

**Aquatic Life Single and Dual Deionization Systems Installation, Operation & Maintenance Guide. Models: 540500, 540501, 540502, 540503**



**Models:**

540500	Aquatic Life Single Deionization System 2.5" x 10"
540501	Aquatic Life Dual Deionization System 2.5" x 10"
540502	Aquatic Life Single Deionization System 2.5" x 10" w/TDS Meter
540503	Aquatic Life Dual Deionization System 2.5" x 10" w/TDS Meter

**Thank you for purchasing an Aquatic Life Deionization System. When properly maintained, this unit will provide you with years of high quality, low TDS filtered water. Contact us with any questions or if you are missing or need replacement parts at 888-548-3480, or customersupport@aquatic life.com**

**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 and possible property damage.

**OVERVIEW**

Water quality is often measured by the amount of Total Dissolved Solids (TDS) in the water. After water is filtered by an RO Membrane (not included), there is usually a small amount of 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 the entire resin has changed color, it is time to replace the DI Cartridge. **NOTE:** Filter Cartridges and Membrane life may vary based on local water conditions and amount of use.

**Contents:**

	<b>540500</b>	<b>540501</b>	<b>540502</b>	<b>540503</b>
	<b>Single</b>	<b>Dual</b>	<b>Single</b>	<b>Dual</b>
	<b>Canister</b>	<b>Canister</b>	<b>Canister</b>	<b>Canister</b>
2.5" x 10" Canister Housing	1	2	1	2
Mounting Bracket	1	1	1	1
Mounting Screw Set	1	1	1	1
DI Color Changing Resin Cartridge	1	2	1	2
Blue Tubing 1/4"	1	1	1	1
Press 1/4" x MPT 1/4" Elbow w/Blue Clip	2	2	2	2
Press 1/4" x MPT 1/4" w/Blue Clip	2	2	2	2
Plumber's Tape	1	1	1	1
Canister Wrench	1	1	1	1
Dual TDS Meter	na	na	1	1

**OPERATING GUIDELINES**

**DO NOT** use with water that is microbiologically 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.

**Reverse Osmosis filtered water should not be run through a copper tube.** The pure RO/DI water can leach copper from the pipe, eventually leading to holes in the pipe.

**DO NOT** operate the unit unattended.

## Tools & Materials Recommended for Installation

Straight Edge Razor Blade

Phillips Screwdriver

## INSTALLING THE PRESS FITTINGS

The Unit includes both straight and 90° elbow ¼" fittings that will thread into the sides of the Unit housing and allow for easy connection of the tubing.

**Step 1** – Select either the straight or 90° elbow to connect to the Unit housing and wrap plumbers tape around the threaded end of the fitting at least three times.

