

Classic 50 GPD 3-Stage RO Unit

Model: 540229

Installation, Operation & Maintenance Guide



Thank you for purchasing an Aquatic Life Classic Reverse Osmosis Unit.

When maintained properly, this unit will provide you with years of service.



OVERVIEW

Reverse osmosis is the process of removing contaminants from tap water using a special semi-permeable membrane. By applying water pressure across the membrane, contaminants are concentrated on one side of the membrane and filtered water on the other side of the membrane. This is why reverse osmosis units have a waste water line as well as a filtered line.

In addition to the membrane, water is filtered prior to the membrane with a sediment cartridge to remove larger particulates, and a carbon block to remove chlorine and other materials.

For technical assistance or warranty issues,
please contact Aquatic Life at

1-888-548-3480 or 1-818-768-6943

or email

customersupport@aquaticlife.com

Thank You!



WARNING: This unit will remove chlorine, but **NOT chloramines**. Test your water and/or check with your local water company to find out if you have chloramines in your water.



WARNING: Please read carefully before proceeding with installation. Your failure to follow any attached instructions and operating parameters may lead to the product's failure.

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STAGE 1 – SEDIMENT FILTER

Recommended change 3-6 months or 3,500 gallons total or 900 gallons of filtered water

The first stage of your RO unit is a five micron sediment filter that traps sediment and other particulate matter like dirt, silt and rust which will affect the taste and appearance of your water.

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STAGE 2 – CARBON BLOCK FILTER

Recommended change 3-6 months or 3,500 gallons total or 900 gallons of filtered water (at 1 ppm chlorine)

The second stage of your RO unit is a carbon block filter. The activated carbon in the filter reduces chlorine and conditions the water prior to the RO membrane.

RO

STAGE 3 – RO MEMBRANE

Recommended change 12-24 months

The RO membrane reduces impurities known as total dissolved solids (TDS) from the water down to 1/10,000 of a micron, reducing arsenic, lead, parasitic cysts, copper and more. Because the process of filtering the high-quality water takes time, it is common to use a storage tank to collect filtered water, making it available on demand.

Contents (Model #540229)

1	RO Unit Housing with Mounting Bracket	1	Membrane Wrench
1	Sediment Filter Cartridge	1	¼" 90° Buddie-Fit™ Elbow
1	Carbon Block Cartridge	1	Red Tubing, ¼" x 10 Ft
1	RO 50 GPD Membrane Cartridge	1	Blue Tubing, ¼" x 10 Ft
1	Garden Hose/Laundry Faucet Adapter	1	Yellow Tubing, ¼" x 10 Ft
1	Common Size Kitchen/Bathroom Sink Faucet Adapter	1	Roll Plumber's Tape
1	¼" Manual On/Off Valve	1	Set Mounting Screws
1	Canister Wrench	1	Installation, Operation and Maintenance Guide

Tools & Materials Recommended for Installation

Phillips Screwdriver	Single Edge Razor Blade
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OPERATING GUIDELINES

DO NOT use with water that is micro-biologically unsafe or of unknown quality without adequate disinfection before or after the unit.

The maximum incoming water pressure for the unit is 80 PSI.

If the pressure is more than 80 PSI, a pressure regulator is required. If the water pressure is less than 40 PSI, a booster pump is needed.

Water hardness should not exceed 10 grains per gallon or 170 parts per million.

Operating above this may shorten the membrane life.

Reverse osmosis filtered water should not be run through a copper tube.

The pure RO water can leach copper from the pipe, eventually leading to holes in the pipe.

DO NOT operate the unit unattended.



NOTE: Filter cartridges and membrane life may vary based on local water conditions and amount of use.



WARNING: This unit will remove chlorine, but **NOT chloramines**. Test your water and/or check with your local water company to find out if you have chloramines in your water.

WATER SUPPLY INSTALLATION

This Aquatic Life RO unit includes two options for easy connection to a water supply.

Option 1:

Connect to a standard water faucet (often found on the exterior of houses, utility sinks, and washing machines) with the hose bib connection.



