

# **UNITOR™ AQUAFILTER SYSTEM**

Product Code (779237)

## **INSTRUCTIONS AND OPERATIONS MANUAL**



## 1. Safety Precautions Before Installation

**WARNING!!! The system should not be used with biologically contaminated water or water of unknown origin.**

**Only original replacement parts, filter cartridges and accessories made by manufacturer may be used.**

Compliance with the following instructions ensures:

- problem free product operation,
- manufacturer's warranty.

Failure to comply with the following instructions will result in loss of warranty.

- 1) Read this Instruction Manual carefully before beginning system installation.
- 2) Check if all elements needed for the installation are included with the system. (Refer to Section 3 "Included in the Box").
- 3) Please note that after installing the system, as well as after each filter cartridge and hollow fiber membrane replacements, and in the case of long inactivity of the system, system flushing procedure must be conducted before resuming system usage.
- 4) After inserting a tubing into a quick connector or a quick connector onto a stub, the connected place should be secured with a safety clip.
- 5) During disconnecting and connecting of tubing be sure not to break it (correctly installed tubing should be inserted 1.5 cm inside of quick connector).
- 6) Secure quick connector with safety clip after tubing has been inserted.
- 7) For sealing plastic components use only Teflon tape
- 8) Wash your hands thoroughly before and after filter cartridge or membrane element replacements.
- 9) During the cartridge or capillary membrane installation one must consider water flow direction. An arrow put on each of our inline cartridges indicates water flow direction.
- 10) In all cases of product returns, the system must be returned in its original packaging – otherwise the return will not be accepted.
- 11) Manufacturer is not responsible for any damages resulted from the use of this product if used for other purposes than filtration of potable water.
- 12) Manufacturer does not hold any responsibility for printing errors.
- 13) Manufacturer reserves the right to introduce change or amendments to the provided technical information at any time and without the necessity of a prior announcement.

Use only genuine **Aquafilter** replacement parts, filter cartridges and membrane elements. In case of use of other manufacturers' parts, Wilhelmsen Ships Service is not responsible for any damages caused in the course of product use.

## 2. Technical Specifications / Water Inlet Conditions

Inlet water temperature. ....	between 2°C and 45°C
Water supply pressure .....	3,5 bar
Water supply adapter .....	1/2"
Outlet tubing.....	1/4"
Dimensions (height x width x depth). ....	438 mm x 100 mm x 360 mm

**IMPORTANT NOTE!** The system must be secured from high pressures and rapid pressure changes caused by local water supply systems. Pressure regulator must be installed on the inlet of the system's water supply. The system's optimal performance pressure is 4 bar.

Regulator may be purchased separately – catalogue nr. **ADV-REG\_K**

### 3. Scope of Supply (Included in the Box)

Water Filter System (779237)	Chrome filter faucet (779240)	Adapter (779248) (1/2" MIP x 1/2" FIP x 1/4" FIP)	Teflon tape (779247)	Shut-off valve (779249)	Flexible tubing (779241) (Blue)	Flexible tubing (779242) (Yellow)	Quick connectors wrench (779246)
X 1	X 1	X 2	X 1	X 2	X 1	X 2	X 1
Pre-filter housing unit with mounting bracket (779229)	Bacteriostatic centring ring NI-212-CENT- GR-AB	PP yarn sediment filter cartridge (779231)	Wrench for housing (779245)	Nut			
X 1	X 1	X 6	X 1	X 1			

