WECO FILTERS™

Changing the Course of Water Purification

WECO

HydroSense Reverse Osmosis Water Filter

Installation Manual



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INTRODUCTION

Congratulations! By choosing **WECO** Reverse Osmosis (RO) water purification system for your home, you have not only ensured the highest quality, healthy drinking water, you have also selected the most efficient and convenient system in the industry.

While the elegant, yet simple, design complements any décor, the aesthetic qualities are only the beginning. We designed the premier RO system as a highly efficient, easily maintained addition to every home and business.

The RO System filters multiple substances harmful to humans and pets including, impurities, residual chlorine, heavy metals, chemicals, and filterable, viruses to name a few, and also removes 96 percent of ions in the water.

Before installing your new RO System, please read the instructions thoroughly and make sure you have all the necessary tools at hand.

Your new Reverse Osmosis Drinking Water system used a combination of filtration technologies to reduce unwanted contaminants in a water supply. The following steps combine to give you the best in clear sparkling drinking water.

Mechanical Filtration – The sediment pre-filter will remove the larger particles such as silt, rust, and scale. Its 5-micron (equal to 0.0002 inch) nominal rating helps to give maximum life to the RO membrane and carbon filter.

Activated Carbon Pre-filters- The activated carbon in a pre-filter will remove any chlorine that may be present in the feed water.
This pre-treatment is also necessary for membrane protection in chlorinated water.

Reverse Osmosis Membrane – The RO membrane is the heart of the filtration system. It is designed to reduce the dissolved mineral content of the water. Minerals picked up in the environment by the water are measured as Total Dissolved Solids (TDS). In the reverse osmosis process, dissolved minerals are separated from the incoming water (feed water) to produce the product water (the permeate). The excess minerals are rinsed to drain (the reject water). The spiral-wound construction of the RO membrane provides maximum surface area for water production and is less susceptible to fouling by particulate matter, turbidity, and colloidal materials.

Inline Carbon Absorption Post-filter- The activated carbon post-filter cartridge contains carbon particles with a vast network of pores. The tremendous surface area of these pores (typically 800-1,200 square meters per gram of carbon) gives the carbon very good absorption sites for chlorine as well as other substances that contribute to tasted and odors. The product water from the membrane and the holding tank passes through the inline carbon post-filter on the way to the dispensing faucet. The activated carbon post-filter reduces tastes and odors that may pass through the systems. It adds a final “polish” to the water.

Booster Pump Models – The booster pump consists of the pump, transformer unit, and the tank shut-off switch. The tank shut-off switch will shut down the pump when the water production is not necessary, such as when the tank is full, to prevent prematurely burning out the pump. Booster pumps are used when there is little or no water pressure (below 30 psi is considered very low water pressure). The booster pump increases and maintains your water pressure at the optimum level for maximum rejection of total dissolved solids (TDS) and filtered water production.

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Components List

Your new **WECO** Reverse Osmosis System should include the following items. If any item is missing, please contact your supplier, retailer, or any local professional plumbing service. Please take a few moments to check all following components.



Fig. #1

1. Reverse Osmosis System Unit
2. RO Membrane Filter Cartridge
3. Filetr Housing Wrench
4. Polyethlene Tubing
5. Chromed Ball Valve
6. Male Elbow Fitting Connector
7. Union Tee Fitting Connector
8. Chrome Feed Water Adapter
9. Stem Adapter Fitting

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Before Installation

Before you begin, make sure the installation kit and tools are complete and ready to use.



Fig. #2

Tools required for installation: utility knife, Phillips screwdriver, hammer, adjustable wrench, Teflon seal tape, electric drill, and drill bits (1/8", 1/4" and 7/16").

Before you Begin - Important Notes

Important Note: Feed Water Quality - Reverse osmosis drinking water systems are not intended to be used for the treatment of water that is microbiologically unsafe or of unknown quality. If the feed water quality is unsafe or unknown, have a sample of the water tested by a qualified laboratory or agency and implement the necessary measures to ensure a safe water supply.

Check with Local Codes - Some codes may require installation by a licensad plumber; check with the local plumbing authority prior to installation.

Air Gap - An Air Gap (not included) should be installed prior to the drain to prevent backflow of contaminated wastes from the drainpipe.

Drain Connections - Some state orlocal codes may require that the drain saddle be served by a trap other than the one serving the garbage disposal. Before making a connection, please check with code authorities.

CAUTION

Do not use water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

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Quick Connect EZ Fitting Guide

Your Reverse Osmosis Drinking Water Appliance is outfitted with the new generation of userfriendly EZ connect push-in fittings. Proper use of the fittings is shown in the diagrams below.

