



5 Stage Reverse Osmosis Water Purification System

Installation Guide & Service Manual



Guide for CP-RO-5-50

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Part A. INSTALLATION

Select system Location

This reverse osmosis drinking water appliance is designed for under-counter installation. The appliance can also be installed in a remote position or other available place depending on space availability, ease of installation and servicing, and customer's preference. Do not install on a location with high humidity. Do not place the system under direct sun light or any light sources.

Prepare the Hardware and the Area for Installation

1. Check components: Open the box and remove the components. Check for the presence of all installation parts, which include the reverse osmosis system assembly, faucet, components, installation hardware, and the storage tank. (see figure 1.1 "hardware needed for installation" and figure 1.2 "installation kit")

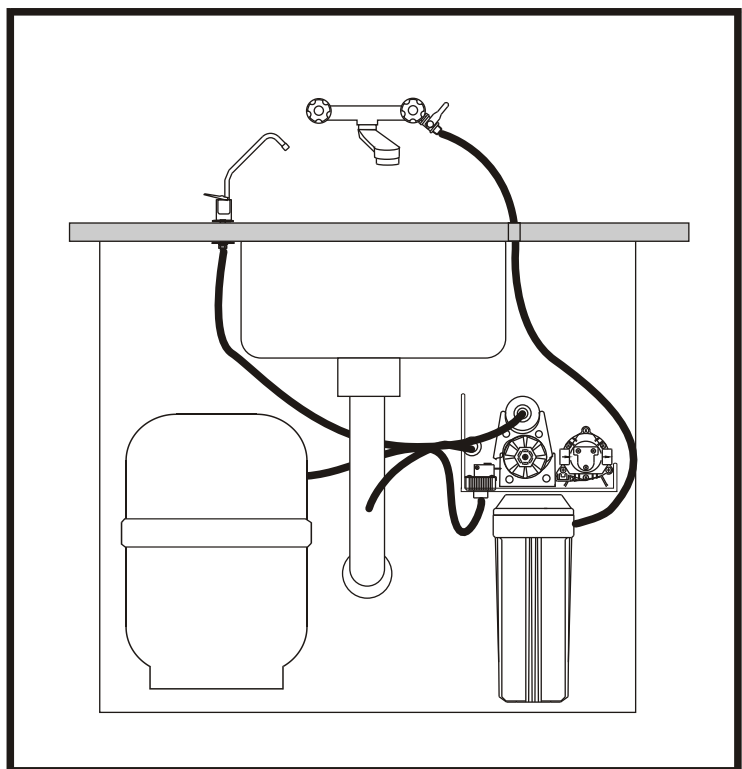
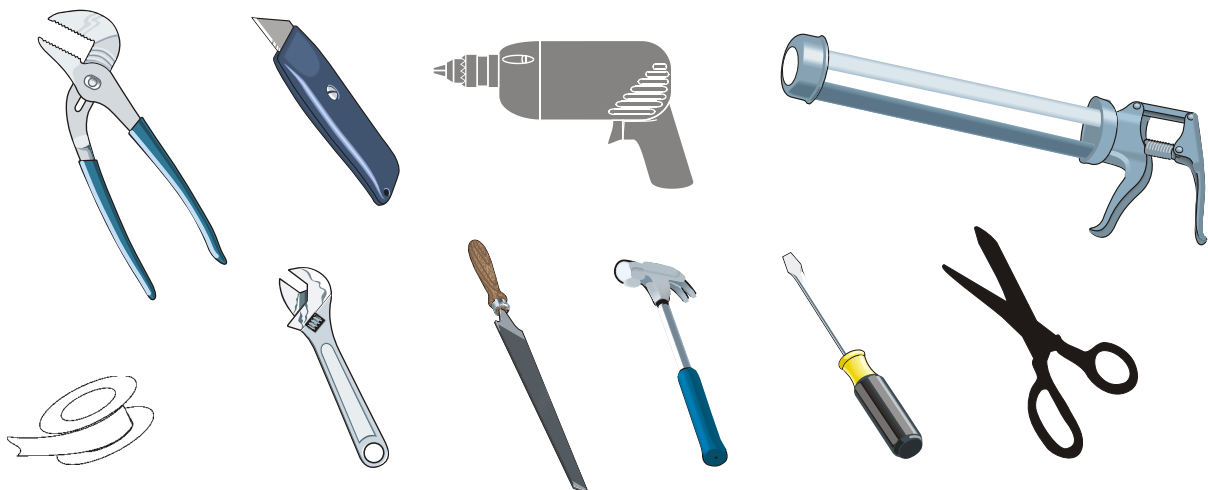


