Puricom®

CQE-R3

USER MANUAL

Standard / 6 Stages Version

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■ INTRODUCTION

We sincerely thank you for purchasing CQE-R3 6 STAGE RO System. To ensure your safety and satisfaction, please read this manual carefully before using your RO system.

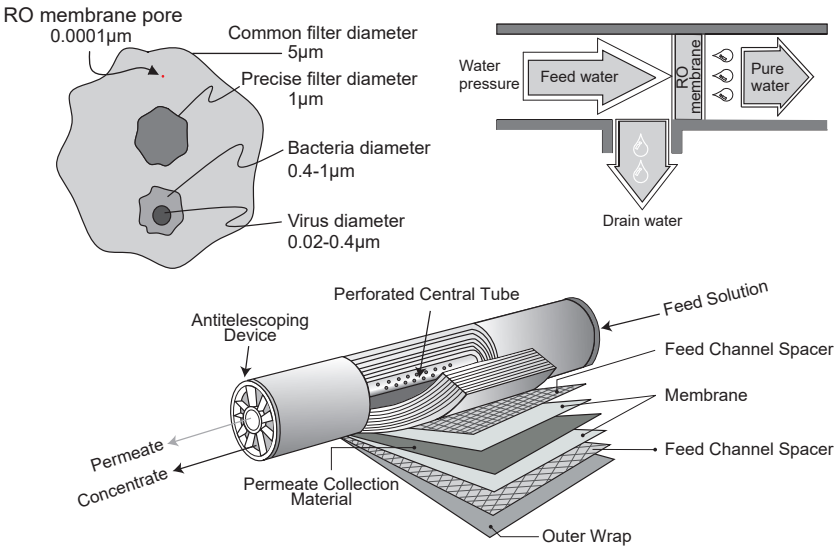
With the ever increasing, over-exploitation of the environment, it has become more and more difficult to obtain a reliable source of clean, pure, healthy drinking water. Puricom Water Industrial Corporation, with its many years of experience in RO water technology, uses hight quality membranes & relative technology to develop its series of functional and economical RO water purifiers, to provide pure and healthy water.

You will find CQE-R3 6 STAGE RO System very easy to maintain, with quick, easy, sanitary, filter replacement. On your sink, a special faucet is installed for your good tasting drinking water, which is especially good for coffee, tea, and drinks. Please read this manual carefully, paying close attention to maintenance procedures and cautions. You will be assured of a continuous supply of pure, healthy, tasty water.

■ WHAT IS REVERSE OSMOSIS (RO)

To fully understand the technology of Reverse Osmosis, it is a must to understand normal osmosis. Osmosis is a natural process that occurs in all living things. For instance, osmosis permits water and nutrients absorption through the root system of plants; similarly, nutrition is assimilated from blood to cells in human bodies. The drawings shall help to proceed in further explanation on the principle of reverse osmosis as possibly clear and simple.

As the water exerts pressure on a semi-permeable membrane, the purified (or filtered) part enters through the pores of the membrane, while the rejected (or concentrated) is diverted to the drain. When the diameter of the pores is shorter than 0.0001 microns, only pure water and a balanced quantity of minerals (sodium, potassium, calcium, and magnesium, etc) can pass through; while other substances (such as bacteria, viruses, metals, pesticides, chemical products, etc) are eliminated during the process.



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■ SAFETY INFORMATION

Please read this information to prevent property loss and to ensure your safety.

ELECTRICITY SAFETY

1. Be sure the local voltage accords with the system voltage. Electrical shock or fire may occur as a result.
2. Do not use a damaged power cord or plug, or loose outlet.
3. Do not pull the cord to unplug or handle the plug with wet hands.
4. Do not bundle the power cord tightly, it may cause damage.
5. If the cord or plug is wet, unplug the unit and let it dry com pletely before subsequent use.
6. Unplug the unit before repair, inspection, or replacement.
7. Do not plug into an outlet or power strip that is being used by several other appliances. Use a separate outlet for the unit.
8. Shut the main water supply valve and unplug the power cord when not using for a long time.
9. Do not attempt to repair the power cord.
10. Do not repeatedly plug and unplug the unit from the electrical outlet.
11. Do not move the product by pulling the electrical cord.

ELECTRICITY SAFETY

1. Keep the product away from inflammable gas or burnable materials.

2. Do not install the unit near heaters.

3. Do not spray with water. Use a damp cloth to clean.

4. The length of the water inlet hose must be shorter than 5 m. If longer;product performance may be degraded.

5. IDo not use with hot water. Optimal inlet water temperature is 5℃- 45℃.

6. Inlet water pressure is 15 - 45 PSI.

7. Do not plug into an outlet or power strip that is being used by several other appliances. Use a separate outlet for the unit.

8. Water analysis TDS should not exceed 1000 PPM . Hardness should not exceed 250 PPM.

9. Ensure the inlet, outlet and drain connections are correct and that the drain point is not blocked.

10. The filtration system installation shall comply with state and local laws and regulations. Do not use with water that is micro biologically unsafe, of unknown quality, or without adequate disinfection before or after the system.

