NEOMERIS Softwater RS

Installation instruction and operation manual

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Delivery comprises:

- NEOMERIS Softwater RS
  Note: Flow controller must be ordered additionally. Size depends on the pipe dimensions tubing for connection (see selection table on data sheet).

NEOMERIS Softwater RS

Flow Controller

Intended use:

The device is used to monitor the water hardness in pipes that contain fully softened water.

Application limits:

Max. water temp.: 30°C (86°F)

Ambient temperature:

15°C (59°F) – 40° C (104° F)

Operating pressure: 2.5 – 6.0 bar

No water hammers.

Power supply and water pressure must be constantly available. The feed water must come from a softening system which is operated in the sodium cycle. The pipes up flow must be free of corrosion.

Installation

The NEOMERIS Softwater RS monitor needs the following connections:

• Socket with 230V and 10W

• Connection to soft water

• Connection to drain

• brine supply

The nominal size of the flow controller needs to fit to the expected amounts of flow. They may differ from the installed nominal size of the existing pipes. A waste water connection is required to re-generate the (hardness) sensor. The nominal width of the sewage pipe has to be DN6. The amount of waste water per regeneration is about 1.5—2 Liters (0.4—0.5 gal). The maximum length of the hose is 5 meters (16.4 ft). The maximum level of waste water transfer is 1m (3ft) above the device. In case it is impossible to provide these condition, you may use a longer waste water hose or another height of the device. But in this case, it is necessary to check if the system and the device are working under these conditions.

Installation and user manual:

The brine supply (10% NaCl) is needed to regenerate the (hardness) sensor. It needs about 0.25 Liters (0.07 gal) or less to regenerate. The pipe for the brine supply may not exceed 10 m (33 ft). There are two possibilities available for the brine supply:

- use of an existing brine tank (not recommended)
- container with already 10% concentrate brine

If there is a brine tank available, install the suction lance in the tank. Do not block the brine valves inside the tank. The best way is to install a new brine pipe in the tank. The brine level has to be at all times above the suction lance. In case there is no brine tank available, you should use a 20 or 30 Liter container with already concentrated brine (5-8 gal.). The brine should last for 80-120 regenerations.

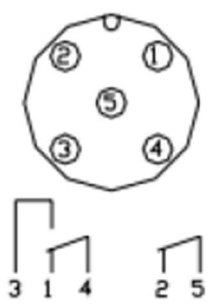
Electrical Connection:

The connection is made by inserting the transformer into the wall socket.

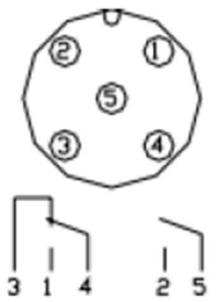
Alarm Signal:

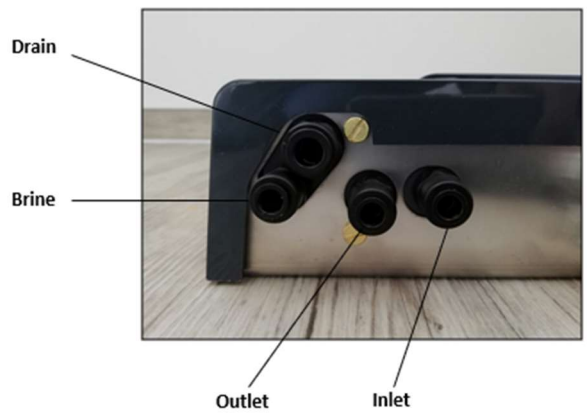
Contact Rating 24V 1A, you can connect the alarm signal by using the 12 m connection plug.

Contacts in error or without voltage.



Contacts without error





of the flow controller

Mounting:

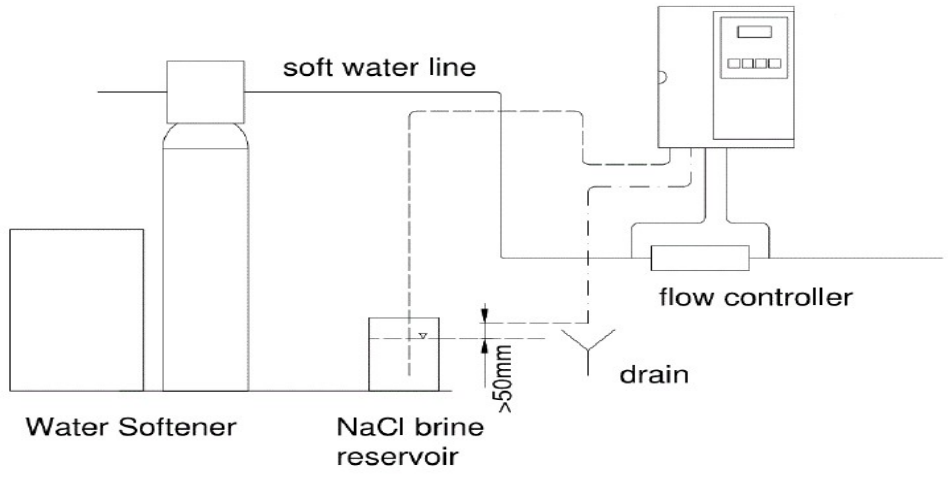
The flow controller needs to installed in the soft water pipe. Take care of the flow direction. It doesn't matter if mounted horizontal or vertical.

