

ULTRA REVERSE OSMOSIS SYSTEM



INSTALLATION INSTRUCTION AND OWNER'S MANUAL



Free Drinking Water .Com

Thank you for choosing APEC Reverse Osmosis systems. You now own the finest reverse osmosis system in America!

Please read and become familiar with the instructions before proceeding with the installation.

Before Installation:

Inspect the system:

Please take the system and all the components out of box. Inspect the system and all the connection fittings carefully, making sure nothing was damaged during shipping. If any part is cracked or broken, please do not proceed with the installation and contact APEC or your distributor for an exchange or diagnosis.

Operating Parameter

- Operating pressure: 100 psi maximum
- Feed water temperature: 40-100 degree F (4-37 degree C)
- **Do not** connect or run **HOT** water through this system.

Basic Terms

GPD = Gallons Per Day (flow rate)

PSI = Pounds Per Square Inch (pressure)

TDS = Total Dissolved Solids (contaminants)

PPM = Parts Per Million (unit used to measure TDS level)

TDS Meter = A digital meter for measuring the TDS level in the water

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Part I. HOOK UP THE RO SYSTEM TO YOUR HOME FAUCET

RO hook up: Remove your faucet's aerator (if there is one). Hook up the RO system's faucet Adapter to your faucet (see **Figure A**). If the connection does not match, try using the other Valve Adapters provided.



Figure A

A. This is the Pure Water Outlet Line. Please remove the Red Cap from The end of the tubing.

B. Please hook up faucet adapter to your kitchen faucet aerator.

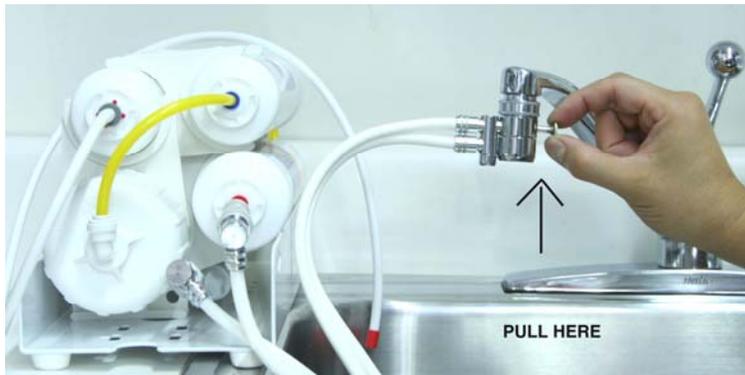


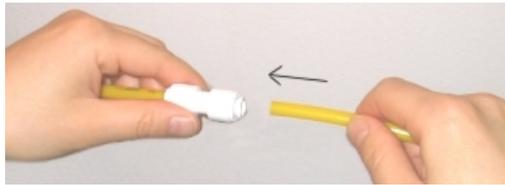
Figure B

1. **Feed water:** Turn the faucet on to **FULL** to supply maximum water pressure to the RO system. Simply pull out the knob on the diverter head to direct the water into the RO System (see **Figure B**). If input water is very cold, you can adjust the faucet to supply luke warm water (**NO hot water please!**). Strong input water pressure and warm water temperature will help increase output flow rate.
2. **Output water:** Remove the red cap from end of the pure water output tubing, place the tubing in your water container to catch the pure water.
3. **Brine water:** Brine (waste) water will drain through the brine outlet on the faucet adapter (all reverse osmosis systems must generate brine water to make pure water).

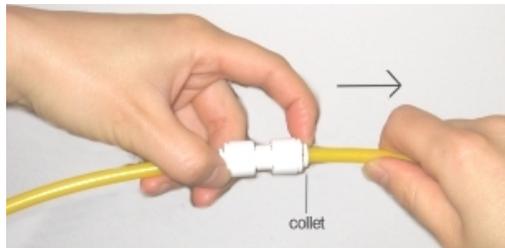
4. **Flushing system:** Let the RO run for 10-15 minutes to flush out the new Membrane – discard the output water during the flush. When done flushing, the fresh pure water is now ready for your enjoyment!

Part II. MAINTENANCE – FILTER CHANGE

* Quick Connect Guide:



Connect Tubing



Press Down on collet To Pull Out Tubing



Figure C

Filter Ports: All filters have Quick-Connect ports. Remove and connect tubing to filter ports as shown in the above “Quick-Connect Guide” diagram.

