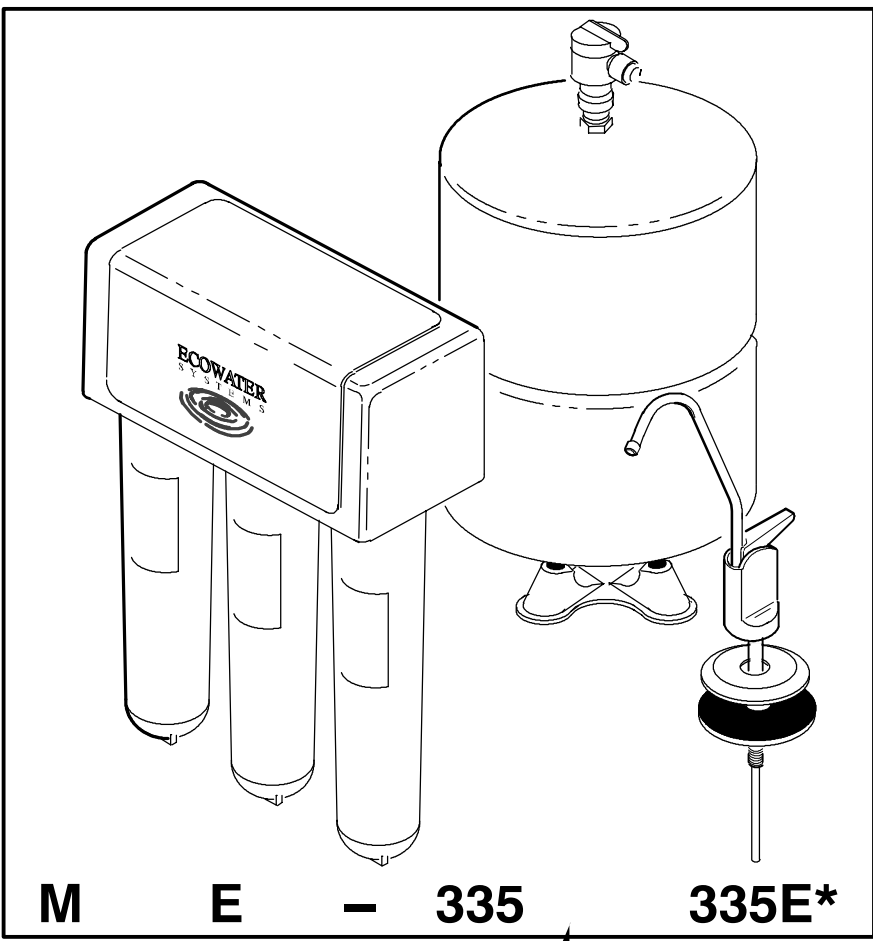


ECOWATER
S Y S T E M S



E E E M I A EM



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* See separate instructions in electronic kit included with R335E models.



Tested and certified by NSF International
to ANSI/NSF Standard 58.
See performance data sheet for details.

E y , l .
PO Box 64420 St. Paul MN 55164-0420 TEL (651) 739-5330

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SAFETY GUIDES

■ **Read all steps, guides and rules carefully before installing and using the Reverse Osmosis System. Follow all steps exactly to correctly install.**

■ **BE SURE TO FOLLOW APPLICABLE STATE AND LOCAL PLUMBING AND SANITATION CODES when installing the Reverse Osmosis Drinking Water System. Using a qualified installer is recommended.**

■ **The Reverse Osmosis System works on water pressures of 40 psi minimum, to 100 psi maximum (see the table on page 3). If house water pressure is over the maximum, install a pressure reducing valve in the water supply line to the Reverse Osmosis System.**

■ **DO NOT install the Reverse Osmosis System outside, or in extreme hot or cold temperatures. Temperature of the water supply to the Reverse Osmosis System must be between 40 F (minimum) and 100 F (maximum)...see the table on page 3. DO NOT INSTALL ON HOT WATER.**

■ **Read the other limits (pH, water hardness, etc.), page 3, and be sure the water supply conforms.**

■ **Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.**

■ **This system is acceptable for treatment of influent concentrations of no more than 27 mg/l nitrate and 3 mg/l nitrite in combinations measured as N and is certified for nitrate/nitrite reduction only for water supplies with a pressure of 280 kPa (40 psig) or greater.**

■ **This system shall only be used for arsenic reduction on chlorinated water supplies containing detectable residual free chlorine at the system inlet. Water systems using an in-line chlorinator should provide a one minute chlorine contact time before the R.O. system.**

■ **The reverse osmosis membrane contains a preservative for storage and shipment. Be sure to purge as instructed on page 9 before using product water.**

WARRANTY INFORMATION

LIMITED WARRANTY

EcoWater Systems guarantees to the original owner that, for a period of ten years from date of installation, the RO, with the exception of filters, will be free from defects in material and workmanship. In addition, the RO membrane is guaranteed for a period of two years, and the sediment-carbon prefilter and the taste and odor postfilter are also guaranteed for a period of one year, to be free from defects in material and workmanship. The service life of the RO membrane, prefilter and postfilter is dependent on proper feed water quality.

EcoWater Systems also guarantees to the original owner that the electronic faucet, on electronic models, will be free from defects in material and workmanship for a period of three years from date of installation.

Any defective part, as described above, which fails within the specified warranty period will be repaired or replaced, F.O.B. our plant, St. Paul, MN.

The sole obligation of EcoWater Systems, Inc., under these guarantees, is to replace or repair the component or part which proves to be defective, within the specified time period, and EcoWater is not liable for consequential or incidental damages due to misuse, alteration, neglect, freezing or a force of nature. All implied warranties, including any implied warranty of merchantability or of fitness for a particular purpose, are disclaimed to the extent they extend beyond the above periods. No dealer, agent, representative, or other person is authorized to extend or expand these guarantees.

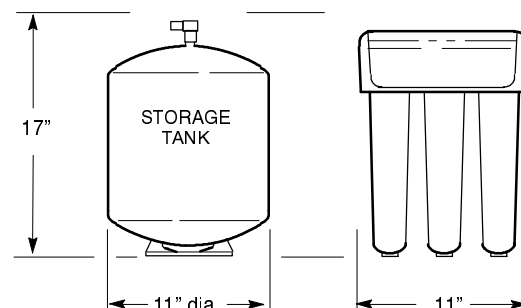
Some states do not allow limitations on how long an implied warranty lasts or exclusions or limitations of incidental or consequential damage, so the limitations and exclusions in this warranty may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

ECIFICA I N

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DIMEN I N

	ERO - R335
Feed water pressure limits – pounds per square inch (psi) ³	40 – 100
Feed water temperature limits – minimum / maximum degrees F	40° – 100°
Maximum total dissolved solids (TDS) – parts per million (ppm)	2000
Maximum water hardness @ 6.9 pH – grains per gallon (gpg)	20
Maximum iron (mg/L)	0.1
Maximum manganese (mg/L)	0.05
Maximum hydrogen sulfide	0
Feed water pH limits (pH)	4–11
Product (quality) water, 24 hours – gallons ¹	10.9 ⁴
Waste water per gallon of product water, 24 hours – gallons ¹	4 (minimum)
Percent rejection of TDS, minimum ¹	95
Storage tank capacity – gallons	3.1



1. Quality water production, amount of waste water and percent rejection all vary with changes in pressure, temperature and total dissolved solids. This RO system contains a replaceable component critical to the efficiency of the system. Replacement of the RO component should be with one of identical specifications, as defined by the manufacturer, to assure the same efficiency and contaminant reduction performance.
2. Chlorine removed (max. of 2.0 ppm) by the RO Prefilter. **REGULAR MAINTENANCE IS REQUIRED.** Chlorine will destroy the RO membrane. See page 4.
3. This system is acceptable for treatment of influent concentrations of no more than 27 mg/L nitrate, and 3 mg/L nitrite in combination measured as N, and is certified for nitrate/nitrite reduction only on water supplies with a pressure of 280 kPa (40 psig) or greater.
4. As tested to ANSI/NSF Standard 58 with storage tank. WQA S–300 daily production rate is 25 gallons per day for open systems.

