

# RO Buddie® Series

Models: 540016, 540017, 540019

## Installation, Operation & Maintenance Guide



### Thank you for purchasing an Aquatic Life RO Buddie® Reverse Osmosis System.

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. Therefore, 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.

With the RO Buddie +DI (Model # 540019), after water is filtered by the membrane, it passes through a color-changing resin cartridge where additional total dissolved solids (TDS) are removed from the water.



Models #540016 & #540017



Model #540019



**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.



**WARNING:** Do not drink water that has been filtered with a DI resin cartridge.

**S**

**STAGE 1 – SEDIMENT FILTER**

Recommended change 3-6 months or 1,500 gallons total or 400 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.

**C**

**STAGE 2 – CARBON BLOCK FILTER**

Recommended change 3-6 months or 1,500 gallons total or 400 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 1-2 years

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.

**DI**

**STAGE 4 – COLOR CHANGING RESIN (DEIONIZATION)**

Model 540019 only

Replace filter when resin changes color

After the water is filtered by the membrane, there is usually a small amount of total dissolved solids (TDS) left in the water. In certain non-drinking water applications, it is important to remove the remaining TDS from the water. This is accomplished by filtering the water through a resin that is charged with cation and anion resins (H+ and OH-). As the resin absorbs the TDS, it will change color. When all resin has changed color, it is time to replace the DI filter.



**WARNING:** The RO Buddie 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.

**Contents**

|  | #540016<br>RO Buddie<br>50 GPD | #540017<br>RO Buddie<br>100 GPD | #540019<br>RO Buddie +DI<br>50 GPD |
|--|--------------------------------|---------------------------------|------------------------------------|
| Micron Cartridge                                 | 1                              | 1                               | 1                                  |
| Carbon Cartridge                                 | 1                              | 1                               | 1                                  |
| RO Unit Housing w/Mounting Brackets and Screws   | 1                              | 1                               | 1                                  |
| Reverse Osmosis Membrane                         | 1 – 50 GPD                     | 1 – 100 GPD                     | 1 – 50 GPD                         |
| Canister Cap Wrench                              | 1                              | 1                               | 1                                  |
| Color Changing Resin (DI) Cartridge              | N/A                            | N/A                             | 1                                  |
| Common Size Kitchen/Bathroom Sink Faucet Adapter | 1                              | 1                               | 1                                  |
| Garden Hose/ Laundry Faucet Adapter              | 1                              | 1                               | 1                                  |
| 1/4" Tubing                                      | 1                              | 1                               | 1                                  |
| Installation & Maintenance Guide                 | 1                              | 1                               | 1                                  |

**Tools Recommended for Installation**

|                         |
|-------------------------|
| Phillips Screwdriver    |
| Single-Edge Razor Blade |

**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 optimal water pressure is 40-65 PSI.**

The supply water pressure should range between 40-65 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. The rated 50 or 100 GPD output of the RO unit is calculated using 65 PSI.

**The optimal water temperature is 77°F.**

Using other water temperatures will diminish the effectiveness of the filtration and can accelerate degradation of the membrane.

**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.

## WATER SUPPLY INSTALLATION

This Aquatic Life RO Buddie 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 Buddie includes a special adapter that will connect to most kitchen and bathroom faucets. To install:



1 Remove the existing aerator on the sink faucet.



2 Thread-in the two-piece sink faucet adapter.



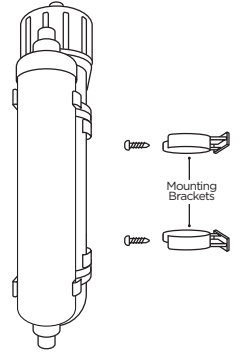
3 Attach the hose bib connection to the other end of the sink faucet adapter.

## MOUNTING THE RO BUDDIE

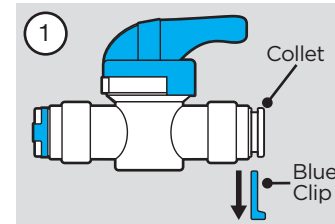
The Aquatic Life RO Buddie unit can be mounted to a secure surface. Plastic brackets with screw holes are provided. Use screws designed for the type of surface that the RO unit will hang on.