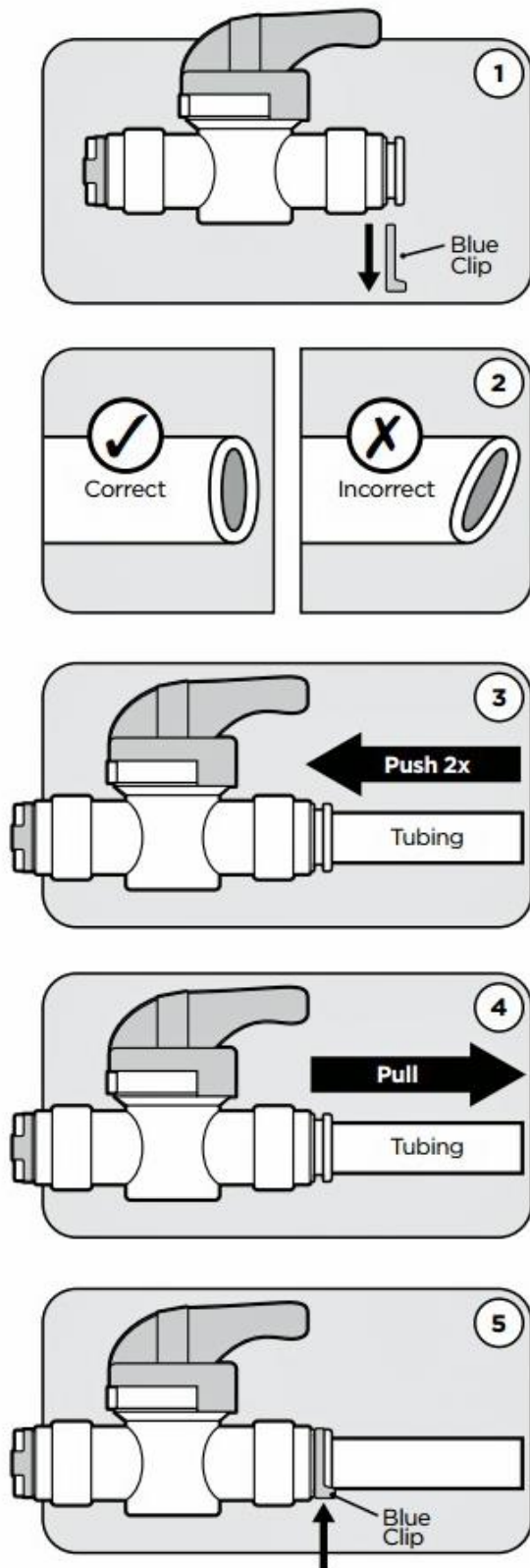
**Step 2** – Thread the fitting into the Unit housing. DO NOT OVERTIGHTEN Repeat for the other side of the Unit housing.

## MOUNTING THE DEIONIZATION UNIT

The Aquatic Life Deionization 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 and hardware designed for the type of surface that the DI Unit will hang on. Leave the screws extending about 1/8" from the surface and then hang the metal bracket on the screws.



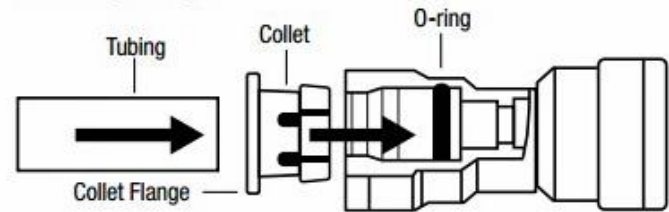
## HOW TO USE THE BUDDIE FIT™ PRESS FITTINGS



## HOW TO USE THE BUDDIE FIT™ PRESS FITTINGS

Making the connections with the ¼" tubing is easy with the Buddie Fit™ press fittings included.

To properly connect the ¼" tubing to the press fittings, follow these simple steps:



1. Remove the blue clip from the press fitting.
2. Make sure the end of the tubing is cut evenly and not at an angle.
3. 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 into the press fitting.
4. Pull back on the tubing to ensure it is secure.
5. Insert the locking blue clip back onto the end of 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.

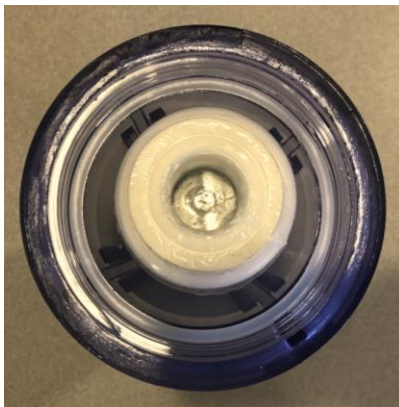
All tubing connections will have a "double push" into the connectors. You should feel a two-step insert to verify the tubing is inserted completely into the connectors.

## INSTALLING THE CARTRIDGES

**Step 1** - Use the Canister Wrench in a clock-wise direction to gain access to the Deionization Cartridges. For proper operation, the water must flow into the right canister first and water flows out of the left canister.



**NOTE:** Use care to center the cartridges in the middle of each Canister prior to re-attaching the Canisters.



## INSTALLING THE TDS METER (MODELS 540502 & 540503 ONLY)

A TDS Meter is included with the DI Filtration Unit. Refer to the Instructions included with the Meter for operation. The TDS Meter is capable of measuring the TDS from two different points in your filtration system. We recommend you place one probe prior to the water entering the DI Filtration Unit and the other probe where the water exits the DI Filtration Unit – photos on next page show how to connect.

