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The Clear Choice

Water Filtration Systems

RX-AFRO3-AQ

Installation Manual

1. Safety notes

WARNING! The system cannot be used for biologically contaminated water or water of unknown origin.
The system must be installed by a trained plumbing personnel. Only use original spare parts, filter elements and accessories manufactured by **Aquafilter"**. Compliance with the instructions is necessary for the:
- Trouble-free operation;
- Implementation of claims upon malfunction.

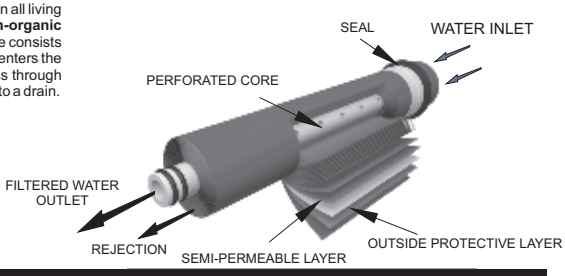
1) Read the installation manual before starting the installation of the system.
2) Check if all of the components have been included with the system (see section 6. Contents).
3) The unit must be washed after installation (see section 12), as well as after each filter or osmotic membrane replacement and also in the event of a prolonged non-use of the system (e.g. during holidays). The unit must then be left for 5-6 hours in order to activate environmental filtering.
4) Before disconnecting the tubing, you must first remove the safety clip from the quick connection fitting and then press it against the flange symmetrically.
5) When disconnecting the tubing, it should be ensured that it isn't bent in any place (correctly fitted tubing is recessed by about 1.5 cm into the quick connection fitting).
6) When connecting or disconnecting the tubing, the position of fittings screwed into the body of osmotic membrane, must not be changed.
7) After attaching the tubing to the quick connection fitting, the connection must be secured with a safety clip.
8) Only Teflon tape can be used to seal the plastic threads. Hemp must not be used.
9) Do not use aggressive cleaning agents for washing the body of the unit. The body should be thoroughly washed before the installation of the membrane.
10) When installing a new linear filter you must be aware of the direction of water flow (water flow in the right direction is indicated by the arrow on the label of each linear filter).
11) Wash your hands thoroughly before and after replacing the filter or membrane.
12) The osmotic membrane should be removed from its packaging some time prior to installing it in the membrane housing.
13) In the event of a leak, immediately disconnect the unit from its water source.
14) The flow restrictor should be cleaned once every 12 months.
15) Water intended for reverse osmosis filtration must meet certain conditions (see section 4).
16) When the system is not being used, close valves **BV250W-JG**, as well as valve **SEWBV1414.**
17) The manufacturer is not liable for any damage arising from the use of the system for any other purposes than water filtration.
18) The manufacturer is not responsible for printing errors.
19) We reserve the right to make any changes or additions to the published specifications without notice.

Only use original filters and filtration membranes manufactured by **Aquafilter.** In the event of using elements of a different brand, the manufacturer does not accept liability for incorrect operation of the system or any related damage.

2. Filtering technology of reverse osmosis

Reverse Osmosis is a separation process that uses pressure to force water through a semi-permeable membrane while retaining other substances on the other side – it's a reverse process of what naturally takes place in all living cells. **The membrane stops 96-99% of organic and non-organic contaminants, bacteria and viruses.** Semi-permeable membrane consists of many layers winded up on perforated core. Contaminated water enters the membrane element with pressure, forcing water molecules to pass through the microscopic membrane pores, while flushing out contaminants to a drain.

