

ft RO

CT8-R3

RO Drinking System

USER MANUAL

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## ■ INTRODUCTION

We sincerely thank you for purchasing Puricom CT8-R3 RO system. To ensure your safety and satisfaction, please read through this manual before use.

As the environment continues to deteriorate, it is increasingly difficult to obtain a reliable source of clean, pure, healthy drinking water. That is why PURICOM chooses to use RO membranes with the highest quality and other relevant technologies to develop series of versatile and economical RO water purifiers, and thus able to provide pure and healthy water.

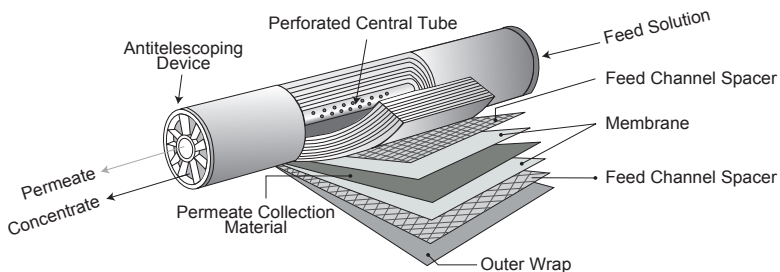
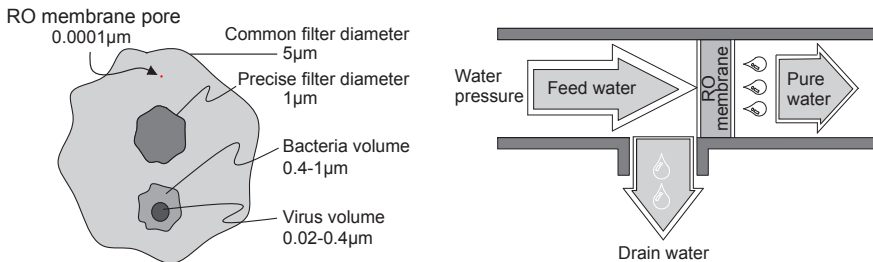
You will find Puricom CT8-R3 RO system very easy to maintain, with its quick, simple, sanitary filter replacements. The good tasty water flows directly a special is also perfect for beverages such as coffee, tea and lemonade.

Please read this manual carefully, paying attention especially to maintenance procedures and safety information. With all gratitude, we assure you a constant, sustainable supply of pure healthy 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 below demonstrate the principle of reverse osmosis.

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 can pass through; while other substances (such as bacteria, viruses, metals, pesticides, chemical products, etc) are eliminated during the process.



## ■ 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 if not.
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 completely 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.



### **INSTALLATION 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. Do not use with hot water. Optimal inlet water temperature is 5°C- 45°C.

6. Inlet water pressure should be 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.



## **OPERATION SAFETY**

1. If water leaks from the product, turn off the supply valve, unplug the system and call Customer Service.
2. Unplug immediately and call Customer Service if the unit makes unusual noise or is not working properly.
3. Use or place the unit on an even surface and do not apply force to the unit.
4. If the system is stored or not in use for a long time, and water is remaining in the tank, 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 small 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 or a high humidity environment. The optimal room temperature for the unit is 4°C - 40°C.

## ■ SPECIFICATION

### ● CT8 WITH PUMP

Model	CT8-R3 with PUMP
Input Voltage	100~240 VAC / 50 / 60Hz
Output Voltage	DC 24V
Capacity	50 GPD
Storage Tank	3.2G
Size	D14cm × W34cm × H44.5cm

### ● CT8 WITHOUT PUMP

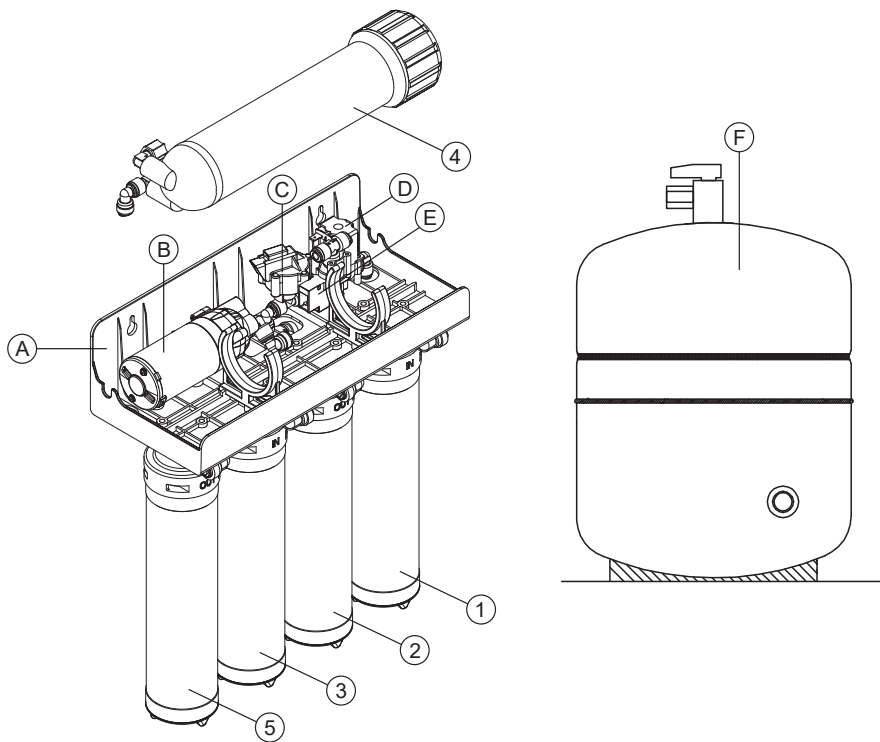
Model	CT8-R3 without PUMP
Capacity	50 GPD
Storage Tank	3.2G
Size	D14cm × W34cm × H44.5cm