The NEOMERIS Softwater RS should be installed as close as possible to the flow controller because the testing hoses should be as short as possible. Please mount the device with the holes at the rear.

Connect the flow controller and the NEOMERIS Softwater RS with the "yellow/6 mm" hoses. Be careful that you don't mix up the forward and backward flow.

Connect the waste water with "red hose/8mm" to the drain. No fixed connection (the drain exit needs to be above the brine level).

Mounting of the device:



All tube has to be as short as possible and may not be kinked. We recommend not to install any shut-of-valves in the testing hoses.

Function:

The NEOMERIS Softwater monitor consists of a hardness sensor, multi-way-valve with motor and electrical control. The multi-way-valve is connected to the hydraulics via hoses.

The flow controller creates a differential pressure that pushes the test water through the NEOMERIS Softwater device and then back to the soft water pipe. As soon as hardwater is in the pipe, the hardness sensor collects the hardness and generates a signal which triggers the corresponding alarm at the display “—>” hardwater—continue with ENTER.

When that happens, it is necessary to reset the system manually by triggering a regeneration. (ENTER Button “✓"). Before doing that, the soft-water supply needs to be checked and, if necessary, recovered. As soon as soft water is available, it‘s possible to regenerate the NEOMERIS Softwater device.

The regeneration contains the following steps:

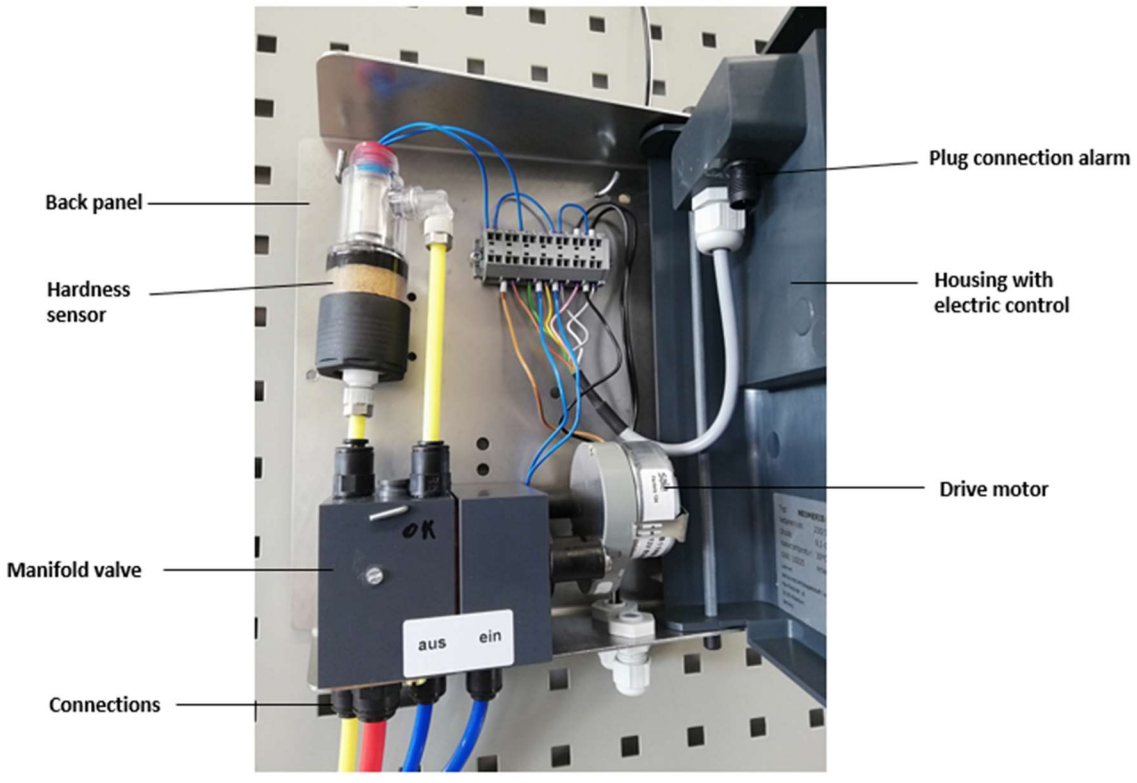
- Brine injection
- Time till effect
- Test the sensor (hard or soft)
- Brine washout

The sensor has to be “soft“ at the end of the re-generation-process. Otherwise there is a prob-lem in the system.
It is possible to adjust the parameters if necessary see manual, settings and operations.