Cross-section of TFC membrane element



3. Technical specifications of the systems

Operating temp.....from 2°C to 45°C
Operating pressure.....2,8 bar — 6 bar
Output*.....280 l/day (TFC-7F5F)
Water inlet.....1/2"

* nominal output

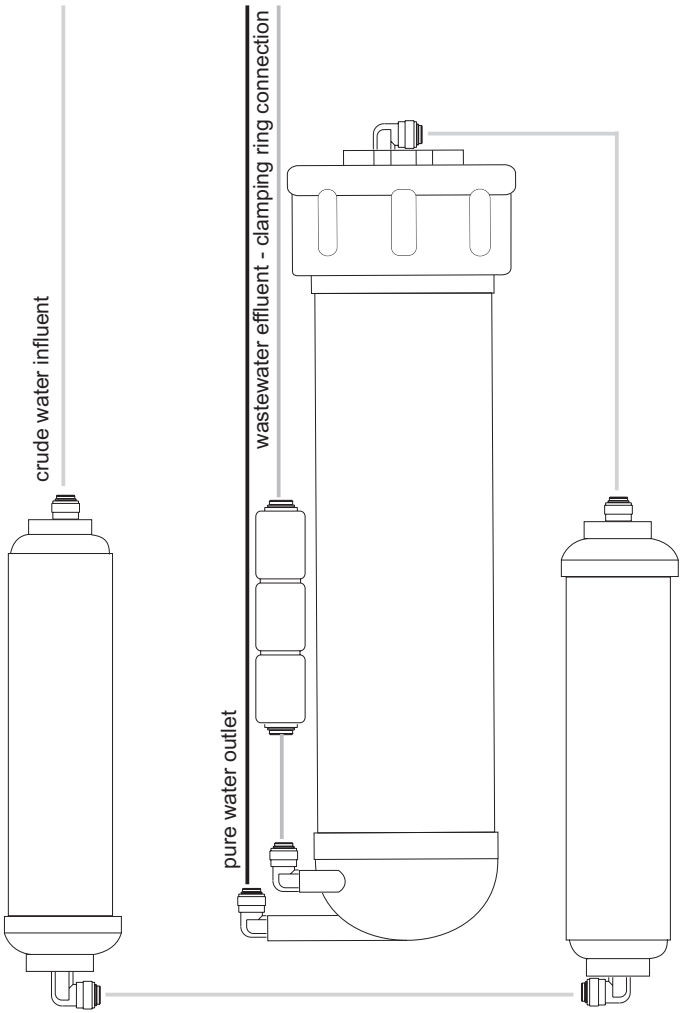
4. Parameters of water supplied to the RO system *

pH range.....2 -11
Max total hardness.....400 ppm[3] (mg/l)
Max alkalinity.....8 mval/l
Iron and manganese content.....< 0.05 ppm[3] (mg/l)
Max SD Index[1].....SDI5
a ax TDS[2].....2000 ppm[3] (mg/l)

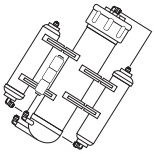
[1]SDI (Sild Density Index) — a very important factor when designing a reverse osmosis system.
It expresses the ability of water to contaminate the membrane. Its value must be < 5.
[2]TDS (Total Disolved Solids) — salinity of water
[3]ppm — parts per million.
* the distributor is not liable for any damage resulting from the use of water with parameters that do not meet the above requirements.

** the distributor is not liable for any damage resulting from the use of water with parameters that do not meet the above requirements.*

5. Water flow diagram



6. Contents



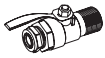
RO system
RX-AFRO3-AQ

Membrane housing wrench
FXWR

Wrench for the quick connectors
AQCWW-W

Chrome-plated adapter with seal
FT06
(1/2" MIP x 1/2" FIP x 1/4" FIP)

Teflon tape
TAS0004



Shut off valve
SEWBV1414

Tubing

2 x mounting clip
C2500W

Drain clip
SC500B14

Installation manual
XI-RO

2 x stop valve*
BV250W-JG

* the system must be equipped with stop valves for water (valve on the inlet to drain, valve on the outlet of pure water).
The absence of these valves will reduce the life of the Reverse Osmosis membrane.

7. Connecting tubing to the quick connection fitting JG (John Guest) and QC (Quick Connector) types

Detaching the tubing:
1) Remove the safety clip from the quick connection fitting (if there is one) (fig. 1).
2) Press the quick connection fitting flange symmetrically (fig. 2).
3) Pull out the tubing (fig. 3).

