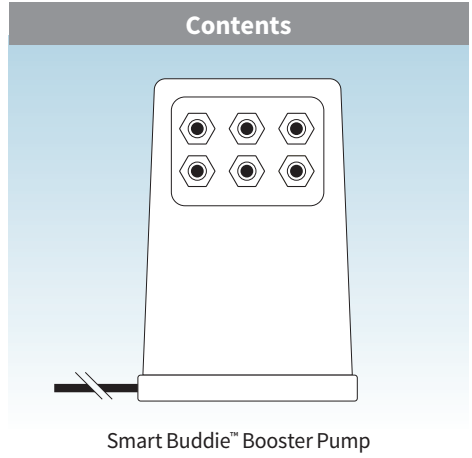


Thank you for purchasing an Aquatic Life Smart Buddie Booster Pump. When maintained properly, this unit will provide years of service.



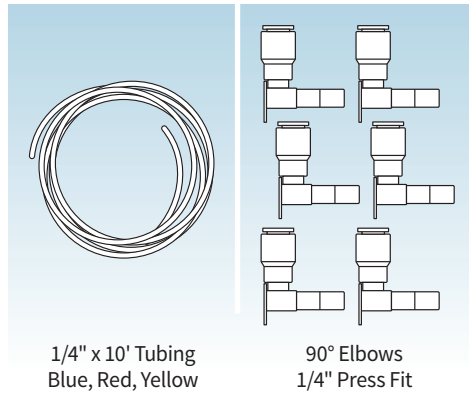
Smart Buddie™ Booster Pump

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.



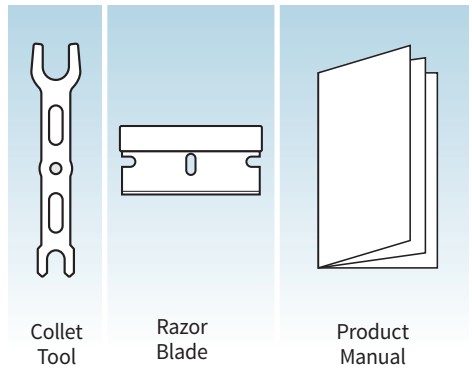
1/4" x 10' Tubing
Blue, Red, Yellow

90° Elbows
1/4" Press Fit



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.

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



Collet 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 series of solenoids, valves and pressure sensors working together to control the pump and water flow.

- If the Smart Buddie senses no supply water, it will shut off the pump.
- If the Smart Buddie senses more than 35 PSI on the filtered line, it will turn off the pump and close the water supply solenoid.
- Once every 24 hours of operation or when powered on, the pump will re-route water and flush the membrane for you. When this happens, you will see no filtered water and all wastewater flowing. Flushing will last 20-30 seconds.
- The low voltage transformer inside the housing powers the 24V pump for up to 3,000 hours of operation.
- 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.

DESIGNED FOR USE WITH 50 TO 100 GPD MEMBRANES

RO Membranes are not all the same. Some are rated at 50, 60, 75, 100 or more gallons per day. In addition, they can have different efficiency ratings—referred to as rejection rates. What all TFC membranes have in common is that they are comprised of a special material rolled around a core. The amount of material determines how much water can flow through the membrane in a specific period. The more material, the more

water can be produced with the same amount of water pressure. This is why the price of a 100 GPD membrane is more than a 50 GPD membrane.



Built into the Smart Buddie Booster Pump is a 300 cc flow restrictor on the waste/concentrate line. This restricts water from flowing out the waste line and helps create pressure on the membrane. Now envision pushing the same volume of water through each of the different membranes above.

The water will flow easiest through the 100 GPD because there is more material. However, this also means that less waste or concentrated TDS water is produced per gallon of filtered water. Where did the TDS go? The additional TDS was concentrated into the waste stream of water and flowed out through the wastewater line.

With a 50, 75 or 100 GPD membrane, you will see about a 1:1 to 1:2 filtered/waste ratio. You will get a little more wastewater with the 50 GPD membrane and a little less wastewater with the 100 GPD membrane. Keep in mind, less wastewater = more concentrated TDS wastewater, which could mean shorter membrane life.

What happens if you use the Smart Buddie with your 180 or 200 GPD RO unit? You will produce lots of filtered water and very little wastewater.

Remember, the larger the membrane the more material that the water can flow through all at once. While this seems ideal at first, the membranes may need to be replaced often. Therefore, the Smart Buddie pump is ideal for RO membranes between 50 and 100 GPD.

BECOMING FAMILIAR WITH YOUR SMART BUDDIE BOOSTER PUMP

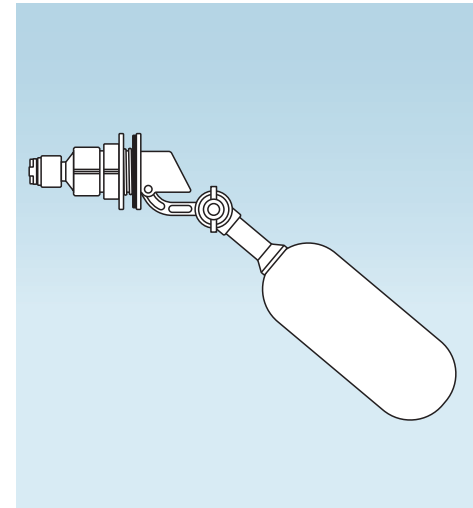
WHEN USING A MECHANICAL FLOAT VALVE, YOU NEED A TIMER

The Smart Buddie senses back pressure when you shut off the filtered water line and the entire pump shuts off.

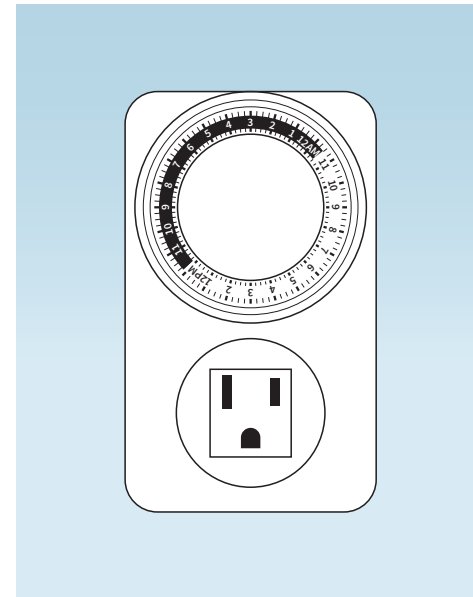
Many people use a mechanical float valve when filling their container or aquarium sump. However, when the water in the sump is moving around, the float tends to bob up and down. This causes multiple issues with the Smart Buddie Booster Pump.

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



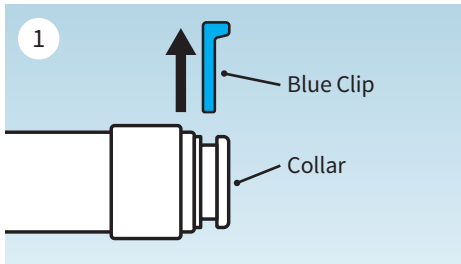
Mechanical Float Valve (*not included*)



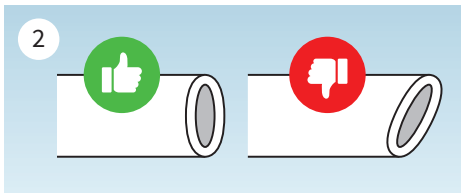
Wall Plug Timer (*not included*)

BECOMING FAMILIAR WITH YOUR SMART BUDDIE BOOSTER PUMP

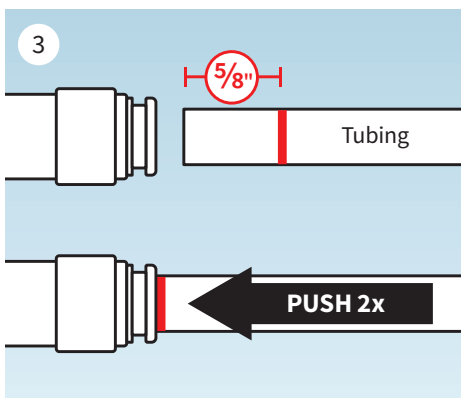
USING THE PRESS FITTINGS



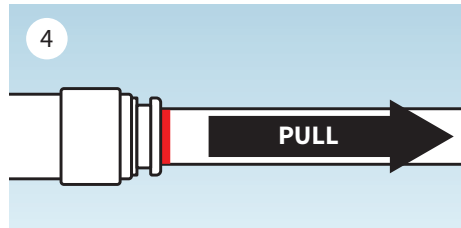
Remove the blue clip from the press fitting.



