended Spare Part

## EXPLODED VIEW - PISTON ASSEMBLY - PF-SOF1,5

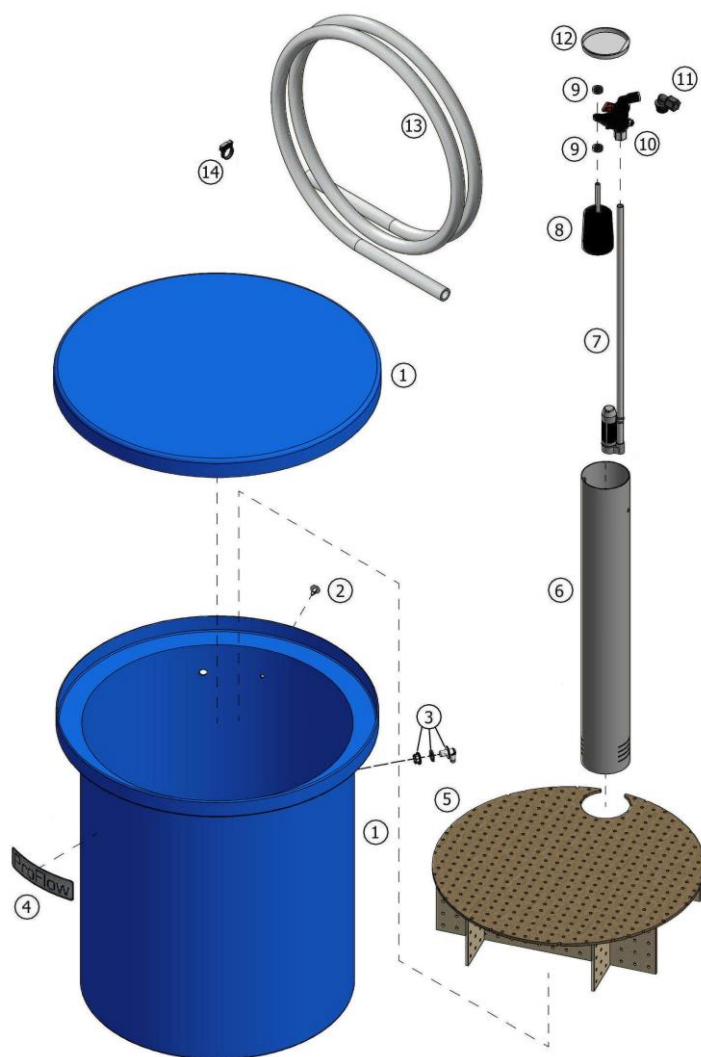


## EXPLODED VIEW - PF-SOF1,5 - PISTON ASSEMBLY

Item	PN	Description	Remark	(*)
1	EV/20646	Piston		✓
2	EV/20654	Stem		
3	EV/11104	Bushing		
4	EV/11105	O-ring, bushing (2x)		✓
5	EV/11080	Seal disk		✓
6	EV/11082	Spacer (narrow) (2x)		
7	EV/11081	Spacer (wide) (3x)		
8	EV/11078	Compression spacer		
9	EV/11076	End cap		
10	EV/11077	O-ring, end cap		