Option 2:

Your RO unit includes a special adapter that will connect to most kitchen and bathroom faucets. To install:



Remove the existing aerator on the sink faucet.



Thread-in the two-piece sink faucet adapter.

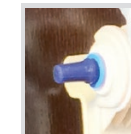
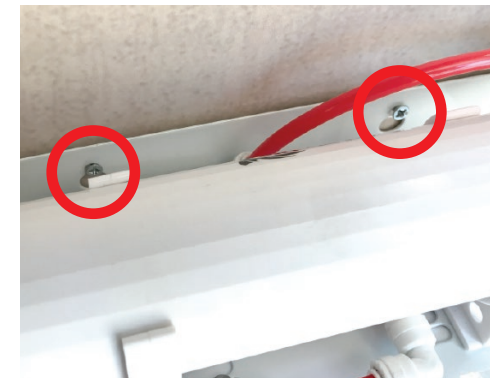


Attach the hose bib connection to the other end of the sink faucet adapter.

MOUNTING THE REVERSE OSMOSIS UNIT

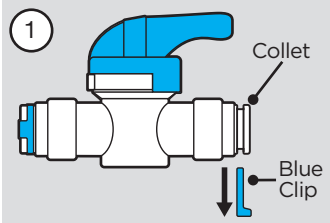
The Aquatic Life Classic RO unit is designed to be mounted to a secure surface. This will allow for the cartridges to easily be replaced as needed. A metal bracket with screw holes is provided.

Use screws designed for the type of surface that the RO unit will hang on. Leave the screws extending about 1/8" from the surface and then hang the metal bracket on the screws.

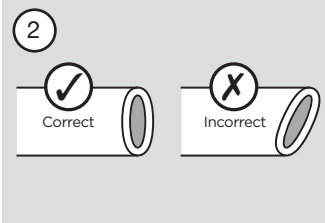


NOTE: If your model includes rubber plugs on any of the ports, it is now OK to remove the plug by simply pulling it out.

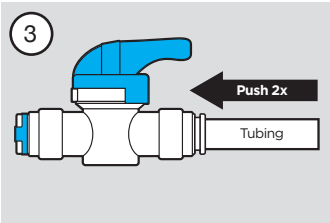
USING THE BUDDIE FIT™ PRESS FITTINGS



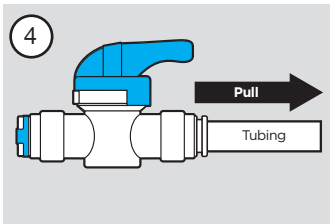
Remove the blue clip from the press fitting.



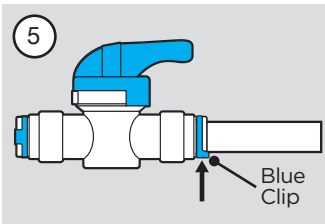
Cut tubing evenly and not at an angle.



Push the tubing into the fitting. You will hit the first stop. The tubing is still not secured properly. Push the tubing a second time and you will feel the tubing insert completely (5/8") into the press fitting.



Pull back on the tubing to ensure it is secure.



Insert the locking blue clip back onto the press fitting.



NOTE: To remove a piece of tubing, remove the blue clip and press down on the collet where the tubing enters the fitting. While the collet is depressed, remove the tubing from the fitting.



NOTE: We recommend cutting the tubing with a razor blade or something similar, so the tubing is not pinched. If the tubing is pinched, it will not seal properly. All tubing connections will have a "double push" into the connectors. You should feel a two-step insert to verify the tubing is inserted completely into the connectors.

INSTALL THE COLOR-CODED TUBING

The Aquatic Life Classic units include color coded tubing to help identify filtered, incoming and waste water. This also makes it easier to correctly connect the tubing to the unit.

Refer to the Buddie Fit press fittings instructions (left) before installing the tubing.

Step 1 – Connect one end of the yellow tubing to the hose adapter on the incoming water supply and the other to the supply port.



