Economy & Express Series

REVERSE OSMOSIS WATER SYSTEM MANUAL

**Specifications will vary by model*

Specifications:
Total weight: 24 lbs.
Water supply: Potable water
Pure water productivity: 50 gpd at 60 psi / 70º F
Feed water temperature: Max. 113º F – Min. 33º F

Warning:

- After the storage tank fills the first time, open the spigot and drain it completely to flush unit.
- To ensure water quality, be sure to change the filters according to schedule.
- Do not connect to hot water supply as membrane damage will occur.
- Make sure the tank air pressure is set at 8-11 psi when empty.
- After installation check the unit for leaks.
- Do not freeze unit.

Stages	Filter	Changing schedule
Stage 1	Sediment filter traps dirt, rust, sand, etc.	6 months – 1 year
Stage 2	Granular activated carbon filter (GAC) improves taste removes odors, chlorine, chloramines and organic chemicals	6 months – 1 year
Stage 3	Second GAC filter for added membrane protection	6 months – 1 year
Stage 4	Semi-permeable membrane separates the purified water from the rejected impurities and dissolved solids,up to 98% of arsenic, lead, fluoride, etc….	3 – 4 years
Stage 5	In-line carbon polishing filter improves taste and odor.	6 months – 1 year

Introduction

Please read this entire service guide prior to beginning installation.

The economy reverse osmosis drinking water system has been designed for quick and simple installation and maintenance. By carefully reading this instruction manual and following the operational guidelines you will insure a successful installation and reliable operation. Routine maintenance is essential to the longevity and performance of the system. Filters should be changed every six to twelve months depending on the quality of the feed water supply.

Conditions for Operation

System Pressure	30 – 100 psi
Temperature	4º - 38º C (40º - 100º F)
pH range	3.0 – 11.0
Maximum supply TDS level	2000 mg/L
Turbidity	< 1.0 NTU

Chemical Parameters – TFC

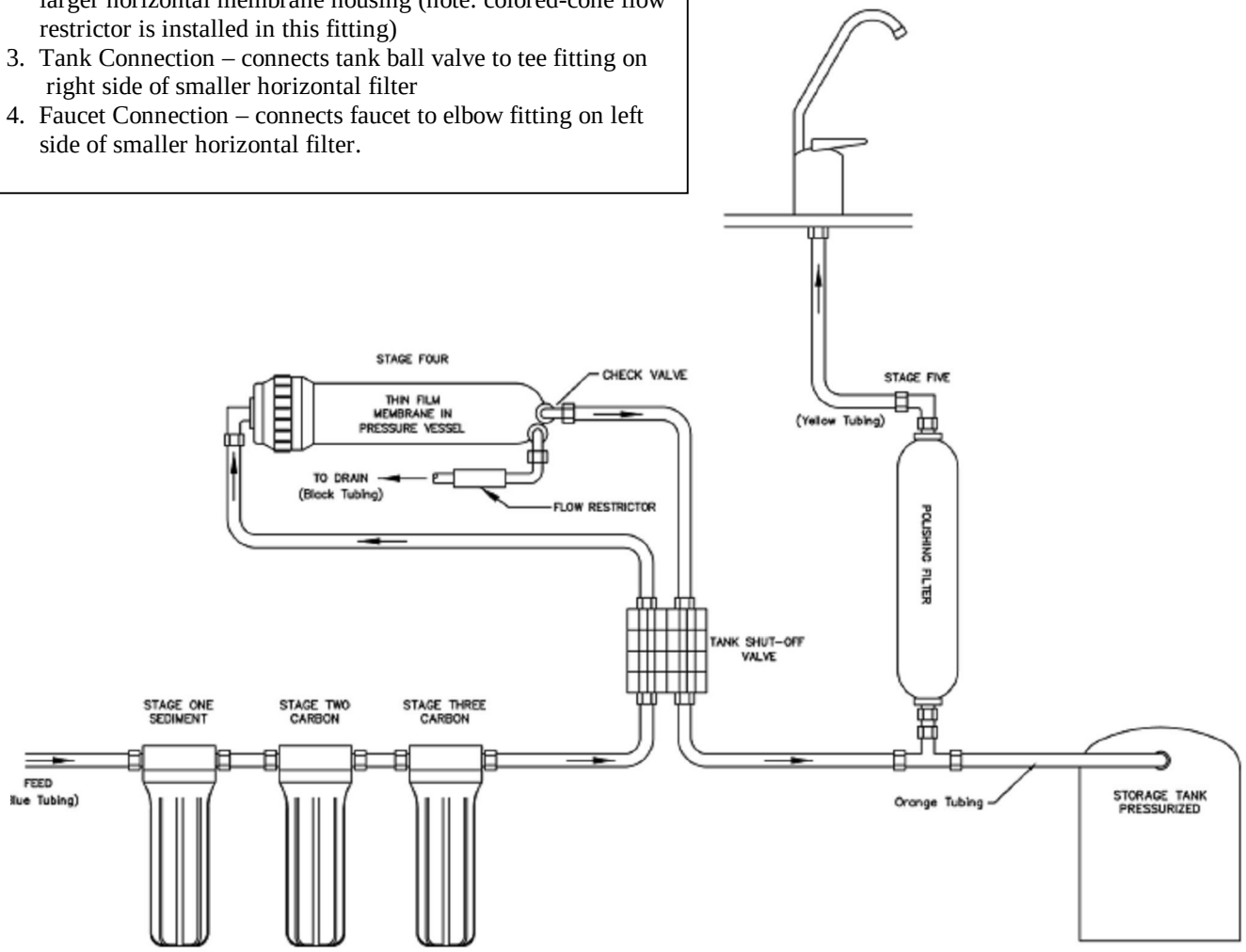
Hardness (CaCO3)	< 350 mg/L
Iron (Fe)	< 0.1 mg/L
Manganese (Mn)	< 0.05 mg/L
Hydrogen Sulfide (H2S)	< 0.00 mg/L
Chlorine	< 0.00 mg/L

