



**Installation, Operation, & Maintenance Manual for
PharMate® SQC Series Reverse Osmosis Purification
and Dispensing System**

LEAVE THIS MANUAL IN PHARMACY

Service Record				
Installation Date _____				
Service Date & Performed By	Pre & Postfilters	Membrane	Sanitize	Other

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INTRODUCTION

This illustrated manual contains step-by-step installation and maintenance instructions for the PharMate® Pharmacy SQC series Reverse Osmosis (RO) Purification and Dispensing System. To ensure that installation conforms to state and local plumbing codes, Fresh Water Systems, Inc. recommends installation be performed by qualified RO drinking water systems specialist, or licensed plumber. Failure to install RO system components as instructed voids system warranty. Average installation time is approximately 90 minutes. Call FWS Pharmacy Customer Support at 864-284-1800 if assistance is needed during installation.

CAUTION: RO membrane cartridge is shipped with preservative solution inside. Flush membrane thoroughly as directed before initial use.

This Reverse Osmosis system contains treatment components that are critical for effective reduction of Total Dissolved Solids (TDS) as well as inorganic contaminants. To verify that system is performing optimally, a Dual In-Line TDS Meter is included with RO system to test quality of purified water. To further ensure that system continually operates at peak performance levels, FWS recommends the following routine maintenance schedule:

Pre, Post, & BIOScript® filters: Change every six months to one year depending on feed water quality.

RO Membrane: Change as required based upon TDS meter calculations or 36 months, whichever is less.

Application Guidelines/Water Supply Parameters			
Membrane Type	TFCM	Water Supply Parameters	
		Chemical	Limit
Water Supply	Chlorinate or Non-Chlorinated	Hardness	<350mg/L
Water Pressure	40-100 psi	Iron	<0.1 mg/L
Water Temperature	40-100°F	Manganese	<0.05 mg/L
pH Range	4.0-11.0	Hydrogen Sulfide	0
Maximum TDS	2000 ppm	Turbidity	<1 NTU

Caution: Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the unit. For potable use only.




PRE-INSTALLATION

1. Pre-determine location of SQC RO System. RO purification unit is typically mounted underneath pharmacy sink on inside, right-hand cabinet wall. Storage Tank should fit in right or left rear section of cabinet. If tank does not fit inside cabinet, position storage tank externally, keeping as close to RO purification unit as possible (additional 3/8" tubing may be required).
2. Pre-determine location of Air Gap Faucet. If sink top includes an unused knockout hole, faucet may be mounted there. Otherwise, drilling 1 1/4" diameter mounting hole in sink top will be required.
3. Pre-determine vertical, flat surface location for PharMate® Dispenser. Dispenser(s) are typically located on end caps of prescription bays in close proximity to consulting counters & drive-thru areas. Recommended mounting height for dispenser is 66" from floor to top of dispenser.
4. Reference page 14, Figure 9 for operation and use of "push-In" connectors used throughout RO System plumbing.




PARTS LISTS

Review parts list prior to installation to verify all items included in Installation Kit.

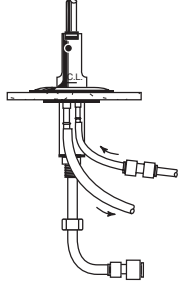
Reverse Osmosis Hardware Kit

- (2) Tubing Nail Clamp 
- (2) #10 x 3/4" Mounting Screw 
- (1) Supply Adapter & In-Line Ball Valve 
- (6) Tubing Clamps 

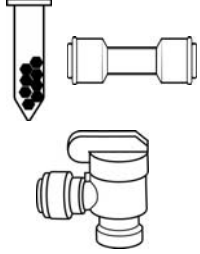
PharMate® Installation Kit

- (3) #10 x 1" Mounting Screws 
- (3) Plastic Wall Mount Anchors 
- (1) Pack Sanitary Tips (6 Tips) 

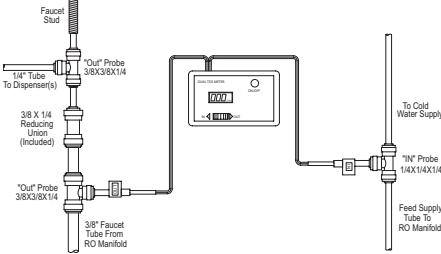
Air Gap Faucet



Sanitation Kit






Dual In-Line TDS Meter



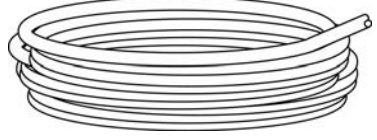
Labels in diagram:
 Faucet Shut
 1/4" Tube To Dispenser(s)
 3/8 X 1/4 Reducing Union (Included)
 "Out" Probe 3/8X3/8X1/4
 "Out" Probe 3/8X3/8X1/4
 3/8" Faucet Tube From RO Manifold
 To Cold Water Supply
 "In" Probe 1/4X1/4X1/4
 Feed Supply Tube To RO Manifold

Drain Line Adapter Kit

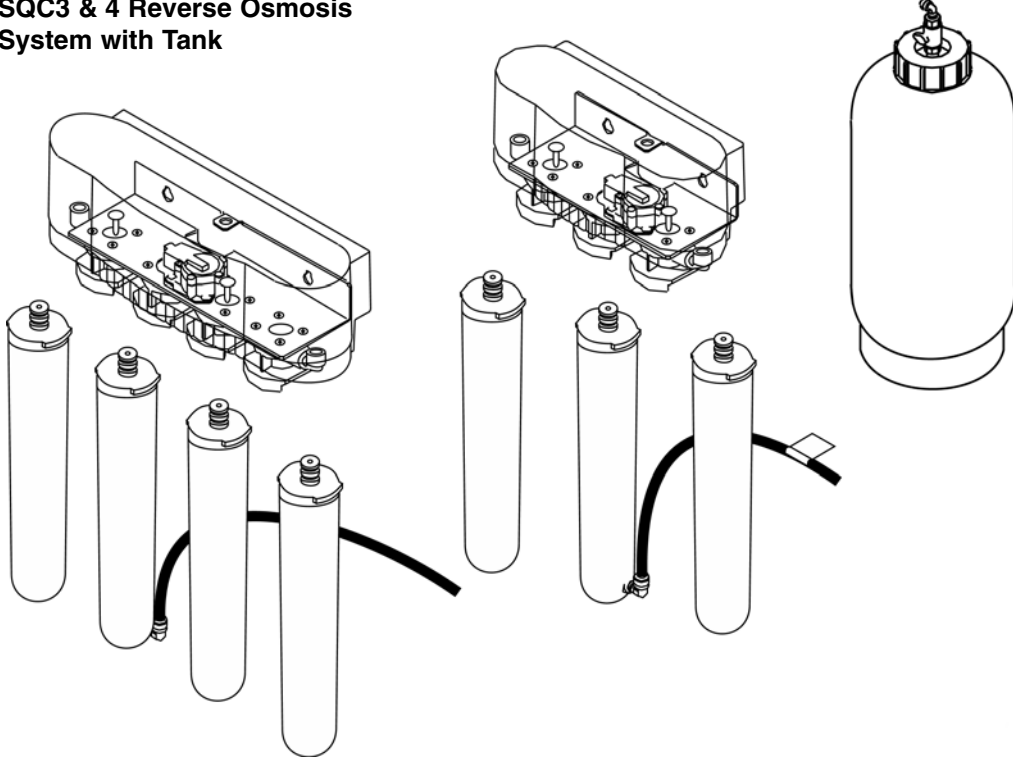
- (1) Drain Adapter 
- (1) 3 Way Repair Tee 
- (3) Slip Joint Wing Nuts 
- (3) Slip. Joint Beveled Washers 

