NEXO

ECOPERLA

WATER
SOFTENER

ECOPERLA NEXO

original product of Ecoperla

USER MANUAL

KEEP THIS USER MANUAL, SINCE IT CONTAINS THE WARRANTY AND THE SERVICE CARD.

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1. INTRODUCTION

1.1. SAFETY MEASURES

• Read this User Manual before installing the device and follow the instructions carefully during the installation and maintenance. It contains all the necessary information on precautions during device installation, operation, maintenance and service.
• Correct installation and maintenance of the device in accordance with the User Manual will ensure trouble-free, effective and long-lasting operating life.
• The device is intended for reducing water hardness. Do not use it for other purposes.
• You can install the device yourself, following the installation manual.
• The device should be transported vertically. Do not transport it in the horizontal position, as it may cause the risk of damage.
• Keep this User Manual.

1.2. WATER SOFTENING

The device was manufactured in accordance with the latest applicable safety requirements.
According to the current Regulation of the Minister of Health on the Quality of Water Intended for Human Consumption, general hardness of water in Poland should be between 60 and 500 mg CaCO3/dm3. Water below 75 mg CaCO3/dm3 is considered very soft. Water with total hardness of 300 to over 500 mg CaCO3/dm3 is considered hard and very hard.

The total water hardness is the sum of two components. The first one is carbonate hardness. It is caused by the presence of dissolved carbonates and bicarbonates of calcium and magnesium. When precipitated from water, these compounds form deposit. This type of hardness can be removed by boiling. Carbonate hardness is also referred to as temporary hardness. The second type is non-carbonate hardness, also called permanent hardness. It is caused by the presence of chlorides, nitrates, sulfates, soluble salts, including calcium and magnesium salts, in water.

Hard water considerably influences the life and environment of its users. Hardness has a major impact on water surface tension. The higher the tension, the more difficult it is to wet various types of surfaces with water. As a result, cleaning bathroom and kitchen fittings becomes more difficult. You need to use more detergents and cosmetics, such as soap, hair shampoo, etc., which, in turn, results in increased expenditure and has an adverse impact on the environment.

In addition, sediment precipitated during water boiling may cause faster wear and tear of household appliances which come into contact with the water, such as washing machines, dishwashers, irons, kettles. With hard water, washed fabrics lose their original colour and softness. Drinks and dishes prepared with hard water can be less tasty. In addition, hard water negatively affects the condition of skin and hair. The problem is particularly acute for people with hypersensitive skin.

Hard water leaves deposits in plumbing and heating systems. It causes significant energy losses. Hard water may also have an adverse effect on plants. It may lead to unsightly water stains on plants and wilting.

1.3. PRINCIPLES OF OPERATION

Ecoperla Nexo water softeners depend on an ion exchange resin to remove calcium (Ca2+) and magnesium (Mg2+) ions, which cause water hardness. The device completely removes hardness of water. Yet, if you have copper pipes, do not soften the water completely, but mix it up to 6 French degrees.

Calcium ions Ca2+ and magnesium ions Mg2+ are removed when water flows through the ion exchange resin in the water softener tank. The ion exchange resin has a lot of so-called active sites, which attract positive calcium and magnesium ions (cations). The attracted cations are replaced by sodium cations, which do not cause hardness.

Once the active sites have been replaced by calcium and magnesium ions, the ion exchange resin must be regenerated. It consists in removing Ca^{2} + and Mg2+ ions from the resin by backwashing the resin with a brine solution contained in a separate tank. After the regeneration, the medium regains its full water softening capacity. The water used in the regeneration process is discharged into the sewage system.

For proper operation of the device, regularly replenish the salt tablets in the salt container. The regeneration frequency and the quantity of salt to be added to the device depends on the hardness of the water and its intake. The average salt consumption is 25 kg (a bag of salt) per two months. Regularly replace the cartridge in the pre-filter to prevent significant pressure drops, which interfere with proper operation of the device.

Read more about the water softener operation in chapter 7 “Maintenance” on page 21.

BEWARE: Use Ecoperla Antidotum resin cleaning granules and Ecoperla Antibacter disinfectant liquid interchangeably every 6 months.

Table: water hardness unit converter

	mmol/l	mval/	mg $CaCO_3$ (ppm)	German degree °d	French degree °f	English degree °e
mmol/l	1	2	100	5,6	10	7
mval/l	0,5	1	50	2,8	5	3,5
mg $CaCO_3$ (ppm)	0,01	0,02	1	0,056	0,1	0,07
German degree °d	0,179	0,357	17,9	1	1,79	1,25
French degree °f	0,1	0,2	10	0,56	1	0,70
English degree °e	0,143	0,29	14,3	0,8	1,43	1

2. TECHNICAL SPECIFICATION

	Ecoperla Nexo 8	Ecoperla Nexo 15	Ecoperla Nexo 22
Connection	3/4”	3/4”	3/4”
Medium amount [L]	8	15	22
Medium	Ion exchange resin		
Recommended flow rate [m3/h]	0,8	1,2	1,4
Maximum flow rate [m3/h]	1,4	1,8	2
Operating pressure [bar]	2,5 – 6,0		
Salt consumption per regeneration [kg]	0,96	1,8	2,6
Water consumption per rinsing [L]	41	85	110
Width [mm]	280	280	280
Height [mm]	530	755	965
Depth [mm]	445		
Connection width [mm]	50		
Connection height [mm]	390	613	825
Power	230 V/50 Hz		

3. SYSTEM COMPONENTS

Ecoperla Nexo water softener consists of the following components:

- Cabinet with brine tank including grid, float and brine hose
- Pressure cylinder,
- Control valve,
- Ion exchange resin,
- Water softener connections and bypass valve,
- Power supply unit,
- User Manual.

4. INSTALLATION

4.1. Precautions

For proper operation, the water softener requires appropriate working conditions:

- The working pressure should be between 2.0 and 6.0 bar;
- The pressure in the device should not exceed the maximum working pressure or drop below atmospheric pressure of 0 bar (vacuum), as it may cause damage;
- The operating temperature should be between 4 and 38°C;
- The device should be protected against weather conditions (sunshine, precipitation, too low or too high temperatures);
- High humidity in the room may cause water condensation on the device and piping, which in extreme cases it may damage the electronic board;
- A pre-filter must be installed before the water softener;
- The device should be placed vertically and on a hard flat surface;
- The device should be transported in a vertical position;
- The control valve needs to be connected to 230 V, 50 Hz electrical supply in accordance with the applicable national standards;
- The quality of the feed water should comply with drinking water standards, particularly with regard to iron and manganese content, turbidity, pH, chlorides and microorganisms. Using water with significant exceedances of e.g. iron may result in irreversible damage to the medium.