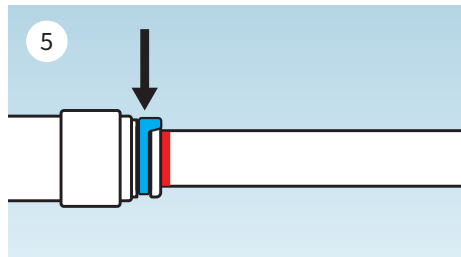
Cut tubing evenly and not at an angle.



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.



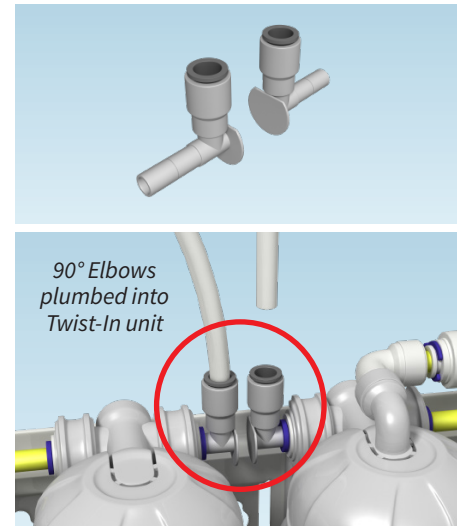
See Instructional Video

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.

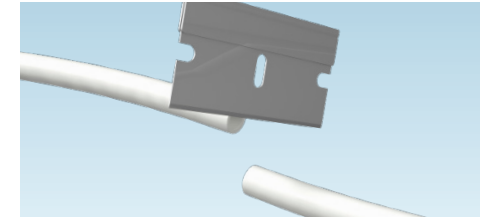


The elbows may also be used on the front of the Smart Buddie to help reduce the profile of the tubing exiting the housing.



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



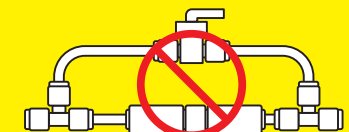
IMPORTANT: DO NOT use the following components when plumbing the Smart Buddie to your RO or RO/DI unit:



