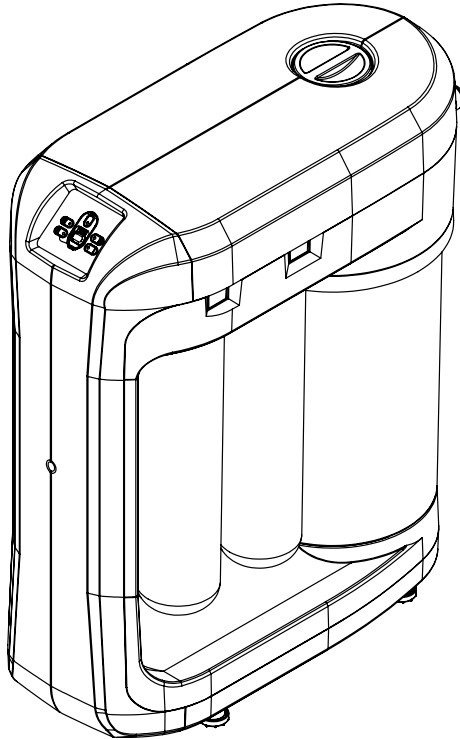


AQUAPHOR®
water filters



RO-206S

REVERSE OSMOSIS SYSTEM

Operation manual

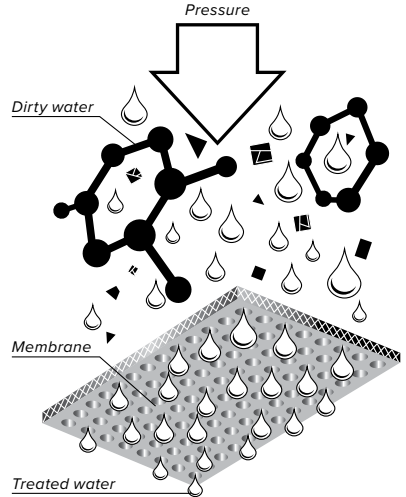
1. Introduction

RO-206S Reverse Osmosis System (hereinafter referred to as RO-206S) is manufactured by Westaqua-Invest OÜ (Estonia).

RO-206S is intended to purge of mechanical and colloidal particles, organic impurities and to remove foreign flavour, odour and colour when post-treating cold drinking water supplied via municipal and local water supply networks (water from artesian boreholes, wells, etc.) to meet the requirements, specified in this Manual.

RO-206S works on the principle of transferring water molecules through a semipermeable membrane by applying overbalanced osmotic pressure. This pressure increases with increasing water salinity, so the higher the water salinity, the greater water supply pressure is required to keep RO-206S operating.

RO-206S is made of safe, non-toxic materials ensuring that no substances hazardous to both human health and the environment are released into the water. RO-206S meets EC hygiene requirements.



2. Specification Data

Overall dimensions (length × height × width):	411 × 486 × 195 mm
Water supply pressure, min	90 kPa
Water supply pressure, max	0.63 MPa
Filtered water temperature	+ 5 to + 38 °C
Reverse osmosis membrane maximum efficiency rate (at +25 °C and 0.4 MPa)	47.2 l/h (for 2 membrane cartridges)
Treated/drain water ratio (at a water temperature not lower than 20 °C)	1:2–1:4
Weight, not more than	12 kg