It is important that the tubing selected for use with these connectors be of high quality, exact size and roundness, and with no surface nicks or scratches. If it is necessary to cut the tubing, use a plastic tubing cutter or sharp razor knife. Make a clean, square cut.

Should a leak occur at a fitting, the cause is usually a defective tubing end cut.

To fix:

- Relieve pressure
- Release tubing
- Cut off at least ¼" from end
- Reattach tubing
- Confirm connection is leak free

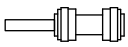
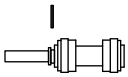
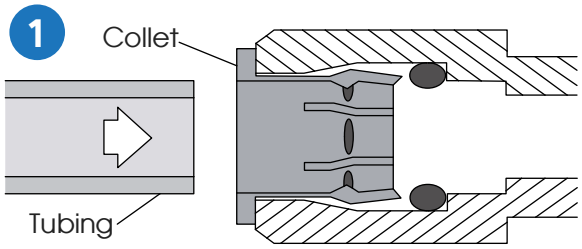
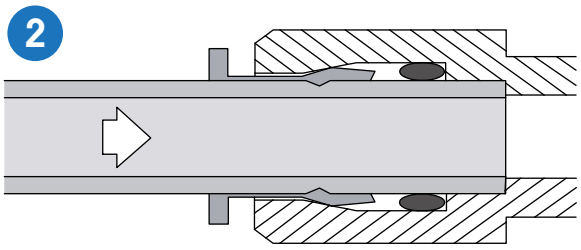
Cut the tube squarely, and insert tube into the lock fitting (be sure the lock fitting is flush for secure insert).	
Push tube inward while pushing the lock fitting outward and insert the lock pin.	
Pull the tube to ensure tube is tightlly fitted.	

Fig. #3

To Attach Tubing



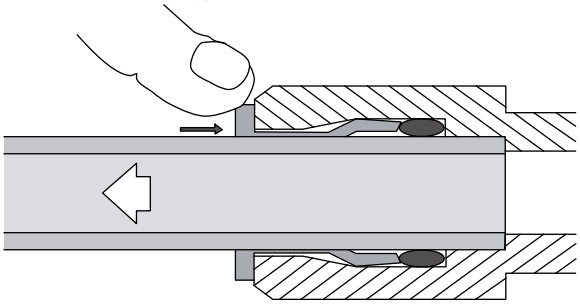
Push tubing straight in as far as it will go.



Tubing is secured in position.

Fig. #4

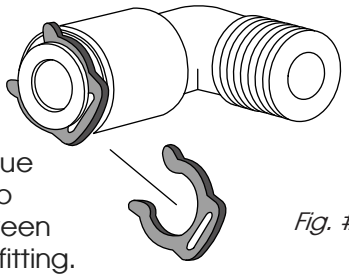
To Release Tubing



Push in collet to release tubing.

Fig. #5

To Insert Locking Clip



Optional Blue Locking clip slides between collet and fitting.

Fig. #6

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Component Recognition / Product Overview



Fig. #7

1. 1st stage - 20" STND White Filter HSG 3/4" ports (Sedim ent Filter)
2. 2nd stage - 20" STND White Filter HSG 3/4" ports (Carbon Block Filter)
3. 3rd stage - 20" STND White Filter HSG 3/4" ports (Carbon Block Filter)
4. 4th stage - RO Membrane Housings (100 GPD RO Membrane Element x5 - 500 GPD)
5. Flow Restrictor
6. High FlowBooster Pumps
7. Power Supply (transformer)
8. Pressure Gauge

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Installation Instructions

Pipe Connection:

⚠ CAUTION

The water supply to this reverse osmosis system **MUST** be from the **COLD** water line. Hot water will damage the RO system. Before installation, be sure to shut off the house's main water line.

Tapping into the cold water line

1. If the feed water tubing connection is too short, future filter cartridge replacement will be very difficult. Place the machine in a location convenient for service and installation. Measure the distance between the feed water valve point to the RO system inlet point, then cut the RED PE (polyethylene) tube to measured length. An additional PE tube is included in the installation kit.

2. Locate the self-piercing feed water valve, turn off cold water supply under the sink, and open faucet to relieve water pressure.

   To install on (soft) copper tubing supply line:

   - Turn the handle of the feed water saddle value counter clockwise (outward) until the lance does not protrude from the gasket. It may have to be pushed in.
   - Assemble the feed water saddle on the tubing.

   - To pierce the tubing, turn the valve handle fully in the clockwise direction until the copper tube is pierced and the valve is closed.

   To install on (hard) steel, galvanized, or CPVC tubing supply line.