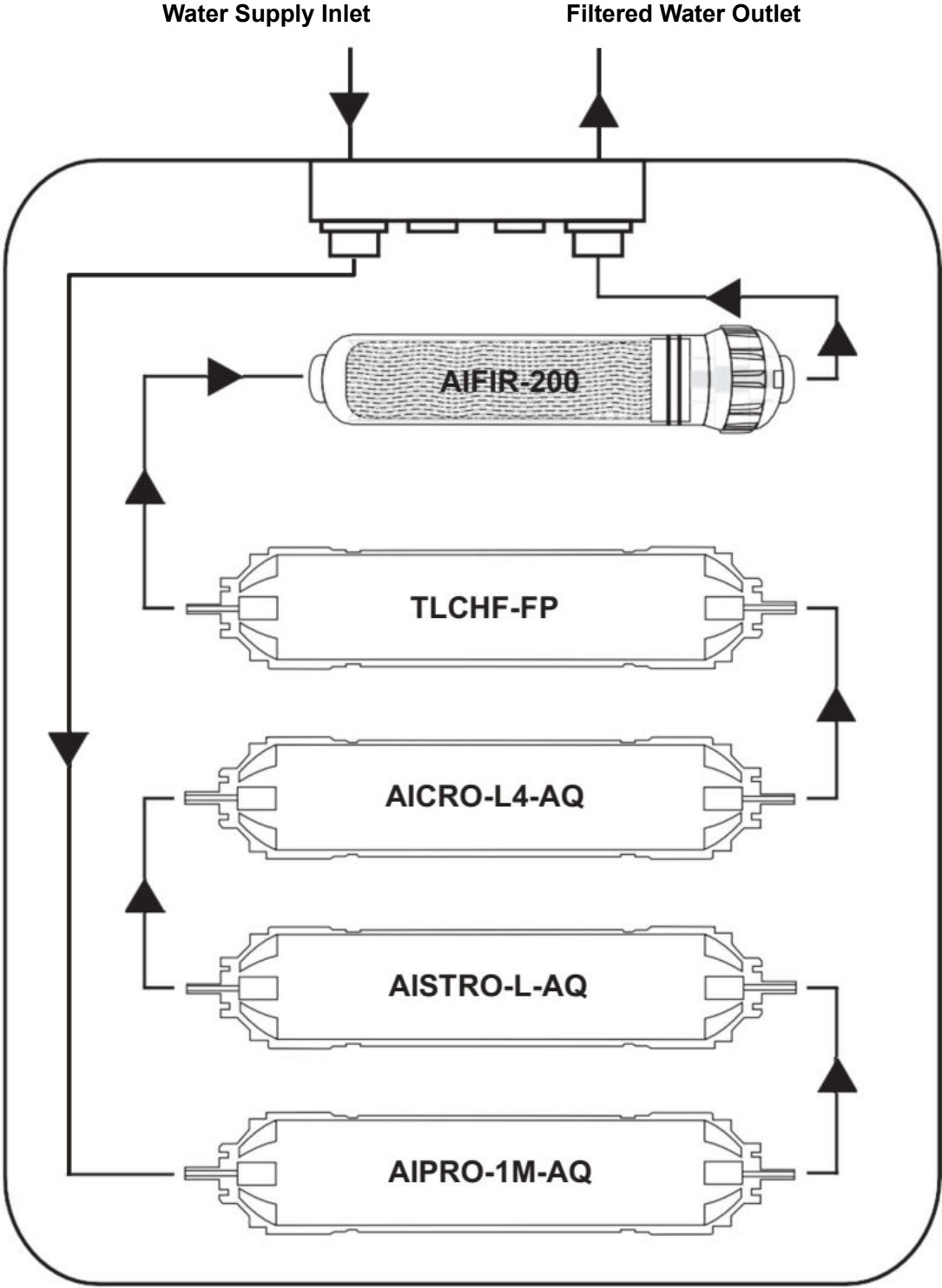
### 4. What is ORP

**ORP – Oxidation Reduction Potential Potential (ORP)** is a parameter that defines the reaction **REDOX** (reduction reaction - oxidation) for liquids (including water), expressed in mV (millivolts). Redox potential can be measured with **ORP** meter. Readings should be interpreted in the following manner, the lower the ORP, for example: from + 150 mV to - 600 mV, the greater the reduction and oxidation properties.

The higher the rate, the **ORP**, such as: from + 150 mV to + 600 mV, the more oxidized tested liquid is and less effective in scavenging free radicals. **ORP** reading for water provides information about its ability to donate and accept electrons. Water with a low **ORP** is a very effective oxidizer, which naturally drew the free radicals, which are responsible for the formation of cancer cells.

Water with lower ORP, created an alkaline environment, which neutralizes the acidic environment of the body. Hyperacidity is considered as one of the causes of many diseases such as atherosclerosis and is also responsible for obesity.

5. Connection Diagram



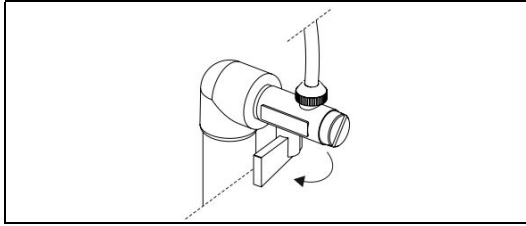
## 6. System Installation

### IMPORTANT NOTE!

Manufacturer is not responsible for any damages that result from improper installation or use of system.