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OPERATION SAFETY

1. If water leaks from the product, cut off the supplying valve and unplug, then call the Customer Service.
2. Unplug immediately and call the Customer Service if the unit makes a strange noise or odd smell.
3. Use or place the unit on an even surface and do not apply force to the unit.
4. When water is stored or the product is not in use for a long time, drain all water from the storage tank before use.
5. Periodical filter replacement is prerequisite for clean water. If filters are overused, the performance of filters is degraded.
6. After activated carbon filter replacement, a certain amount of carbon fines may be introduced to the water. It is activated carbon particles and is harmless to human body.
7. Before using the filter for the first time or after replacement of the carbon filter run water for a few minutes, till the water runs clear, to rinse any carbon fines from the filter.
8. Do not expose the unit to direct sunlight and high humidity environment. The optimal room temperature for the unit is 4℃-40℃.

SPECIFICATION

Model	CQE-R3 Pump
Voltage	110~240VAC/ 50.60Hz
RO Output	75 GPD
Storage Tank	Built-in 8L
Dimensions	D43cm × W25cm × H41cm

INLET WATER REQUIREMENT

Inlet water TDS	< 1000 ppm
Inlet water pressure	15 - 45 psi
Total hardness	< 250 ppm
Temperature	5℃- 45℃

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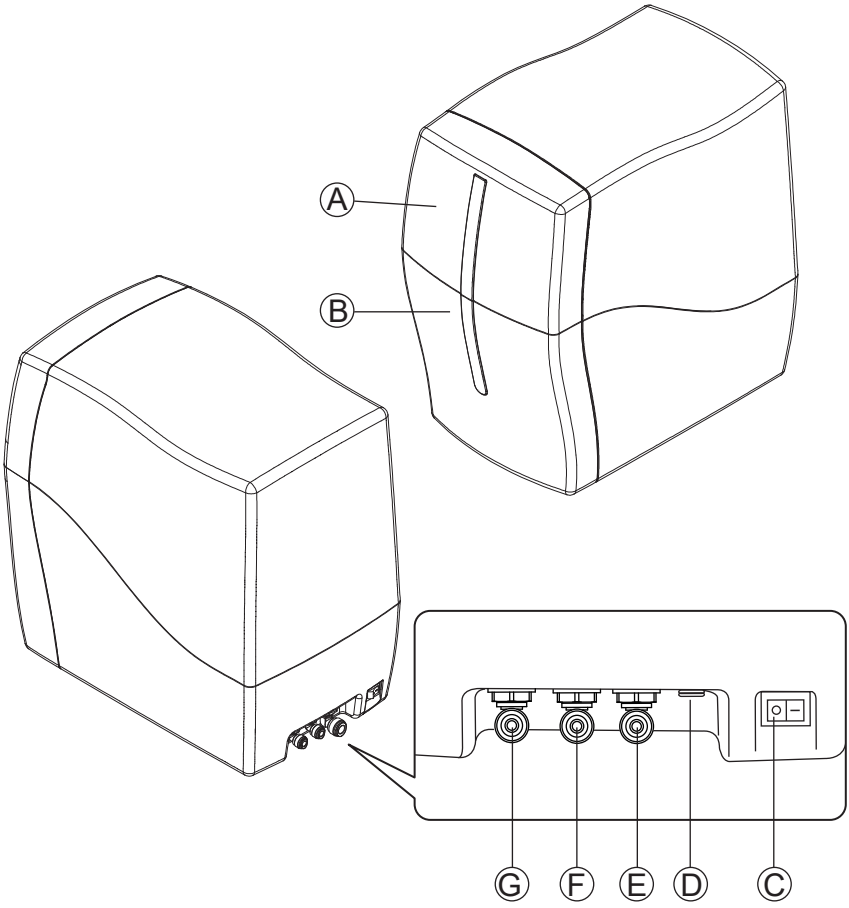
■ NAMES OF EACH PART