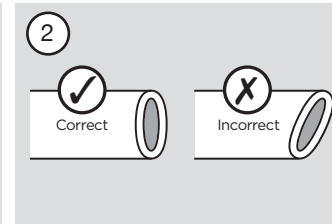
**TIP:** The RO Buddie can operate in a vertical or horizontal position



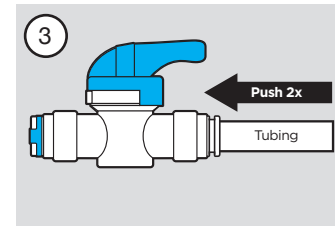
## USING THE BUDDIE FIT™ PRESS FITTINGS



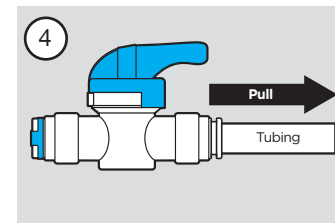
1 Remove the blue clip from the press fitting.



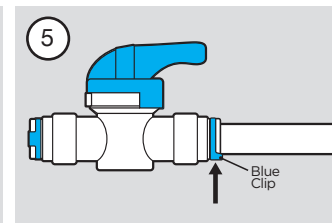
2 Cut tubing evenly and not at an angle.



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.



4 Pull back on the tubing to ensure it is secure.



5 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.

## CONNECTING TUBING



**IMPORTANT:** Review the section titled "Using the Buddie Fit™ Press Fittings (previous page) before continuing installation.

Remove the shipping plugs from the supply water, filtered water and waste water connectors.

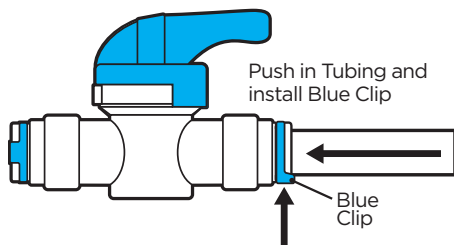
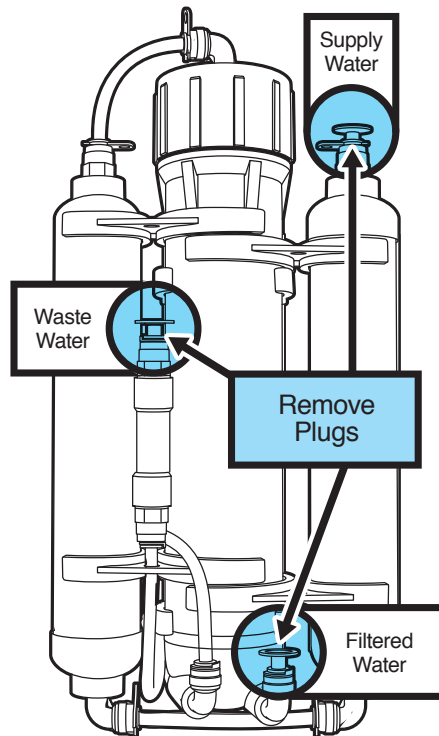
Remove the blue clips from the press fittings.

Connect a piece of the 1/4" tubing between the faucet adapter and the supply water connection on the top of the sediment cartridge.

Connect a piece of the 1/4" tubing to where the water exists the flow restrictor. This is the waste water to be discarded.

Connect a piece of the 1/4" tubing to the remaining port at the bottom of the RO membrane housing. This is the filtered water. This line should be run to your water collection container.

Install the blue clips on all press fittings when finished.



**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.

## FLUSHING THE CARBON CARTRIDGE

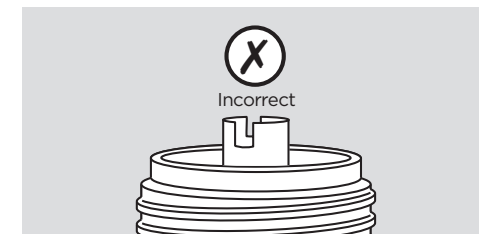
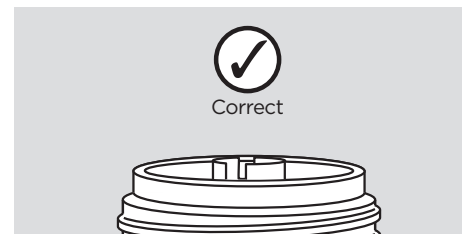
With both filtered water and waste water lines in the drain, turn on the water supply. This will flush the filter cartridges prior to installing the membrane and extend the membrane life. Flush for 5 minutes or until the water is clear coming from the filtered water line and the waste water line. After the water runs clear, turn off the water supply and allow the RO Buddie to drain.

