

AQUA FLO

How To Install, Operate and Maintain Your Reverse Osmosis System



INSTALLERS: PLEASE READ ALL INSTRUCTIONS BEFORE INSTALLING AND USING THIS SYSTEM.

IT IS RECOMMENDED TO WAIT UNTIL THE ENTIRE SYSTEM IS PRESSURIZED (INCLUDING STORAGE TANK & FAUCET) AND RE-CHECK FOR ANY LEAKS BEFORE LEAVING INSTALLATION SITE.

IT IS NORMAL FOR SOME BLACK CARBON FINES TO APPEAR IN THE WATER WHEN EMPTYING THE FIRST 2 TANKS OF WATER. THE FIRST 2 TANKS OF WATER PRODUCED SHOULD BE EMPTIED AND NOT USED.

Installation and Operation Manual

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How Your System Works

For best results it is recommended to install the R/O on a COLD softened water supply.

The RO systems use four stages of treatment to filter your water:

Stage 1 - Remove sand, dirt, sediment

Stage 2 - Remove chlorine, taste & odors, very fine particulates

Stage 3 - Reduce total dissolved minerals

Stage 4 - Polish water for refined taste

The system is compact and can be installed under the sink or another convenient place close to the faucet. The closer the proximity to the faucet the better the system flow rate.

Recommended Filter Change Schedule

Your filters require changing on a regular basis. Instructions to change them are on page 8. The schedule below is the minimum recommendation. Depending on your water conditions the filters may need to be changed more often.

Filter Cartridges	Change Schedule
Pre-filter (Sediment)	Every 12 months
Pre-filter (Activated Carbon)	Every 12 months
Post Filter (Activated Carbon)	Every 12 months
R/O membrane	Every 24-36 months

Before You Start

- Your system contains filters which must be replaced periodically for proper operation. (Refer to Filter Change Schedule on page 9.)
- Read all steps and guides carefully before installing and using your RO system. Follow all steps exactly to correctly install.
- The system is designed to be used on potable water supplies only. If water is non-potable, additional pre-treatment will be required.
- Do not use for the treatment of water that is visually contaminated (cloudy) or has an obvious contamination source, such as contamination by raw sewage.
- All plumbing should be done in accordance with local codes and requirements.
- Non-Booster pump models work on water pressures of 40 psi (minimum) to 100 psi (maximum). Booster pump models work on water pressures of 20 psi (minimum) to 100 psi (maximum). If your house water pressure is over the maximum, install a pressure reducing valve in the water supply line to the filter system.
- Do not install the system outside, or in extreme hot or cold temperatures. Temperature of the water supply to the R/O system must be between 40°F and 100°F. Do not install on hot water.

Tools Needed

The following tools may be necessary, depending on the particular installation.

- 3/8" variable speed electric drill; 1/8", 1/4", 1/2" bits
- Center punch and hammer
- Phillips head and flat blade screwdrivers
- Adjustable wrench
- Teflon tape
- Plastic tube cutter

System Location

Your RO system may be installed under the sink, in a basement, or other location depending on available space. It is recommended the system be installed in as close a proximity to the faucet to ensure optimal system flow rate. If you have a water dispenser and or ice maker in your refrigerator, your RO system can be installed to provide the feed water for these features but you should consult your fridge owners manual for further information.

Guidelines for component placement are as follows:

Faucet should be placed near the sink where drinking/cooking water is normally required. A 2" flat surface is required to mount the faucet if an existing hole for a second faucet is not available. The thickness of the mounting surface should not exceed 1-1/4"

Storage tank may be placed where it is convenient, within ten feet of the faucet. Under the sink or in a nearby cabinet are excellent choices. Full tanks may weigh more than thirty pounds, so a sturdy shelf is required. If tank is located further than twenty feet from the faucet, use 1/2" tubing to reduce pressure drop.

RO unit may be mounted on either side of the sink, in a cabinet or heated basement, with nearby access to a potable, cold line and a drain.

Feed water connection is accomplished with a feed water adaptor or self-piercing inlet saddle valve. Locate this assembly as close to the R/O unit as possible. Connect to a potable, cold water supply line only.

NOTE: Softened water is preferred since it will extend the life of your R/O membrane.

