

AquaEuroUSA™

Calcium Reactor 400



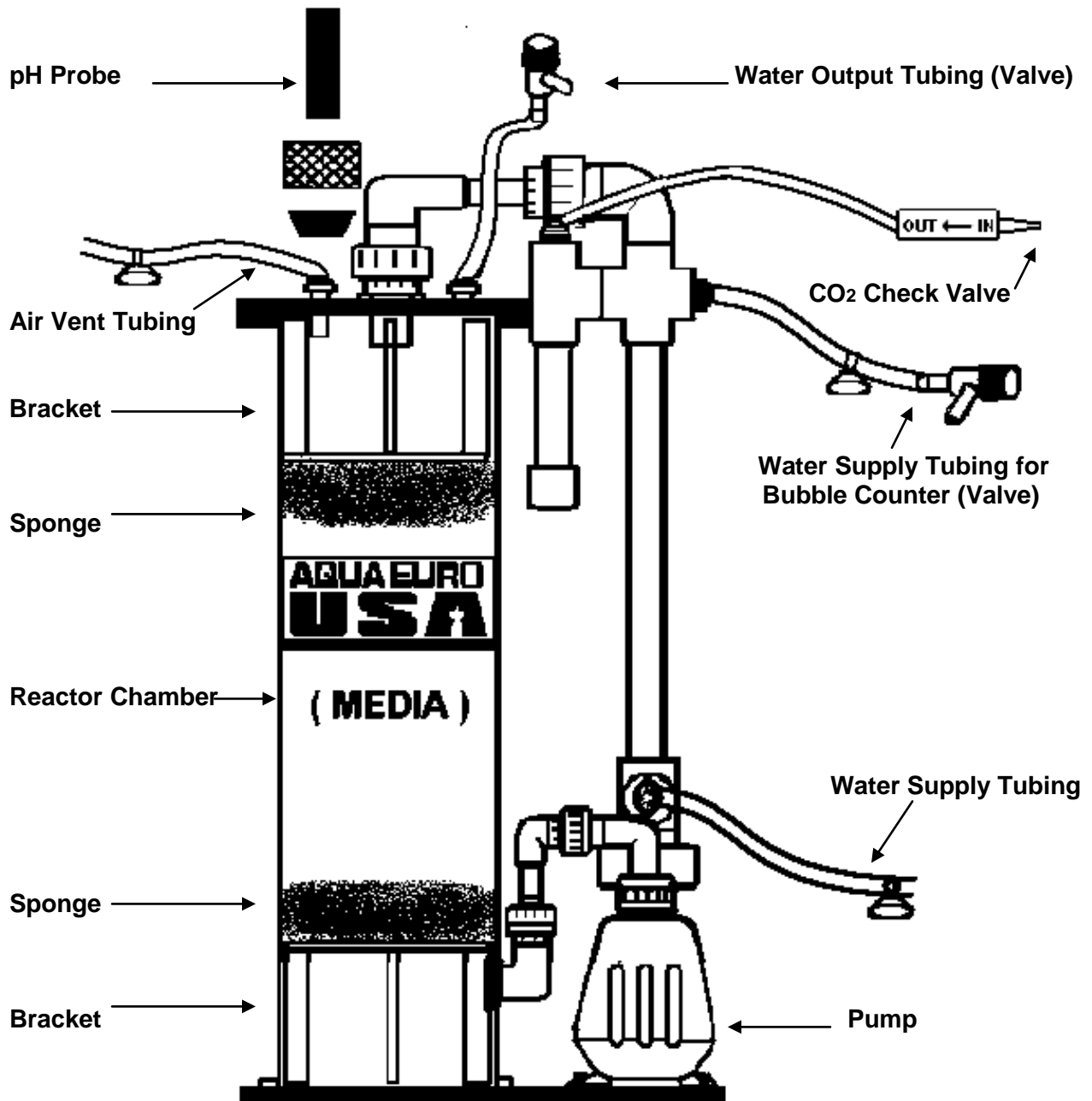
- **SIMPLE TO SET UP**
- **TOP QUALITY & HIGHLY EFFICIENT**
- **INCLUDES PUMP**
- **1 YEAR WARRANTY**

AquaEuroUSA™

ASSEMBLY PARTS

NOTE:

Make sure all connections are secure. Examine for damages before installation. Always disconnect unit from outlet or power source before installing, replacing parts or performing maintenance.



INSTRUCTIONS

Additional items needed to operate calcium reactor.