Connecting the tubing:
1) Push the tubing into the quick connection fitting (correctly installed tubing is recessed by 1.5 cm in the quick coupling fitting) (fig. 4).
2) Install the safety clip (if there is one) (fig. 5).

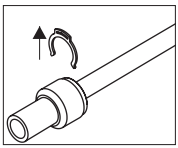


Fig. 1

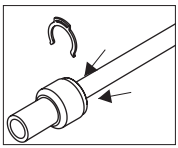


Fig. 2

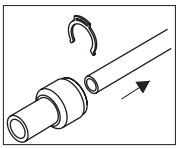


Fig. 3

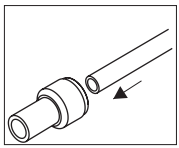


Fig. 4

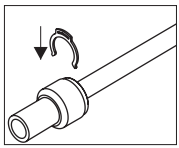


Fig. 5

7.1. Removing and installing the fitting in the filter (new filter with a threaded elbow)

Removing the fitting from the filter:
1) Remove the safety clip from the quick connection fitting(fig. 1).
2) Press the quick connection fitting flange symmetrically (fig. 2).
3) Remove the straight fittings from the old filter (on the inlet and outlet of water) (fig. 3).
4) Remove the old Teflon tape from the thread of the fitting (fig. 4).
5) Roll several layers of the Teflon tape onto the thread of the fitting. The tape must be wound in the opposite direction to the thread. (fig. 5).

Installing the fitting in the filter:
1) Install the elbow in a new filter. When screwing in the elbow, do not pull back on it as it can lead to loss of pressurization and leakage of water (fig. 6).

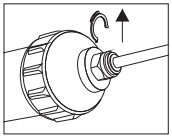


Fig. 1

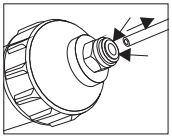


Fig. 2

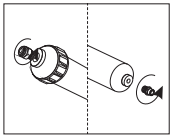


Fig. 3

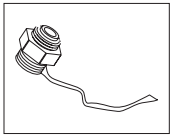


Fig. 4

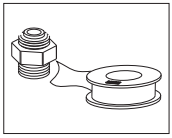


Fig. 5

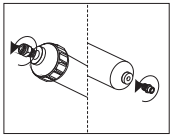
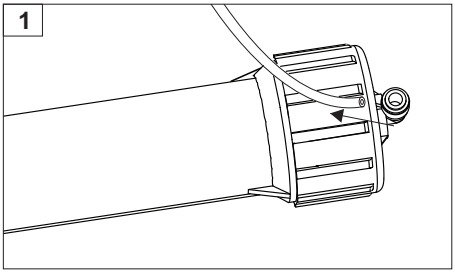


Fig. 6

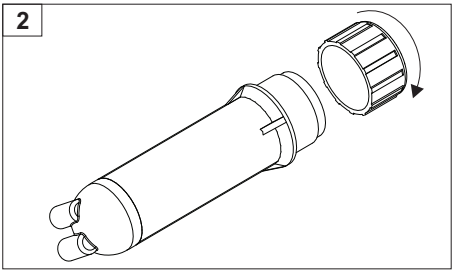
8. Preparing the system for installation – installing RO membrane

1



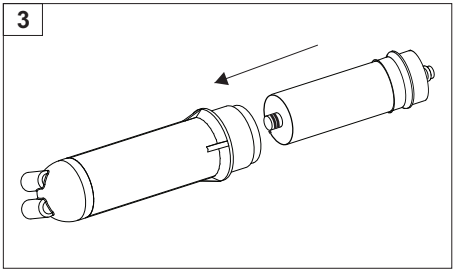
Disconnect the tubing from the inlet elbow of the osmotic membrane housing.
WARNING! Remove the safety clip from the quick connection fitting first!

2



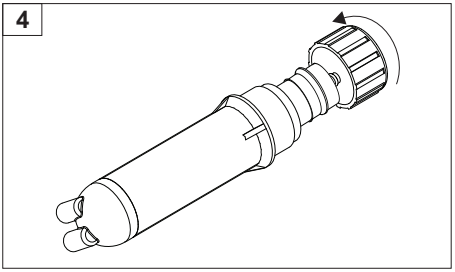
Unscrew the housing of the membrane.