Flow Restrictor



Auto Shutoff Solenoid




Flush Valve Assembly

Installation

A

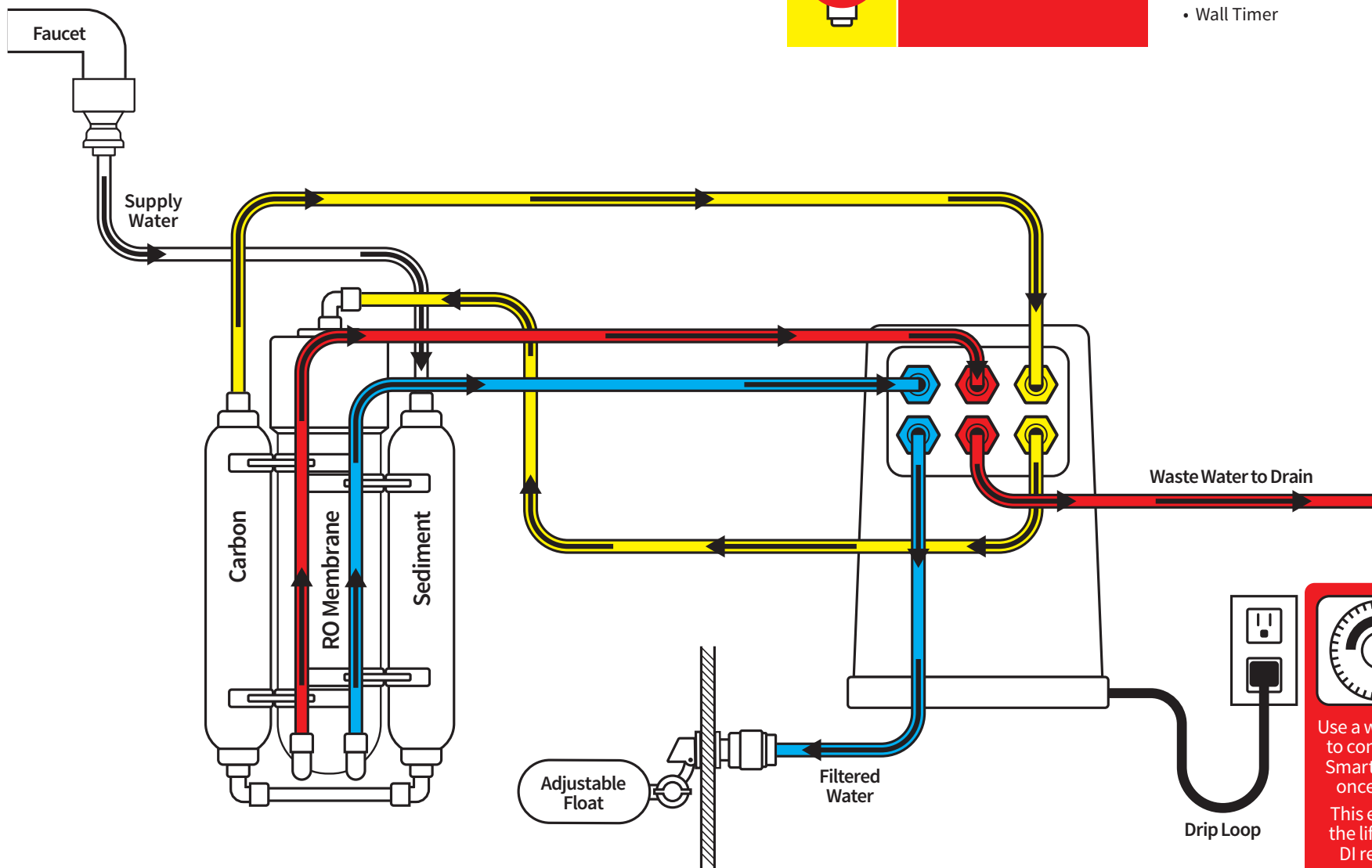

Plumbed to 50 or 100 GPD RO Buddie®



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

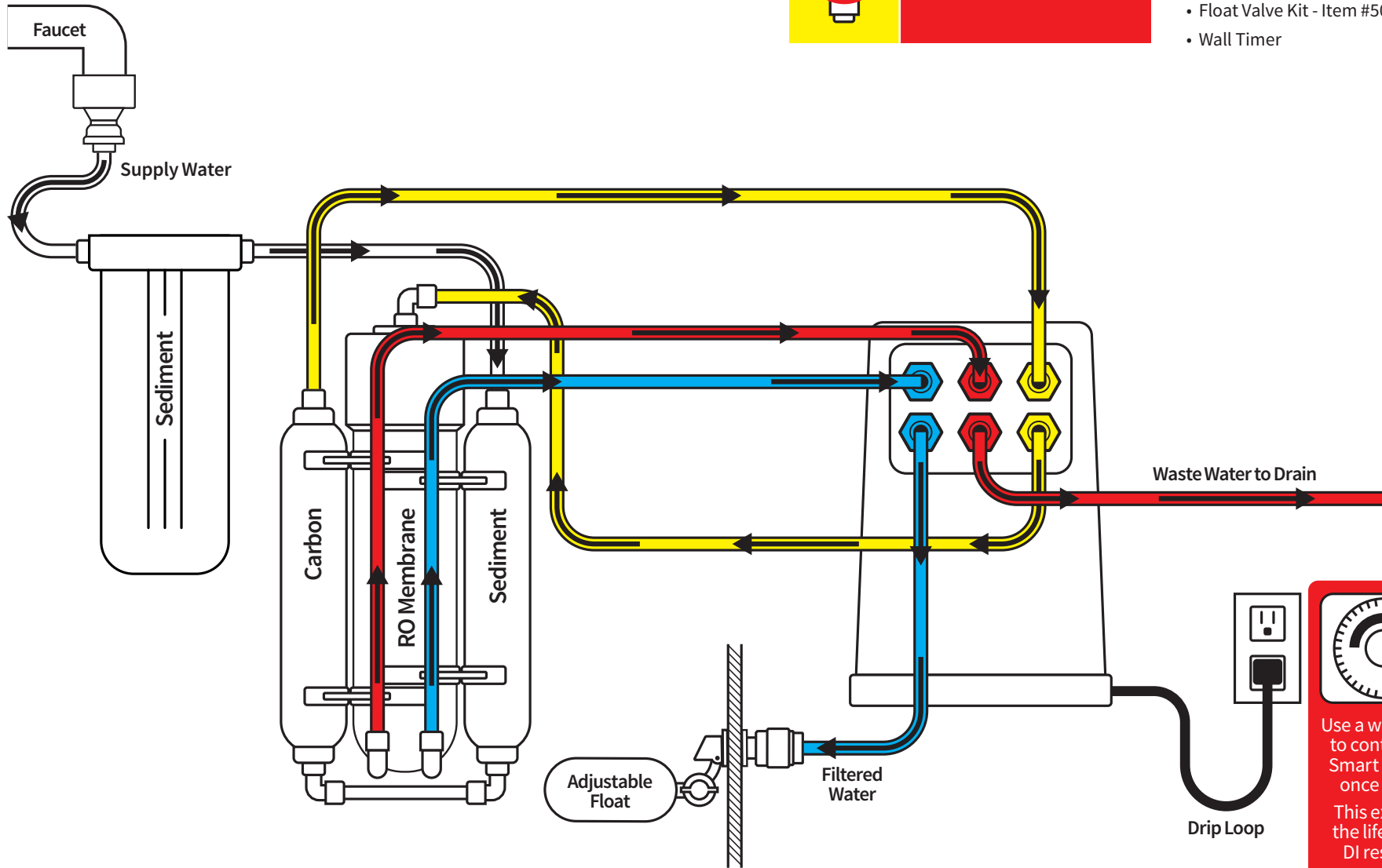
B

Plumbed to 50 or 100 GPD RO Buddie® & Sediment Pre-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
- 10" Clear Canister - Item #540507
- 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

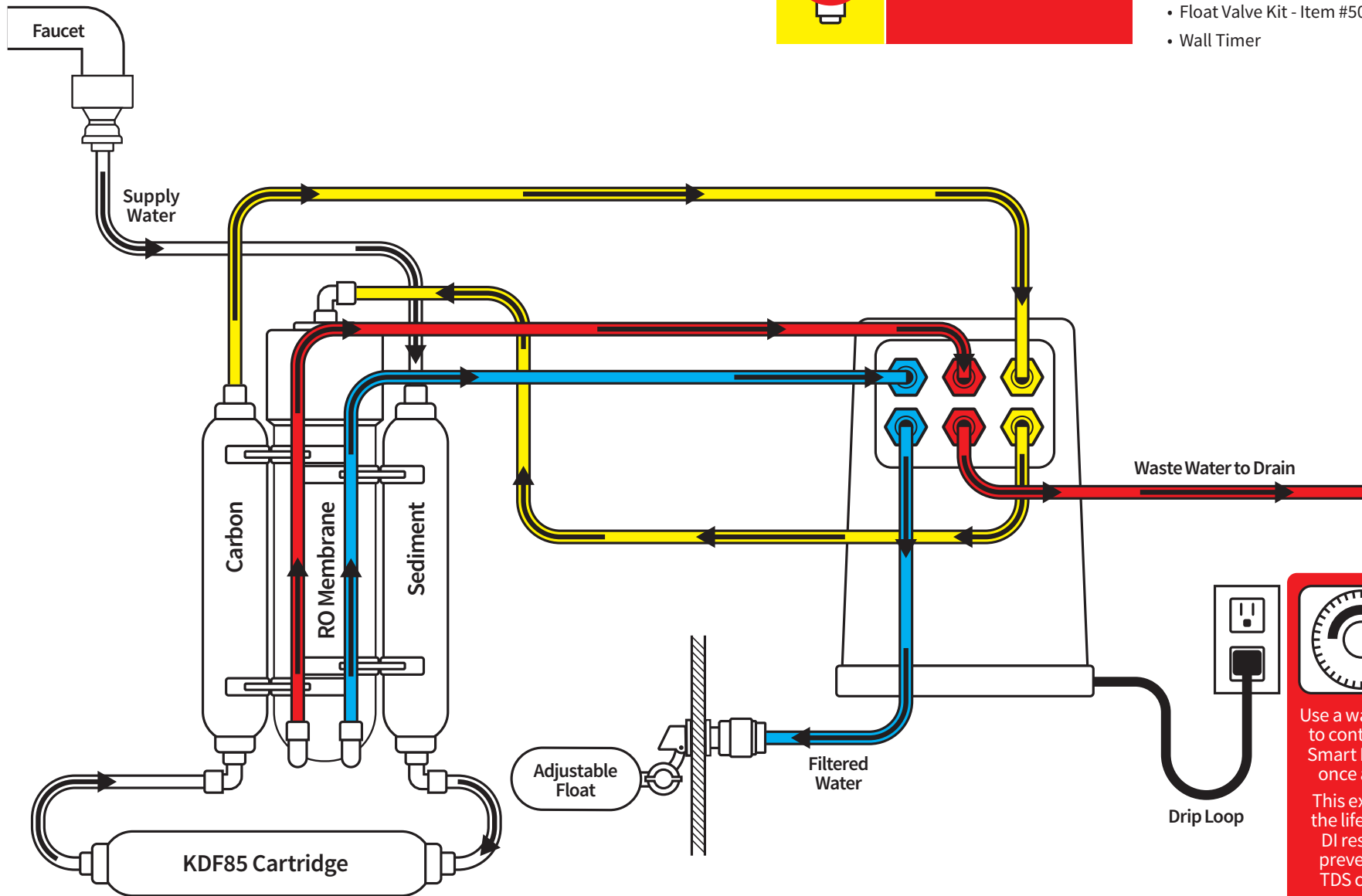
Plumbed to 50 or 100 GPD RO Buddie® & KDF85 Cartridge



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
- KDF85 Cartridge - Item #330283
- Float Valve Kit - Item #500300
- Wall Timer