4.2. Installation diagram

4.2.1. Installation requirements and recommendations

The location of the water softener should allow easy and unobstructed access to the system and the process of filling the salt tank.

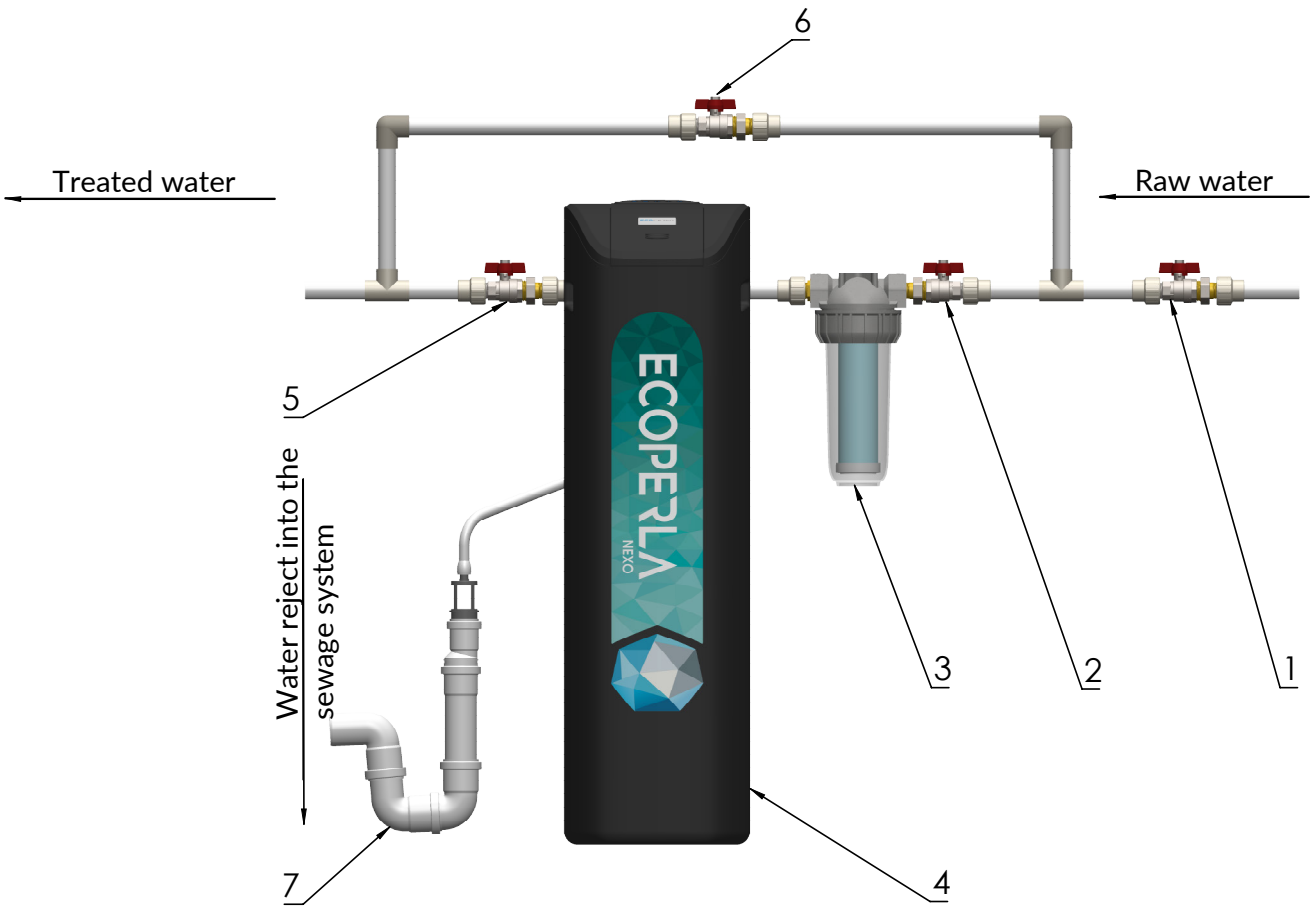
The system must be placed on a flat surface and must not be exposed to direct sunlight, rain and moisture.

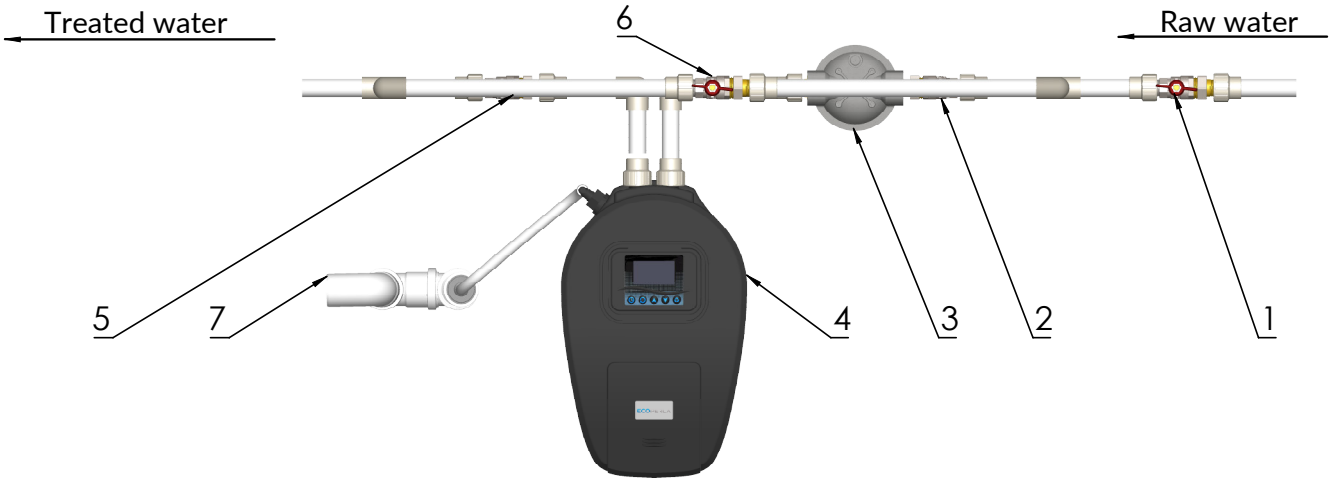
The system (including the inlet and softened water outlet, as well as the drain to the sewage system) must be installed in a place where temperature is not lower than 4°C and higher than 45°C.