WHAT THE REVERSE OSMOSIS SYSTEM WILL DO

The system is a REVERSE OSMOSIS (RO) water treating unit. Reverse osmosis is a way of separating dissolved solids and organic matter from water by passing it through a special membrane. The membrane separates minerals and impurities from the water, and they are flushed to the drain. Good tasting, high quality product water goes directly to the drinking water faucet, or to the storage area. The system makes a good supply of drinking water each day (see specifications). How much it will make depends on the feed water supply pressure, temperature, and quality.

The RO membrane is a replaceable cartridge. The pre and postfilters are also replaceable cartridges. The sediment/carbon prefilter removes some chlorine (see specifications) while also filtering sediments from supply water before it enters the RO membrane. The carbon postfilter removes any

other undesirable tastes and odors before you use the water.

This RO system includes a 3.1 gallon storage tank and a faucet assembly to vend the product water. The faucet installs on the sink, or on the countertop next to the sink.

Note: A product data sheet is available listing what the system will remove (or reduce) from the water supply.

The system fits under the kitchen or bathroom sink. However, you can install it where most convenient (see remote installations, page 16). You do need a COLD water supply pipe and drain point within a few feet (6' tubing lengths included). You can buy longer lengths of tubing if needed to reach more distant points. *Be sure tubing is acceptable for use on potable water supplies.*

COMPONENTS OF THE SYSTEM

The RO system is shipped in 1 carton, consisting of:

- (1) storage tank with stand
- (2) RO head assembly, and cover with 3 locator pins
- (3) prefilter, postfilter, and RO membrane cartridges
- (4) A parts bag containing a faucet and associated parts.
- (5) A parts bag with tubing connector fittings for storage tank, faucet product water and drain tubing.

(6) separate lengths of tubing; 3/8" yellow, 3/8" black, 3/8" blue, 1/4" green, 1/4" orange and special 1/4" red flow control

INSTALLER PROVIDES: For use in areas where codes permit, EcoWater has an optional water supply saddle valve, and drain adapter fitting for RO waste water. **Both items must comply with state and / or local codes.** Otherwise, the installer must provide, (1) fittings to tap the cold water pipe for a feed water source to the RO...must adapt to 1/4" OD tubing; and (2) a drain point for RO discharge water...must adapt to 3/8" OD tubing if making a solid connection (see "Drain Point" below).

THINGS TO CHECK BEFORE YOU START TO INSTALL

★ **FEED WATER** - The water supply to the Reverse Osmosis System must have the qualities listed in the specifications. If not, it will not make product water as it should and life of the RO membrane is shortened. City water most often will have these qualities. *Well water may need conditioning.* Have the water tested by a water analysis laboratory, and get their recommendations for treatment.

Observe plumbing codes when providing a water supply to the RO. Refer to page 6. A saddle valve, part no. 7011272, is available to use where codes permit. Instructions to install the saddle valve are on page 13.

CAUTION:

Feed water must have all chlorine removed. The prefilter removes up to amount shown in the specifications, page 3. **Chlorine will destroy the RO membrane cartridge.** Be sure to service the prefilter at suggested intervals to protect the membrane, page 10.

★ **DRAIN POINT** - A suitable drain point (**check your local codes**) is needed for reject water from the RO membrane cartridge. Running the RO drain tubing directly to a floor drain, laundry tub, sump, standpipe, etc., as shown on page 16, is preferred. If that is not possible or practical,

using the sink p-trap drain pipe is suggested. A drain adapter, part no. 7192230, is available to use where codes permit. The adapter installs onto the sink drain pipe tail-piece, above the p-trap. Instructions to install the adapter are on page 13.

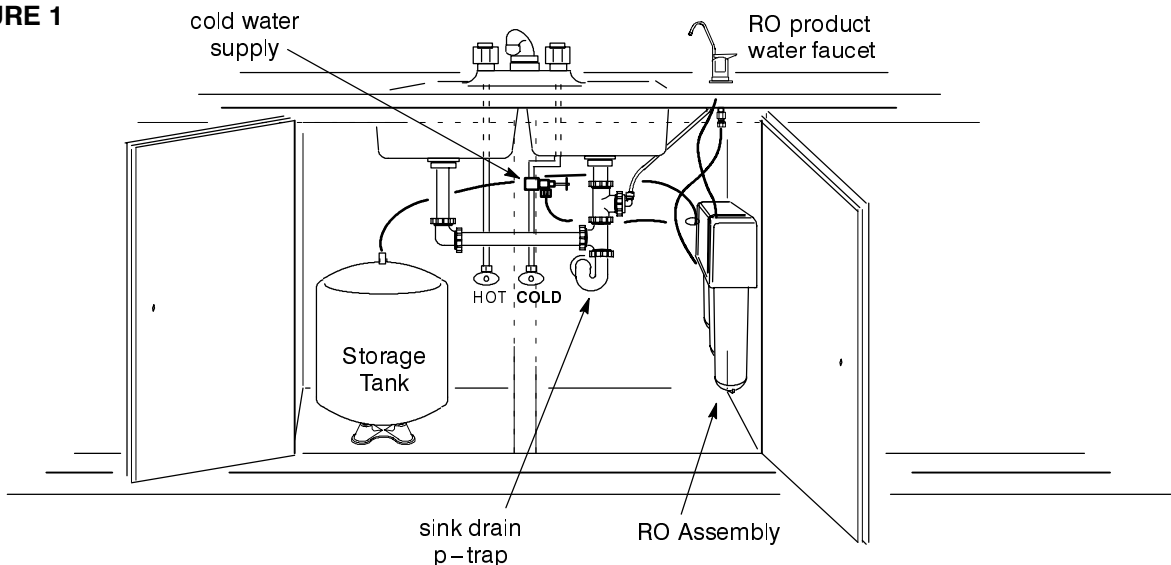
★ **RO FAUCET** - The RO product water faucet installs on the sink, or on the countertop next to the sink. Often, it's installed in an existing sink spray attachment hole. Space is required underneath for tubing to and from the faucet, and for securing it in place.

The faucet has a built-in air gap. When the sink p-trap drain pipe is used for the drain point, the drain tubing from the RO is routed through the air gap to prevent a back-up of drain water.

★ **MOUNTING SURFACE** - The RO assembly mounts on a wall surface under the sink, or you can lay it on the cabinet floor. Two screws are used for wall mounting. Also see remote installations on page 16.

When the storage tank is full of water, it weighs about 30 pounds. Be sure to set on a surface that will support this weight.

FIGURE 1



ASSEMBLY

The prefilter, postfilter, and RO membrane cartridges are shipped in sealed plastic bags to maintain life and to keep them clean and sanitary. Each is clearly identified and labeled. Install into the RO head assembly as follows. Refer to Fig. 2.

