neo•PURE®
Filtration Products

The High Efficiency Reverse Osmosis Drinking Water System Installation, Operation And Service Manual.

RO-4300RX Pharmacy Trusted + RO-4300RX-DLX Pharmacy Trusted

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Important Notices: This reverse osmosis system contains replaceable treatment components critical for effective performance. It is the user's responsibility to, and the manufacturer strongly recommends that the user, periodically test the product water to verify the system is performing satisfactorily. See the test kit(s) for sampling instructions. 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 for water supplies with a pressure of 280 kPa (40 psig) or greater.

This system conforms to NSF/ANSI Standard 58 for pentavalent arsenic reduction. See the Performance Data Sheet and Arsenic Facts section for an explanation of reduction performance.

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.

SECTION I. INTRODUCTION

Your new Reverse Osmosis (R.O.) Drinking Water System uses a combination of filtration technologies to reduce unwanted contaminants in a water supply. The following steps combine to give you the best in clear sparkling drinking water:

MECHANICAL FILTRATION ACTIVATED CARBON

The sediment Pre-Filter has been designed to help reduce the larger particles such as silt, rust and scale. Its 5 micron (equal to 0.0002 inch) nominal rating helps to give maximum life to the R.O. Membrane. The activated carbon in the Pre-Filter has been designed to reduce any chlorine that may be present in the feed water. This pretreatment is also necessary for membrane protection.

REVERSE OSMOSIS MEMBRANE

The R.O. Membrane is the heart of the filtration system. It is designed to reduce the dissolved mineral content of the water. Minerals picked up in the environment by the water are measured as Total Dissolved Solids (TDS). In the Reverse Osmosis process, dissolved minerals are separated from the incoming water (Feed Water) to produce the product water (the Permeate). The excess minerals are rinsed to drain (the Reject Water).

The membrane is a specially constructed, fully aromatic polyamide film and is classified as a Thin Film Composite (T.F.C.).

The spiral wound construction of the R.O. Membrane provides maximum surface area for water production and is less susceptible to fouling by particulate matter, turbidity and colloidal materials.

ACTIVATED CARBON

The Activated Carbon Post-Filter contains carbon particles with a vast network of pores. The tremendous surface area of these pores (typically 800–1200 square meters per gram of carbon) gives the carbon very good adsorptive sites for substances that contribute to tastes and odors.

IN–LINE ACTIVATED CARBON POST-FILTER

The In–Line Activated Carbon Post-Filter is located after the Holding Tank and has been designed to reduce the tastes and odors that may pass through the system. It adds a final polish to the water.

AUTOMATIC SHUT-OFF VALVE

The ASO Valve senses when the Holding Tank is full and closes the feed water supply to prevent excess reject water from going to drain when the unit is not producing water.

WATER QUALITY MONITOR

The optional Water Quality Monitor has been integrated into the system cover for instant monitoring at the touch of a button. The monitor compares the level of the total dissolved solids in the incoming (feed) water versus the product water and calculates the percent rejection. The monitor is preset to indicate a level of 75% rejection. NSF/ANSI Standard 58 requires a 75% total dissolved solids rejection to pass the requirement of the standard.

A green light indicates that the percent rejection is at or above the set (desired) value and that the system is producing quality water.

An amber light indicates that the product water quality is less than acceptable. Because the Water Quality Monitor was designed to operate best while the system is making water, a false reading may occur if tested when your R.O. drinking water system is not making water. Please empty the Holding Tank, wait 15 minutes for the system to begin making water, and test your water quality again. If the Water Quality Monitor light is still amber, please contact a water treatment professional for service. The Water Quality Monitor requires a 9 volt battery, which is included. Systems not equipped with a Water Quality Monitor contain a Water Quality Test Kit.

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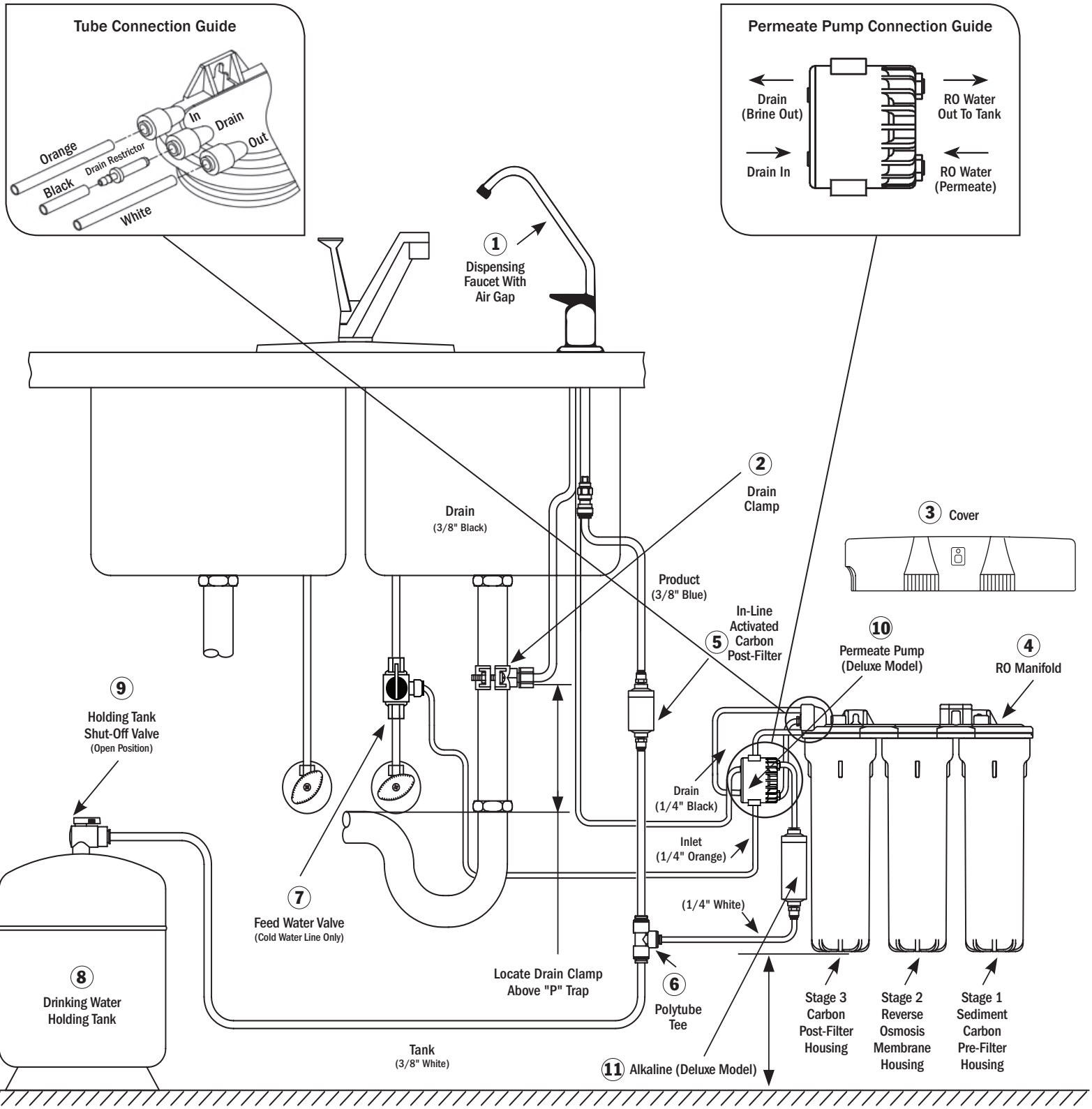
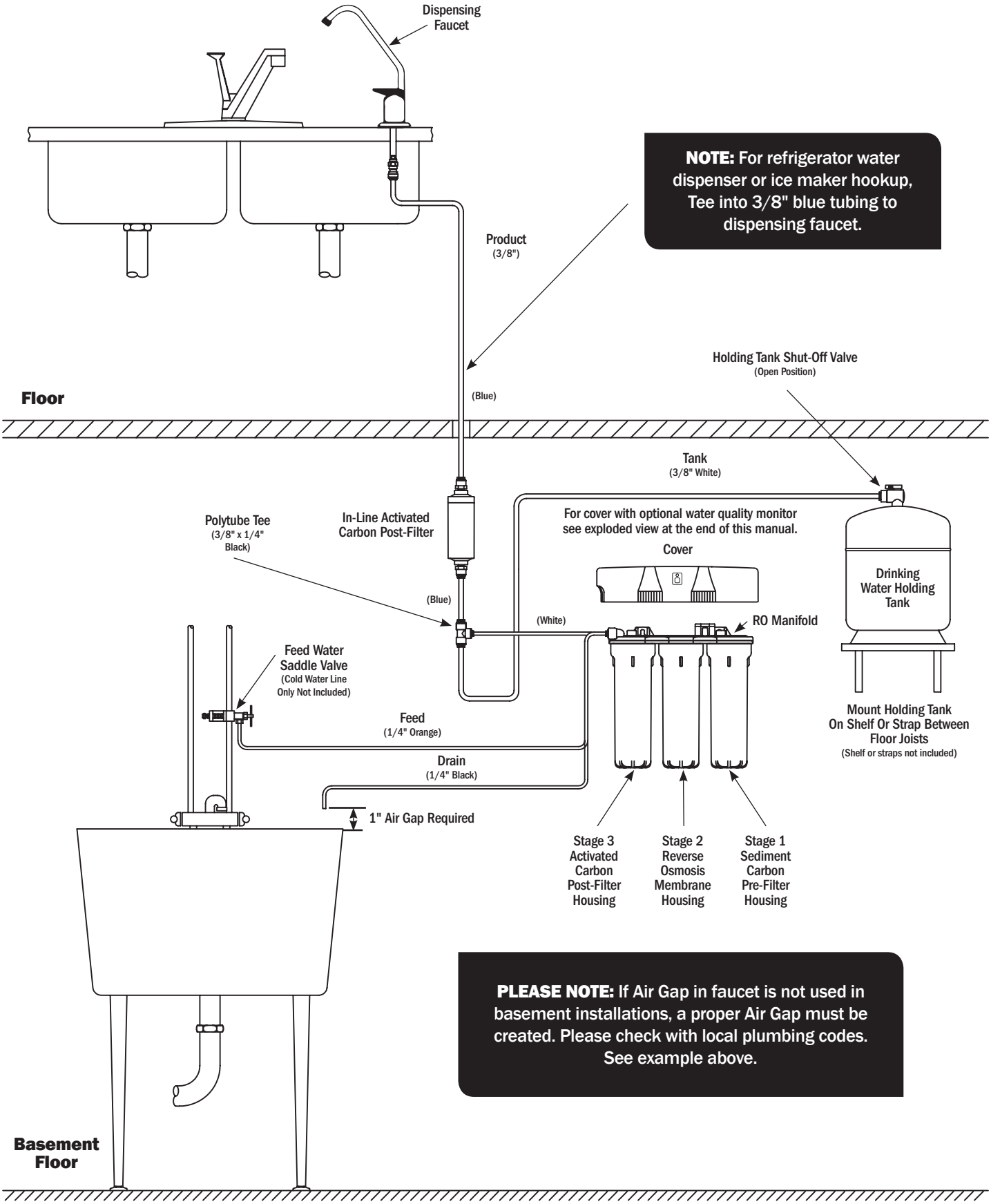
SECTION I. INTRODUCTION