(\*) Recommended Spare Part

## EXPLODED VIEW - PF-BTA - SIMPLEX

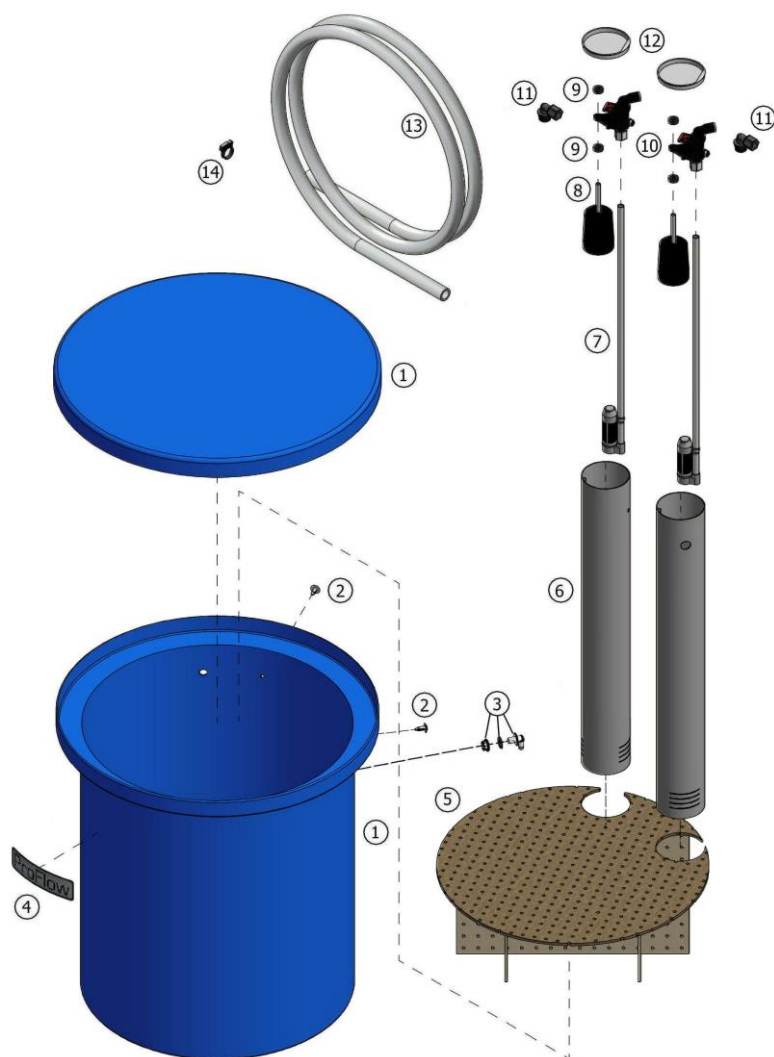


Item	PN	Description	Remark	(*)
1	BT/0125 BT/0275 BT/0500 BT/0750	Brine tank 125 Ltr Brine tank 275 Ltr Brine tank 500 Ltr Brine tank 750 Ltr		
2	38535	Fastener (snap rivet & washer), brine well		
3	39131	Overflow assembly 19 mm		
4	38537	Label 'ProFlow'		✓
5	BP/0125/01 BP/0275/01 BP/0500/01 BP/0750/01	Brine platform for simplex Brine platform for simplex Brine platform for simplex Brine platform for simplex	BT/0125 BT/0275 BT/0500 BT/0750	
6	BW4/072 BW4/088 BW4/100	Brine well Ø10 cm, 72 cm Brine well Ø10 cm, 88 cm Brine well Ø10 cm, 100 cm	BT/0125 BT/0275 BT/0500, BT/0750	
7	H4500/48	Air check	to be cut to length	✓
8	H4640/32	Float		✓
9		Grommet, float (2x)	included in item 8	
10	474/000	Brine valve with elbow 3/8", quick-fit connection		
11	H4650	Elbow 1/2", compression connection		
12	H1016	Brine well lid Ø10 cm		
13	39132 39133	Drain hose 19x26 mm	3 mtr 5 mtr	
14	39124	Clamp, drain hose 19 mm		

(\*) Recommended Spare Part



## EXPLODED VIEW - PF-BTA - DUPLEX



Item	PN	Description	Remark	(*)
1	BT/0125 BT/0275 BT/0500 BT/0750	Brine tank 125 Ltr Brine tank 275 Ltr Brine tank 500 Ltr Brine tank 750 Ltr		
2	38535	Fastener (snap rivet & washer), brine well (2x)		
3	39131	Overflow assembly 19 mm		
4	38537	Label 'ProFlow'		✓
5	BP/0125/02 BP/0275/02 BP/0500/02 BP/0750/02	Brine platform for duplex Brine platform for duplex Brine platform for duplex Brine platform for duplex	BT/0125 BT/0275 BT/0500 BT/0750	
6	BW4/072 BW4/088 BW4/100	Brine well Ø10 cm, 72 cm (2x) Brine well Ø10 cm, 88 cm (2x) Brine well Ø10 cm, 100 cm (2x)	BT/0125 BT/0275 BT/0500, BT/0750	
7	H4500/48	Air check (2x)	to be cut to length	✓
8	H4640/32	Float (2x)		✓
9		Grommet, float (4x)	included in item 8	
10	474/000	Brine valve with elbow ¾", quick-fit connection (2x)		
11	H4650	Elbow ½", compression connection (2x)		
12	H1016	Brine well lid Ø10 cm (2x)		
13	39132 39133	Drain hose 19x26 mm	3 mtr 5 mtr	
14	39124	Clamp, drain hose 19 mm		