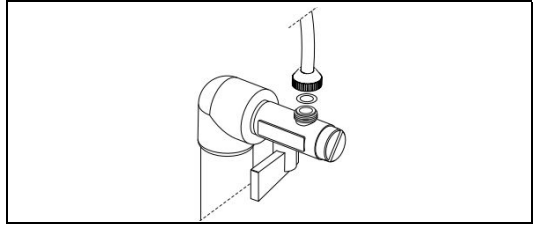
#### Connecting the water source to the Pre-filter housing (779229)

1



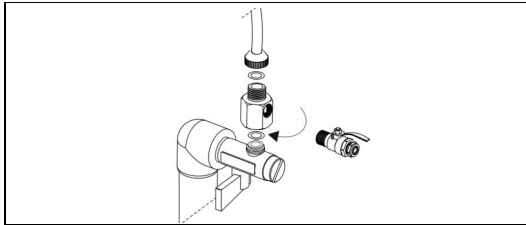
Shut off incoming water supply from drinking water fountain

2



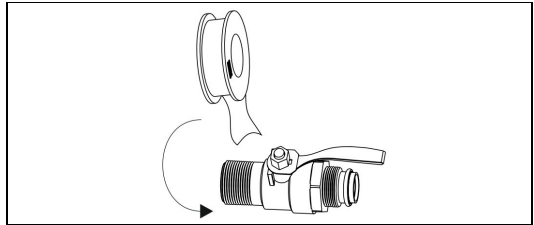
Unscrew flexible tubing from the shut-off valve (the adapter).  
**IMPORTANT NOTE! Between the shut-off valve and flexible tubing is a rubber gasket - be sure not to lose it.**

3



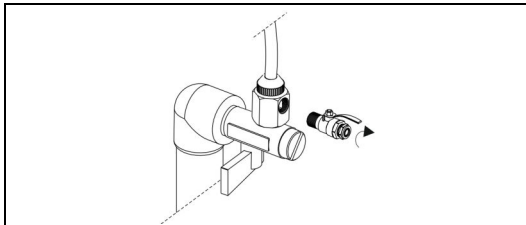
Screw adapter (779248) onto the shut-off valve to allow easy installation of (779249) valve and its easy opening and closing.  
**IMPORTANT NOTE! Remember to place rubber gaskets in between the connections.**

4



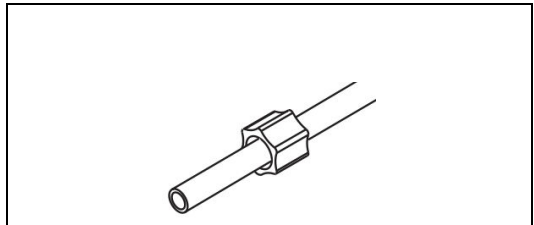
Wind a few layers of Teflon Tape on shut-off valve adapter (779249)

5



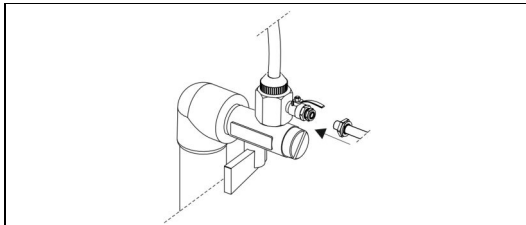
Screw valve adapter (779249) into adapter (779248).

6



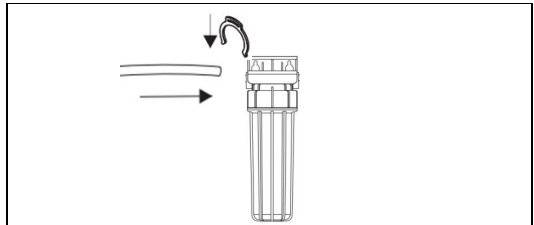
Put the nut on the flexible yellow tubing (779242)

7



Push the yellow tubing all the way into the shut off valve adapter (779249) and tighten the nut.