- CO₂ Regulator
(with Solenoid Valve & Needle Valve)
- pH controller and probe
- Calcium & alkalinity test kits
- Reactor Media
- CO₂ Cylinder
- Prepared saltwater

INTRODUCTION

The calcium reactor operates by slowly circulating water (ml) through the media within the reactor chamber many times per hour. The addition of CO₂ allows the pH of the water in chamber to drop to an acidic level, which dissolves the calcium into the water. The water in reactor chamber which is now rich in calcium and carbonates is then dripped back into the sump.

The amount of calcium been released can be controlled by the flow rate of the water through the chamber and also by the discharge rate of the carbon dioxide bubbles (CO₂).

SET UP

Rinse reactor thoroughly to remove any fabrication debris. Assemble reactor and add rinsed media as showed in diagram (page 1). Do not over tighten the top lid screws, once confident that it has been assembled properly test for any water leakage. Make sure to use the sponges provided with reactor. Failure to do so can cause media to enter pump and could cease working. Prepare saltwater for use with the reactor.

Note: If needed Teflon gasket can be use to assure a more tight fitting on pipe unions.

Place reactor in desired location. Place water supply tubing into sump using the suction cup. Place water output tubing into sump 1" – 2" above the water line. Open top cover union and fill reactor chamber with prepared water. Ensure that the bubble counter is filled up to ¼" of water. Now that the reactor is filled and water is being returned to your sump, plug in the pump. Open the water supply valve during this process to allow the excess of air to escape. Let reactor run like this for a period of 20 minutes to release the air trapped in the media then turn pump off.

WARNING: Make sure to follow all safety precautions provided by the manufacture of the CO₂ tank.

Once the reactor is in place connect it to the CO₂ tank. Keep the main valve at top of cylinder in the OFF position during installation. Using a Teflon gasket, attach and tighten the dual gage regulator to cylinder. Connect the bubble counter check valve to the CO₂ tubing coming from regulator (needle valve must be closed during process).

Note: See diagrams on page 5 for a detailed setup.

Note: Do not turn on CO₂ cylinder until all installation, set-ups and connections are completed and secure.

Dialing in Calcium Reactor

Before beginning operation measure and note the initial aquarium levels of calcium and alkalinity. Make sure not to add either supplement during the measurements. Connect the water pump to a GFCI outlet. Slowly turn on the CO₂ cylinder and adjust the CO₂ regulator to produce between 1 to 3 bubbles per second on bubble counter. Set the water output valve to 30-60 drops per minute. Monitor the CO₂ injection by measuring the effluent pH (effluent - water flow coming from the reactor). Only use the bubble count as a visual reference. Connect Solenoid valve cord to pH controller (if applicable). Measure the pH inside the reactor chamber with a test kit or pH monitor and pH probe. If using a pH controller set it to maintain the pH at 6.5 and 6.8. Allow the reactor to run 24 hours before making any adjustments.

Note: The pH control works by adjusting the rate at which the calcium media dissolves when is connected to a probe in the reactor. The pH control also closes the flow valve if the pH falls below a certain level.

Make sure to monitor and record the pH and alkalinity levels and compare the readings. If the pH is higher than 6.8, then increase the bubble count and reduce the water flow. Once the adjustments are made, allow reactor to run for 24 hours to before making any other adjustments.

Note: It is important to understand that each system requires different CO₂ and effluent settings depending on the bio-load and tank size.

Suggested levels:

Alkalinity: between 9-12 dKH or 3.2-4.3 meq/L

Calcium: between 450ppm and 480ppm.

Note: If any adjustments are made to the effluent flow rate, make the same adjustments to the CO₂ rate.

If the alkalinity is to high reduce the CO₂, this will decrease the amount of media been dissolved in chamber. If the alkalinity is to low increase the CO₂.

Important Notes:

1. Do not allow the pH to drop below 6.5. If it drops below that level it will quickly dissolve into a mushy state.
2. Do not let the alkalinity rise above 14 dKH (use an alkalinity test kit to measure levels).
3. The water flow through the reactor will vary depending on the bio-load and size of the aquarium.
4. If adjusting the reactor always do it in small increments and let it run for 12 to 24 hours before making any other adjustments.
5. Increasing the CO₂ feed will cause the effluent pH to drop, and raise effluent alkalinity.
6. Decreasing the CO₂ feed will cause the effluent pH to rise, and lower effluent alkalinity.
7. Keep a logbook of the calcium and alkalinity levels and changes you have made to it.
8. Get the alkalinity set to your target level, and your calcium level will fall into place.