Figure 1.1 Hardware needed for installation

Select location for installation



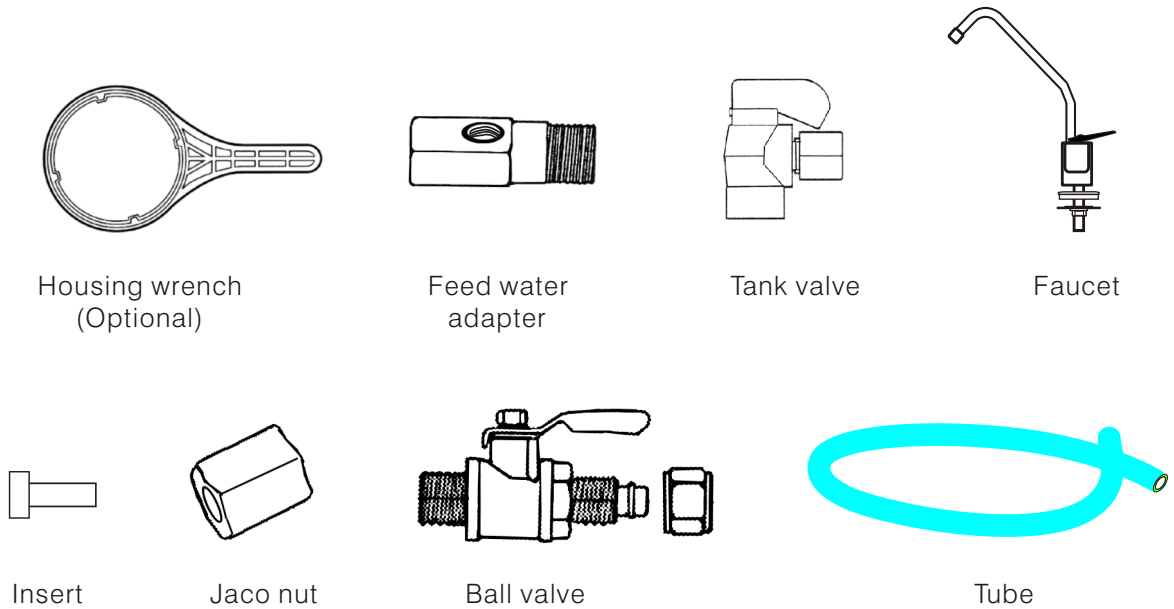
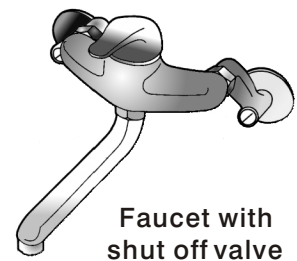


Figure 1.2 installation kit

2. Clear all objects from the working area. Determine where the components will be located and how they will be mounted.
3. Special hardware and mounting brackets may be needed.
4. Inspect the plumbing, cold water supply line, and drain to determine any special fitting required. If the condition of the piping is bad, the installer should advise the customer any possible problems that might occur.
5. Check that the air pressure in the tank is approximately 7 psi. Adjust it if necessary.
6. If the reservoir tank is more than 20 feet away from the dispensing faucet, 3/8" tubing and accommodating hardware are required.



Installation Procedures

Please read all instructions and diagrams to ensure proper installation.

Install the Feed Water Adapter Valve

1. Different installation method is used depending on the type of water supply piping arrangement in your home.
2. Under-sink supply piping arrangement.
3. Turn off cold water valve or the main valve.

4. Loosen nut at the top of riser.
5. Install the feed water adapter valve.
6. Reconnect the nut with cone washer to the feed water adapter.
7. Connect 1/4" (3/8") tubing to the feed water adapter valve, using compression nut, plastic sleeve and insert.

Wall Mount Mixer or Faucet

1. Turn off water main valve. Remove the faucet.
2. Install feed water adapter valve on the cold water side only.
3. Install the extension piece on the hot water side.
4. Reinstall the faucet.

