

Reverse Osmosis Water Filtration Systems

INSTALLATION INSTRUCTIONS & USER MANUAL



TABLE OF CONTENT

SECTION I. INSTALLATION	2
BEFORE INSTALLATION	2
COMPONENTS INCLUDED	3
COMPONENT ITEMIZATION	4
INSTALLING TIPS	4
INSTALLING RO SYSTEM:	7
PART 1: HOUSING ASSEMBLY	7
PART 2: FEED WATER CONNECTION	8
PART 3: DRAIN SADDLE INSTALLATION	10
PART 4: DRILL A HOLE FOR THE RO FAUCET	11
PART 5: MOUNTING THE FAUCET	12
PART 6: POSITIONING THE SYSTEM	12
PART 7: CONNECTING THE SYSTEM	13
PART 8: SYSTEM START-UP	15
SECTION II. OWNER'S MANUAL	16
SYSTEM MAINTENANCE	16
FILTER CHANGE INSTRUCTIONS	16
TROUBLESHOOTING	18
RO BASICS	19
FILTER REPLACEMENT RECOMENDATION	22

SECTION I. INSTALLATION

BEFORE INSTALLATION

Inspect the package

Open the box and remove all of the components. Inspect them to ensure nothing was damaged during shipping. If any part is cracked or broken, please immediately contact our Customer Support. Identify and get familiar with the components.

Recommended tools list

- Variable speed drill with two bits: ¼" (for drilling a hole on PVC drain pipe), ½" hollow diamond (for drilling a hole on countertop for drinking faucet)
- 5/8", 9/16" open-end wrench, or adjustable wrench, pliers
- Phillips head screwdriver
- Scissors or utility knife

Operating conditions

- Minimum water pressure: 45 PSI, otherwise a booster pump is necessary to raise the incoming water pressure and improve the RO efficiency.
- Maximum water pressure: 80 PSI.
- Operating water temperature range: 41 – 104°F (5 – 40°C) (This RO system is NOT designed for HOT water). The RO process will be slightly faster the warmer the source water is and vice versa.
- Appropriate TDS threshold: < 700 ppm
- Install this RO system in a location where it is safe from hot/cold weather and direct sunlight. Avoid hitting, dropping, or dragging the system as this can cause cracks and leaks.

General Installation/Operation/Maintenance Requirements

- Installation needs to comply with state and local laws and regulations.
- System must be installed indoor away from possible environmental damage
- Do not use with water that is microbiologically unsafe or of unknown quality without adequate.
- Disinfection before or after system.
- This reverse osmosis system contains a replaceable treatment component critical for effective reduction of total dissolved solids. The product water shall be tested periodically to verify that system is performing satisfactorily.

Important! Please TURN OFF the main cold water supply to the RO system when the unit is not in use during a vacation or extended leave. During very cold or freezing weather conditions, please also TURN OFF the main cold water supply and completely drain all of the water from the RO system and water storage tank.

COMPONENTS INCLUDED

		
RO Machine Head * (membrane not yet installed)	Housing Cartridge	3 Pre-Filter Housings
		
Storage Tank	RO Faucet w/ Installation Kit	Feed Water Adapter
		
Color Tubing Set	Drain Saddle 1/4"	Tank Valve
		
Housing Wrenches	Spare O-Rings and Fittings	

Figure 1

COMPONENT ITEMIZATION

RO Unit

Top Part Components

Post Carbon (T33) Filter

Alkaline Filter

RO Membrane Filter

Bottom Part Components

Filter Housings

Sediment Filter

CTO Carbon Block Filter



Figure 2



Figure 3

1. Sediment filter (1st stage filter)
2. Carbon filter (2nd stage filter)
3. Carbon filter (3rd stage filter)
4. Bracket
5. Membrane housing
6. Post carbon filter
7. Pressure storage tank

INSTALLING TIPS

How to use the Quick-Connect fittings

The tubing in your RO System uses a Quick Connect locking mechanism to lock the Color Coded Tubing in place. Be careful not to damage your tubing as you unpack it.



Figure 4

Release Tubing/Plugs

If there is a Locking Clip on the Collet it must be removed before the Tubing can be released. Push and hold the Collet in to release the lock while pulling out on the Tube/Plugs.

NOTE! Collet must be held down while pulling up on the tube to release the tube.

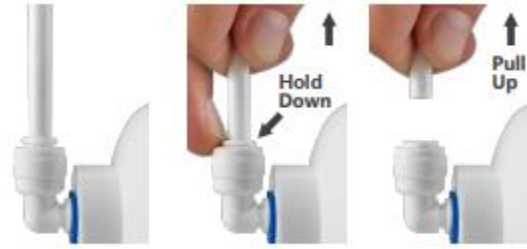


Figure 5

Insert or Remove Locking Clips

To lock a Tube in place make sure the Tubing is fully inserted then slide the open end of the Clip between the Collet and Fitting. The Clip must be removed before the Tubing can be removed. To remove the Clip pull away until it slides out from between the Collet and Fitting.



Figure 6

Attach Tubing

Push Tubing in straight and level with the Collet. The Tubing will go 5/8 inch of an inch into the Collet before the lock is activated. Pull out on the Tube to make sure the lock has activated and the Tubing is secure.

NOTE! Once connected, make sure to check tubing is secure.

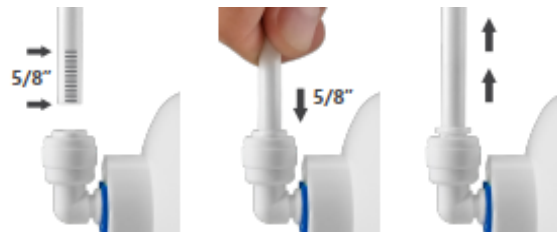


Figure 7

To Cut Tubing

Make your cuts against a flat cutting surface with a razor blade, or use a handheld tube cutter. Any cuts to your Tubing must be perfectly straight.