Remove Filter: Please change one filter at a time to avoid mixing up the filters. New filters come with 2” protective plugs on each end. You can take them out by pressing on the collet ring with one finger and use a pair of pliers to pull out the protective tubing (see **Figure.C**).

Stage-1: Sediment Filter (Manufacturer Part# K2505 filter)
Change every 6 months or 600-800 gal pure water used:

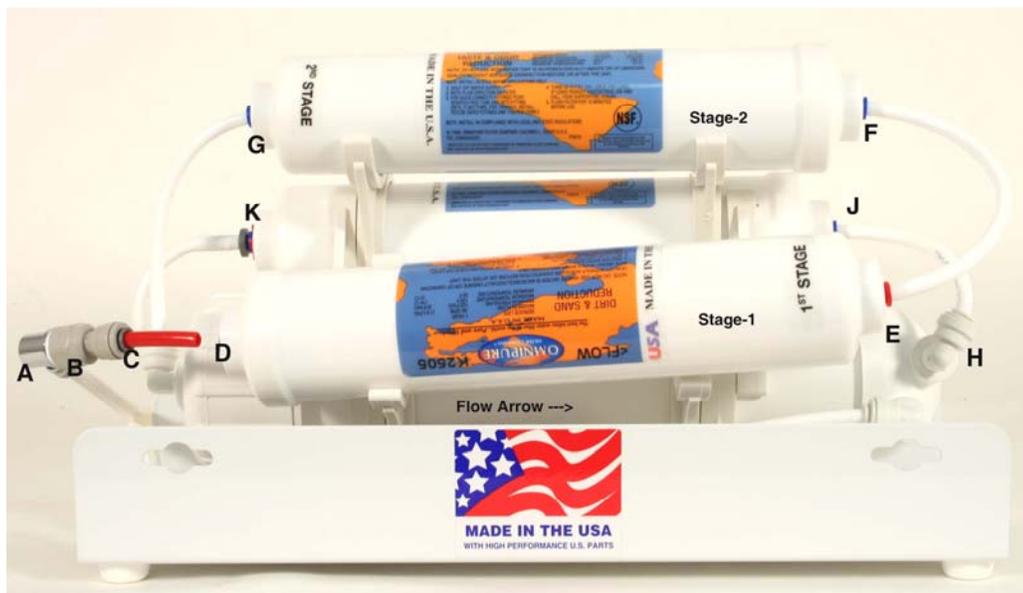


Figure D

(Back View Of System)

The Stage-1 Sediment filter is tucked behind the membrane housing. For ease of access, pull and lift the 2nd stage filter to the top position. Then, do the following:

- Step 1.** Disconnect tubing from Point D & Point E (see “Quick-Connect” diagram). Discard used filter.
- Step 2.** Snap on the new filter onto the 2 holding clips. Make sure the **Flow direction “arrow →”** on the filter is pointing toward the right direction (see **Figure D**). Re-connect tubing to both ends of the new filter.

Stage-2 Pre-Carbon Filter (Manufacturer Part# K2533 filter)
Change every 6 months or 600-800 gal pure water used:

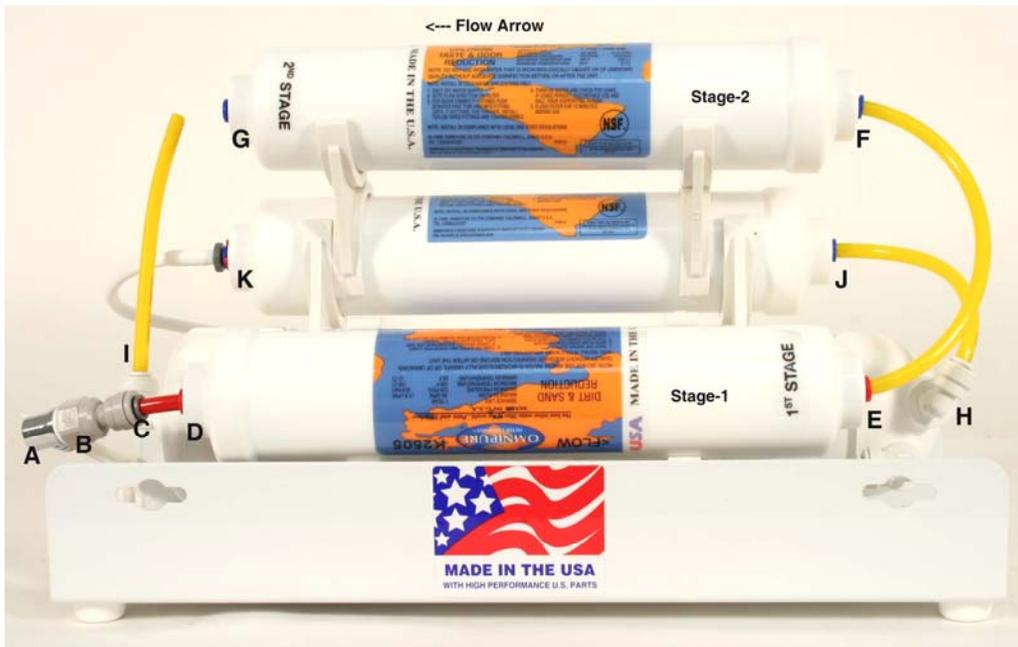


Figure E

(Back View Of System)

The Stage-2 Pre-Carbon filter is located between Stage-1 and Stage-4 filters (see **Figure E**). Locate it, and follow these steps:

- Step 1.** Disconnect tubing from Point **F** & Point **G** (see "Quick-Connect" diagram). Discard used Filter.
- Step 2.** Snap on the new filter onto the 2 holding clips. Make sure the Flow Direction "**← Arrow**" on the filter is pointing towards the left direction. (see **Figure E**). Reconnect tubing to both end of the new filter.

Stage-3 Membrane (Manufacturer Part# Filmtec TW30-1812-75) Change every 2-5 years:

If Stage 1 & 2 pre-filters are changed regularly, the Stage-3 Membrane can last 2-5 years depending on your input water's quality. **The Membrane needs replacing when:** The **TDS** (total dissolved solids) level in the pure water starts to increase (detected by a TDS meter from APEC), or when the **water taste quality starts to decline**. Replace the Membrane as follows:

1. Locate the Membrane-Housing (with "Filmtec Membrane" label on it.)
2. Disconnect tubing from the Membrane-Housing Cap. Remove membrane-housing cap by turning it counter-clockwise. Pull out the old membrane using a plier. Then insert the new membrane into the housing. **Make sure the end with "2 small black rings" goes in first as shown below.** (see **Figure F**).
3. Close the cap on membrane-housing. Reconnect tubing to the cap. **Let RO run for 10-15 minutes to flush out the new membrane** – discard the output water. When done flushing, the pure water is ready for use.

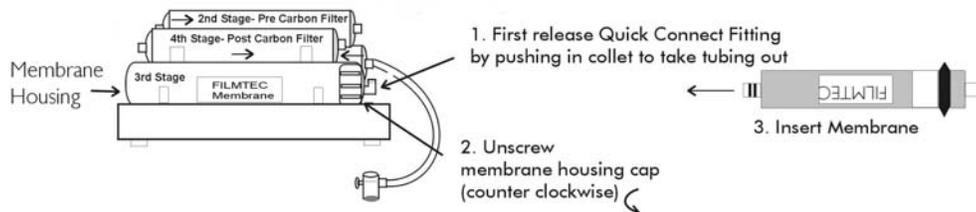


Figure F

(Front View Of System)

Stage-4 Post-Carbon Filter (Manufacturer Part# K2533 filter) Change every 2-5 years:

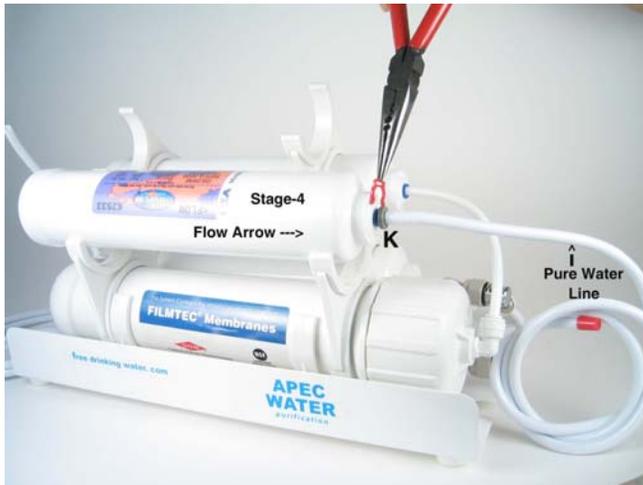


Figure G



Figure H

Front View Of System

Follow the same procedures as for changing the **Stage-2** carbon filter. They are identical 10" carbon filters.