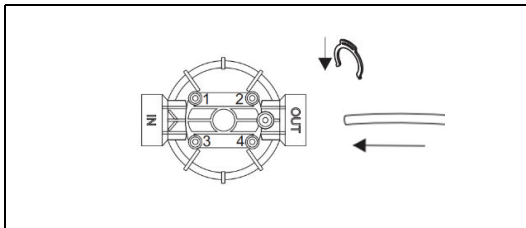
8



Connect other side of the first yellow tubing (779242) to Prefilter housing (779229) into the [IN] inlet and secure it with the blue clip fastener and Teflon tape

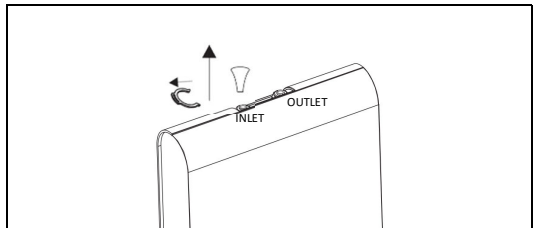
#### Connecting the Pre-filter (779229) to the Aquafilter System (779237)

9

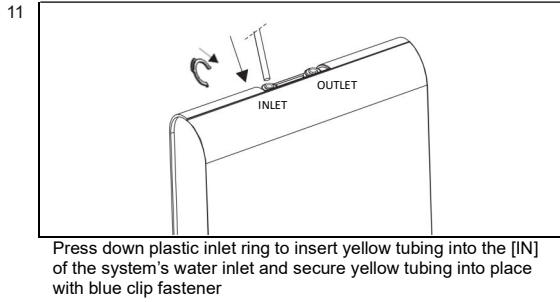


Take the second yellow tubing (779242) and insert one end into the [OUT] outlet of the Pre-filter (779229) and secure it with blue clip fastener and Teflon tape

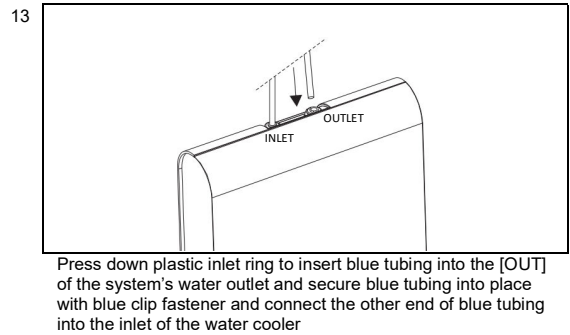
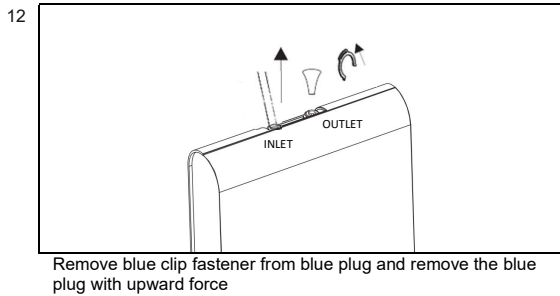
10



Remove blue clip fastener from yellow plug on system and pull-out yellow plug from [IN] inlet in upward motion with force



**To connect system to water cooler**



**7. Installing the Faucet (779240)**

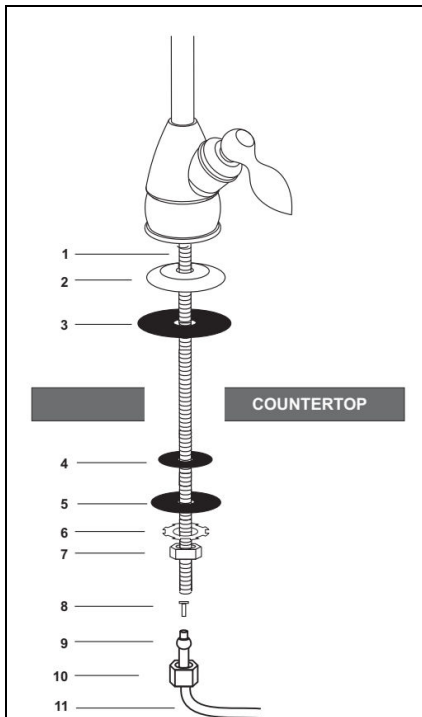


Fig. 1. Installing chrome filter faucet 779240

- 1) On threaded faucet extension [1], first put on cover plate [2], and then rubber gasket [3].
- 2) Secure the faucet in the counter opening.
- 3) Underneath the sink, put the rubber [5] and metal [6] washers on the faucet extension [4], and tighten with metal nut [7].
- 4) Install flexible tubing (supplying water and connecting faucet with the system):
  - put the tubing [11] through the metal nut [10] and plastic tightening ring [9],
  - put the insert [8] into the tubing. Push flexible tubing (all the way) into the tubing. Push flexible tubing (all the way) into the faucet extension [4] and tighten it (by hand) with the metal nut [10].
- 5) Connect other end of flexible tubing with connector [OUT] (white ring) (Fig. 2).