RO Membrane Cartridge:

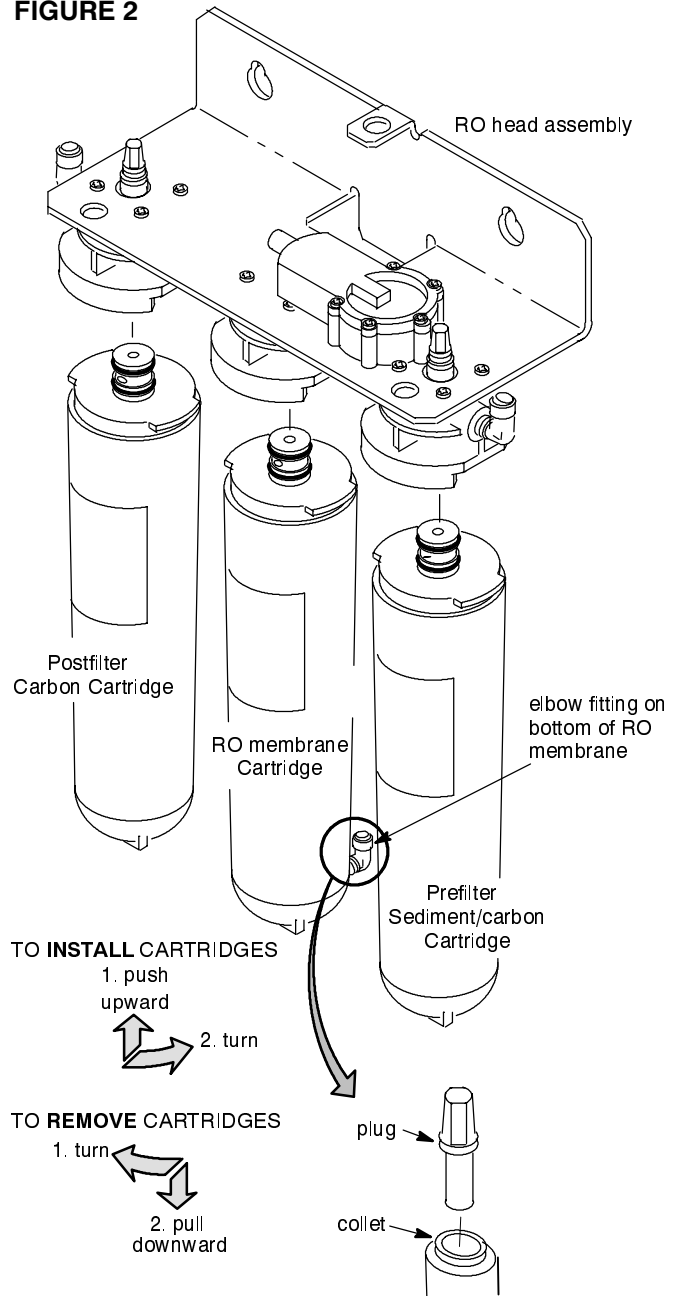
- (1) Remove cartridge from bag, rinse with fresh tap water and dry.
- (2) Remove the white plug from the elbow fitting at the bottom of the cartridge by pushing the collet in with a finger while pulling the plug out.
- (3) Remove the protective cap (not shown) from the top end of the cartridge.
- (4) Be sure the o-ring seals are lubricated. Use silicone grease approved for use on potable water supplies.
- (5) Insert the top end of the cartridge into the middle head, and rotate 1/4 turn to the right to lock in place.

Prefilter and Postfilter Cartridges:

Use the same procedures as above to install the prefilter and postfilter cartridges. **Be sure to locate the prefilter to the right and the postfilter to the left, as shown.**

Note: Install the RO cover after installation.

FIGURE 2



INSTALLATION - FEED WATER SUPPLY

Check and comply with local plumbing codes as you plan, then install a cold feed (supply) water fitting. The fitting must provide a leak-tight connection to the RO 1/4" OD tubing...see Fig. 7, page 8. A typical installation, using standard plumbing fittings is shown below. A saddle valve (part no. 7011272) is available to use where codes permit. Installation instructions are on page 13.

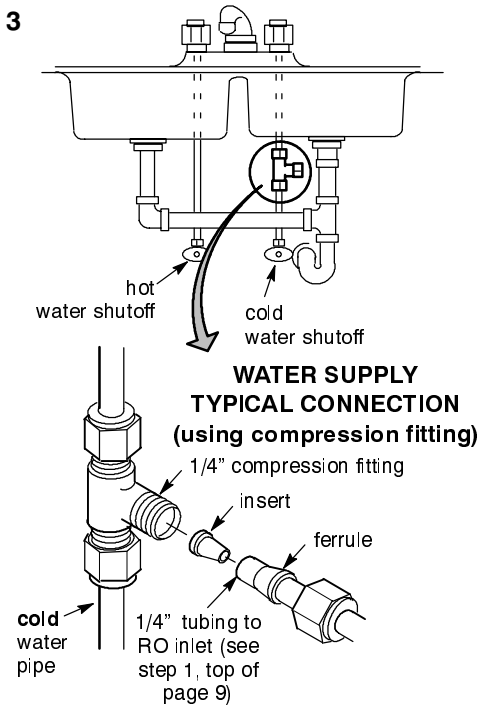
PIPE FITTINGS (compression shown)

Complying with plumbing codes, install a fitting on the kitchen **cold** water pipe to adapt 1/4" OD tubing. A typical connection is shown in figure 3. You can use solder or threaded fittings. If threaded fittings are used, be sure to use pipe joint compound or Teflon tape on outside threads.

NOTE: Be sure to turn off the hot and cold water supply. Use a pan to catch water when disassembling the pipe.

Do not connect the tubing to the fitting until step 1, top of page 9.

FIGURE 3



REJECT WATER DRAIN FITTING

Running the RO drain tubing directly to a floor drain, laundry tub, sump, standpipe, etc., as shown on page 16, is preferred. If that is not possible or practical, **check and comply with local plumbing codes** as you plan, then install a drain fitting for RO reject water. This fitting is usually installed at the sink p-trap (always above). It must provide a leak-tight connection to 3/8" OD tubing from the RO product water faucet airgap...see Fig. 7, page 8. Typical drain fitting installations are shown below. A drain adapter (part no. 7192230) is available to use where codes permit. Installation instructions are on page 13.

NOTE: Codes in the state of Massachusetts require installation by a licensed plumber, and do not permit the use of the drain clamp. For installation, use plumbing code 248-CMR of the Commonwealth of Massachusetts.

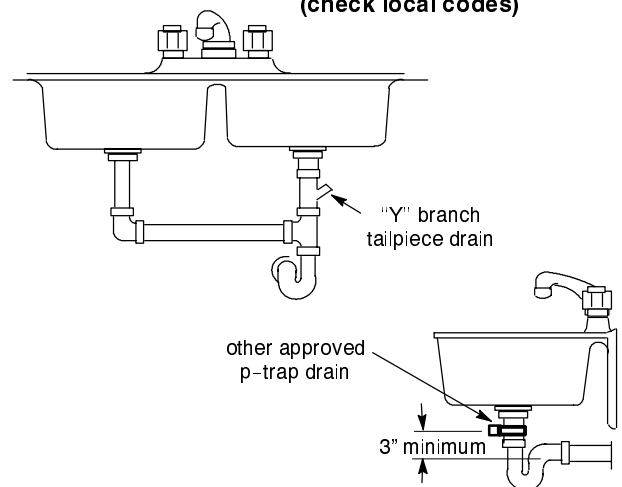
"Y" BRANCH TAIL PIECE, OR OTHER APPROVED P-TRAP DRAIN

Reject water from the RO is routed to the RO faucet airgap (1/4" tubing), then to the drain point with 3/8" OD tubing. **COMPLYING WITH PLUMBING CODES**, install a fitting to accept the 3/8" tubing. Figure 4 shows typical p-trap and "Y" branch tail piece type drains.

Do not connect drain tubing until step 12, bottom of page 7.

FIGURE 4

DRAIN TYPICAL CONNECTION (check local codes)



INSTALL THE FAUCET

Select one of the following places to install the faucet. Be sure there's room underneath so you can make the needed connections.

- In an existing sink spray attachment hole.
- Drill a hole in the sink top.
- Drill a hole in the countertop, next to the sink.

NOTE: Looking at Fig. 5, **be sure the faucet base will fit flat against the surface**, at the selected location, so the gasket will seal.

