



Reverse Osmosis Water Purification System Installation and Service Manual

Please read the installation guide carefully and follow directions *before* proceeding to installation.

Pay particular attention to all of the cautions, warnings, and notes. Failure to do so could result in personal injury, equipment damage or damage to other property.

Be sure to follow any special plumbing codes required in your area.

Check List

- 1. Reverse Osmosis systems
- 2. Water storage tank
- 3. Faucet
- **4.** Installation kit: Tank ball valve, drain saddle valve, feed water valve



Installation kit

Reverse Osmosis system

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Water storage tank



Faucet

Recomended Tools List

- Variable speed drill
- 1/8", 1/4" and 7/16" drill bits
- 1/2" and 9/16: open end wrench or adjustable wrench
- Utility knife
- Teflon tape

Warning

- 1. **Do not** use this RO system to purify non-drinkable sources of water that are unsafe or with water of unknown quality
- 2. Never use hot water or allow unit to freeze
- 3. Incorrect installation will void the warranty

5 Stage RO system filtration process



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Specification

Sage		Description	Service Life
1 st	Stage	Sediment filter, 5 mic, 10"	6-12 months
2 nd	Stage	Pre-carbon filter, 10"	6-12 months
3 rd	Stage	Pre-carbon ilter, 10"	6-12 months
4 th	Stage	Reverse Osmosis membrane	24-36 months
5 nd	Stage	Alkaline cartridge	12-18 months



D. BLACK TUBE

How to make a connection

1. CUT THE TUBE SQUARE



STAINLESS STEEL TEETH

2. INSERT TUBE Fitting grips before it seals. Ensure tube is placed into the tube stop.



2. PUSH UP TO TUBE STOP

Push the tube into thE fitting, to the tube stop. The collet (gripper) has stainless steel teeth which hold the tube firmly in position while the o-ring provides a permanent leak proof seal.



1. PULL TO CHECK IT IS SECURE Pull on the tube to check that it is secure. It is a practice to test the system prior to leaving the site and/or before use.



1. DISCONNECTING - PUSH COLLET AND REMOVE TUBE To disconnect, ensure the system is depressurized before removing the tube. Push in the collet squarely against face fitting. With the collet held in this position, the tube can be removed. The fitting can then be reused.



INSTALLATION

1. Install the faucet

- a. Determine the best location for your RO faucet on your sink surface.
- b. Place a piece of masking tape or tuct tape on the deermined location where the hole is to be drilled.
- c. Use a variable speed drill at the slow speed with a 1/8" drill bit approved for the sink material. Drill a centering hole in the center of the desired faucet location.
- d. Enlarge the hole using a 1/4" drill bit. Use factory approved method or approved plumbing practice to drill hole in sink.
- e. Enlarge the hole to 7/16" diameter. Keep bit well oiled and drill slowly.
- f. Pass the escutcheon base plate and large rubber washer in order over the threaed mounting tube at the base of the faucet.
- g. From under the sink, install the large metal or plastic locating the washer and the star washer over the threaded stem. Screw on the nut and tighten.
- h. Over the blue tubing, install brass compression nut and plastic sleeve (do not use the brass one), then install plastic insert
- i. The spout is 360 degree swivel.



Please see <Fig.1> and <Fig. 2>

2. Tapping into the COLD water line

- a. Locate the cold water angle shut off valve underneith the sink and turn it off. Open the cold water faucet to release the pressure. On single handle faucet, the hot water mat need to be turned off to prevent any hot water cross over. If water continues to come out of faucet with angle valve turned off, the house main will have to be turned off. Care must be taken for appliances that may be damaged by an interrupted water supply.
- b. Locate feed water adapter before assembly is connected to the feed water line.
- c. Teflon tape must be used on angle valve to prevent leaks.
- d. Disconnect the cold water riser tube and install



3. Mounting the tank ball valve

- a. Unplug the plastic cap on the top of the tank.
- b. Wrap the thread 3 times with Teflon tape only.
- c. Connect the ball valve to the thread. Make sure it is tight but not over tight. See <Fig. 5>

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d. Connect the yellow tubing to the tank ball valve. Tum the tank ball valve off.



4. Mounting the drain clamp

The drain clamp will fit most standard drain pipe 1-1/4". It should be installed above the trap and on the vertical tailpiece. See <Fig. 6>

- a. Position the drain saddle in desired location, mark spot through thread outlet, remove saddle.
- b. Drill ¹/₄" (6.3mm) hole into the drain pipe above the water line of trap.
- c. Align the hole drilled in the drain pipe with the drain saddle using a drill bit or other narrow straight object and tighten clamp.
- d. Make sure to align drain saddle to drilled hole. Attached drain saddle to drain pipe and tighten the two screws evenly. See <Fig. 7>.
- e. Connect black tubing to drain clamp.