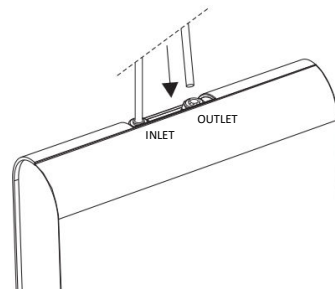
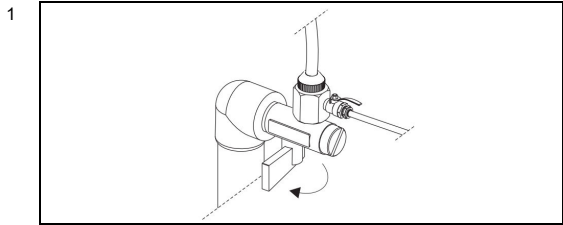
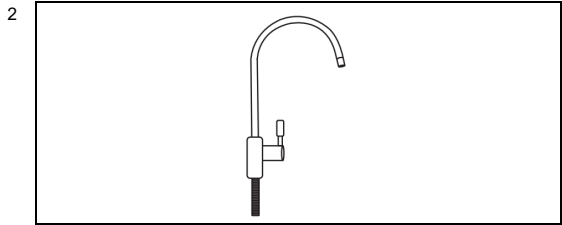


Fig. 2. Connecting the flexible tubing with [OUT] connector

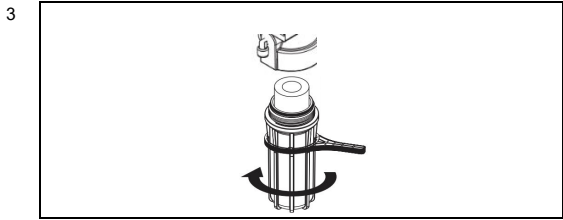
**8. Pre-filter Cartridge (779231) Replacement**



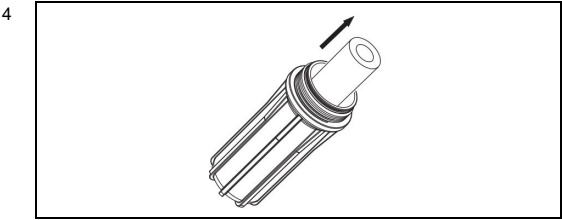
Shut off water supply valve



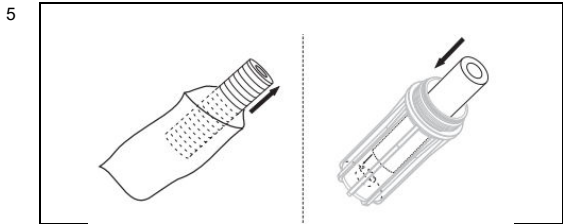
Open filter faucet to release pressure from the system



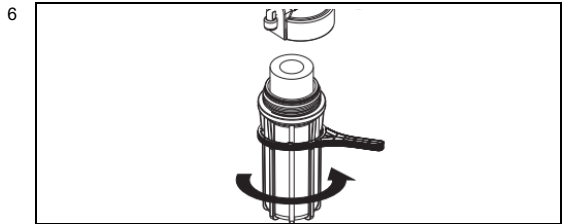
Unscrew filter housing sump from filter cap by hand or using wrench (779245) perpendicularly to the filter housing



Remove old filter cartridge

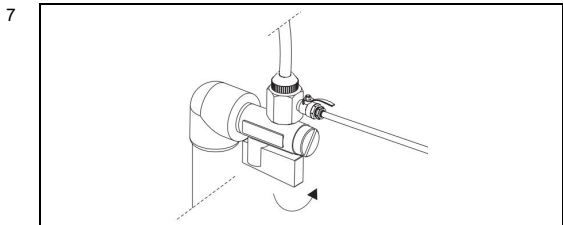


Unpack new cartridge out of plastic foil. Place filter cartridge inside filter housing sump (pressing against the top of plastic stem to ensure its central location).



Screw in filter housing cap to filter housing sump and tighten it with wrench (remember to use the wrench perpendicularly to the filter housing). Use the same procedures for the installation of remaining filter cartridges.

**ATTENTION!** If you cannot tightly screw the filter cap with filter housing sump check if all O-rings and cartridge are position correctly.