CAUTION:
Do not use this system where the water is microbiologically unsafe or of unknown quality. This system is for use on potable water only. Source water exceeding chemical parameters requires pretreatment.

Caution:
The installer is responsible for any leaks resulting from installation of tubing or fittings and must check over unit completely while under pressure to ensure unit is not leaking and functioning properly. Liability resulting from failure to check for leaks while under pressure is sole responsibility of the installer.

Tubing Connections Reference

1. Feed Connection – connects main water supply feed to elbow fitting on right side of unit
2. Drain Connection – connects drain saddle to bottom fitting on larger horizontal membrane housing (note: colored-cone flow restrictor is installed in this fitting)
3. Tank Connection – connects tank ball valve to tee fitting on right side of smaller horizontal filter
4. Faucet Connection – connects faucet to elbow fitting on left side of smaller horizontal filter.



Starting Your Installation
Preparation

Determine the location for the installation of the RO system. Avoid locations where the system might come in contact with hot water pipes or other hazards. Determine the location for the faucet. Check to see that drilling the faucet hole will not damage pipes or wires running underneath the sink. Determine the location for the storage tank. A maximum distance from tank to faucet of 15 feet is possible. The system will produce a faster flow at the faucet with the shortest tubing run from tank to faucet.

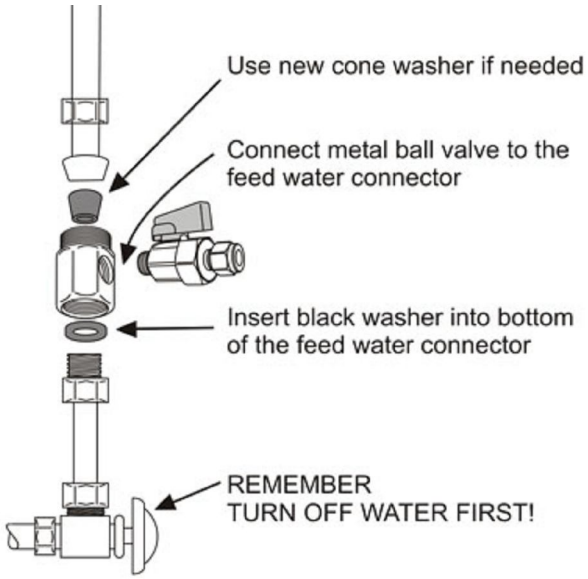
NOTE: Compression or quick-connect style fittings are used throughout the system. To insure an optimal seal, tubing should be cut with the end square. An angled cut or distortion of the tubing will not provide an efficient seal and may cause leaks.

Source & Drain Saddle Valve

Shut Off the Water

Locate the water shut-off valve for the cold water feed line you choose to use for the supply. Accidentally hooking up the system to the hot supply line will permanently damage the membrane. To assure you are using the cold water line, turn on both the hot and cold faucet. After the water is warm to the touch, feel the pipes under the sink. It will be easy to identify the hot and cold pipes.

Close the cold water valve. Turn on the cold-water faucet only to assure that the line is completely shut off and the line is drained. If no shut off valve is located under the sink, turn off the main supply at the entry to the house.