Step 2 – Cut the yellow tubing and install the 1/4" manual on/off valve in a convenient place in the water supply line.



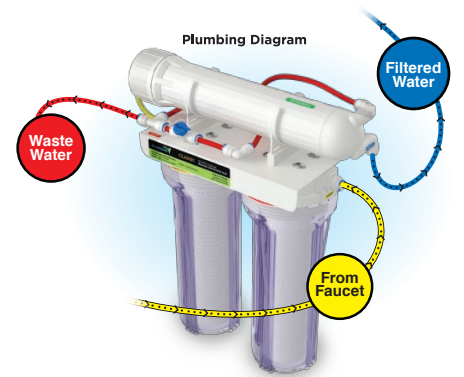
Step 3 – Connect one end of the red tubing to the waste port. Secure the other end to a drain or collection container.



Step 4 – Connect one end of the blue tubing to the filtered water port. The other end should be plumbed to a container that will collect your reverse osmosis water.

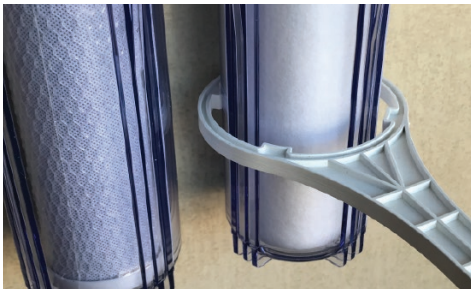


NOTE: A 90° elbow is included that can be used in plumbing the Classic RO unit. If desired, insert the elbow between one of the ports and the tubing.

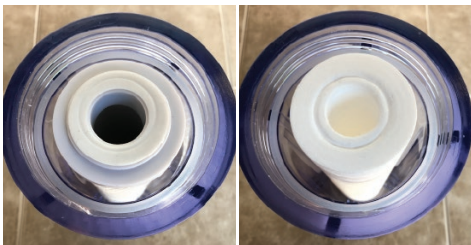


INSTALLING THE CARTRIDGES

Step 1 – Use the canister wrench to loosen the canisters and gain access to the cartridges. Remove the plastic wrap from the cartridges and reinsert into the canisters before tightening. The sediment cartridge must be on the right and the carbon cartridge on the left for proper operation.



NOTE: Center the cartridges in the middle of each canister prior to re-attaching. The carbon cartridge has a gasket on each end that must be properly seated.



Step 2 – Reattach the canisters.



IMPORTANT! Flush carbon cartridge prior to installing the RO membrane.

THE CARBON CARTRIDGE MAY CONTAIN CARBON DUST THAT MUST BE FLUSHED OUT PRIOR TO INSTALLING THE MEMBRANE. If it is not rinsed, carbon dust can plug the membrane and shorten its life.

Step 3 – Flush the carbon cartridge. With only the sediment and carbon cartridges installed, allow water to run through the RO unit for several minutes.

Step 4 – Install the membrane. Remove the yellow tubing connected to the membrane cap and use the membrane wrench to remove the cap.



Step 5 – Remove the protective wrap from the RO membrane and insert into the membrane housing.



NOTE: It is important to push the membrane completely into the membrane housing for the unit to function properly.



Step 6 – Install the membrane cap and tighten with the membrane wrench. Re-attach the yellow tubing to the elbow on the membrane cap.

PREPARING MEMBRANE FOR USE



IMPORTANT: Flush the RO membrane before use of the RO unit.

All RO membranes contain a preservative to keep them sterile. **IT IS IMPORTANT TO FLUSH THE PRESERVATIVE OUT OF THE MEMBRANE PRIOR TO USING THE FILTERED WATER.** Turn on the water to the RO unit and allow to run for 30 minutes. Discard all the water from the first 30 minutes of operation. The unit is now ready for use.