1/4" Tubing

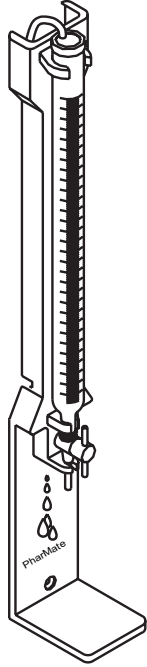
(1) 40' Roll 1/4" Tubing



SQC3 & 4 Reverse Osmosis System with Tank



PharMate® PMD Water Dispenser



RECOMMENDED TOOLS:

- Variable speed 3/8" or 1/2" drill motor
- Hack saw with fine tooth blade
- Razor knife or plastic tubing cutter
- 1 1/4" diameter Bi-metal hole saw
- Phillips head screw driver
- Basin wrench or Channel Lock pliers

RO SYSTEM INSTALLATION DIAGRAM

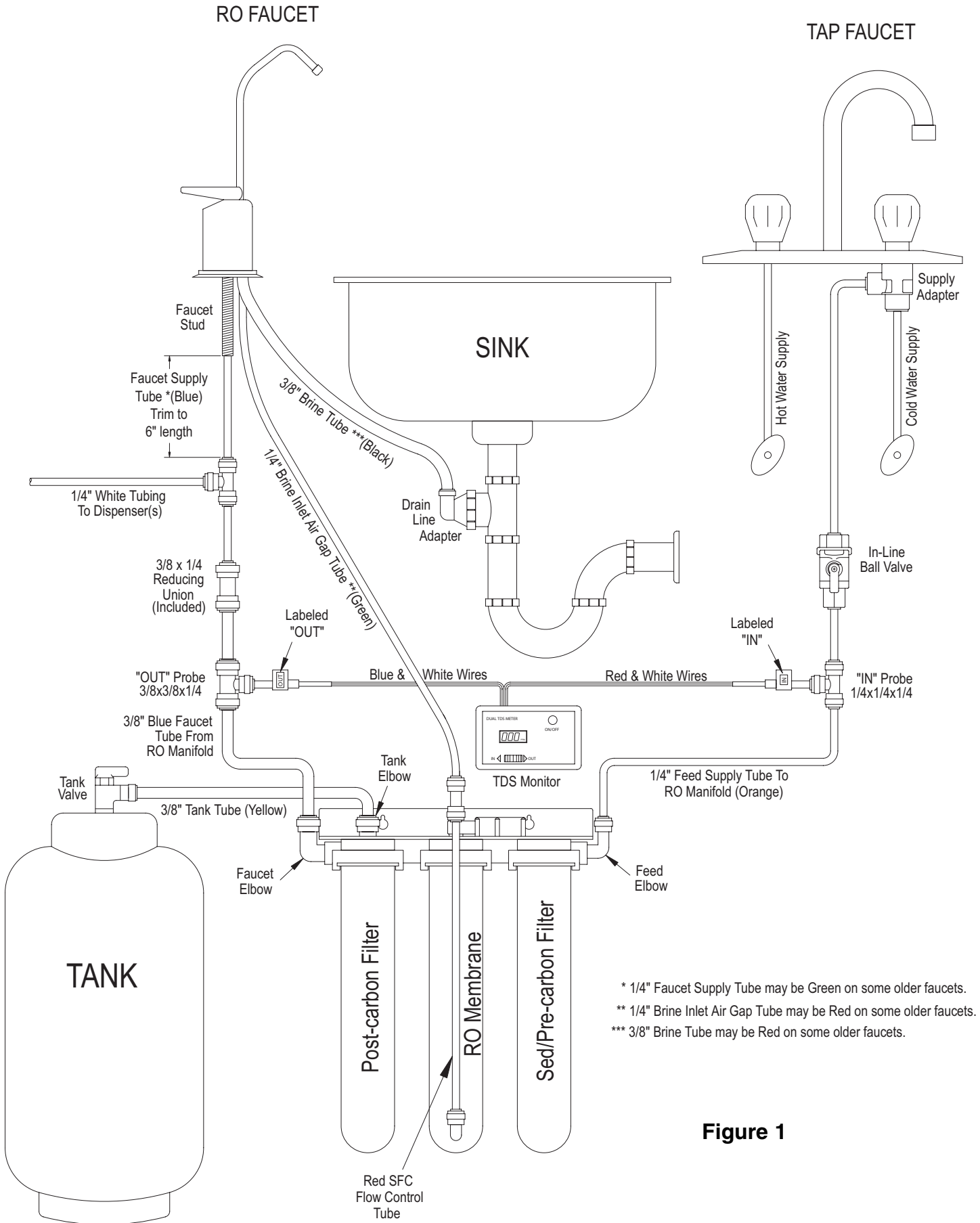


Figure 1

AIR GAP FAUCET INSTALLATION

Installation of the Air Gap Faucet is a required part of installation and is the RO Purification System's means of drain water backflow prevention. If sink top includes an unused knockout hole, remove knockout cover plate and mount faucet there. If no knockout hole exists, drill 1 1/4" diameter mounting hole in stainless steel sink top using 1 1/4" Bi-metal hole saw and drill motor. Faucet should be positioned so it empties into sink and spout swivels freely for convenience. Before drilling mounting hole, check underneath sink to ensure nothing will interfere with Air Gap Faucet plumbing such as reinforcement ribs, support brackets, or other under-sink construction.

CAUTION: TO PREVENT EYE INJURY, SAFETY GLASSES MUST BE WORN DURING SINK HOLE DRILLING OPERATIONS.