Ⓐ Top Case

Ⓑ Bottom Case

Ⓒ Power Switch

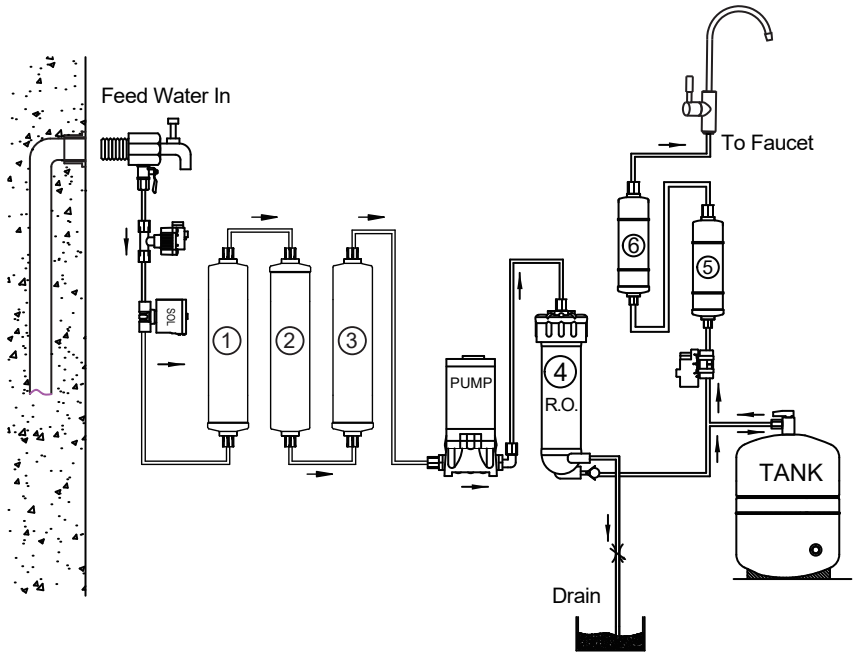
Ⓓ Power Socket

Ⓔ To Faucet

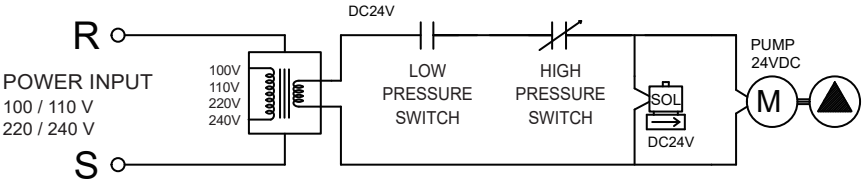
Ⓕ Drain

Ⓖ Feed Water In

■ FLOW CHART



■ ELECTRIC DIAGRAM



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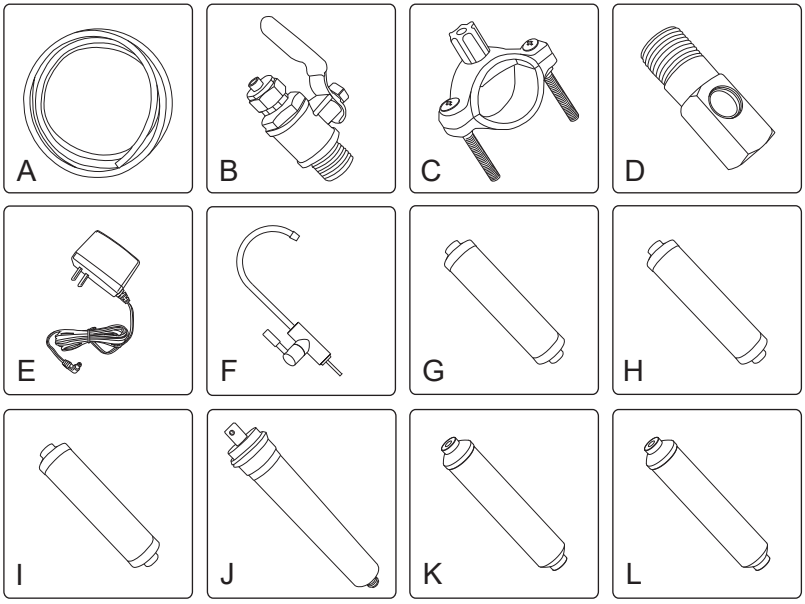
■ ACCESSORIES

● Accessories Pack

A. PE tubing　B. Ball valve　C. Drain clamp
D. Feed water connector　E. Transformer　F. Faucet
I. RO membrane

● Filters

G. 1st Stage- PP 5μ Filter　H. 2nd Stage- Carbon Filter
I. 3rd Stage- Carbon Filter　J. 4th Stage- RO membrane
K. 5th Stage- Post Carbon Filter　L. 6th Stage- Post BIO-Ceramic Filter

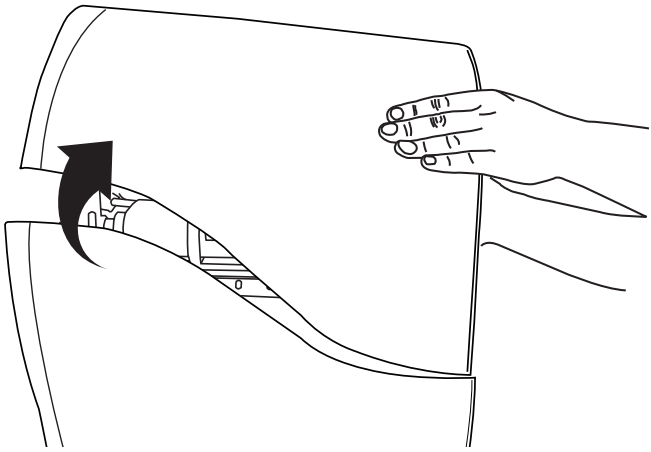


■ FILTER FUNCTION DESCRIPTION & RECOMMENDED FILTER REPLACEMENT

Filter Type	Replacement Time	Function Description
① Pre-filter (5μ)	3~6 months	Traps dirt, rust, and other impurities.
② ③ Carbon/GAC	3~6 months	This filter removes chemicals and odors, such as chlorine and chemical fertilizer, thus protecting the RO membrane from being damaged.
④ RO membrane (0.0001μ)	1~3 years	This high technology, semi permeable membrane effectively takes out TDS, viruses, bacteria, slime, heavy metal, pesticides, and chemicals etc. Harmful impurities separated by the RO membrane are diverted to the drain.
⑤ Post Carbon Filter	9~12 months	Drinking water enters this filter after the storage tank and is used as final polishing filter before the faucet.
⑥ Post BIO-Ceramic Filter	9~12 months	Adjust water PH from 6.5-8.5, increases mineral content of water.