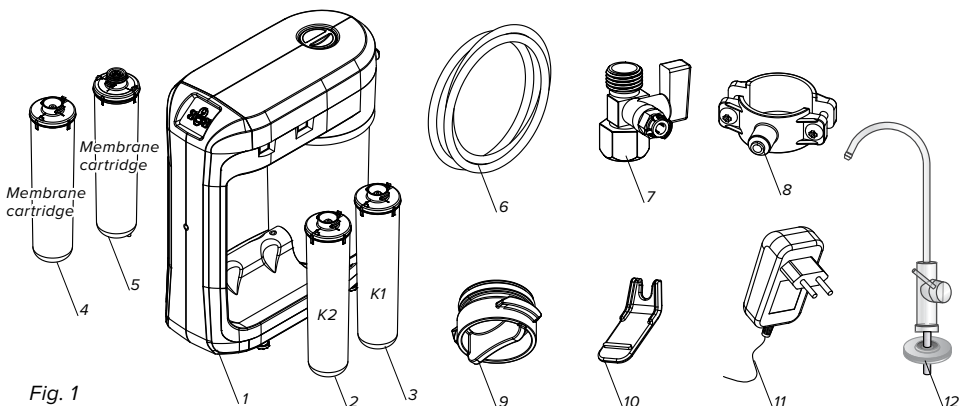


Fig. 1

3. Scope of Delivery (Fig. 1):

N°	Name		Quantity
1	RO-206S housing assembly (1)		1 pc.
2	Cartridges:		
	Pre-treatment unit:		
	2.1	2.1.1 K1 replaceable filter cartridge (3)	1 pc.
		2.1.2 K2 replaceable filter cartridge (2)	1 pc.
	2.2	Reverse-osmosis membrane unit:	
	2.2.1 Replaceable membrane cartridge (3, 4)	2 pcs.	
3	Connecting pipes (6)		
	3.1	1/4" JG tube (d 6.35 mm, L=1.3 m, red)	1 pc.
	3.2	1/4" JG tube (d 6.35 mm, L = 1.2 m, black)	1 pc.
	3.3	1/4" JG tube (d 6.35 mm, L = 1.0 m, blue) with an inserted metal bushing	1 pc.
4	Connecting assembly (7)		1 set
5	Drain clamp (8)		1 set
6	Service plug (9)		1 pc.
7	Wrench (10)		1 pc.
8	Power supply unit (11)		1 pc.
9	Tap for treated water (12)		1 set
10	Operation manual		1 pc.

Key specifications of the Power supply unit:

input voltage	100-240 V AC
built-in input plug	CEE 7/16
output voltage	24 V DC
output current	5 A
coaxial output connector	Ø 2,5 × Ø 5,5 mm
power lead length, not less than	1.0 m

4. Design and Functions of RO-206S

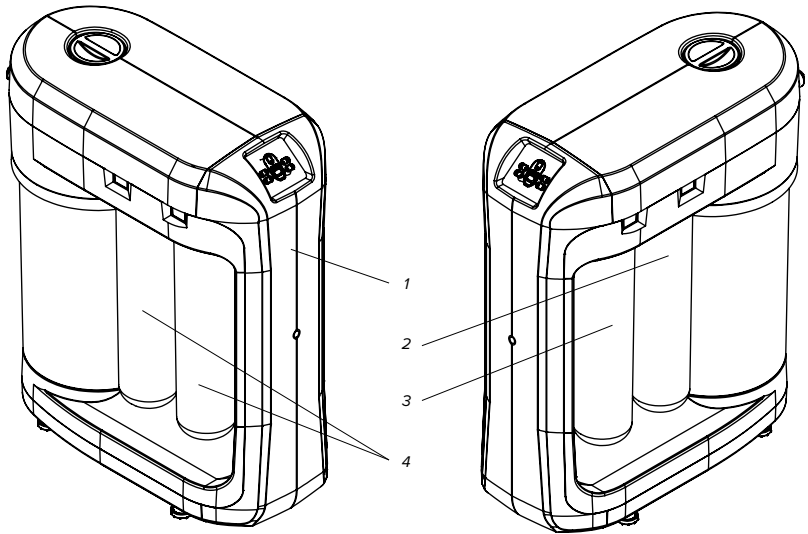


Fig. 2

Main units of RO-206S:

1 – RO-206S housing assembly;
2 – Pre-treatment unit K1;

3 – Pre-treatment unit K2;
4 – Reverse-osmosis membrane unit.

1. The **RO-206S** housing (1) consists of a top plate, a cover, a stand, a storage tank and a front panel. Four collectors (for the removable filter cartridges) and a hydraulic unit are fixed in the top plate. The top plate is covered with a decorative cover, equipped with a handle fixing the cover in its central part. A pump is installed on the lower part of the housing (stand) to increase the water pressure in RO-206S.

RO-206S is equipped with a storage tank for treated water to provide the desired water quantity at any time.

At the front, the RO-206S housing is covered with a decorative panel where an electronics unit and control elements are located.

2. K1 and K2 replaceable filter cartridges are part of the **water pre-treatment unit** (2, 3). The water pre-treatment unit is designed to remove impurities from the water such as iron hydroxide and active chlorine that can damage the reverse osmosis membrane.

3. The **reverse osmosis membrane unit** (4) includes two replaceable membrane cartridges. The reverse osmosis membrane unit removes organic, inorganic compounds and salts from water as well as softens it.

ATTENTION! The RO-206S performance depends on the pressure in the water supply system. No proper operation of RO-206S is guaranteed at pressures below 90 kPa in the water supply system.

5. RO-206S Installation

ATTENTION! It is not recommended to independently connect RO-206S units to the water supply network. Only authorized specialists should install RO-206S units.