In order to avoid the risk of fire or explosion, do not install the system near acid or vapours. Avoid exposure to petroleum products.

Water softeners must be installed and connected in accordance with the manufacturer's recommendations and in compliance with the applicable regulations for low-voltage and hydraulic installations.

ECOPERLA NEXO CONNECTION DIAGRAM

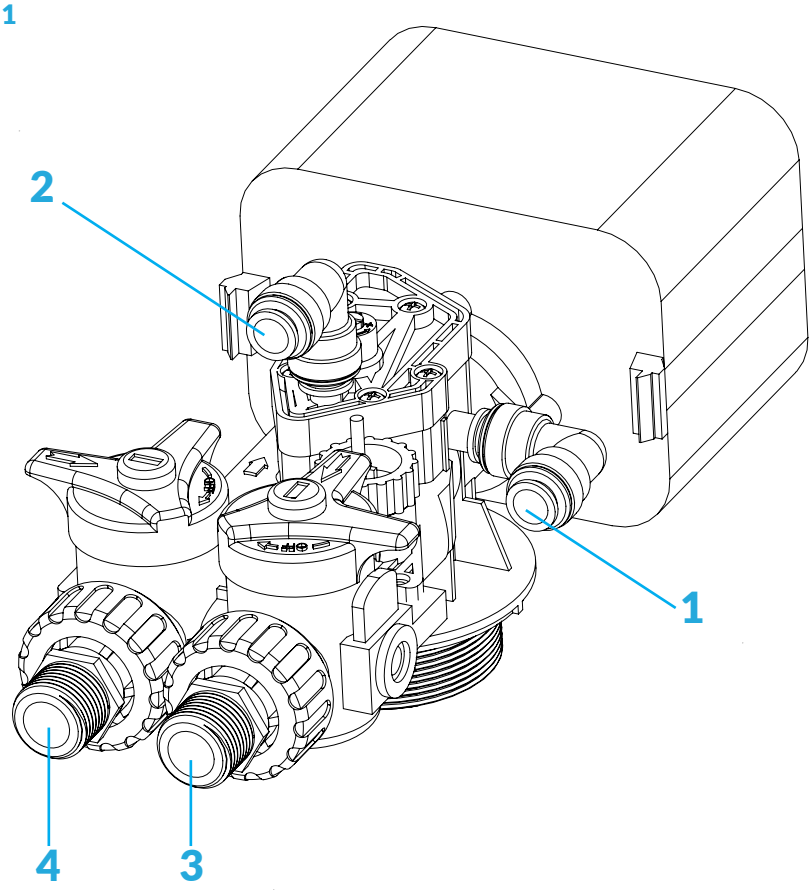




1.	Water supply valve to the building
2.	Inlet valve to the water softener
3.	Mechanical water filter
4.	Ecoperla Nexo water softener
5.	Outlet valve from the water softener
6.	Bypass valve
7.	Drain to the sewage system

4.3. Control valve

Fig. 1



1 - Waste water hose and overflow elbow connection (outlet via 1/2' hose)

2 - Brine hose connection: flexible PE pipe 3/8"

3 - Treated water outlet: external thread 3/4"

4 - Raw water inlet: external thread 3/4"

A control valve is an integral part of the device mounted on the pressure cylinder inside the cabinet. It is responsible for the proper functioning of the device, monitors its operation and controls the regeneration process.

Inlet and outlet from the control valve: control valve connection ends are made of plastic, 3/4" external thread. Thanks to their design, connections can be easily detached from the control valve and do not require additional screws.

Drain to the sewage system: The sewer connection end on the control valve is connected to the overflow elbow with a hose. The outlet to the sewer and the overflow valve are integrated, so only the overflow valve needs to be connected to the sewer with a 1/2' hose. We recommend using a garden hose for this purpose.

The sewage system drain should be no more than a few metres away or more than 1 metre above the valve. The intensity of water discharge into the sewage system while rinsing is close to the nominal capacity of the device.

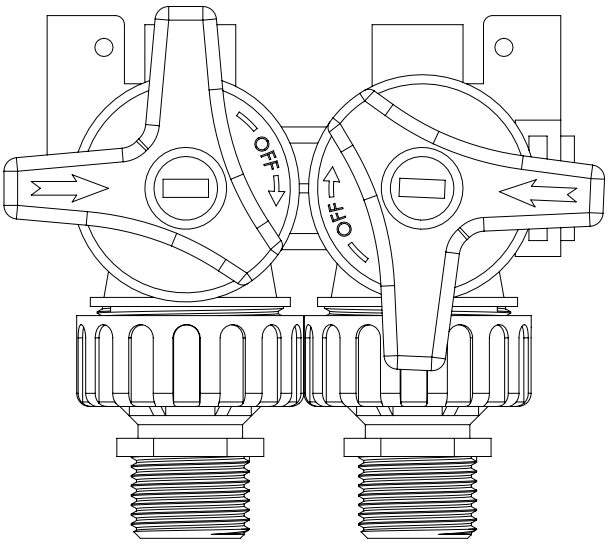
- **Bypass inlet and outlet are marked with arrows.**
- **A drain outlet in the control head, integrated into the brine tank overflow, leads to the drain.**

4.3.1. Bypass valve connection

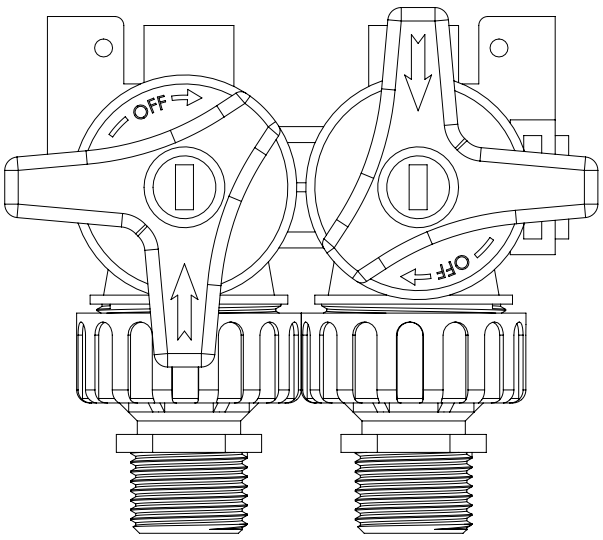
The system must be connected to the feed water, using a bypass. You can use the original bypass or 3 ball valves installed in the pipeline. Although the water softener is equipped with the original bypass, you are recommended to install an external bypass to shut off the entire system from the water supply if necessary.