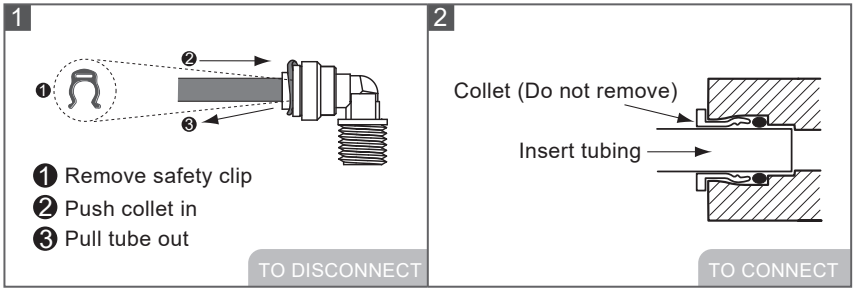
P.S. Frequent use or bad quality feed water shortens the lifespan of filters. If water pressure and water quality are not within limits, please contact your distributor to make proper modifications.

■ CASE DISASSEMBLY



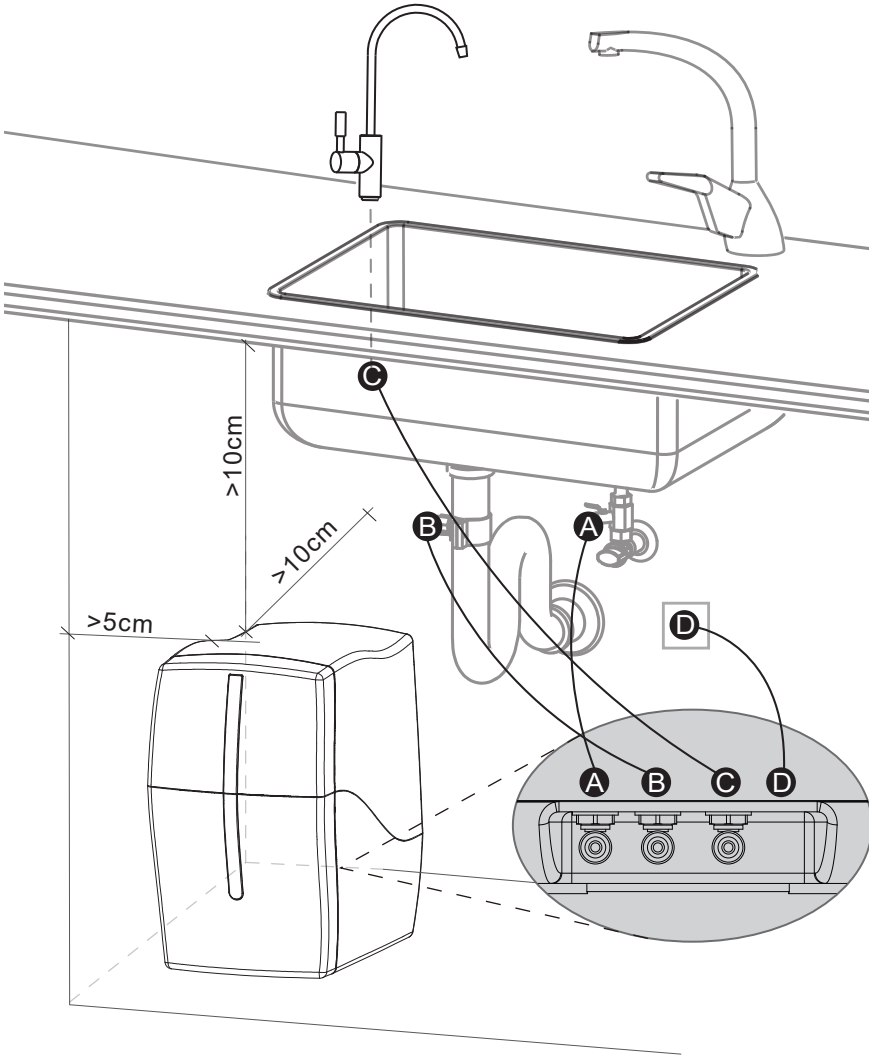
Lift top case to reveal unit content.

■ HOW QUICK CONNECTORS WORK



1. To remove tubing from the connector: Remove the safety clip from under the collet, push in the collet, and pull the tube out. (fig. 1)
2. Installation. Ensure the tube is clean and free of burrs. Push the tube into the connector until it stops. (fig. 2)
3. Pull tube out a little bit, and replace the safety clip.

■ INSTALLATION DIAGRAM



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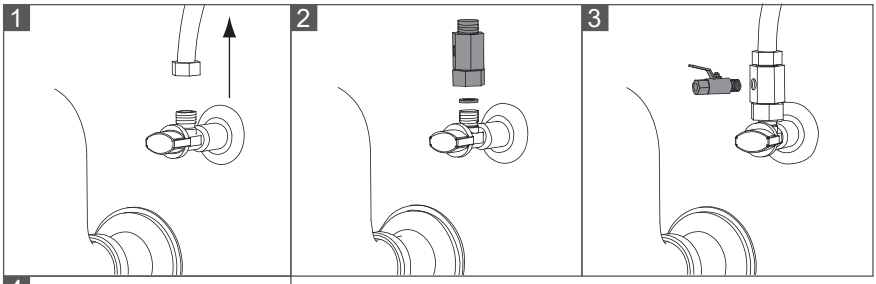
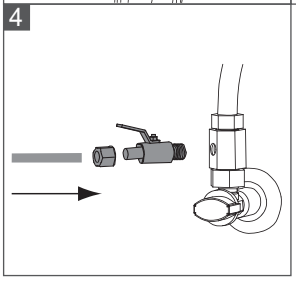
INSTALLATION