## ■ INLET WATER REQUIREMENT

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

■ **PRODUCT DESCRIPTION:**

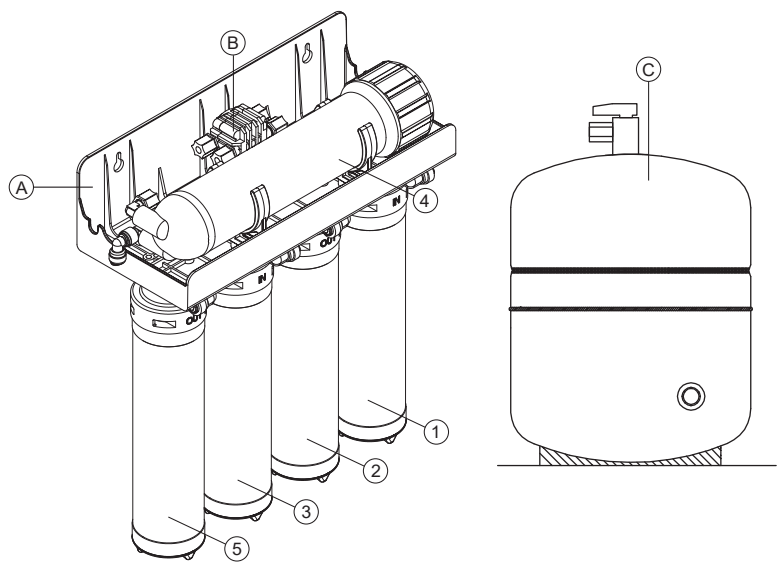
● **CT8 WITH PUMP**



A	Lighten Bracket	1	1st Stage Pre-filter
B	Booster Pump	2	2nd Stage Pre-filter
C	Low Pressure Switch	3	3rd Stage Pre-filter
D	Solenoid Valve	4	4th Stage RO Membrane
E	High Pressure Switch	5	5th Stage Post Filter
F	Storage Tank		



● **CT8 WITHOUT PUMP**



A	Lighten Bracket	1	1st Stage Pre-filter
B	Shut-off Valve	2	2nd Stage Pre-filter
C	Storage Tank	3	3rd Stage Pre-filter
		4	4th Stage RO Membrane
		5	5th Stage Post Filter

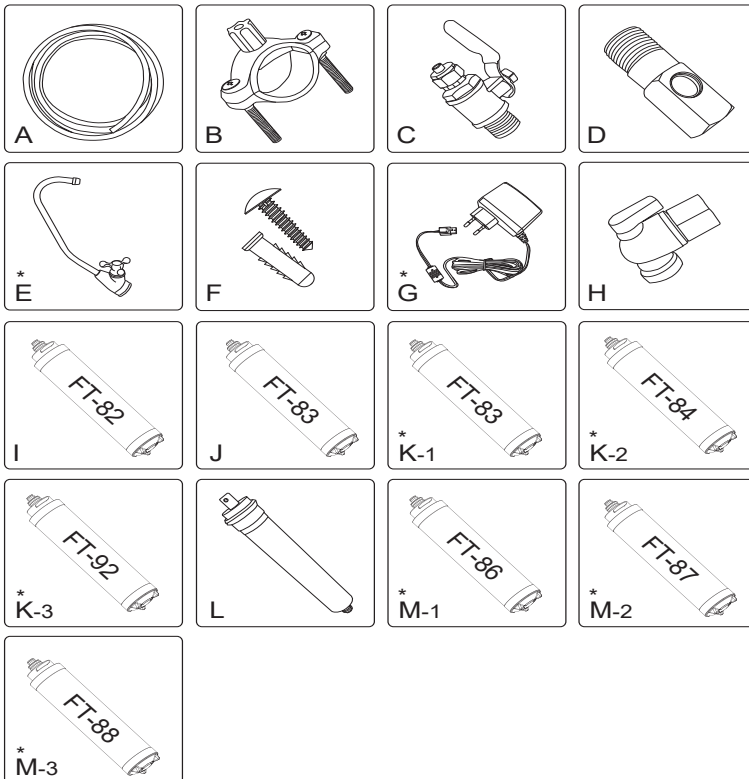
## ■ ACCESSORIES:

