

Smart Buddie™ Booster Pump 100 & 150

Installation, Operation & Maintenance Guide Models: 660718, 660719



Thank you for purchasing an Aquatic Life Smart Buddie Booster Pump.
When maintained properly, this unit will provide years of service.



OVERVIEW

Booster pumps are used to increase the water pressure against the membrane and increase the efficiency of the reverse osmosis (RO) unit.

The Smart Buddie Booster Pump does more than just increase water pressure though, it also flushes the membrane to prolong its life and shuts off the pump when the filtered water line is shut off.

There are additional features to the Smart Buddie, so please review this entire guide to understand the benefits and requirements.

WARNING: Designed for RESIDENTIAL use only.

Model 660718: Works with RO systems between **50 & 100 GPD**

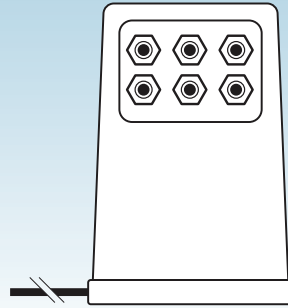
Model 660719: Works with **150 GPD** RO unit only.

Failure to follow any attached instructions and operating parameters will lead to the product's failure and VOID your warranty.

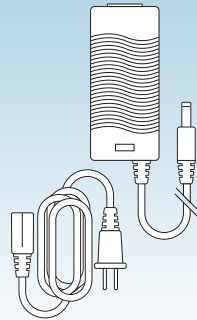


For technical assistance or warranty issues, contact Aquatic Life at customersupport@aquaticlife.com

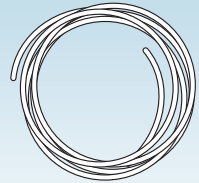
Contents



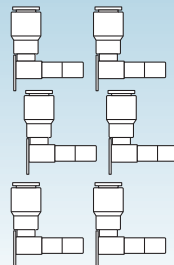
Smart Buddie™ Booster Pump
Model 660718 50-100 GPD - Internal Transformer
Model 660719 150 GPD - External Transformer



External Transformer with 10 ft. Cord
(Model 660719 only)



1/4" x 10' Tubing
Blue, Red, Yellow



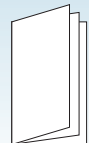
90° Elbows
1/4" Press Fit



Collar
Tool



Razor Blade



Product
Manual

Becoming Familiar with your Smart Buddie Booster Pump

What's under the hood?

The Smart Buddie Booster Pump is much more than a pump. Inside is a microprocessor controlling a series of solenoids, valves and pressure sensors that work together to control the pump and water flow.

POWER SUPPLY

The 100 and 150 models both utilize a low voltage transformer to operate the 24V pump. The 100 model has the power supply built into the unit. The 150 model has an external power supply with about 10 feet of cord to reach the power outlet.

Both internal and external transformers work with 100-277 V, 50-60 Hz electric. The power cord plugs are configured for North America. If you are outside of North America, you may need an adapter or different power cord.

POWER OFF

When there is no power to the Smart Buddie, the solenoids are all in the closed position, meaning no water can flow. This is an important safety feature in the event of a power outage when the unit is operating.

Function Indicators

The top of the Smart Buddie has four indicator lights so you always know what the system is doing.



LACK (WHITE)

Indicates that the water supply to the RO Unit is off or not sufficient. The unit will not operate if the water pressure is under 4.35 PSI.

FLUSH (RED)

The RO Membrane is being flushed by the automatic flush valve. Flushing will last about 45-60 seconds and occur every hour of water production. Flushing will not occur if the Full or Lack lights are illuminated.

FULL (BLUE)

Indicates that the RO unit has filled the container and the water has been stopped by a float valve or other shut-off system.

The unit will also stop if it senses more than 35 PSI on the filtered line.

For example, if you are filling a pressure tank, when the pressure in the tank reaches 35 PSI, the unit will stop and the blue light will illuminate.

FILTER (GREEN)

Unit is filtering water

Becoming Familiar with your Smart Buddie Booster Pump

Filtration Ratios

Model# 660718 | 50-100 GPD Unit

300 CC Flow Restrictor Built-in

Membrane Size	Filter Water Gallons	Waste Water Gallons
50	1	2.28
75	1	1.52
90	1	1.27
100	1	1.14

Model# 660719 | 150 GPD Unit

800 CC Flow Restrictor Built-in

Membrane Size	Filter Water Gallons	Waste Water Gallons
150	1	2.03



NOTE: The membrane size is the total amount of membrane rating per unit

Example: You could operate two 50 GPD membranes with Model 660718 and the pump would filter the same as a single 100 GPD membrane.

Likewise, Model 660719 will operate the same with two 75 GPD membranes or one 150 GPD membrane.



WARNING: The pump in each model has a life of about 3,000 hours and is designed to operate where pressure is needed.

If the pump is used on a system larger than the rating, the pump works harder to maintain the pressure and will wear out quickly.

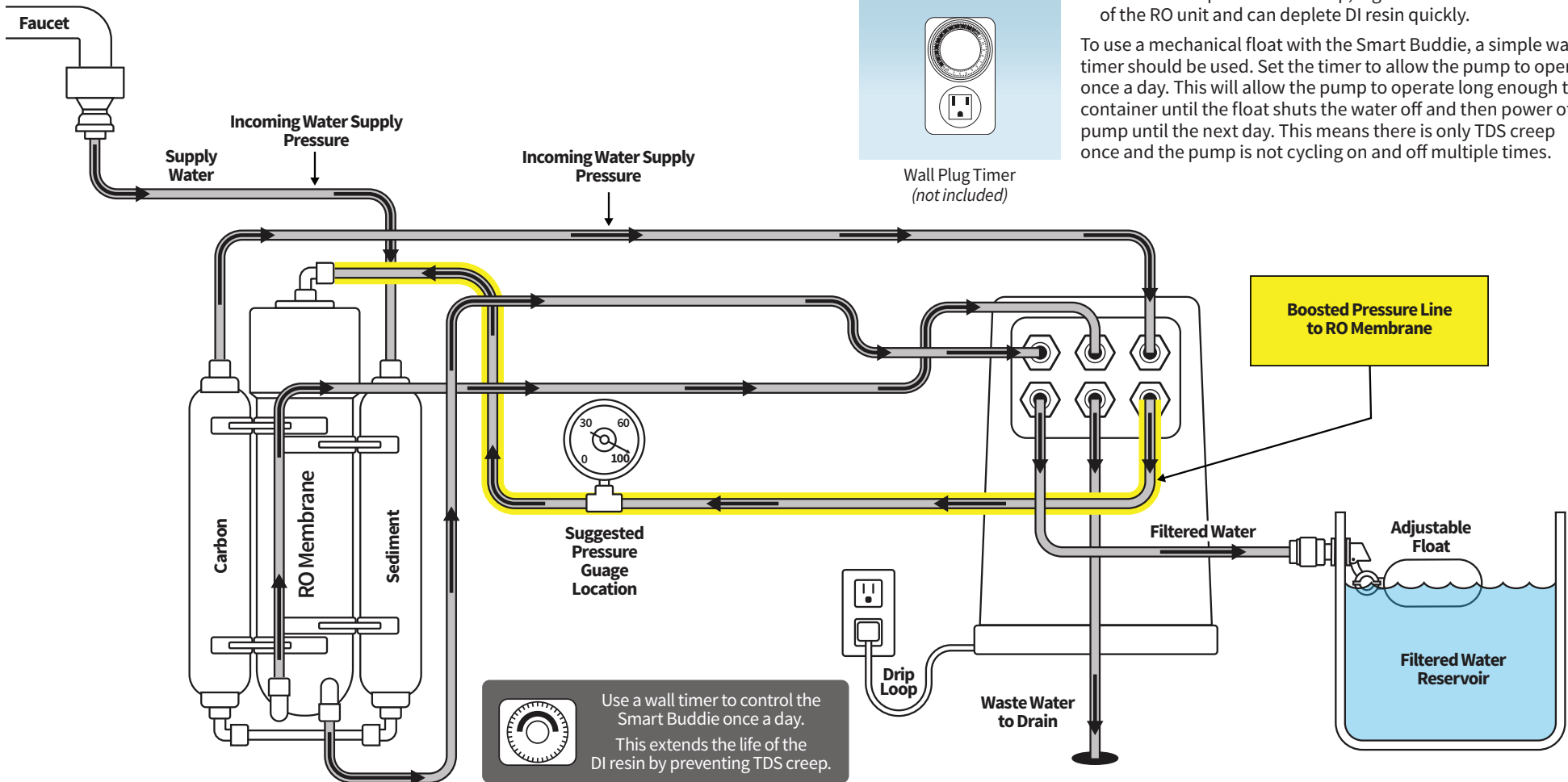
DO NOT put a membrane larger than **100 GPD on Model 660718** or a membrane more than **150 GPD on Model 660719**.