1. If drilling is needed, make a 1" dia. hole (minimum). **Be sure to use proper procedures for drilling porcelain or stainless steel.** Remove drilling residue and place plumbers putty around the drilled hole.
2. Lift the faucet lever and remove the short piece of tubing. Then, push or turn the spout into the faucet body.
3. Slide the chrome washer and rubber washer, in that order, onto the faucet stud (Fig. 5A).

NOTE: Disregard steps 4 and 5 if you will route the RO drain tubing directly to the drain point, page 16.

4. Take the length of 3/8" BLACK tubing and push 1 end onto the 3/8" faucet barb fitting (Fig. 5B). Be sure to pass through hole in rubber washer. If needed, heat end of tubing in hot water to make pliable.
5. In same manner, take the length of 1/4" ORANGE tubing and push onto the 1/4" faucet barb fitting.
6. Work tubing and the faucet stud down, into the mounting hole.
7. On the underside of the sink or countertop, install the plastic bushing, flat washer, and hex nut. Slide the large steel washer in place, between the bushing and the bottom of the sink or countertop. Then, position the faucet and tighten the hex nut securely.
8. Take the 1/4" x 3/8" tubing connector and push the faucet BLUE tubing all the way into the 1/4" end. Pull on the connector to be sure it is secure. See page 11 for connection instruction.
9. In the same manner, push the ORANGE faucet tubing into 1 end of the 1/4" x 1/4" tubing connector.
10. Take the length of 3/8" BLUE tubing and push 1 end into the tubing connector, installed on the faucet blue tubing in step 8.
11. Connect the RED tubing (end with metal marker) to the other end of the connector installed in step 9. **Do not cut this tubing.** It controls flow through the RO membrane.
12. Attach the opposite end of the 3/8" BLACK tubing to the drain fitting installed on page 6. **This must be a straight run downward, without dips, loops or low spots.** Water will leak from the faucet airgap if this tubing is restricted in any way.

FIGURE 5

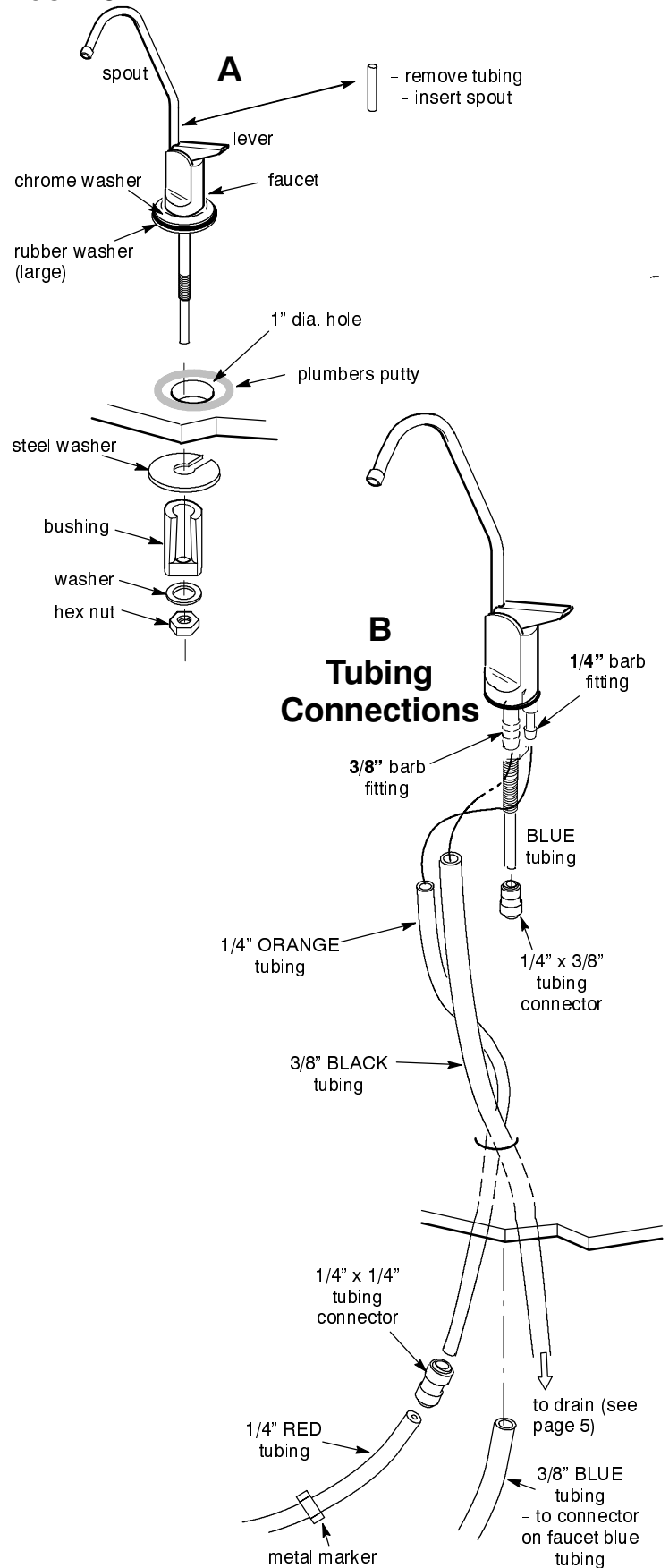
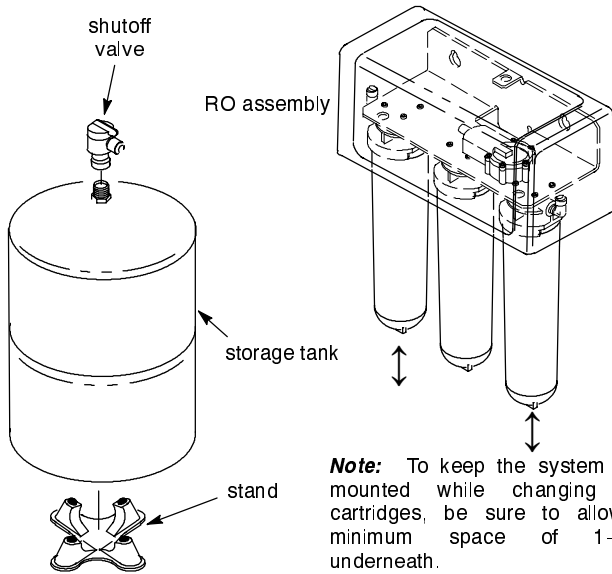