Install Tank Valve, Prepare for Storage Tank Sanitation

1. Connect tank valve to the tank.
2. Disinfect the tank with household bleach. Use about 1 ml bleach per gallon of tank capacity. Open the tank ball valve. Measure about 3.5 ml of bleach and pour into the tank ball valve.
3. Set the tank aside for later use.

Install the Drain Saddle Assembly

(Drain Saddle clamp is an optional device)

1. Inspect the condition of drain piping. If the condition is bad, inform the customer and

possibly recommend the installation of new drain piping.

2. If the drain piping is in good condition, select the location to install the drain saddle assembly (optional equipment). The drain saddle assembly should always be installed above the trap and to the vertical or horizontal tailpiece.
3. Position the drain saddle assembly in selected location and mark the spot through threaded outlet.
4. Drill a 1/4" hole at the marked spot. Attach the drain saddle to pipe.
5. Align the drilled hole with the drain saddle using a drill bit or a narrow strait object. Tighten the clamp after alignment.

Install the Dispensing Faucet

If the sink already has a hole for installation the faucet, skip to the section on mounting the faucet.

Make the Dispensing Faucet Mounting Hole

Concrete Sink

If the thickness of the concrete is less than one inch, the dispensing faucet can be mounted on the sink. If the thickness of the concrete is more than one inch, the dispensing faucet should be mounted on a special bracket (optional) and the bracket should be mounted on the desired location.



Tools Required

Carbide Masonry drill bit 1/2"

Procedure:

1. Mark the center at the desired faucet location.
2. Use a 1/2" drill bit and drill a hole.

Stainless Steel Tank

Tools required - the same

Procedures:

1. Mark a small indent at the desired faucet location using the center punch.
2. Slowly drill a hole using stainless steel drill bit.
3. Dull the sharp edge with a file.

Procelain/Enamel/Ceramic on sheet metal or cast iron base sink

Tools required:

Variable speed drill.

Relton porcelain cutter tool set.

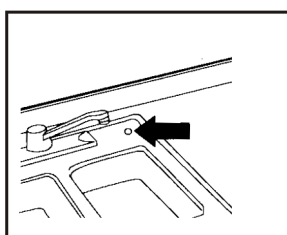
Procedures:

1. Mark the center for the hole.
2. Use carbide drill bit to drill a pilot hole
3. Pour water on the hole frequently to lubricate the drill bit.
4. Use the metal cutter to drill through the sink

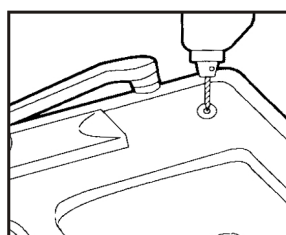
Mount the Faucets:

Refer to the **Figure 1.4 Faucet Installation** to ensure correct assembly of faucet components.