## INSTALLING THE RO MEMBRANE

Remove the tubing attached to the elbow fitting on top of the RO membrane, remove the blue clip, depress the collet around the tubing and remove the tubing.

Unscrew the membrane housing lid from the membrane housing. Remove the membrane from the plastic bag and insert the membrane into the membrane housing.

The membrane should be inserted so that the top of the plastic pipe in the membrane is flush with the top of the membrane housing.



Replace the membrane housing lid and tighten with the supplied wrench. Reattach the tubing and replace the blue clip to secure the tubing to the elbow connection on the membrane housing.



**IMPORTANT:** 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.

## FLUSHING THE RO MEMBRANE

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 Buddie and allow the unit to run 30 minutes. Discard all the water from the first 30 minutes of operation.

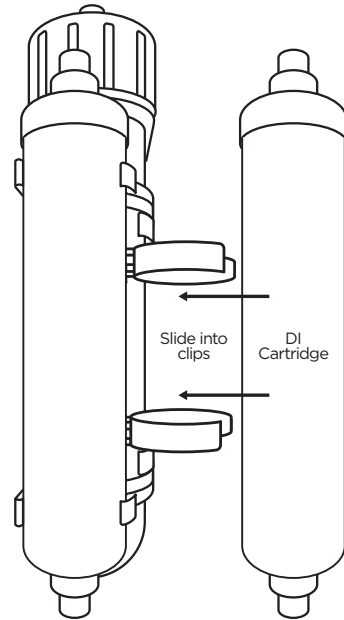
**IF YOU ARE USING THE RO BUDDIE WITH THE DEIONIZATION RESIN, DO NOT CONNECT THE RESIN CARTRIDGE UNTIL THE MEMBRANE HAS BEEN FLUSHED.**

### INSTALLING THE DEIONIZATION CARTRIDGE (MODEL # 540019)

The color changing mixed bed resin DI cartridge will absorb the remaining TDS not filtered by the membrane. By adding a DI cartridge to the RO Buddie, you can produce zero TDS water. When mixed bed resin is new, it is a blue green color. When it gets wet it will change a dark blue color. When the medium is spent it will change to a light brownish tan color.

**With the preservative flushed from the new Membrane, it is now OK to connect the filtered water line to the bottom of the DI Cartridge.**

Use the included clips to connect the DI cartridge to the front of the RO membrane housing.



### RO BUDDIE FILTER BASICS

The membrane does most of the work by removing up to 95% of the TDS from your water. The other two included filters protect the membrane from the many malicious elements that shorten its life. The sediment cartridge removes suspended particles larger than 1 micron (15 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 1,500 gallons of water before being replaced IF your chlorine level is 1 ppm. With a 2 ppm you should get 750 gallons of filtered water before needing to change, with a 3 ppm you should get 500 gallons, and so on. Any chlorine not absorbed by a spent carbon cartridge will break down your Membrane, thus greatly shortening its life.

The 1,500 gallon threshold is TOTAL water that passes through the unit. The RO Buddie 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. At 1 ppm of chlorine, you can make about 400 gallons of good water before changing the carbon cartridge, 2 ppm you can make about 200 gallons, 3 ppm you can make about 133 gallons, and so on.

### RO BUDDIE FILTER BASICS (cont.)

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 at right. 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 |                   |
|------------------------|-------------------|
| Temperature F/C        | Correction Factor |
| 50/10                  | 0.58              |
| 60/16                  | 0.73              |
| 70/21                  | 0.87              |
| 77/25                  | 1.00              |
| 80/27                  | 1.06              |
| 90/32                  | 1.23              |
| 100/38                 | 1.45              |

| Pressure Correction |                   |
|---------------------|-------------------|
| Pressure PSI        | Correction Factor |
| 10                  | 0.17              |
| 20                  | 0.33              |
| 30                  | 0.5               |
| 40                  | 0.67              |
| 50                  | 0.83              |
| 65                  | 1                 |
| 70                  | 1.17              |
| 80                  | 1.33              |