FIGURE 6

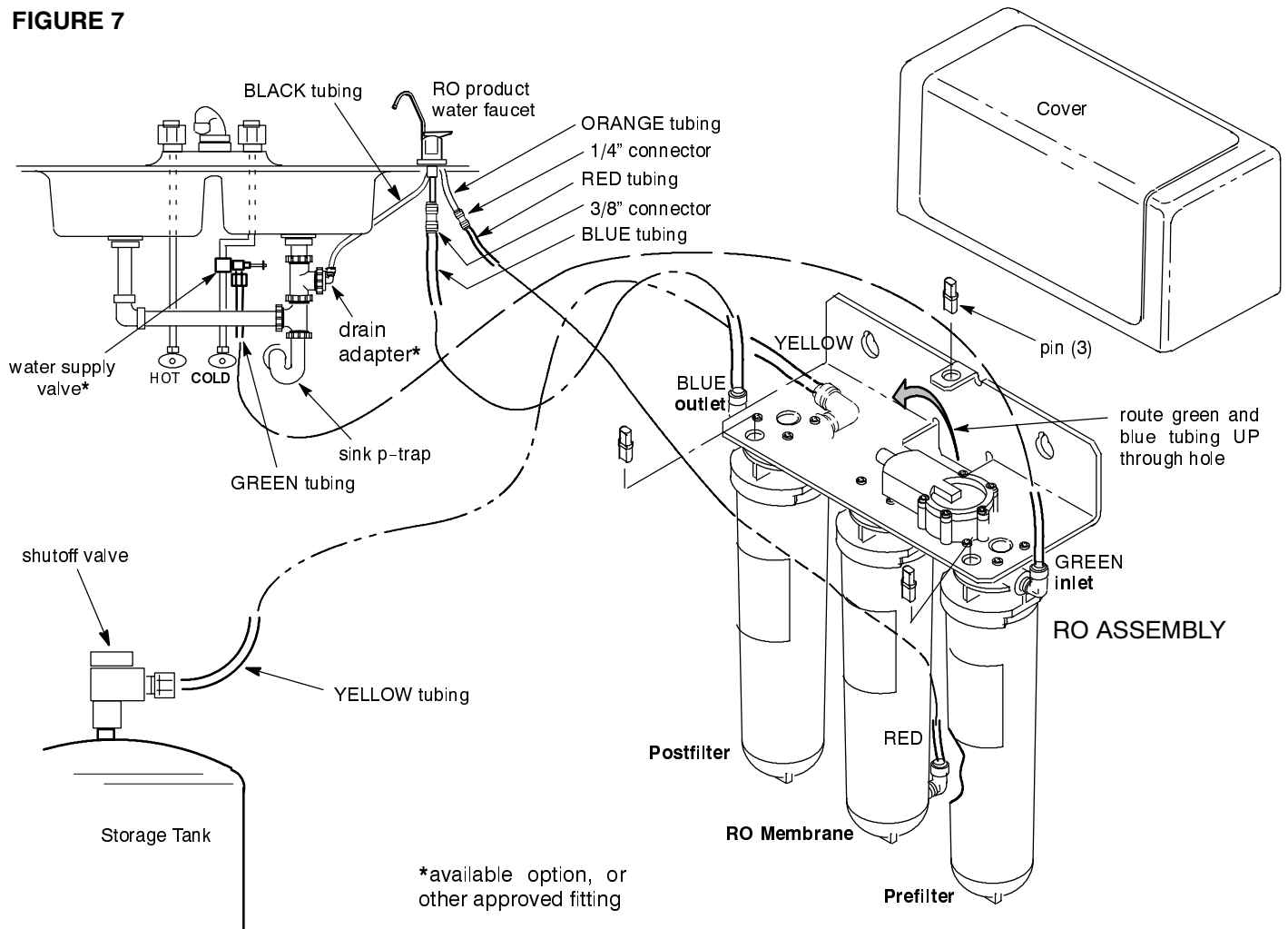


INSTALL RO ASSEMBLY AND STORAGE TANK

1. For wall mounting the RO assembly, wood screws are provided to fit the holes in the back of the RO bracket. If mounting on a surface other than wood, obtain the needed screws.
2. Hold the RO assembly up to the wall surface where you will install it. Mark locations for the screws and install.
3. Hang the RO assembly on the screws.
4. Move the storage tank into place, setting on the floor surface. Use the stand, included with the tank, and position the tank upright, or on its side.
5. Apply Teflon tape on the tank nipple threads and install the shutoff valve.

TYPICAL INSTALLATION

FIGURE 7



CONNECT WATER SUPPLY, STORAGE TANK AND DRAIN TUBING

Note: For ease of service and maintenance, keep longer tubing lengths. Route tubing out of the way for neat appearance. Be sure the tubing is cut square and is smooth at least 3/4" from the end to assure a leak-tight fit with the push-in fitting. See page 11 for connection instructions. **Do not cut the red tubing (see step 3).**

1. Connect water supply tubing, Fig. 3 and 7: The length of 1/4" GREEN tubing attaches between the RO inlet and the feed water supply fitting. Route the tubing up through the hole in the bracket. Push 1 end of the tubing all the way into the elbow fitting at the prefilter inlet. Connect the other end of the tubing at the water supply valve as typically shown in Fig. 3 on page 6.

2. Connect tubing to storage tank, Fig. 7: Run the length of 3/8" YELLOW tubing from the elbow fitting on the

back of the postfilter to the shutoff valve at the top of the storage tank. Pull on the tubing to be sure it is held securely at both connections.

3. Connect drain tubing at RO membrane cartridge, Fig. 7: Run the 1/4" RED tubing, installed in step 11, page 7, to the elbow fitting at the bottom of the RO membrane cartridge. Push the end of the tubing into the fitting. **Do not cut this tubing.** It controls flow through the RO membrane.

4. Connect RO product water tubing: Run the 3/8" BLUE tubing, attached to the RO faucet on page 7, to the RO outlet fitting. Route the tubing up through the hole in the bracket. Push 1 end of the tubing all the way into the elbow fitting at the postfilter outlet.

PRESSURE TESTING

1. Do the sanitizing procedures in the maintenance section, page 11, before pressure testing.

2. Open the water supply shutoff valve to the RO.

3. Open the **main** water supply valve and several house faucets to purge air from the system. Close faucets when water runs smooth.

4. Check the RO assembly for leaks.

Note: If any leaks are found, turn off the water supply valve and correct before continuing.

5. Open the shutoff valve on the RO water storage tank. Open the RO faucet until water from it is a steady stream, then close.

6. Wait about 5 minutes, allowing pressure to build in the RO system. Then, carefully check all fittings and connections again for water leaks. Correct leaks if any are found.

Note: When the system is first pressurized, water may "spurt" from the faucet airgap hole until air is expelled from the RO system.

7. Important purging instructions: The RO cartridge contains a *food grade preservative* that you should clean from it before using water from the system. The preservative will give product water an unpleasant taste and odor. After the storage tank has filled (takes about 4 hours), open the RO faucet until the tank is empty and flow stops. Close the RO faucet and allow the tank to fill again for 4 hours. Then, open the RO faucet and empty again. After purging 4 times, the system is ready to make product water for use.

Note: If an icemaker is supplied with water from the RO, be sure the RO cartridge is fully purged before opening the water supply to the icemaker.

8. Insert the 3 locator pins in the RO bracket (Fig.7) and install the RO cover.

MAINTENANCE

To keep the RO water system operating and making high quality water, the RO, prefilter, and postfilter cartridges need replacement at regular intervals. Depending on water supply quality, the prefilter and postfilter cartridges may last for 6 months to 1 year. RO cartridge life normally ranges between 18 and 36 months.

This reverse osmosis system contains a replaceable treatment component critical for effective reduction of total dissolved solids (TDS). The electronic faucet feature provides continuous monitoring of the systems performance. For systems not equipped with the electronic faucet function, it is highly recommended that you have your water tested at least every 6 months to verify your system is performing properly. Test kits are available by calling 1-800-826-8553 ext. 47 or check the water testing section of your local phone directory.

Prefilter Cartridge: You must replace the prefilter cartridge often **to protect the RO membrane from being destroyed by chlorine**, and/or from plugging with sediments in your water supply. If the water supply contains both chlorine and sediments, replace the prefilter cartridge at least every 6 months. Replace more often than 6 months if it begins to plug with sediments.

If the water has sediments only, with no chlorine, you may notice a slower making of product water as the prefilter collects the sediments. When this occurs, replacement is needed to restore full flow.

Postfilter Cartridge: The carbon postfilter removes any remaining taste and/or odors from the product water before it goes to the RO faucet. Replace the cartridge when the taste and/or odor returns in the RO water, typically every 6 to 12 months.

RO Membrane Cartridge: The life of the RO cartridge depends mostly on properly treated supply water and regular maintenance of the prefilter cartridge. The membrane has a self-cleaning feature that, under typical conditions, extends life to between 18 and 36 months. Replacement of the RO cartridge is made when testing indicates TDS rejection is not within specifications. Product water may begin to taste different or bad, indicating solids and organics are passing through the RO membrane. To be sure it is the RO cartridge, always replace the prefilter and postfilter cartridges first.