3



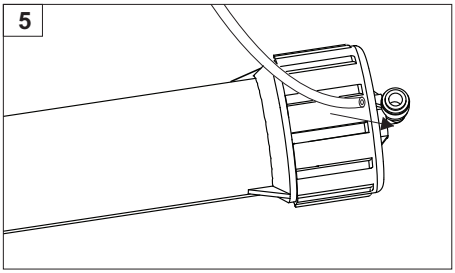
Insert the osmotic membrane into the body (the membrane must be inserted with the nozzle with two O-rings in the direction of the bottom of the housing).
WARNING! Ensure that there is a sealing flange on the membrane.

4



Lubricate the O-rings with white cosmetic Vaseline, and firmly tighten the osmotic membrane housing. **WARNING! Care must be taken to ensure no seals are damaged.**

5



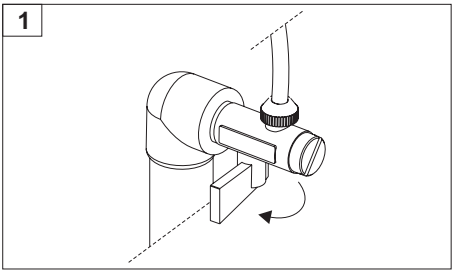
Connect the tubing to the inlet of the housing of the osmotic membrane. **WARNING! Secure the connection with the safety clip.**

WARNING! After installing the membrane, check if all the connections are faultless, and if all the quick coupling connections are secured with safety clips.

9. Installation

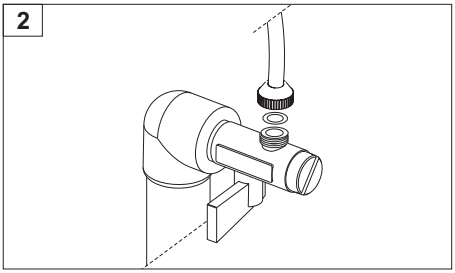
WARNING! The manufacturer is not responsible for mechanical damage caused by inappropriate installation and/or operation, as well as in the event of the system being used in a different manner than intended. The system should be installed in areas where the temperature is greater than 2°C.

1



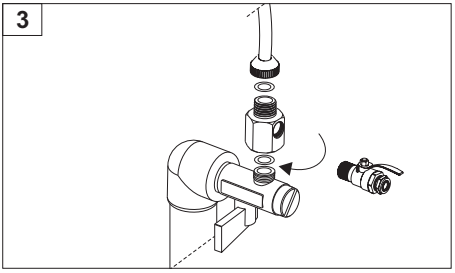
Close-off the valve on the cold water pipe.

2



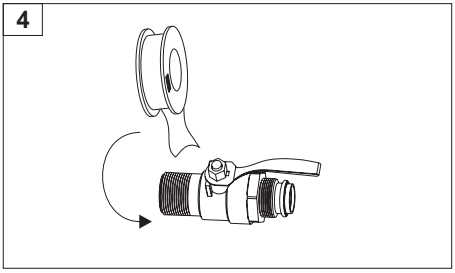
Detach the flexible hose from the valve.
WARNING! There is a rubber gasket between the valve and the hose – do not lose it.

3



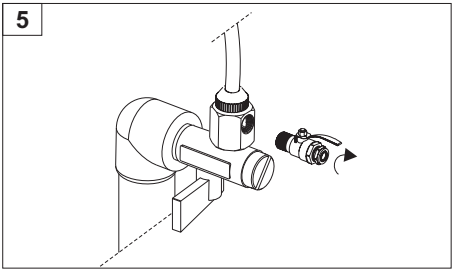
Screw the chrome fitting onto the pipe so as to facilitate the screwing of the valve as well as opening and closing it.
WARNING! Remember to put in gaskets in the appropriate joints.