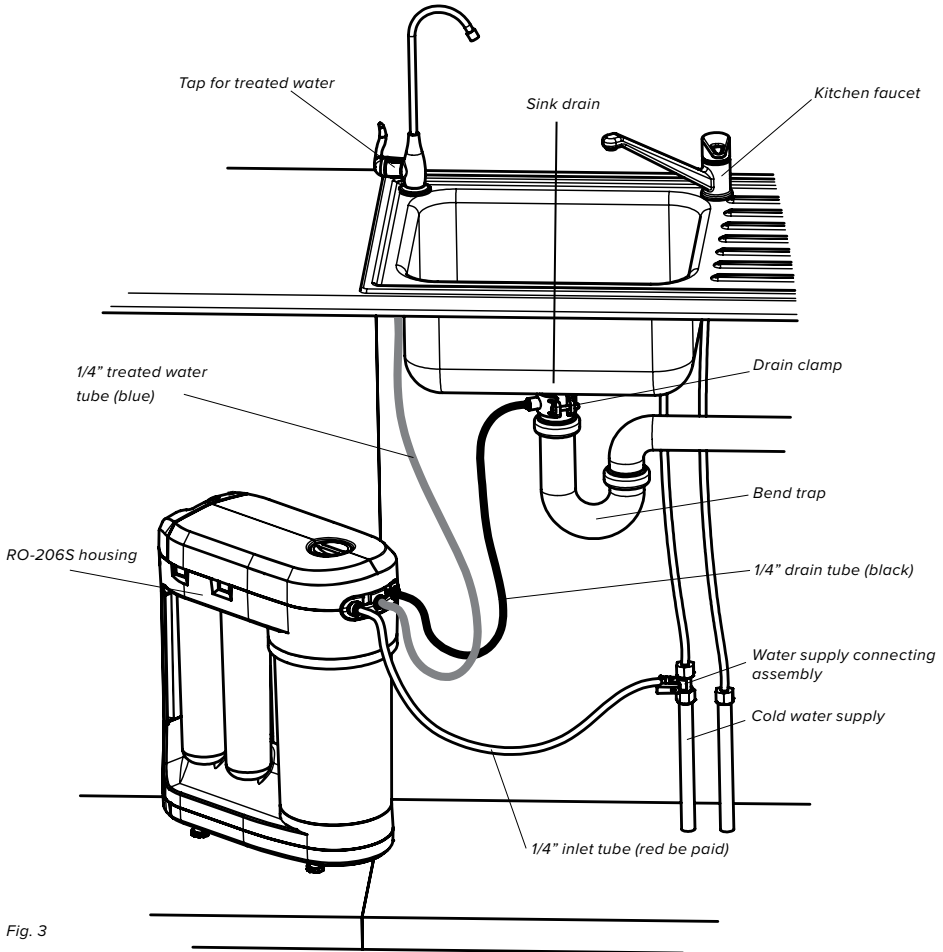


Fig. 3

Find a convenient location for your RO-206S and the treated water tap. Attention should be paid to prevent the supply tubes from bending and twisting (Fig. 3).

Your RO-206S must be installed far from or insulated from heat sources (stoves, boilers, hot water pipes, dishwashers, washing machines, etc.).

Installation of the connecting assembly*

- Turn water off at the mainline.
- Open the kitchen faucet to relieve pressure in the water supply system.
- Unscrew the clamping nut from the flexible hose in the cold water supply line to the faucet.

ATTENTION! The flexible hose may contain a little water after depressurizing. When disconnecting the flexible hose, use a 200 ml vessel to drain the residual water.

- Screw the clamping nut of the connecting assembly onto the thread of the cold water supply.
- Screw the clamping nut of the flexible hose onto the thread of the connecting assembly.
- Close the inlet cock of the connecting assembly and supply water from the cold water supply line to make sure that the connection is tight.
- Connect the corresponding JG tube.

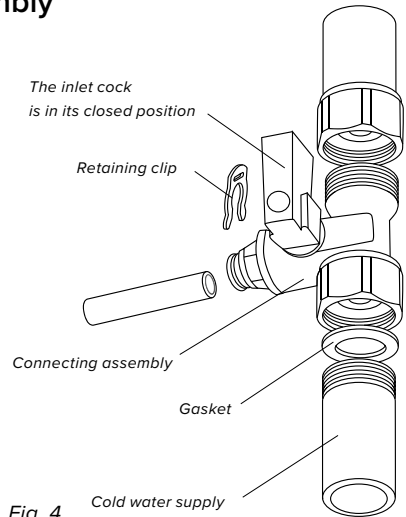


Fig. 4

ATTENTION! The end of the pipeline must be flat at the point, where the connecting assembly is connected. Do not use excessive force when tightening the clamping nut. Otherwise, it will damage the gasket.

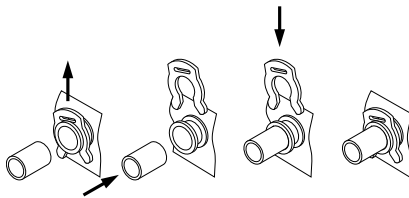


Fig. 5a

How to connect the JG tubes (Fig. 5a)

Pull the retaining clip out from under the plastic sleeve, insert the pre-moistened end of the tube into the plastic sleeve until it stops about 15 mm deep and install the clip.

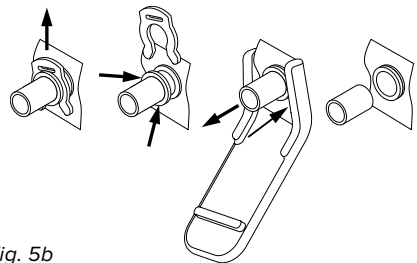


Fig. 5b

How to disconnect the JG tubes (Fig. 5b)

Pull the retaining clip out from under the plastic sleeve and pull the tube out by pressing on the end of the plastic sleeve.