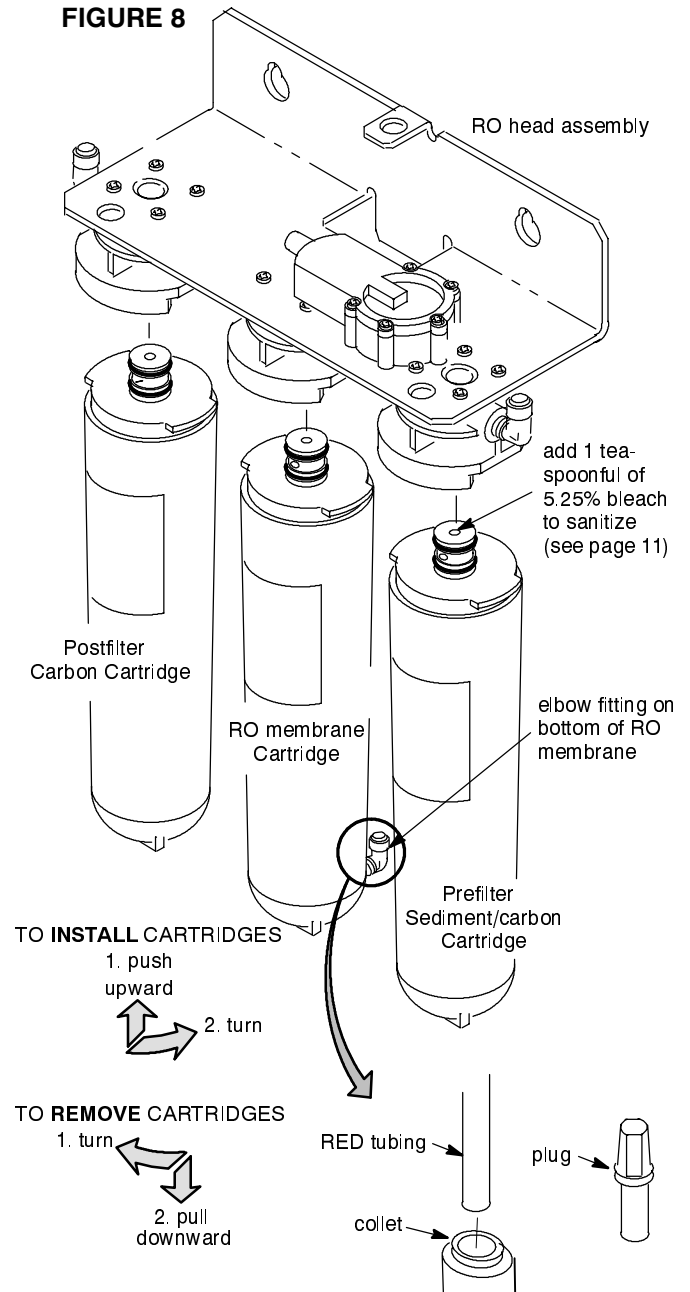
▶ REPLACING PREFILTER AND POSTFILTER CARTRIDGES

When replacing cartridges, you can keep the RO assembly wall mounted, or simply lift from the mounting screws and lay in a leak-proof container on the cabinet floor.

1. CAUTION: Before removing cartridges, be sure to close the *water supply valve* to the RO, and the *shutoff valve* on the storage tank. Then, open the RO faucet until **pressure is relieved** and water flow stops.

2. Turn (1/4 turn to the left) and pull downward either or both cartridges from the RO head assembly.

FIGURE 8



3. Remove new cartridge(s) from the sanitary bag. Be sure o-ring seals on top of cartridge are lubricated. Use silicone grease approved for use on potable water supplies.

4. Insert the top end of either or both cartridges into the applicable head, push upward and rotate 1/4 turn to the right to lock in place. **Be sure to locate the prefilter to the right and the postfilter to the left, as shown.**

5. Turn on the water supply and check for leaks.

▶ REPLACING RO MEMBRANE CARTRIDGE

1. CAUTION: Before removing the cartridge, be sure to close the *water supply valve* to the RO, and the *shutoff valve* on the storage tank. Then, open the RO faucet until **pressure is relieved** and water flow stops.

2. Be sure there is some slack in the red flow control drain tubing, shown in Fig. 8, above. Then, turn (1/4 turn to the left) the cartridge and pull downward.

MAINTENANCE

REPLACING RO MEMBRANE CARTRIDGE (continued)

3. Depress the elbow fitting collet with a finger while carefully pulling the red tubing out.
4. Remove the new RO cartridge from the sanitary bag. Rinse the cartridge in fresh tap water and dry. Depress the elbow fitting collet and remove the plug.
5. Remove the protective cap (not shown) from the top end of the cartridge. Be sure the o-ring seals are lubricated. Use silicone grease approved for use on potable water supplies.
6. Inspect the end of the red flow control tubing for nicks, scratches or other rough spot. If needed, use a sharp knife and carefully cut 1/4" from the end of the tubing. Check to be sure the center hole is unobstructed.
7. Insert the end of the tubing into the elbow fitting on the new RO cartridge. Gently pull on the tubing to be sure it is secure.
8. Insert the top end of the cartridges into the head, push upward and rotate 1/4 turn to the right to lock in place. **Be sure to locate the RO cartridge in the center, as shown.**
9. Turn on the water supply and check for leaks at the top, and at the red tubing connection.

10. Purge the cartridge and follow all other steps under "Pressure Testing" as instructed on page 9.

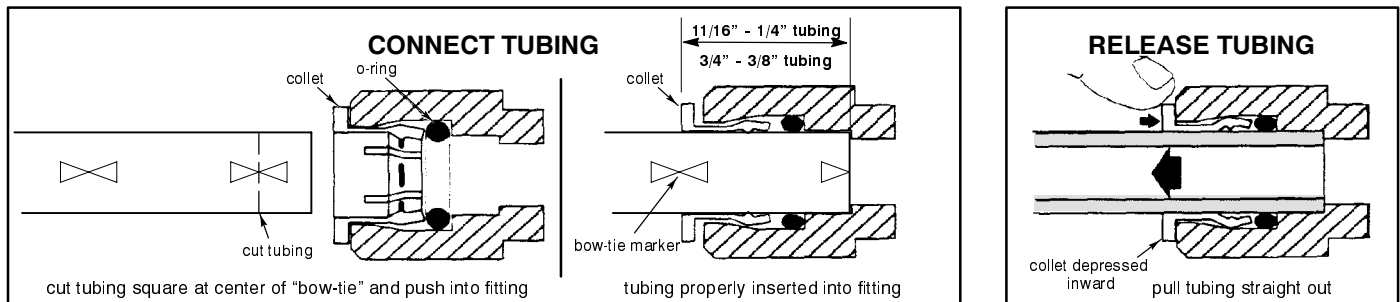
LEAK AT FAUCET

If the sink p-trap is used as the drain point, RO reject water is routed to the faucet air-gap through 1/4" tubing. It gravity drains from the faucet through 3/8" tubing to the drain point. The hole in the faucet body, below the lever, is the air-gap vent. If the 3/8" tubing is restricted in any way, reject water will backup and leak from the faucet vent hole. Thoroughly clean the tubing and the p-trap fitting if leakage occurs at the vent hole.

LEAK AT TUBING CONNECTION

1. Cut the end of tubing square, in the center of a "bow-tie" marker, as shown below.
2. Inspect the end of the tubing, up to the next "bow-tie" marker, and be sure there are no nicks, scratches or other rough spots. If needed, cut the tubing again.
3. Push tubing into fitting until the next "bow-tie" marker touches the collet. Full engagement is about 11/16" on 1/4" tubing, and 3/4" on 3/8" tubing.

If tubing is used, other than supplied with the system, be sure it is of high quality, exact size and roundness with a smooth surface.



SANITIZING THE RO SYSTEM

Sanitizing is recommended upon installation of the RO system, and after servicing the cartridges. **It is important for the service person to have clean hands to keep the system clean.** You will need an eyedropper and common household bleach (5.25%). Refer to Fig. 8 on page 10.