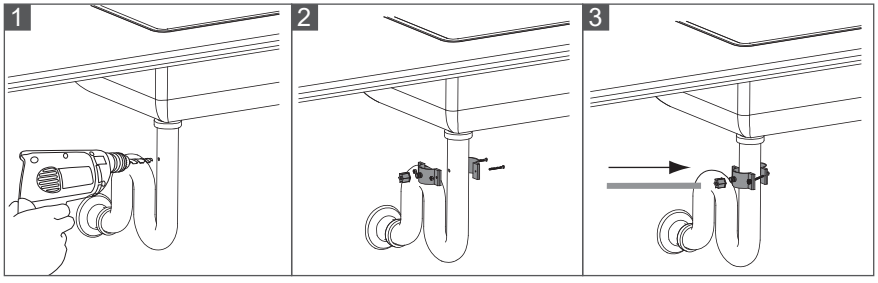
A. Feed Water Assembly





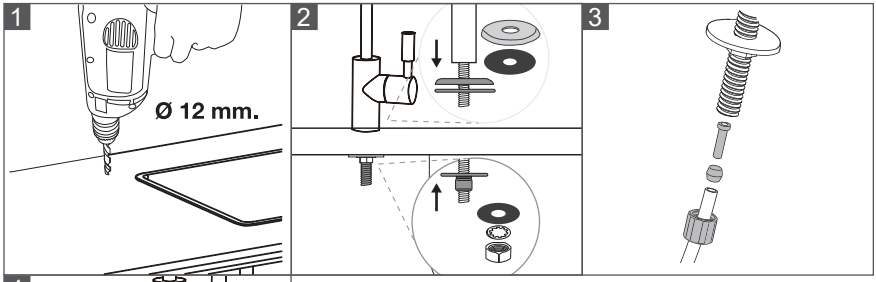
1. Turn off the feed water supply, and disconnect the existing cold water line from the existing cold water supply valve.
2. Wrap several turns of seal tape on the new feed water connector and install it with the black washer on the existing cold water supply valve.
3. Reinstall the existing cold water line on the new feed water connector. Wrap several turns of seal tape on the ball valve and install it on the new feed water connector.
4. Refer to p.12 Ⓐ. Connect the PE tube and complete the feed water assembly.

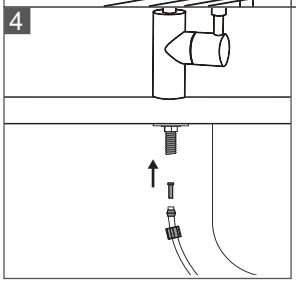
B. Drain Clamp Assembly



1. Drill a 6mm hole on the existing drain pipe.
2. Tighten the drain clamp evenly on both sides.
3. Refer to p.12 Ⓑ. Connect the PE tube and complete the drain clamp assembly.

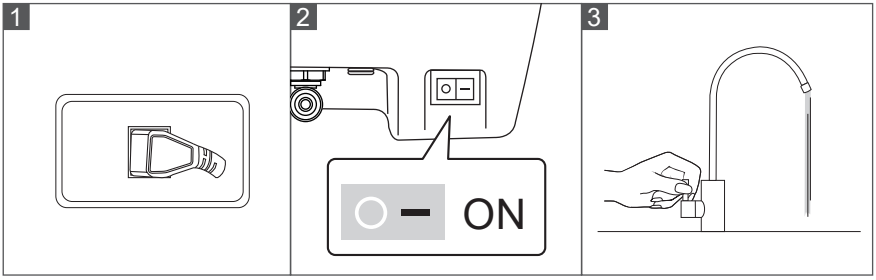
C. Faucet Assembly





1. Drill a 12mm hole on the right or left hand side of the sink.
2. Install the new faucet in the sink hole, and from below the sink, assemble the mounting hardware.
3. Slide the nut from the bottom of the faucet onto the end of the tube. Then place the seal on the end of the tube and slide down to about 2 centimeters from the end of the tube. Place the spacer into the end of the tube.
4. Put the end of the tube into the bottom of the faucet and tighten the nut to complete the faucet assembly. Refer to page 12 Ⓒ.