Doing so will destroy the pump and also void the warranty.

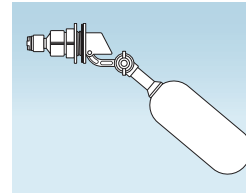
Becoming Familiar with your Smart Buddie Booster Pump

What's Under Pressure?

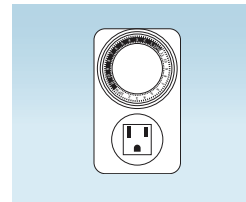
The Smart Buddie Booster Pump does not pressurize the entire RO or RO/DI system. The water flowing into the Membrane is the only water with boosted pressure.



Becoming Familiar with your Smart Buddie Booster Pump



Mechanical Float Valve
(not included)



Wall Plug Timer
(not included)

WHEN USING A MECHANICAL FLOAT VALVE, YOU NEED A TIMER

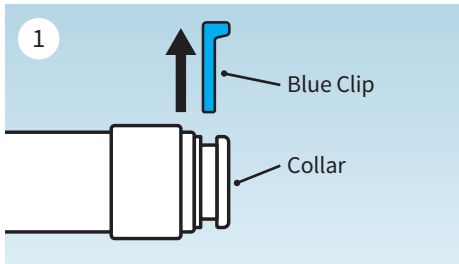
Many people use a mechanical float valve when filling their container or aquarium sump. However, when the water in the sump is moving around, the float tends to bob up and down. This causes multiple issues with the Smart Buddie Booster Pump.

- The pump life is shortened from constantly turning on and off, wearing out the high pressure switch.
- Because of repeated TDS creep, higher TDS water will flow out of the RO unit and can deplete DI resin quickly.

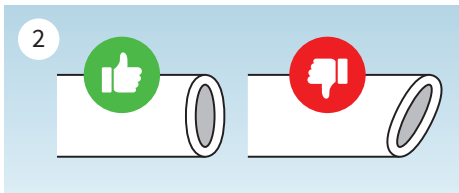
To use a mechanical float with the Smart Buddie, a simple wall plug timer should be used. Set the timer to allow the pump to operate only once a day. This will allow the pump to operate long enough to fill the container until the float shuts the water off and then power off the pump until the next day. This means there is only TDS creep once and the pump is not cycling on and off multiple times.

Becoming Familiar with your Smart Buddie Booster Pump

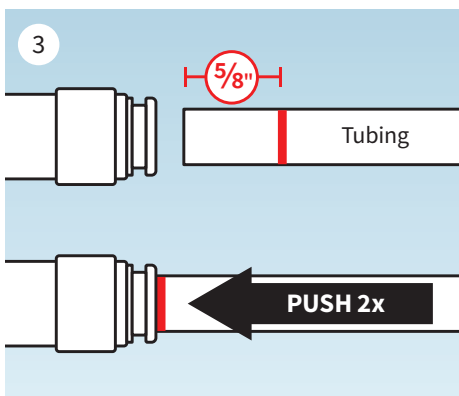
USING THE PRESS FITTINGS



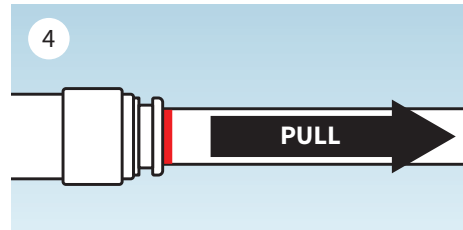
Remove the blue clip from the press fitting.



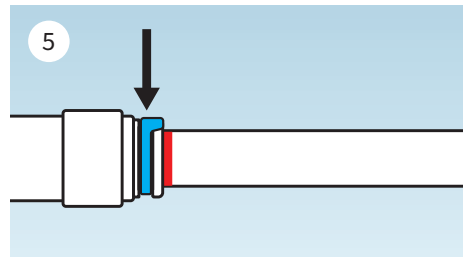
Cut tubing evenly and not at an angle.



Mark the tubing 5/8" from the cut end. 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 until it reaches the 5/8" mark.



Pull back on the tubing to ensure it is secure.



Replace the blue clip back onto the fitting.



NOTE: To remove a piece of tubing, remove the blue clip, then press down and hold the collar while pulling out tubing.



NOTE: Pinched tubing will not seal properly. Cut the tubing with the included razor blade to prevent pinching. When inserting tubing, you will feel a two-click insert to verify the tubing is inserted the full 5/8" into the press fitting.



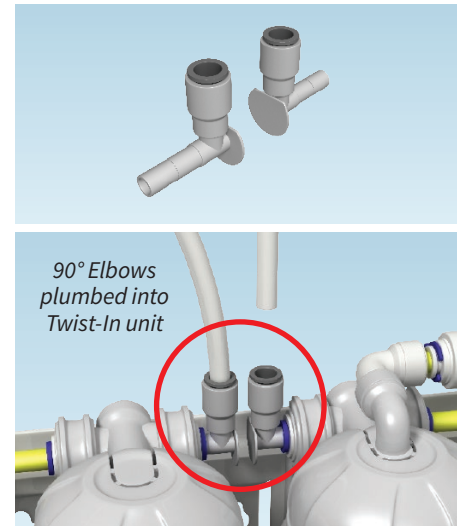
See Instructional Video

Becoming Familiar with your Smart Buddie Booster Pump

90-DEGREE ELBOWS

If you are using this pump with the Aquatic Life Twist-In 75 or 100 GPD RO/DI system, you will need to install these 90° elbows.

We have included six elbows that fit between the pivoting heads. These elbows **DO NOT** require the locking blue clips.