TYPICAL RO-4300RX UNDER SINK INSTALLATION DIAGRAM (FIGURE 1)



SECTION I. INTRODUCTION

OPTIONAL RO-4300RX BASEMENT INSTALLATION DIAGRAM (FIGURE 2)



SECTION II. SPECIFICATIONS

Because the performance of an R.O. Membrane is highly dependent upon pressure, temperature, pH and TDS, the following should be used for comparison purposes only.

TABLE A (QUALIFIED PERFORMANCE)

Performance	U.S.	Metric
Membrane Production[1]	41-53 gpd	155-201 lpd
Membrane TDS Reduction[1]	96% Minimum	96% Minimum
System Production[2]	14 gpd	53 lpd
Recovery Rating[2]	38%	38%
Efficiency Rating[2]	22%	22%
TDS Reduction[2]	90%+ Typical	90%+ Typical
Drain (Reject Water) Flow	3–5 x product Flow	Metric
Empty Storage Tank Precharge	5–7 psig Air	35–48 kPa Air
Performance	1.8 Gallons	6.8 Liters

1 Industry standards measure R.O. Membranes performance with no back pressure on the product water, at 65 psig (448kPa) and 77°F (25°C). Further conditions on the above are 250 ppm TDS. Production rate and TDS reduction figures are for a new Membrane that has been rinsed for 24 hours. The production rate of a new Membrane can decrease by 10% per year or more, depending upon the scaling and fouling tendencies of the Feed Water.

2 Measured at 50 psig, 77°±2° F, 750±40 mg/l TDS per section 6 of NSF/ANSI Standard 58. Recovery rating means the percentage of the influent water to the membrane portion of the system that is available to the user as reverse osmosis treated water when the system is operated without a storage tank or when the storage tank is bypassed. Efficiency rating means the percentage of the influent water to the system that is available to the user as reverse osmosis treated water under operating conditions that approximate typical daily usage. 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.

TABLE B (RECOMMENDED OPERATING LIMITS FOR FEED WATER)

Specifications	RO-4300RX Membrane
Water Pressure	40–100 psig (280–690 kPa)
TDS	2000 ppm (also mg/l) max.
Temperature	40–100°F (4–38°C)
pH	4–11 (Optimum Rejection At pH 7.0 - 7.5)
Hardness	Less Than 10 gpg (170 mg/l) Or Soften
Iron	Less Than 0.1 ppm (Also mg/l)
Manganese	Less Than 0.05 ppm (Also mg/l)
Hydrogen Sulfide	None
Chlorine	See Note
Bacteria	Must Be Potable**

NOTE: If Chlorine will damage a T.F.C. Membrane. The Sediment/Carbon Pre-Filter has been designed to reduce chlorine from the incoming water. Change filter every 6 months, more often if the water contains more than 1 ppm chlorine.

**DO NOT USE WITH WATER THAT IS MICROBIOLOGICALLY UNSAFE OR OF UNKNOWN QUALITY, WITHOUT ADEQUATE DISINFECTION BEFORE OR AFTER THE SYSTEM.

SECTION III. PREPARATION

A. MAJOR SYSTEM COMPONENTS

The following components comprise the R.O. Drinking Water System. (Refer to Fig. 1 for general system layout.)

- An R.O. Manifold assembly.
- Housings and Housing O–rings.
- A Drinking Water Holding Tank.
- A Dispensing Faucet.
- A Feed Water Adapter Valve.
- A Drain Clamp.
- Plastic Tubing and tube connectors.
- A Reverse Osmosis Membrane sealed in a plastic bag.
- A Sediment/Carbon Pre-Filter, shrink wrapped.
- An Activated Carbon Post-Filter, shrink wrapped.
- R.O. System Cover with or without optional Water Quality Monitor.
- Other items necessary for installation but not included with basic installation kit, may include wood screws or machine screws and nuts for mounting the manifold, or concrete anchors for hanging on basement wall. Additional tubing or tube connectors. Plastic wire ties for organizing tubing.

B. TOOLS RECOMMENDED FOR INSTALLATION

The following tools will cover most of the installation sites encountered:

Mounting Faucet:

1. 3/8" variable speed electric drill.
2. 1¼" porcelain hole cutter kit.
3. 1¼" Greenlee hole punch and 1/8" and ½" metal drill bits for pilot hole.
4. Center punch and hammer.
5. 1¼" wood bit.
6. Safety glasses.
7. Basin wrench or 10" pipe wrench.
8. Wide masking tape or duct tape.

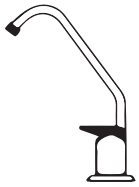
Assembling R.O. System:

9. Phillips head and flat blade screwdrivers.
10. ½", 9/16" and 5/8" open end wrenches.
11. Teflon tape.
12. Plastic tubing cutter.
13. Extra plastic tubing.
14. Low range air pressure gauge.
15. Bicycle hand air pump.
16. Paper towels, wisk broom and assorted clean up materials.

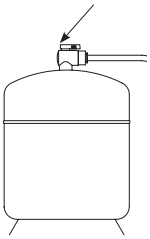
SECTION III. PREPARATION

C. SITE SELECTION FOR MAJOR SYSTEM COMPONENTS

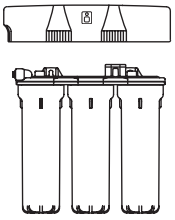
The R.O. System was designed to fit under a sink, however, because of space limitations or other reasons, the system's flexible design allows for other locations. When determining the location remember that access to a cold water tap line, the household drain, and ease of filter replacement are important considerations. All components and tubing should be located in an area which is not exposed to freezing temperatures. If winter temperatures are severe, the area should be above the minimum temperature listed in Table B, page 5 for proper performance. Do not expose unit or tubing to direct sunlight.