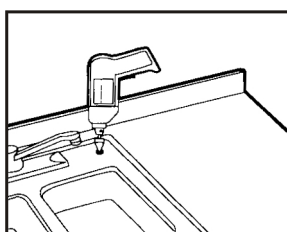
Figure 1.3 Drilling



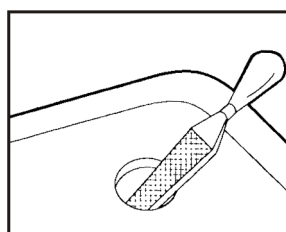
A. Mark the spot



B. Drill a bit hole

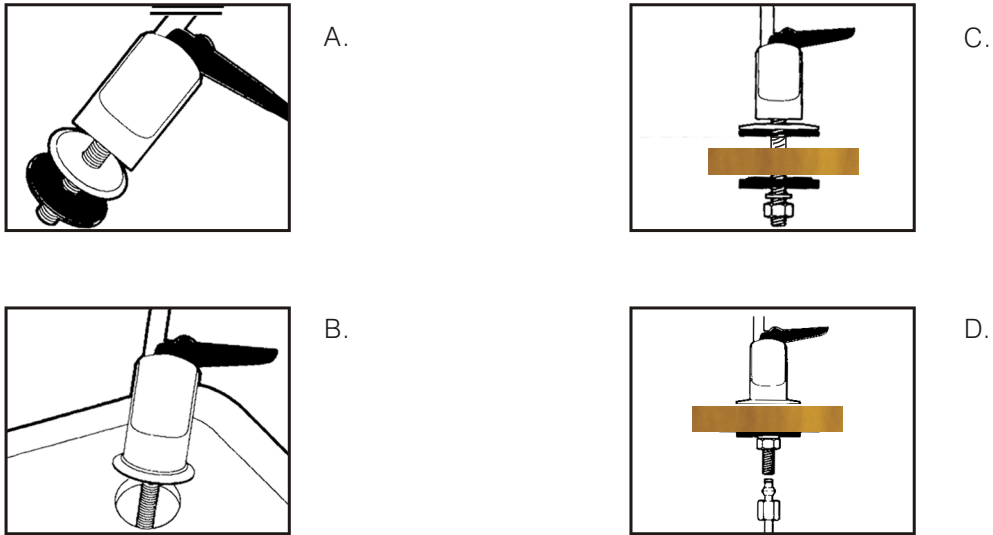


C. Enlarge the hole



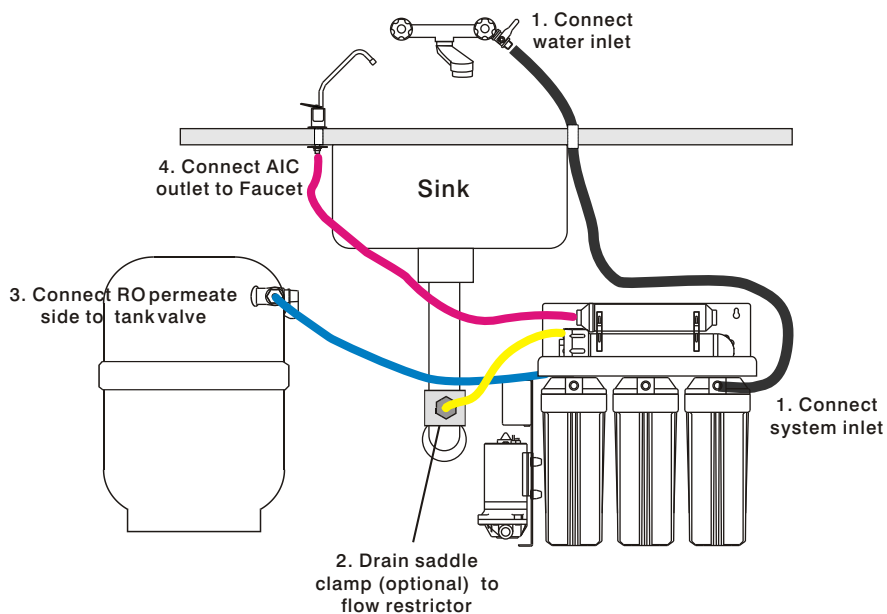
D. Sand the hole

Figure 1.4 Faucet Installation



Connect Tubing to the System

1. Connect 1/4" or 3/8" tube from feed water adapter valve to the first filter housing water inlet hex nut. (The "Blue" nut sticker labeled "water inlet")
2. Connect 1/4" tube from the end of flow restrictor to the Drain Saddle Clamp. (The "Black" nut sticker labeled "to drain")
3. Connect 1/4" tube from RO permeate side (The "Orange" nut sticker labeled "to tank") to the tank valve.
4. Connect 1/4" tube from AIC outlet side (The "Yellow" nut sticker labeled "to faucet") to the faucet inlet.



Start Up the Purification System

Make sure that all connections are secure.

1. Turn on feed water adapter valve and check for leaks. If any leaks found, do not proceed further until the leaks are fixed.
2. Insert the plug into a 110/220 Volts electrical outlet. The system will start running.
3. Let water flow into the system for minutes. Close Storage tank valve and open the faucet until the product water dripping out of the faucet.
4. Check for leaks again.
5. Turn on tank ball valve and close the faucet. Let product water fill into the storage tank.

Important Notice: Drain the first tank of product water to flush away preservation chemical.

Check Operation Status

Measuer TDS and Recovery Rate

After flushing, use TDS meter to measure the TDS of purified water and compare the value to that of the feed water.

The purified water reading should fall around 5-8 % of feed water reading.



Clean, Paper work, and Customer Education

1. Clean up the work area thoroughly. This will leave a good final impression with the customer.
2. Fill out the warranty card with the customer. Record the water pressure and TDS value for your own service file.
3. Determine the next service date and go over the recommended maintenance schedule as determined by local water conditions. Inform the customer about the importance of changing filter cartridge and testing system performance.
4. Educate the family members about operation and maintenance of the appliance. Remember to advise the customer to let the faucet run for at least forty-five seconds before first use of the day.