   - The supply line should now be drained. Use a battery-powered or properly grounded drill to avoid shock hazard.
   - Drill a 3/16" hole in the supply line; (do not drill through the opposite wall)/
   - Turn the handle to expose the lance no more than 3/16" beyond the rubber gasket.
   - Place the body of the valve over the hole so that the lance fits into the hole.
   - Assemble and tighten the brass screw.
   - Turn the valve handle clockwise (inward) until firmly seated and the valve is closed.

3. With the feed water saddle valve closed, open the sink faucet and the water supply and allow the water to run for a few minutes to flush out any debris caused by the installation.

   ➤ Close the faucet and check the feed water saddle valve for leaks.

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Power Supply Installation

Locate the power outlet under the sink or near the RO system unit. Make sure the power cord is long enough to reach the power outlet; if not, contact a licensed electrician to install a power outlet.

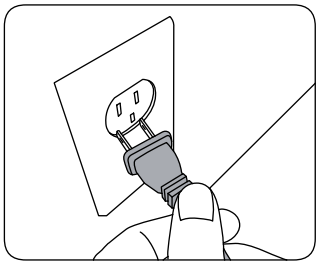


Fig. #8

RO Membrane Cartridge Installation

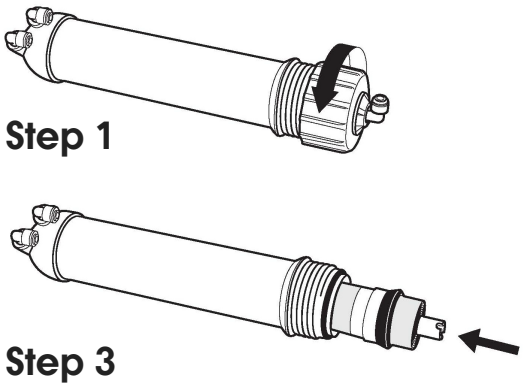
1. Release the tubing from the end cap of the membrane housing

2. Unscrew the end cap from the membrane housing on the appliance, and insert the membrane as illustrated below.

3. The O-rings on the product water tube of the membrane MUST FULLY SEAT in the membrane housing for proper operation. Make sure that the brine seal on the membrane seals with no gaps or wrinkles inside the membrane housing.

4. Once the membrane is installed, replace the end cap and reconnect the tubing.

   To ensure that all preservatives are flushed from the system before use, DO NOT use the first two tankfuls of water produced by the system.



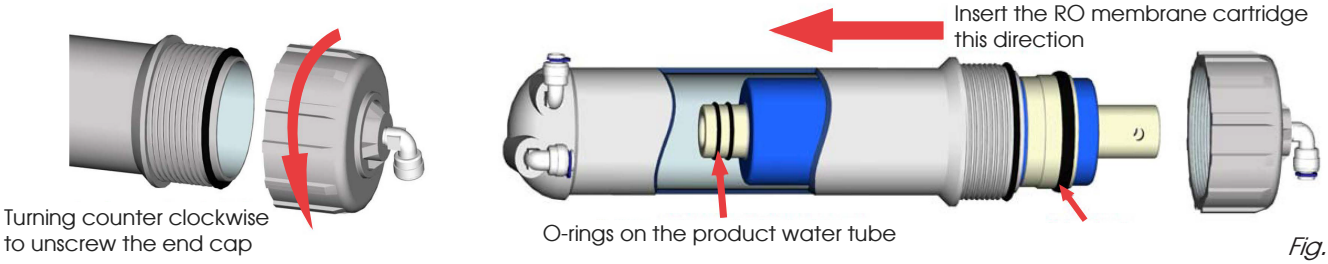


Fig. #9

Maintenance and Cartridge replacement

Important Note: The RO System functions directionally. Please do not randomly fill or drain water or interchange the cartridge from left to right.

The need for filter replacement varies with water quality and usage. Replace cartridges on a regular basis to ensure the highest quality water and extend the life of the system.

1. Before replacing filter cartridges, turn off water, power, and tank ball valve, then turn the RO faucet (black lever) up to let the water flow out completely.

2. Using filter housing wrench to turn (unscrew) the filter housing clockwise to open the filter housing.

3. Discard of recycle the used cartridge. Replace the new filter cartridge and screw the filter housing back on the cap. Turn the filter housing counter clockwise until tight and seal.