Drain connection is accomplished using a waste water saddle valve which is designed to fit around a standard 1.25" - 1.50" O.D. drain pipe. The drain saddle valve should always be installed above (before) the trap and on the vertical or horizontal tailpiece. **Refer to Figure 1.**

NOTE: Some local plumbing codes may require an air gap drain connection.

Parts Of The System

Reverse Osmosis Membrane reduces dissolved minerals, metals and salts. During the process, harmful compounds are separated by the membrane and the reject water goes to drain.

Post-Carbon Filter is provided for a final "polish" to provide great tasting drinking water.

Faucet (Standard) used to dispense RO water when needed. **Optional air gap and designer faucets are available.**

Filter Housing / Membrane Multi-tool used to loosen or tighten the filter sumps or membrane caps.

Pre-Carbon Filter removes chlorine in the feed water to protect the reverse osmosis membrane.

Pre-filter removes larger particles such as sand, silt, and rust.

Storage Tank (3.0 Gal) holds filtered water, ready for use.

Drain Saddle is connected to the drain to remove reject water from the RO system.

Self-piercing Inlet Saddle Valve is connected to the cold water line to supply water to the RO system.

Tubing 1/4" and 3/8" tubing to connect system to tank, faucet, and drain.



Installing the Filters

When handling filter cartridges be sure hands are clean and sanitized or wear surgical gloves.

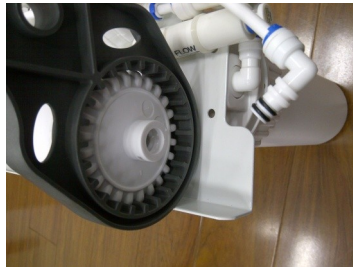
1. Loosen and remove filter housings using wrench provided.
2. Remove plastic wrapper from filter cartridges. **Check the o-ring to insure it is lubricated. If not, use NSF approved silicon grease (PROVIDED).** Install the o-ring into the filter housing. Install the filters into the correct locations as indicated in Figure 1 on page 4. Insure the Carbon cartridges are installed with the rubber gasket at the top.
3. Install and tighten the filter housings firmly by hand. Use the wrench provided to tighten an addition 1/4 to half turn. Do not over tighten.



Installing the Membrane

When handling membranes be sure hands are clean and sanitized or wear surgical gloves.

1. Remove the blue quick connect clip and pull the inlet tubing to the membrane cap out.
2. Loosen and remove RO membrane cap using wrench provided.
3. Using scissors or a knife, cut the end of the plastic wrapper from the membrane. Leave it in the wrapper so you do not touch the membrane directly with your fingers.
4. Insert the membrane all the way into the housing.
5. Check that the o-ring is in place and install the cap onto the RO membrane housing. Tighten cap firmly by hand. Using the wrench provided tighten an addition 1/4 to 1/2 turn.



Installing Tank Ball Valve

The RO storage tank comes with a 3/8" shut off valve that must be installed.

1. Apply 5-6 wraps of Teflon thread sealant tape to the male thread on the RO storage tank.
2. Install the shut-off valve and tighten until the gasket is compressed.

NOTES:

While there is a gasket that seals against the shut off valve, it is recommended to still use Teflon tape on the tank threads to insure a good seal is achieved. It is also recommended to check for any leaks after the system has had time to produce water and pressurize inside the storage tank. Failure to do so could result in a leak that is not spotted until after the installer has left the location.



Installing the Faucet

If the sink has a sprayer it may be disconnected for faucet installation. A pipe cap or plug will be necessary to seal the sprayer connection.

The faucet should be positioned so it empties into the sink and the spout swivels freely for convenience. If sink has a hole that can accommodate the RO faucet, no drilling is required. Proceed with mounting the faucet.

Porcelain, Enamel, Ceramic on Metal or Cast Iron Sinks

For porcelain/enamel sinks marble or granite counter tops refer to Manufacturer/Supplier for proper drilling instructions.

Installation procedures for stainless steel sinks

Recommended tools:

- Center punch
- Variable speed drill
- High speed drill bits
- Protective gloves & eye protectors

To make the faucet mounting hole (if sprayer or second hole is not used), check below to make sure the drill does not interfere with anything below the sink. Center punch a small indent at the desired faucet location. (2" flat surface is required, not exceeding 1-1/4" in thickness). Drill the 1/8" pilot hole. Drill the 1/2" hole for the faucet shank to fit through. Clean up sharp edges.