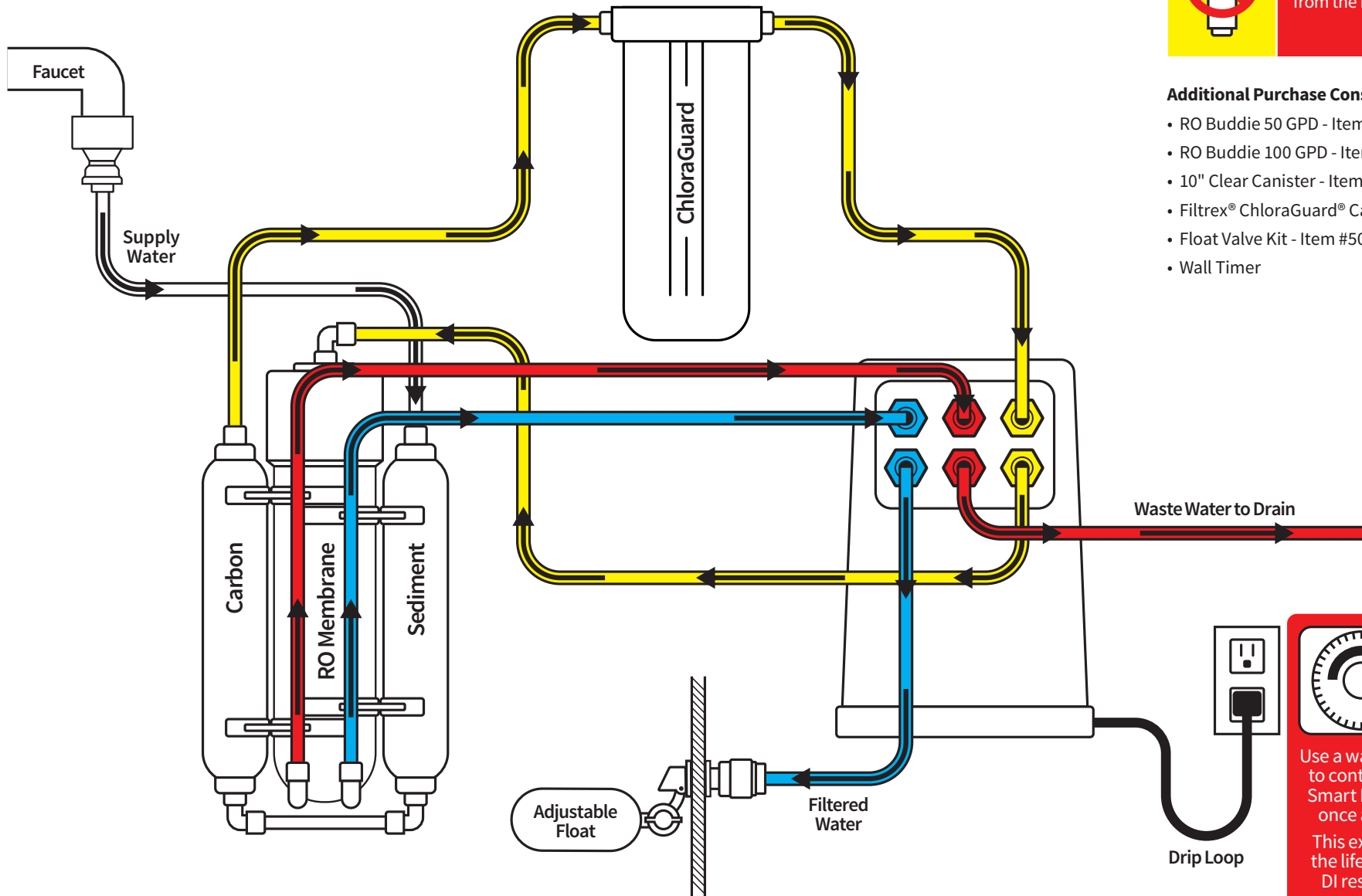


Use a wall timer to control the Smart Buddie once a day. This extends the life of the DI resin by preventing TDS creep.

Installation

D

Plumbed to 50 or 100 GPD RO Buddie® & ChloroGuard® Cartridge



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
- 10" Clear Canister - Item #540507
- Filtrex® ChloroGuard® Cartridge
- 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

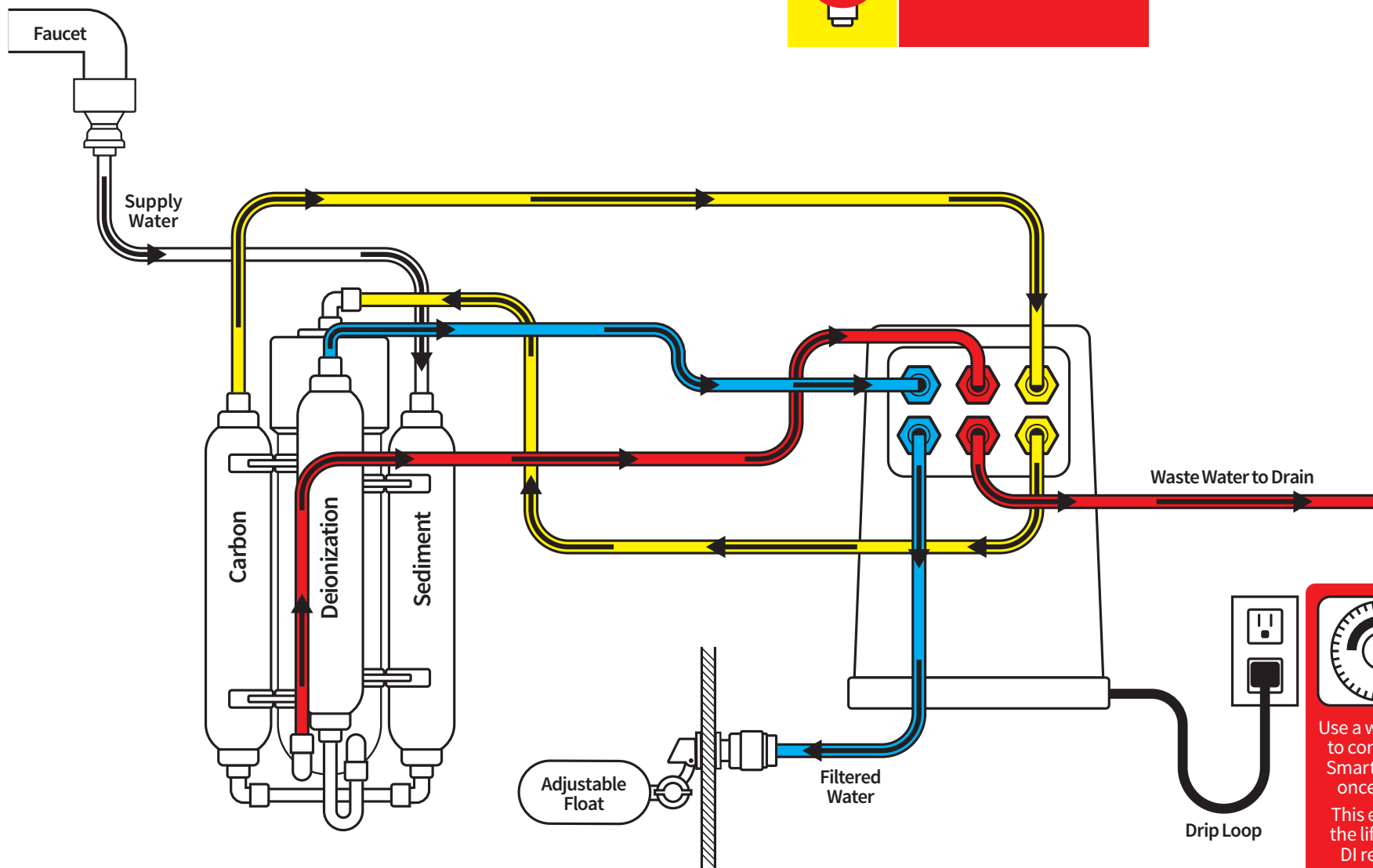

Plumbed to 50 GPD RO Buddie + DI



NOT USED IN SETUP
Remove Flow Restrictor
from the RO Buddie

Additional Purchase Considerations

- RO Buddie + DI 50 GPD - Item #540019
- 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