NOTE!

Improperly cut Tubing may leak water or fail to lock into Fittings.

Wait until all elements of your RO System are in their final locations before cutting your Tubing. Make sure you measure the length you will need before cutting.

How to drill a 1/2" hole in your sink or counter-top

1. It's highly recommended to watch the YouTube video "How To Drill Faucet Holes" to get a better understanding of the process. Depending on what kind of countertop you have, you may want to hire an experienced professional to ensure the hole is drilled correctly.
2. Choose a 1/2" Diamond Core Bit for granite, and a titanium drill bit for steel. Do NOT use a hammer drill on nature stone, glass, and ceramic.
3. An indent should be made with a punch on steel before drilling to help guide the bit.
4. Use caution when drilling on a Porcelain sink, as it could be easily chipped. Set drill speed on slow. Press the bit downward firmly until breaking through the slippery surface. Some people

found it is easier to secure the bit by drilling through a piece of wood that is firmly pressed on the surface.

5. Use coolant to disperse heat. Choose water for granite, and oil for steel. Use the Water Suction Cup to hold coolant inside and prevent the drill bit from slipping.

6. Starting at slowest speed, hold the drill firmly and vertically and prevent the drill bit from slipping on the counter.

7. Once breaking through the smooth surface, swirl the drill a little to apply pressure in a circle evenly.

8. Be patient and deliberate. It can take 20 – 40 minutes to drill through one inch.

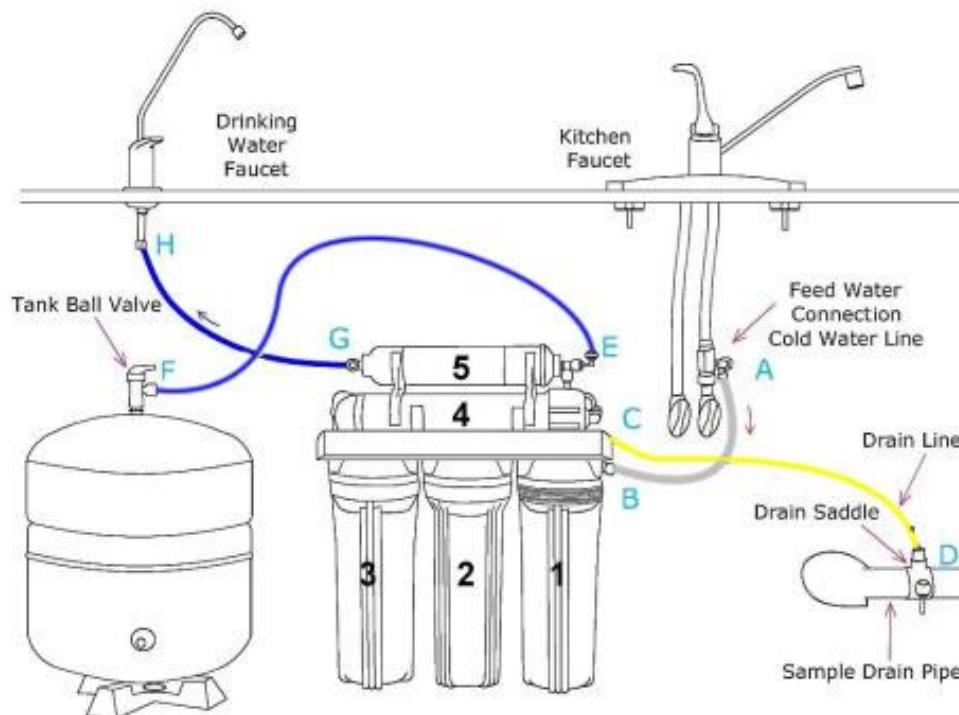


Figure 8

INSTALLING RO SYSTEM:

Note: *The RO Membrane Element has already been pre-installed*

Space: Make sure there is sufficient space under the counter for installation (an area of about **16”L x 6”W x 18”H** for the system, **11”D x 18”H** for tank).

The RO system is best installed under the kitchen sink. But if that is not feasible you can install the system anywhere where there is a cold water supply with sufficient water pressure for the chosen RO model, and an outlet to drain off the drain water from the system.

Mounting: No need to mount the RO system on the wall. The RO system can stand in the sink cabinet without mounting, this makes future filter change easy and convenient. If you prefer to mount the system to the wall, please make sure it can be taken down easily for filter replacement.

Feed Water: RO systems are designed to treat both hard and soft water and can handle incoming TDS levels up to 1,000 ppm.

PART 1: HOUSING ASSEMBLY

Remove plastic/paper wrappings on the 3 filters and housings, put filters into the 3 housings, and assemble the housings onto the main system as follows:

1. Stand the 3 housings upright. Make sure each housing has a rubber O-ring in its groove. Put the sediment filter into the “1st stage” housing on the right.

Put the CTO filters into the “2nd and 3rd stage” housing in the middle and left.

2. Starting from the 3rd stage housing on the left, hand twist the housing onto the main system turning counterclockwise, one by one, for all 3 housings.

3. Use the wrench provided to completely tighten the housing starting from 1st-stage. Repeat this step for the 2nd stage housing in the middle, and for the 3rd stage housing on the left.

Note: For some people it is easier to use the wrench with the system laid down (face up).



Figure 9

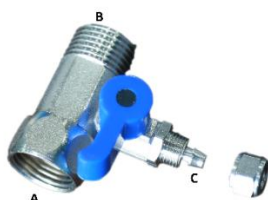
PART 2: FEED WATER CONNECTION

The RO system must be connected to the COLD water supply only!

1. Locate the Cold water supply valve under the kitchen sink (the round or oblong handle on the right side). Turn off the incoming cold water completely by turning the shut off handle clockwise.