Mounting the Faucet

1. Feed the threaded nipple through sink or counter mounting hole and orient the faucet as shown. From below sink or counter, assemble the flat washer and hex nut on threaded nipple and tighten by hand. After checking faucet orientation, tighten with a wrench until secure.
2. Install the faucet adaptor fitting (shown below) and tighten until the fitting bottoms out on the o-ring inside to create the seal. Tighten with wrench until secure.
3. Insert the 3/8" tube into the quick connect fitting.



Installing the Self-Piercing Inlet Saddle Valve



Figure 2. Self-Piercing Inlet Saddle Valve

The self-piercing saddle valve is designed for use with 3/8" to 1/2" OD soft copper supply tubing.

1. Turn off cold water valve from under sink or main water line valve for whole house.
2. Before installing self-piercing valve, make sure piercing lance does not protrude beyond rubber gasket.
3. Assemble saddle valve on copper tubing.
4. Tighten screw to fasten saddle valve to copper tubing.
5. Turn handle clockwise to pierce soft copper tube until valve is firmly seated. (Valve is closed in this position).
6. Turn on water supply to pressure cold water line and check for leaks.

Installing the Drain Saddle

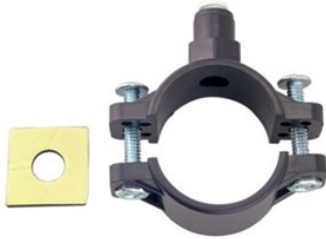


Figure 3. Drain Saddle

Prior to proceeding it is important to inspect the condition of drain pipes to make sure they are not thin and frail. The drain saddles are designed to be installed on standard 1-1/4" - 1-1/2" OD drain pipe.

Install drain saddle above (and before) the trap and on the vertical or horizontal tailpiece. Never install it close to the outlet of a garbage disposal or plugging of the RO drain line may result. Refer to location in Figure 1 page 4.

1. Position half of the saddle with quick connect fitting at selected location and mark for the opening.
2. Drill 1/4" - 3/8" hole at mark through one side of pipe. Position both halves of the saddle on drain pipe so quick connect opening lines with hole. Add the gasket to the same side as the drilled hole.
3. Secure drain saddle clamp with bolts and nuts provided. (Do not over tighten and make sure there is equal space between saddle halves on each side).

Installing the Unit

When installed under a sink the unit is normally mounted to the right or left sink cabinet sidewall. It is suggested to locate the system where it can be easily accessed or even removed off the hanging screws and pulled back out from the sink to change the filters.

1. Locate the unit in the desired position. Make sure it is at least 3" off the floor. Level it and mark the location of mounting screws.
2. Install the screws. Leave 1/4" of the screw head out from the wall.
3. Install the mounting bracket slots over the screws and hang the unit.

Installing Tubing Into Fittings

- Step 1** Cut the tube square and remove burrs and sharp edges. Ensure that the outside diameter is free from score marks. For soft or thin walled plastic tubing we recommend the use of a tube insert.
- Step 2** Push the tube into the fitting and up to the tube stop
- Step 3** Pull on the tube to check that it is secure. Test the system before use.



Sanitize System

Sanitize the System (Recommended)

Sanitizing is recommended immediately after installation of the Reverse Osmosis system. It's also recommended after servicing inner parts. It is important that the person installing or servicing the system have clean hands while handling inner parts of the system.

1. Turn off the water supply to the RO system and close the ball valve on the storage tank.
2. Open the RO faucet.
3. Use an eyedropper (not included) and common household bleach (5.25%).
4. Add 3 ml (1 teaspoon) of bleach into open end of 3/8 tube connected to tank. Handle bleach according to bleach manufacturer's recommendations.
5. Connect tubing back to tank ball valve.
6. Sanitizing the system will be completed during the Flush System and Check Operation steps on the following page.

Note: The bleach must be removed from the system before drinking the water. See Flush System instructions on the next page.