Operation

Operation of the **Reverse Osmosis Water Purification System** is simple and easy. You can enjoy the pure water without worrying about compliance operation procedures.

First Time Operation

1. Plug in the power supply. Allow several minutes for the systems to flush and fill.
2. Use the built-in water monitor to make sure the system is functioning.
3. Do not drink the first tank of water. About two to three hours after system started, turn on the faucet and drain completely the first tank of water.
4. When abnormal conditions occur.
5. Shut off the system. Unplug power supply and turn off feed water adapter valve.
5. Call authorized service people or distributor. Try using the "trouble shooting" chart" to determine what the problem you have encountered.

Away From Home

If you know you are not using the system for more than two weeks, shut off the system and drain the stored water.

1. Turn off feed water adapter valve.
2. Restarting the System
3. Turn on the feed water adapter valve.
4. Open the tank ball valve and plug in the power supply.

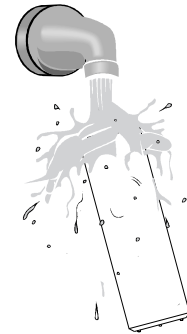
Changing the filter cartridges

1. Contact you local authorized service people to change the filters for you or replace by yourselves.
 2. Follow the proper procedure to shut off the system.
 3. Use a housing wrench to open the housing. Make sure the appliance always stands upright during filter changes.
 4. Replace the correct cartridge in the right housing and use the housing wrench to tighten.
-

Maintenance

Replacement of filter cartridge

The replacement of filter cartridges is crucial to the system. It may vary depending upon the water condition in your area. Use common sense and good judgment to determine the replacement time. To ensure that your reverse osmosis drinking water appliance performs at its maximum capacity, please follow the installation instructions and



When install carbon cartridge flush carbon fines away prior to use

Types of Filter Cartridges

Cartridge no.	Usage	Nominal Life
First stage	Sediment Filter	3 months
Second Stage	Granular Activated Carbon Cartridge	3-6 months
Third Stage	Carbon Block Cartridge	3-6 months
Fourth Stage	RO membrane	2-3 years
Fifth Stage	In-Line Post Activated Carbon Cartridge	1 year

The Look



PP sediment filters



Granular Carbon Filters



Carbon Block Cartridges

*1. The replacement intervals here are based on normal operation. The real capacity of these filter cartridges can be calculated as follows:

Sediment filter cartridges: Pressure drop is over 5-6 psi.

Granular Activated Carbon Filter Cartridges: Depends on water usage and

chlorine concentration in your area.

In-line Post Activated Carbon Filter Cartridges: 2,500 gallons or 1 year.

Membrane:

* High TDS value exists

* Membrane fouled, hydrolyzed, ruptured or attacked by bacteria

TROUBLE SHOOTING CHART

Problem	PossibleCause	Solution
No water production	Feed water shut off Tank valve closed	Turn on feed water Open tank valve
Leak at filter housing or membrane vessel	Defective or misaligned "O" ring.	Shut off feed valve and tank valve. Turn off faucet. Change or replace "O"ring.
Leak at threaded	Connecting nut loosen or not properly tightened	Tape the thread with Teflon tape and tighten evenly and firmly.
Leak at tubing connection	There is a bend on tube.	Realign and cut the tube.
Bad tasting water	Tank contaminated Pre-filters or membrane Fouled.	Sanitize the tank Change pre-filter cartridge. Especially the post polish carbon filter.
High product water TDS	Membrane brine seal leaks Applied membrane pressure too low caused by pre-filters plug. Membrane expended	Check the seal, replace it if it's bad. Replace pre-filters. Change membrane.
Little or no product water flow from faucet	Loss of air pressure in the tank Check valve failed or membrane fouled	Pump air into tank to 7-8 psi Change check valve or membrane as needed.
Pump functioning but no product water	Pre-filters carbon filter cartridge clogging Water inlet solenoid valve failed	Check andreplace cartridges Check andreplace solenoid valve
Pump not functioning	Low water supply	Check the water supply pressure. Bypass the low pressure switch for emergency use.
Pump cycling abnormally on and off	Pre-filters clogging or feed water too low.	Change filters or bypass low pressure switch.
Pump on and off after a glass of water	Inadequate high pressure switch setting	Set high pressure switch to 40 psi or replace high pressure switch.