F

Plumbed to 75 or 100 GPD Twist-In RO/DI Unit

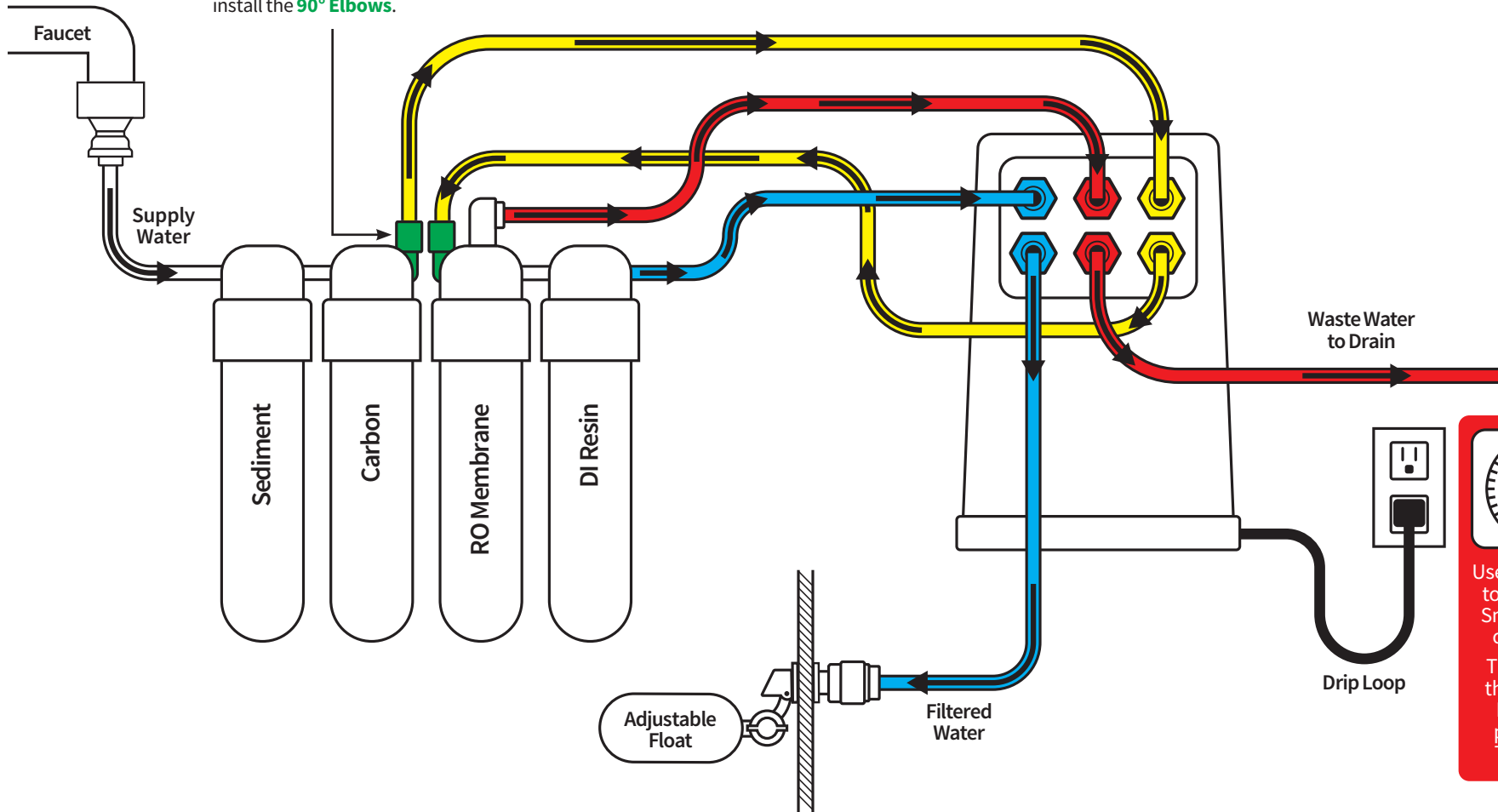



NOT USED IN SETUP
Remove Flow Restrictor from the Twist-In Unit

Additional Purchase Considerations

- 75 GPD TI RO/DI Unit - Item #540346
- 100 GPD TI RO/DI Unit - Item #540371
- 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

G

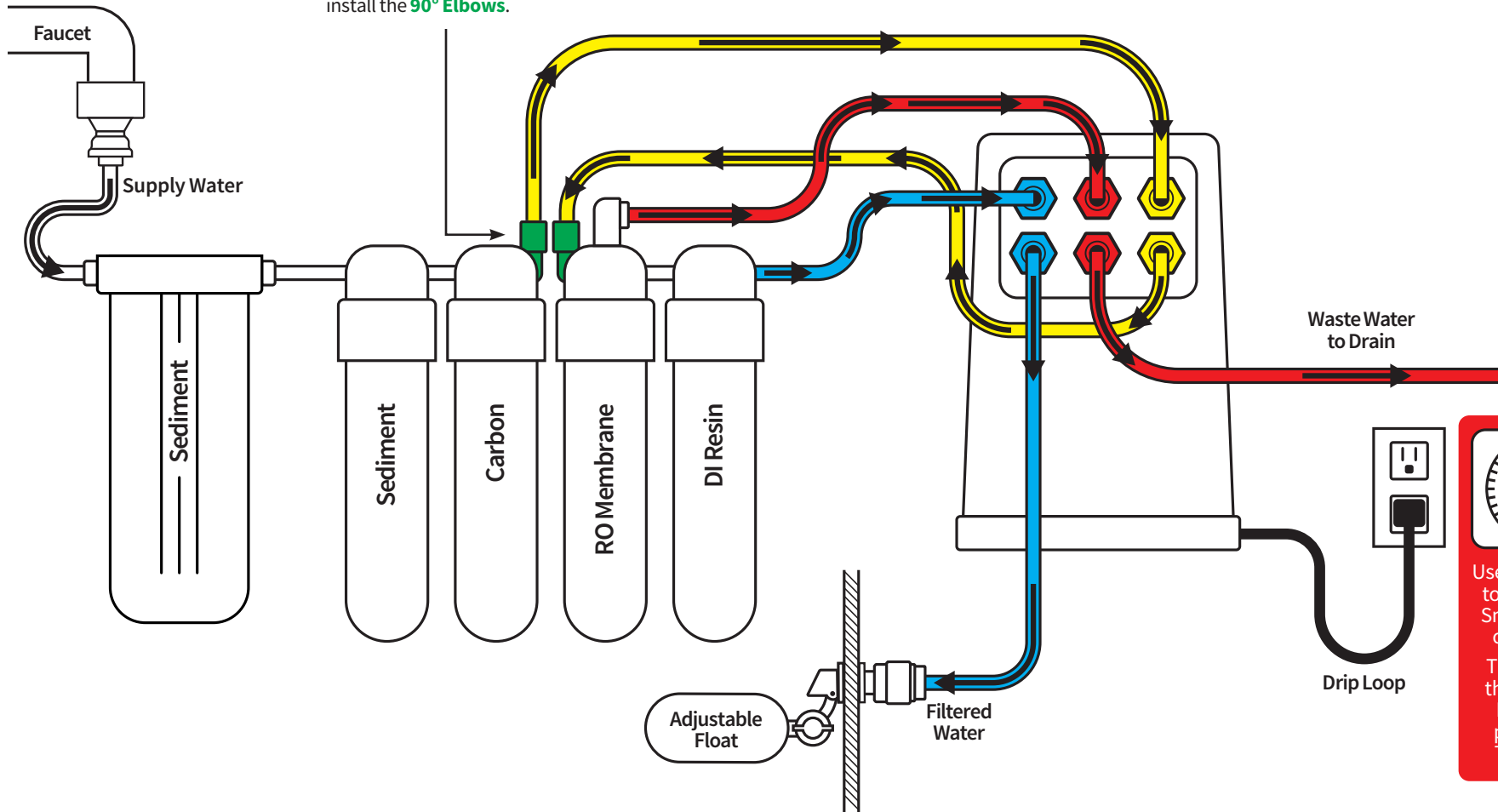

Plumbed to 75 or 100 GPD Twist-In RO/DI Unit & Sediment Pre-Filter



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
 - 10" Clear Canister - Item #540507
 - 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.

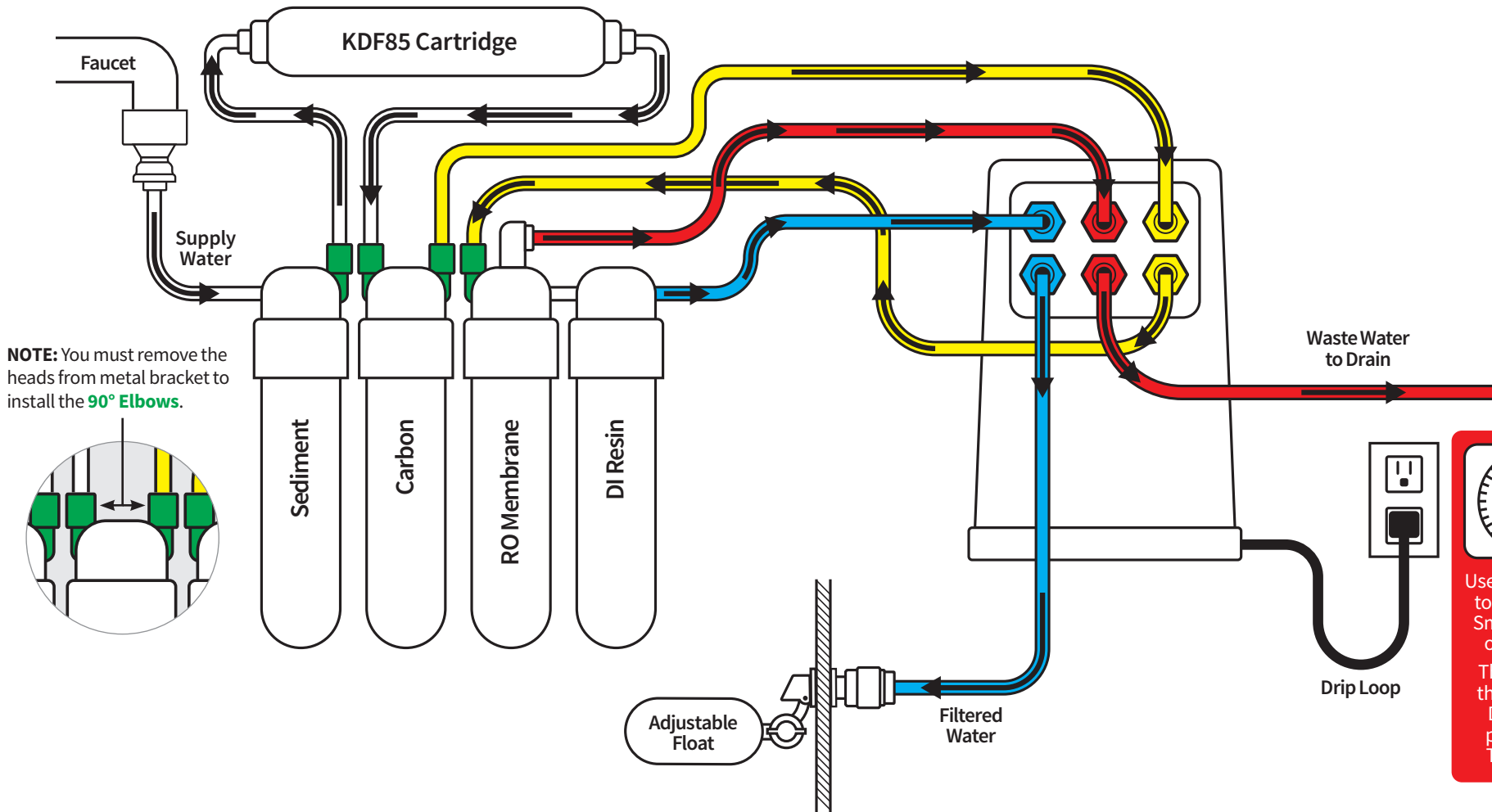
Installation

H

Plumbed to 75 or 100 GPD Twist-In RO/DI Unit & KDF85 Cartridge

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
 - KDF85 Cartridge - Item #330283
 - Float Valve Kit - Item #500300
 - Wall Timer