To remove the Pure water output line, first use a pair of pliers and remove the tubing lock (red clip) from Point K. See **Figure G**.

Use a flat head screwdriver to push and hold the collet ring into the stage 4 filter. Then pull out the pure water line. Discard the old filter and reconnect pure water line to new filter. Make sure the **Flow direction "arrow→"** on the filter is pointing towards the right direction. See **Figure H**.

RO-Ctop Pure Water Production Rate

Input Water Pressure	Time to fill 8 oz cup	Time to fill 1 gallon jug	Gallons Per Day
60 psi	60 seconds	16 minutes	90 gpd
50 psi	72 seconds	19.2 minutes	75 gpd
40 psi	90 seconds	24 minutes	60 gpd
30 psi	120 seconds	32 minutes	45 gpd
20 psi	180 seconds	48 minutes	30 gpd

* Production rate is based on input water temperature of 25 C (77 F).

The RO-Ctop runs solely on the input water pressure from your water pipe line. The speed in which the system generates pure water will depend on the water pressure that is flowing into the system. The RO-Ctop operates more efficiently at higher input water pressures, and the increased pressure helps the system to produce more pure water with correspondingly less brine water. Lower input water pressure has the opposite effect and will reduce water production while increasing brine water discharge.

The chart above shows the strong effect water pressure has on the pure water production rate of the system. A water pressure gauge (sold separately) will give you an accurate measure of your incoming water pressure. You can also use the pure water production rate of the RO-Ctop as a simple guide. For example, it should take approximately 60 seconds to fill an 8 oz cup at 60 psi, which is a good pressure and flow rate for the system. For very low water pressure, an optional booster pump (sold separately) can be added to the RO-Ctop to increase the output rate of the system.

* * * End of Owner's Manual * * *

WARRANTY POLICY

For a period of one year from the date of original purchase, APEC will replace any part of the reverse osmosis system which APEC finds to be defective in operation due to faulty materials or workmanship with the exception of the replaceable filters and membrane which shall be prorated. The customer pays only for freight and any local labor charges. Replaceable filters and membrane shall be changed and maintained on a regular basis for this warranty to be valid. Service schedule depends on local input water quality.

GENERAL CONDITIONS

Damage to any part of this reverse osmosis system because of misuse, misapplication, negligence, alteration, accident, installation or operation contrary to our instructions, incompatibility with accessories not installed by APEC, or damage caused by freezing, flood, fire, or Act of God, is not covered by this warranty. In all such cases, regular charges will apply. This limited warranty does not include service to diagnose a claimed malfunction in this unit. This warranty is void if unit is not operated under normal municipal water conditions which the particular model is intended to be used on.

We assume no warranty liability in connection with this reverse osmosis system other than specified herein. This warranty is in lieu of all other warranties, expressed or implied, including warranties of fitness for a particular purpose. We do not authorize any person or representative to assume for us any other obligations on the sale of this reverse osmosis system. This warranty becomes effective when the system is installed correctly and successfully. Behind this product are years of research, design, and production skills. This reverse osmosis unit has been carefully tested and approved at our factory. Through this warranty we are demonstrating our confidence in APEC equipments.

Even though the Ultra Reverse Osmosis systems have extremely high endurance for operating conditions such as pH, maximum TDS, temperature, and optimum water pressure, we can only offer full warranty based on the criteria of Standard Operating Conditions as follows. These conditions must be met for warranty to be valid.

	Water Pressure	pH Range	Max. TDS	Water Temperature
Standard System	40-95 psi	2-11	2000 ppm	40-120 F
Permeate Low Pressure System	30-95 psi	2-11	2000 ppm	40-120 F
Booster Pumped System	0 -30 psi	2-11	2000 ppm	40-120 F



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