Note: If the cold water shut off valve can not turn off the water, the main water supply to the house must be shut off for the installation.

2. **Feed Water Adapter (1/2" to 3/8"):** See **Fig. 10**. The Feed Water Adapter comes with a separate Needle Valve. The Adapter goes inline onto your 1/2" or 3/8" cold water pipe. The Needle Valve portion screws onto the Adapter as shown in **Fig. 10A**



- A. 1/2" Female Water Supply Adapter with O-ring.
- B. 1/2" Male Adapter
- C. 1/8" Male valve

Figure 10

3. **Recommend Connection For Flex Line Riser:** See Fig. 11A. & Fig. 11E Loosen nut and separate cold water riser tube from shut off valve. Gently bend riser tube so that the Feed Water Adapter (Fig. 10) fits onto the shut off valve. Connect the riser tube, feed water adapter, and shut off valve together and tighten.

For Solid Copper Riser: See Fig. 11B. Follow the same procedure as for flex line. If the copper riser cannot bend, this it's best to replace it with a flex line riser. Fit the feed water adapter to the shut off valve the same way as described above.

Option Connection Point: See Fig. 11F. The feed water adapter can also be installed between the riser tube and faucet shank. Loosen nut and separate cold water riser tube from faucet shank. Gently bend riser tube so that the Feed Water Adapter fits onto the faucet shank. If your riser tube has no built-in washer, then fit the cone-shaped washer provided onto the riser tube. Connect the riser tube, feed water adapter, and faucet shank together and tighten.

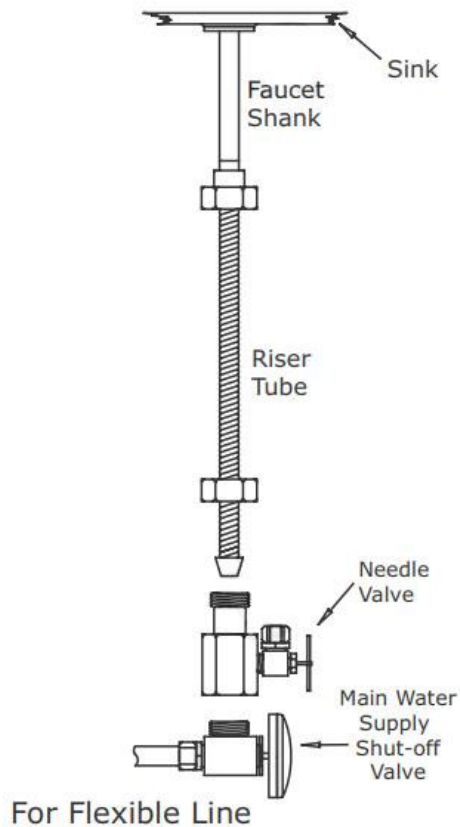


Fig. 11A

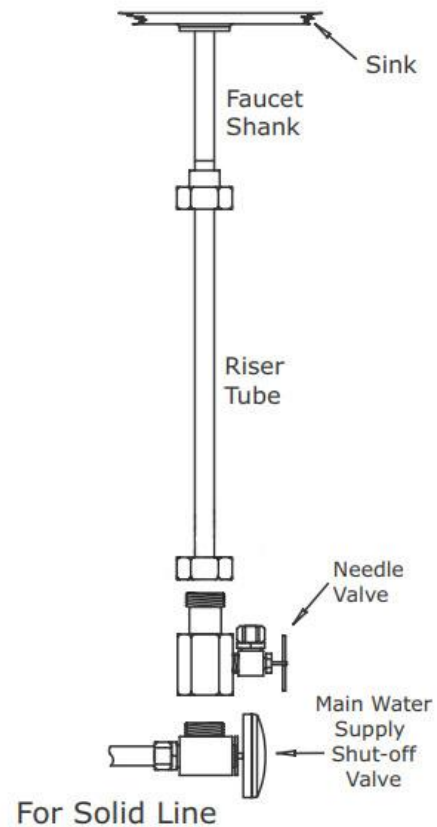


Fig. 11B

Figure 11A&11B



Figure 11C&11D

4. Needle Valve: See Fig. 11D. Screw the Needle Valve onto the Adapter tightly.

To open needle valve: Turn needle handle counter-clockwise.

To close needle valve: Turn needle handle clockwise.

5. Needle Valve Tubing Connection Instructions:

- Please first slide the metal compression nut on the white tubing.
- Please push the white tubing all the way into the needle valve connection until you feel a click.
- Please screw the metal compression nut with the tubing pushed all the way into the needle valve then use a wrench to fully tighten this connection.

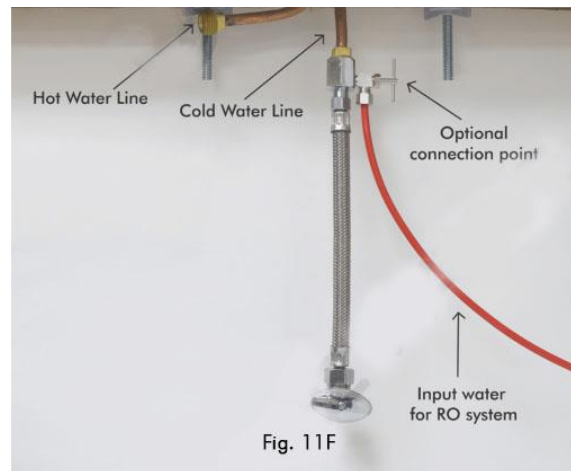
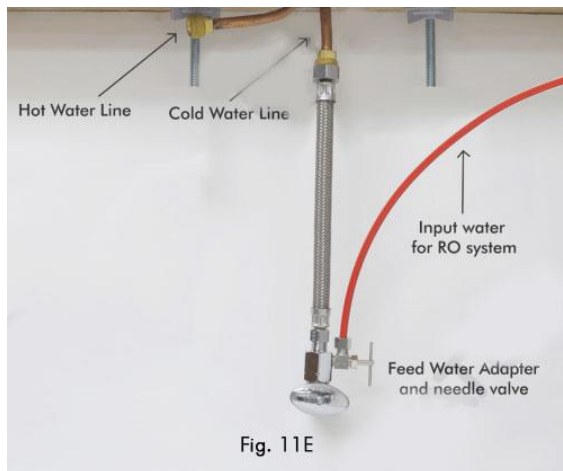


Fig 11E & 11F

Test for leaks after the system is completely installed: Close the Needle Valve (turn needle handle clockwise all the way in to close). Turn ON the cold water supply to the sink faucet. If the Needle Valve or the Adapter leaks, check the connection.