4



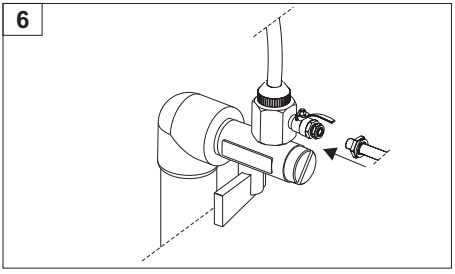
Roll several layers of the Teflon tape onto the thread of the stop valve.

5

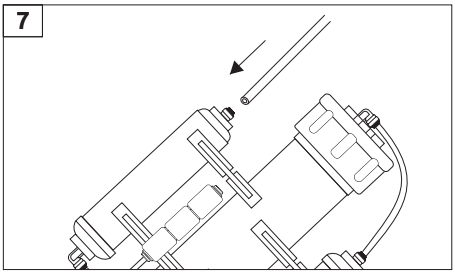


Screw the valve into the chrome fitting.

6



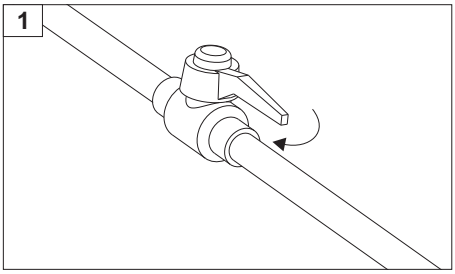
Apply the nut onto the tubing which should be connected to the valve, push the tubing to the end and tighten the nut.



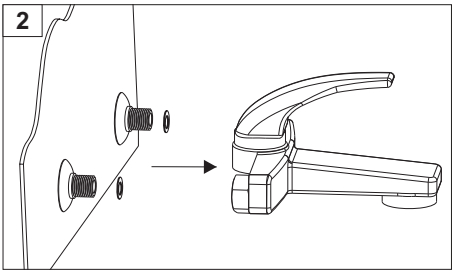
Connect the second end of the tubing to the in-line filter one the water inlet to the system.
WARNING! Remove the safety clip from the quick connection fitting.
During the installation ensure that the rubber tubing is not bent in any place.

9.1. Installation in a wall-tap - Optional

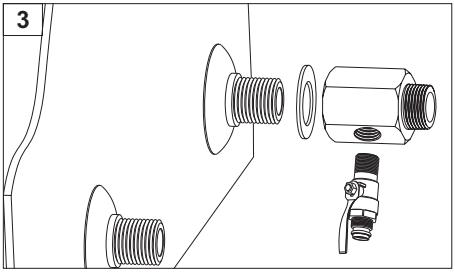
WARNING! The manufacturer is not responsible for mechanical damage caused by inappropriate installation and/or operation, as well as in the event of the system being used in a different manner than intended. The system should be installed in areas where the temperature is greater than 2°C.



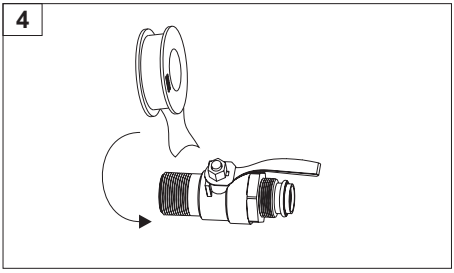
Close-off the valve supplying water.



Remove the tap from the wall.

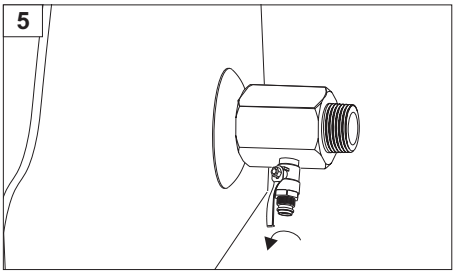


Screw the chrome fitting onto the pipe supplying cold water so as to facilitate the screwing of the valve as well as opening and closing it.
WARNING! Remember to put in gaskets in the appropriate joints.



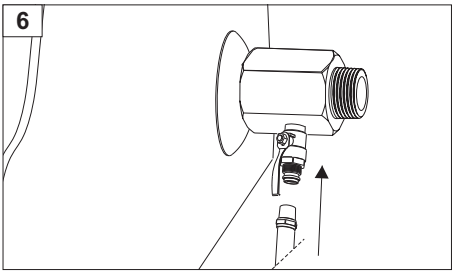
Roll several layers of the Teflon tape onto the thread of the stop valve.