1. Dispensing Faucet:
The faucet should be placed near the sink where drinking water is normally obtained. Convenience of use (filling of water pitchers and glasses), and an open area beneath the faucet under the sink for attaching product and drain tubing are considerations.

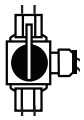


2. Drinking Water Holding Tank:
The Holding Tank may be placed where it is convenient within 10 feet of the faucet; under the sink or in an adjacent cabinet are the best choices. If a longer run of tubing is required, the tubing 7 should be the 3/8" diameter OD size to prevent a high pressure drop. Remember, these tanks can weigh up to 30 pounds when full of water; a firm, level area is required.

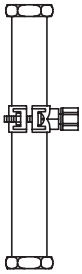


3. R.O. Manifold Assembly:
The manifold can be installed on either the right or left side of the under–sink area or a cabinet. The right side is recommended because all the tubing will be to the back of the cabinet and out of the way.

Installation in the basement is also an option, one location is near the laundry/utility sink where cold potable water and drain access is handy. The mounting location should allow adequate clearance and accessibility for cartridge changes.



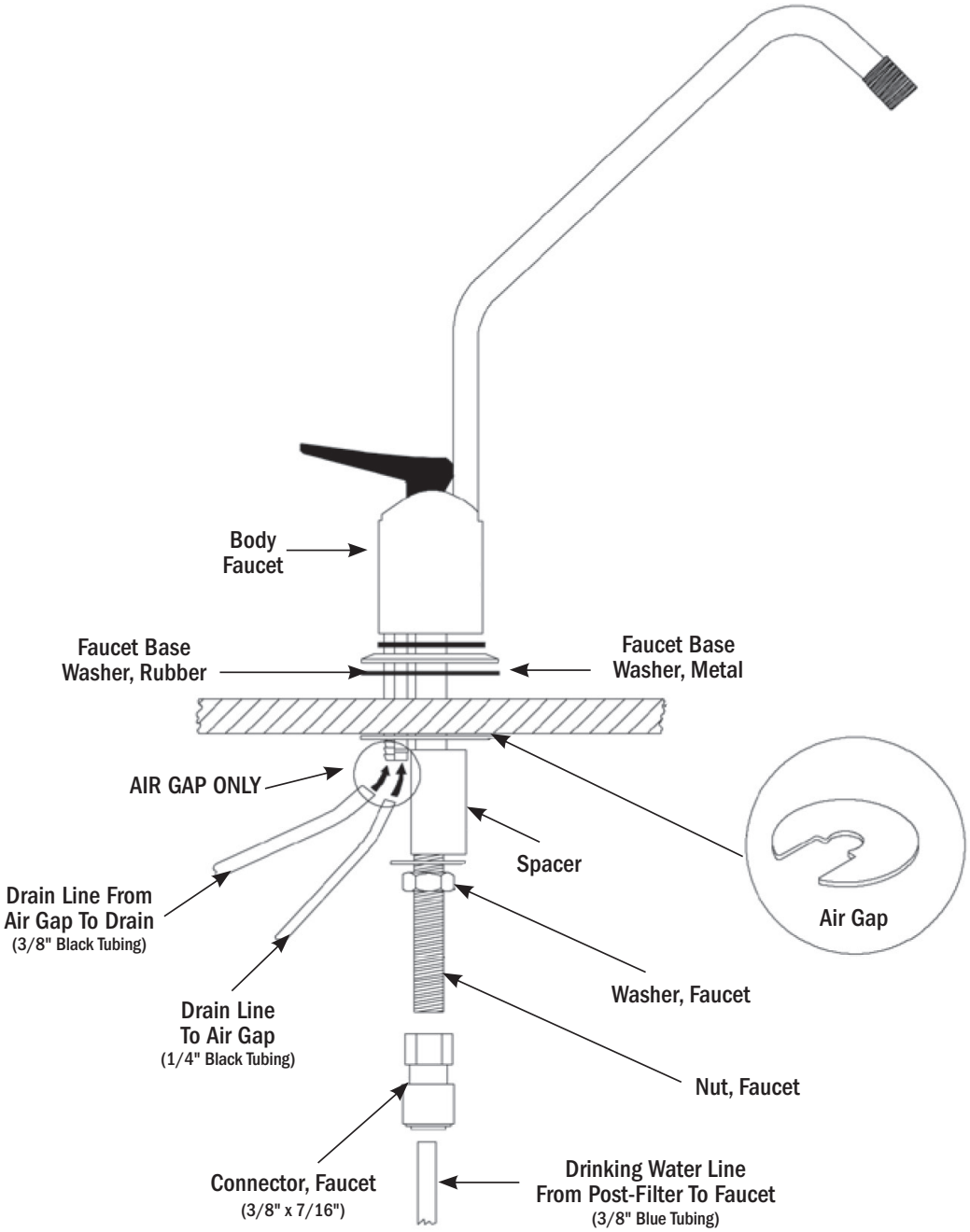
4. Feed Water Connection:
The Feed Water Valve should be located as close to the manifold assembly as possible. USE A POTABLE COLD WATER SUPPLY ONLY. Softened water is preferred as it will extend the life of the R.O. Membrane.



5. Drain Connection:
The waste water must go to drain through an anti–siphon air gap. The air gap is provided for in the base of the faucet. If discharging into a utility sink or standpipe, an air gap of greater than 1" above the flood rim must be provided. Do NOT connect the system drain line to the dishwasher drain or near the garbage disposal. Back-pressure from these units may cause the air gap to overflow.

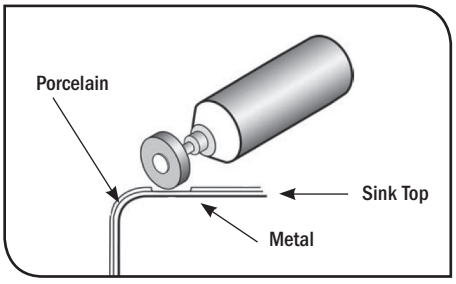
SECTION IV. INSTALLATION STEPS

FAUCET DIAGRAM (FIGURE 3)



CAUTION: Be careful when the drill is about to penetrate the base metal of the sink. Reduce the speed and support the drill so the drill chuck does not impact the porcelain or enamel.

GRINDING WHEEL



SECTION IV. INSTALLATION STEPS

A. INSTALL THE FAUCET ASSEMBLY

The most convenient installation would allow the use of an existing spray attachment hole.
If the spray attachment hole is not available, then follow the basic procedures outlined below.

B. DRILLING A STAINLESS STEEL SINK

1. Mark the sink location for the center of the faucet.
2. Impact punch the sink top to provide a starting point for the drill bit.
3. Drill a 1/4" pilot hole in the sink using a high-speed drill bit.
4. Drill a 1/2" diameter hole to accept the bolt of a 1-1/4" Greenlee Chassis Punch.
5. Set the punch and turn the nut with a wrench to cut the hole.

C. DRILLING A PORCELAIN CLAD STEEL OR CAST IRON SINK

1. Mark the sink location for the center of the faucet. Be sure the location you select is not over a reinforcing rib. Check the location from below.
2. Grind away a 1-1/4" diameter circle in the porcelain using a silicon/carbide wheel and high-speed grinder, down to the metal surface of the sink. (See Grinding Wheel).
3. Impact punch a small indent in the center of the area ground away.
4. Drill a 1/4" pilot hole through the metal base using a standard high-speed drill bit.
5. Use the pilot hole as a guide to drill a minimum 1" up to a 1-1/4" diameter hole with carbide bits to mount the R.O. air gap faucet.

D. PREPARE THE R.O. AIR GAP FAUCET ASSEMBLY FOR INSTALLATION

1. Using the diagram in Figure 3, assemble the Air Gap Spigot with all the components except the slot washer. Begin with the escutcheon, followed by the rubber gasket, spacer, flat washer, 9/16" nut, and 3/8" spigot adapter.
2. Using the diagram in Figure 2, from under the sink, feed the pre-connected 1/4" black tube and the pre-connected 3/8" blue tube from the R.O. assembly through the hole in the sink. Slip the blue tube into the spigot adapter, and replace the red locking clip. Slip the 1/4" black tube onto the small hose barb on the base of the spigot.

Installation Tip: To make it easier to slip the tubing over the hose barbs, soak the black tube ends in hot water to soften the tubing. The tubing will slip onto the hose barbs much more easily, and will conform better as it cools and reduce the possibility of splitting.

3. Feed the assembled spigot and tubing through the hole in the sink and let the spigot rest on the rubber gasket and escutcheon.
4. Drill a 1/4" pilot hole through the metal base using a standard high-speed drill bit.
5. From under the sink, slip the slot washer between the sink and the spacer and finger-tighten the 9/16" nut until snug.
6. Position the spigot for customer convenience and then use a 9/16" wrench to tighten the nut to secure the spigot on the sink.