Installing Tubing Connections

With all components in place, complete final tubing **Procedure (Standard Faucet)** connections using these guidelines:

- Tubing should follow contour of the cabinets
- Cut tubing to desired length using square cuts and proper cutting device
- Make no sharp bends
- Keep tubing from the post-filter to the faucet as short as practical for good flow.
- Leave enough tubing that the system can easily be pulled out from the cabinet for easy filter changes.

Follow the directions on the labels installed on the tube fittings.

1. Connect 3/8" tubing to faucet.
2. Connect 1/4" tubing to drain saddle.
3. Connect 3/8" tubing storage tank.
4. Connect 1/4" tubing to inlet water supply valve. (For air gap models connect 1/4" tubing to faucet and 3/8" tubing from faucet to drain saddle)
5. Check all connections to be sure they are secure.
6. Turn on feed water valve and check for leaks.



Flush System and Check Operation

Start-up

1. Check all connections to be sure they are secure.
2. Turn on feed water valve and check for leaks.
3. Open faucet and bleed any air out. When air is removed, close faucet, wait 5 minutes and check for leaks.

Flush System and Check Operation

1. Open faucet handle and allow tank to completely drain. Do not use this water. It is normal to see black carbon fines in the water. They need to be flushed out of the new carbon filter. (When tank is empty, faucet will steadily drip. This is the rate the R/O system processes water).
2. Close faucet. Allow system (including storage tank) to pressurize for 15 minutes and re-inspect system for leaks.
3. Allow system to process water for approximately 1 hour, at which point tank will be practically full.
4. Open faucet again and allow tank to empty for a second time. It is normal to see some black carbon fines in the water. Do not use this water.
5. Wait another four hours to allow tank to re-fill.

NOTE: If no objectionable tastes or black carbon fines are noticed after second tank draining, RO processed water is ready for use. Otherwise, drain tank and re-fill for a third time

Filter Change Schedule

Recommended Filter Change Schedule

The following periodic maintenance is recommended so your system will provide years of trouble-free service:

Filter Cartridges	Change Schedule
Pre-filter (Sediment)	Every 12 months
Pre-Carbon (Activated Carbon)	Every 12 months
Post Carbon (Activated Carbon)	Every 12 months
R/O membrane	Every 24-36 months

To remove the filters follow the reverse procedure of the Installing the Membrane & Filter section on page 5. To install the filters follow the instructions from the Installing the Membrane & Filter section on page 5.

Your system contains a R/O (reverse osmosis) membrane which should also be replaced periodically for proper operation. The R/O membrane may require changing more frequently depending on the source water conditions.

Change Membrane Procedure

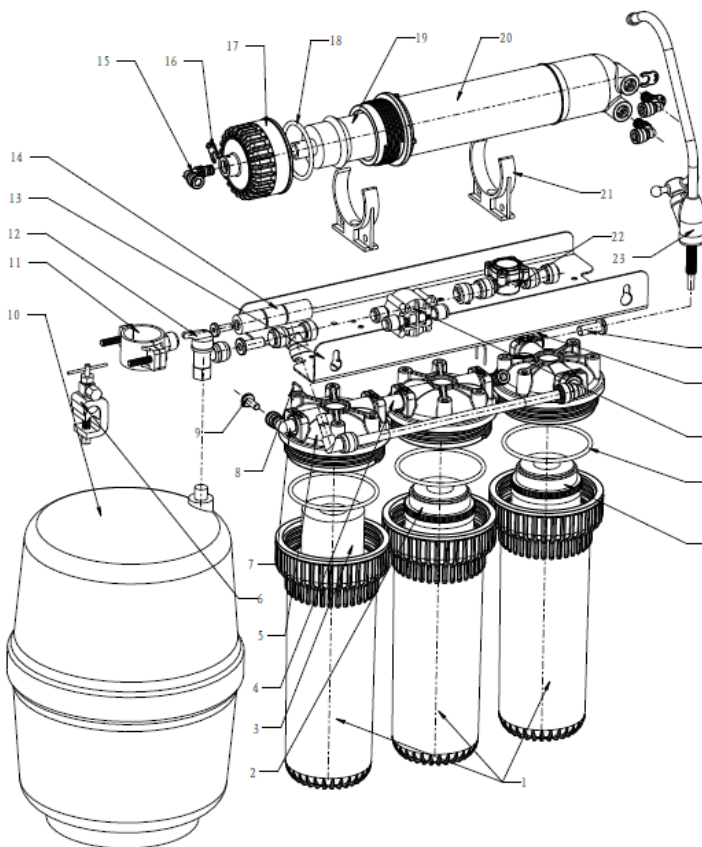
1. Turn off water supply by turning handle on self-piercing inlet saddle valve clockwise until valve is fully closed.
2. Turn storage tank valve clockwise to close.
3. Open faucet to relieve pressure.
4. Remove the blue quick connect clip and pull the inlet tubing to the membrane cap out.
5. Loosen and remove RO membrane cap using wrench provided.
6. Using scissors or a knife, cut the end of the plastic wrapper from the membrane. Leave it in the wrapper so you do not touch the membrane directly with your fingers.
7. Insert the membrane all the way into the housing.
8. Check that the o-ring is in place and install the cap onto the RO membrane housing. Tighten cap firmly by hand. Using the wrench provided tighten an addition 1/4 to 1/2 turn.
9. Turn water supply back on.
10. Turn storage tank valve to open position.
11. Close faucet.
12. Empty storage tank. Produce an additional full tank of water and discard it. Normal operation can resume.