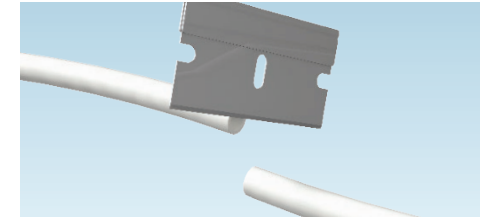


The elbows may also be used on the front of the Smart Buddie to help reduce the profile of the tubing exiting the housing.



TUBING

Cut the tubing as needed to connect the various components. Use the razor blade to ensure a clean, even cut.



INSTALLATION DIAGRAMS (pages 6 - 30)

Use the diagram that matches your model of RO or RO/DI unit needing connection to the Smart Buddie Booster Pump. For illustration purposes we have color-coded the tubing to easily follow the water path.

Blue Tubing = Filtered

Red Tubing = Waste

Yellow Tubing = Supply



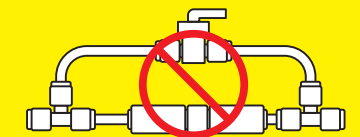
IMPORTANT: DO NOT use the following components when plumbing the Smart Buddie to your RO or RO/DI unit:



Flow Restrictor



Auto Shutoff Solenoid




Flush Valve Assembly

Installation

A


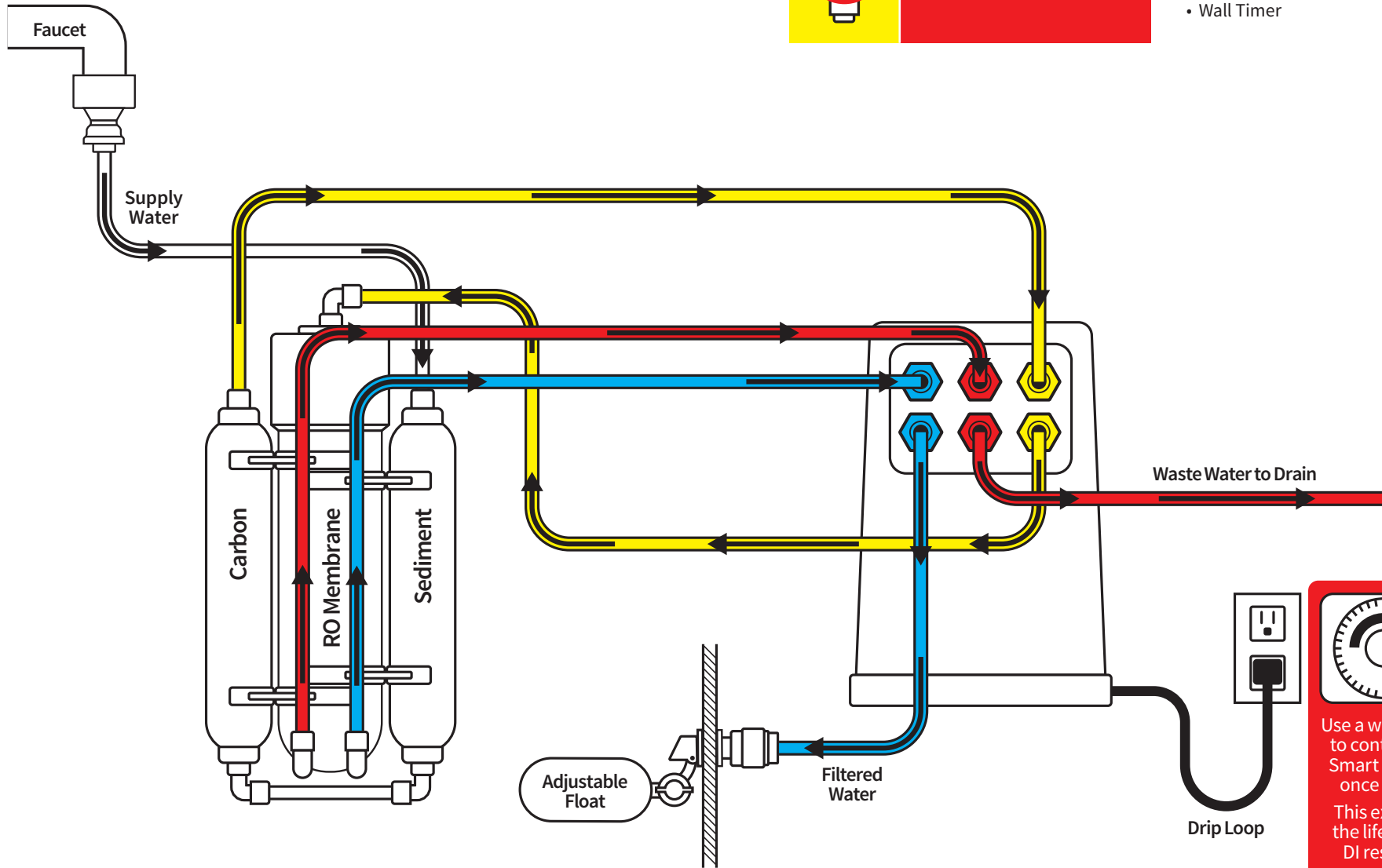
Model 660718 (50-100 GPD)
Plumbed to 50 or 100 GPD RO Buddie®



NOT USED IN SETUP
Remove Flow Restrictor
from the RO Buddie

Additional Purchase Considerations

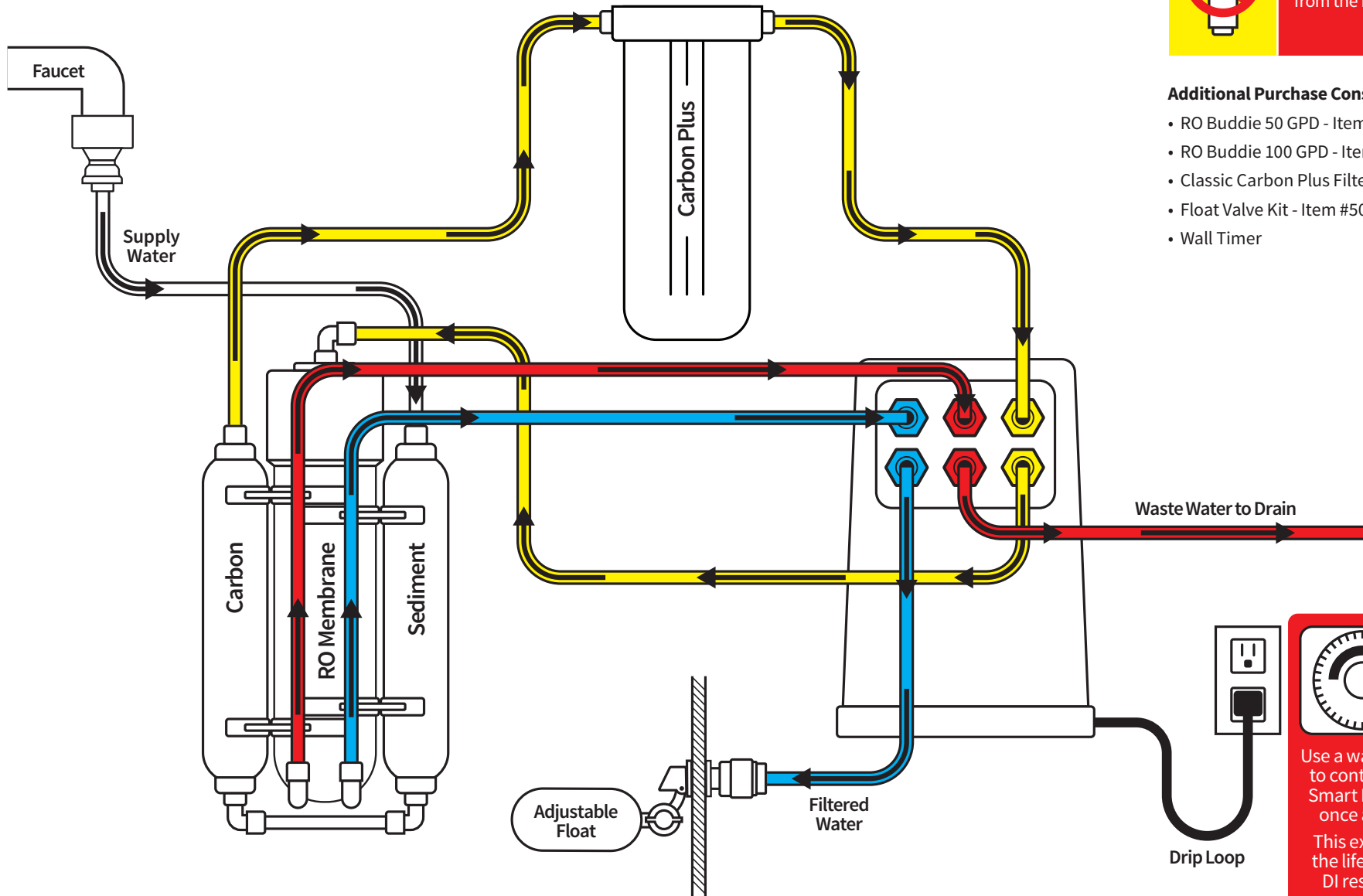
- RO Buddie 50 GPD - Item #540016
- RO Buddie 100 GPD - Item #540017
- Float Valve Kit - Item #500300
- Wall Timer