5



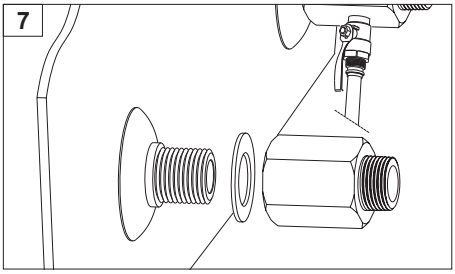
Screw the valve into the chrome fitting.

6



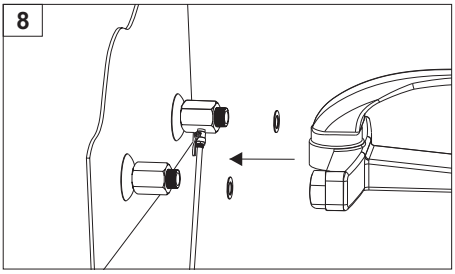
Apply the nut onto the tubing which should be connected to the valve, push the tubing to the end and tighten the nut.

7



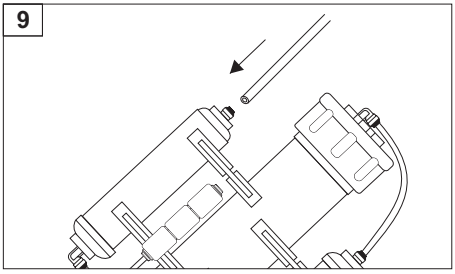
Screw the chrome fitting onto the pipe supplying hot water.
WARNING! Remember to put in gaskets in the appropriate joints.

8



Screw the tap onto the fittings installed.

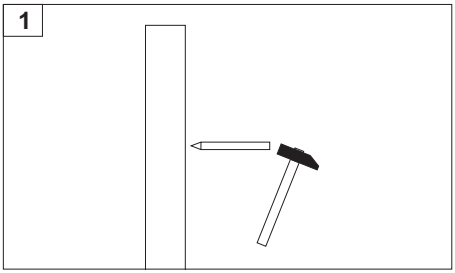
9



Connect the second end of the tubing to the in-line filter one the water inlet to the system.
WARNING! Remove the safety clip from the quick connection fitting.
During the installation ensure that the rubber tubing is not bent in any place.

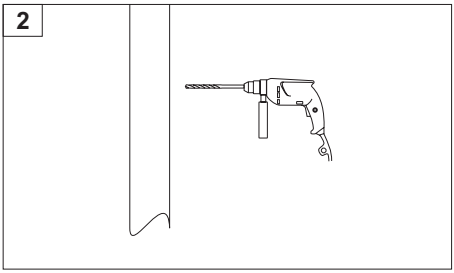
10. Installation of drainage

1



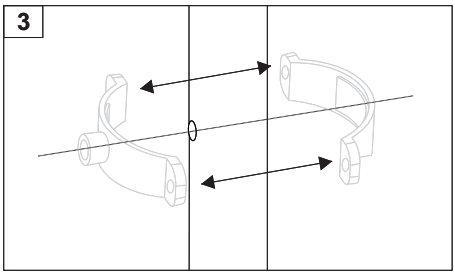
To prevent damage to the drain pipe use a center punch and a hammer to carefully mark the location where to drill in the drain pipe.
WARNING! Choose an easily accessible place for drilling.

2



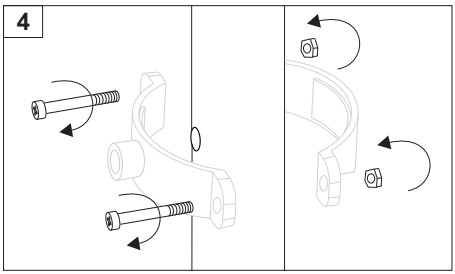
Using a drill and a drill bit (5mm), drill a hole in the drain pipe, in the previously marked area.
WARNING! The axis of the hole should be perpendicular to the pipe axis. drill in one of the pipe walls only.