NOTE: It is normal for the post carbon filter to add a small amount of TDS back into the product water so to get an accurate TDS measurement take the sample directly after the membrane housing ahead of the post filter.

Trouble Shooting

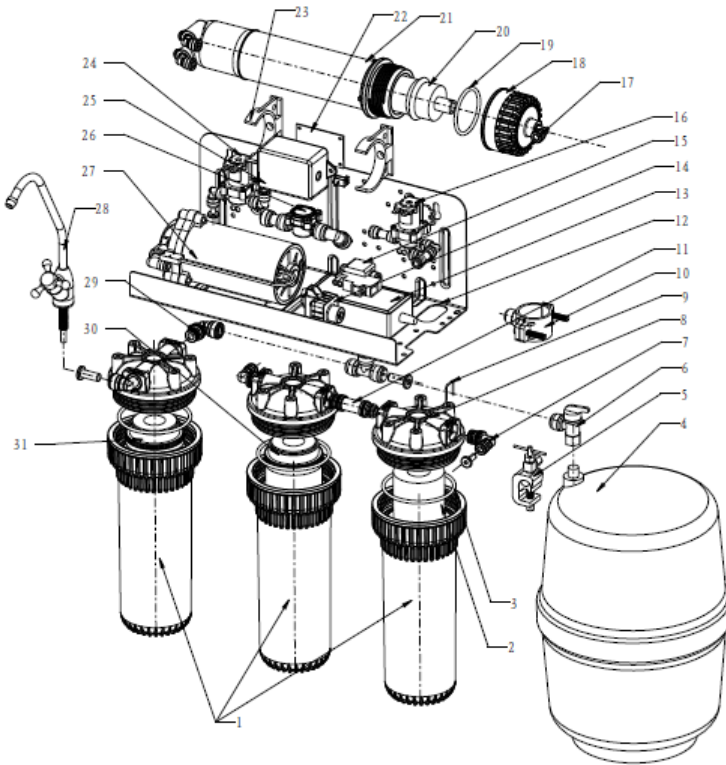
PROBLEM	CAUSE	SOLUTION
No product water.	1. Water supply is turned off.	1. Turn on feed water.
Not enough product water.	1. Water supply is blocked.	1. Clear restriction.
	2. Filters are plugged.	2. Replace pre-filter cartridge (s).
	3. Feed water valve plugged or closed.	3. Open valve or unplug.
	4. No drain flow. Drain flow restrictor is plugged.	4. Clear or replace Flow Restrictor
	5. Drain saddle plugged.	5. Clear restriction.
Pump not running.	1. Low feed water pressure.	1. Check source water supply.
	2. No power supply or loose connection.	2. Turn on power supply.
	3. Transformer burnt out.	3. Replace.
Pump running but system not producing water.	1. Carbon pre-filter plugged.	1. Replace filter cartridge.
	2. Inlet solenoid valve not working.	2. Repair or replace solenoid valve.
System does not shut off.	1. High pressure switch not working.	1. Repair or replace high pressure switch.
Abnormal pump cycling noise.	1. Pre-filter plugged or low feed water pressure.	1. Replace filter or adjust or sufficient feed water.
No water to drain.	1. Plugged drain flow restrictor.	1. Replace drain flow restrictor.
Water has bad taste.	1. Post filter (CB-10) is exhausted.	1. Replace post filter
Leaks	1. Tubing connections not installed properly.	1. Re-install tubing into fitting.
	2. Defective tubing.	2. Cut damage section of tubing and re-install.