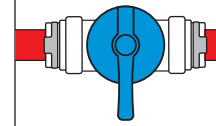
UNIT MAINTENANCE

Weekly Maintenance

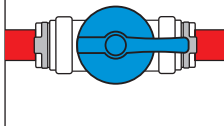
The Classic RO unit includes a flush valve to prolong the life of the membrane. It is important to periodically open the flush valve for 45 seconds prior to making filtered water. This will clear debris that may have built-up on the membrane.



Flush Valve Closed



Flush Valve Open



Recommended change 3-6 months or 3,500 gallons total or 900 gallons of filtered water

Sediment cartridge (Item # 330088)

Carbon cartridge (Item # 330090)

12 Month Maintenance

Inspect clear canisters and replace as necessary.



NOTE: The life span of the filter cartridges, including the membrane, are dependent on multiple factors. These include the quality of the incoming water supply (TDS levels, chlorine, etc.) as well as the amount of use. Our recommended replacement intervals are based on average usage.

REVERSE OSMOSIS FILTER BASICS

The membrane does most of the work by removing up to 98% of the TDS from your water. The sediment and carbon filters protect the membrane from the many malicious elements that shorten its life. The sediment cartridge removes suspended particles larger than 5 microns (3 times smaller than a mold spore). The carbon block removes chlorine. Timely replacement of the cartridges will increase the membrane's life.

The carbon cartridge is the most important cartridge to change frequently. The carbon cartridge can filter about 3,500 gallons of water before being replaced IF your chlorine level is 1 ppm (parts per million). With a 2 ppm you can filter 1,750 gallons of water before needing to change, with a 3 ppm you can filter 1,166 gallons, and so on. Any chlorine not absorbed by a spent carbon cartridge will break down your membrane, thus greatly shortening its life.

The 3,500 gallon threshold is TOTAL water that passes through the unit. The RO unit has an average rejection ratio of 1:3.5. That means for every 1 gallon of good water produced you will reject 3.5 gallons for a total of 4.5 gallons of water passed through the unit.

When the sediment cartridge needs to be changed, the production of water will reduce. Even with reduced water production, the cartridge will not allow anything larger than one micron to pass through the chamber. On average the sediment cartridge should be changed at every other carbon change.

With proper filter changes, the membrane could last up to two years. The membrane's water production rating is based on 77°F water at 65 PSI. Any deviation from this

will affect the water production. Reference the conversion table below. You will notice that the warmer the water, the better the production. It is not advised that you introduce water from your water heater to increase water temperature. The membrane cannot handle temps over 100°F.

Temperature Correction		Pressure Correction	
Temp. F/C	Correction Factor	Pressure PSI	Correction Factor
50/10	0.58	10	0.17
60/16	0.73	20	0.33
70/21	0.87	30	0.5
77/25	1.00	40	0.67
80/27	1.06	50	0.83
90/32	1.23	65	1
100/38	1.45	70	1.17
		80	1.33

Example

An RO membrane production rate at 77° F, 65 PSI = 100 gallons per day.
What is the production rate at 50° F?

Answer

Use the temperature correction factor (from table above) = 0.58
New production flow rate at 50° F is 100 x 0.58 = 58 gallons per day.

OPERATION & CONSIDERATIONS

Your target pressure is 60- 65 PSI. You will produce less filtered water if your water pressure is below 60 PSI. Pressure above 60 PSI may produce more water. If the incoming water pressure is less than 40 PSI, you may need to add a booster pump.

- Operating the Classic RO unit using softened feed water greatly reduces the chances of membrane failure.
- Clear canisters have a limited life and should be replaced on an annual basis to prevent possible failure.
- Operating pressure less than 40 PSI may require a booster pump.
- Operating pressure greater than 80 PSI requires a pressure regulator.
- With initial operation, check for leaks. If a leak is observed, verify that the tubing is pushed into the push-fitting far enough to seal the tubing against the o-ring and that the canisters and caps are sealed properly with their o-rings.
- Many of the components in the Classic RO unit are plastic and subject to damage by ultraviolet light.
- Never store or operate the unit in direct sunlight or other bright lights.
- Do not store or operate the unit in temperatures above 100°F.
- Do not store or operate the unit in freezing temperatures.
- Do not leave the unit unattended while connected to a water supply.