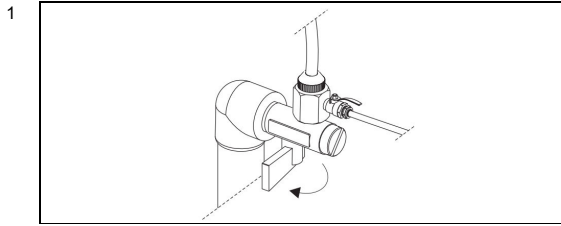


Slightly open filter faucet and next gradually open your water supply valve to fill filter housings with fresh water and release air from the system thru the faucet.

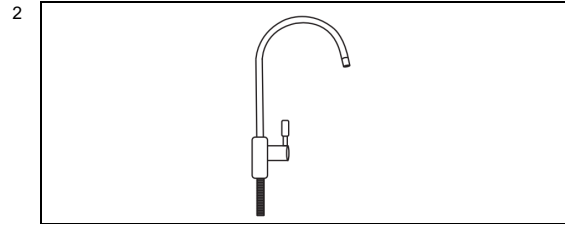
**ATTENTION!** After each filter cartridge replacement procedure, all filters must be flushed out with running water for at least 5 minutes. Filtered water can be safely consumed after this process is completed.

**WARNING!** Before the first use of the system and after cartridge replacement, perform system flushing process. Flush the system for several minutes before use. Use only microbiologically safe and adequately disinfected water. After completion of the above operations, filtered water can be consumed.

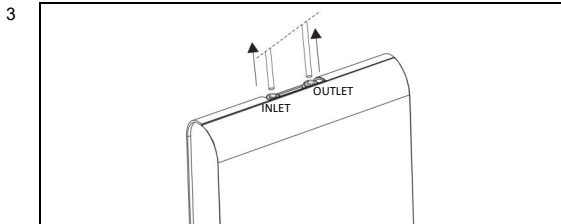
## 9. System Cartridge Replacement



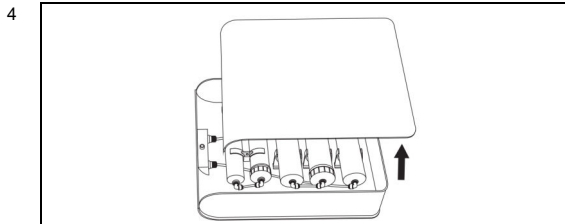
Shut off water supply valve



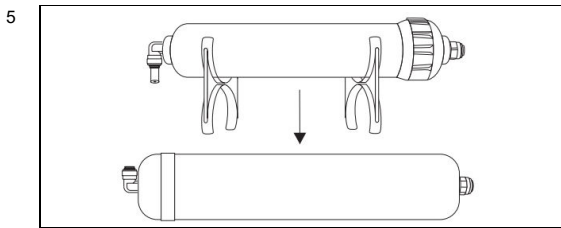
Open filter faucet to release pressure from the system



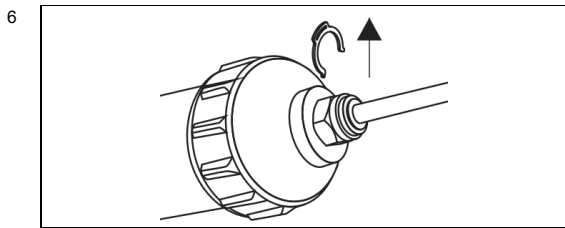
Before replacing the membrane, disconnect all flexible tubing from the system (inlet / outlet).



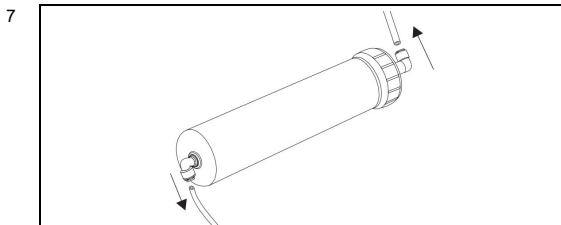
Remove front panel of the system's housing



Remove cartridge from housing bracket

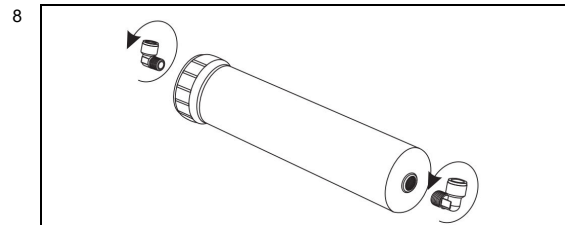


To disconnect tubing from the inlet elbows of filter cartridge detach the safety clips from elbow inlet and outlet of the cartridge.