PART 3: DRAIN SADDLE INSTALLATION

Important: DO NOT REMOVE the yellow drain tubing from the RO system! If you need to extend the drain tubing please use a union connector to connect additional length of tubing.

Note: To avoid possible drainage noise, mount drain line as low as possible on the vertical tailpiece, or on horizontal tailpiece.

There is constant water pressure “packed” inside the RO system which blocks the drain water from backing-up into the system. So the drain water is “forced-drained”, not “gravity-drained”.

1. See Fig. 12. The drain saddle assembly should be installed above the trap and on the vertical or horizontal tailpiece. To reduce the drainage noise, mount the drain line as low as possible above the trap, or on the horizontal tailpiece.

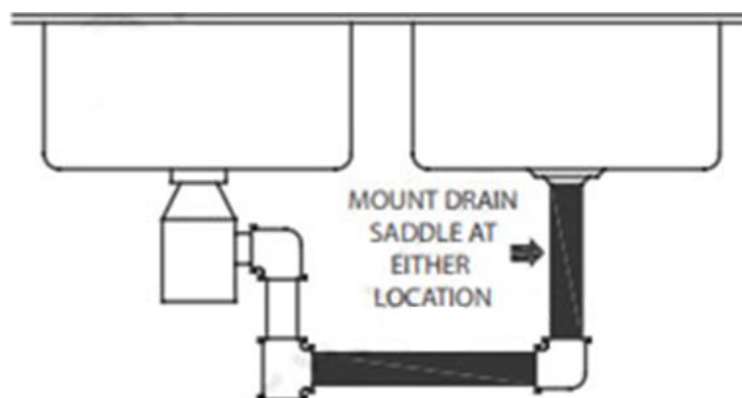


Figure 12

2. Select the location of the hole and drill a 1/4” hole through one side of the drain pipe then put the self-adhesive yellow sponge around the hole location (See Fig. 13A and 13B). Next, align and install the drain saddle clip with the tubing connection port onto the yellow sponge.

This will cushion any gap between the saddle and the pipe. Make sure the hole on the sponge is thoroughly punched out, and is aligned to the hole on the saddle to complete the installation (See Fig. 14)



Figure 13 and Figure 14

3. See Fig. 14, 14A. **Make sure to align the drain saddle hole to the drilled hole perfectly.** Misaligning these two holes will block the drain water and cause membrane damage. Attach the drain saddle to the drain pipe and tighten the two screws evenly.
4. Once the drain saddle is secured, push 1/4" yellow drain tubing into the Quick Connect fitting on the saddle. **DO NOT** use a "Insert" on the drain tubing.



PART 4: DRILL A HOLE FOR THE RO FAUCET

Drill 1/2" diameter hole for standard RO faucet. (Air-Gap faucet: drill 1"D hole.)

For best results use a 1/2" carbide-tipped masonry drill bit.

Wear safety glasses to protect your eyes while drilling the faucet hole.

Note: No need to drill a hole if an existing hole is available:

- a) **Spare hole:** If there is a spare hole in the sink covered by a chrome cover, simply remove the chrome cover and install the RO faucet there.
- b) **Spray hose:** If the spray hose is not in use, remove the hose, and mount the RO faucet there. Remember to plug up the outlet under the main faucet. If the spray hose uses a diverter at the base of the spout, be sure to remove it to avoid trouble later on.
- c) **Hanging faucet:** If drilling a hole is not feasible (i.e. rental home, drill tool not available etc.), the faucet can just hang on the cabinet door or wherever that is convenient. Be creative!

When drilling a hole for the RO faucet, choose a location that looks good, works well, and is most convenient for dispensing pure water. An ample flat area is required for the faucet base so that the faucet can be drawn down tightly.

1. Faucet location: Make sure the faucet stem will be accessible from below when the hole is drilled. If space is not available on the upper sink area, the faucet can be located on the counter top by the edge of the sink. If the counter top is ceramic tile, the method for drilling the hole will be the same as for porcelain sinks.

2. For Stainless Steel Sink: Before using a 1/2" carbide drill bit, an indent should be made with a center punch to keep the drill bit from walking. A small pilot hole will also aid the drill bit.

3. For Porcelain Sink: Porcelain enameled sinks can readily be chipped if care is not exercised when drilling the hole. Before starting the drill motor, apply firm downward pressure on the bit until a crunching occurs. This will help keep the drill bit from walking when starting the hole. A small pilot hole will also aid the drill bit.

Note: Immediately after the hole drilling is done, clean up all metal chips, for **metal chips will stain the porcelain!!**

PART 5: MOUNTING THE FAUCET

If your faucet comes with tubing attached:

1. Mount the faucet as shown in Fig. 15A.
2. Connect the Clear faucet tubing directly to system output.
3. The faucet handle controls the flow of purified water exiting the faucet. Turn the handle to horizontal position to release the water and vertically to shut off.
4. Make sure the tube insert is pushed all the way into quick connector.
5. Make sure the quick connector is **inserted** all the way into faucet inlet.