Check that the tube is tight. The tube should not be pulled out using a force of 80-100 N.

* The manufacturer reserves the right to use connecting assemblies and taps of a similar design. If you have any questions, please, contact the service department.

Installation of the treated water tap (Fig. 6)

- Drill a 12 mm hole in the sink (benchtop).
- Place the rubber gasket (2), the decorative plate (3), the rubber gasket (4) on the threaded shank of the tap (1) and insert the tap into the sink hole.
- Put the plastic (5) and the metal (6) lock washers on the threaded shank from the bottom of the benchtop and screw the fixing nut (7) until tight (you can use a 14 mm pipe wrench).
- Insert the metal sleeve (8) into the blue tube (10), and the tube into the threaded shank of the tap (1) and tighten the clamping nut (9) until tight.
- Check that the tube (10) is tight. The tube should not be pulled out using a force of 80-100 N.

ATTENTION! It is recommended to use the standard RO-206S tap for treated water. Using other taps may result in humming and other unusual sounds.

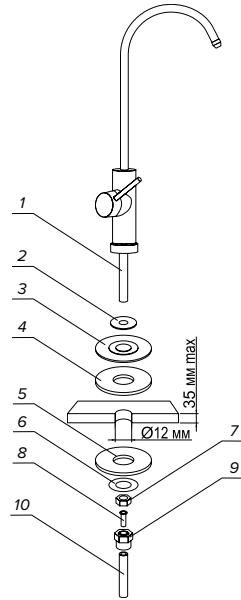


Fig. 6

Installation of the drain clamp* (Fig. 7)

- It is recommended to install the clamp on the sink drain upstream of the S-trap (the drain clamp fits most drain pipes which are about 40 mm in diameter).
- Attach the part of the clamp with the fitting to the pipe and find the optimal position of the clamp and a hole for the tube.
- Drill a 7 mm hole in the pipe wall in the intended place.
- Remove the cut round part from the gasket (1).
- Remove the protective film (2) from the gasket (1). Attach the gasket (1) on the inside of the clamp so that the hole in the gasket aligns with the hole in the clamp fitting.
- Install the clamp on the pipe, aligning the hole in the fitting with the drilled hole in the pipe, and then tighten the bolts (3). The bolts should be tightened evenly so that the two parts of the clamp are parallel.
- Put the plastic nut on the JG drain tube so that the tube extends from the other side of the nut by at least 20 mm (Fig. 7b).
- Insert the tube into the drain clamp and screw the nut onto the fitting.

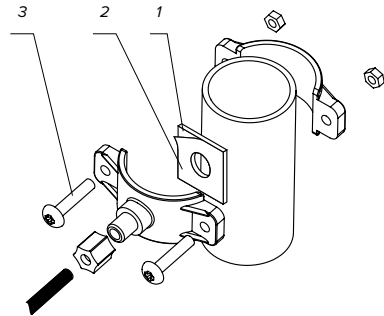


Fig. 7a

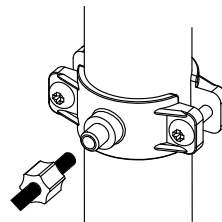


Fig. 7b

Note. Push the JG tube deeper into the pipe if you are disturbed by the sound of water coming from the drain clamp.

* The manufacturer reserves the right to use connecting assemblies and taps of a similar design. If you have any questions, please, contact the service department.

6. Launching RO-206S

Step 1. Connecting inlet tubes

- Connect the inlet tubes according to the diagram shown in Fig. 9.

Step 2. Preparing your RO-206S for use

- Remove the overwrapping film from the cartridges.
- Remove transport plugs (if any) from the cartridges.
- Rinse the O-rings of the cartridge under a water stream.
- The cartridges are inserted into the corresponding collectors until they stop and turn clockwise, as shown in Fig. 10a, until hear a click.
- To remove a cartridge, press the lock button as far as it will go and hold it while turning the cartridge counter clockwise, as shown in Fig. 10b, and remove it.
- Install the cartridges as shown in Fig. 11.
- Insert the plug of the power supply into the outlet, and the plug from the power supply into the socket in your RO-206S unit (Fig. 12).

Step 3. Flushing the pre-treatment unit

- Open the treated water tap.
- Turn the inlet cock of the connecting assembly to its open position. The cartridge life indicator lights blink (the light signal is followed by an audible signal).
- On the front panel of your RO-206S (Fig. 13), flash the PUSH button 3 times to start the flushing mode. At this, 5 audible signals are sounded, the cartridge life indicator lights go out and the flushing mode of the pre-treatment unit starts and lasts 30 minutes.
- First, air comes out of the system with some noise.
- Make sure the RO-206S connections are tight.