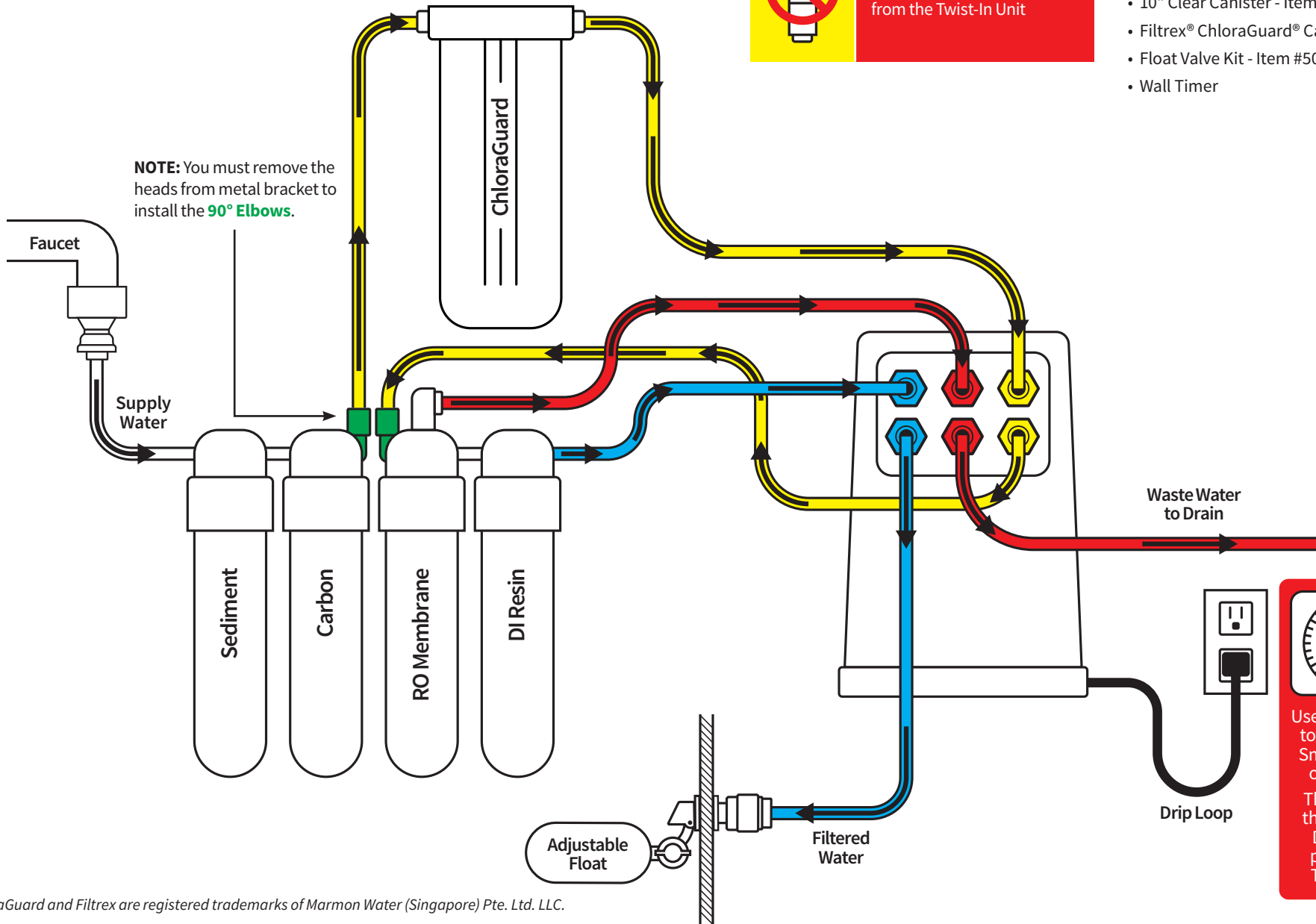
Installation

Plumbed to 75 or 100 GPD Twist-In RO/DI Unit & ChloraGuard® Cartridge

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
 - 10" Clear Canister - Item #540507
 - Filtrex® ChloraGuard® Cartridge
 - 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



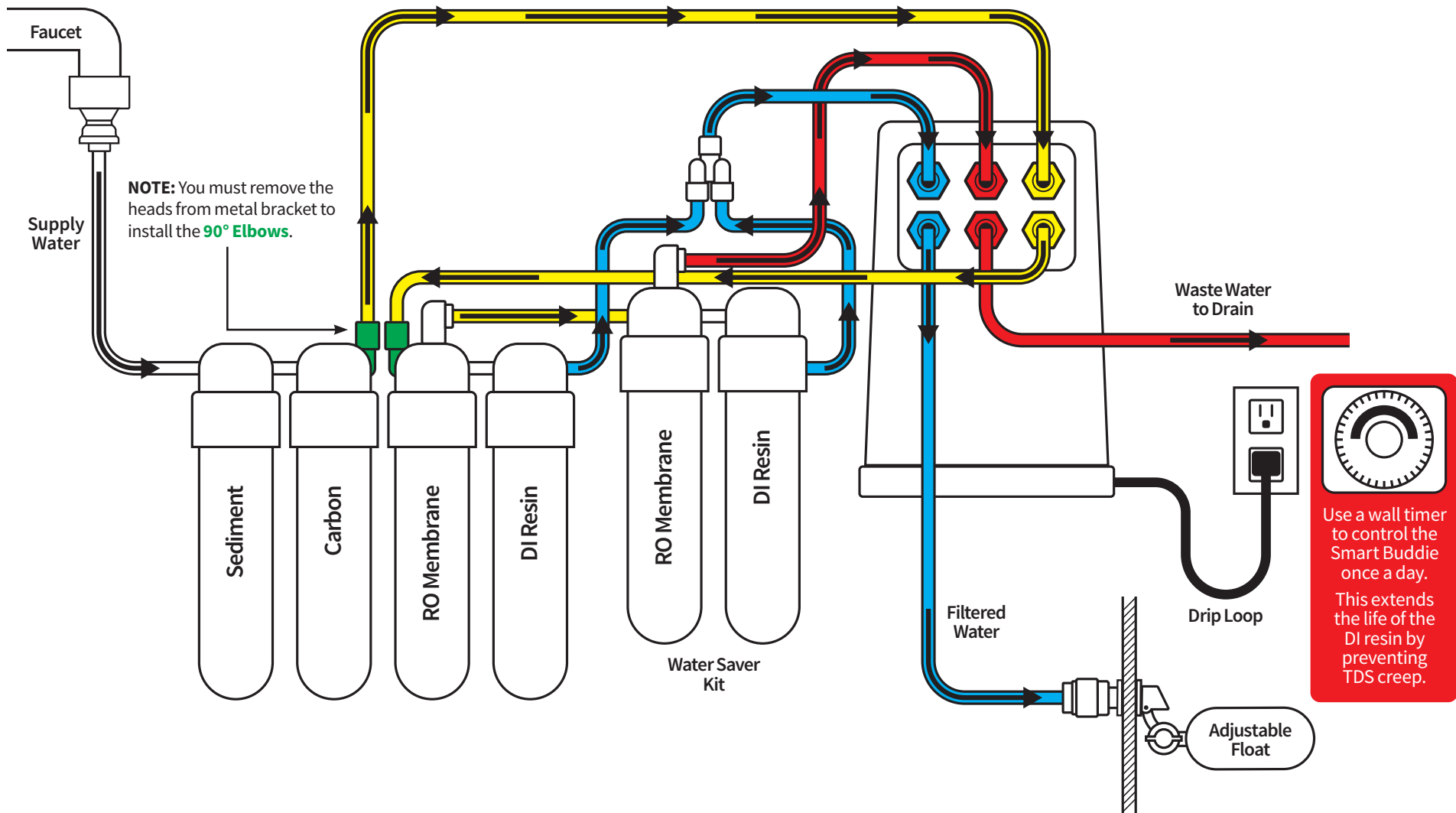
Plumbed to 75 GPD Twist-In RO/DI Unit
& Water Saver Kit