1. **Be sure the water supply to the RO is turned off. Open the storage tank shutoff valve and the RO faucet to relieve pressure.**
2. Turn the prefilter cartridge to the left and pull downward to remove.
3. Use the eyedropper to add 1 teaspoonful (about 5 ml.)

of the bleach into the center hole at the top of the prefilter cartridge.

4. Replace the prefilter, turning to the right to lock in place.
5. Turn on the water supply to the RO and be sure the tank shutoff valve is open. Close the RO faucet.
6. Allow water to circulate through the RO system for 6 hours.
7. After the 6 hours, open the RO faucet and lock the lever upward, against the spout. Run water until the storage tank is completely empty and the bleach odor is gone.
8. Close the RO faucet after water flow stops.

FILTER - CARTRIDGE REPLACEMENT GUIDE

AT LEAST EVERY 6 - 12 MONTHS . . .

- Replace sediment-carbon prefilter if water supply contains sediments only
- Replace carbon postfilter if RO water has objectionable taste and/or odor

AT LEAST EVERY 6 MONTHS . . .

- Replace sediment-carbon prefilter if water supply contains chlorine

- Make replacements indicated when any of the following occur -

CHLORINE TASTE AND/OR ODOR

- Replace prefilter, postfilter and RO cartridges

OTHER TASTE AND/OR ODOR

- Replace the postfilter cartridge.
- If taste and odor persists, replace prefilter cartridge and RO cartridge

SLOW PRODUCTION RATE

- Replace prefilter cartridge.
- If rate does not increase, replace postfilter cartridge and RO cartridge

HIGH TDS

- Replace prefilter cartridge, postfilter cartridge and RO cartridge

TROUBLESHOOTING		
PROBLEM	CAUSE	CORRECTION
<i>Chlorine taste and/or odor</i> in the RO product water	The ppm of chlorine in your water supply exceeds maximum limits, and has destroyed the RO membrane.	If the water supply contains more than 2.0 ppm of chlorine, additional filtering of the water supply to the RO is needed. Correct this condition before doing maintenance on the RO system.
	The prefilter is no longer removing chlorine from the water supply.	Replace the prefilter, postfilter and RO membrane cartridges, flow control, and screen.
<i>Other taste and/or odor</i>	Postfilter expended.	Replace the postfilter cartridge. If taste and odor persists, replace the prefilter cartridge, RO membrane cartridge, flow control, and screen.
	RO membrane cartridge expended.	
	Contamination in product water storage.	Use sanitizing procedures. Replace the postfilter cartridge.
<i>System makes product water too slowly</i>	Water supply to the RO system not within specifications.	Increase water pressure, precondition the water, etc., as needed to conform before doing maintenance on the RO system.
	Prefilter or RO membrane cartridges plugged with sediments.	Replace the prefilter cartridge. If rate does not increase, replace the postfilter cartridge, RO membrane cartridge, flow control, and screen.
<i>High total dissolved solids (TDS) in product water</i>	Water supply to the RO system not within specifications.	Increase water pressure, precondition the water, etc., as needed to conform before doing maintenance on the RO system.
	RO membrane cartridge expended.	Replace the prefilter, postfilter and RO membrane cartridges, flow control, and screen.
<i>Water leaking from faucet airgap hole</i>	Drain side of faucet airgap (3/8" tubing) plugged, restricted, or incorrectly connected to drain point.	Inspect and eliminate restriction or plug. Refer to installation instructions for proper drain connection.
<i>RO noisy</i>	Automatic shutoff valve worn or defective.	Repair or replace as needed (see parts list, page 15).
	Shortened flow control tubing causing gurgling noise at RO faucet airgap.	Replace flow control tubing. DO NOT CUT THIS TUBING.

INSTALLATION OF OPTIONAL FITTINGS (not included)

SADDLE VALVE, part no. 7011272

NOTE: This valve will pierce a hole in copper tubing or plastic pipe. If installing on iron pipe, you have to drill a 1/8" hole for the piercing pin. READ THE FOLLOWING DANGER NOTE. **Be sure to turn off water to the pipe and to drain water from it before drilling.**

DANGER (IF DRILLING METAL PIPE): To protect yourself from serious injury or fatal shock, use a battery powered hand drill only to make the hole. Do not use an electric drill.

1. Looking at figure 9, turn the valve into clamp X and tighten (may be preassembled). Turn the valve handle all the way out.
2. Place the seal on the inside of clamp X as shown. **Be sure the piercing pin does not stick out beyond the seal.**
3. Place clamp X and Z around the pipe and secure in place with 2 screws. Tighten both screws evenly, but **do not overtighten**. Clamp Z will either have threaded screw holes, or 2 nuts are included.
4. Carefully turn the handle inward to pierce a hole in the copper or plastic pipe.

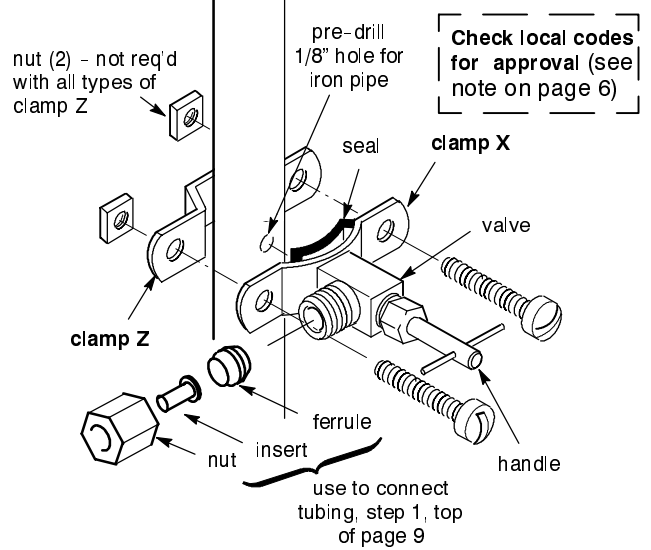
DRAIN ADAPTER, part no. 7192230

- The optional drain adapter installs in the sink drain pipe, always **above** or ahead of the p-trap. **Be sure to comply with your local plumbing codes.** Other drain pipe fittings, in addition to the adapter, may be needed.
- The drain adapter fits 1-1/2" sink drain pipe.
- The adapter installs directly onto the sink tailpiece as typically shown in figure 9.
- Locate so drain tubing from the faucet (see step 12, page 7) makes a straight run to the adapter, **without dips, loops, low spots or kinks.**

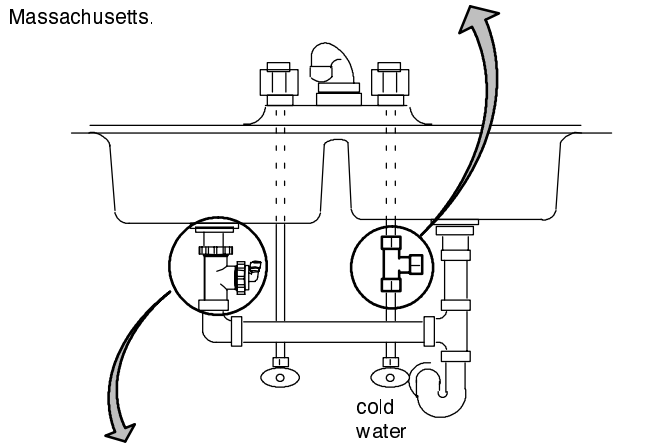
Note: Consult a plumber if you are not familiar with plumbing procedures.

1. Use a ferrule and nut to assemble the drain tubing connector to the drain adapter. Turn the connector to about 45° from the 12:00 position, as shown (to 10:00 or 2:00 position as needed). Tighten the nut securely.
2. Carefully disassemble the sink drain pipe and clean the tailpiece to assure a leak-tight fit.
3. Install the drain adapter onto the sink tailpiece, using a ferrule and nut. Snug the nut, but do not tighten.
4. Assemble the p-trap to the drain adapter, and other drain pipe fittings as required (check codes) to complete the drain run.
5. Tighten all connections, but do not overtighten and break plastic fittings.