SECTION IV. INSTALLATION STEPS

D. INSTALL THE FEED WATER SUPPLY VALVE

7. Shut off the water at the angle stop valve.

8. Use a 5/8" open-end wrench to loosen the compression nut on the angle stop riser tube.

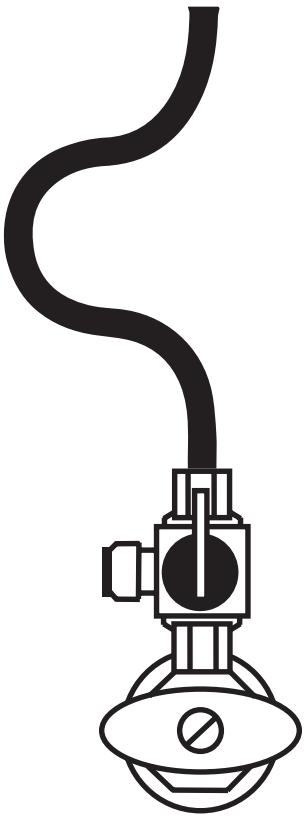
9. Install the Feed Water Supply valve onto the angle stop. Use the 5/8" wrench to tighten the compression nut on the feed water supply valve. Do not over-tighten!

10. Reconnect the riser tube to the other end of the feed water supply valve. Do not over-tighten!

11. Fully insert the red 1/4" tube into the speed-fit connection and replace the red locking clip. The new feed water valve can be swiveled to position the tubing out of the way of under sink items.

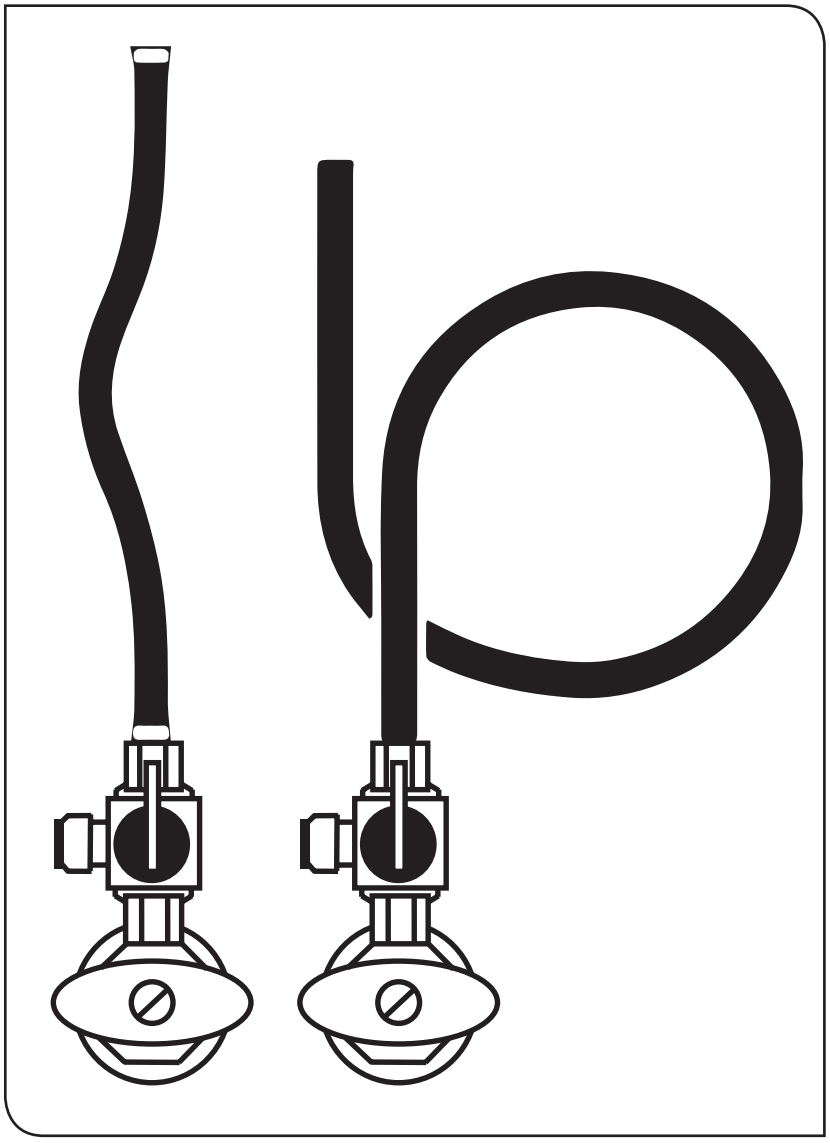
12. Make sure the feed water supply valve is off before turning the angle stop valve on. Check for leaks

CAUTION: A longer riser tube assembly will be required if a gentle loop cannot be made.



INCORRECT

HOSE POSITIONS HOSE DIAGRAM (FIGURE 4)



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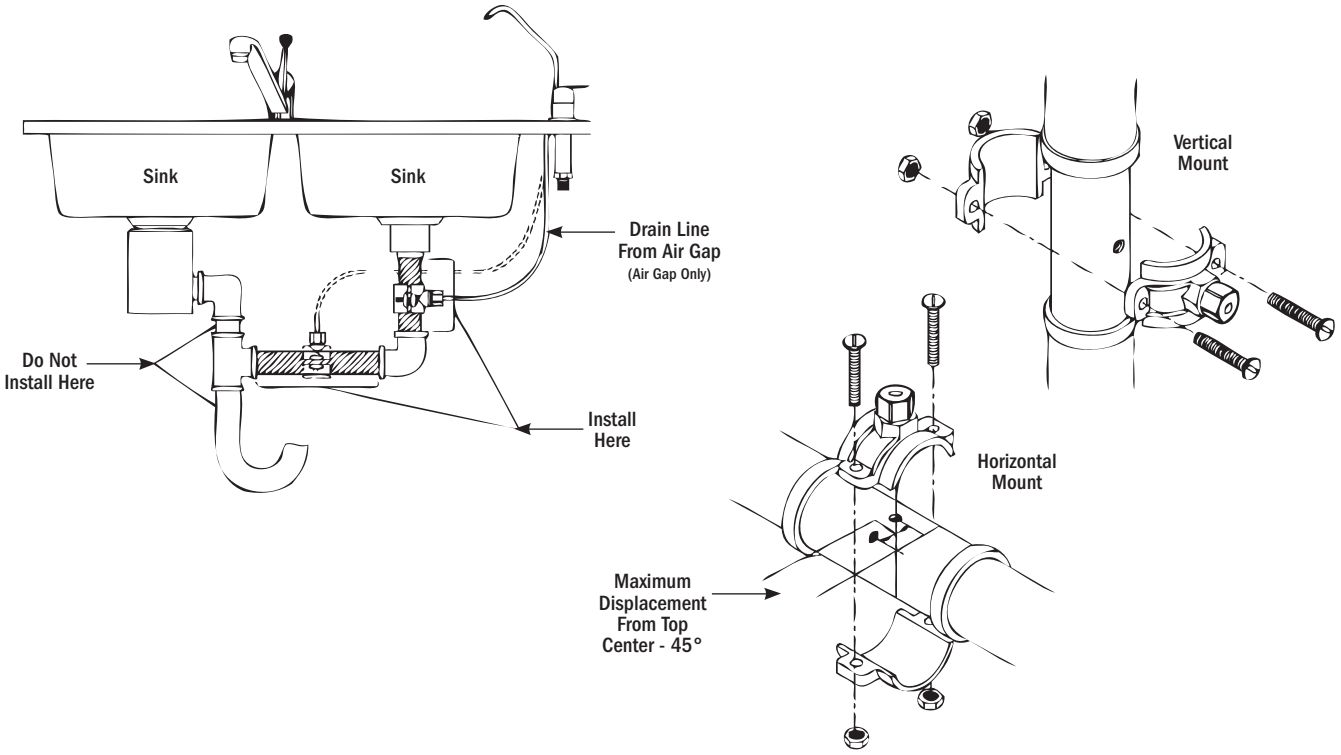
SECTION IV. INSTALLATION STEPS

3/8" DRAIN CLAMP ASSEMBLY (FIGURE 5)



D. Drain Clamp Installation: Choose the drain outlet location per Sec. III. The following are instructions for discharging into the sink drain pipe. (Refer to Fig. 5.)

13. Position the Drain Clamp on the sink drain pipe above the drain trap. Allow room for drilling. Tighten securely.

14. Use a battery powered or properly grounded drill. Using the Clamp port as a drill guide, drill a 7/32" hole through the wall of the drain pipe. Do NOT penetrate the opposite side of the pipe.