Spare Parts List - RO 75 GPD 4 STAGE



RO 75 GPD 4 STAGE				
No.	PART No.	Description	Material	Quantity
1	41320004	CARTRIDGE HOUSING-10	PP	3
2	65010001	PRE-CARBON FILTER CARTRIDGE	10"	1
3	65010009	SEDIMENT FILTER CARTRIDGE	10",5 μm PP	1
4	41318002	CONNECT TUBE	PP	1
5	41320003	HOUSING CAP	PP	3
6	70030011	SELF PIERCING INLET SADDLE VALVE	1/4"	1
7	42005015	UNION ELBOW 1/4	1/4"O.D	2
8	41510001	LOCK CLIP		4
9	41323003	MALE CONNECTOR 1/4	POM	2
10	70020002	TANK 3.0 GALLON		1
11	65030032	DRAIN SADDLE	1/4"O.D*1.5"	1
12	80010503	3/8" QC ball valve		1
13	41504012	BRACKET BNT-RO75-C31		1
14	41209016	FLOW CONTROL 450ML/MIN		1
15	42005014	UNION ELBOW 1/4	1/4"O.D POM	3
16	41323005	CLIP	Φ9.8*81.8,POM	3
17	41320008	RO MEMBRANE HOUSING CAP	PP	1
18	41804004	RO HOUSING CAP ORING	EPDM	1
19	41901007	RO MEMBRANE	1812	1
20	41320007	RO MEMBRANE HOUSING	PP	1
21	41323002	LARGE SINGLE CLAMP	PP	2
22	42005016	PRODUCT WATER CHECK VALVE	3/8"O.D*3/8"O.D	1
23	70040001	GOOSENECK FAUCET		1
24	41323007	MALE CONNECTOR 3/8"	POM	2
25	42005045	CLIP 3/8"	3/8"O.D	2
26	42005036	RO SHUTOFF VALVE 1/4" QC	POM	1
27	41804003	CARTRIDGE HOUSING ORING	EPDM	3
28	65010001	POST CARBON FILTER CARTRIDGE		1