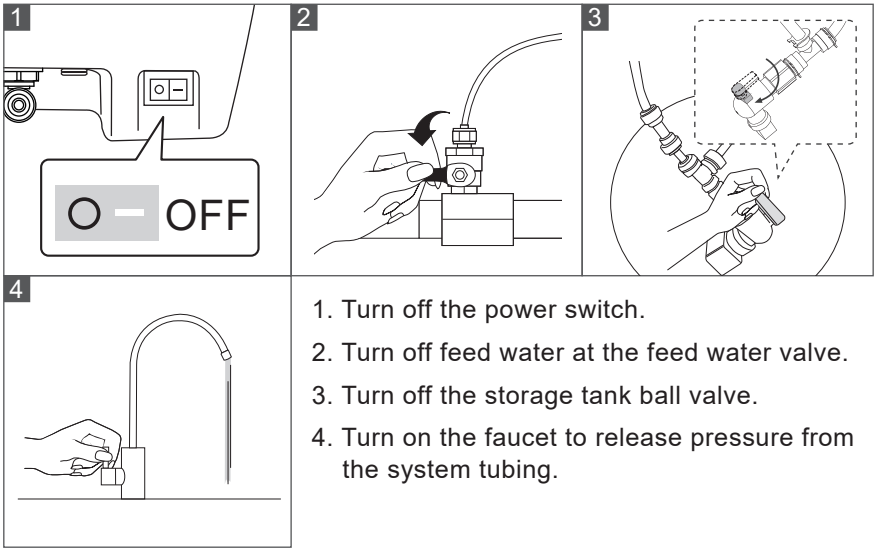
D. Power



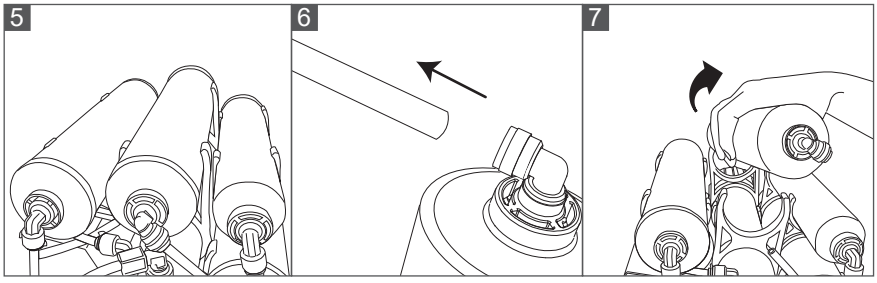
1. Make sure all connections and filters are properly installed. Plug in power. See p.12 Ⓓ.
2. Turn on the power switch.
3. Open the faucet and let water run for about 10-15 minutes nutill there is no carbon dust in water. Then the system is ready for use.

■ PREFILTER REPLACEMENT (1st~3rd Stage Filters)

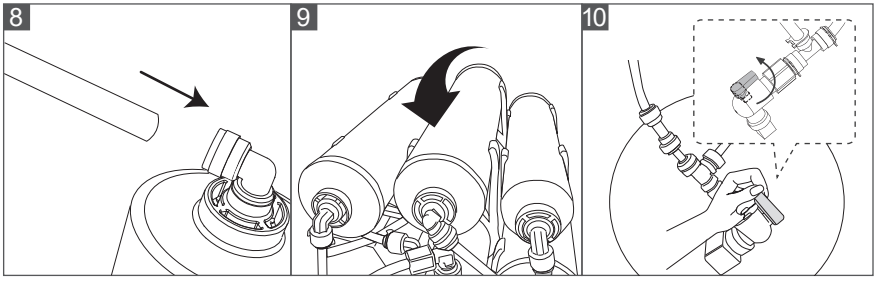
Please follow the instructions for case disassembly on p.11, before proceeding with prefilter replacement.



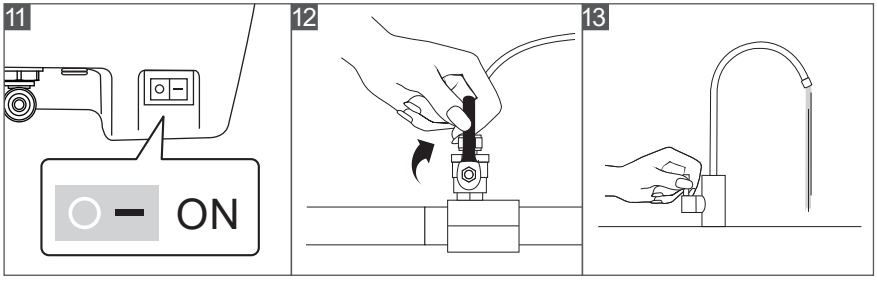
1. Turn off the power switch.
2. Turn off feed water at the feed water valve.
3. Turn off the storage tank ball valve.
4. Turn on the faucet to release pressure from the system tubing.



5. Pull the filter out from the bracket.
6. Remove the tube from the quick connectors.
7. Replace the filter.



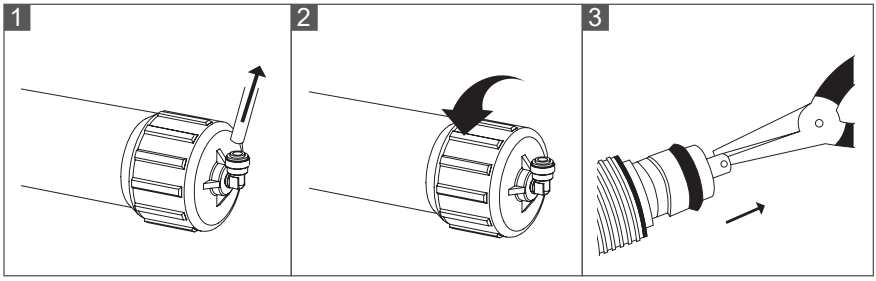
8. Reconnect all fittings.
9. Push the filter back into the bracket.
10. Open the storage tank ball valve and close the case.