15. Locate the 3/8" Black Drain Tubing connected to the Dispensing Faucet. Route the tubing to the Drain Clamp and trim to length.

NOTE: When cutting the polytubing make clean, square cuts, failing to do so could result in poor connections and possible leaks.

CAUTION: The lowest point of the line should be the point of connection to the Drain Clamp. There should be no sag in the line as this may cause excessive noise as the reject water is flowing to drain

- Insert the tubing into the Drain Clamp. Make sure the tubing is pressed all the way in to create a pressure-tight connection. (Refer to Fig. 5.)
- If you want to pull the tubing out for some reason, push the ring around the tubing in and pull the tubing out.

SECTION IV. INSTALLATION STEPS

D. R.O. MANIFOLD ASSEMBLY INSTRUCTIONS

Locate the site per Sec. III, C.3. Various installation sites will require different types of mounting fasteners; be sure the fastener selected will provide a firm, solid mounting. A support panel may be necessary on thin cabinet walls or to span between wall studs on particleboard or drywall.

Do not drill through exterior cabinet walls or leave sharp wood screw points exposed in readily accessible cabinet interiors. The close proximity of a dishwasher or a trash compactor may require special fabrication of a mounting plate.

16. The mounting bracket will accept either #10 or #12 (5mm) mounting screws spaced on 6" (15 cm) centers. Allow at least 4" (10 cm) of clearance beneath the filter housings to accommodate filter changes. Mark the two locations (the bracket can be used as a template). Install the screws and tighten them until the heads are about 5/8" from the wall.

17. Locate the ¼" Orange Feed Water Tubing. Remove the red plug from the fitting labeled “In” on the manifold and insert the tubing. Reference the special supplement sheet in the carton for proper connection of all tubing and removal of plugs. Run the tubing along its course to the Feed Water Valve, trim to length. (Refer to Fig. 1.)

18. Locate the ¼" Black Drain Tubing. Remove the black plug from the fitting labeled “Drain” on the manifold and insert the tubing. The end of the Black Drain Tubing that should be inserted into the “Drain” port will have a drain restrictor in it. Run the tubing along its course to the ¼" Hose Barb on the Dispensing Faucet, trim to length and connect by firmly pressing over the barb. Allow the tubing to relax, then press firmly again to insure proper seating.

19. Locate the ¼" White tubing. Remove the yellow plug from the fitting labeled "Out" on the manifold and insert the tubing.

20. Locate the 3/8" Blue Product Water Tubing. Firmly press one end into the tee and the other end into the faucet connector. (Refer to Fig. 3.) The fittings will grab the tubing and seal it in place. Make sure the tubing is pressed all the way in to create a pressure tight connection.

NOTE: If you want to pull the tubing out for some reason, push the ring around the tubing in and pull the tubing out.

21. Hang the Manifold Assembly on the mounting screws and tighten. DO NOT OVER-TIGHTEN.

22. Remove the wrapping from the In–Line Activated Carbon Post-Filter. Slice the 3/8" Blue Polytube where it would be convenient to install and change the In–Line Filter. Make a clean straight cut to insure proper connections. The “Out” port on the In–Line Filter should be toward the faucet. Firmly press in the tubing. The fittings will grab the tubing and seal it in place. Make sure the tubing is pressed all the way in to create a pressure tight connection.

E. POSITION THE DRINKING WATER HOLDING TANK AND MAKE THE FINAL HOSE CONNECTIONS.

1. Check the tank precharge pressure. Make sure it is between 5 to 7 psig. If not, use a bicycle hand pump or other pump to bring the pressure up to the 5 to 7 psig range.

2. Wrap Teflon tape three times around the ¼" male outlet thread. Wrap in the direction of the threads (clockwise when looking down on the Holding Tank). The tape will act as a thread sealant. Screw on the Holding Tank Shut–Off Valve.

3. Locate the 3/8" White Tubing. Firmly press one end into the Holding Tank Shut–Off Valve and the other end into the tee. (Refer to Fig. 1.) The fittings will grab the tubing and seal it in place. Make sure the tubing is pressed all the way in to create a pressure tight connection.

SECTION IV. INSTALLATION STEPS

F. START UP

At time of start up and each time the filters are changed the system should be sanitized (also see Operation and Maintenance Sec. V).

1. Sanitizing the system. Use a drip pan to aid clean–up.

NOTE: The system should be sanitized BEFORE installing the Sediment/Carbon Pre-Filter, the Activated Carbon Post-Filter or the R.O. Membrane.

- Use a good quality unscented 5¼% liquid chlorine household bleach.
- Open the Dispensing Faucet and open the Holding Tank Shut–Off Valve (the handle should be parallel with the valve body).
- Remove the plug on the underside of the manifold labeled "SEDIMENT/CARBON". Pour one capful of bleach (this is approximately 2 tsp. or 10 ml) into one of the white Housings. Insert a Housing O–ring into the Housing groove, (press firmly in place). Engage and firmly tighten the Housing hand tight only.
- Remove the plugs labeled "MEMBRANE" and "ACTIVATED CARBON" from the underside of the manifold. To each of the remaining white Housings, add one capful of bleach. Insert a Housing O–ring, engage and firmly tighten the Housings hand tight only.
- Slowly open the Feed Water Valve (turning counter clockwise).
- As soon as the water begins to come out of the Dispensing Faucet, close the Faucet.
- Let stand for 15 minutes.

  NOTE: During this time, check the system carefully for leaks.
- At the end of 15 minutes, CLOSE the Feed Water Valve and open the Dispensing Faucet.
- Allow the Holding Tank to completely drain, then remove the Sediment/Carbon Filter Housing (the farthest of the three from the In–Out ports), empty, and install the Sediment/Carbon Pre-Filter. Firmly tighten the Housing hand tight only.
- Remove the Activated Carbon Filter Housing (the closest of the three to the In–Out ports), empty, and install the Activated Carbon Post-Filter. Firmly tighten the Housing hand tight only.

2. Installing the R.O. Membrane:

- Remove the R.O. Membrane Housing, (the middle one), and empty.
- Insert the Membrane up into the manifold. (The O–rings should be up toward the manifold.) Check the Housing O–ring for proper position in its groove, engage and firmly tighten the Housing hand tight only.

3. Installing the R.O. Membrane:

- Slowly open the Feed Water Valve fully counter clockwise.
- The Holding Tank Valve should be open.
- Check the Air Gap Window on the Dispensing Faucet to be sure that the drain water is flowing. The R.O. System is now making water.
- Do not open the Faucet for at least 8 hours.
- Do not use the first three full tanks of water.

  CAUTION: The R.O. Membrane is shipped with a preservative in it. To ensure proper rinsing of the R.O. Membrane it is important to wait at least 8 hours before emptying each tank.

  When the Faucet is first opened, expect air and carbon fines (very fine black powder) from the In–Line and Activated Carbon Post-Filters to be rinsed out. This is normal for the first tank of water or after the Activated Carbon Post-Filters are changed.

SECTION V. OPERATION & MAINTENANCE

A. NORMAL OPERATION

1. It is normal for the Total Dissolved Solids (TDS) of the water to be higher than normal during the first 5 gallons of operation; this is due to the sanitizing solution and the new Post-Filters. After this water is rinsed to drain, the removal rate should stabilize at a value of greater than 75%. The optional Water Quality Monitor measures the TDS reduction and gives an indication of proper performance. Water pressure affects the production rate and quality.

2. R.O. Systems produce drinking water at relatively slow rates; it can take up to 5 hours or more to fill the Holding Tank. Normal operation is to let the Holding Tank fill with water and then draw water as needed. When the pressure in the Holding Tank falls to a given pressure (as the water is being used) the Automatic Shut–Off Valve (ASO Valve) will start water production and the system will refill the Holding Tank. When the Holding Tank is full and no water is being used, the ASO Valve will automatically shut off the feed water to conserve water. The more water that is used (up to the capacity of the system) the better the R.O. System will function. Other uses for the water are flowers, pets and rinsing glassware.

   With each use it is recommended that you run the faucet for at least 10 seconds prior to using water. This is especially important if the system has not been used daily. After periods of non–use, such as a week of vacation, it is better to empty the Holding Tank and allow the system to produce fresh water for use. If the system is not used for 3–4 weeks or longer, it is a good idea to re-sanitize the system and to change the Pre-Filter and Post-Filters.

B. CHANGING FILTERS

THIS R.O. SYSTEM CONTAINS FILTERS WHICH MUST BE REPLACED AT REGULAR INTERVALS TO MAINTAIN PROPER PERFORMANCE. USE ONLY FACTORY APPROVED FILTERS.