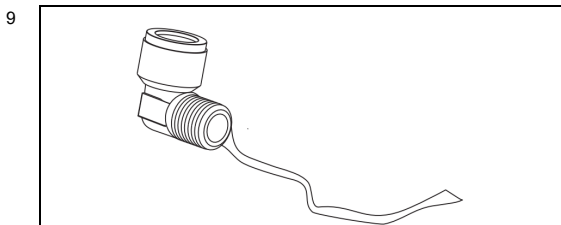


Press the elbow flange symmetrically and pull the tubing out.

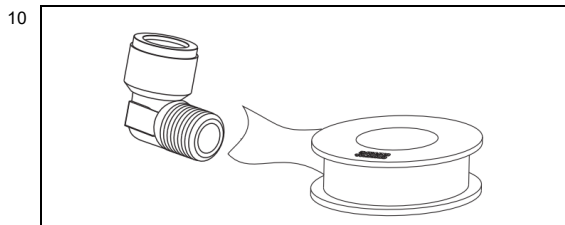
**NOTE!** When removing tubing be particularly careful not to bend it. The collapse of the tubing can lead to breakage and water leakage.



Unscrew inlet and outlet connectors from the cartridge.



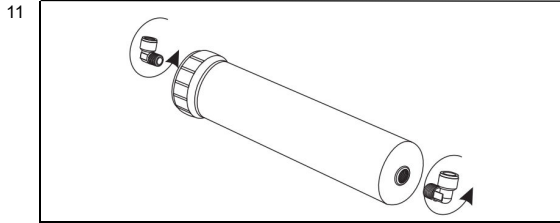
Remove old Teflon tape



Apply several layers of Teflon tape to the connector threads.

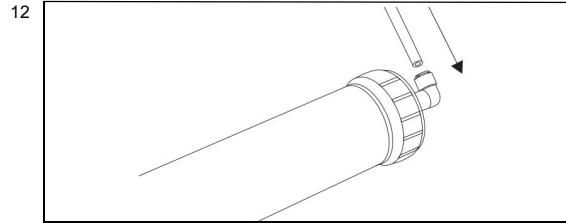
**NOTE!** Use only Teflon tape, do not use tow. Apply Teflon tape in the opposite direction to the direction connectors will be installed.





Install (screw in) connectors into new filter cartridge.

**NOTE!** During installing (screwing in) individual connectors do NOT withdraw (unscrew) them at any time. This may result in connection damage and future water leaks.

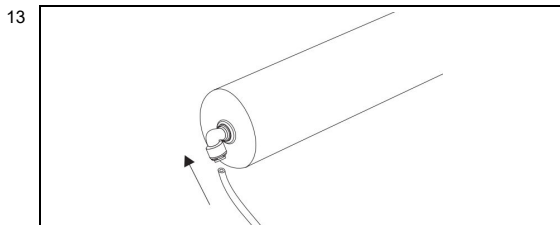


Connect the OUTLET elbow from filter cartridge with INLET elbow of filter cartridge using flexible tubing.

**Do the following:**

- 1) Make sure that the input will be connected in the direction of water flow. The correct water flow direction is indicated by arrows placed on the label of each filter cartridge.
- 2) Push-in tubing into the output elbows attached to filter cartridge (properly inserted tubing sets in about 1.5 cm).
- 3) Secure the connection with safety clip.

**NOTE!** When inserting the tubing be particularly careful not to bend it. The collapse of the tubing can lead to breakage and water leakage

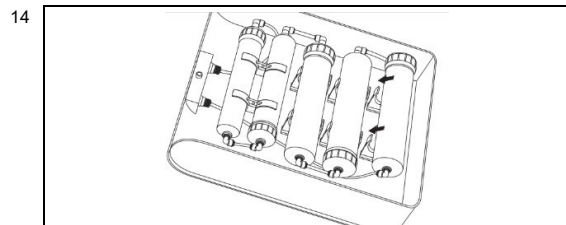


Connecting INLET elbow from filter cartridge with water supply using tubing.

**Do the following:**

- 1) Make sure that the filter cartridge is installed correctly in the same direction as water flow. Water flow direction is marked with arrow on the product label.
- 2) Push the inlet tubing into the elbow connector, attached to the filter cartridges (properly inserted tubing sets in about 1.5 cm.)
- 3) Secure the connection with safety clip.

**NOTE!** When inserting the tubing be particularly careful not to bend it. The collapse of the tubing can lead to breakage and water leak.