(\*) Recommended Spare Part

### Technical specifications:

## TECHNICAL DATA - PF-SOF1

Model	PF-SOF1-SIM / PF-SOF1-ALT / PF-SOF1-PRL				
Resin (ltr)	25	50	75	100	150
Operating pressure min/max (bar)	1,4/8,3				
Operating temperature min/max (°C)	2/48				
Electrical connection (V/Hz)	230/50 <sup>(1)</sup>				
Max. power cons. Simplex (VA)	8				
Hydraulic connection inlet/outlet	1" BSP Male				
Hydraulic connection drain	19 mm hose barb				
Hydraulic connection brine tank	¾" compression fitting				
Pressure tank	10x35	12x48	13x54	14x65	16x65

(1) Supplied with 24 VDC transformer

### Performances @ 3 bar operating pressure<sup>(2)</sup>:

(2) Indicative numbers, performances depending on operating conditions and water quality

Model	PF-SOF1-SIM				
Resin (ltr)	25	50	75	100	150
Nominal exchange capacity (m³x°f)	138	275	413	550	825
Nominal exchange capacity (m³x°d)	78	155	233	310	465
Service flow rate @Δp 1 bar (m³/hr)	3,4	3,4	3,5	3,5	3,6
Salt usage per regeneration (kg)	3,8	7,5	11,3	15,0	22,5
Rinse water usage per regeneration (ltr)	165	285	400	540	780
Max. flow to drain (ltr/min)	9,8	13,2	15,1	18,9	22,7

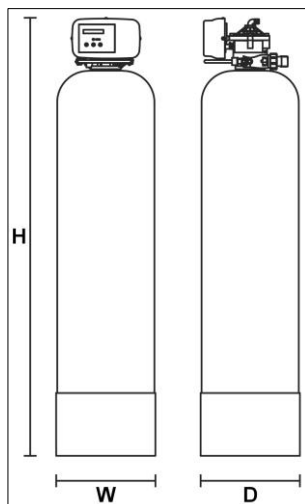
Model	PF-SOF1-ALT				
Resin (ltr)	2x25	2x50	2x75	2x100	2x150
Nominal exchange capacity (m³x°f)	275	550	825	1.100	1.650
Nominal exchange capacity (m³x°d)	155	310	465	620	930
Service flow rate @Δp 1 bar (m³/hr)	3,4	3,4	3,5	3,5	3,6
Salt usage per regeneration (kg)	7,5	15,0	22,5	30,0	45,0
Rinse water usage per regeneration (ltr)	330	570	800	1.080	1.560
Max. flow to drain (ltr/min)	9,8	13,2	15,1	18,9	22,7

Model	PF-SOF1-PRL				
Resin (ltr)	2x25	2x50	2x75	2x100	2x150
Nominal exchange capacity (m³x°f)	275	550	825	1.100	1.650
Nominal exchange capacity (m³x°d)	155	310	465	620	930
Service flow rate @Δp 1 bar (m³/hr)	6,7	6,8	7,0	7,0	7,2
Salt usage per regeneration (kg)	7,5	15,0	22,5	30,0	45,0
Rinse water usage per regeneration (ltr)	330	570	800	1.080	1.560
Max. flow to drain (ltr/min)	9,8	13,2	15,1	18,9	22,7