On the next page, there is a diagram of the position of the original bypass ball valve that is included in the box.

Fig. 2



Bypass position



Operating position

When the valves are in the bypass position, water does not enter the softener.

Unsoftened water is supplied to the water system.

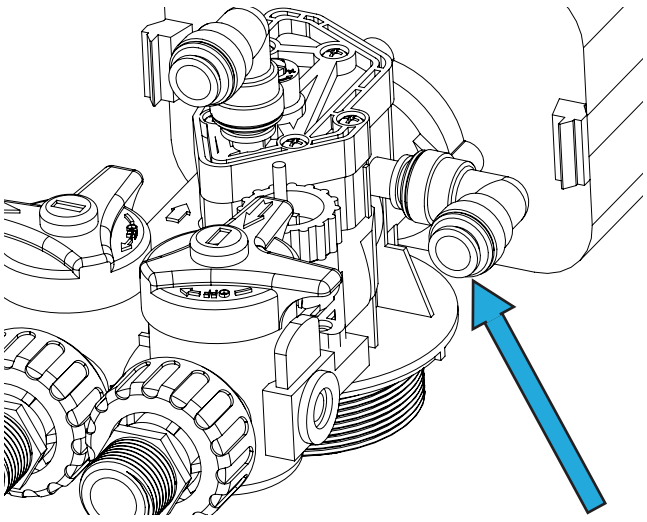
When the valves are in the operating position, water enters the softener.

Softened water is supplied to the water system.

4.3.2. Connection to the sewage system

The system should be placed as close to the drain as possible. The recommended ideal connection between the softener and the sewage system should be no more than 3 m from the sewage system or exactly above the softener.

Fig. 3



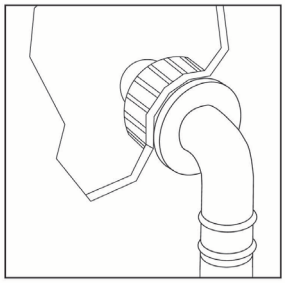
waste water hose and overflow elbow connection

overflow valve

IT IS NECESSARY to install the overflow cap that is included in the box.

In order to install the overflow hose, place the overflow cap in the hole on the side of the brine tank. It should be fixed with a nut and gasket as shown in **Fig. 4.**

Fig. 4



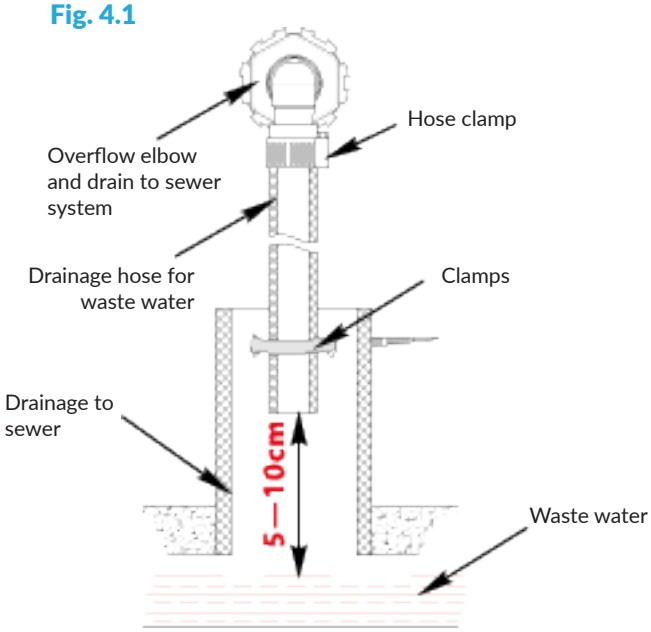
Tank overflow cap

Connection of the waste water hose to the sewerage system:

Place the garden hose in the sewer pipe. To do this, drill a hole with a diameter of 16 mm, insert the garden hose at least 50 cm deep into the sewer pipe.

If you have a siphon designed for a water softener, insert the 1/2‘ hose into the 1/2’ stub and secure with a metal clamp.

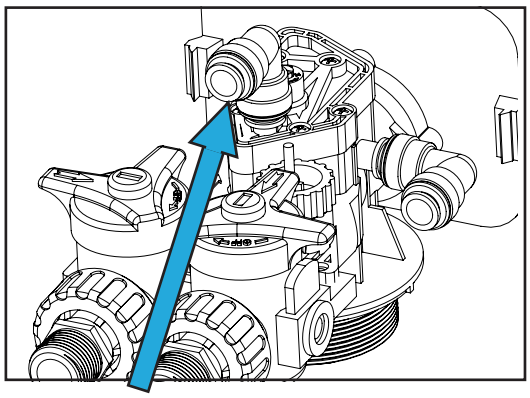
Fig. 4.1



4.3.3. Brine hose connection

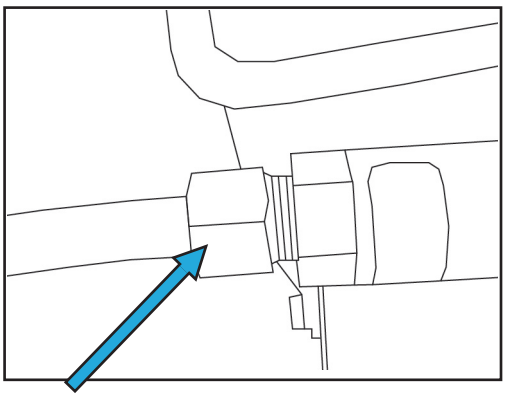
You need to install the brine hose and screw it to the suction inlet to which it should be screwed. Make sure that the black insert, which is included in the box, is placed in the tube.