TANK SHOULD HA VE A PRE-CHARGE AT 5-7 PSI

5. System starts up

- a. Turn on the cold water supply and the under sink feed water valve but close the tank ball valve.
- b. Open RO faucet for continuous flow.
- c. Check system for leaks, tighten as necessary.
- d. After 10-30 minutes, the water will start to drip out of the RO faucet. Let it drip for about 10 minutes and then flip the handle to the closed position. Turn on the tank ball valve now. It will take 2-3 hours to fill the storage tank.
- e. You will hear the water stop after the tank is full.
- f. Check leaks daily for first week and periodically thereafter.
- g. You may notice that the water may be milky colored during the first week. It is the air bubble in the water. It is normal and safe.

Note

- 1. Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.
- 2. This reverse osmosis system contains a replaceable component critical to the efficiency of the system. Replacement of the reverse osmosis component should be with one of identical specifications, as defined by the manufacturer, to assure the same efficiency and contaminant reduction performance.
- 3. Do not use this RO system appliance to purify non-drinkable sources of water that are unsafe or with water of unknown quality.
- 4. Never use hot water or allow unit to freeze.
- 5. Incorrect installation will void the warranty.

Cleaning Procedures

The following system and tank cleaning procedures are recommended every 12-18 months.

- 2. Open the RO faucet and depressurize the RO system and storage tank.
- 3. Remove pre-filter, post filter and RO membrane. Discard or prepare for cleaning. If the RO membrane element is to be reused, disinfectant solution should be introduced into the permeate tube outlet sufficient to remove biofilm in this vulnerable area, before renserting membrane into the housing.

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- 4. Wash the internal housing areas with warm soapy water using a clean brush (do not scratch the surface of the housings). Be sure to clean o-ring grooves thoroughly. Remove the exiting o-ring. Discard o-ring or prepare for cleaning.
- 5. Rinse off all the housing pieces with clean water to remove soap.
- 6. Replace o-rings, and lubricate per manufacture's instruction.
- 7. Pour recommended amount of disinfection solution into each of the clean housings and replace housing on the RO system.
- 8. Disconnect RO storage tank from the system.
- 9. RO storage tank cleaning procedure:
- a. The tank should be empty. Check the air pre-charge pressure with an accurate gauge (low pressure type 0-12 lbs). The average tank pressure should be 8-10 psi (when the tank is empty).
- b. Fill the tank sanitizer feeder with the recommended disinfectant dosage, and connect the feeder to the water supply and RO storage tank
- c. Turn on water supply and force water and disinfectant solution into the RO storage tank. The storage tank should feel heavy when filled.
- d. The disinfectant solution should remain in the tank a minimum of 10 minutes. Turn off the water supply valve and the RO storage tank valve. Disconnect the sanitizer feeder and connect the RO storage tank to the RO unit (the tank ball valve should remain closed).
- 10. Open the feed water valve and open the RO faucet until water flow freely from the spout. Close the RO faucet. Hold the disinfectant solution in the RO system, including the tubing and faucet, for a minimum of 10 minute. Open the tank ball valve.
- 11. Shut off the feed water valve and open the RO faucet. Let water nm out until the flow stops at the RO faucet.
- 12. Open the feed water valve. Let water flow freely from the faucet for about 3 minutes. Shut off the water at the source water supply with RO faucet open.
- 13. When the flow of water has stopped at the RO faucet, remove the filter housing sumps and membrane housing from the RO system. Replace the filters and membrane according to the service life.
- 14. Replace the housing on the RO system. Open the source water valve and allow the water to flow from the faucet.



Because some of the disinfectant solution may still be in the system, the system should be flushed prior to using the water human consumption. A maintenance record should be kept for the RO system, including information about the replacement parts, when service was performed and by whom.

It is recommended that you completely drain the RO tank every month

Preventive maintenance

The following system and tank cleaning procedures are recommended every 12-18 months.

These recommendations are intended for maximize efficiency of RO water production by your system.

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1. Filter maintenance

- a. It is OK to store the filters on the shelf for several yean ...
- b. To store the sealed, unopened filter, we recommend that it be kept in an air-tight container. This prolongs the shelf life of the carbon filter (particularly filter was ordered more than one year before its intended use) and avoid having the filter absorb any possible odor from the air.
- 2. Membrane maintenance
- a. The dry packed membrane usually has a two-year shelf life. To prolong the shelf life, we recommend keeping unopened dry membrane in a refrigerator.
- b. Once the membrane is in use, we recommend running the RO system every day for at least 10-15 minutes (about 1 gallon or 1 liters of drinking water). This helps to maintain the membrane performance.
- c. If the RO system is not used for over a week, drain the storage tank first. Then fill the tank and drain it twice. Your RO system is now ready to use again.
- 3. Filter and membrane change procedures
- a. Shut off the water supply.
- b. Turn off the tank ball valve by turning it 90 degrees.
- c. Open the RO faucet to the continuous flow position and drain the tank completely.
- d. Slide in the housing wrench. Use one hand to hold the system and the other hand to turn the

wrench clockwise to open the housing.