All individuals should take adequate precautions when changing the filters, including wearing protective gloves, to avoid direct contact with the exhausted filters.

The recommended interval for changing the filters (not the R.O. Membrane) is every six (6) months. Typical T.F.C. Membrane life expectancy is three years. Local conditions may dictate more frequent changes.

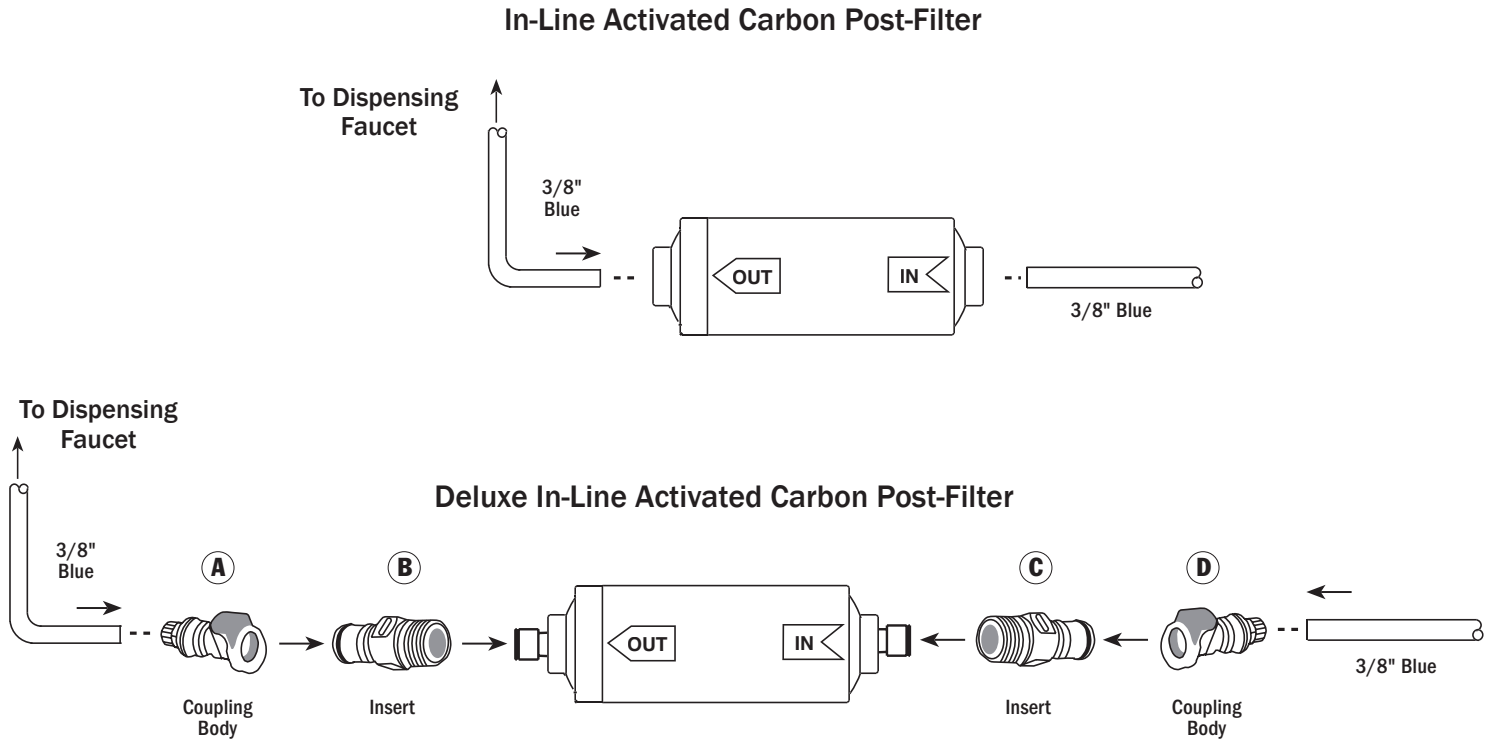
- Remove the Sediment/Carbon Filter Housing and empty. Remove the wrapping and install the Sediment/Carbon Pre-Filter. Firmly tighten the Housing hand tight only.
- Remove the Activated Carbon Filter Housing and empty. Remove the wrapping and install the Activated Carbon Post-Filter. Firmly tighten the Housing hand tight only.
- Disconnect the white product water tubing that runs from the Holding Tank to the Tee (see Fig. 1.). Put 50 drops of bleach (this is ½ tsp. or 3 ml) into the tubing and reconnect it to the Tee.

NOTE: Now is the convenient time to change the In–Line Activated Carbon Post-Filter.

- Slowly open the Feed Water Valve. When water begins dripping out of the Dispensing Faucet, in the following order, close the Faucet and then open the Holding Tank Valve.
- Do not open the Faucet for at least 8 hours.
- Discard the first three full tanks of water produced, they will contain chlorine.

SECTION V. OPERATION & MAINTENANCE

IN-LINE ACTIVATED CARBON POST-FILTER ASSEMBLY (FIGURE 6)



C. CHANGING THE IN–LINE ACTIVATED CARBON POST-FILTER

1. Close the Feed Water Valve by turning fully clockwise.
2. Close the Holding Tank Valve and then open the Dispensing Faucet to release the pressure.
3. Remove the In–Line Activated Carbon Post-Filter. Disconnect the used Post-Filter by pressing in the connector's collar and at the same time pulling the tube out of the fitting.
4. Firmly reconnect the polytubes to the new Post-Filter. (Refer to Fig. 6). Make sure the tubing is pressed all the way in to create a pressure tight connection.

   NOTE: If you want to pull the tubing out for some reason, push the ring around the tubing in and pull the tubing out.
5. Slowly open the Feed Water Valve.
6. When water begins dripping out of the Faucet, in the following order, close the Faucet and open the Holding Tank Valve. When the Faucet is first opened, expect air and carbon fines (very fine black powder), from the new Post-Filter to be rinsed out. This is normal for the first tank of watertight connection.
7. The RO 4300RX Deluxe System includes upgraded quick release fittings which help make change outs easier.

- Thread male inserts (B and C) into filter body using teflon tape.
- Attach coupling body (A and D) to tubing .
- Filter connects by inserting inserts into coupling bodies until they snap together. Always ensure ensure flow direction lines up with arrow on filter.
- To release when its time to replace, push in the thumb latch and fittings will separate.
- Transfer insert to new post filter then reconnect to coupling body.

SECTION VI. DELUXE COMPONENT INSTALLATION

PERMEATE PUMP INSTALLATION INSTRUCTIONS

1. Inspect Permeate Pump, fittings, and Permeate Mounting Clip Kit. Remove the plugs from the 4 ports and make sure there is no foreign material in the ports.

2. Mounting of Permeate Pump: The Permeate Mounting Clip Kit, (includes clip and 2 #10 x 3/4" self-tapping screws) mount the clip on a suitable location using the two screws provided.

3. The label clearly shows the location of each port. Mount the Permeate Pump with Outlets (both brine and permeate) Positioned Up. This step is VERY IMPORTANT to rid any entrapped air.

4. (If System has been pressurized prior to pump install) Shut off feed water and turn off product tank valve. Bleed residual pressure by opening the faucet.

5. Locate the ¼" Black Drain tube. The flow restrictor on the end of the black tube plugs into the manifold of the RO-4300RX System.

   A. The Permeate pump brine side should be installed between the R.O. System and the air-gap faucet connection. From the R.O., plug black tube into “BRINE IN” port.

   B. Connect a new length (long enough to reach the air gap drain) of tubing to the "BRINE OUT" fitting on the Permeate Pump. Be sure tube bottoms out in the fitting. This tube connects directly to the air gap drain.