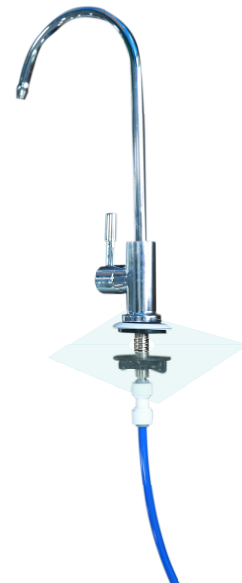


Figure 15

PART 6: POSITIONING THE SYSTEM

1. Main System: The main system can stand in the sink cabinet. No need to mount the system to the wall. If you prefer to mount the system to the wall, please make sure it can be taken down easily for filter replacement.

2. Tank: The storage tank can lay on its side if needed. The tank works fine in this position. If the tank cannot fit under the kitchen sink, it can be placed elsewhere up to 20 feet away from the RO system without much pressure loss.

PART 7: CONNECTING THE SYSTEM

Summary of Tubing Connections:

There are 4 connections: See **Fig. 17**

Point **A** to **X**: Connect RO to COLD water supply — White tubing.

Point **P** to **Y**: Connect product water from 5th-stage filter to tank — Blue tubing. This tubing is a 2-way line, Product water enters and leaves the tank via this line.

Point **P** to **Z**: Connect RO faucet's tubing to 5th-stage filter output — Blue tubing.

Drain line to **W**: Connect drain water from 4th-stage membrane to drain outlet — Yellow tubing.
Important! Insert and sleeve Must be installed to prevent water leaking. Metal compression nut must be fully tightened!

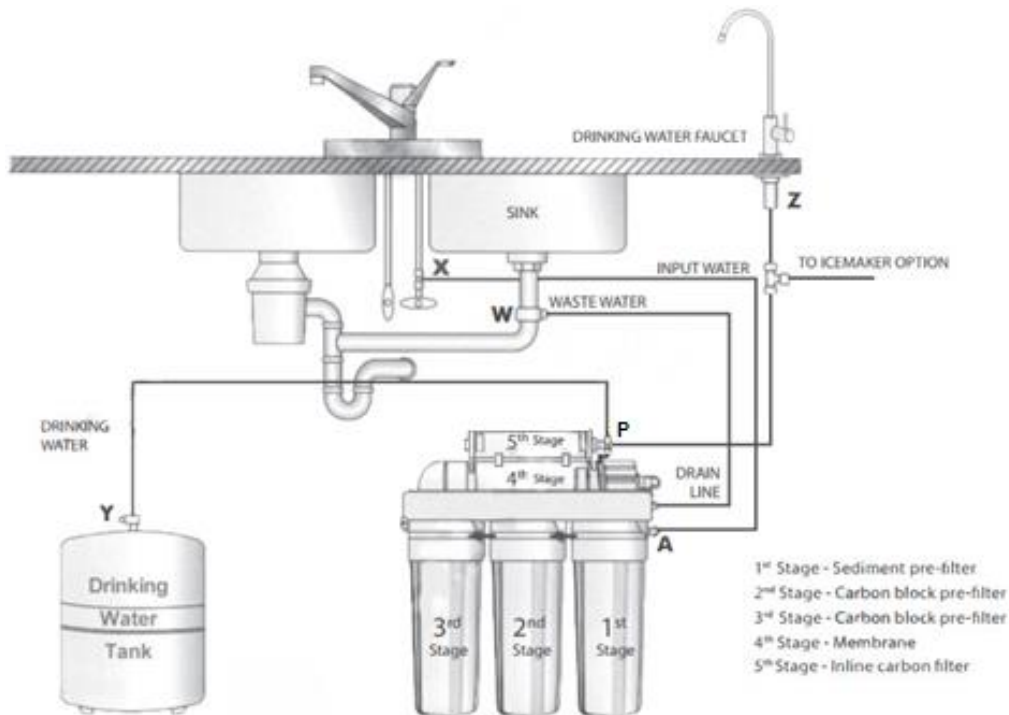


Figure 17

Details on Tubing Connections:

To ensure a smooth and correct installation, please connect the water lines **following the sequence and order** outlined below. Refer to **Fig.17** for proper point locations.

1. Point **Z** - Faucet connection:

Tubing color: Blue tubing. The tubing already attached into RO faucet, no installation needed.

Option (Faucet comes without tubing attached) :

Tubing color: Blue tubing. Connect the BLUE tubing to the base of RO faucet.

Fitting type: quick connector.

2. Point X - Feed water connection:

Tubing color: White tubing. Connect the WHITE tubing to the Feed Water Needle Valve.
Fitting type: See **Fig. 11C (Page 8)**. Metal compression nut fitting. Use plastic sleeve. Add “insert” to tubing. No teflon tape here. Tighten nut with wrench.

3. Point W - Drain water connection:

Tubing color: Yellow tubing. Connect the YELLOW tubing from the RO to the Drain Saddle.
Fitting type: Simply push the YELLOW tubing into the Quick Connect fitting. No Inserts, Sleeves or Nuts are needed to secure the connection. No Teflon tape needed here.

4. Point A - System water inlet (to Stage 1 pre-filter) connection:

Tubing color: White tubing. Connect the WHITE tubing from the Feed Water Valve to the RO’s stage -1 prefilter.

Fitting type: Quick Connect fitting See **Fig. 16D (Page 13)**. Simply push the White tubing into the quick fitting. No Inserts, Sleeves or Nuts are needed to secure the connection. No Teflon tape needed here.

5. Point P - Stage-5 filter’s T-fitting connection:

Tubing color: Blue tubing. Connect the BLUE tubing to Stage-5 filter’s T-fitting.
Fitting type: Quick Connect: Simply push the Blue tubing into the QC fitting. No Inserts, Sleeves or Nuts are needed to secure the connection. No Teflon tape needed here.