3



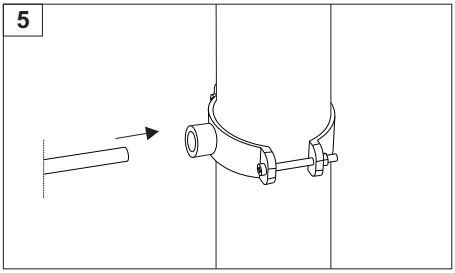
Install the clamp onto the drain pipe so that the axis of the joint of the tubing coincides with the axis of the hole.

4



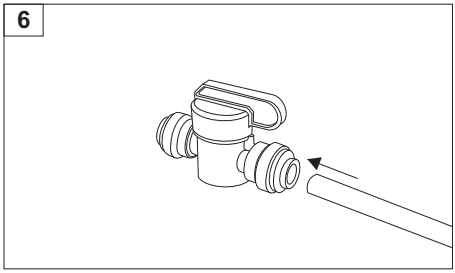
Screw the two halves of the clamp together.
WARNING! Check the tightness of the joint.

5



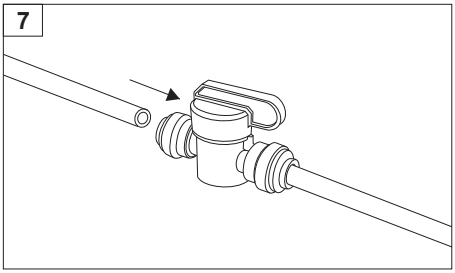
Insert the rubber tubing into the quick connection fitting on the clamp.
WARNING! Remove the safety clip from the quick coupling fitting before inserting the tubing. Put the safety clip back on once the tubing is inserted.

6



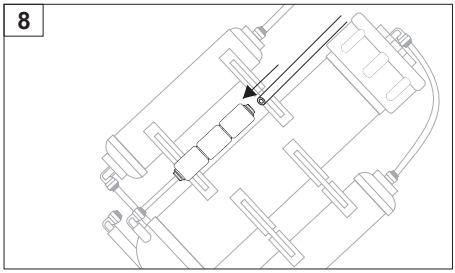
Insert the other end of the tubing into the **BV250W-JG** valve.
WARNING! Remove the safety clip from the quick connector fitting before inserting the tubing. Put the safety clip back on once the tubing is inserted.

7



Insert the tubing into the other side of **BV250W-JG** valve.
WARNING! Remove the safety clip from the quick connector fitting before inserting the tubing. Put the safety clip back on once the tubing is inserted.

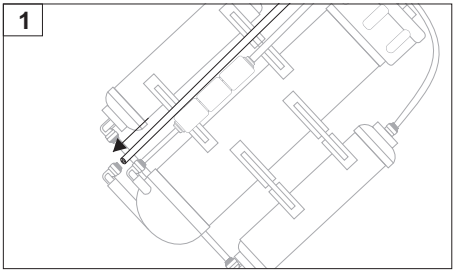
8



Connect the second end of the tubing to the flow restrictor.
WARNING! Remove the safety clip from the quick connection fitting before inserting the tubing. Put the safety clip back on once the tubing is inserted.

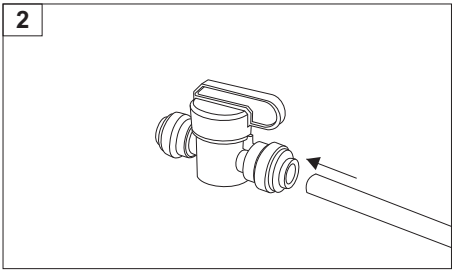
11. Installation of pure water tubing

1



Connect the tubing to the elbow in the housing of the osmotic membrane.
WARNING! Remove the safety clip from the quick connection fitting before inserting the tubing. Put the safety clip back on once the tubing is inserted.