ATTENTION! If leaks are found, immediately turn the inlet cock of the connecting assembly to its closed position and check the connections. Turn the inlet cock of the connecting assembly to its open position again to continue the flushing procedure after the leak is repaired.

- After the flushing procedure is complete, your RO-206S beeps 5 times and switches into the operating mode automatically.
- Turn the inlet cock of the connecting assembly to its closed position and wait when the cartridge life light and sound indication turns off.

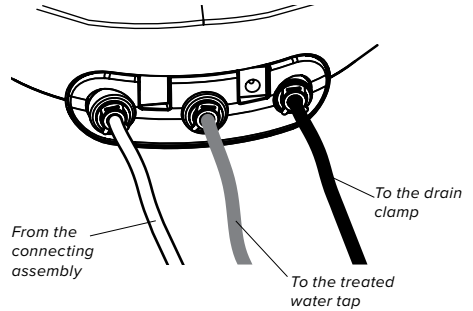


Fig. 9

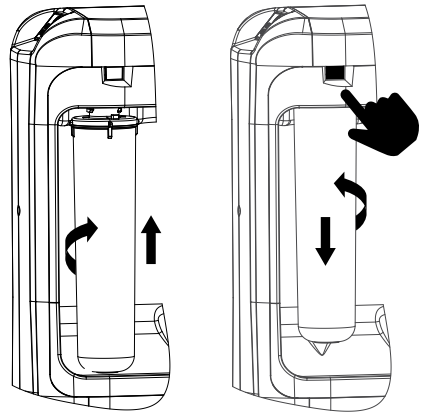


Fig. 10a

Fig. 10b

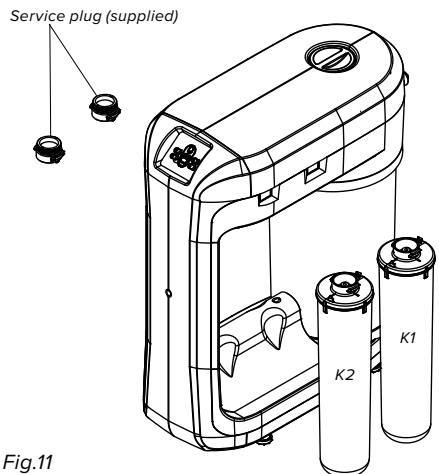


Fig. 11

Step 4. Flushing the reverse osmosis membrane unit

- Remove the service plug from the slot of the reverse osmosis membrane unit and replace it with the membrane cartridge as shown in Fig. 14.
- Turn the inlet cock of the connecting assembly to its open position. The cartridge life indicator lights blink (the light signal is followed by an audible signal).
- Make sure the RO-206S connections are tight.

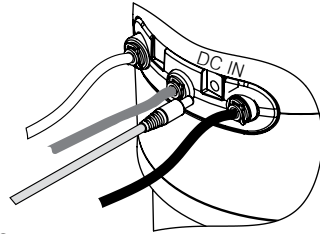


Fig. 12

Attention! If leaks are found, immediately turn the inlet cock of the connecting assembly to its closed position and check the connections. Turn the inlet cock of the connecting assembly to its open position again to continue the flushing procedure after the leak is repaired.

- Wait for the water to flow from the tap for treated water.
- Let the water through your RO-206S for 1 hour.*
- Close the treated water tap.
- Fill and empty the storage tank 2 more times.
- Press and hold the PUSH button for at least 7 seconds. The cartridge life light indication changes from the flashing mode to the constant one, and the audio signal stops.
- Make sure the RO-206S connections are tight.
- Your RO-206S is ready for use once the tank is filled.

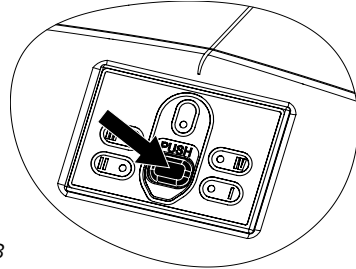


Fig. 13

ATTENTION! The water is not intended for drinking after flushing.

Periodically check your RO-206S for leaks during the first week of use. Some noise may occur during the first week of operation of your RO-206S when switching the valve because of air released from the internal cavities of the system. This is not a malfunction.

7. Replacing Cartridges

Your RO-206S is equipped with a light and sound indication of cartridge life.

The RO-206S light and sound indication is configured to work with cold drinking water from municipal water supply systems that meet sanitary standards.

Each of the filtration units has an individual light indication (Fig. 15): indicators 1 and 4 correspond to cartridges K1 and K2 of the water pre-treatment

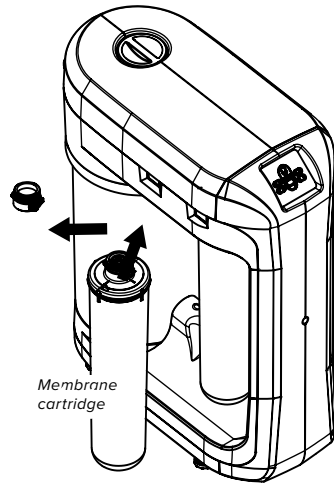


Fig. 14

unit, indicators 2 and 3 correspond to the reverse osmosis membrane unit.