6. Point Y - Tank’s input & output connection:

Prepare tank: See **Fig.18**. Apply **6-8 wraps** of Teflon tape to tank’s threaded Output stem on top of tank. Screw tank Valve onto Output stem.

Tubing color: Blue tubing. Connect the BLUE tubing from Stage-5 T-fitting to the tank’s valve.
Fitting type: Low-Connect fitting on ball valve. Simply push Blue tubing into valve port.

Fig. 18

Important:

DO NOT TOUCH the Air Valve. It’s a pre-pressurized tank, release or add air will affect tank normal function.



Option: Multiple Outputs - Add Shut Off Valve:

If your RO is feeding several output points (icemaker, fridge, bathroom), you should add a Shut Off Valve to each output line (except the RO spigot line). This way, if you ever need to diagnose a problem in the system, you can easily shut off these lines to isolate the water flow for accurate troubleshooting.

PART 8: SYSTEM START-UP

1. Turn on feed water: Slowly, turn on your Cold water supply. Open the Needle Valve (turn counterclockwise) to allow the raw water to enter the system. **Check for leaks!**

2. Open tank valve: Open the tank's ball valve to allow water to enter the tank. The tank's valve is "On" when the valve handle is parallel (in the same direction) with the valve's outlet (see Fig. 18).

Check for leaks!

Tips! If Point X leaks after you have tightened the brass nut, check to make sure you did put the plastic "insert" into the tubing. If the insert is already in place, then try applying Teflon tape from the threaded metal stud all the way to the plastic tubing, wrap the whole connection with 8-10 rounds of Teflon tape. Smooth out the tape on the threaded part with your fingers. Tighten brass nut again. This should stop the leak.

If the plastic sleeve is damaged, you can use the metal sleeve, but you need to apply Teflon tape as described above, this should stop the leak.

If Point Y (tank ball valve) leaks, please make sure there was 6-8 wraps of Teflon tape applied onto the tank metal stem before screwing on tank ball valve.

3. Wait for tank to fill: Before usage, allow the tank to fill. Tank normally takes 2-3 hours to fill. When the tank is filled, the RO will shut off automatically.

4. Drain Tank: Please do not use the first tank of water. Once the tank has filled, open the drinking water faucet to drain the tank and filters. It will usually take about 5 minutes to flush the unit. When the tank is completely empty water will simply trickle out the faucet. At this time, please close the drinking faucet and allow the unit another 2-3 hours to refill the tank. The 2nd tank of water will be ready for use.

Please Note: Water may come out dark for the first few seconds on the initial flush, and then clear right up. This is due to the GAC (granular activated carbon) post filter.

5. Clean up area: Allow the system to run while cleaning up tools and work area.

6. Check for leaks! Make sure no leaking at joints, fittings, valves, and tubing connections.

SECTION II. OWNER'S MANUAL

SYSTEM MAINTENANCE

These recommendations are intended for maximum efficiency of your RO System.

Filter and RO Membrane Storage

- Store unopened filters in an airtight container to prevent them from absorbing air. This prolongs the shelf life of the filters and avoids any possible odors or contamination from the air.
- Using this method it is okay to store filters for several years. Store in a cool, dry, dark place (avoid heat and moisture contamination).

Extended System Non-Use

- If you will not be using the RO System for two weeks or more you will need to follow the **General Installation/Operation/Maintenance Requirements** at the beginning of this guide.

FILTER CHANGE INSTRUCTIONS

This RO System contains Filters that must be replaced at regular intervals to maintain proper performance. Use only authentic filters.

How to Change the Sediment and CTO Carbon Block Filters (Prefilters)

(Recommended about every 6 – 9 months)

1. You will need a clean cloth, dish soap, filter housing wrench and appropriate Sediment and CTO Carbon Block Filters. (We also recommend a bucket or bin large enough for the system to sit in. The system will release water when it is disassembled.)
2. Turn off the Cold Water Supply connected to the RO System, the Feed Water Adapter Valve, and the Tank Valve. Then open the RO Faucet handle to release pressure, close handle when the flow of water stops.



Figure 19

3. Place the RO System in the bucket and unscrew the 3 Prefilter Housings using the Filter Housing Wrench. Remove old filters and dispose of them.
4. Wash the Prefilter Housings with dish soap then proceed to rinse until all soap is removed.
5. Ensure that your hands are washed clean before unwrapping the new filters. After unwrapping, place the new filters inside their correct housings (refer to page 19). Make sure the O-Rings are in their proper locations.
6. Tighten the Prefilter Housings using the Filter Housing Wrench. Do not overtighten.

How to Change the RO Membrane

(Recommended about 2 – 4 years depend on water supply quality)

NOTE! Make sure you have shut down the RO System.



Figure 20

1. Open the RO Membrane Housing by unscrewing the cap. Pull out the RO Membrane with a pair of pliers. Be sure to note which side is the front and which side is the back.
2. Wash out the RO Membrane Housing. Install the new RO Membrane in the Housing in the correct direction you noted earlier. Make sure to push the Membrane in firmly, then close the Housing by tightening the cap with your hand.

How to Change the T33 Post Carbon Filter

(Recommended after one year)

NOTE! Make sure you have shut down the RO System.



Figure 21

1. First disconnect the Stem Elbow and Stem Tee from the sides of the T33 Post Carbon Filter.
2. Note the orientation of the old filter, install the new filter in the same orientation. Remove the old filter from the holding clips and discard. Next, insert the new filter into the holding clips and connect the Stem Elbow and Stem Tee to the new Inline Post Carbon Filter.

Restarting The System

1. Fully open the Feed Water Adapter Valve, Cold Water Supply, and the Tank Valve.
2. Open the RO Faucet handle and fully empty the tank before turning the Faucet handle off.
3. Let the system refill with water (this takes 2-3 hours). You can open the RO Faucet briefly to release any air trapped inside the system while it's filling. (Be sure to check for new leaks during the first 24 hours after restarting.)
4. After the Water Storage Tank has filled drain the entire system by opening the RO Faucet until the water flow is reduced to a slow trickle. Then close the Faucet.
5. Repeat steps 3 and 4 three times to fully flush the system (6-9 hours)

NOTE! If the RO System is connected to a refrigerator do not drain the system through the refrigerator water dispenser. The excess carbon fines from the new carbon filter will clog the internal fridge filter.