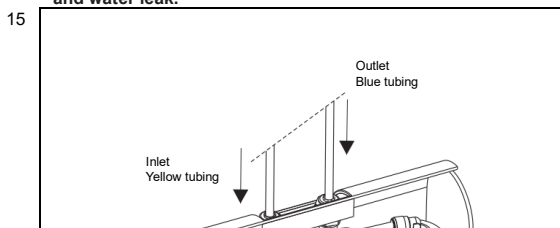


Insert filter cartridge back into mounting brackets.

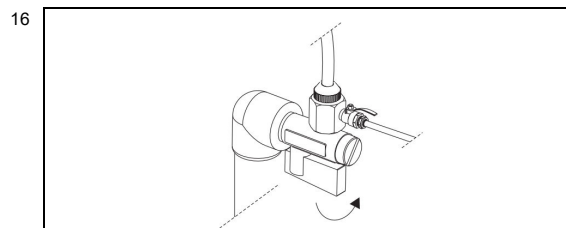
To replace the remaining filter cartridges follow instruction described by steps 5 to 14

**NOTE!**

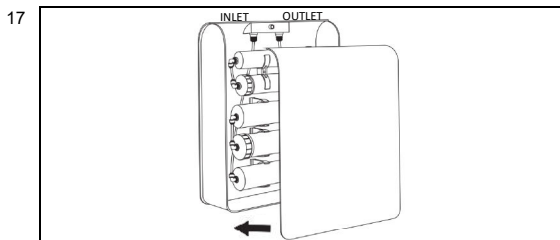
After each filter cartridge replacement procedure, all filters must be flashed out with running water for at least 5 minutes. After completing the above-mentioned procedures, filter water can be consumed.



Reattach yellow and blue tubing



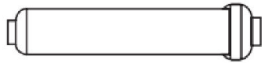




Slowly open water supply valve and check for leaks



Close the system housing

## 10. Filter Cartridges

Cartridge Type	Description	Service Length*
	<b>AIPRO-1M-AQ</b> The cartridge is made of pure polypropylene, surfactant-free depth filter ensures low pressure drops, with exceptional dirt holding capabilities. The cartridge is highly effective for filtering / absorption of sand, silt, clay, rust and other sediments.	3 – 6 months
	<b>AISTRO-L-AQ</b> The cartridge utilizes FDA-grade, sodium, based, strongly acidic ion-exchange resin which reduces calcium and magnesium ion content in water. Calcium and magnesium are often called "hardness minerals". Large amounts of these ions in water are responsible for the formation of scale deposits, higher detergent consumption and stains on glassware. This inline water softening cartridge exchanges calcium and magnesium with sodium ions and therefore reduces water hardness.	3 – 6 months
	<b>AICRO-L4-AQ</b> Granulated activated carbon cartridge with KDF® media made of the high grade activated coconut carbon. It is designed to remove up to 99% of chlorine, sediments and organic contaminants. KDF® media utilizing redox reactions, kills or inhibits bacteria growth, converts chlorine to chlorides. In addition, it also removes heavy metals such as iron, copper, lead, mercury, arsenic and many others. It also improves the taste and odour of water. Used in combination with activated carbon, KDF can significantly extend the life of filter cartridges.	3 – 6 months
	<b>TLCHF-FP</b> In-line ultrafiltration (UF) membrane 0.01 micron cartridge that removes viruses, bacteria, as well as suspended particles from drinking water. Particles and materials of high molecular weight are unable to pass through the 0.01-micron UF membrane so that only fresh water and dissolved minerals get through. The UF membrane also has a chemical resistance to oxidants and chlorine. The UF membrane is stable at wide range of pH levels.	3 – 6 months
	<b>AIFIR-200 ML</b> Inline alkalizing-mineralizing cartridge, increase the pH and lowers ORP of filtered water. Through an accurate negative ionized ceramic media, AIFIR2000 provides water with negatively charged atoms and complex particles.	3 – 6 months

\* Depends on amounts of filtered water, its quality and level of contamination from incoming water, and filter usage.

Cartridge colour is subjected to change without notice.

Before the first use of system and after each cartridge replacement, the system should be flushed with water for **at least 10 minutes**. After these procedures, filtered and conditioned water may be consumed.

**WARNING! Filter cartridges are not subject to any complaints at the time of:**

- after opening protective packaging,
- after first use of filter cartridges.

**Wilhelmsen Ships Service**

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