Commissioning:

Please proceed as follows:

- Plug in the transformer and check for voltage (the LED in the display should shine)
- Please wait while “startup run...“ is displayed.



Structure of NEOMERIS Softwater RS

- Put pressure on the soft-water pipe.
- Start the regeneration manually.
- Observe the process—brine should be drawn into the brine pipe. It is possible to see the brine flushing in the pipe.
- In case the brine doesn't reach the sensor it will detect a problem and the display gives the Information "no sensor while regeneration". That means the sensor did not emit a signal while regeneration.
- The regeneration has to be repeated, till the brine is drawn into the pipe and the regeneration is finished without any problem.
- After the successful regeneration the NEOMERIS Softwater RS switches to regular hardness monitoring process and display the remaining time till next forced regeneration.

Operation:

As long as no error occurs is the operation of the Softwater Monitor fully automatic.

Manual interaction is necessary in the following cases:

• Alarm, lack of soft-water that means "detection of hardness".

Alarm, no signal of the sensor while regeneration.

The regeneration needs to be started manually. Now open the case and observe whether the sensor “switches“. It means that it is possible to see the red “signal pen“ clearly.

Maintenance:

The NEOMERIS Softwater RS doesn’t need a preventive maintenance but we recommend an annual checkup and the exchange of the hardness sensor every 2 Years.

Settings:

The following parameters can be changed:

• Time and date

• Time between 2 regenerations

The following parameter can be displayed:

• The last 30 alarms with time and date

Setting the time:

Enter the main menu by pressing the “ESC“ button. To change the time, scroll through the menu by using the “↑“ or “↓“ till “change time“ appears. Confirm with “✓ “. By using the “↑“ or “↓“ button the active part of the time changes, confirm with “✓ “ than the active part should flash: now it‘s possible to change its value by using “↑“ or “↓“. The change needs to be confirmed (“✓ “). If you want to change more than one subject, proceed as described. After entering the correct time and date it is necessary to “save“ the settings by scrolling through the menu till “MEM“ appears than press “✓“ to save the new settings. To change back into the main menu press “ESC“.

Setting the time between regenerations:

Enter the main menu by pressing the “ESC“ button. To change the time between regeneration, scroll through the menu by using the “↑“ “↓“ till „regen. rep. time“ appears. Confirm with “✓ “.

By using the “↑“ or “↓“ button, the active part of the time changes, confirm with “✓ “ than the active part should flash: now it‘s possible to change its value by using “↑“ or “↓“ . It is possible to change days (d), hours (h), minutes (m) and seconds (s). The change needs to be confirmed (“✓ “). If you want to change more than one subject, proceed as described. To change back into the main menu press “ESC“.

We recommend max. 7 days time between the regenerations.

Start the regeneration manually:

In case the process display is not displayed (Regeneration in 6d 23h etc.), press “ESC“ to get to main menu and then use “↑“ or “↓“ to display the process and confirm with “✓ “ to open the regeneration menu.

In case the process display is displayed (Regeneration in 6d 23h etc.), confirm with "✓ " to open the regeneration menu. Now select "start regen.?" by "ENTER" or "ESC" to cancel. Press "✓" if you want to start the regeneration.
In case the regeneration was not successful it is displayed:

"—> no sensor, proceed Enter" or "regen. failed, proceed with enter" . Press "✓ " to restart the regeneration.

Troubleshooting

In case the green LED, right of the buttons does not light, check the electricity.

In case a disorder occurs, the red LED, left of the buttons is shining and the display back-ground flashes.

There are 3 kinds of disorders

The sensor did not get "hard" while regeneration. Possible solutions see table on P. 8.

The sensor did not regenerate and is still „hard". Possible solutions see table on P. 8.

The sensor got "hard" while monitoring which means the soft water pipe contained hard water.

Troubleshooting

The table shows the most common problems. In case it is not possible to solve the problem with this table, please contact the customer service.

Problem	Reason	Solution
"—> No sensor, proceed with Enter"	• No brine available	• Check brine supply
	• Sensor malfunction	• Replace sensor
"—> Regen. Failed, proceed with Enter"	• No brine available	• Check brine supply • Check brine sucking
	• Sensor malfunction	• Replace sensor
Brine is not drawn	• Clogged injector	• Clean injector • Clean injector screen
	• Valve malfunction	• Replace valve
"Hardwater proceed with Enter"	• Hardwater in the soft water pipe	• Check soft water supply

Structure of the menu