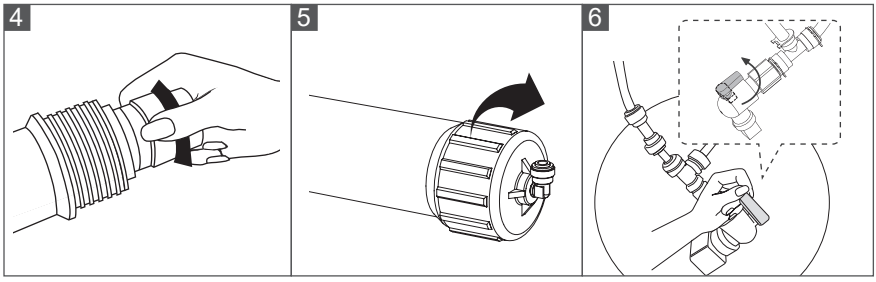
11. Turn on the power switch.
12. Turn on feed water at the feed water valve.
13. Now the system is ready for use.

■ RO MEMBRANE REPLACEMENT (4th Stage)

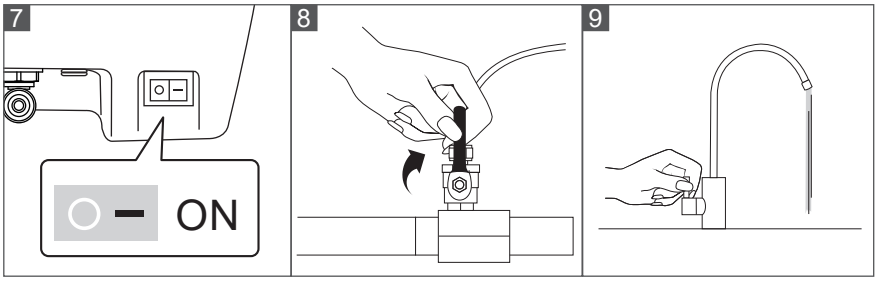
Please follow the instructions for case disassembly on p.11 and complete steps 1~4 of Prefilter Replacement, before proceeding with RO Membrane Replacement.



1. Remove the PE tube from the fitting.
2. Remove the cap of the RO membrane housing.
3. Use pliers to take out the RO membrane.



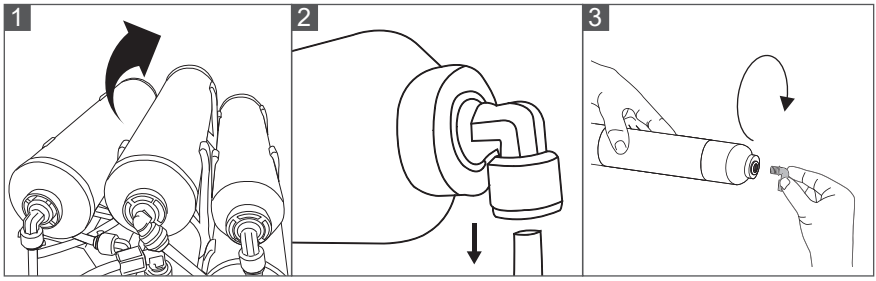
4. Install the new membrane.
5. Screw the cap of the RO membrane hosing.
6. Open the storage tank ball valve and close the case.



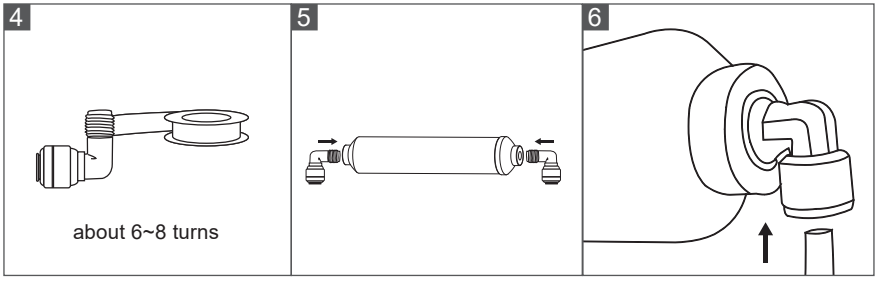
7. Turn on the power switch.
8. Re-start the system by opening the feed water ball valve.
9. Open the faucet and let water run for about 10-15 minutes to wash the new membrane. Then the system is ready for use.

■ POST FILTER REPLACEMENT (5th~6th Stage Filters)

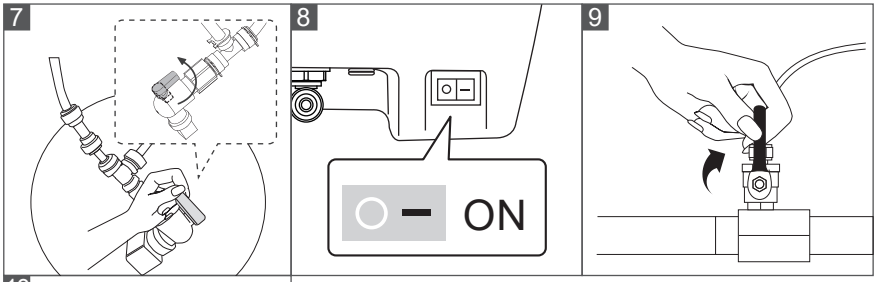
Please follow the instructions for case disassembly on p.11 and complete steps 1~4 of Prefilter Replacement, before proceeding with Post Filter Replacement.