TROUBLESHOOTING

Note! Turn off the system before servicing or inspecting

Problem	Cause	Solution
No Water	Check Feed Water Adapter Valve	Refer to page 15
Leaks	Fittings are not tightened	Tighten fittings as necessary, re-push tubing or connector onto quick fitting.
	Twisted O-Ring	Replace the O-Ring.
	Misalignment of hole in Drain Saddle	Realign Drain Saddle
	Threaded Connections	Replace other if the thread is broken.
No drain water	Clogged Flow Restrictor	Replace the Flow Restrictors.
	Clogged membrane	Replace new RO
Water taste or an offensive smell	Drain line clogged	Replace Inline Post Carbon Filter
	T33 Post Carbon Filter is depleted	Replace RO Membrane.
	Fouled RO Membrane	Drain Water Storage Tank and refill it.
	Sanitizer not flushed out	
Slow production or no water from RO Faucet	System just starting up	Normally it takes 2-3 hours to fill the tank. Low water pressure and/or temperature can reduce production rate.
	Air pressure in Water Storage Tank is low	Add pressure to the storage tank. The pressure should be 8-10 PSI when the tank is empty.
	Tank Valve is closed	
	Low water pressure	Add a booster pump.
	Crimps in tubing	Make sure tubing is straight.
	Clogged Prefilters	Replace Prefilters.
	Fouled RO Membrane	Replace RO Membrane.
Milky colored water Air bubbles in the water	Air in system	Air in the system is a normal occurrence with initial startup of the RO System. This milky look will disappear during normal use within 1 to 2 weeks.
Noise from the system	Air gap in Faucet	Will disappear after system shutdown.
	Location of Drain Saddle	Relocate the Drain Saddle to above P-Trap.
	Restrictions in drain line	Blockage sometimes caused by debris from garbage disposal or dishwasher.
TDS reads higher than normal	Forget to insert membrane into housing Membrane is inserted incorrectly	Put membrane into housing and make sure insert it correctly.
	Water pressure is too low	Raise water pressure or add pump to RO
	- Input water has very high TDS or contain certain heavy dissolved elements - Drain water flow is restricted or clogged	Check and re-align the drain saddle and drain lines

RO BASICS

This section provides basic concepts on how an RO system works, how it performs in relation to your house's water condition. We hope this information helps keep your RO system running at top performance for years to come.

1) Basic Terms

GPD = Gallons Per Day (flow rate)

PSI = Pounds per Square Inch (pressure)

TDS = Total Dissolved Solids (contaminants)

PPM = Parts Per Million (unit used to measure TDS level)

TDS Meter = A digital meter for measuring the TDS level in the water

2) Flow Diagram for 6-Stage RO System:

Fig. 22 below shows how water flows through the RO system from Feed point to Output point.

Input water starts from Main Water Supply, going through stages 1, 2, 3 pre-filters, then enters the stage-4 membrane. Product (filtered) water from the membrane feeds the storage tank; the "brine water" from the membrane drains out through the drain line. Product water from the tank passes through stage-5 filter then stage-6 filter before reaching the dispensing faucet.

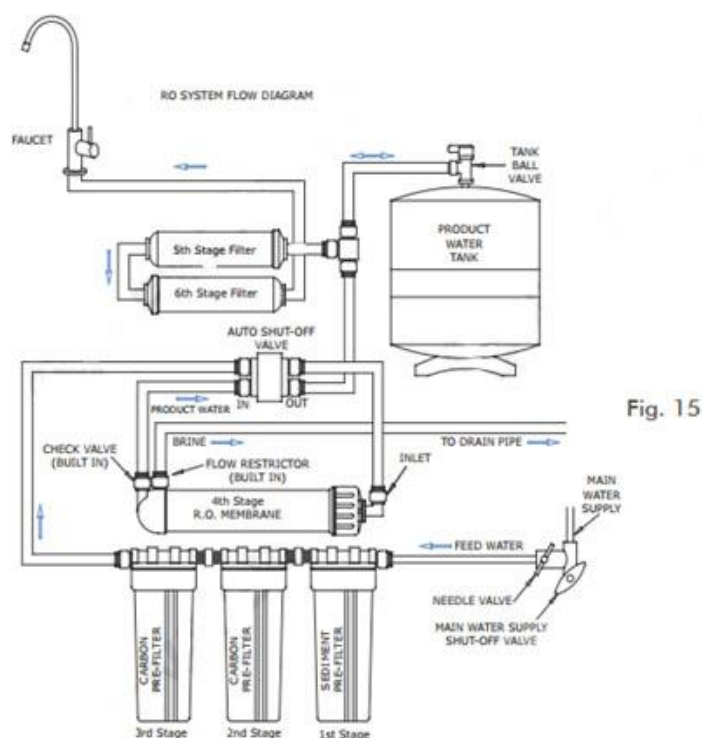


Figure 22

3) Water Pressure – The Most Important Factor!

RO systems run on water pressure. Therefore, your water pressure has the most direct effect on how well your RO will perform. With sufficient water pressure (80 psi max.), your RO system will function well, give high output with high removal rate, and fill up the storage tank quickly.

4) TDS Meter (Option) – How to Test Your Water Quality:

The TDS meter is used to test your water's quality before and after the RO system. It also tells you when the membrane needs to be changed.

Please follow instructions below:

Use 2 clean glasses, fill one glass with Tap water, fill the other glass with Product (filtered) water (rinse this glass with filtered water several times to get an accurate reading). Remove the Sensor cap on the TDS meter and rinse the meter sensor with filtered water several times, then Turn on the meter.