Fig. 5



Suction inlet

Fig. 6



Brine hose connection to the well in the softener

Make sure that all parts of the system are connected tightly, so that no air can get inside.

4.3.4. Electrical connections

Once the previous connections have been made, connect the valve with the programmer to the mains (220V-50Hz) via the power supply unit included in the box.

The electrical system of the device must be installed in compliance with the applicable regulations. The power supply line must be protected by suitable protective devices (circuit breaker and fuse).

Once the hydraulic system has been checked for correctness and the power cable has been connected, apply electrical power to the unit. The motor in the control valve should move to confirm the service position of the unit. The display will then show the service screens.

Power transformer: remove the power input protection (black cover) on the back of the control valve and insert the power connector. Connect the power transformer to a power source located close to the system (230V-50Hz); always observe local electrical regulations for protective devices.

BEWARE: The system should be connected to a separate 24-hour power supply without connected energy consuming devices.

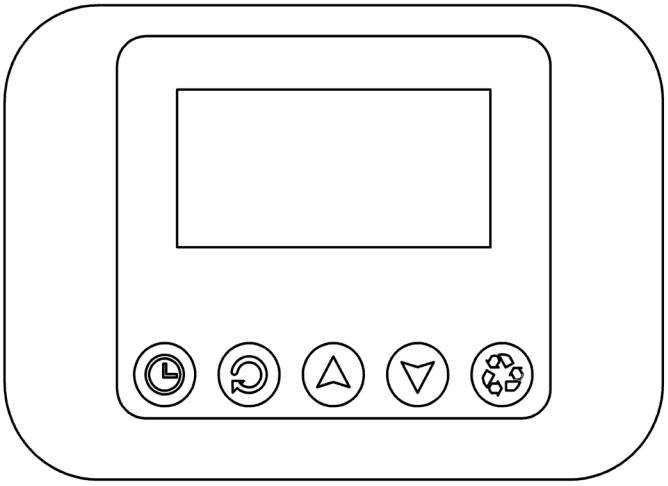
5. PROGRAMMING

5.1. Initial settings

Button functions

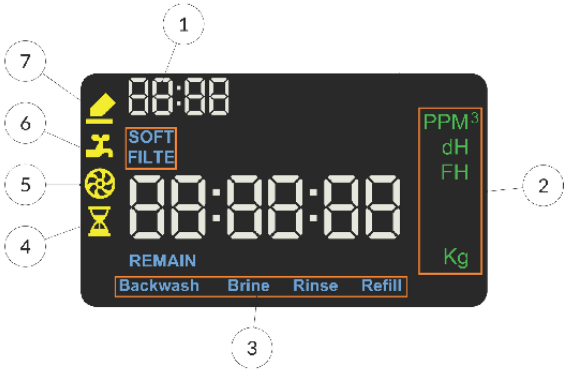
Fig 7

Programmer front panel



BUTTON	DESCRIPTION
	CLOCK Used for setting the time and date.
	ENTER Used for confirmation and moving to the next parameter.
	INCREASING/DECREASING VALUES
	REGEN (Back) Used for moving back to previous parameter. Starts programmed regeneration (holding the button for more than 5 seconds will start the immediate regeneration).

Screen description



1. Clock / Information in diagnostic mode
2. Units
3. Regeneration cycles
4. Indicator of planned regeneration at the next set time
5. Flow indicator
6. Operating mode: softening
7. Programming mode indicator

5.1.1. Time setting

1. Press to enter the time settings.
2. Set the flashing digits, pressing
3. Confirm the selected time with and move on to set the minutes.
4. Repeat steps 2 and 3 for the setting the minutes and the day of the week.

*** Increase or decrease the values in all programmable procedures in the same way.**

5.1.2. Water hardness units

Use to select the PPM hardness unit.

PPM – hardness will be measured in mg/l or parts per million CaCO3.

(Setting the hardness unit in PPM affects other units and modifies the programmed parameters)

°Hd - hardness measured in German degrees.

°Hf - hardness measured in French degrees.

Confirm with and move on to the next parameter.

5.1.3. Raw water hardness

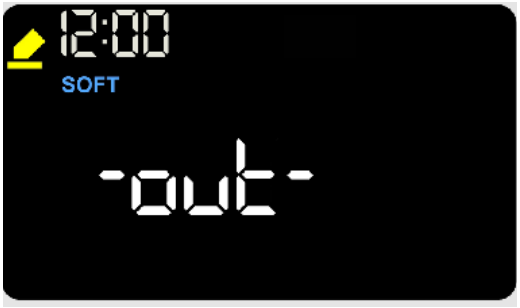
Now set the hardness of the raw water. For this purpose, measure the hardness of your tap water, using the drip tester included in the box. Follow the User Manual. Convert the water hardness result from the units given on the drop tester package to PPM units (mg/l CaCO3).
Example:
In the case of hardness of 25°fH -> 25 x 10 = 250 ppm (mg/l CaCO3).
You can find a table with the water hardness units conversion on page 6.

Enter the raw water hardness value in PPM, confirming each digit with .

Change the values with .

Confirm with and move on to the next parameter.

5.1.4. Softened water hardness



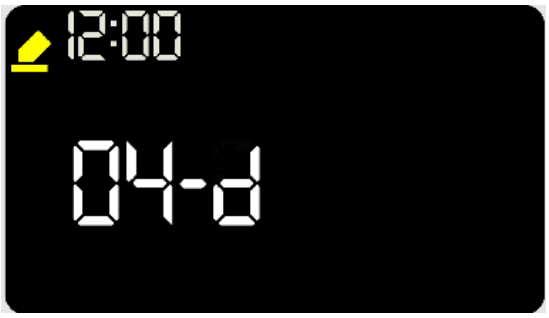
Using ▲▼ , set the hardness of the water coming out of the softener: a default value is 0 PPM (mg/l CaCO3).

* To increase the hardness of the outlet water *(the recommended water hardness is 60 PPM)*, change the settings of the mixer, located in the valve. You can find the entire process of mixing water on page 20.

Enter the final water hardness value into the settings in ppm.

Confirm with ⟳ and move on to the next parameter.

5.1.5. Regeneration intervals



Choose a day interval between the forced regeneration by pressing ▲▼

For households, select 10 days.

Confirm with ⟳ and move on to the next parameter.