**TIP:** To make more water with your 50 GPD RO Buddie, you can install a 100 GPD Membrane, but you also need to change the 450cc Flow Restrictor to a 800cc Flow Restrictor. (800cc Flow Restrictor Part #9000704)



## UNIT MAINTENANCE

**Recommended change 3-6 months or 2,500 gallons total or 650 gallons of filtered water**

Sediment Filter Cartridge (Item # 330249)  
Carbon Block Cartridge (Item # 330250)

### 12-24 Month Maintenance

RO 50 GPD Membrane Cartridge (Item # 330084)  
RO 100 GPD Membrane Cartridge (Item # 330093)

### As Required – By Visible Color Change

Deionization Color Changing Resin Cartridge (Item # 330242)



**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.

## TROUBLESHOOTING

- **Leaks at the threaded connection:**  
If once installed the unit should leak, use plumbers tape on the threaded fitting. Typically, no more than three wraps will be required to seal the connection.
- **Leaks at the tubing connections:**  
The fittings on the RO Buddie use an o-ring inside of them. This will require the tubing to be inserted past the o-ring. You will want to make sure that when inserting the tubing you feel the initial stop when the tubing first meets the o-ring and a second stop when you push past the o-ring and meet the end inside the fitting. This is what we call the “double push”. Also, make sure to cut the tubing with a razor or similar object so that the tubing is not pinched and causes the tubing to not seal properly.

- **No water production:**  
Make sure the water supply is turned OFF. Remove the tubing from the elbow on top of the membrane housing, direct the tubing into a container and turn on the water. Does the water flow quickly through the cartridges? If not, the cartridges likely need to be changed.
- **Low filtered water production:**  
The RO membrane is rated to produce the stated volume of water based on 65 PSI and a 77° F water supply. If you have one or both specifications out of tolerance, use the Temperature and Pressure correction factors from charts on previous page.



**TIP:** Tubing should insert 5/8" inside the Press Fitting when properly installed.

## REVERSE OSMOSIS TANK ADD-ON KIT FOR DRINKING WATER

While a reverse osmosis unit can be ideal for drinking water, it is necessary to have a place to store the water. You cannot simply connect any RO unit to a water faucet/tap without certain components to allow for proper operation.

Watch the video to learn more.



## PRODUCT REGISTRATION

Thank you for purchasing an Aquatic Life product—we know you’ll enjoy it!

### BENEFITS OF REGISTRATION:

#### Confirmation of Ownership

Provides a record in the event you need to contact us about your product in the future.

#### Your Safety

Allows us to contact you with important product notifications.

#### Improved Product Support

Helps us continue to tailor our products and services to meet your needs.

### Register Online at [www.aquaticlife.com](http://www.aquaticlife.com)

Lifetime Products is committed to reducing our carbon footprint and we appreciate your time in registering electronically. If you do not have access to the Internet, you can **call us at 888-548-3480**.

## RO Buddie® Series

Models: 540016, 540017, 540019

### Installation, Operation & Maintenance Guide



## LIMITED WARRANTY

Lifetime Products LLC warrants that this Reverse Osmosis/ Deionization Unit (excluding cartridges and membrane) shall be free from defective components and leaks or cracks due to defects in materials or workmanship for a period of one (1) 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 Buddie 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.

THIS CONSTITUTES LIFETIME PRODUCTS ENTIRE WARRANTY AND LIFETIME PRODUCTS MAKES NO OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCT. LIFETIME PRODUCTS, LLC SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IF LIFETIME PRODUCTS, LLC CANNOT LAWFULLY DISCLAIM IMPLIED WARRANTIES UNDER THIS LIMITED WARRANTY, ALL SUCH WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY.

LIFETIME PRODUCTS IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL THEORY. LIFETIME PRODUCTS, LLC EXPRESSLY DISCLAIMS ALL ALLEGED DAMAGES FOR LOSS OF MARINE LIFE, PERSONAL INJURY, AND/OR PROPERTY DAMAGE.

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**  
**9710 Klingerman St. | S. El Monte, CA 91733**  
**Toll Free: 888-548-3480 | Local: 818-768-6943**

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