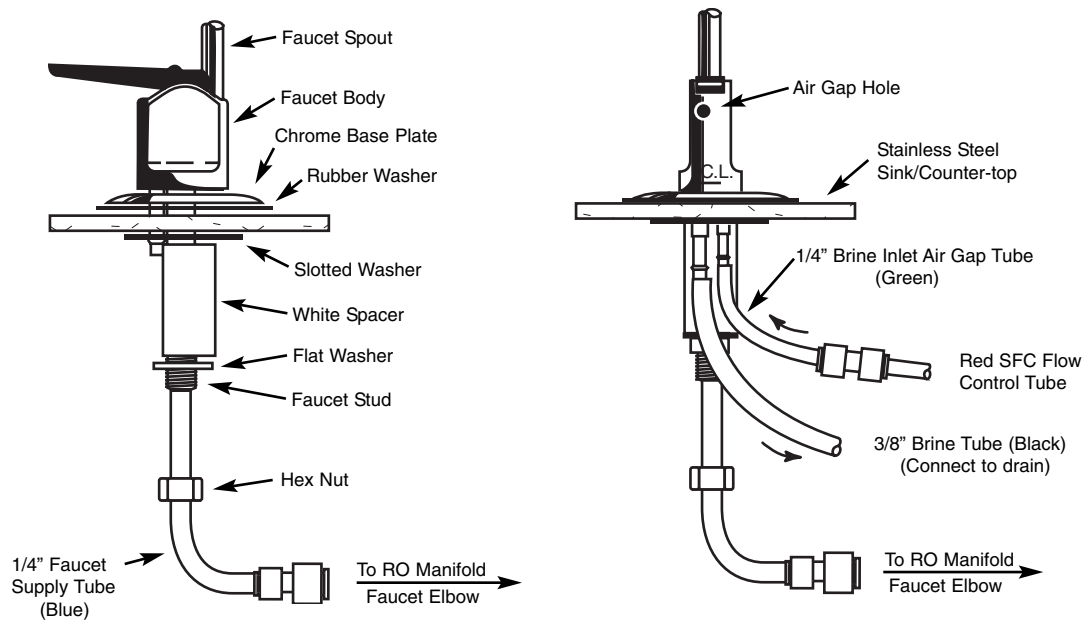


Figure 2

1. Review components shown in Air Gap Faucet diagram. (Figure 2)
2. Trim 1/4" Blue Faucet Supply Tube to 6" length to maximize product water flow rate.
3. Wet o-rings on faucet spout with water and insert into faucet body until seated.
4. Remove hardware from threaded Faucet Stud - except for chrome base plate and rubber washer.
5. From above sink/counter-top, feed all tubing along with Faucet Stud through 1 1/4" diameter mounting hole and position faucet spout over sink.
6. From below sink/counter-top, install white spacer (open side towards Air Gap Tubes), flat washer, and hex nut onto threaded Faucet Stud and tighten hex nut by hand.
7. Loosen hex nut enough to slide slotted washer (open side towards Air Gap Tubes) between white spacer and underside of sink/counter-top.
8. After rechecking faucet orientation, tighten hex nut with 9/16" wrench until Air Gap Faucet is securely mounted.

SUPPLY ADAPTER & IN-LINE BALL VALVE INSTALLATION

1. Turn off cold water angle stop valve under sink where Reverse Osmosis unit is to be installed. After closing angle stop valve, relieve pressure build-up in line by briefly opening cold water tap handle on sink. Proceed only if cold water feed line can be completely shut off.

NOTE: Be sure to make connection on COLD water feed. DO NOT USE HOT WATER FEED.
If there is uncertainty as to which line is cold water supply, open hot water tap on sink until hot water flows from faucet. Hot water line under sink may then be identified by touch.

2. Using wrench, disconnect cold water supply at either cold water inlet connection on sink faucet or at angle stop valve connection. Angle stop valve location is preferred, due to ease of access (Figure 3, Option B).
3. Insert rubber washer (Figure 4, Item A) into Supply Adapter (Figure 4, Item B) and install adapter onto male end of either cold water faucet inlet (Figure 3, Option A) or angle stop valve outlet (Figure 3, Option B).
4. Align outlet hole of Supply Adapter (Figure 4, item D) toward RO Purification Assembly.
5. Attach cold water supply line to male end (Figure 4, Item C) of Supply Adapter. Tighten all connections securely (DO NOT OVER TIGHTEN SUPPLY ADAPTER).
6. Disconnect orange 1/4" factory tubing from "FEED" elbow (labeled) on RO purification assembly.
7. Trim 6" section of orange 1/4" tubing and insert into In-Line Ball Valve (Figure 4, Item E) out-feed (Figure 4, Item G).
(This step is in preparation to pre-fill & sanitize Storage Tank)
8. Cut additional 1 ft. length orange 1/4" tubing and insert into In-Line Ball Valve in-feed (Figure 4, Item F).
9. Insert other end of 1 ft. length orange 1/4" tubing into Supply Adapter outlet hole (Figure 4, Item D)

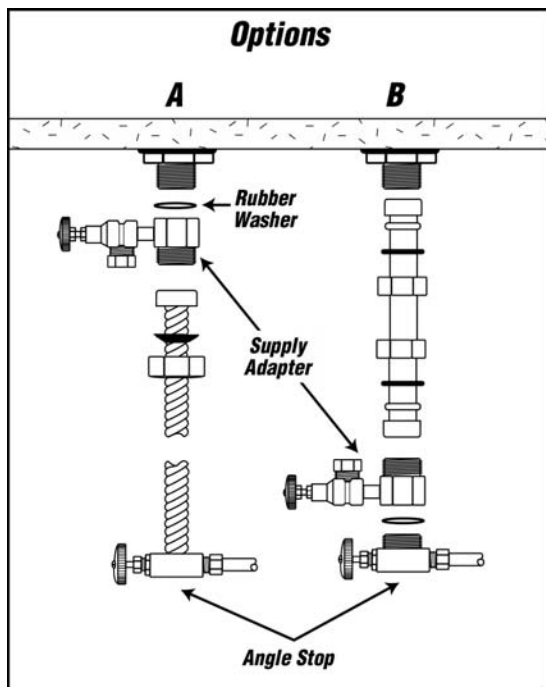


Figure 3

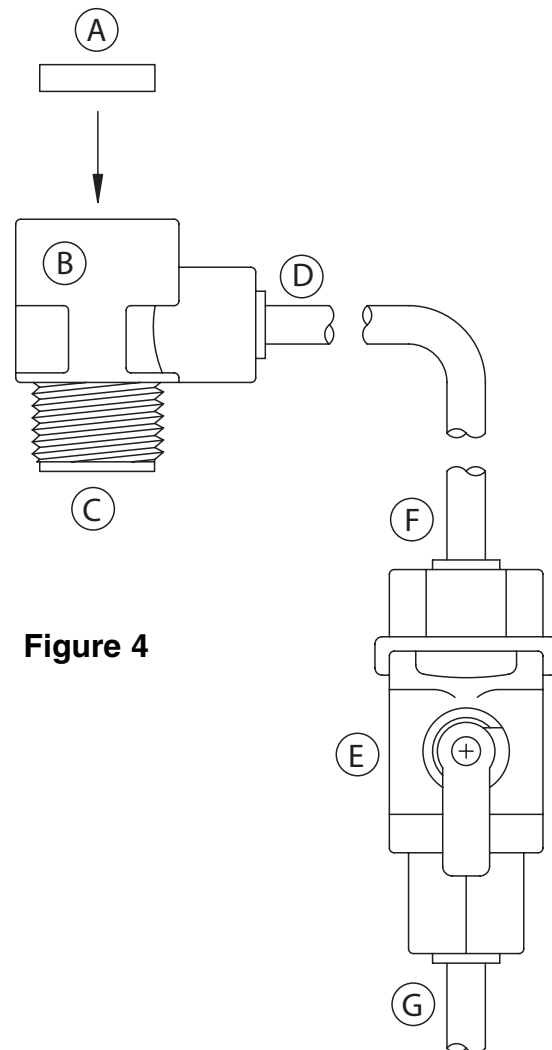


Figure 4

STORAGE TANK PRE-FILL & SANITIZATION

Pre-filling storage tank is required to both provide adequate pressure to check for system leaks and generate water for flushing carbon post-filter. It is important to use provided sanitizer during Storage Tank pre-filling procedure.