The flashing indicators of the filtration units, followed by a periodic sound signal, inform about the expired service life of the corresponding cartridge. In this case, the cartridge must be replaced with a new one.

* The whole flushing procedure of the membrane cartridge takes no more than 24 hours and depends on its storage and transportation conditions.

The solid indicators of the filtration units inform about the unexpired service life of the cartridges.

Light indicator 5 (see Fig. 15) starts flashing in the event of a malfunction; it stays solid the rest of the

time, informing that your RO-206S is connected to the power supply.

Modes	Sound alarm	LED operation by numbers (see Fig. 15)		Pump operation
		Solid	Flashing	
Filling the tank with treated water (Operating mode)		1–5		+
The tank is filled (Standby mode)		5		
Launch and flush modes				
The system starts for the first time	+	5	1–4	+
Flushing the pre-treatment unit		5	1–4	+
Flushing the membrane unit	+	5	1–4	+
Cartridge expired service life indication				
Filling the tank with treated water (Operating mode)	+	5	Corresponds to the cartridge (s) that has exceeded its life cycle	+
Fault mode (Emergency mode*)				
	+		Alternately: (1, 3, 5) / (2, 4)	

* After disconnecting and then connecting the water purifier to the main body, the sound signal stops.

Replacement of K1, K2 filter cartridges and the membranes cartridges

- Close the inlet cock of the connecting assembly and open the treated water tap. Wait until the cartridge life light and sound indication turns off.
- Remove the overwrapping film from the new cartridges.
- Rinse the O-rings of the new cartridge under a water stream.
- Remove the old cartridges. For this, press the lock button as far as it will go and hold it while turning the cartridge counter clockwise, as shown in Fig. 10b.
- Insert a new cartridge into the corresponding collector until it stops and turn clockwise, as shown in Fig. 10a, until a click.

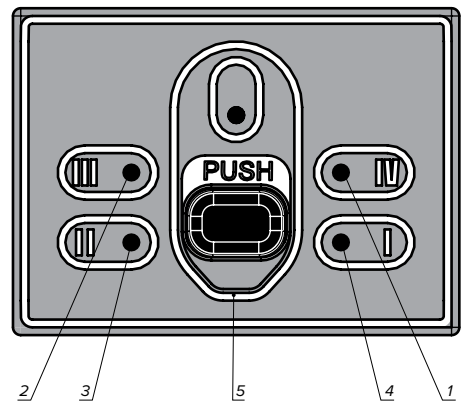


Fig. 15

After replacing K1 and K2 filter cartridges of the water treatment unit

- Open the inlet cock of the connecting assembly. The flashing indicators of the K1 and / or K2 cartridges of the water treatment unit are followed by a sound signal. The other indicators are solid.
- Make sure the RO-206S connections are tight.
- On the front panel, flash the PUSH button 3 times to start the flushing mode of the water pre-treatment unit. At this, 5 audible signals sound, the indicator lights go out and the flushing mode of the pre-treatment unit starts and lasts 30 minutes.
- After flushing procedure is complete, your RO-206S beeps 5 times and switches into the operating mode automatically: filtration and filling the tank with water, while the light indicators of the pre-treatment unit flash (the light signal is followed by a sound), the other indicators are solid.
- Press and hold the PUSH button for at least 7 seconds to reset the cartridge life. The light indication of the pre-treatment unit changes from the flashing mode to the constant one, and the audio signal stops.

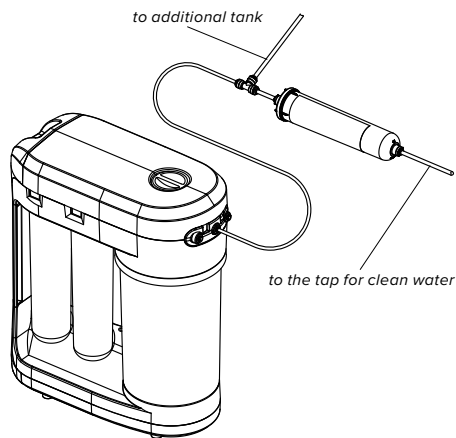


Fig. 16

After replacing the membrane unit:

- Open the inlet cock of the connecting assembly. The cartridge life light indicators turn on, the flashing light indicator of the reverse osmosis membrane unit is followed by a sound signal.
- Make sure the RO-206S connections are tight.
- Let the water through your RO-206S for 1 hour*.
- Close the treated water tap.
- Press and hold the PUSH button for at least 7 seconds to reset the cartridge life. The light indication of the reverse osmosis membrane unit changes from the flashing mode to the constant one, and the audio signal stops.

ATTENTION! Do not disconnect your RO-206S from the power supply when in the flushing mode. Otherwise, the flushing process must be repeated.