ADDITIONAL PURCHASE CONSIDERATIONS

Depending on your installation and application needs, you may find other Aquatic Life products helpful with this RO unit. Visit www.aquaticlife.com for the complete line of Aquatic Life filtration products and accessories.

Float Valve Kit (Item # 500300)

Fill large tanks, containers, and aquariums automatically. If using this with a reverse osmosis or RO/DI unit, you will not need any other components, as this includes the necessary auto shut-off valve, check valve and tubing.

Aquatic Life Dual Deionization Unit (Item # 540235)

Adding a deionization unit to a RO unit will reduce the remaining TDS (total dissolved solids) in membrane filtered water. Not to be used for drinking water unless the necessary minerals are added back into the water prior to consumption.

Buddie Fit™ Press Fittings

Easily plumb ¼" water units with these press-fit connectors. Available in a variety of connections that include adapters to threaded fittings as well as elbows, tees and check valves.

Tubing – 50 Ft rolls Blue (Item # 500297) Red (Item # 500298) Yellow (Item # 500299)

Ideal for applications where a longer run of tubing is required. This ¼" polyethylene tubing is durable, flexible and easy to plumb. Available in blue, yellow and red for quick identification of supply, waste and filtered water.

Classic 50 GPD 3-Stage RO Unit

Model: 540229

Installation, Operation & Maintenance Guide



3-YEAR LIMITED WARRANTY

Lifetime Products LLC warrants that this Reverse Osmosis unit (excluding cartridges, membrane and clear canisters) shall be free from defective components and leaks or cracks due to defects in materials or workmanship for a period of three (3) years from the date of purchase. If a defect is shown, Lifetime Products LLC will, at Lifetime Product's sole discretion, either repair or replace the product without charge. No cash refunds will be made. This warranty is provided solely to the original consumer purchaser of the product and may not be transferred or assigned. If Lifetime Products chooses to replace the equipment, Lifetime Products may replace it with reconditioned equipment. Parts used in repairing or replacing the equipment will be warranted for 90 days from the date the equipment is returned to you or the remainder of the original warranty period, whichever is longer.

This warranty does not apply to damage resulting from accident, misuse, abuse, lack of reasonable care, failure to follow safety and installation instructions.

This warranty will be void if defects occur due to failure to observe the following conditions:

The Aquatic Life RO unit should only be connected to a potable municipal or potable well cold water supply.

Do not use with water that is of unknown quality without adequate disinfection before or after the unit.

- Incoming total dissolved solids (TDS) not to exceed 1,800 ppm.
- Incoming water to the RO cannot exceed 100°F.
- Incoming water pressure must be between 40 and 80 PSI.
- Incoming water pH must not be lower than 2 or higher than 11.
- Incoming water iron content must be less than 0.2 ppm.
- Incoming water hardness must not exceed 10 grains per gallon or 170 ppm.
- Do not use outdoors or in a location that is subjected to direct sunlight or freezing.

This warranty will not be effective unless and until the Aquatic Life product is shown to have been used in accordance with the installation and maintenance instructions accompanying the product.

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Some states and provinces do not allow the exclusion or limitation of incidental or consequential damages or exclusions or limitations on the duration of implied warranties or conditions, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary by state or province.

Lifetime Products, LLC shall not have any obligations under this warranty unless the owner notifies Lifetime Products, LLC in writing of any alleged defect(s) within 30 days of discovery of the defect(s).

Any notice to Lifetime Products, LLC must be delivered by United States or electronic mail to the following address: U.S. Mail: Lifetime Products, LLC, 9710 Klingerman St., S. El Monte, CA 91733 or electronic mail: customersupport@aquaticlife.com. Lifetime Products shall be allowed a reasonable period of time to investigate any warranty claim and to perform any testing Lifetime Products deems necessary to determine the cause of the defect. This warranty shall be interpreted under the laws of the State of California.

Lifetime Products, LLC
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