### ● Accessories Pack ( \* for optional )

- |  |                |                          |
|--|----------------|--------------------------|
| A. PE tube                             | B. Drain clamp | C. Feed water ball valve |
| D. Feed water connector                | E. Faucet      | F. PVC plug and screws   |
| G. Adaptor (for CE8-R3 with pump only) | H. Ball valve  |                          |

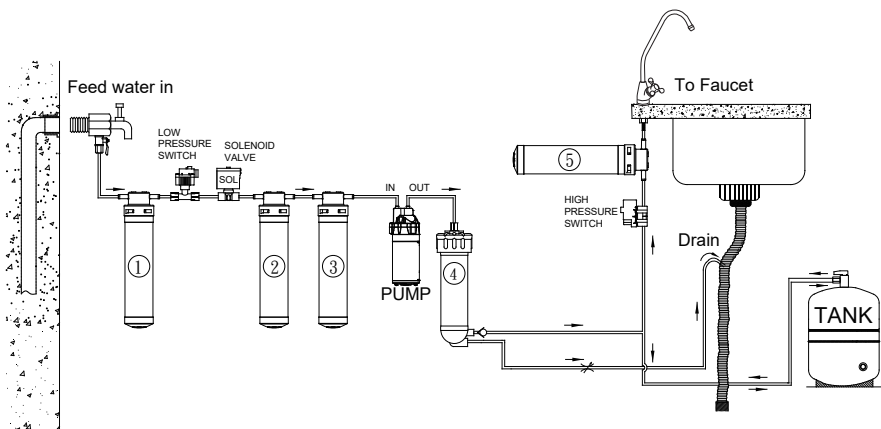
### ● Filters ( \* for optional )

- |   |                             |
|---|-----------------------------|
| I. 1st Stage- PP 5 $\mu$ filter                       | J. 2nd Stage- Carbon filter |
| K. 3rd Stage- Carbon / CTO / PP 1 $\mu$ filter        | L. 4th Stage- RO membrane   |
| M. 5th Stage- Carbon / Remineralizing / Silver Carbon |                             |