1. Locate vial of sanitizing granules. Open vial and pour contents into tank opening. (*Do not remove black Tank Cap*)
2. Apply 3-4 wraps of Teflon® tape (provided) to tank threads and thread Tank Ball Valve (included in sanitization kit) onto tank.

*****WARNING: OVERTIGHTENING WILL CAUSE TANK BALL VALVE TO CRACK*****

3. Disconnect 3/8" yellow tubing from back of RO Purification assembly and connect one end into Tank Ball Valve.
4. Connect opposite end of 3/8" yellow tubing to 3/8" x 1/4" Reducing Union (also included in tank sanitization kit).
5. Connect free end of 1/4" orange "FEED" tubing to 1/4" side of 3/8" x 1/4" Reducing Union.
6. With Tank Ball Valve open, open In-line Ball Valve and allow tank to fill (tank will fill in about 3 minutes).
7. After filling tank, close In-line Ball Valve and Tank Ball Valve. Disconnect 1/4" orange tubing from Reducing Union. Set tank aside for 15 minutes to sanitize. Leave 3/8" yellow tubing attached to both Reducing Union and Tank Ball Valve while proceeding with installation.

NOTE: After performing pre-filling procedure, yellow Tank Tube will become pressurized with no means of pressure release. If pressurized tubing becomes too difficult to remove from Reducing Union after procedure, close Tank Ball Valve and cut off yellow tubing 1" from Tank Ball Valve. Remove and discard small fragment of tubing.

(Refer to Page 14, Figure 9 for more information on tubing removal from fittings)

IMPORTANT: Retain 3/8" x 1/4" Reducing Union for future use in dispenser & tubing sanitization.

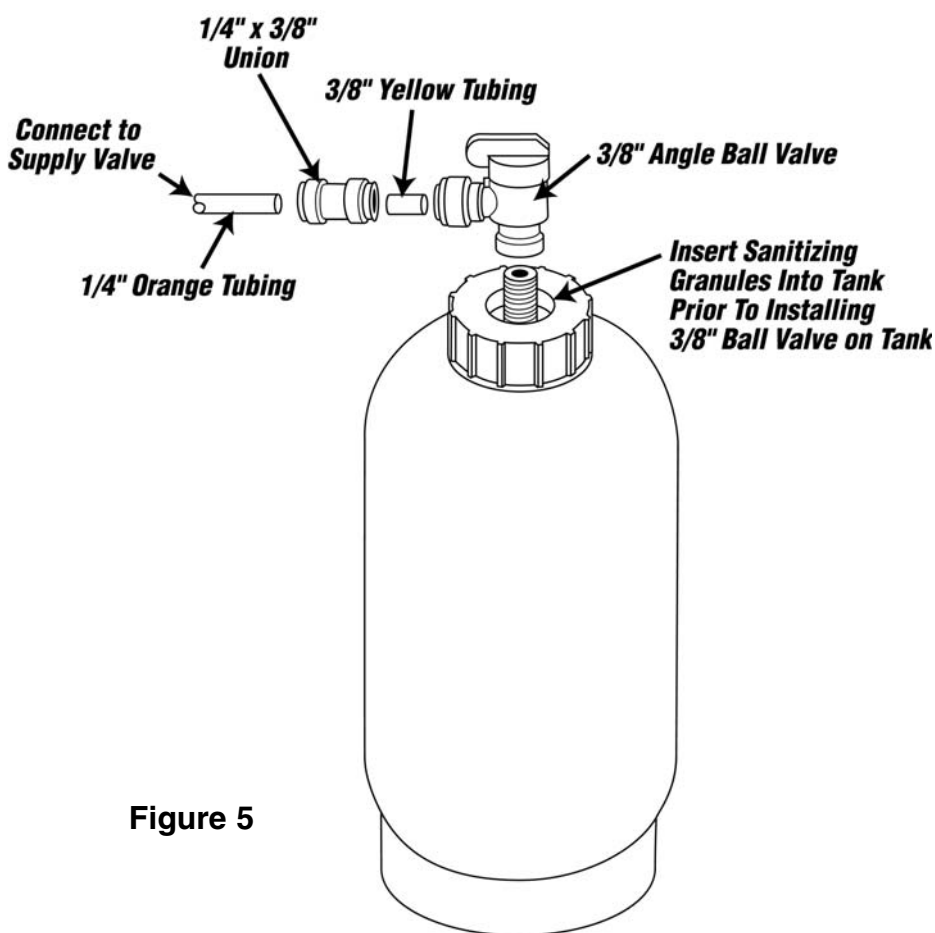


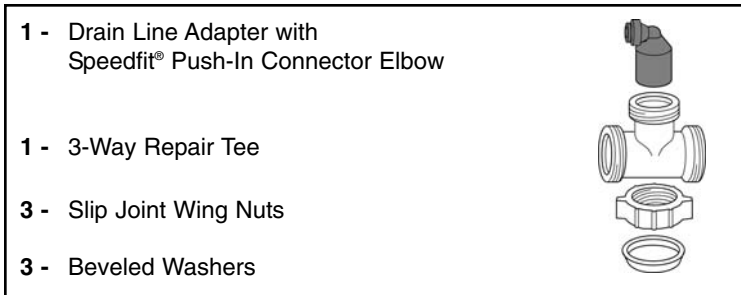
Figure 5

DRAIN LINE ADAPTER INSTALLATION

IMPORTANT NOTE

Before starting this procedure, inspect condition of drain piping, especially on older plumbing where traps and tailpieces can be deceptively thin and frail. If pipes are in poor condition, it is wise to inform customer that drain pipes should be replaced.

1. Open DLA-12 and verify Drain Line Adapter kit parts:



2. Inspect drain pipe directly below sink drain and confirm at least 4" of vertical pipe exists between sink base drain and lower trap.

NOTE: Drain Line Adapter must be installed above the lower trap (Figure 6.3).