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

Additional Purchase Considerations

- 75 GPD TI RO/DI Unit - Item #540346
- 75GPD TI Water Saver Kit - Item #540664
- Float Valve Kit - Item #500300
- Wall Timer



Installation
K

Plumbed to Aquatic Life
Classic 100 GPD RO/DI Unit

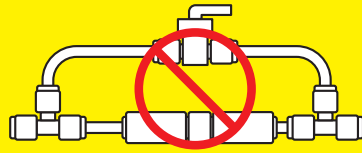
**NOT
USED IN
SETUP**



Flow Restrictor



Auto Shutoff Solenoid



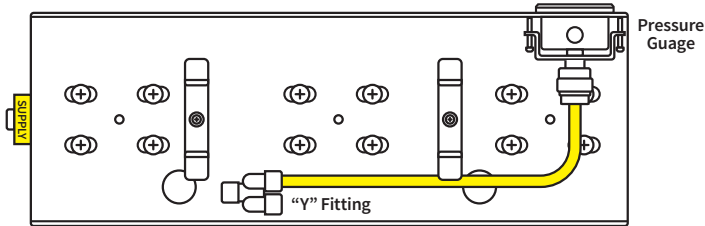
Flush Valve Assembly

Additional Purchase Considerations

- Classic 4-Stage RO/DI Item #540326
- Float Valve Kit Item #500300
- Wall Timer

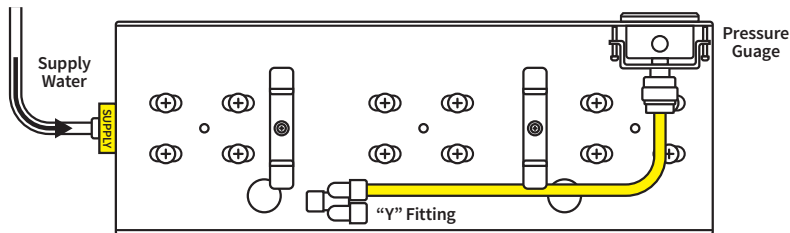
STEP 1

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



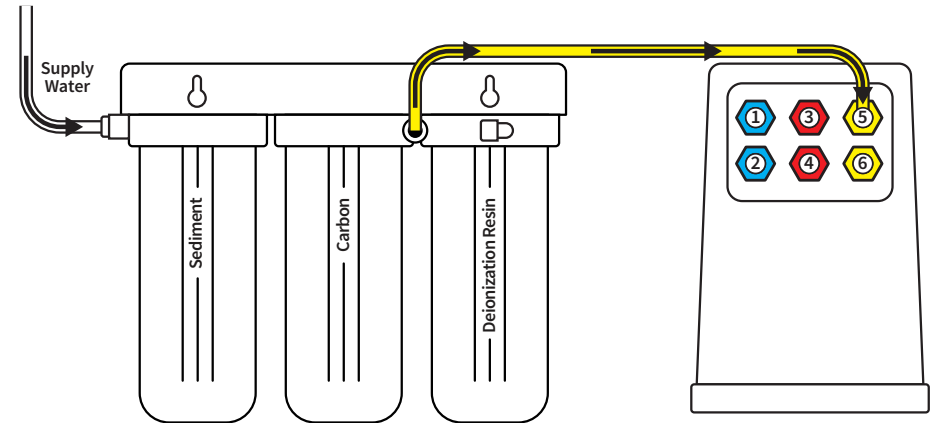
STEP 2

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



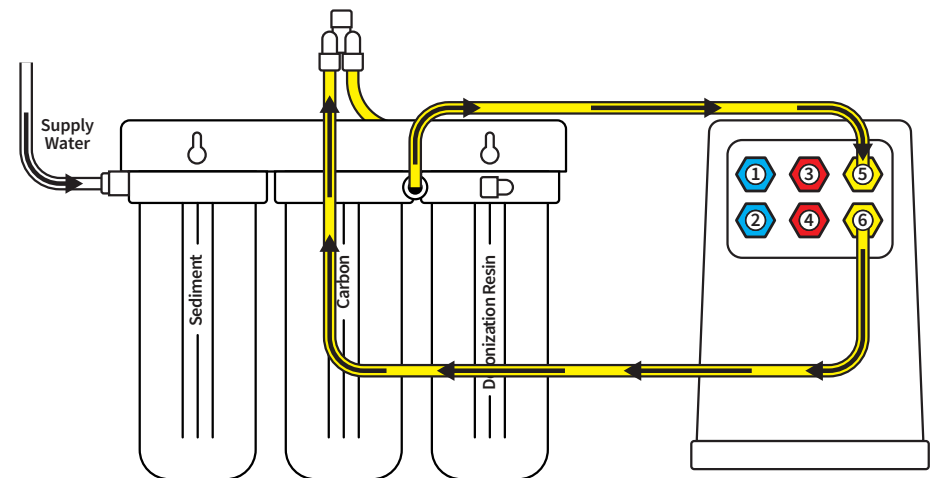
STEP 3

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



STEP 4

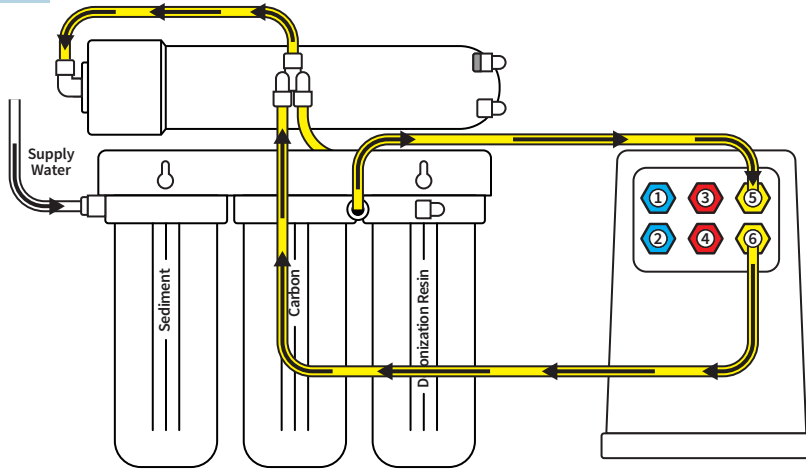
Connect **port 6** on Smart Buddie to the "Y" fitting.



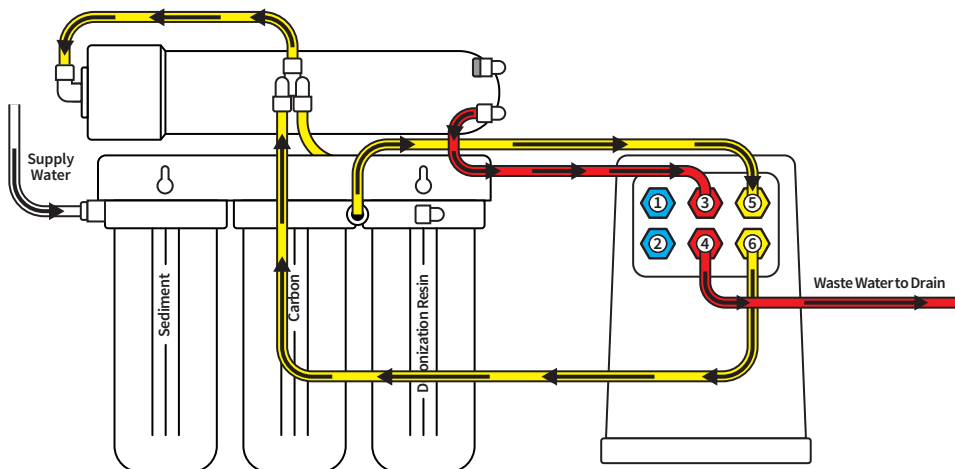
Installation
K
(continued)

