



# **Three Stage Reverse Osmosis Instruction Manual**

## RO INSTALLATION INSTRUCTIONS

Congratulations on your new Hydrofarm RO water treatment system. Please follow the outlined steps in regards to the installation and maintenance of your water treatment system. Proper maintenance will ensure fresh purified water for many years. If you have any technical difficulties or questions, please do not hesitate to contact us and we will be happy to assist you.

Your system was designed and made in the United States. This three stage R/O unit is ready to hook up to your local water source with the included garden hose bib adapter. Hydrofarm pressure tests all systems prior to shipping, so your RO membrane cartridge does not come installed in the housing. Installing the cartridge is simple, just remove the membrane from the plastic bag and place it in the housing located across the top of the unit. Insert the membrane end with the double O-rings in the housing first and then securely screw the housing back together.

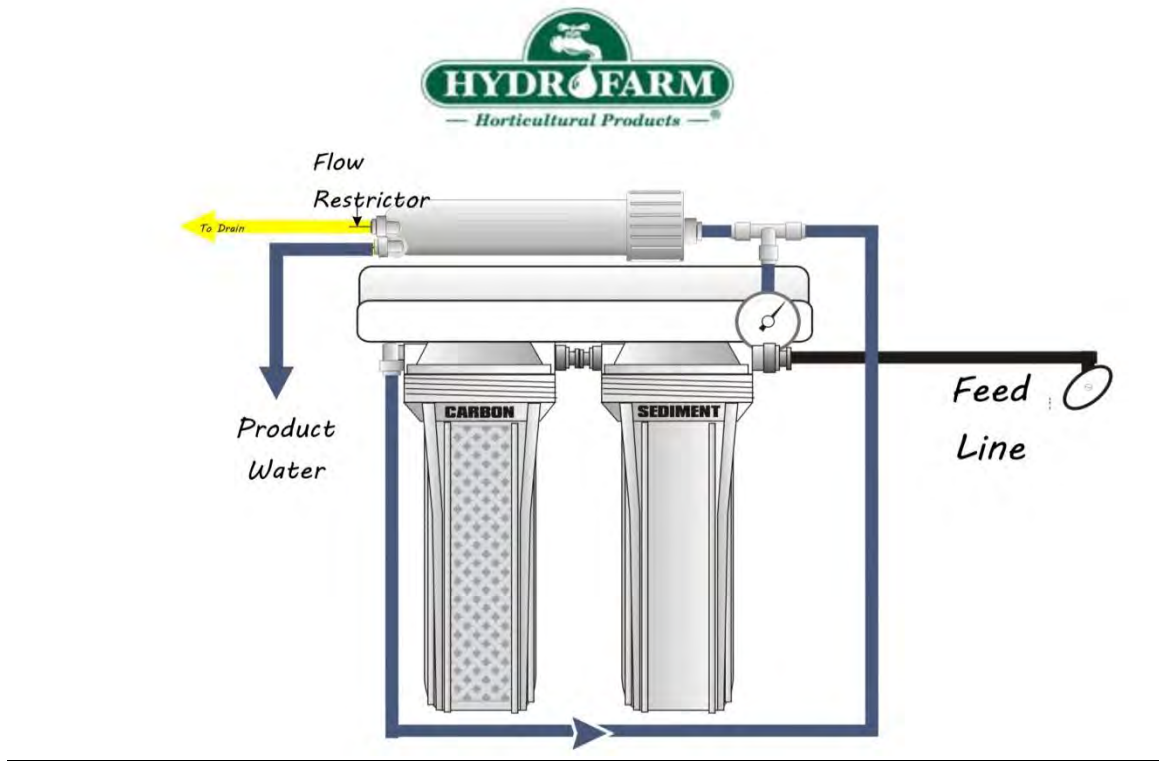


### Before hooking the unit up to a water supply:

- 1) Unpack your unit completely.
- 2) Inspect for any damage or broken parts as a result of shipping.
- 3) Locate and connect the supply side of the equipment. This will be the right side as you face the system. The supply side will consist of **Black** ¼" tubing and garden hose connector.
- 4) Locate the **Yellow** drain line, and place in an appropriate area for drainage.
- 5) Locate the **blue** purified water line, this line will emit treated purified water for use and will attach to the left side of the system.
- 6) Once all lines are installed, turn on the water source and allow the system to run for approximately 15 minutes to properly flush out the membrane before drinking. Check the system for leaks!
- 7) The sediment and carbon block filters (stage 1 and 2) should be changed According to the specifics outlined in the attached filter change sheet. If your pressure gauge drops below 35 PSI, you should replace the stage 1 and 2 filters. You need at least 35 PSI supply pressure to permeate the membrane.
- 8) The only way to check your membrane for proper rejection is with a TDS Meter (Total dissolved solids)
- 9) You are now ready to make clean, fresh, ultrapure water.

All Clear Canisters **MUST** be re-placed after 3 years. Please contact us if you have problems with your unit. Customer is responsible for filter and membrane changes and associated costs.

The three major variables that control water flow through the system are temperature, pressure and incoming water quality!



### Accessories

**Handheld EC/TDS Meters:** A very accurate way to check the performance of your water filtration system. Regularly checking the EC/TDS can help detect any problems with early membrane exhaustion. Checking the water after the DI cartridge will give you added peace of mind that your reef/salt water system is receiving the quality of water you need.

**RO Water Storage Tanks:** These tanks are used by many of our customers to store water or to save up sufficient water to begin a new tank. They can be equipped with automatic shutoff valves to reduce waste water.