Use a wall timer to control the Smart Buddie once a day. This extends the life of the DI resin by preventing TDS creep.

Installation
B

Model 660718 (50-100 GPD)
Plumbed to 50 or 100 GPD RO Buddie®
& Carbon Plus Chloramine Filter



NOT USED IN SETUP
Remove Flow Restrictor
from the RO Buddie

Additional Purchase Considerations

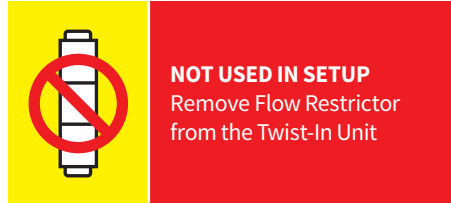
- RO Buddie 50 GPD - Item #540016
- RO Buddie 100 GPD - Item #540017
- Classic Carbon Plus Filter - Item #540695
- Float Valve Kit - Item #500300
- Wall Timer

Use a wall timer to control the Smart Buddie once a day. This extends the life of the DI resin by preventing TDS creep.

Installation

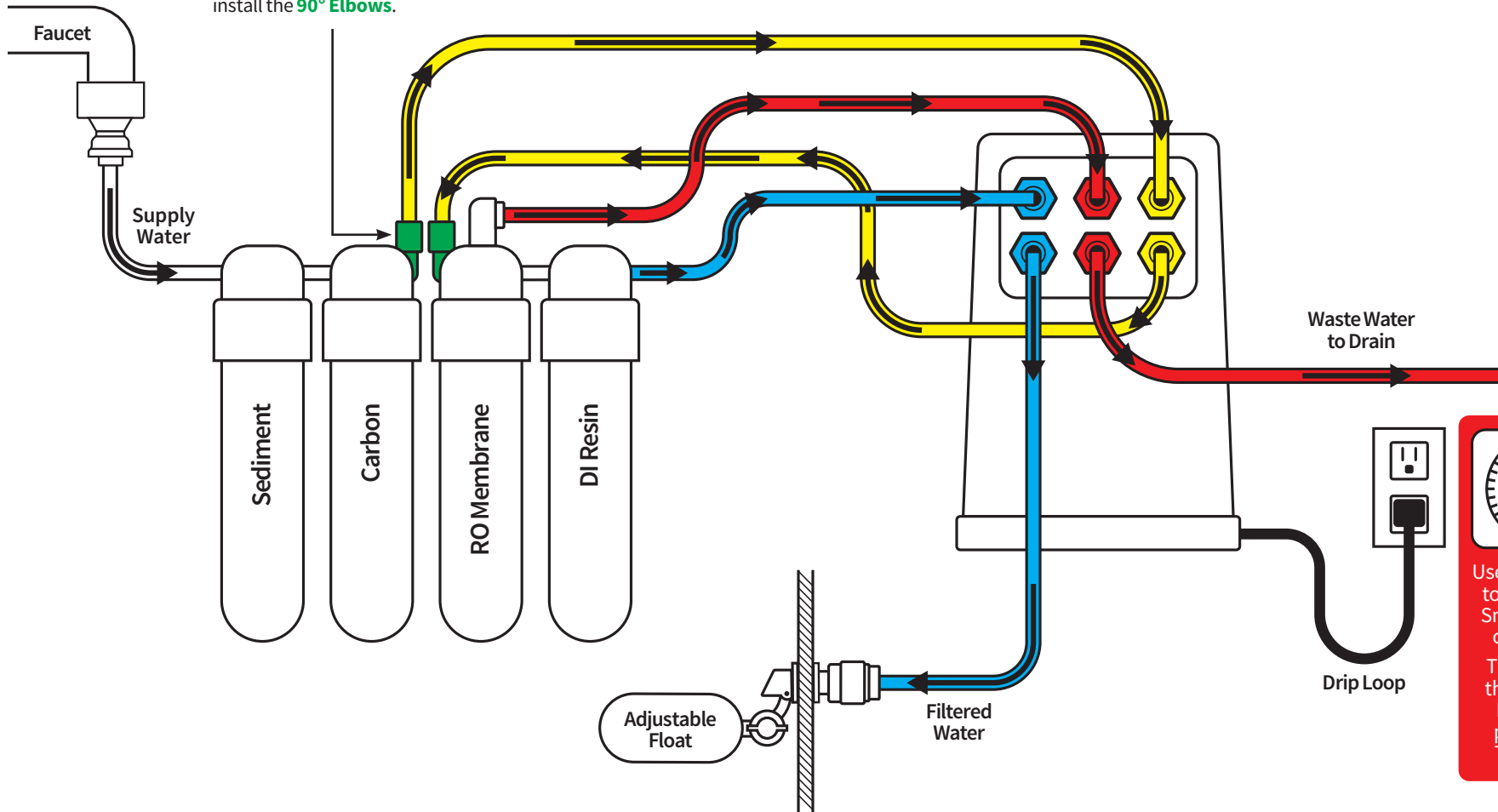
C

Model 660718 (50-100 GPD)
Plumbed to 75 or 100 GPD Twist-In RO/DI Unit



- Additional Purchase Considerations**
- 75 GPD TI RO/DI Unit - Item #540346
 - 100 GPD TI RO/DI Unit - Item #540371
 - Float Valve Kit - Item #500300
 - Wall Timer

NOTE: You must remove the heads from metal bracket to install the **90° Elbows**.