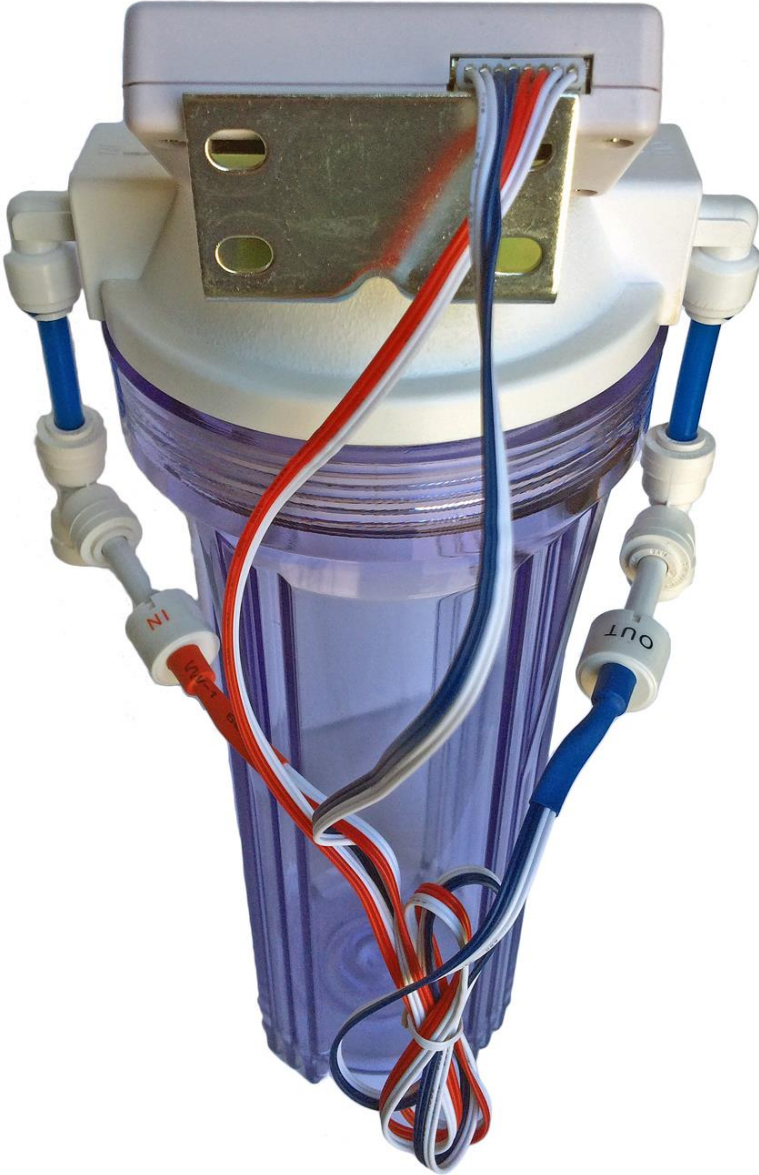
### Measure Point 1

Most RO Units remove 95 -98% of the TDS from your water. The TDS Meter will allow you to monitor the TDS of Membrane filtered water so you know when it's time to replace your Membrane.

### Measure Point 2

Connecting one of the TDS Meter probes to the water line exiting the DI Filtration Unit will allow you to monitor if the DI Resin is completely exhausted. When you see the TDS rise above zero, you will know it's time to replace the resin in the cartridge.

**INSTALLING THE TDS METER - SINGLE CANISTER UNIT**



**INSTALLING THE TDS METER - DUAL CANISTER UNIT**



## PLUMBING TO AN RO UNIT

Refer to the instructions on how to use the Buddie Fit press fittings before installing the tubing.

**Step 1** – Cut the blue tubing as needed. Connect one end of the blue tubing to the clean water exiting a Reverse Osmosis filtration unit.