5.1.6. Regeneration time

Choose the regeneration time. By default, the softener is set to **2.00**.

For households with municipal water, we recommend setting the regeneration for the time of lowest water consumption (so that the water is not used during this time and the pressure in the water supply network is as high as possible).

To change the regeneration time, use ▲▼

Press ⟳ to confirm and move on to the next parameter.

5.2. Extended settings

Press + for 3 seconds to enter advanced settings after contacting the Service.

Do not change the settings yourself without contacting the Service first.

6. START-UP

Once the valve is programmed, you can start the system.

Make sure that the softener inlet and outlet valves are closed and that the bypass is open to allow access to water.

6.1. Venting

Set the valve to the **BACKWASH** cycle.

• For this purpose, hold down the regeneration button for 5 seconds; the softener will switch to the BRINE cycle). Wait until the valve is positioned (the sound of the motor running will stop); the BRINE display will turn off and the countdown will be displayed.

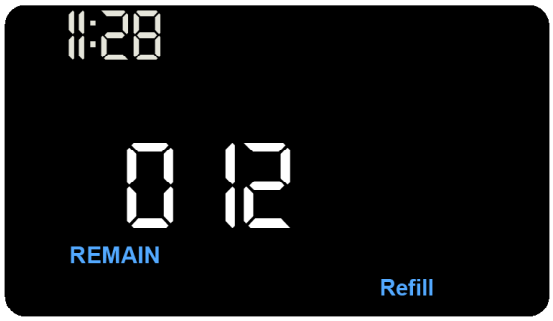
• Press and release , the softener will switch to the BACKWASH cycle. Wait until the valve is positioned (the sound of the motor running will stop); the BRINE display will turn off and the countdown will be displayed. Disconnect the power supply.

• Half open the water inlet valve to slowly fill the softener cylinder with water. You will hear air passing into the sewage system. Wait until the bubble-free water flows into the system. It means that the air is completely removed from the cylinder.

BEWARE! If the main water valve is opened too quickly, damage can occur to the device and / or the medium. Therefore, listen as air slowly escapes down the drain to the sewage system.

When all the air has escaped from the cylinder, open the raw water inlet valve completely to rinse the medium (during the first rinse, the water may have a yellowish colour). Wait until the water is clear and contains no air bubbles.

6.2. Refill control



• Connect the power supply. After the previous step, the valve is set to the BACKWASH cycle.
• Press and release ♻, the softener will proceed to the RINSE cycle.
• Once the valve is positioned, press and release ♻ again to switch to the REFILL cycle.
• Wait until the REFILL cycle is completed. The system will switch to the SERVICE mode
• Prefill the following amount of water:

2.4 litres for Ecoperla Nexo 8
4.5 litres for Ecoperla Nexo 15
6.6 litres for Ecoperla Nexo 22

If the unit has been disconnected for a longer period of time, the time setting procedure may need to be repeated.

6.3. Suction control

• Press ♻ for 5 seconds. The softener will switch to the BRINE cycle.

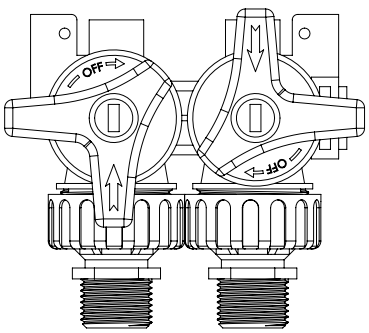
• Make sure that the valve draws water from the tank evenly without sucking air (no bubbles).

• Make sure that the water is drawn from the tank until it reaches the end of the nozzle (suction filter).

* If the water is not drawn or the air is sucked, cancel the regeneration by going through the next cycles. Close the valves, remove the tube and push it firmly in again. Open the valves and check whether the problem has been solved.

This step is crucial for the correct operation of the system.

6.4. Refill



Go through the cycles step by step, pressing and releasing ♻, until you reach the REFILL cycle and let the system complete the whole cycle.

Set the bypass valves to their operating positions.

From this point on, you will be using softened water in your household.

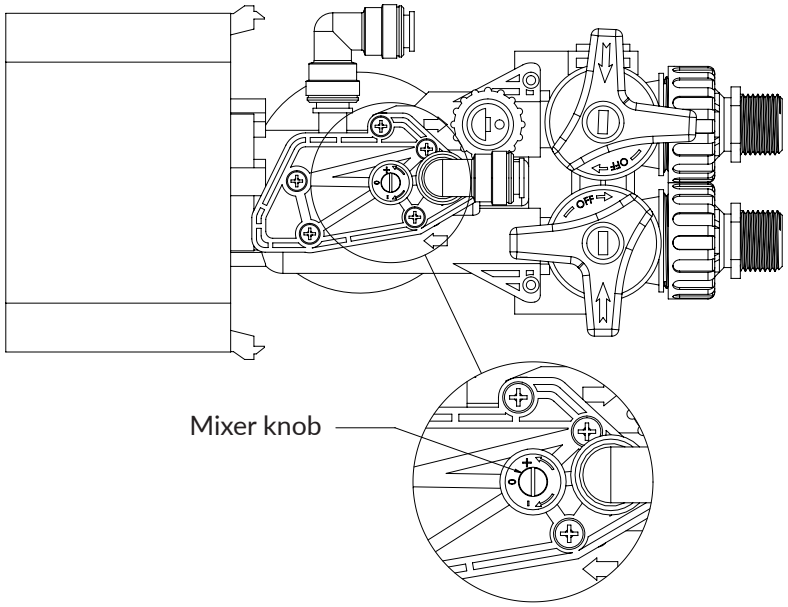
6.5. Setting the hardness of softened water

Once the softener is running, you must set the softened water hardness. The hardness should be set at 6 French degrees (°fH) or 60 mg CaCO3/l (PPM).

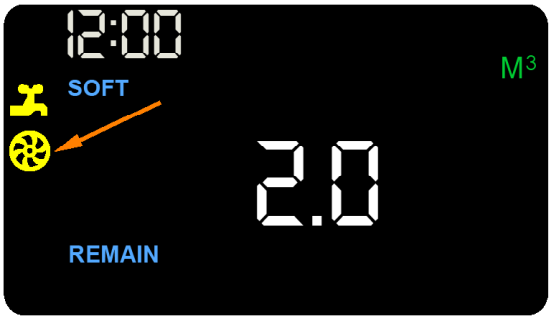
- Turn the mixer half a turn counter-clockwise.
- Wait for a few minutes and let the tap water run so that the water in the pipes changes its properties.
- Take a water sample and measure its hardness with the water hardness tester included in the box.
- Repeat the process until the desired hardness of the tap water is achieved.