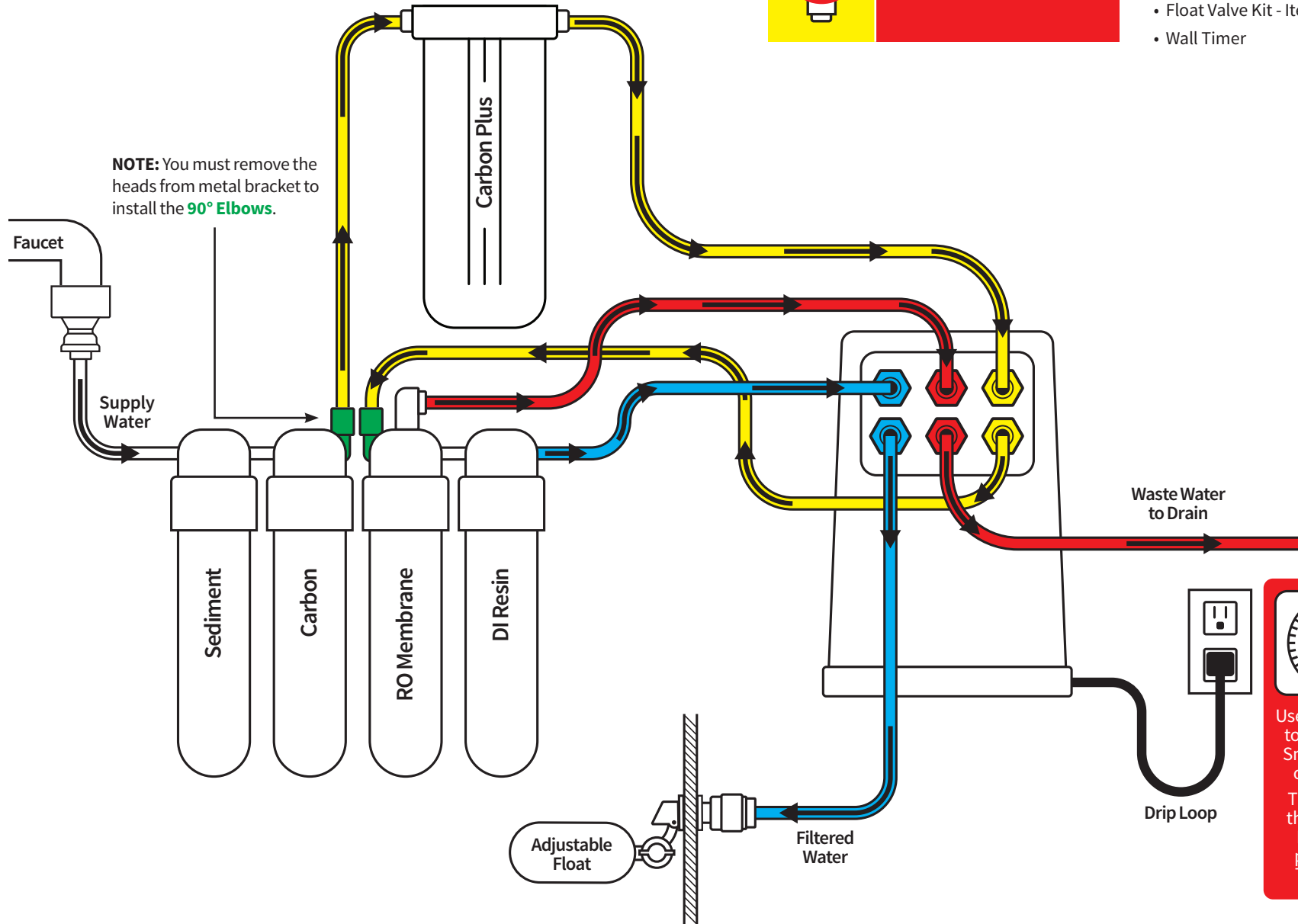
Use a wall timer to control the Smart Buddie once a day. This extends the life of the DI resin by preventing TDS creep.

Installation

D

Model 660718 (50-100 GPD)
Plumbed to 75 or 100 GPD Twist-In RO/DI Unit
& Carbon Plus Chloramine Filter

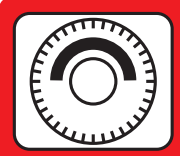
NOTE: You must remove the heads from metal bracket to install the **90° Elbows**.



NOT USED IN SETUP
Remove Flow Restrictor
from the Twist-In Unit

Additional Purchase Considerations

- 75 GPD TI RO/DI Unit - Item #540346
- 100 GPD TI RO/DI Unit - Item #540371
- Classic Carbon Plus Filter - Item #540695
- Float Valve Kit - Item #500300
- Wall Timer



Use a wall timer to control the Smart Buddie once a day. This extends the life of the DI resin by preventing TDS creep.

Installation
E

Model 660718 (50-100 GPD)
Plumbed to Aquatic Life Classic 100 GPD RO/DI Unit

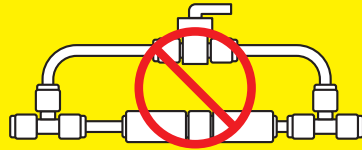
**NOT
USED IN
SETUP**



Flow Restrictor



Auto Shutoff Solenoid



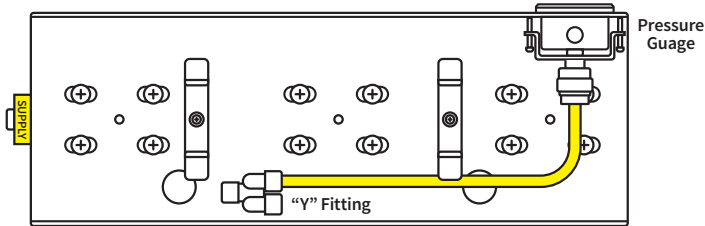
Flush Valve Assembly

Additional Purchase Considerations

- Item #540326 with Chlorine Carbon Block
- Item #540706 with Chlorine Carbon Block
- Float Valve Kit Item #500300
- Wall Timer

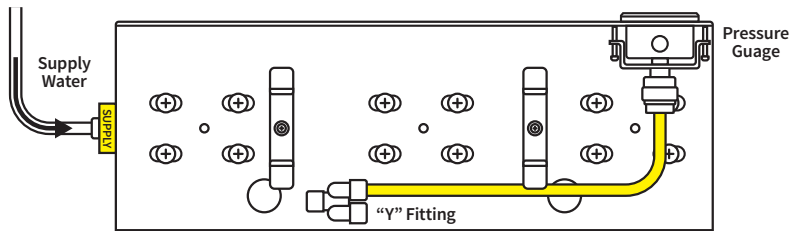
STEP 1

Remove all pre-plumbed tubing on the Classic 4-Stage unit, except for the "Y" fitting and tubing connected to pressure gauge.