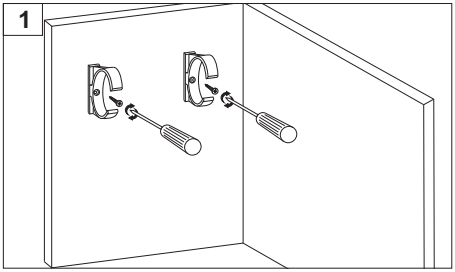
2



Connect the other end of the tubing with **BV250W-JG** valve.
WARNING! Remove the safety clip from the quick connector fitting before inserting the tubing. Put the safety clip back on once the tubing is inserted.

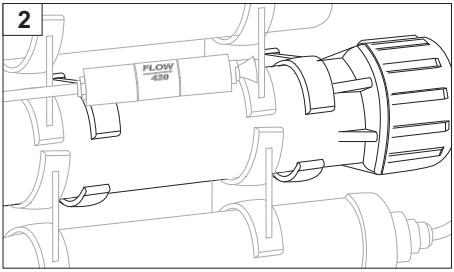
12. Fixing of the system in the hangers

1



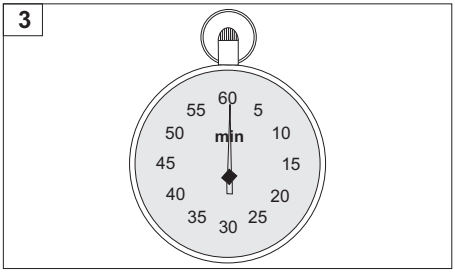
Screw the two hangers onto one wall of the cabinet under the sink.

2



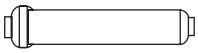
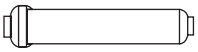
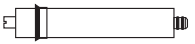
Clip the body (system) into the two hangers.
WARNING! When installing the system in the holders, ensure that the rubber tubing is not bent in any place.

3



Flush the system with approximately 15 liters of water. Flushing time should not be shorter than 60 minutes.
WARNING! This water is not suitable for consumption.
WARNING! Once done, the system can be used.

13. Filter elements

Type of filter	Description	longevity*	Size
	**AIPRO** - in-line mechanical cartridge for cold water. Removes sand, rust, silt dirt particles.	3 - 6 months	10" x 2" (25 cm x 5,08 cm)
	**AICRO** in-line cartridge filled with coconut shell activated carbon. Removes chlorine and organic substances. Improves the taste and odour of water	3 - 6 months	10" x 2" (25 cm x 5,08 cm)
	RO membrane. Effectively removes 96-99% of impurities from water (including most bacteria and viruses)	up to 36 months.	11,9" x 1,8" (30 cm x 4,5 cm)

*depends on water quality.

Replacing filters and membranes – Important information.

Replacing filters or osmotic membranes must be done in accordance with sections 7. - 7.1. and the following requirements.

1) Before disconnecting the tubing, you must first remove the safety clip from the quick connection fitting, and then press it against the flange symmetrically.
2) When disconnecting the tubing, it should be ensured that it isn't bent in any place (correctly fitted tubing is recessed by about 1.5 cm into the quick coupling fitting).
3) When connecting and disconnecting the tubing, care must be taken to ensure that the position of fittings screwed into the body of osmotic membrane is not changed.
4) Once the tubing has been inserted into the quick connection fitting, it should be secured with a safety clip.
5) Only Teflon tape can be used to seal the plastic threads. Tows must not be used.
6) Do not use aggressive cleaning agents for washing the body of the unit. The body should be thoroughly washed before the installation of the membrane.
7) When installing a new in-line filter you must be aware of the direction of water flow (water flow in the right direction is indicated by the arrow on the label of each in-line filter).
8) Wash your hands thoroughly before and after replacing the filter or membrane.
9) The membrane should be removed from its package some time prior to installing it in the membrane housing.
10) In the event of a leak, immediately disconnect the unit from its water source.
11) The flow restrictor should be cleaned once every 12 months.

Only use original filters and filtration membranes manufactured by **Aquafilter**. In the event of using elements of a different brand, the manufacturer does not accept liability for incorrect operation or any related damage.