Turning the mixer counter-clockwise increases the hardness. Turning it clockwise decreases it (Fig.8).

Fig. 8
Mixer knob



6.6. Checking the flow meter



In order to check the operation of the flow meter, which is responsible for volumetric regenerations, unscrew one of the water points (e.g., tap) through which the softened water flows. Check if the water flow indicator (the mark on the left just below the tap symbol) is displayed on the valve screen.

If not, make sure that the flow meter connector is well connected. If it is, and its operation is still not visible, make sure that the impeller rotates freely and is not blocked by any foreign object.

6.7. Replenishment of salt tablets

After starting the water softener, keep replenishing salt tablets in the salt container. The salt is a regenerator of the ion-exchange medium. It regenerates ion-exchange capacity of the medium and allows the device to continue working. We recommend using tablet salt intended for water treatment systems, as it does not contain impurities that could damage the device.

1. Open the lid of the tank.
2. Add salt to the appropriate chamber.

Salt tablets are usually packed in 25 kg bags. Make sure that the softener always gets the salt it needs in order to carry out brining.

Even if you add more salt than required, the device will use only the amount needed, and the rest will be used in subsequent regenerations.

6.8. Manual regeneration

Manual regeneration methods:

- **Forced: Press and hold for 5 seconds.**
- **Delayed: Press and release , the screen will display a countdown hourglass indicating the remaining time until the next regeneration.**

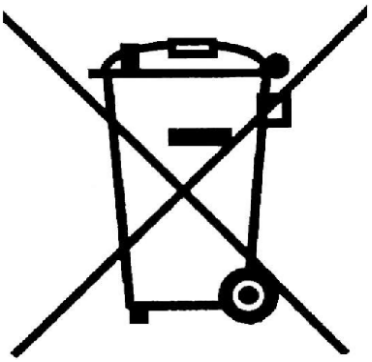
7. OPERATION

7.1. Water softener operation

The water softening system requires replenishment of salt tablets in the brine tank. The demand for salt depends on the overall hardness of the raw water, as well as the average water consumption.

The station requires systematic periodic regeneration. Medium regeneration requires an appropriate amount of water. Depending on the size of the device, these values will vary (Table on page 7).

To protect the environment, the device should be disposed of in accordance with the requirements for waste electrical and electronic equipment. Any used or damaged electrical and electronic components should be returned to your local selective waste collection point or dealer. If electrical and electronic waste is not handled in accordance with national requirements, penalties may be imposed on the user.



BEWARE: Any modifications made by the User or Installer, not authorised by the manufacturer, will void the warranty and may cause malfunction of the device.

7.2. General information

To ensure long-term and trouble-free operation of the water softener, maintenance services must be performed at regular intervals and a record of the activities performed must be kept.

If you sign a service agreement with the supplier, the supplier will assume responsibility for performing regular maintenance on the system.

7.3. Proper operation requirements

- Connect the device correctly according to the User Manual.
- Use a mechanical pre-filter.
- Ensure the appropriate quality of the feed water, particularly with regard to iron and manganese content, turbidity, pH, chlorides and microorganisms.
- Take care of the suitable working conditions: operating pressure within the required limits, temperature within the required limits, low humidity in the room, protection against atmospheric factors (sunshine, precipitation, etc.).
- Make sure that the pressure in the device does not rise above the maximum operating pressure and below atmospheric pressure of 0 bar (vacuum).
- Supply electrical power with the correct voltage and frequency in accordance with national standards.
- Ensure appropriate patency and throughput of rinse water reject into the sewage system.
- Perform the start-up of the device in accordance with the User Manual.
- Enter the value of the raw water hardness into the device controller.
- Use the water softener in accordance with the User Manual.
- Close the emergency bypass of the device.
- Regularly replenish salt and replace cartridges in the pre-filter (at least every 6 months).

7.4. User maintenance

The user is required to perform the following maintenance procedures:

- Regularly replace the pre-filter cartridge (depending on the contamination, but at least every 6 months).
- Replenish salt tablets in the salt container.
- Monitor irregularities in device operation (e.g. alarm displayed on the controller, large amount of water in the salt container, no salt consumption, leaks, poor quality of treated water).

7.5. Medium disinfection and cleaning

Disinfection and maintenance should be done with Ecoperla Antibacter and Ecoperla Antidotum. Use the products as intended.

7.6. Consumables

List of consumables:

- Salt tablets (usually packed in 25 kg bags): depending on water hardness and water consumption,
- Pre-filter cartridges in the required mechanical filter: usually replaced every 2-6 months,
- Ecoperla Antidotum, recommended for removing deposits from the medium: once a year according to the User Manual,
- Ecoperla Antibacter, recommended for medium disinfection: once a year according to the User Manual,
- Medium: replace every 5-10 years.
- Injector: replace every 2-5 years; may need to be replaced when hardness is very high or raw water quality is low,
- Piston guide and plunger: replace every 2-5 years; may need to be replaced more often when hardness is very high or raw water quality is low.

7.7. Loss of warranty

The device must be installed and operated in accordance with its intended use and the User Manual and in appropriate conditions. Some negligence or irregularities in this respect may will void the warranty.

Factors that may void the warranty include:

- Poor quality of raw water (in particular exceeding the standards for iron and manganese content, turbidity, pH, chlorides and microorganisms),
- No pre-filter, no cartridge in the pre-filter,
- Inappropriate hydraulic connection (e.g. interchange of inlet and outlet),
- No or insufficient drainage of rinse water into the sewage system,
- No venting at start-up or significant amount of air in the device,
- Poor quality of salt tablets (contaminated or in a loose form or without the certificate of the National Institute of Hygiene),
- Exceeding the maximum permissible pressure for the device,
- Pressure in the installation below 0 bar (vacuum),
- Water hammer in the system,
- Too low or too high temperature (below 4°C or over 45°C),
- Change of controller settings or disassembling the device, or its modification without consulting the technical department,
- Using chemical agents which have a negative impact on the medium or the device,
- Vandalism or other mechanical damages,
- Failure to replenish salt or to perform device regeneration.