## TECHNICAL DATA - PF-SOF1

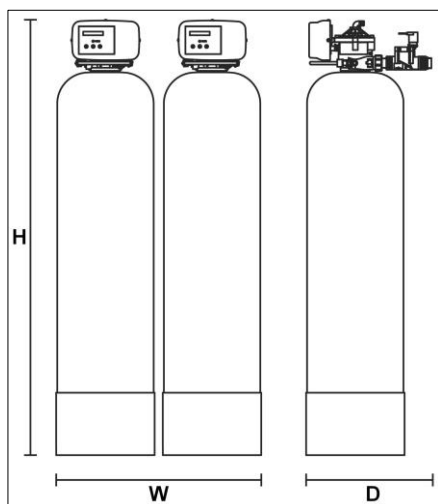
### Dimensions:

Model	PF-SOF1-SIM				
Resin (ltr)	25	50	75	100	150
Width (mm) (W)	264	311	338	365	415
Depth (mm) (D)	282	311	338	365	415
Depth, incl. factory bypass (mm) (D)	371	376	389	403	428
Height (mm) (H)	1.059	1.394	1.560	1.836	1.833



Model	PF-SOF1-ALT / PF-SOF1-PRL				
Resin (ltr)	2x25	2x50	2x75	2x100	2x150
Width (mm) (W) <sup>(1)</sup>	613	707	761	815	915
Depth (mm) (D)	405	410	436	463	513
Height (mm) (H)	1.059	1.394	1.560	1.836	1.833

(1) Based on 85 mm spacing



## TECHNICAL DATA - PF-SOF1,5

### Technical specifications:

Model	PF-SOF1,5-SIM / PF-SOF1,5-ALT / PF-SOF1,5-PRL						
Resin (ltr)	75	100	150	200	250	350	500
Operating pressure min/max (bar)	1,4/8,0						
Operating temperature min/max (°C)	2/48						
Electrical connection (V/Hz)	230/50 <sup>(1)</sup>						
Max. power cons. Simplex/Duplex (VA)	80/2x89						
Hydraulic connection inlet/outlet	1,5" BSP Male/Female						
Hydraulic connection drain	1" BSP Male						
Hydraulic connection brine tank	½" compression fitting						
Pressure tank	13x54	14x65	16x65	18x65	21x62	24x72	30x72

(1) Supplied with 24 VAC transformer

### Performances @ 3 bar operating pressure<sup>(2)</sup>:

(2) Indicative numbers, performances depending on operating conditions and water quality

Model	PF-SOF1,5-SIM						
Resin (ltr)	75	100	150	200	250	350	500
Nominal exchange capacity (m³x°f)	413	550	825	1.100	1.375	1.925	2.750
Nominal exchange capacity (m³x°d)	233	310	465	620	775	1.085	1.550
Service flow rate @Δp 1 bar (m³/hr)	7,8	7,8	7,8	7,9	7,9	8,0	8,0
Salt usage per regeneration (kg)	11,3	15,0	22,5	30,0	37,5	52,5	75,0
Rinse water usage per regeneration (ltr)	469	578	838	1.148	1.435	2.140	3.030
Max. flow to drain (ltr/min)	15,2	19,0	22,7	30,3	37,9	56,8	75,7

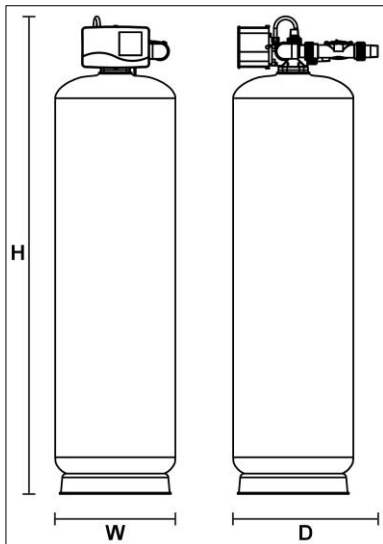
Model	PF-SOF1,5-ALT						
Resin (ltr)	2x75	2x100	2x150	2x200	2x250	2x350	2x500
Nominal exchange capacity (m³x°f)	825	1.100	1.650	2.200	2.750	3.850	5.500
Nominal exchange capacity (m³x°d)	465	620	930	1.240	1.550	2.170	3.100
Service flow rate @Δp 1 bar (m³/hr)	7,8	7,8	7,8	7,9	7,9	8,0	8,0
Salt usage per regeneration (kg)	22,5	30,0	45,0	60,0	75,0	105,0	150,0
Rinse water usage per regeneration (ltr)	938	1.156	1.676	2.296	2.870	4.280	6.060
Max. flow to drain (ltr/min)	15,2	19,0	22,7	30,3	37,9	56,8	75,7