6. Locate the product water (permeate) ¼” white tube exiting (after) the Alkaline cartridge.

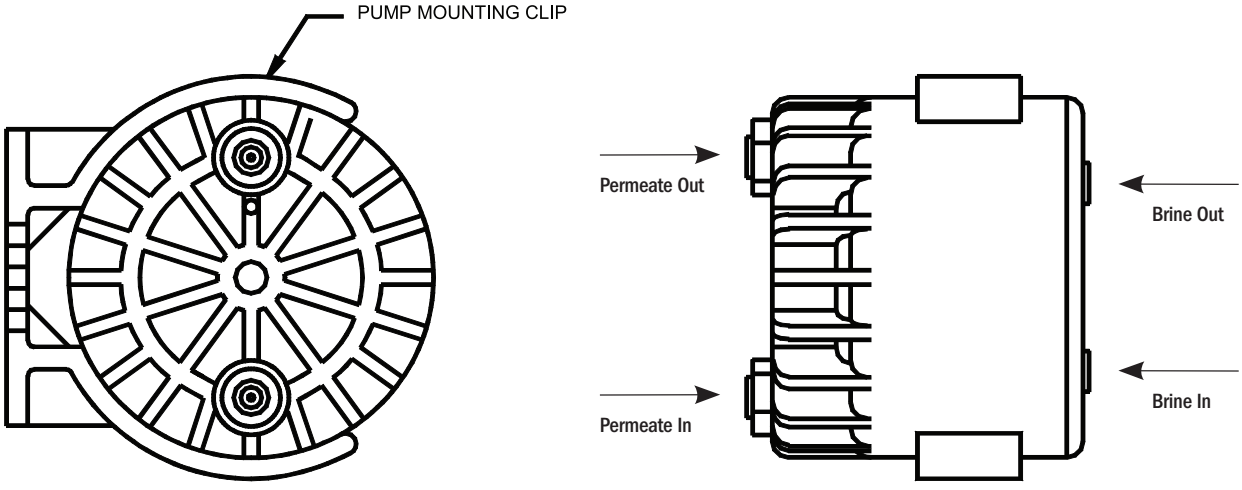
   A. From outlet of alkaline cartridge connect the tube to the "PERMEATE IN" fitting on the Permeate Pump.

   B. Connect a new tube from the "PERMEATE OUT" fitting on the Permeate Pump to the reducing tee as shown in Figure 1.

7. Turn on feed water supply and open product tank valve. The Permeate Pump should begin cycling. An audible clicking sound will be heard as the pump operates.

Important: If pump is not cycling (clicking), make sure all connections are made correctly and that all entrapped air has been bled from the lines by just cracking open the faucet.

PERMEATE PUMP (FIGURE 7)



SECTION VII. TROUBLE SHOOTING GUIDE

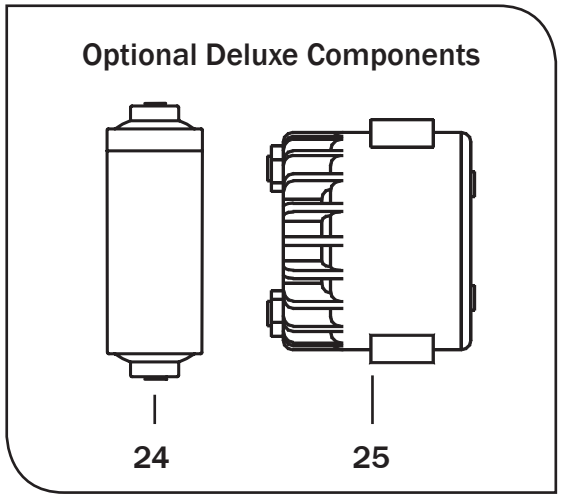
PROBLEM	POSSIBLE CAUSE	SOLUTION
LOW QUANTITY OF PRODUCT WATER FROM HOLDING TANK	Feed Water Valve is plugged or closed.	Open Valve or unclog.
	Clogged Sediment Pre-Filter or Activated Carbon Pre-Filter.	Replace filters.
	Low water pressure.	Feed Water pressure must be above 40 psig.
	R.O. Membrane is fouled.	See Feed Water operating limits. Correct cause of fouling, replace Membrane.
	Plugged In–Line Activated Carbon Post-Filter.	Replace Post-Filter.
	Air precharge pressure in Holding Tank is too high.	Empty water from Holding Tank, and with the faucet open, adjust air pressure to 5–7 psig (35–48 kPa) range.
	Air precharge is too low.	
	Air bladder in the Holding Tank is ruptured.	Replace tank.
	Holding Tank Valve is closed.	Open Valve.
	No drain flow, the Drain Restrictor is plugged.	Clear or replace Drain Restrictor.
	No drain flow, the drain orifice in the Dispensing Faucet is plugged.	Clear or replace the Dispensing Faucet.
	The Check Valve is stuck.	Free check.
	The ASO Valve is malfunctioning.	In-Line Activated Carbon Post-Filter is plugged.
LOW PRESSURE AT THE DISPENSING FAUCET	In-Line Activated Carbon Post Filter is plugged.	Replace Post-Filter.
	Air precharge in the Holding Tank is too low.	Empty water from Holding Tank and with the faucet open, adjust the air pressure to 5–7 psig (35–48 kPa) range.
		Check for leakage at the Air Valve Stem.
	Holding Tank Valve is partially closed.	Open Valve.
	The Dispensing Faucet is out of adjustment or faulty.	Allow Holding Tank to refill (adding a second Holding Tank will increase storage capacity).
	Low Water Production.	See Low Quantity of Product Water from Holding Tank section above
HIGH TOTAL DISSOLVED SOLIDS (TDS) IN THE PRODUCT WATER	Clogged Sediment Pre-Filter or Activated Carbon Pre-Filter.	Replace Filters.
	Low Water Pressure.	Feed Water Pressure must be above 40 psig.
		Check Feed Water Valve.
	R.O. Membrane O–ring is crimped.	Check O–ring.
	R.O. Membrane brine seal is not sealing up into the manifold head.	Check the brine seal.
	R.O. Membrane has expired.	If Membrane life is unusually short, find and correct the problem. Replace Membrane.

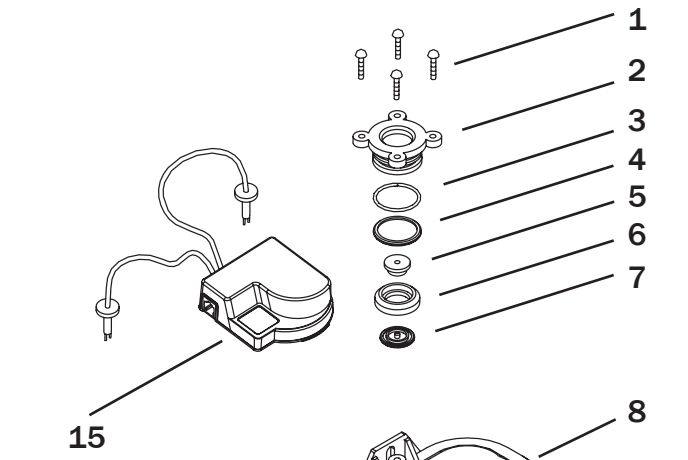
SECTION VII. TROUBLE SHOOTING GUIDE CONTINUED

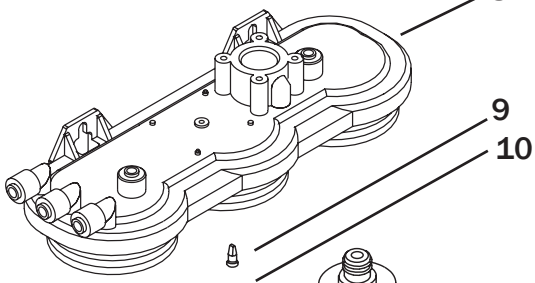
PROBLEM	POSSIBLE CAUSE	SOLUTION
HIGH TOTAL DISSOLVED SOLIDS (TDS) IN THE PRODUCT WATER (CONTINUED)	The Product Water and Drain Water lines are reversed.	Correct plumbing.
	No drain flow, Drain Restrictor is clogged.	Clear or replace Drain Restrictor.
	No drain flow, the drain orifice in the Dispensing Faucet is plugged.	Clear or replace Dispensing Faucet.
	The ASO Valve is not closing.	Repair or replace the ASO Valve Components.
	New In-Line or Activated Carbon Pre-Filter not rinsed completely.	Flush with several full tanks of Product Water.
	The Feed Water TDS has increased.	An increase in Feed Water TDS will give a corresponding increase in Product Water TDS.
TASTES AND ODORS IN THE PRODUCT WATER	The In-Line or Activated Carbon Pre-Filter is exhausted.	Replace Filters.
	There is foreign matter in the Holding Tank.	Clean, flush and sanitize the system. Replace the filters.
	The Product Water and Drain Water lines are reversed.	Correct plumbing.
	Dissolved gases in the Feed Water.	Pretreat Feed Water to remove dissolved gases.
	Increase in Product Water TDS.	See high TDS in the Product Water section.
AMBER LIGHT ON WATER QUALITY MONITOR	System not being used for extended period of time.	Empty storage tank. Wait 15 minutes for the system to begin making water and test water quality again.
	Filters are plugged or membrane is fouled or exhausted.	Replace filters and/or membrane.
DRAIN WATER OVERFLOWS AT THE DISPENSING FAUCET	Air Gap is blocked.	Clear Air Gap.
		Rinse with vinegar for removal of calcium buildup.
	Drain tubing is clogged.	Clear tubing.
	Drain Clamp hole is misaligned.	Align with hole in the drain pipe.
	Excessive drain flow rate.	Replace Drain Restrictor.
FAUCET LEAKS OR DRIPS	Leaks from base of the delivery tube.	O–ring is bad, replace O–ring.
FITTING LEAKS IN GENERAL	Close the Feed Water Valve and relieve pressure before disconnecting any tubing or replacing any fitting. Before replacing a fitting, re–cut the tubing and re–insert into the fitting to see if that solves the leak. If pipe threads are leaking, remove and re-tape with Teflon tape.	