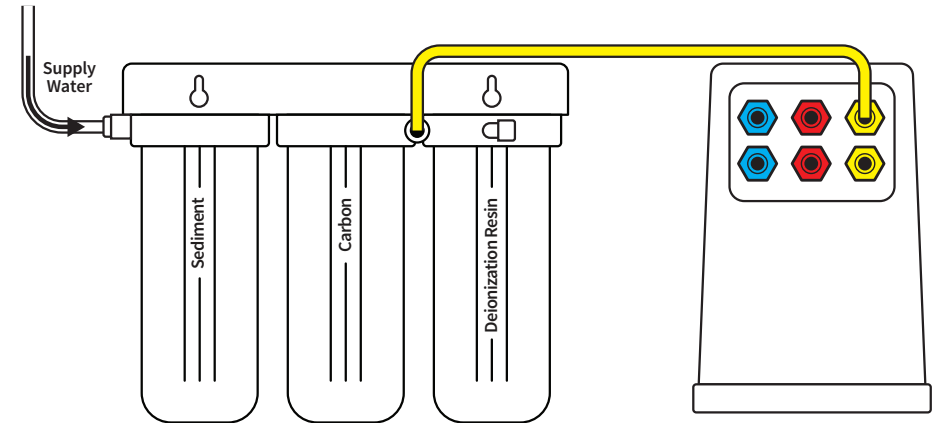
STEP 2

Connect faucet water supply line to press fitting labeled **SUPPLY** on Classic unit.



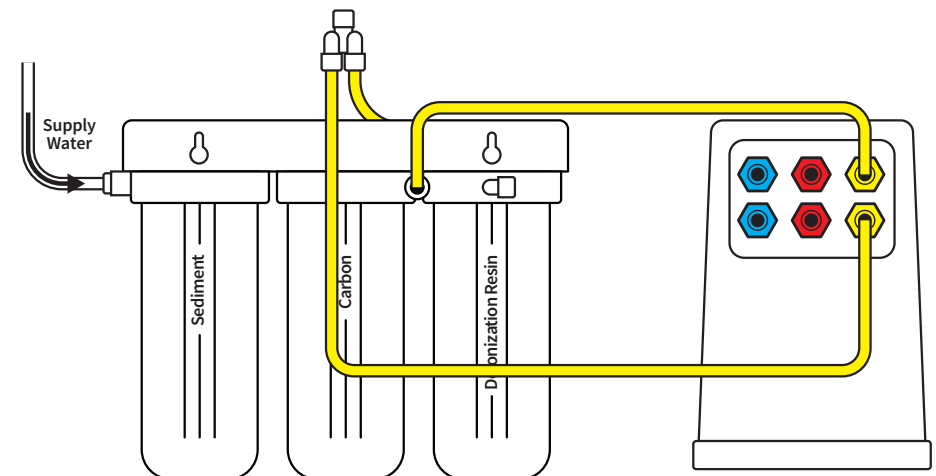
STEP 3

Connect water exiting the clear middle canister to **port 5** on Smart Buddie.



STEP 4

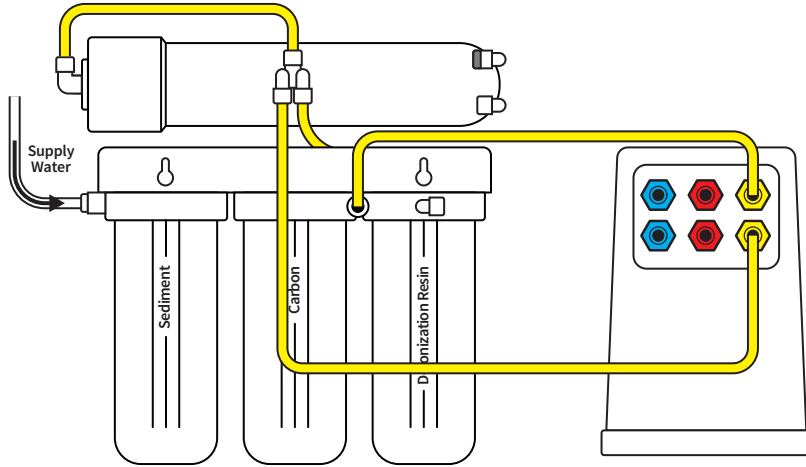
Connect **port 6** on Smart Buddie to the "Y" fitting.



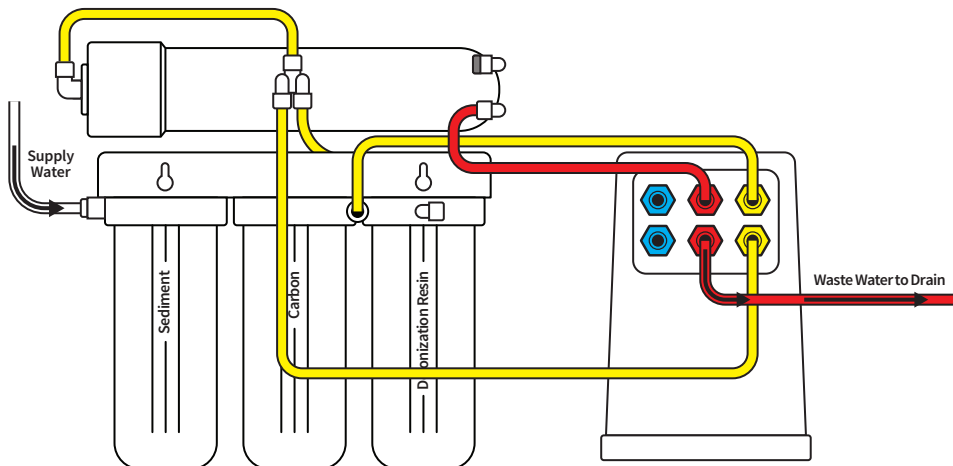
Installation
E
(continued)

Model 660718 (50-100 GPD)
Plumbed to Aquatic Life Classic 100 GPD RO/DI Unit

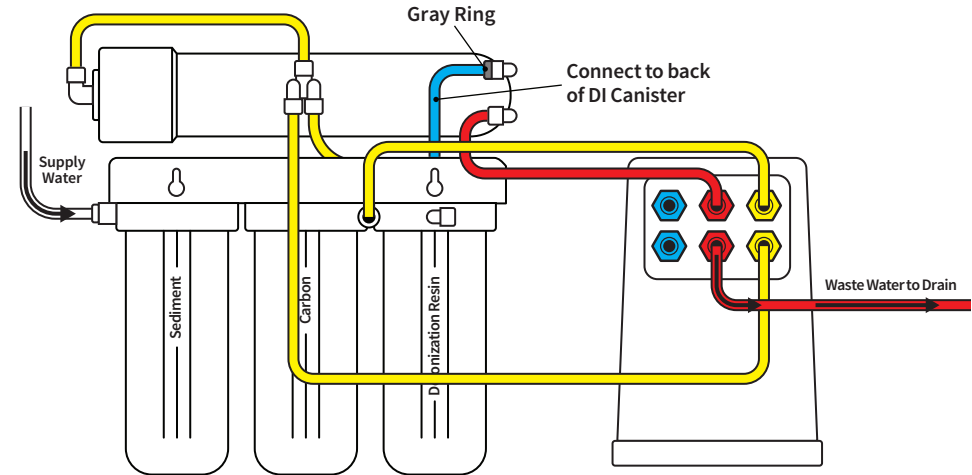
STEP 5 Connect single end of the "Y" fitting to the port on the Membrane Cap.