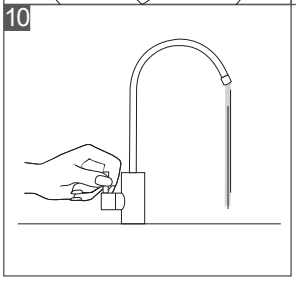


1. Lift the pre-filter from the bracket to reveal post filters.
2. Remove the safety clip and the tubing from the **OUT** and **IN** of the post filter. Then, pull the post filter out of the bracket.
3. Unscrew the elbow connector from the **OUT** and **IN** of the post filter and replace the post filter.



4. Wrap seal tape (about 6~8 turns) on the elbow connectors.
5. Screw the fittings onto the **OUT** and **IN** of the new post filter.
6. Push the post filter back into the bracket and reconnect all fittings.





7. Open the storage tank ball valve and close the case.
8. Turn on the power switch.
9. Turn on feed water at the feed water valve.
10. Open the faucet and let water run for about 10-15 minutes nutill there is no carbon dust in water. Then the system is ready for use.

TROUBLE SHOOTING

Problem	Possible Cause	Troubleshooting
Pump not working.	1. No power supply.	1. Check the power supply.
	2. Transformer is burnt out.	2. Replace transformer. (A possible reason is a pump leak causing the bearing to jam, so the transformer burns out. The pump and the transformer should be checked at the same time.)
	3. Pump bearing jammed.	3. Replace pump.
	4. Bad wire connection.	4. Check wire connection.
	5. Bad electrical connection inside pump.	5. Replace pump.
	6. High / low pressure switch is damaged.	6. Replace high/ low pressure switch.
Pump switches on and off repeatedly.	1. Low pressure switch switches on and off repeatedly because of low feed water pressure.	1. Increase feed water pressure. (If you are sure of a consistent feed water pressure, a short circuit around the low pressure switch could be made.)
	2. Bad electrical connection inside pump.	2. Replace pump.
	3. Bad wire connection.	3. Check all wire connection.
Pump keeps running.	1. Air in the tubes causes the pump to not reach sufficient pressure to shut off the pump.	1. Disconnect the outlet tube of the pump to discharge air and reconnect to run with water in the tube.
	2. The torque of the pump has decreased, so sufficient pressure cannot be reached to turn off the high pressure switch.	2. Replace pump.
	3. High pressure switch is damaged.	3. Replace high pressure switch.
	4. The check valve cannot close properly, thus pressure cannot reach shut off point.	4. Replace check valve.

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Problem	Possibility	Troubleshooting
Pump is leaking.	1. Diaphragm seal is worn or split.	1. Replace pump.
	2. Feed water pressure is too high (> 40psi).	2. Install a pressure regulator or shut off pump to allow the system to run at natural feed water pressure.
Pump is noisy.	1. RO membrane or post filter is clogged.	1. Replace RO membrane or post filter.
	2. Pump bearing is worn.	2. Replace pump.
TDS value of permeated water is rising (rejection rate is lower than 90%).	1. Working pressure is lower than 40 psi.	
	(A) Air in the tubes prevents pump from reaching sufficient pressure to permeate properly.	1. (A) Disconnect the outlet tube of the pump to discharge air and reconnect to run with water in the tube.
	(B) RO membrane or post filter is clogged.	1.(B) Replace RO membrane or post filter.
	2. The ratio of permeate water to drain water is less than 1:3.	2. Flow restrictor is clogged. Clean it, or replace it.
	3. RO membrane is worn.	3. Replace RO membrane.
Output of permeate water decreases.	1. RO membrane is clogged.	1. Replace RO membrane. (If clogging is frequent, increase the drainage ratio of the flow restric tor or install a softener to extend the lifespan of the RO membrane.)
	2. Pump is worn, decreasing the working pressure.	2. Replace pump.
No permeate or drain water is produced.	1. The solenoid valve coil is burnt out.	1. Replace solenoid valve.
	2. Bad electrical connection in solenoid valve.	2. Replace solenoid valve.
	3. Solenoid valve is clogged inside, thus unable to turn on.	3. Replace solenoid valve.
	4. Shut-off valve is worn.	4. Replace shut-off valve.

Problem	Possibility	Troubleshooting
System drains at full tank when pump is not running.	1. Feed water pressure is too high to turn off the shut-off valve.	1.Install a pressure regulator.
	2. The shut-off valve or solenoid valve is clogged.	2. Clean the valve or replace it.
	3. Check valve is worn and causes permeate water in the storage tank to reverse flow to drain.	3. Replace check valve.
Solenoid valve is noisy.	1. The solenoid valve coil is not in place.	1. Fix the coil in its place.
	2. Feed water pressure is too low, causing the low pressure switch and the solenoid valve to turn on and off repeatedly.	2. Increase feed water pressure. (If you are sure of a consistent, low feed water pressure, a short circuit around the low pressure switch could be made.)
System does not run.	1. High / low pressure switch is worn.	1. Replace high / low pressure switch.
	2. Feed water pressure is lower than 5 psi.	2. Increase feed water pressure. (If you are sure of a consistent feed water pressure, a short circuit around the low pressure switch could be made.)
	3. No power.	3. Check power source.
	4. Pump or transformer is worn.	4. See trouble shooting for pump.
System runs at full tank when faucet is turned off.	1. Check valve is worn and causes permeate water in the storage tank to reverse flow to the drain. The high pressure switch senses pressure decrea se and turns on.	1. Replace check valve.
	2. High pressure switch is worn.	2. Replace high pressure switch.

D010119017

Reverse Osmosis

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