3. Cut out 1 1/2" section from drain tailpiece using hack-saw (Figure 6.2)
4. Disconnect and lower the J-bend of the trap. Have a container ready to catch trap water (Figure 6.3).
5. Place Slip Joint Wing Nut and Beveled Washer over both ends of cut pipe, with beveled side of washer towards cut pipe (Figure 6.2).
6. Insert the 3-Way Repair Tee, make sure the tube ends seat completely into sockets of tee. (Figure 6.3)
7. Rotate outlet side of 3-Way Repair Tee to face towards Air Gap Faucet. Firmly tighten top and bottom Slip Joint Wing Nuts (Figure 6.4).
8. Insert Push-In Connector Elbow into side outlet of 3-Way Repair Tee. Orient Push-In Connector Elbow opening upward towards Air Gap Faucet and tighten elbow Slip Joint Beveled Washer and Wing Nut (Figure 6.4).

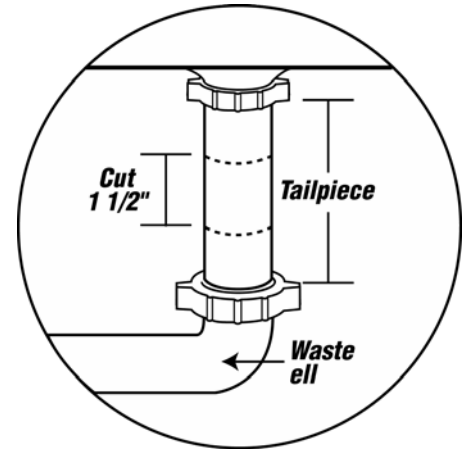


Figure 6.1

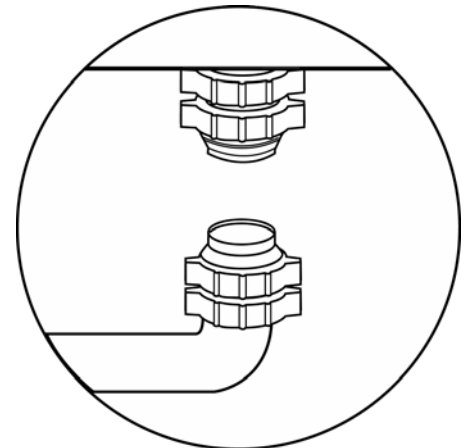


Figure 6.2

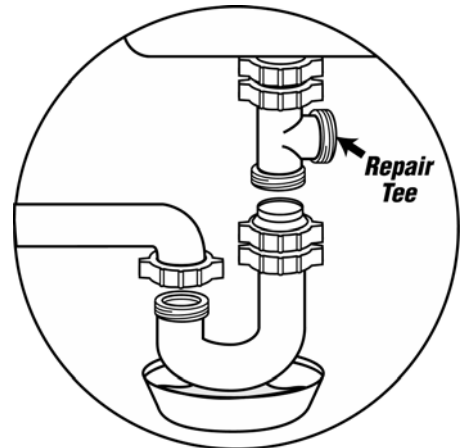


Figure 6.3

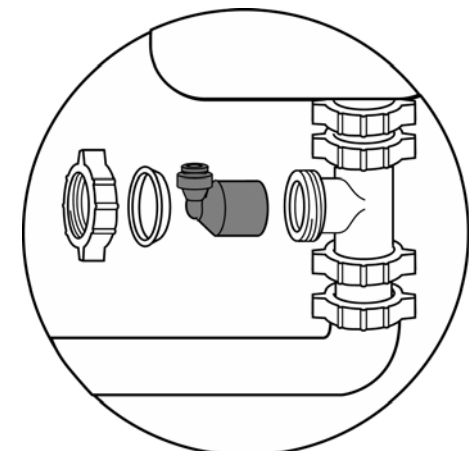


Figure 6.4

RO PURIFICATION ASSEMBLY INSTALLATION

1. Remove RO membrane cartridge from sealed plastic bag.
2. Remove white plug from fitting at bottom of cartridge by pushing in small grey collet and pulling out plug.
(Refer to Page 14, Figure 9 for more information on tubing removal from fittings)
3. Remove red plastic protector cap from top of cartridge.
4. Connect Red SFC Flow Control tubing by inserting end into fitting at bottom of RO membrane.
(Note tag attached to Red SFC Flow Control tube which indicates outlet end)

**NOTE: DO NOT alter length of Red SFC Flow Control tubing.
Factory set length is critical for proper functioning of system flow rate.**

5. Insert cartridge and push into manifold port until fully seated. Line up cartridge ears (Page 16, Figure 10). Twist cartridge 1/4 turn counter-clockwise to lock into place. Once positioned, cartridge should be oriented so label faces towards front and SFC flow control fitting is located towards rear.
6. Reconnect loose end of 3/8" yellow tubing (originating from tank) to Tank Elbow on backside of RO purification assembly.
7. Wall mount RO purification assembly using two #10 x 3/4" screws provided, preferably on right side cabinet wall. Mount at least 2" above cabinet floor to allow for future filter changes.
8. Place storage tank in rear area of cabinet either vertically or horizontally.
Note: For horizontal positioning, carefully detach tank stand from base of tank and use as tank cradle.

PharMate® DISPENSER INSTALLATION

1. Mount dispenser in convenient location that is both vertical & flat. Dispensers are typically located on end caps of prescription bays in close proximity to consulting counter & drive-thru areas. Using two #10 x 3/4" screws provided, mount dispenser 66" from floor to top of dispenser.

NOTE: For mounting dispenser on drywall, drill 1/4" diameter hole and insert wall anchors provided before mounting dispenser.

2. Insert one end of 1/4" white tubing into open end of ball valve located on end of dispenser feed tube.
3. Run 1/4" white tubing from dispenser to RO purification unit. Mount tubing using tubing clamps provided.
4. Apply one Sanitary Tip on outlet end of stopcock. Place remainder of Sanitary Tip pak in upper cavity in top of dispenser.

NOTE: To avoid cross contamination, Sanitary Tips should be replaced frequently. To sanitize tips, soak in mild bleach solution and rinse.

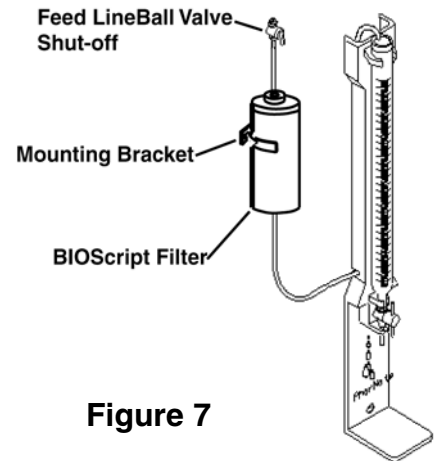


Figure 7

DISPENSER & TUBING SANITIZATION

1. Locate 1/4" tubing under sink that feeds dispenser(s) (Refer to step # 3 above).
2. Insert 1/4" white tubing that feeds dispenser(s) into 3/8" x 1/4" Reducing Union currently attached to 3/8" yellow tank tube. (Refer to pg. 9, Step 7)
3. Turn ON Tank Valve and completely fill each dispenser burette with sanitizing solution. Rotate stopcock several times while emptying burette to sanitize stopcock.
4. Turn OFF Tank Valve and press Fill Lever on dispenser to relieve pressure from line.
Note: Do not completely drain tank yet.
5. Disconnect 3/8" yellow tubing and 1/4" white tubing from Reducing Union.