Installing Supply Feed

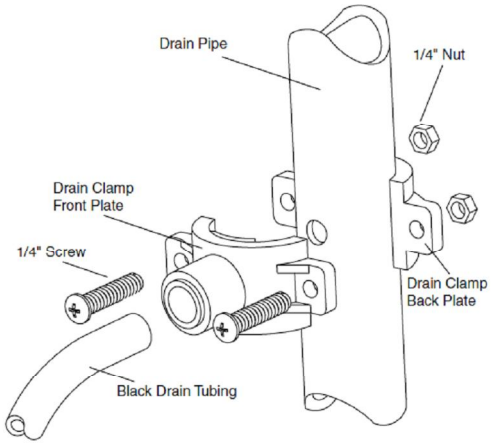
Loosen nut and separate cold-water riser tube from faucet shank. Gently bend riser tube so that slip joint fits onto faucet shank. Replace the existing cone washer with new washer provided in installation kit onto cold-water riser tube. Reinstall riser tube onto slip joint adapter and tighten.

Installing the Drain Clamp

Select a location for the drain hole based on the design of the plumbing. Position the drain outlet saddle on the drainpipe. Allow adequate space for drilling. Tighten the bolt evenly on both sides. Avoid over tightening. Using the opening in the drain saddle as a guide, drill a ¼” hole in the drainpipe and tighten saddle to pipe.

Note: Some states require the use of an air gap faucet. Check your local plumbing code to assure compliance. Install the drain connection away from the garbage disposal to prevent potential contamination and system fouling.

Important: There are four pieces of tubing. One has a colored flow restrictor inside. This cone must be hooked up to the drain fitting on the back of the membrane housing. (See diagram)



Product Water Faucet

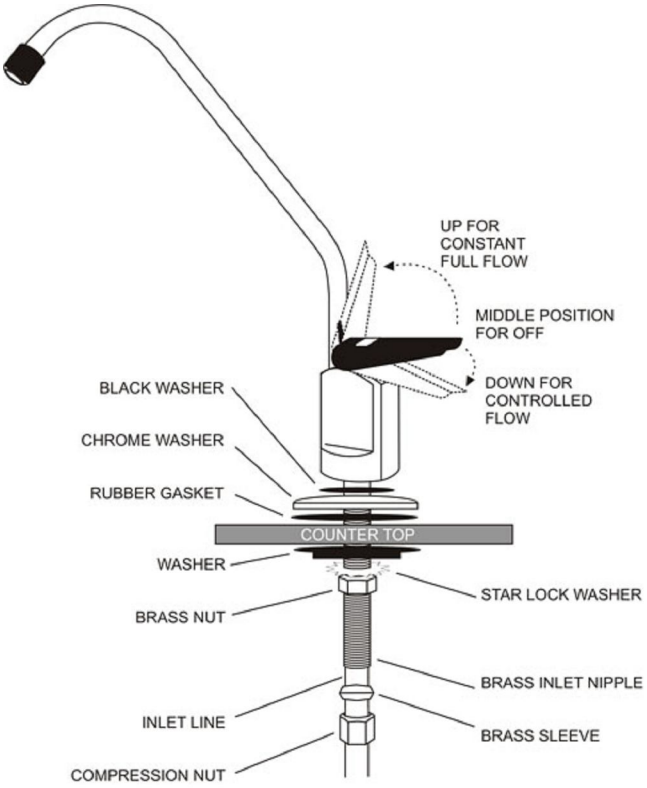
Drilling the Faucet Hole

The product water faucet may be installed on any flat surface at least 2" in diameter. Check the underside of the location for interference. A standard faucet requires a drilled hole of at least 7/16" in diameter. An air-gap faucet requires a hole size of at least 1 ¼" diameter.

The faucet may be installed on a number of surfaces including, porcelain, enamel, tile, granite and stainless steel. Custom drill bits may be required to cut through more dense materials.

A variable speed drill is recommended for this procedure. A spring-loaded Relton style drill set is strongly recommended to prevent chipping. Use a smaller drill bit first to create a pilot hole.

After the initial cut has started, motor speed may be gradually increased. The cut may require three to four minutes to complete. Going faster could result in excessive chipping. Be sure a complete ring has been cut through the porcelain to the material underneath.



Faucet installation

Once the hole has been drilled in the sink, insert the faucet shank down the hole. Be sure the faucet body, faucet base, and the rubber faucet base washer are in place above the sink. Install the star lock washer and nut, and then tighten firmly while aligning faucet in the desired direction. (See faucet diagram)

Storage Tank

Place 4-5 wraps of Teflon tape around the storage tank stem and tighten down tank ball valve on threads. Do not over tighten. Connect tubing to tank ball valve and tee-fitting on RO unit.

Note: To feed an icemaker or additional faucet a tee fitting may be installed along the tank line. Connection sizes and pressure requirements will vary. Check with your equipment manufacturer for details.