Plumbed to Aquatic Life
Classic 100 GPD RO/DI Unit

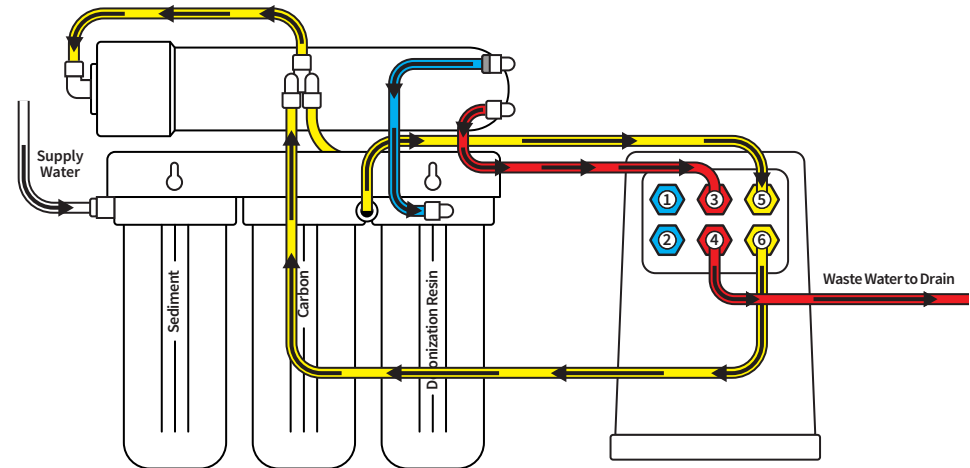
STEP 5 Connect single end of the "Y" fitting to the port on the Membrane Cap.



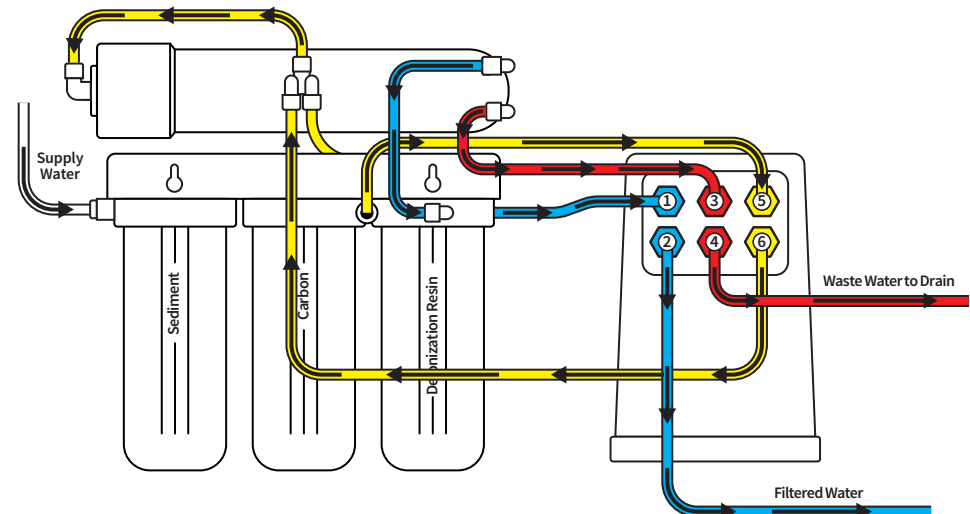
STEP 6 Connect tubing to the RO Membrane port **WITHOUT** the gray ring. The other end is connected to **port 3** on the Smart Buddie. Connect another piece of tubing to **port 4**. This is the wastewater line that can go to the drain.



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.



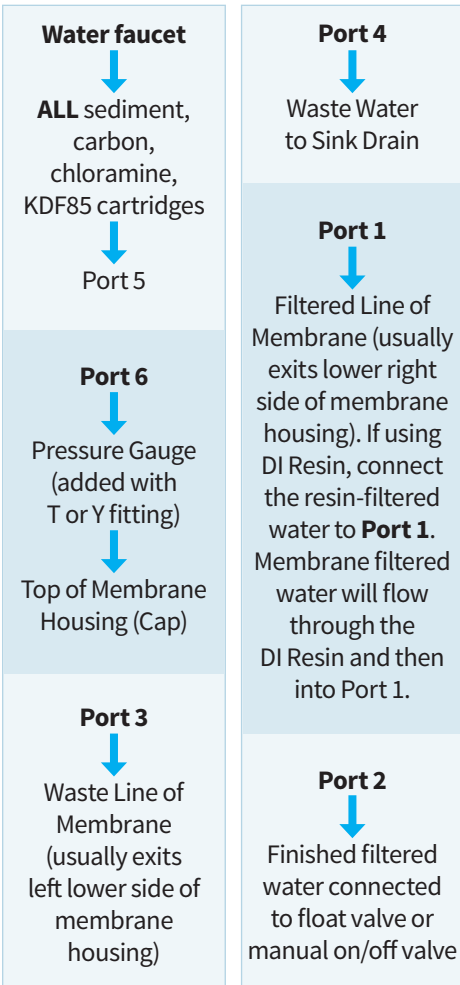
STEP 8 Connect the fitting on the **front** of the deionization canister to **port 1**. Connect another piece of tubing to **port 2**. This is your RO/DI filtered water.



Installation L Plumbed to any 50-100 GPD RO/DI Unit

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

The Smart Buddie Booster Pump can be plumbed to virtually any 50 to 100 GPD RO or RO/DI unit. Use this easy flow process for connecting the Smart Buddie to your system.



Installation M Pressure gauge connection

Additional Purchase Considerations

- Pressure Gauge - Item #9000903

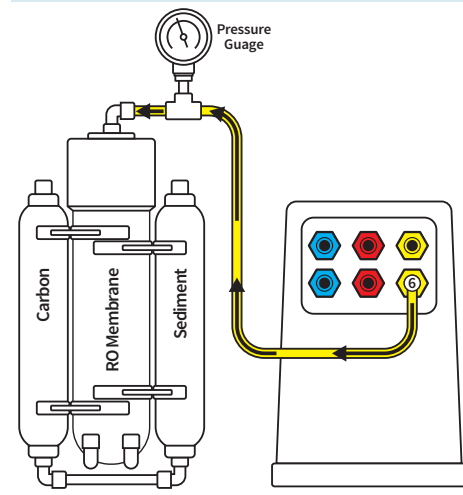
A pressure gauge is a good way to monitor the stability of the system. When plumbed correctly, the gauge should read 85+ PSI, but may vary slightly for each setup. It is important to note the pressure when all cartridges are new.

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

INCREASE IN PRESSURE - Membrane may need to be replaced.

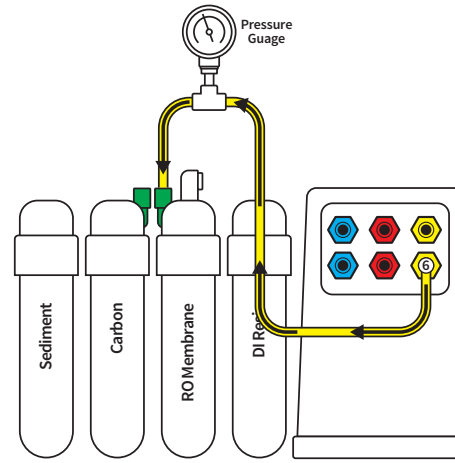
When installing, the **gauge should always be located in the line that connects Port #6 and the membrane supply**. For traditional RO and RO/DI units, this will be the press fitting on the membrane cap. For the Aquatic Life Twist-In unit, this will be the third pivoting head from the left.

Pressure Gauge connection using standard RO or RO/DI Unit



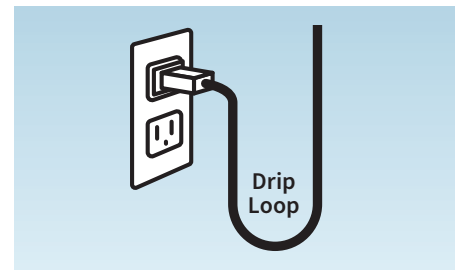
Installation M Pressure gauge connection (cont.)

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.

'POWER ON' INDICATOR

When plugged into a power outlet, a blue light will illuminate on the top of the Smart Buddie to indicate the unit is powered on and operating.

NOTE: 'Operating' means the pump is running, and all sensors and solenoids are functioning.

OPERATION

The Smart Buddie Booster Pump is designed for residential applications. The unit performs the following functions when operating:

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 20-30 seconds every 24 hours (and when the unit is powered on). 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.

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.

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 and the blue power indicator light is 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 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.

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 Klingerman 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.

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