NOTE: Retain 3/8" x 1/4" Reducing Union for future use in Dual In-Line TDS Meter Installation.

DUAL IN-LINE TDS METER INSTALLATION

Dual In-Line TDS Meter displays Total Dissolved Solids (TDS) measured in Parts Per Million (PPM) of Feed Water (IN) and Purified Water (OUT). Using Dual TDS Meter on weekly basis to measure TDS of Feed Water vs. Purified Water, RO System users can quickly verify membrane performance of at least 75% TDS removal with following Percent Removal (Rejection) calculation:

$$\% \text{ Rejection} = \frac{\text{Tap TDS} - \text{RO TDS}}{\text{Tap TDS}} \times 100$$

Example Calculation:

TDS Numeric Readings:

Tap (In) TDS = 260 ppm
RO (Out) TDS = 20 ppm

% Rejection Rate Calculation:

$$\begin{aligned} &= [(260 - 20) / 260] \times 100 \\ &= [240/260] \times 100 \\ &= (.923) \times 100 \\ &= 92.3\% \text{ Rejection Rate} \end{aligned}$$

NOTE: RO membrane should be changed if % Rejection Rate falls below 75%

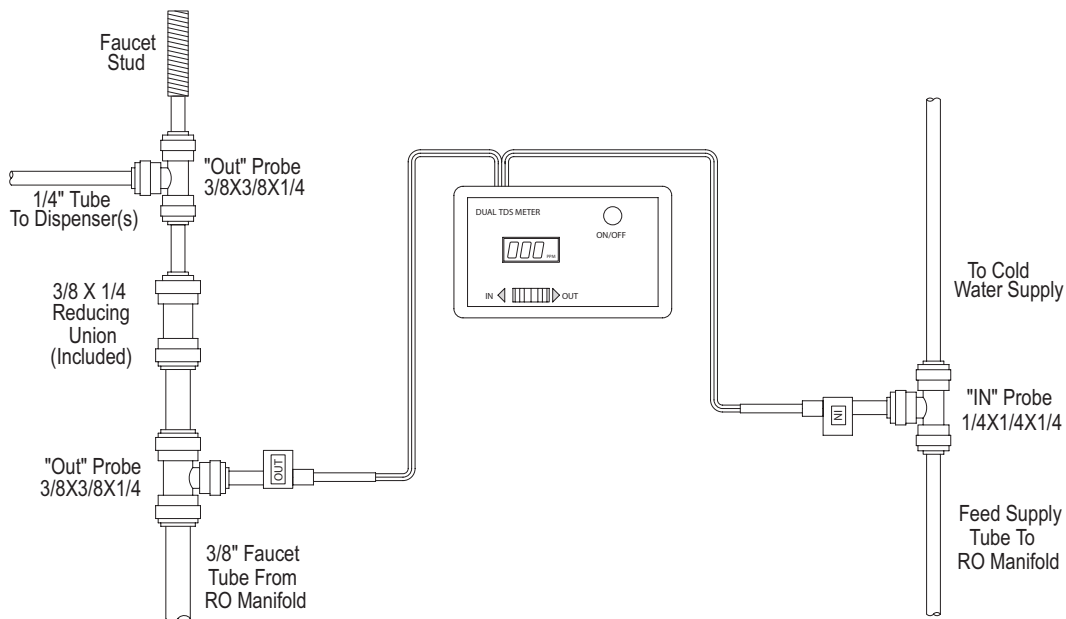


Figure 8

1. To mount TDS Meter, remove adhesive backing on Velcro strips and press meter box against flat, vertical surface.
2. Splice Feed Water "IN" Probe after In-Line Ball Valve into 1/4" orange feed supply tube.
3. Insert 3/8" Blue Faucet Tube originating from the RO system into Pure Water "OUT" Probe.
4. Insert 5" length of 3/8" blue tubing into opposite end of Pure Water "OUT" Probe.
5. Apply 3/8" x 1/4" Reducer Union.
6. Insert 6" length 1/4" white tubing into 3/8" x 1/4" Reducer Union, then apply dispenser tee.
7. Insert 1/4" Blue Faucet Feed Tube (currently trimmed to 6" length) into other end of dispenser Tee.

**NOTE: Orientation of either Probe is not critical.
Direction of flow through either Probe is not specific.**

FINAL TUBING CONNECTIONS

With all system components now properly installed, final tubing connections may be completed.

1. Trim dispenser tubing to proper length and insert 1/4" white tubing from Pharmate® Dispenser into 1/4" Tee Union connector above Product Water "Out" probe.
2. From faucet, connect 1/4" green Faucet Air Gap Tube to 1/4" union connector fitting on end of Red SFC Flow Control Tube originating from membrane. Trim green Faucet Air Gap Tubing to shorter length if desired.

**NOTE: DO NOT alter length of Red SFC Flow Control tubing.
Factory set length is critical for proper functioning of system flow rate.**

3. Route 3/8" Black Brine Tube from Air Gap Faucet to Drain Line Adapter so it slopes downward with no dips, sags, or loops in tubing. Trim tubing to appropriate length and insert into "Push-In" fitting on the Drain Line Adapter connector elbow.

- Tubing runs should generally follow contour of cabinet and not interfere with cabinet storage area.
- Use of clips, ties, and fasteners help create neat and orderly tubing routings under sink area.
- Avoid sharp bends or kinks, and leave "play" in tubing lengths for ease of future servicing.