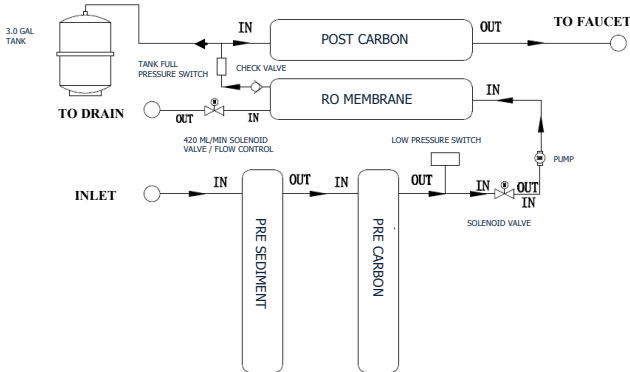
Spare Parts List - RO 75 GPD 4 STAGE BP



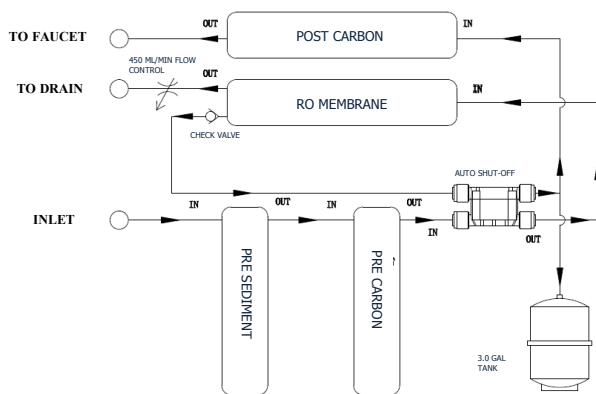
RO 75 GPD 4 STAGE BP				
No	PART No	Description	Material	Quantity
1	41320004	CARTRIDGE HOUSING-10	PP	3
2	65010001	SEDIMENT FILTER CARTRIDGE	10",5 μm PP	1
3	41804003	CARTRIDGE HOUSING ORING	EPDM	3
4	70020002	TANK 3.0 GALLON		1
5	70030011	SELF PIERCING INLET SADDLE VALVE	1/4"	1
6	80010503	3/8" QC ball valve		1
7	42005015	UNION ELBOW 1/4	1/4"O.D	2
8	41320003	HOUSING CAP	PP	3
9	41510001	LOCK CLIP		4
10	65030032	DRAIN SADDLE	1/4"O.D*1.5"	1
11	41318002	CONNECT TUBE	PP	1
12	41504002	BRACKET BNT-RO75-C04		1
13	41213003	POWER TRANSFORMER 24V 2.0A	24V 2.0A	1
14	41210001	LOW PRESSURE SWITCH	1/4"	1
15	41210002	HIGH PRESSURE SWITCH	1/4"	1
16	41209002	INLET SOLENOID VALVE		1
17	42005014	UNION ELBOW 1/4	1/4"O.D POM	3
18	41320008	RO MEMBRANE HOUSING CAP	PP	1
19	41804004	RO HOUSING ORING	EPDM	1
20	41901007	RO MEMBRANE	1812	1
21	41320007	RO MEMBRANE HOUSING	PP	1
22	41203005	CONTROLLER		1
23	41323002	LARGE SINGLE CLAMP	PP	2
24	41209004	SOLENOID VALVE / 420ML/MIN		1
25	41317002	CONTROL BOX	pp	1
26	42005016	PRODUCT WATER CHECK VALVE	3/8"O.D*3/8"O.D	1
27	41208004	PUMP	75G	1
28	70040001	FAUCET		1
29	42005016	UNION ELBOW 3/8"	3/8"O.D	2
30	65010001	PRE CARBON FILTER CARTRIDGE	10"	1
31	65010001	POST CARBON FILTER CARTRIDGE	10"	1

Flow And Electrical Diagrams

RO 75 GPD 4 STAGE BP



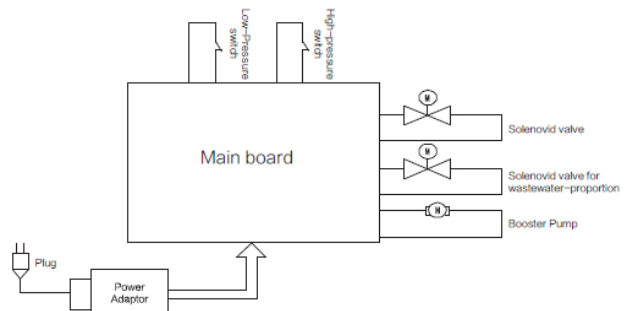
RO 75 GPD 4 STAGE



Feed Water Guidelines

Maximum TDS	2000 ppm
Hardness	< 7gpg
Iron (Fe)	<0.2 ppm
Manganese (Mn)	<0.05 ppm
Hydrogen Sulfide	0.0 ppm
Turbidity	<1.0 NTU
Feed Water Pressure	40-100 psi
Temperature	40-100° F
pH Range	3.0 - 11.0

Wiring Diagram RO 75 GPD 4 STAGE BP



Warranty

Canature WaterGroup™ RO Systems (excluding cartridge filters and membrane) are warranted to be free from defects in materials and workmanship under normal use within the operation specifications for a period of two (2) years from the date of manufacture or date of purchase when verified by a bill of sale.

Canature WaterGroup™ will replace any part which fails two (2) years from date of manufacture as indicated by the serial number or date code, provided the failure is due to a defect in material or workmanship. The only exception shall be when proof of purchase or installation is provided and then the warranty period shall be from the date thereof.

Canature WaterGroup™ assumes no responsibility for consequential damage, labour or expense incurred as a result of a defect or for failure to meet the terms of these guarantees because of circumstances beyond its control.

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