The meter will show "000" reading on its screen. Place the TDS meter into the Product water. Record Product water's TDS reading. Then do the same for the Tap water. Record the Tap water's reading. Compare the 2 readings.

The Product water's TDS should be about 3%-10% of your Tap water's TDS. This is a normal range.

For example:

Your Tap water's TDS: 100 ppm

Your Product water's TDS should read within: 10% of 100ppm => 10ppm

This means that with 100 ppm input, the RO system has removed 90% of the contaminants (TDS) from the source, leaving only 10% (10 ppm) residual TDS in the Product water. This is a normal range. Which means the RO membrane is in good conditions.

If your Product water TDS reads less than 10%, that is a very good and normal reading.

You should test your water once or twice a year to monitor the membrane condition. As the membrane gets depleted overtime, its rejection capacity will decrease. When this happens, the TDS in the Product water will increase.

When your Product water TDS creeps up to 15% - 20% of input water's TDS, it's time to replace the membrane.

5) How Long Does It Take to Fill Tank?

Depending on your water pressure, the standard tank will fill up in 2-3 hours. After the tank is filled, the RO will shut off automatically.

Important! Please TURN OFF the main cold water supply to the RO system when the unit is not in use during a vacation or extended leave. During very cold or freezing weather conditions, please also TURN OFF the main cold water supply and completely drain all of the water from the RO system and water storage tank.

6) How Full Can My Tank Fill Up?

Your water pressure and **temperature** will determine how full and how fast the storage tank will be filled up. The stronger your input water pressure, the faster and fuller the tank can fill. If water pressure is low, the tank will fill slower and will not fill up to its full capacity.

For a non-pumped RO system:

The 4* gallon tank will fill up according to your input water pressure as follows:

Input 70+ psi —> tank fills 3.1 gallon (almost 100% full)

Input 60 psi —> tank fills 2.8 gallon (about 88% full)

Input 50 psi —> tank fills 2.5 gallon (about 70% full)

So, if your input water pressure is low, the tank will not fill up to full.

* 4-gal refers to tank's total volume (air space & bladder). At 80-90psi, tank bladder's capacity is around 3.2 gallons.

7) Feeding Multiple Outlets:

Feeding the filtered water to multiple outlets is doable. The key is choosing the right RO model that fits your house's water pressure level. This model should fill up the tank quickly and fully. A frequently full tank will then provide good delivery pressure to feed the multiple outlets in your house.

We suggest limiting output points to no more than 3 outlets. Total tubing distance should be within 40 ft. horizontal and 15 ft. vertical from the RO system (more or less).

8) Insufficient Water Pressure – Problems with Non-Pump RO Systems:

The 3 most common problems caused by low input water pressure:

- 1) Tank does not fill up, get little water from tank
- 2) Sluggish flow at the dispensing faucet
- 3) RO makes water slower than the claimed GPD

If you experience these problems, Please check your input water pressure as in section 9. This will often solve the above listed problems.

9) How to Test Your Water Pressure:

Get a water pressure gauge that adapts onto your sink or garden faucet (from hardware store), attach gauge onto faucet, turn water on to FULL, then take a reading.

For some areas, water pressure is lower during the day and higher at night when less people are using water. So to get an accurate average, take several measurements at different times of the day and average them out.

10) Premature Membrane Failure:

There are 4 common causes that lead to premature membrane failure:

1. Failing to replace the 3 pre-filters as frequently as needed:

If you're on city water: The over-depleted carbon pre-filters allow the chlorine to get through and damage the membrane.

If you're on private well water: The overloaded pre-filters allow excessive sediments and particles to get through and clog up the membrane surface.

2. Your water source may contain certain organic or chemical compounds that form a slimy film which covers up the membrane's surface. This will disable the membrane prematurely. In this case, adding a UV light could help extend the membrane's life.
3. Your water source is extremely hard. This will clog up the membrane with heavy calcification. Adding a water softener will help greatly.
4. If the drain water flow is somehow restricted or blocked, the membrane will be damaged prematurely. So please check to make sure the drain water is draining off unhindered.

FILTER REPLACEMENT RECOMMENDATION

Replacement Schedule

Replacement frequency depends on your incoming water quality and usage. The lower frequency schedule may be sufficient for fairly clean feed water and low-to-average usage. For optimal performance, heavy usage, or dirtier feed water, the higher frequency schedule is recommended. **Generally speaking, filters should be changed when there is a loss of performance and after any extended periods of non-use.**

Lower Frequency Schedule for Cleaner City Water

6 Month Replacements Filter Pack: RFK-5-PRE

- Sediment Pre-filter
- Carbon Pre-filter (x 2)

Every 2-4 Years:

- RO Membrane
M-T1812A50 or M-T1812A100

1-Year Replacements

Filter Pack: RFK-5

- Sediment Pre-filter
- Carbon Pre-filter (x 2)
- Carbon Post-Filter
- (Sanitize System)

Higher Frequency Schedule for Dirtier City Water or Heavy Usage

3 Month Replacements Filter Pack: RFK-5-PRE

- Sediment Pre-filter
- Carbon Pre-filter (x 2)

6 Month Replacements Filter Pack: RFK-5

- Sediment Pre-filter
- Carbon Pre-filter (x 2)
- Carbon Post-Filter

9 Month Replacements

Filter Pack: RFK-5-PRE

- Sediment Pre-filter
- Carbon Pre-filter (x 2)

12 Month Replacements

Filter Pack: RFK-5-50/RFK-5-100

- Sediment Pre-filter
- Carbon Pre-filter (x 2)
- Carbon Post-Filter
- RO Membrane
- (Sanitize System)

Replacement filter packs, parts, and accessories available for order online at www.wateranywhere.com.



Scan for Support