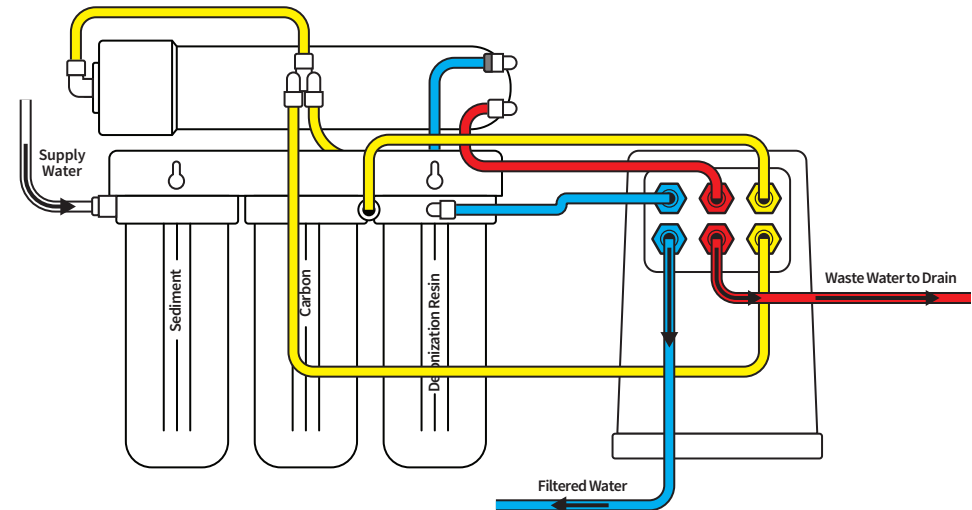
STEP 6 Connect tubing to the RO Membrane port **WITHOUT** the gray ring. The other end is connected to **port 3** on the Smart Buddie. Connect another piece of tubing to **port 4**. This is the wastewater line that can go to the drain.



STEP 7 Connect tubing to the RO Membrane port **WITH** the gray ring. The other end of the tubing connects to the **back** side of the DI Resin canister.



STEP 8 Connect the fitting on the **front** of the deionization canister to **port 1**. Connect another piece of tubing to **port 2**. This is your RO/DI filtered water.



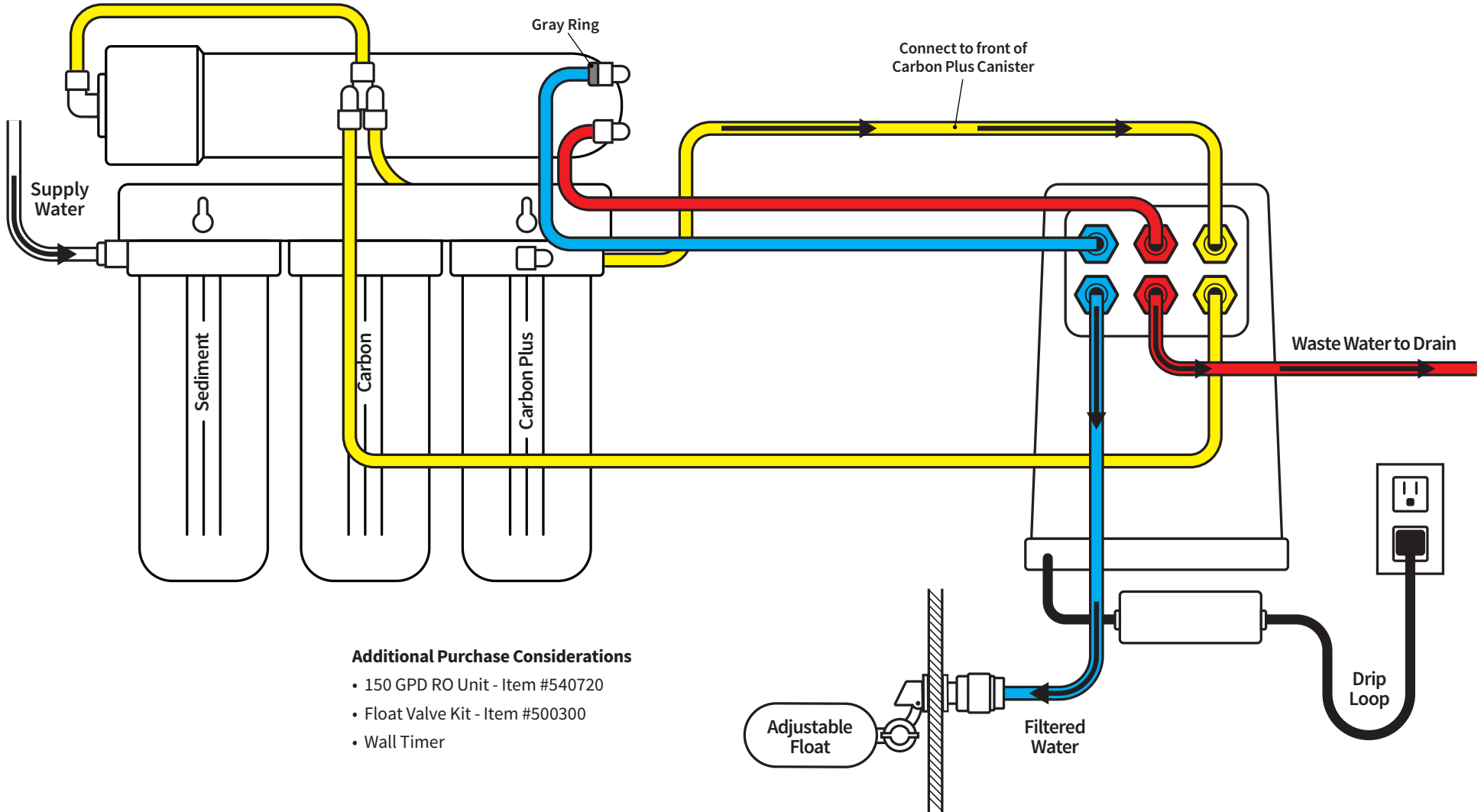
Installation
F

Model 660719 (150 GPD)
Plumbed to 150 GPD RO Unit

DIAGRAM SHOWS BACK OF RO UNIT

NOT USED IN SETUP

Flow Restrictor Auto Shutoff Solenoid Flush Valve Assembly

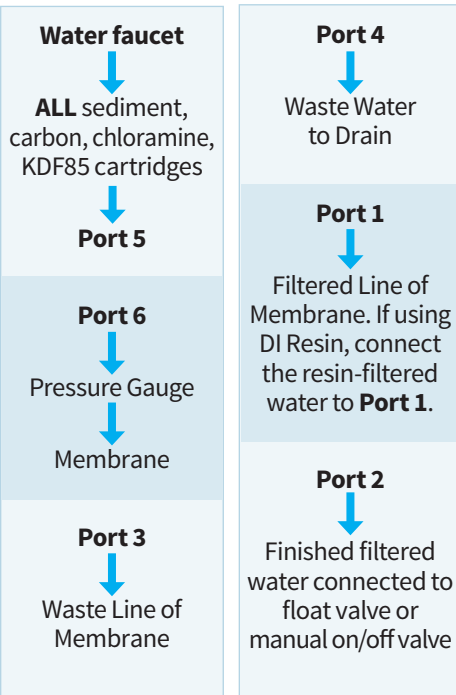
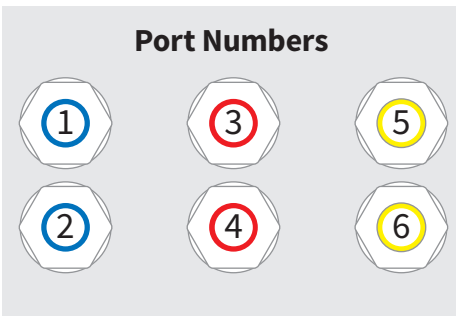