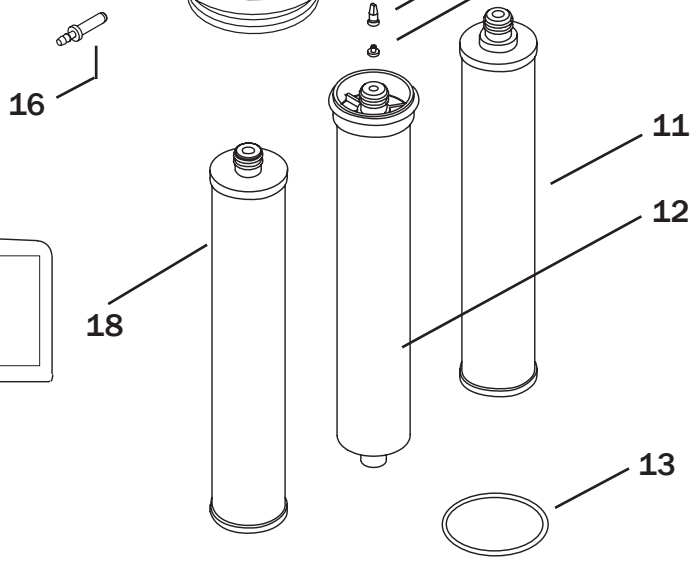
EXPLODED VIEW AND PARTS LIST

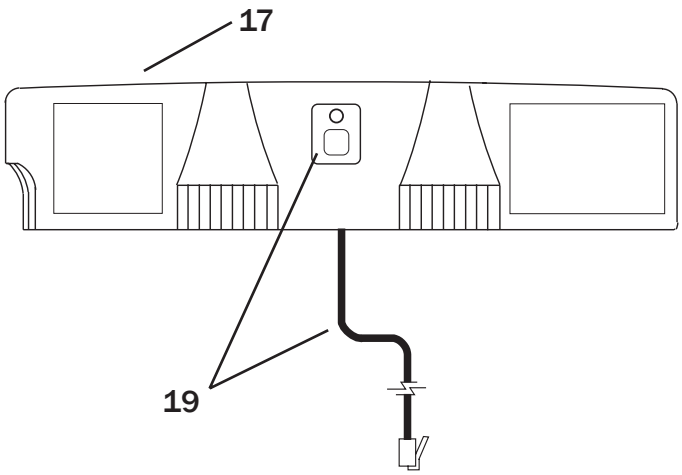
19A.....Water Quality Test Kit
23.....Nitrate/Nitrite Test Kit

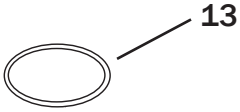


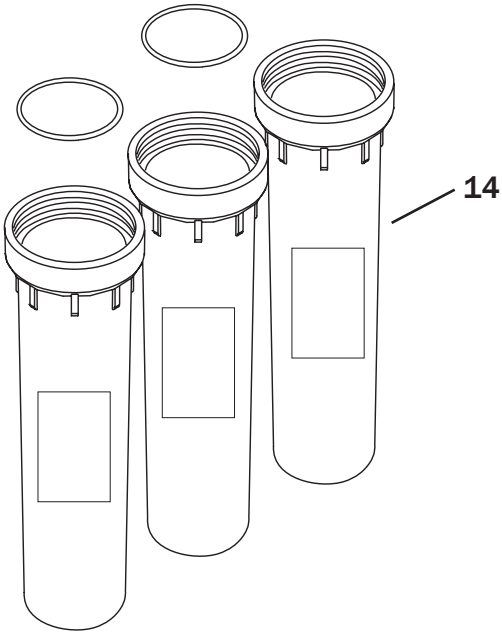


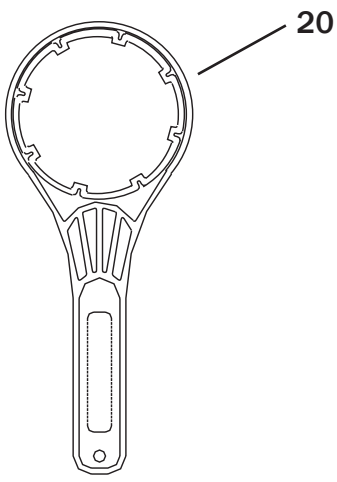












EXPLODED VIEW AND PARTS LIST KEY

IN-LINE ACTIVATED CARBON POST-FILTER

22

DRAWING NO.	DESCRIPTION
1	Self Tapping Screw
2	ASO Cap
3	ASO Cap O–Ring
4	ASO Diaphragm – Large
5	ASO Piston
6	ASO Piston Ring
7	ASO Diaphragm – Small
8	Manifold Plate Assembly without Monitor (Includes diagram numbers 1 through 10 and 16.)
or 8A	Manifold Plate Assembly with Monitor (Includes diagram numbers 1 through 10, 15 and 16.)
9	Check Valve
10	Check Valve Retainer
11	Sediment/Carbon Pre-Filter (Part No. CML-CB)
12	T.F.C. R.O. Membrane 50 gpd (189 lpd, Part No. CLK-TF-50)
13	Housing O–Ring
14	Housing
15	Water Quality Monitor Board w/Probes
16	Drain Restrictor 50 GPD (189 lpd) Green
17	Cover
18	Activated Carbon Post-Filter (Part No. CML-CB)
19	Water Quality Monitor Indicator and Cord
20	Wrench for Housing
21	1/4"–3/8" Fitting Wrench
22	In–Line Activated Carbon Post-Filter
23	Nitrate/Nitrite Test Kit
24	Alkamag Alkaline Inline Water Filter (Deluxe Model)
25	Permeate Pump (Deluxe Model)

OTHER COMPONENTS AS SHOWN IN FIGURES 1 AND 3

DRAWING NO.	DESCRIPTION
1	Dispensing Faucet
2	3/8" Drain Clamp Assembly
6	3/8" x 3/8" x 1/4" Union Tee
7	Feed Water Valve
8 or	Plastic Holding Tank
8 A	Steel Holding Tank
9	Holding Tank Shut–Off Valve

Neo-Pure® RO-4300RX Pharmacy Trusted Five/One Year Limited Warranty.

What Does This Warranty Cover?
This warranty covers any defects in materials and workmanship of the Neo-Pure® RO-4300RX High Efficiency Reverse Osmosis Drinking Water System when installed and operated within recommended parameters, with the exceptions stated below.

How Long Does The Coverage Last?
NeoLogic Solutions will warrant its R.O. Drinking Water System (except for the reverse osmosis membrane), for a period of five years from the date of purchase. The reverse osmosis membrane is warranted for one year from date of purchase. All implied warranties including merchantability and fitness for a particular purpose are limited to five years from the date of purchase for the R.O. Drinking Water System, except for the reverse osmosis membrane which is limited to one year from date of purchase. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

What Will NeoLogic Solutions Do?
NeoLogic Solutions will repair or replace at its discretion any defective component. You must pay any labor charges. You must also pay for shipping or travel charges to return the defective part(s).

What Does This Warranty Not Cover?
This warranty does not cover the disposable sediment and carbon filters whose service life depends on feed water conditions. In addition, the membrane is only warranted if the required feed water conditions are met.

The above warranty will also not apply to any part of the Neo-Pure R.O. Drinking Water System that is damaged because of neglect, misuse, alterations, accident, misapplication, physical damage, or damage caused by fire, acts of God, freezing or hot waters or similar causes. Consequential and incidental damages are not recoverable under this warranty. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

We recommend that you use only authorized Neo-Pure replacement parts since improper parts or incorrectly performed maintenance or repair voids this warranty. In addition, if non Neo-Pure parts are used, contaminant reduction claims and/or state approvals are no longer valid.

How Do You Get Service?
In order to be eligible for service under this warranty you must (a) contact your local dealer who supplied the unit or (b) contact the factory for the dealer nearest you.

How Does State Law Apply?
This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Distributed By:

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