If any of the above abnormalities are found, the warranter may decide to void the warranty. Since the above-mentioned inappropriate connection or maintenance does not always cause damage, the warranter may decide to maintain the warranty of the device.

8. SERVICE

8.1. Activities performed by service technician

To ensure many years of trouble-free operation and a 10-year warranty period, the device should be serviced annually after the second year of operation.

Basic service activities performed by the service technician during the inspection:

- checking water hardness,
- checking brine intake,
- checking/cleaning/replacing the injector,
- checking the operation of flow meter,
- checking a salt level in the brine tank,
- checking the pre-filter cartridge
- checking the operation of the device,
- checking for leaks,
- issuing of a protocol.

Additional activities performed by service technician (may be additionally charged):

- replacement of the pre-filter cartridge,
- salt replenishment,
- providing consumables,
- checking/change of controller settings,
- mixer adjustment,
- control valve (piston, guide, etc.) cleaning,
- maintenance of the device with Ecoperla Antidotum and Ecoperla Antibacter.

8.2. Groundless request for warranty service

If the device does not work properly, you should make sure that it is not caused by incorrect operation before calling a service technician. In the case of groundless request for warranty service, you will be charged with travel and service cost.

Groundless request refers to the following cases:

- all cases listed under “Loss of warranty”,
- no salt in the salt container,
- unscrewed bypass valve (raw water bypasses the device),
- wrong water hardness value entered,
- too low feed water pressure,
- a significant change in the quality of the feed water, which has a negative impact on the device operation,
- failure to replace consumables in accordance with the User Manual.

9. TROUBLESHOOTING

Problem	Possible cause	Solution
1. No display of the control board on the screen.	a. No power at the power outlet.	a. Repair the outlet or use another functional outlet.
	b. The power supply cable is disconnected from the control board.	b. Plug the power supply into the socket or control board.
	c. Incorrect power supply voltage.	c. Connect to the power supply with correct voltage.
	d. Defective transformer.	d. Replace the transformer.
	e. Defective control board.	e. Replace the control board.
2. The displayed time on the control board screen is incorrect.	a. Power cuts.	Set the current time.
	b. Time is set incorrectly.	
3. Hard water between regenerations.	a. Improper regeneration.	a. Repeat regeneration.
	b. Contaminated softener medium	b. Use the Ecoperla Antidotum cleaning granules.
	c. Improper salt dosage.	c. Make sure that there is an appropriate amount of brine and that it is completely aspirated during the brining cycle.
	d. Inappropriately programmed hardness or wrong capacity.	d. Go through the programming procedure.
	e. Variable water hardness.	e. Measure the hardness of the raw and softened water. Reprogram these values and adjust the hardness by referring to the subsection “Setting the softened water hardness”.
	f. Restricted rotation of the impeller (water meter).	f. Inspect, clean and/or replace the impeller. *
	g. Hardness results from the excessive water consumption.	g. Repair pipes and/or fittings that may cause leaks. Increased water consumption.*
	h. The life of the resin has ended.	h. Replace the ion exchange resin.
4. Brine is not sucked in.	a. Low water pressure.	a. Increase the pressure with the appropriate pump.
	b. Outlet hose is clogged	b. Clean the hose.*
	c. Blocked injector.	c. Clean the injector.*
	d. Defective injector.	d. Replace the injector.*
	e. Air is being sucked through the tube.	e. Remove the tube and reinsert it firmly.
5. Overfilled brine tank.	See point 4.*	
6. The system uses to much or too little brine.	a. Incorrectly set value (of the raw and softened water).	a. Measure the hardness of the raw and softened water and program the device correctly.
	b. A foreign body in the injector, improper flow through DLFC or BLFC.	Clean/replace: the injector, DLFC and BLFC.*
	c. Defective injector, DLFC or BLFC.	
7. Unsoftened water after regeneration.	a. The device has not performed regeneration.	a. Check for possible power cuts.
	b. No salt in the brine tank.	b. Replenish the salt and perform regeneration.
	c. See point 4.*	

Problem	Possible cause	Solution
8. ERR 1	The valve cannot locate the position of the piston (the valve does not position itself in service). When the valve is connected to the power supply, it searches for the start position and then starts.	Contact the service: serwis@klarsan.pl phone 508 08 02 02
9. ERR 2	No optical sensor location.	
10. ERR 3	The electric motor is blocked or damaged.	
11. ERR 4	Incorrect piston position.	

*** You need to remove pressure on the valve and close the water supply (next page).**

Remove pressure on the valve and close water supply:

1. Turn off the inlet valve of the device.
2. Open the lowest located draw-off point in the system.
3. Press ♻ for 5 seconds.
4. Wait for the valve to be positioned, press and release ♻ to activate BACKWASH.
5. When the valve is fully positioned, disconnect the device from the power supply.
6. When the repairs are completed, connect the device back to the power supply.
7. Restart the unit as described in the “START-UP” section.

10. SERVICE CARD

Maintenance service after 2 years of operation	Date of maintenance service:	**Maintenance service after 3 years of operation**	Date of maintenance service:
Signature of the service technician:		Signature of the service technician:	
Stamp of the service technician:		Stamp of the service technician:	
Maintenance service after 4 years of operation	Date of maintenance service:	**Maintenance service after 5 years of operation**	Date of maintenance service:
Signature of the service technician:		Signature of the service technician:	
Stamp of the service technician:		Stamp of the service technician:	
Maintenance service after 6 years of operation	Date of maintenance service:	**Maintenance service after 7 years of operation**	Date of maintenance service:
Signature of the service technician:		Signature of the service technician:	
Stamp of the service technician:		Stamp of the service technician:	
Maintenance service after 8 years of operation	Date of maintenance service:	**Maintenance service after 9 years of operation**	Date of maintenance service:
Signature of the service technician:		Signature of the service technician:	
Stamp of the service technician:		Stamp of the service technician:	

11. WARRANTY

The dealer warrants efficiency of Ecoperla Nexo in accordance with the warranty conditions included in the User Manual.

In order to execute the warranty, you need to present proof of purchase of the system. If you have a problem with your Ecoperla Nexo, please contact your dealer.

SERIAL NUMBER

SERIAL NUMBER AUTHORISED DEALER / SERVICE CENTRE