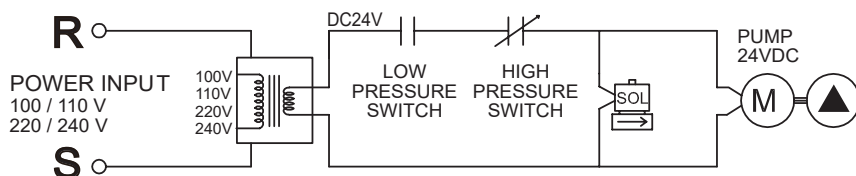


■ **FLOW CHART:**

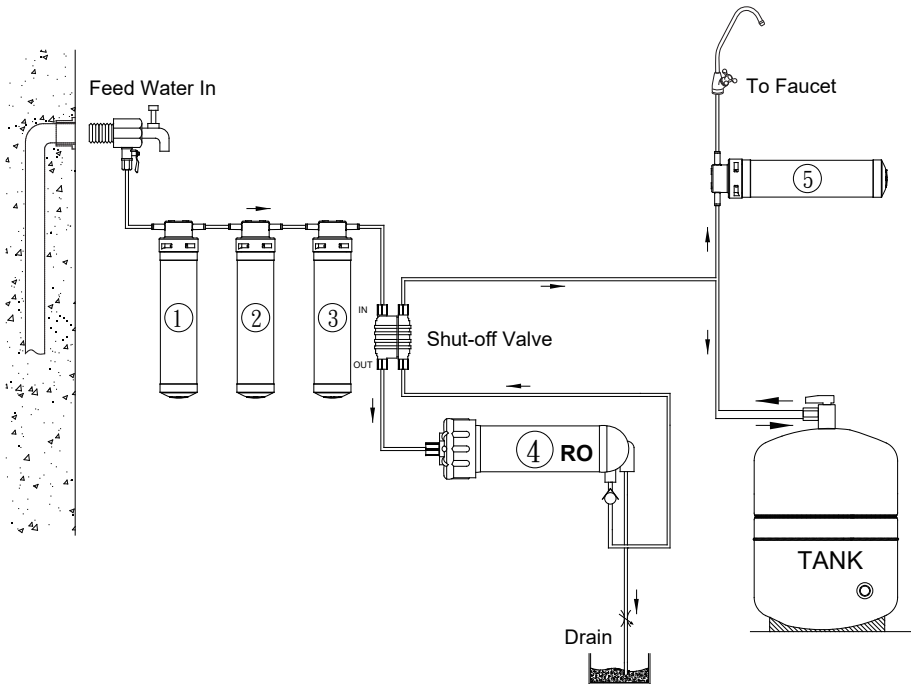
● **CT8 WITH PUMP**



● **ELECTRIC DIAGRAM**



● **CT8 WITHOUT PUMP**



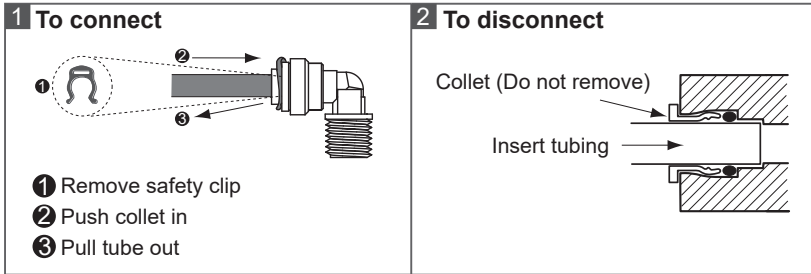
# ■ **FILTER FUNCTION DESCRIPTION & RECOMMENDED FILTER REPLACEMENT:**

STAGE	FILTER	FUNCTION	REPLACEMENT INTERVAL
①	<b>FT-82</b> PP 5μ	Traps dirt, rust, and other impurities.	3~6 months
② ③	<b>FT-83</b> (G.A.C.) Carbon	Removes chemicals and odors, such as chlorine and chemical fertilizer. Set before the RO membrane can protect it from being damaged.	3~6 months
③	<b>FT-84</b> PP 1μ	Fine traps dirt, rust, and other impurities.	3~6 months
	<b>FT-92</b> Carbon Block	Removes fine particles and harmful pollutants. Set before the RO membrane can protect it from being damaged.	3~6 months
④	RO Membrane	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.	1~3 years
⑤	<b>FT-86</b> Post (G.A.C.)Carbon	Drinking water enters this filter after the storage tank and is used as final polishing filter before the faucet. It removes objectionable tastes and odors.	12 months
	<b>FT-87</b> Post Remineralizing	Drinking water enters this filter after the storage tank. Remineralize drinking water and raises its pH level.	12 months
	<b>FT-88</b> Post Silver Carbon	Drinking water enters this filter after the storage tank and is used as final polishing filter before the faucet. Silver ion adds good antibacterial property and high safety.	12 months

## **Note:**

Water analysis by qualified dealer is required to determine optimal lifespan. Frequent use or bad quality feed water shortens filter lifespan. If water pressure and water quality are not within limits, please contact your distributor to make proper modifications.

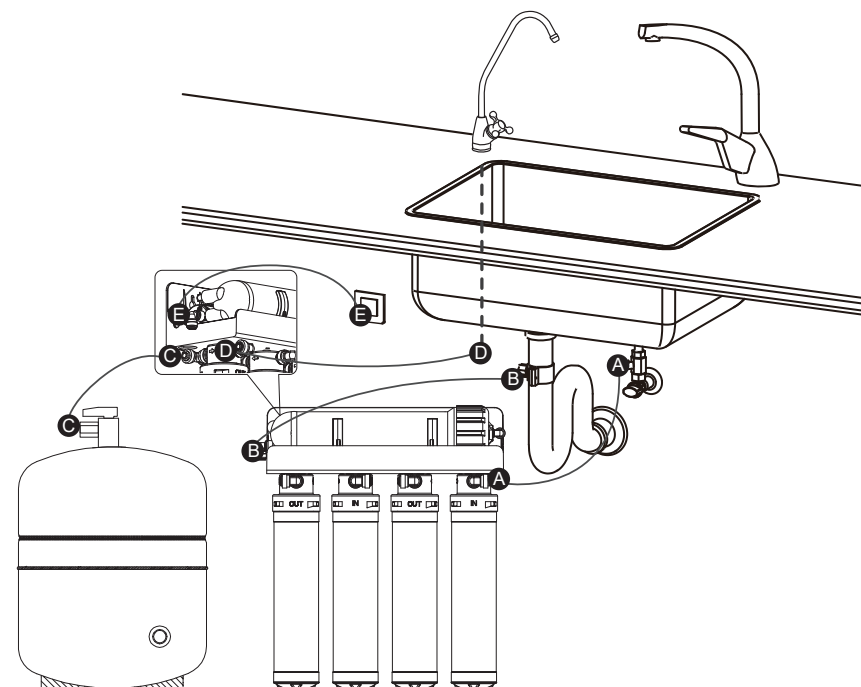
## ■ HOW QUICK CONNECTORS WORK



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.