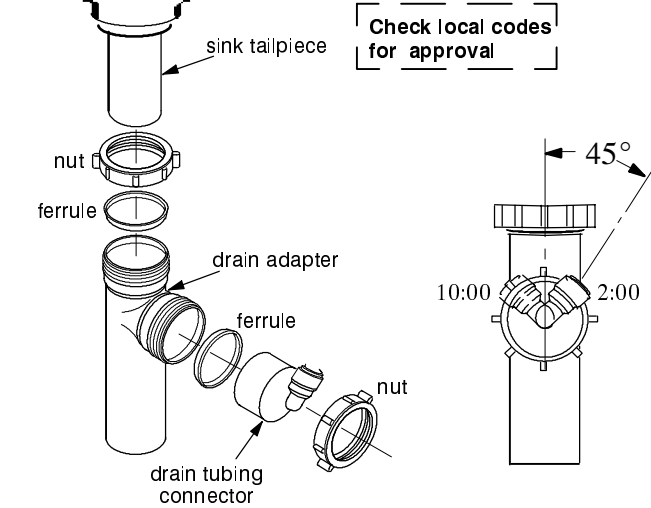
FIGURE 9 WATER SUPPLY CONNECTION (using saddle valve)



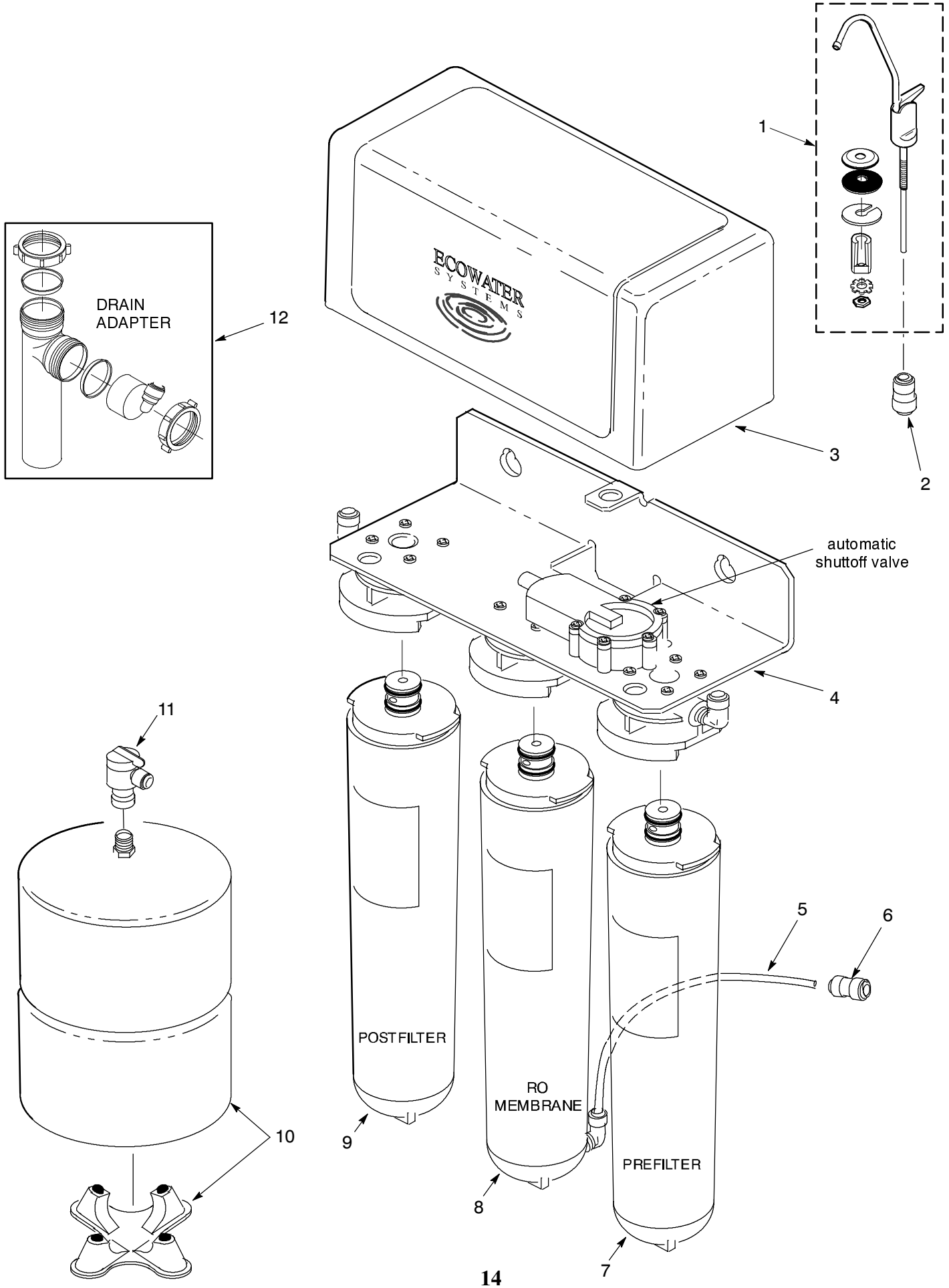
NOTE: Codes in the state of Massachusetts require installation by a licensed plumber, and do not permit the use of a saddle valve. For installation, use plumbing code 248-CMR of the Commonwealth of Massachusetts.



WASTE WATER CONNECTION (using drain adapter)



REPAIR PARTS



REPAIR PARTS

KEY NO.	PART NUMBER	DESCRIPTION
1	7208764	Faucet
2	7208560	Connector, 1/4 x 3/8 Tube
3	7211026	RO Cover
4	7208722	RO Head & Bracket Assembly
5	7208756	Flow Control Tubing
6	7208544	Connector, 1/4 Tube
7	7208683	Prefilter Cartridge (single)
	7209281	Prefilter Cartridge (20 pack)
8	7208706	RO Membrane Cartridge (single)
9	7208691	Postfilter Cartridge (single)
	7209299	Postfilter Cartridge (20 pack)
10	7175482	Storage Tank
11	7213743	Shutoff Valve

KEY NO.	PART NUMBER	DESCRIPTION
12	7192230	Drain Adapter - optional accessory
⊗	7011272	Saddle Valve - optional accessory ^①
⊗	7210240	Repair Kit, Automatic shutoff valve
⊗	7207954	Tubing, 1/4" - green
⊗	7208730	Tubing, 1/4" - orange
⊗	7207962	Tubing, 3/8" - blue
⊗	7208057	Tubing, 3/8" - yellow
*	7161815	Tubing, 3/8" x 20' - black
*	7157280	Tubing, 3/8" x 20' - white
*	7149871	Tubing, 1/4" x 10' - black
*	7164245	Tubing, 1/4" x 100' - black
*	7161823	Tubing, 1/4" x 20' - white

① **Not allowed in all areas (check your local codes).** See note on page 13.

⊗ not illustrated

* Tubing lengths available for remote installations

For parts, accessories and service, please contact your local EcoWater dealer.

EcoWater Systems, Inc.
 1890 Woodlane Drive
 PO Box 64420
 St. Paul, MN 55164-0420
 (651) 739-5330

REMOTE RO INSTALLATION

(storage tank not shown)

Possible remote locations for the RO nearby the kitchen or bathroom sink include; (1) a basement area underneath, and (2) an adjacent room or closet. Longer lengths of tubing may be needed (see parts list on page 15).

You can run the drain tubing directly to 1 of several suitable open drain points, as shown below, bypassing the faucet airgap. **Check your local codes. Always be sure to provide an airgap** between the end of the hose and the drain point.