Note: if fit is too tight to open the housing you may try unplugging the fitting between red

tubing and the system in order to reduce the air and water pressure inside the housing.

- e. After opening the housing, remove the used filter and put the new filter into the housing. Make sure the O-ring is back in place and tum the hous:ng counterclockwise to close.
- f. Repeat previous step to change the second filter.
- g. Turn on the water supply and make sure there are no leaks.
- h. Let the water drip from the faucet for about 10 minutes. If the water flow is less than 1 cup (8 oz. or 240 ml) per minutes, it may be a signal to change the membrane.
- 1. Membrane change procedures

Unscrew the membrane housing cap

Slide out the used membrane and discard.

Insert the new membrane into the housing. The end with the two o-rings should go in first. To prevent leaks be sure it is fully seated in the bottom of the housing. Screw the cap back onto the membrane housing, making sure o-ring is still in place.

It may take 10-20 minutes for the new membrane to run at normal flow.

If the water flow is OK, then turn on the tank ball valve. After 1 minute, turn off the RO faucet and complete the filter change procedures.

Trouble shooting

Note: Turn off the system before servicing

Problem	Cause	Soultion
Milky colored water	Air in the system	Air in the system is a normal occurrence with initial startup of the RO system. This milky look will disappear during normal use within 1 to 2 weeks
Noise from faucet	 Air gap faucet Location of drain saddle Restriction in drain line 	 Will disappear after system shuts down. Relocate the drain to above water trap. Blockage sometimes caused by debris from garbage disposal or dish washer
Small amount of water from storage tank	 System just starting up Air pressure in storage tank is low 	 Normally it takes 2-3 hours to fill tank. Low water pressure or low temperatures can reduce production rate. Add pressure to storage tank. The pressure should be 8-10 psi when the tank is empty.
Slow production	 Low water pressure Crimps in tubing Clogged pre-filters Fouled membrane 	 Low water pressure Crimps in tubing Clogged pre-filters Fouled membrane
Water taste or smell offensive	 Post carbon is depleted Fouled membrane Sanitizer not flushed out 	 Replace post carbon Replace membrane Drain storage tank and refill it overnight
No drain water	Clogged flow restrictor	Replace flow restrictor
Leaks	 Fittings are not tightened Twisted o-ring Misalignment of hole in drain saddle 	 Tighten fittings as necessary Replace a o-ring Realign drain saddle

SYSTEMS

WATER



Limited One Year Warranty

1. Warranty Covers

The Reverse Osmosis Water Purification System is warranted to the original owner to be free of defects in material and workmanship from the date of manufacture for two years as follows:

- 1) The manufac.ture will replace the defective parts (excluding the replaceable filters) within one year at no charge.
- 2) The replaceable filters are warranted for defects in material and workmanship only. Service life of replaceable filter varies with local water and is thus not warranted.2. Conditions of Warranty
- 1) System must be maintained and service with manufacturer approved replacement part

The performance and function of the RO system is directly related to the quality of the water being treated and the particular application in which it is used. Therefore, the manufacturer liability is limited to the cost of repair or replacement of any defec tive part and does not include incidental or consequential damages of any kind. This warranty gives you special legal rights and you may also have other rights which vary from state to state.

- 2) Systems must be installed and operated in accordance with manufacturer recommended procedures and guidelines.
- 3. Reverse Osmosis Systems Will Not Do
- 1) Warranty is void if product failure or damage result from freezing, neglect, misappli cation fouling with sediment or scale or failure to operate the system in accordance with the instructions contained in the owner's manual.
- 2) The following operating conditions must also be followed for this warranty to be valid.

Operating pressure: 50-90 psi (3.5-6.3 kg/cm2) Operating temperature: 40-100 ° F (4.4 -37.8 °C) Hardness: <120 ppm (7gpg) TDS: <1000 ppm pH Range: 3-11 Iron: <0.3 ppm

4. Limitations and exclusions

The manufacturer will not be responsible for any implied warranties including those of merchant ability and fitness for a particular purpose. The manufacturer will not be responsible for any incidental or consequential damages including travel expense, telephone charges, loss of revenue, loss of time, inconvenience, loss of use of the, equipment and damage caused by the equipment and its failure to function properly> This warranty sets forth all of manufacturer's responsibilities regarding thi s equipment.