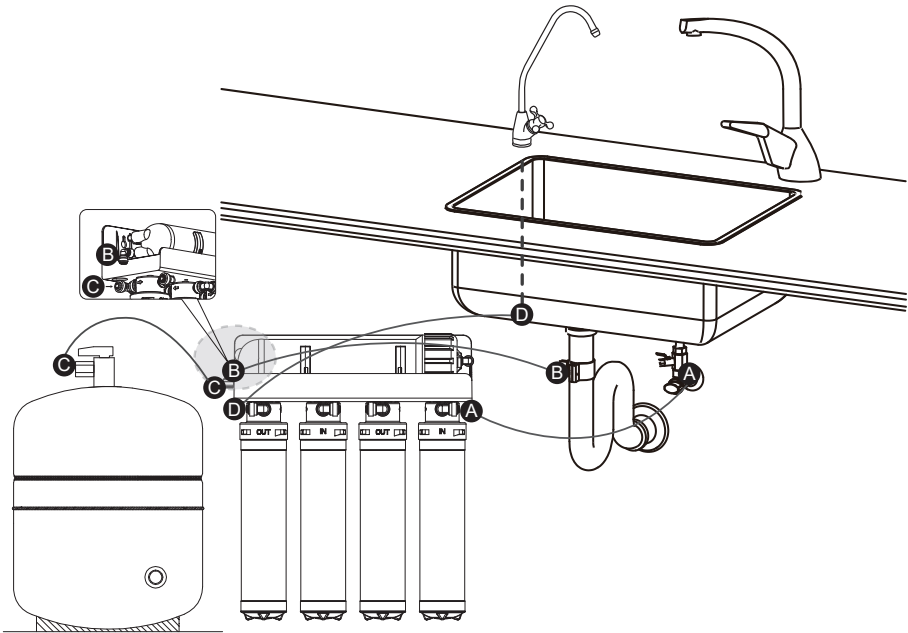
■ **INSTALLATION DIAGRAM:**

● **CT8 WITH PUMP**



- Ⓐ Feed water
- Ⓑ Drain
- Ⓒ Storage tank
- Ⓓ Pure water
- Ⓔ Power supply

● **CT8 WITHOUT PUMP**

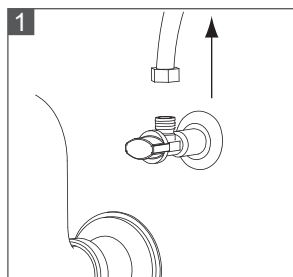


- (A) Feed water
- (B) Drain
- (C) Storage tank
- (D) Pure water

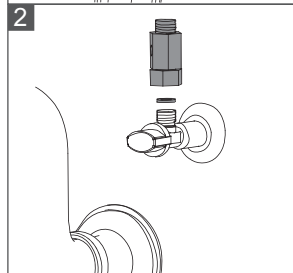


■ **INSTALLATION:**

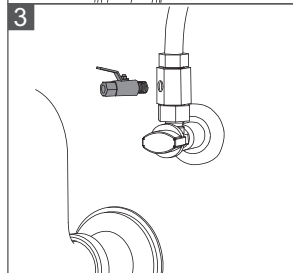
**A. Feed Water Assembly**



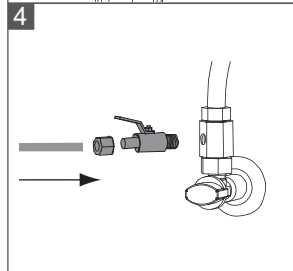
1. Turn off the feed water supply, and disconnect the existing cold water line from the existing cold water supply valve.



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.

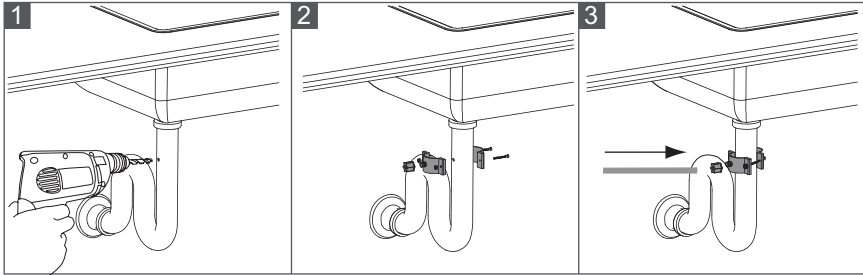


3. Reinstall the existing cold water line on the new feed water connector. Wrap several turns of seal tape on the ball valve and install it on the new feed water connector.



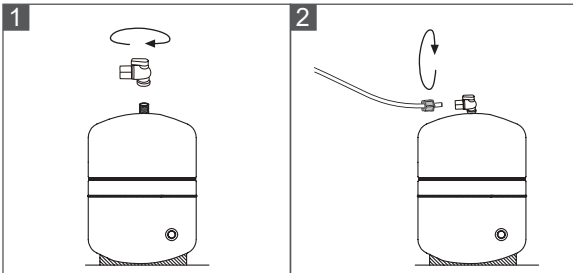
4. Refer to p.13 or p.14 **A** . Connect the PE tube and complete the feed water assembly.