Additional Purchase Considerations

- 150 GPD RO Unit - Item #540720
- Float Valve Kit - Item #500300
- Wall Timer

Installation G
Model 660718 plumbed to any 50 to 100 GPD Unit
Model 660719 plumbed to any 150 GPD Unit

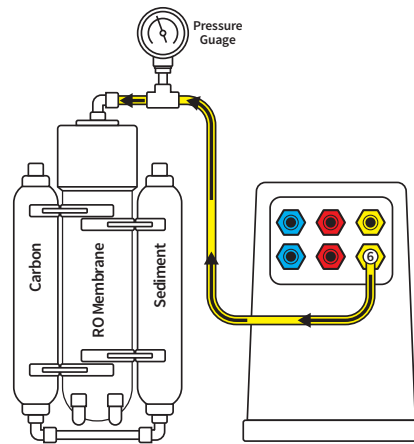
NOT USED IN SETUP
Flow Restrictor
Auto Shutoff Solenoid
Flush Valve Assembly



Installation H
Pressure gauge connection for Models 660718 & 660719

Additional Purchase Considerations

- Pressure Gauge - Item #9000903



A pressure gauge is a good way to monitor the stability of the system. When plumbed correctly, the gauge should read 85+ PSI, but may vary slightly for each setup. It is important to note the pressure when all cartridges are new.

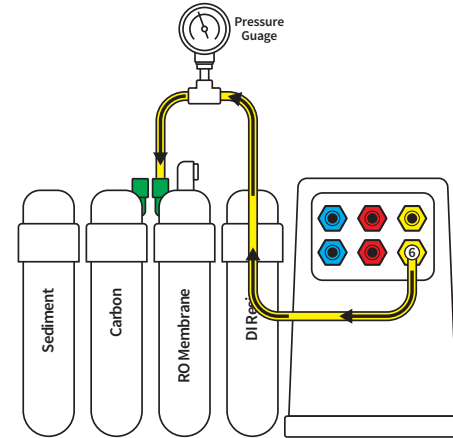
DECREASE IN PRESSURE - Sediment and/or carbon cartridges should be examined and possibly replaced.

INCREASE IN PRESSURE - Membrane may need to be replaced.

When installing, the **gauge should always be located in the line that connects Port #6 and the membrane supply**. For traditional RO and RO/DI units, this will be the press fitting on the membrane cap. For the Aquatic Life Twist-In unit, this will be the third pivoting head from the left.

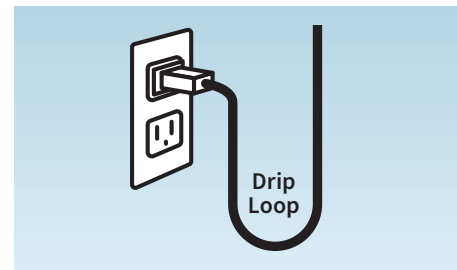
Installation I
Pressure gauge connection (*cont.*)

Pressure Gauge connection using Aquatic Life Twist-In Unit



ELECTRICAL INSTALLATION

Place the Smart Buddie Booster Pump on a stable surface and always create a drip loop to the electrical outlet.



NOTE: The Smart Buddie accepts universal voltage input; including 110 and 220V. The power plug is designed for 110 outlets.

OPERATION

The Smart Buddie performs the following functions when operating:

'Filter' Indicator

Indicates the unit if filtering water.

Flushing the Membrane

Flushing the membrane is critical to obtaining peak performance from a RO unit. Flushing clears debris build-up on the membrane, thereby prolonging the membrane life. The Smart Buddie flushes the membrane for 45-60 seconds every hour (and when the unit is powered on). The **'Flush'** indicator will illuminate red during this period. After flushing, filtered water production will begin.

Low Pressure Switch

The built-in low-pressure switch will disconnect power if the source water pressure is between 4.35 and 7.25 PSI. Shutting off the source water when the pressure is low will prolong the life of the pressure pump. At this point, the white **'Lack'** indicator will illuminate.

High Pressure Switch

Many RO unit installations connect to storage containers that use float valves or pressure canisters that create pressure on the filtered water line. When the containers are full, back pressure on the filtered water line is created. The built-in high-pressure switch will disconnect power if the filtered water supply line pressure is between 33.35 and 36.25 PSI, preventing water flow to the membrane. At this point, the blue **'Full'** indicator will illuminate.

Pressure Pump

The pressure pump increases incoming water pressure to 80 - 90 PSI. This higher pressure increases the effectiveness of the RO unit.

UNIT MAINTENANCE

Periodically inspect the unit and all tubing connections for signs of wear and leaks.

Use a clean damp cloth to clean the outside of the unit housing.

TROUBLESHOOTING

Unit won't power on

- ❶ Check that the unit is plugged into a live outlet. If the unit has power, one of the four lights on top will be illuminated.
- ❷ Check that the supply water is turned on. The pump will not operate if no water is detected.

Unit constantly turns on and off

- ❶ Check that the float valve is sealing properly.
- ❷ Install a on/off valve on the filtered water line. With the valve closed, the pump should shut off.

Tubing shakes and vibrates

- This is normal during operation.

Pressure gauge hasn't changed

- The pressure gauge won't change if it is connected to the supply line going into the sediment cartridge. When using a pressure gauge, it should be installed on the supply line going into the membrane.

Pressure has decreased

- The sediment and/or carbon are plugged and not allowing enough water to flow to the pump.

Can't remove plugs

- Remove the blue clip, press down and hold the collar while removing the plug at the same time.

My new unit appears used

- Each unit is water tested prior to shipping. It is common to remove the shipping plugs and discover water inside the unit.

1-YEAR LIMITED RESIDENTIAL WARRANTY

Aquatic Life warrants that this Booster Pump shall be free from defective electrical components and leaks or cracks due to defects in materials or workmanship for a period of twelve (12) months from the date of purchase. If a defect is shown, Aquatic Life will, at Aquatic Life'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.

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 not be effective unless and until the Aquatic Life product is shown to have been used in accordance with the safety and installation instructions accompanying the product and for Residential Use Only. MODEL 660718 WARRANTY IS VOID IF CONNECTED TO TOTAL MEMBRANE RATING OF MORE THAN 100 GPD. MODEL 660719 WARRANTY VOID IF CONNECTED TO ANYTHING OTHER THAN A TOTAL MEMBRANE RATING OF 150 GPD.

THIS CONSTITUTES AQUATIC LIFE'S ENTIRE WARRANTY AND AQUATIC LIFE MAKES NO OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, WITH RESPECT TO THE PRODUCT. AQUATIC LIFE SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IF AQUATIC LIFE 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.

AQUATIC LIFE IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL THEORY. AQUATIC LIFE 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.

Aquatic Life shall not have any obligations under this warranty unless the owner notifies Aquatic Life in writing of any alleged defect(s) within 30 days of discovery of the defect(s). Any notice to Aquatic Life must be delivered by United States or electronic mail to the following address: U.S. Mail: Aquatic Life, 9710 Klingeran St., S El Monte, CA 91733 or electronic mail: customersupport@aquaticlife.com. Aquatic Life shall be allowed a reasonable period of time to investigate any warranty claim and to perform any testing Aquatic Life 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 Klingeran St. | S. El Monte, CA 91733
customersupport@aquaticlife.com
www.aquaticlife.com