8. Storage Tank Maintenance

Empty the tank before use if you have not used the RO-206S for more than 2 days.

Empty and refill the tank 3 times for flushing before use if you have not used the system for more than 2 weeks.

Then, you can use the RO-206S again.

ATTENTION! It is recommended to flush the storage tank with a disinfectant solution at least 1 time a year.

9. Connection of additional equipment

The ability to connect additional equipment (ice machine, coffee machine, etc.) depends on the equipment's requirements for the source water and the characteristics of the water at the inlet to the water purifier. If you need to connect additional equipment, please contact the service of the company «AQUAPHOR» or regional dealers of the company «AQUAPHOR» for advice.

* The whole flushing procedure of the membrane cartridge takes no more than 24 hours and depends on its storage and transportation conditions.

Connecting an additional tank

In the general case, the connection diagram for an additional hydraulic accumulator tank is shown in Fig. 16.

Depending on the specific parameters of the accumulation tank and the connection conditions, it may be necessary to adjust the operating mode of the electronic RO-206S control unit. Contact a service representative for advice.

10. Storage and Transportation Rules

The RO-206S shelf life is 3 years before operation when stored at + 5 to + 38 °C, originally packed, in closed and naturally ventilated rooms at a relative humidity not exceeding 80%.

It is forbidden to turn the RO-206S over, to hit or to expose to other mechanical stresses.

Protect your RO-206S from shocks and falls, as well as not letting any water freeze when transporting, storing and using.

Do not expose the membrane cartridges to high or low temperatures and direct sunlight.

Attention! Membranes cartridges come in sealed packaging. It is allowed to store membrane cartridges for no more than 3 days after they are unpacked.

11. Safety

RO-206S is designed to post-treat and soften water from municipal water supply systems that meet sanitary standards.

It is recommended to analyse the water source for compliance with national standards for drinking water when installing RO-206S outside municipal water supply systems.

- The service life of the pre-treatment unit and the reverse osmosis membranes may be reduced if the source water does not meet the requirements of national standards for drinking water.
- It is recommended to install additional water treatment systems (iron removers, softeners, disinfectants, mechanical filters, etc.) if the source water significantly differs from the requirements of national standards for drinking water quality.
- It is recommended to use RO-206S as a post-treatment unit for microbiologically safe water, although this reverse osmosis system can trap out bacteria and viruses from the source water. Do not use the system to treat unknown water without additional disinfection. Empty and refill the tank 3 times for flushing before use if you have not used your system for more than 2 weeks. Treated water is not subject to long-term storage. It is recommended to use fresh filtered water.

It is disposed of in accordance with environmental, sanitary and other requirements set forth in national standards for environmental protection and ensuring the sanitary and epidemiological welfare of the population.

Precautions when connecting your RO-206S to the mains

Check that the main voltage matches the parameters specified in this Manual before connecting your RO-206S to the mains. Only use a power supply unit with output characteristics specified in this Manual (24 V ± 5%, at least 5 A DC).

Make sure that your RO-206S is protected from freezing, water, direct sunlight, contact with hot objects, including hot water, heating pipes and heating devices before installing. Keep your RO-206S from hitting and falling.

The power cord must not be stretched out tensely when your RO-206S is connected. Make sure that the power cord does not touch surfaces that could damage it.

Do not immerse your RO-206S, as well as the power supply unit, the power cord and the plug of the power cord in water or other liquid, or wash them with running water or in a dishwasher.

To avoid electric shock, do not touch your RO-206S connected to power with wet hands, as well as the power supply unit, the power cord and the plug.

Keep your RO-206S housing clean. Disconnect your RO-206S from the power supply and wipe, if necessary, with a dry cloth.

Do not disassemble your RO-206S nor open its housing!

Do not use the RO-206S and the power supply in case of malfunction or damage to the cord. Do not repair the device yourself. First disconnect the power supply from the mains, then disconnect it from the RO-206S if any malfunction is detected. It is recommended to contact your service provider.

12. Terms of Service and Warranties

Aquaphor Water Filters products are backed by some of the most comprehensive warranties in the industry. Aquaphor warrants that the Aquaphor water filtration system shall be free from defects in material and workmanship under normal use and service.

Aquaphor Reverse Osmosis System, Model RO-206S – Two Years Warranty from the date of purchase. This does not apply, however, to consumable filters.

Exclusions and Limitations

1. Aquaphor warrants its products to be free from manufacturing defects under normal use and service. This warranty is extended only to the ORIGINAL PURCHASER.
2. Aquaphor obligations under this warranty are limited to repairs or replacement, at Aquaphor's option, of products or parts found to be defective, provided that such products were properly installed and used in accordance with instructions. Aquaphor reserves the right to make such inspections as may be necessary

in order to determine the cause of the defect. Aquaphor will not charge for labor or parts in connection with warranty repairs for the first full year from date of purchase on all products except those that may be subject to commercial use limitations.