OPERATION OF "PUSH-IN" TUBING CONNECTORS

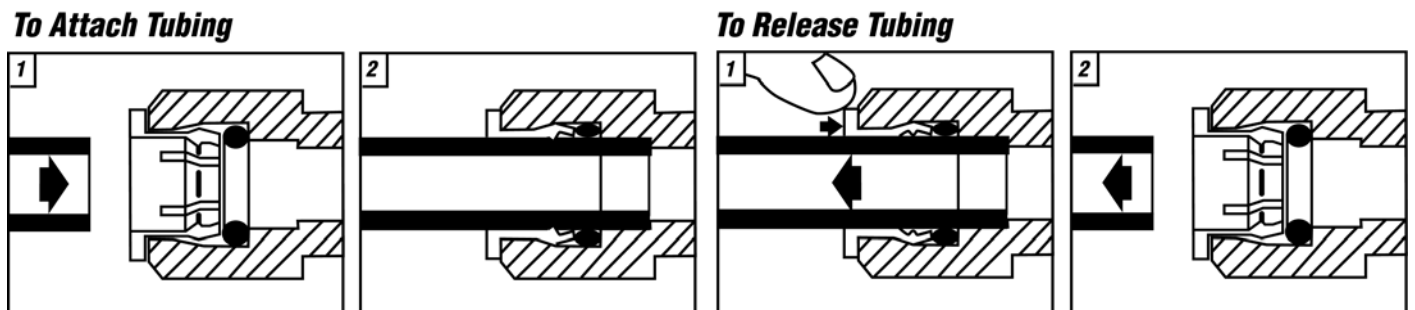


Figure 9

This product is outfitted with user friendly "Push-In" connectors. Proper use of "Push-In" connectors is shown in Figure 9. Tubing selected for use with connectors should be of high quality, exact size and roundness, and have no surface nicks or scratches. If it is necessary to cut tubing, use tubing cutter tool or sharp razor knife. Make clean square cuts on ends of all tubing. Should a leak occur at a "Push-In" connector, the cause is usually defective tubing.

To Remedy:

- Relieve pressure
- Release tubing
- Cut off at least 1/4" from end
- Reattach tubing

RO PURIFICATION SYSTEM START-UP

1. Rotate RO faucet handle upward to lock into open position.
2. Turn ON feed water supply valve and tank valve. This will flush carbon postfilter through faucet and drain remainder of sanitizing solution from tank. Once water begins to steadily drip from RO faucet, allow unit to run through faucet for 24 hours to flush membrane, then close faucet handle.

Note: If RO system does NOT include BIOScript® filter(s), advance to Step 9.

3. Turn OFF Shut-off Ball Valve located prior to dispenser inlet.
4. Remove Shut-off Ball Valve from end of dispenser inlet tube. Insert end of dispenser inlet tube into 90 degree push-in elbow fitting on base of BIOScript® filter (Page 12, Figure 7).
5. Cut separate 5" length of white 1/4" dispenser tubing and insert into push-in fitting on top of BIOScript® filter (Page 12, Figure 7).
6. Attach Shut-off Ball Valve to open end of 5" tubing, then connect with white 1/4" dispenser feed tubing originating from RO System (Page 12, Figure 7).

Note: BIOScript® filter should be located between Shut-off Ball Valve and dispenser as shown on page 12, Figure 7.

7. Install BIOScript® filter mounting bracket using self-drilling screw provided. Centrally mount bracket behind filter. Use Ez Anchor provided if anchoring mounting bracket into drywall.
8. **Flush BIOScript® Filter(s) - DO NOT USE FIRST BATCH OF PURIFIED WATER:** Directly flush 1 gallon of PURIFIED water through each BIOScript® filter prior to initial use (*fill Burette full of purified water 12 times*).
9. If system **does not** have BIOScript® filter(s), flush 150cc of water through dispenser to clear supply line.
10. Flush remaining water in tank through RO faucet.
11. Allow RO System 2 hours to partially refill before beginning initial use of new purified water supply. If water remains cloudy or turbid after 24 hours, repeat flushing procedure as outlined above.

NOTE: When RO appliance is first turned on, water may intermittently "spurt" from Air Gap opening in back of Air Gap Faucet. This is caused by air trapped in RO system and will disappear within a short time after system usage begins.

ROUTINE MAINTENANCE

For RO system to continually to operate at peak performance levels, the following routine maintenance must be performed:

1. Calculate Percent Rejection value weekly.
2. Replace Pre-filters, Post-filters, and BIOScript® filter(s) every 12 months.
3. Replace membrane every 36 months, or earlier if directed by TDS Meter calculation of <75%.
4. Sanitize RO System during each filter and/or membrane change.
6. Replace Sanitary Dispensing Tips frequently.

To ensure RO purified water freshness & quality:

***Drain contents of Storage Tank through RO faucet weekly
Flush 300ml purified water through each dispenser daily***

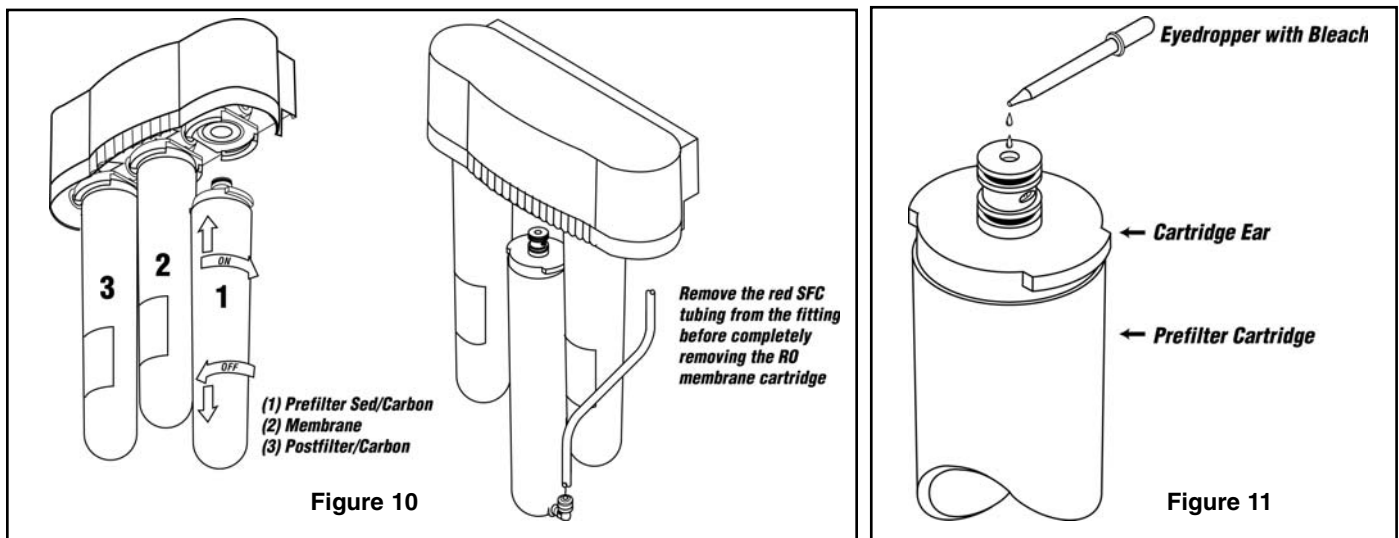
FILTER CHANGE & SYSTEM SANITIZATION

Equipment Required:

- 5.25% household, unscented bleach
- Replacement filter set
- 5ml oral syringe
- FDA approved o-ring lube
- Safety glasses
- Plastic bucket or bowl
- Replacement membrane (if membrane change is required)

CAUTION: WEAR SAFETY GLASSES WHILE PERFORMING STEPS 4-12

NOTE: To remove filter cartridge, twist cartridge 1/4 turn counter-clockwise to disengage ears from RO Head Assembly, then firmly pull downward. To install cartridge, line up cartridge ears, insert cartridge and push upward into Head Assembly until cartridge fully seats into place. Twist cartridge 1/4 turn clockwise to lock into place (Figure 10).