4. Repeat previous steps on the next filter.

5. Turn on the water supply and check for leaks.

6. After replacing all filter catridge stages, flush the system with one tankful of water before use.

7. Replace filter cartridge regularly to ensure the quality of drinking water and extend the life of the system.

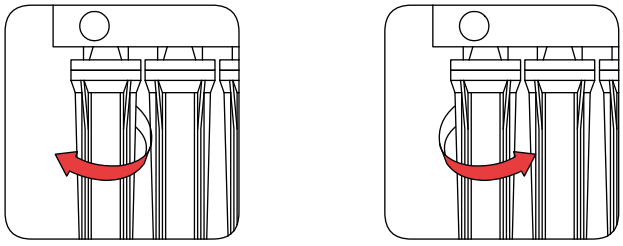


Fig. #10

Reverse Osmosis Systems Replacement Cartridges

System	Stage 1 Filter	Stage 2 Filter	Stage 3 Filter	Stage 4 Filter	Stage 5 Filter	Stage 6 Filter
HydroSense-0400	PD-5-20 Polydepth	EP-20 Carbon Block	CBC-20 Carbon Block	TW - 1812-100		
HydroSense-0500	PD-5-20 Polydepth	EP-20 Carbon Block	CBC-20 Carbon Block	TW - 1812-100		
HydroSense-0500DI	PD-5-20 Polydepth	EP-20 Carbon Block	CBC-20 Carbon Block	TW - 1812-100	GS - 210DI	
HydroSense-0500GAC	PD-5-20 Polydepth	EP-20 Carbon Block	CBC-20 Carbon Block	TW - 1812-100	GS - 215RO	
HydroSense-0500UV	PD-5-20 Polydepth	EP-20 Carbon Block	CBC-20 Carbon Block	TW - 1812-100	GL10SE4P	
HydroSense-0500GAC-CAL-UV	PD-5-20 Polydepth	EP-20 Carbon Block	CBC-20 Carbon Block	TW - 1812-100	GS - 10CAL/RO	GL10SE4P

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System Performance and Operating Limits

Production Rate GPD (m3/d)	**50 GPD**
Stabilized Salt Rejection	**98%**
Minimum Salt Rejection	**98%**
Feed Water TDS	**2000 ppm Max**
Feed Water Temperature	**40 ~ 113 °F**
Feed Water Pressure	**40 ~ 85 psi**
Feed Water pH	**5 ~ 10**
Feed Water Hardness	**≤ 10 grains per gallon**
Feed Water Iron	**≤ 0.1 ppm**
Feed Water Manganese	**≤ 0.05 ppm**

1. Production flow and salt rejection based on the folllowing test condition: 250 ppm softened tapwater, 77 °F (25 °C), 50 psig and 15% recovery
2. Permeate flow rates for individual elements may vary +/- 20%
3. Booster Pump models may significantly increase production and TDS reduction rates, average pressure increased by 60 psi.

Troubleshooting

RO System does NOT start up	
Power cord not plugged in, Power outage	Check and connect power
Transformer burned out	Check the transformer input voltage/overload burned out
Insufficient water (water cut off) and inlet pressures	Check the inlet water pressure
Booster pump malfunction	Replace Booster pump
Post filter cartridges are clogged	Check if post filter cartridge is clogging the water flow
High pressure switch failure	Replace high pressure switch
Low pressure switch failure	Replace low pressure switch

Insufficient Output RO Water	
Insufficient water pressure coming out of booster pump	Replace booster pump
RO membrane filter element got clogged	Replace RO membrane
Insufficient water input	Check if the Stage 1,2 or 3 filter cartridge is clogged
Stage 1,2 or 3 filter cartridge is clogged	Check if the Stage 1,2 or 3 filter cartridge is clogged/replace

No or Little Decrease in TDS Value in Product Water	
RO membrane connector O-RING deformed with leakage	Replace O-RING
RO membrane ruptured/aperture enlarged	Replace RO membrane element cartridge

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System NOT Treating Water After Replacing Filter Cartridge	
Air in the tubing (AIR)	Release the air in the tubing

Pressurized Motor Continues to Restart Frequently	
Outlet check valve is not blocking water completely	Replace check valve
Leakage in the tubing	Lock tight/replace tubing

Booster Pump Motor Burned Out	
Abnormal frequent startup and overheat	Replace booster pump

Pressurized Motor Junction Leakage	
Motor triangular diaphragm rupture	Replace booster pump

Motor Does NOT Pump Up the Pressure	
Air in the motor	Release the air
Insufficient water input	Check if water supply and post filters cartridge are clogged

RO Water Smells or Tastes Strange	
Inline active carbon is saturated	Replace inline activated carbon filter cartridge (polished filter)
Intermittent usage, water ceases flowing	Drain tank water/replace inline active carbon cartridge

Stage 1,2 or 3 filter cartridge Junction Leakage	
Filter housing not locking tightly	Lock each filter housing (canister) tightly
Filter housing o-ring deformed	Replace housing o-ring

Transformer Burning Smell	
Power input specification error/burned out	Check if power input complies with standard specs

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