3. Aquaphor is not responsible for the cost of removal, return (shipping) and/or reinstallation of products.

This warranty does NOT apply to:

- Damage or loss which occurs during shipment.
- Damage or loss sustained through any natural or man-made causes beyond the control of Aquaphor, including but not limited to fire, earthquake, floods, etc.
- Damage or loss resulting from sediments or foreign matter contained in a water system.
- Damage or loss resulting from negligent or improper installation including installation of a unit in a harsh or hazardous environment.
- Damage or loss resulting from removal, improper repair, modification of the product, or improper maintenance including damage

caused by chlorine or chlorine related products.

- Damage or loss resulting from acts which are not the fault of Aquaphor or which the Product is not specified to tolerate.

4. This warranty gives you specific legal rights. You may have other rights which vary from state to state.

THIS WRITTEN WARRANTY IS THE ONLY WARRANTY MADE BY AQUAPHOR. REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY SHALL BE THE EXCLUSIVE REMEDY AVAILABLE TO THE PURCHASER.

AQUAPHOR SHALL NOT BE RESPONSIBLE FOR LOSS OF USE OF THE PRODUCT OR FOR OTHER INCIDENTAL, SPECIAL, FOR CONSEQUENTIAL DAMAGES OR EXPENSES INCURRED BY THE PURCHASER OR FOR LABOR OR OTHER COSTS DUE TO INSTALLATION OR REMOVAL OR COSTS OF REPAIRS BY OTHERS, OR FOR ANY OTHER EXPENSE NOT SPECIFICALLY STATED ABOVE. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE.

LAW, ANY IMPLIED WARRANTIES, INCLUDING THAT OF MERCHANTABILITY, ARE EXPRESSLY LIMITED TO THE DURATION OF THIS WARRANTY. SOME STATES DO NOT ALLOW LIMITATIONS, SO THE ABOVE LIMITATION AND EXCLUSION MAY NOT APPLY TO YOU.

If you have any issue with the operation of your RO-206S, please, contact the seller or the manufacturer.

Service life (operating time) of replaceable filtering cartridges:

Name	Service life (operating time)
Pre-treatment unit	
K1, K2 cartridge:	up to 6 months ⁽¹⁾
Reverse-osmosis membrane unit	
Replaceable membrane cartridge	1.5–2 years ⁽²⁾

The data are based on the consumption of 10-12 litres of drinking water per day by a family of 3-4 people.

⁽¹⁾ *The service life (operating time) of the water pre-treatment cartridges may vary depending on the amount of impurities in the source water. The service life (operating time) of the cartridges is indicated for water that meets sanitary standards. K1 and K2 replaceable filter cartridges must be changed every 1-3 months if water entering your RO-206S does not meet sanitary standards (with a high content of mechanical impurities). The RO-206S light and sound indication is configured to work with water that meets sanitary standards.*

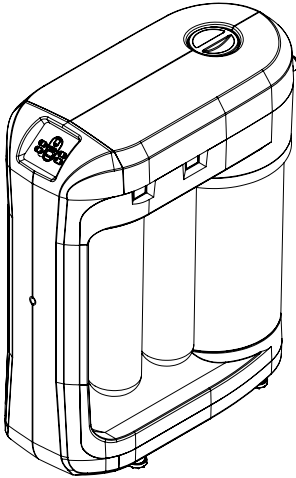
⁽²⁾ *The service life of the membranes cartridges directly depends on the performance of the pre-treatment cartridges. Please, replace exhausted filter cartridges in a timely manner.*

Fault table

Malfunction	Cause	Elimination method
No treated water or it is not enough. The storage tank is filled slowly or is not at all.	The replaceable cartridges of the pre-treatment unit are clogged.	Replace the cartridges of the pre-treatment unit.
	The replaceable membrane cartridge is clogged.	Replace the replaceable membrane cartridge.
	The power supply plug is not plugged into the outlet.	Insert the plug of the power supply into a power outlet.
	The power supply plug is not plugged into the coaxial connector of the RO-206S.	Insert the power supply plug into the coaxial connector of the RO-206S
	The inlet cock of the connecting assembly is closed.	Open the inlet cock of the connecting assembly
The emergency mode is activated (light indicator 5 flashes on the front panel, see page 10).		Contact your service provider.
It is recommended to contact your service provider for any other malfunctions.		

AQUAPHOR®

water filters



Drinking water machine
Aquaphor DWM-206S-C (RO-206S).

Manufacturer:
Westaqua-Invest OÜ division of Aquaphor
Corp., L. Tolstoi 2A, Sillamäe, Estonia, 40231.
www.aquaphor.com

The manufacturer reserves the right to make
improvements to the design of the RO-206S
without being mentioned in this Manual.

The date of manufacture and quality control
is indicated on the product serial number label.

The serial number of your RO-206S
is indicated on the sticker below.

Sale Date / Store Stamp

Product serial number