**Membrane Flush Kits:** Flush kits are used to extend the membrane life of the filter.

**Membrane Add-on Kit:** Installing an additional membrane to your existing system will increase your units output!

**Storage Tank(s):** Many times storage of water is needed or just desired. 40 gallon or larger food grade tanks are available to automatically top off. We can design tanks to your needs!

## Filter Change Sheet and Normal Operation

Note: Filters are referenced in the order in which they appear in the system

1. **Sediment Filter:** This filter is the first stage in the R/O process. The sediment filter effectively removes particles and sediments. An example of a particle that would be removed is sand. The sediment filter's life depends on the amount of total particles in your water supply. The best way to determine when to replace this filter is from a PSI pressure drop. When you see a 5 PSI drop on your unit, you should change the sediment filter. Discoloration is also a sign that the filter is loaded with contaminants and should be replaced with a new sediment filter.
2. **Carbon Block, GAC or Chloramine Blaster Filter:** These filters effectively reduce VOC's (Volatile Organic Compounds) in RO water systems. The federal Safe Water Drinking Standard mandates that if you have contaminated drinking water, you need to treat it accordingly. The most cost effective way to predict carbon filter life is by measuring the output in gallons. The carbon block will filter 3,750 gal @ 1.0 GPM of 2ppm Chlorine (Cl<sub>2</sub>). A GAC will yield 5000 gallons of treated water @ 1.0 GPM of 2ppm Chlorine (Cl<sub>2</sub>). The Chloramine Blasters are run 2 in series and will yield approximately 8000 gallons of treated water.

*(Do not exclude drain water from this capacity, as it is treated water.)*

3. **Reverse Osmosis Membrane:** This is the first component in the system that reduces Total Dissolved Solids (TDS); a common example of dissolved solids can be salts or calcium. A TDS meter is the best way to determine if your membrane is operating properly. A properly operating membrane will give you a TDS reduction of at least 90%. EXAMPLE: Raw water TDS is 100ppm, after the membrane it should be 10ppm or less. Membranes can fail due to Clogging or Scaling, in this situation very little or no purified water will be produced from the RO's blue line. Membranes can also fail from contact with chlorine. So changing the carbon filter on time is essential. Hot water will also ruin a membrane (>80 Deg. F). If your membrane produces significantly more water than its specified rating, something is wrong.

### *Limited Three Year Warranty*

*Hydrofarm, Inc. warrants the product to the original owner to be free of defects in material and workmanship for a period of three years from the date of receipt. This warranty covers filter cartridge housings, fittings and tubing and all components. Filter replacements including sediment cartridges, carbon block cartridges, reverse osmosis membranes are the responsibility of the consumer.*