1. Turn OFF supply valve.
2. Drain contents of tank through Air Gap Faucet.
3. Remove membrane with Red SFC Flow Control tubing still attached and set aside. Note: If system is due for membrane replacement, discard old membrane.
Note: For Steps 4-9, new pre-filter will be temporarily installed into membrane position.
4. Remove new Pre-filter #47-55706 (3 cartridge systems) or Pre-filter #47-55702 (4 cartridge systems) from sealed packaging. Using oral syringe, insert 5ml of household, unscented bleach into the center opening of new Pre-filter (Figure 11).
5. After lubricating cartridge o-rings with water, insert new Pre-filter with bleach into membrane position.
6. Turn ON supply valve for approximately 5 minutes to fill tank.
7. Turn OFF supply valve and tank valve.
8. Briefly open and close Air Gap faucet to relieve built up pressure. With NEW Pre-filter temporarily in membrane position, remove and discard OLD Pre-filter(s) and Post-filter.
9. Remove NEW Pre-filter from membrane position, lubricate o-rings of NEW filters and insert into proper positions.
NOTE: Reference and match circular design logos on upper ends of each filter or membrane cartridge to corresponding designs on manifold ports.
10. Re-install membrane cartridge with Red SFC Flow Control tubing attached (if new membrane, lubricate o-ring and install at this time).
11. Turn ON supply valve AND tank valve. Open faucet until air is purged, then close. Flush 300 ml through PharMate® Dispenser(s).
12. Fill each Dispenser with 150 ml of sanitizing solution.
13. Wait 10 minutes, then drain sanitizing solution from each Dispenser burette and drain remainder of solution from Storage Tank through Air Gap faucet. Close faucet to complete sanitization process.
14. Allow 3-4 hours for tank to fill. DO NOT USE FIRST FULL TANK OF WATER.
15. Flush 300 ml water through each Dispenser. Drain remainder of first tank of water by opening Air Gap faucet until water flow stops, then close faucet. This step purges tank, post-filter, and tubing of any remaining tap water and sanitizing solution. Entire RO system is now ready for initial use.

PERIODIC CLEANSING OF PharMate® DISPENSER

PharMate® dispensers are sanitized when Filter Change & System Sanitization procedures are followed. Dispenser burettes may require cleaning or sanitizing independent of annual routine maintenance/filter change. For periodic cleansing of PharMate® Dispenser, use the following procedure:

1. Press blue dispenser Fill Valve and allow burette to completely fill.
2. Remove Air Filter Disc and Burette Cap from top of burette.
3. Using oral syringe, insert 3 ml of 5.25% household, unscented bleach into burette.
4. Allow solution to stand 10 minutes, then drain.
5. Re-apply Air Filter Disc and Burette Cap to top of burette. Flush dispenser with water and drain.

NOTE: If scrubbing inside of burette is required, remove burette from dispenser frame assembly and clean with appropriate brush or cleaning tool.

Symptom	Probable Cause	Solution
No Water Not Enough Water	Water supply is turned off	Turn water ON
	Water supply line is kinked	Check and replace lines
	Tank is turned OFF	Turn tank valve ON
	Tank pre-charge is low	Empty tank via faucet, using bike pump adjust air pressure at bottom of tank to 7 psi
	Tank is depleted	Allow 3-4 hrs to fill, add 2nd tank if this occurs often
	Clogged filters	Replace filters
	Membrane failure	Replace membrane
	Tubing connections incorrect	Refer to Flow Chart Page 6, Fig. 1
	Low water pressure	System requires 35 psi
Leak at air gap opening in faucet Excessive noise at faucet	Debris blocking drain connection	Disconnect 3/8" black tubing at drain connection & clear debris
	Excessive slack in drain tubing	Shorten 3/8" black tubing length to eliminate any dips, sags, or loops
	Red SFC tubing not installed	Check and confirm 1/4" red SFC tubing installed
Water tastes or smells bad	Filter depleted	Replace filters & sanitize system
	Membrane fouled	Replace Membrane & sanitize system if TDS calculation is <%75 rejection
	Sanitizer not flushed out	Drain tank and refill
TDS Meter readings calculate <75% rejection	Membrane o-ring crimped	Turn OFF Supply Adapter & Tank valve. Open faucet. Remove membrane & check o-ring. Replace if crimped or deformed
	Low usage	Drain tank & allow 4 hours to refill
	No routine maintenance	Drain Storage Tank Weekly. Flush 300ml water through dispenser(s) daily
	Membrane needs replacing	Replace membrane

10 YEAR LIMITED WARRANTY

Subject to conditions and limitations described below, Fresh Water Systems, Inc. warrants to the original purchaser its SQC Series Reverse Osmosis Unit and its PharMate® Dispenser Models to be free from defects in materials and workmanship under normal use within the operating specifications listed below:

The SQC Series Reverse Osmosis Unit (excluding Filters, Membrane, PR monitor, & Air Gap Faucet) for a period of 10 years from date of purchase.

The Reverse Osmosis Membrane, Percent Rejection Monitor, & Air Gap Faucet for a period of 2 years from the date of purchase.

The PharMate® Dispenser (excluding Air Filter Disc, Stopcock, and Sanitary Tips) for a period of 2 years from the date of purchase.

WARRANTY CONDITIONS

- I. SYSTEM MUST BE MAINTAINED AND SERVICED WITH APPROVED FWS REPLACEMENT PARTS AND FILTERS.
- II. Warranty becomes VOID if any part of the SQC Series Reverse Osmosis Unit or PharMate® Dispenser is damaged because of neglect, misuse, alteration, accident, mis-application, physical damage, fouling and/or scaling of membrane by minerals, bacterial attack, sediment, or damage caused by fire, flood, Act of God, freezing or hot water, or If RO System unit is altered, modified, or is installed in any manner inconsistent with the attached instructions.
- III. Fresh Water Systems, Inc. assumes no warranty liability in connection with this Reverse Osmosis Unit and/or Dispenser other than as specified herein.
- IV. FRESH WATER SYSTEMS' LIABILITY IS LIMITED TO THE COST OF REPAIR OR REPLACEMENT (AT OUR OPTION) OF ANY DEFECTIVE PART AND DOES NOT INCLUDE INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND.

WARRANTY SERVICE

To obtain warranty service:

1. Contact Fresh Water Systems, Inc. for Return Goods Authorization (RGA) number and instructions for returning defective part.
2. Return part(s) freight prepaid to Fresh Water Systems, Inc. for warranty evaluation. Systems or parts covered under WARRANTY shall be repaired or replaced (at our option) and returned without charge.

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