Model	PF-SOF1,5-PRL						
Resin (ltr)	2x75	2x100	2x150	2x200	2x250	2x350	2x500
Nominal exchange capacity (m³x°f)	825	1.100	1.650	2.200	2.750	3.850	5.500
Nominal exchange capacity (m³x°d)	465	620	930	1.240	1.550	2.170	3.100
Service flow rate @Δp 1 bar (m³/hr)	15,6	15,6	15,6	15,8	15,8	16,0	16,0
Salt usage per regeneration (kg)	22,5	30,0	45,0	60,0	75,0	105,0	150,0
Rinse water usage per regeneration (ltr)	938	1.156	1.676	2.296	2.870	4.280	6.060
Max. flow to drain (ltr/min)	15,2	19,0	22,7	30,3	37,9	56,8	75,7

## TECHNICAL DATA - PF-SOF1,5

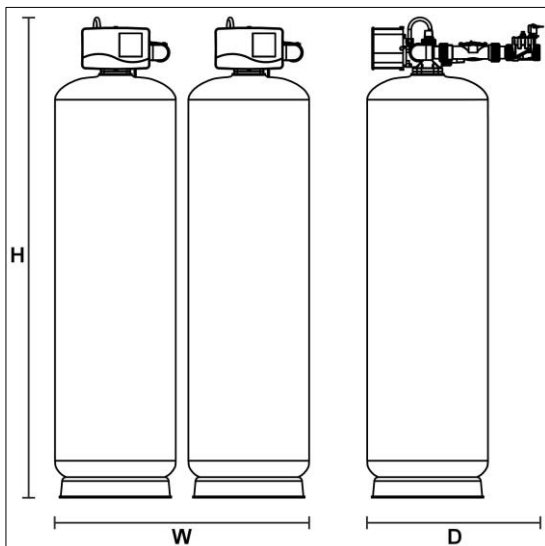
### Dimensions:

Model	PF-SOF1,5-SIM						
Resin (ltr)	75	100	150	200	250	350	500
Width (mm) (W)	390	403	428	491	555	635	786
Depth (mm) (D)	575	575	575	595	627	667	786
Height (mm) (H)	1.623	1.904	1.901	1.952	1.951	2.148	2.066



	PF-SOF1,5-ALT / PF-SOF1,5-PRL						
Resin (ltr)	2x75	2x100	2x150	2x200	2x250	2x350	2x500
Width (mm) (W) <sup>(1)</sup>	930	956	1.006	1.132	1.260	1.420	1.722
Depth (mm) (D)	690	690	690	706	738	778	850
Height (mm) (H)	1.623	1.904	1.901	1.952	1.951	2.148	2.066

(1) Based on 150 mm spacing



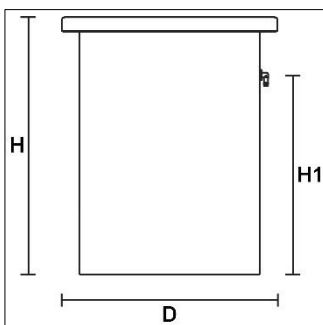
## TECHNICAL DATA - PF-BTA

### Technical specifications:

Model	PF-BTA			
Volume (ltr)	125	275	500	750
Hydraulic connection brine valve	interchangeable: 3/8" Quick-Fit & 1/2" compression fitting			
Hydraulic connection overflow	19 mm hose barb			

### Dimensions:

Model	PF-BTA			
Volume (ltr)	125	275	500	750
Diameter (mm) (D)	540	685	875	1.030
Height (mm) (H)	850	975	1.110	1.110
Height overflow (mm) (H1)	660	825	945	945
Max. salt storage capacity (kg)	100	200	475	700







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