## B. Drain Clamp Assembly



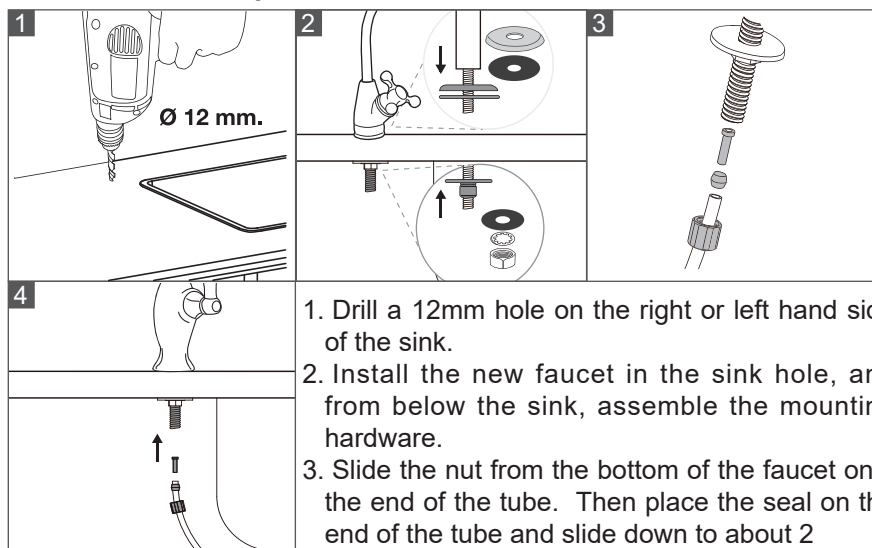
1. Drill a 6mm hole on the existing drain pipe.
2. Tighten the drain clamp evenly on both sides.
3. Refer to p.13 or p.14 **(B)** . Connect the PE tube and complete the drain clamp assembly.

## C. Storage Tank Assembly



1. Wrap the storage tank screw head with six turns of sealing tape and screw on the ball valve.
2. Refer to p.13 or p.14 **(C)** . Connect the PE tube and complete the storage tank assembly.

## D. Faucet Assembly



1. Drill a 12mm hole on the right or left hand side of the sink.

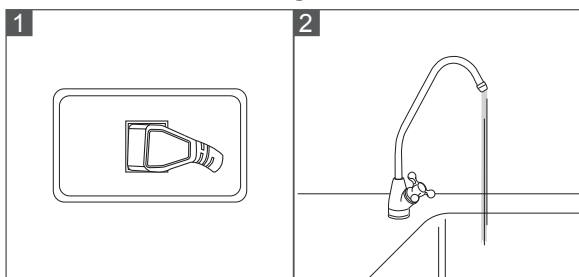
2. Install the new faucet in the sink hole, and from below the sink, assemble the mounting hardware.

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 p.13 or p.14 **D** .

## E. Notice Before Using

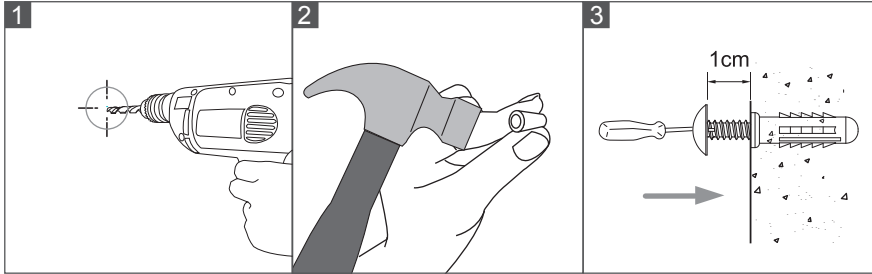


1. Make sure all connections and filters are properly installed. Plug in power (for CT8 with pump only. If your model is without pump, please proceed to step 2). Refer to p.14 **E** . Then finish the installation.

2. Allow a tank of water to rinse through system before first time use.

## ■ HOW TO MOUNT THE WATER PURIFIER ON WALL:

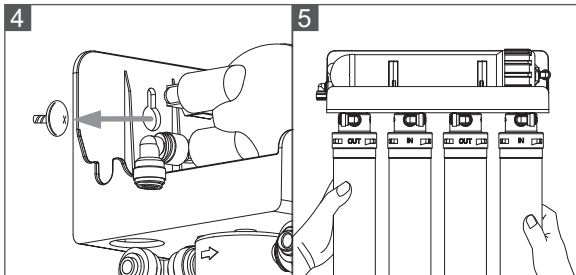
If you want to hang the purifier on the wall, please refer to the steps below:



1. Drill  $\varnothing 6\text{mm}$  holes.

2. Hammer in PVC plugs into the wall.

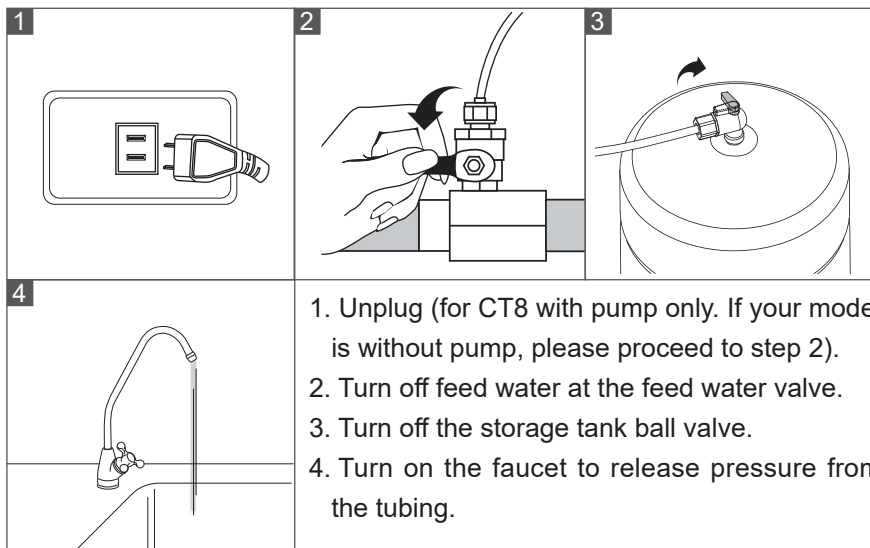
3. Use a screwdriver to screw the screws into the PVC plugs. The depth of screw protrusion must be uniform ( $\pm 10\text{mm}$ ) to avoid damage to unit body.



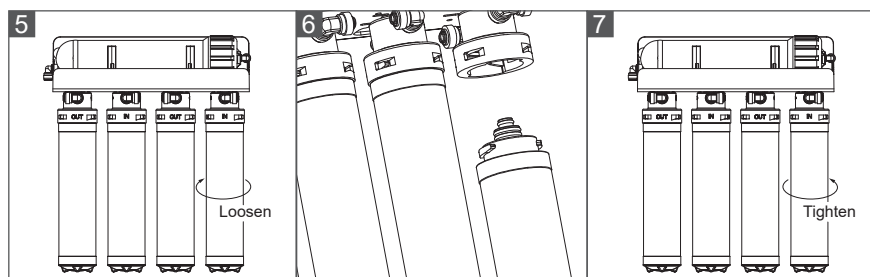
4. Aim at the hole of the bracket.

5. Hang up the purifier and finish.

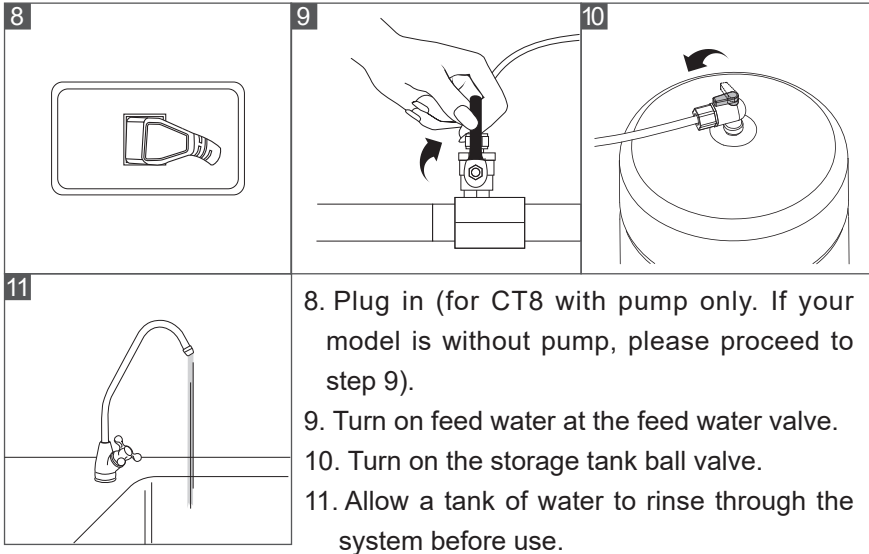
■ **FILTER REPLACEMENT (FOR 1st, 2nd, 3rd and 5th STAGE ):**



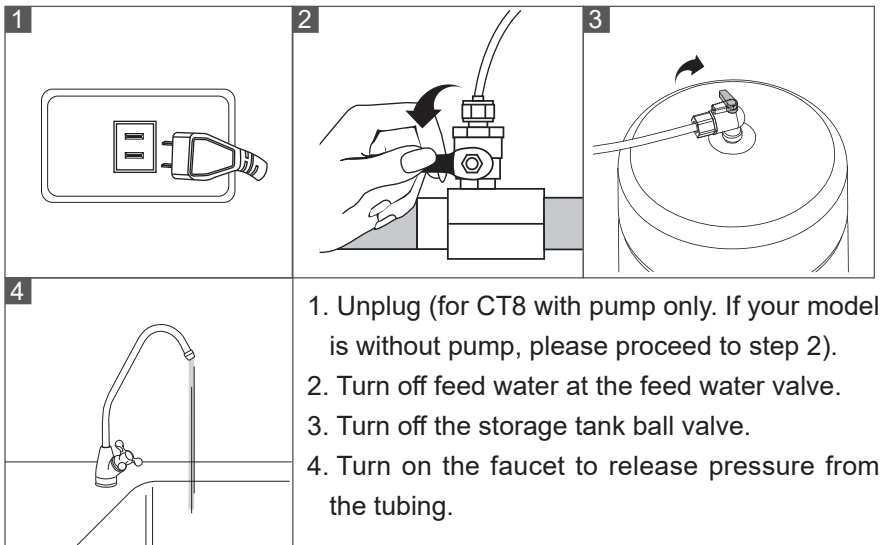
1. Unplug (for CT8 with pump only. If your model is without pump, please proceed to step 2).
2. Turn off feed water at the feed water valve.
3. Turn off the storage tank ball valve.
4. Turn on the faucet to release pressure from the tubing.