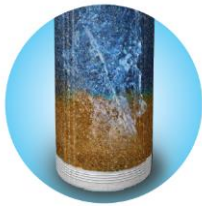
**Step 2** – Connect the other end of the blue tubing to the port on the right side of the DI Filtration Unit (Labeled “Supply”).

**Step 3** – Use a second piece of the blue tubing to route the water from the left port of the DI Filtration Unit to the desired water collection point.

## UNIT MAINTENANCE

The Aquatic Life Deionization Cartridges are designed to change color when the resin inside is exhausted. When the entire cartridge has changed color, it is time to replace the cartridge.

Reorder Aquatic Life Item # 330091, UPC # 810957010911



Models 540501 & 540503 Only - To get the most benefit out of each cartridge we recommend replacing one cartridge at a time to allow the resin in the second cartridge to completely exhaust/deplete.

## OPERATION & CONSIDERATIONS

- Refillable clear canisters have a limited life and should be replaced on an annual basis to prevent possible failure.
- Operating pressure greater than 80 PSI may require 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 DI 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.



## **TROUBLESHOOTING**

### **Q. Why is my DI Resin depleted so quickly?**

A. This is caused when too many Total Dissolved Solids (TDS) are allowed to enter the cartridges. Check the following:

1. If a new RO Membrane has been installed, the preservative in the Membrane must be flushed PRIOR to allowing the Membrane-filtered water to flow through the DI cartridges.
2. If the RO Membrane is not seated properly in the Membrane Housing, water can by-pass the membrane and higher TDS water will deplete the DI resin cartridge quickly.
3. If the RO Membrane has been damaged (such as chlorine damage), it might not work properly and higher TDS water will deplete the DI cartridge quickly.
4. When the RO unit is shut off, water pressure equalizes around the Membrane. This causes higher-TDS water to collect on the filtered water side of the Membrane. When the RO unit is turned back on, the initial output of RO filtered water will have a higher TDS. In some instances, it is necessary to discard the first few gallons of membrane filtered water before letting the filtered water enter the DI Unit.
5. DI Resin is depleted when it comes in contact with carbon dioxide in the air. If you are using a cartridge that was not sealed in plastic wrap or used bulk resin that wasn't stored/package in an air-tight container, the resin may already have lost its adsorption properties.
6. High levels of CO<sub>2</sub> in your water will deplete the DI Resin quickly. If your water has high levels of CO<sub>2</sub>, it will be necessary to off-gas the CO<sub>2</sub> in the water before pumping it through the DI Resin. This is often accomplished by filling a container with RO water and adding an air-store to the container for a period of time. Then the water can be pumped through the DI Resin to remove the remaining TDS.

### **Q. Can I replace the resin in the cartridges?**

A. Yes, bulk color-changing resin is available to replace the resin in the cartridges. A 1 Liter bag of Aquatic Life DI Resin will fill three 10" Cartridges. A 5 Liter bag of DI Resin will fill fifteen 10" Cartridges. Always wear gloves and eye protection when working with DI Resin.

### **Q. How come my DI Cartridge doesn't last as long as I've heard/read it has from other people?**

A. The resin in DI Cartridges removes a set amount of TDS from water. The higher the TDS going into the DI Cartridge, the quicker the resin will be depleted. For example, if the water going into your DI Cartridge is 1 TDS and your neighbor has water with 10 TDS going into his DI Cartridge, your DI Cartridge will last 10 times longer than your neighbors.

## **ADDITIONAL PURCHASE CONSIDERATIONS**

Depending on your installation and application needs, you may find other Aquatic Life products helpful with this Deionization Unit.

Visit [www.aquaticlife.com](http://www.aquaticlife.com) for the complete line of Aquatic Life filtration products and accessories.

## **ONE YEAR LIMITED WARRANTY**

Lifetime Products LLC warrants that this Deionization Unit (excluding cartridges) shall be free from defective components and leaks or cracks due to defects in materials or workmanship for a period of one (1) year 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 Deionization Unit should only be connected to a membrane-filtered water supply.

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

- Incoming water to the DI Unit cannot exceed 100°F.
- Incoming water pressure must be between 40 and 80 PSI.
- 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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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](mailto: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.