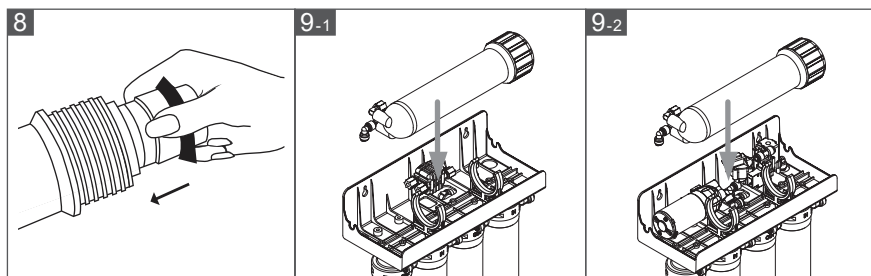
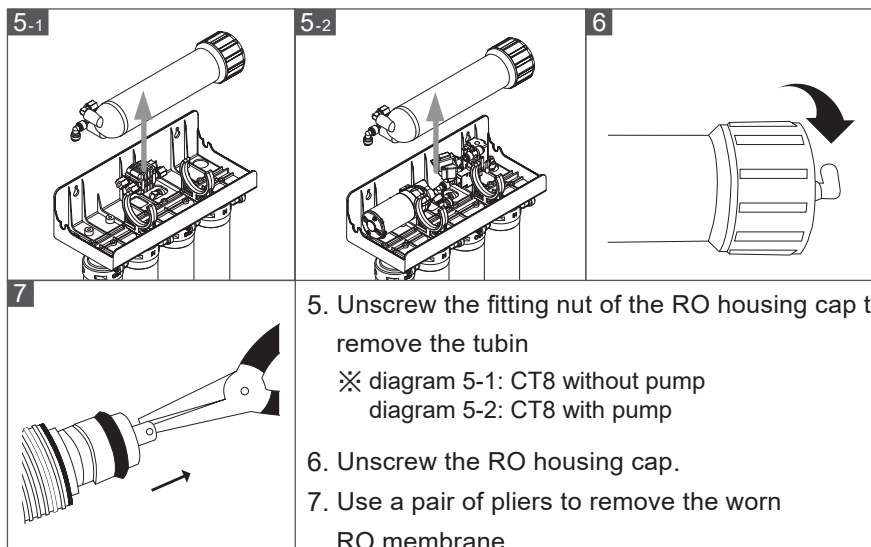


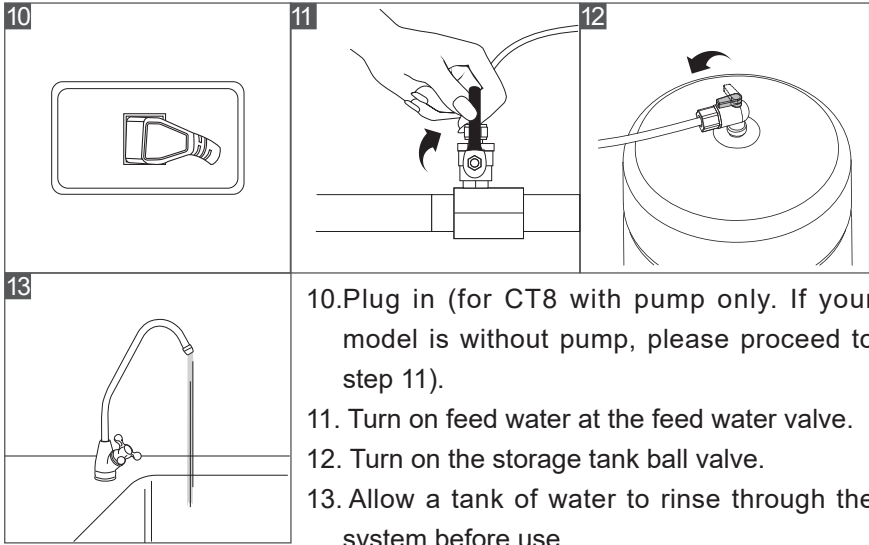
5. Follow the arrow direction to unscrew the old filter.
6. Replace the filter.
7. Follow the arrow direction to screw in the new filter.



#### ■ RO MEMBRANE REPLACEMENT:









## ■ TROUBLESHOOTING:

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.

<b>Problem</b>	<b>Possibility</b>	<b>Troubleshooting</b>
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.	Replace RO membrane. (If clogging is frequent, increase the drainage ratio of the flow restrictor 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 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.(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 decrease and turns on.	1. Replace check valve
	2.High pressure switch is worn.	2.Replace high pressure switch.

DEMO

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## Puricom Water Industrial Corp.

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