MAINTENANCE

Warning: Do not touch pump cord or electrical plugs with wet hands. Disconnect pump from electricity (power supply) before performing maintenance, moving or adjusting skimmer.

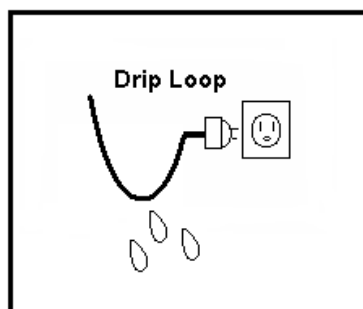
The calcium reactor should be cleaned every 3 to 5 months. Change the media at the same time or when the level has dropped to about half percent. The media should also be replaced if it becomes depleted. If a decrease in performance has occurred and the pump has developed lime deposits perform a complete clean up. If calcium buildup is present, soak part(s) in a vinegar solution (50% vinegar and 50% water). Rinse and wipe down all parts.

SAFETY

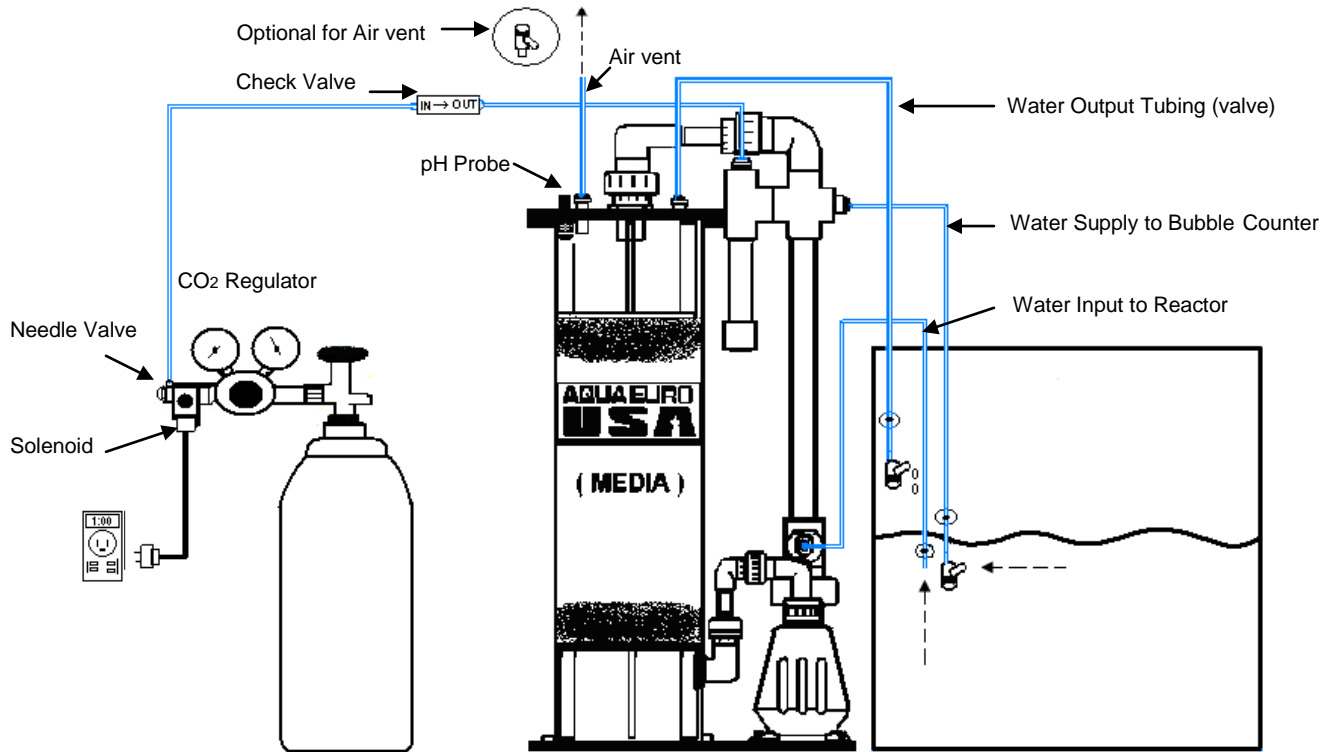


WARNING: FOLLOW THE SAFETY PRECAUTIONS BELOW TO PREVENT PROPERTY DAMAGE, FIRE, PERSONAL INJURY AND LOSS OF LIFE.

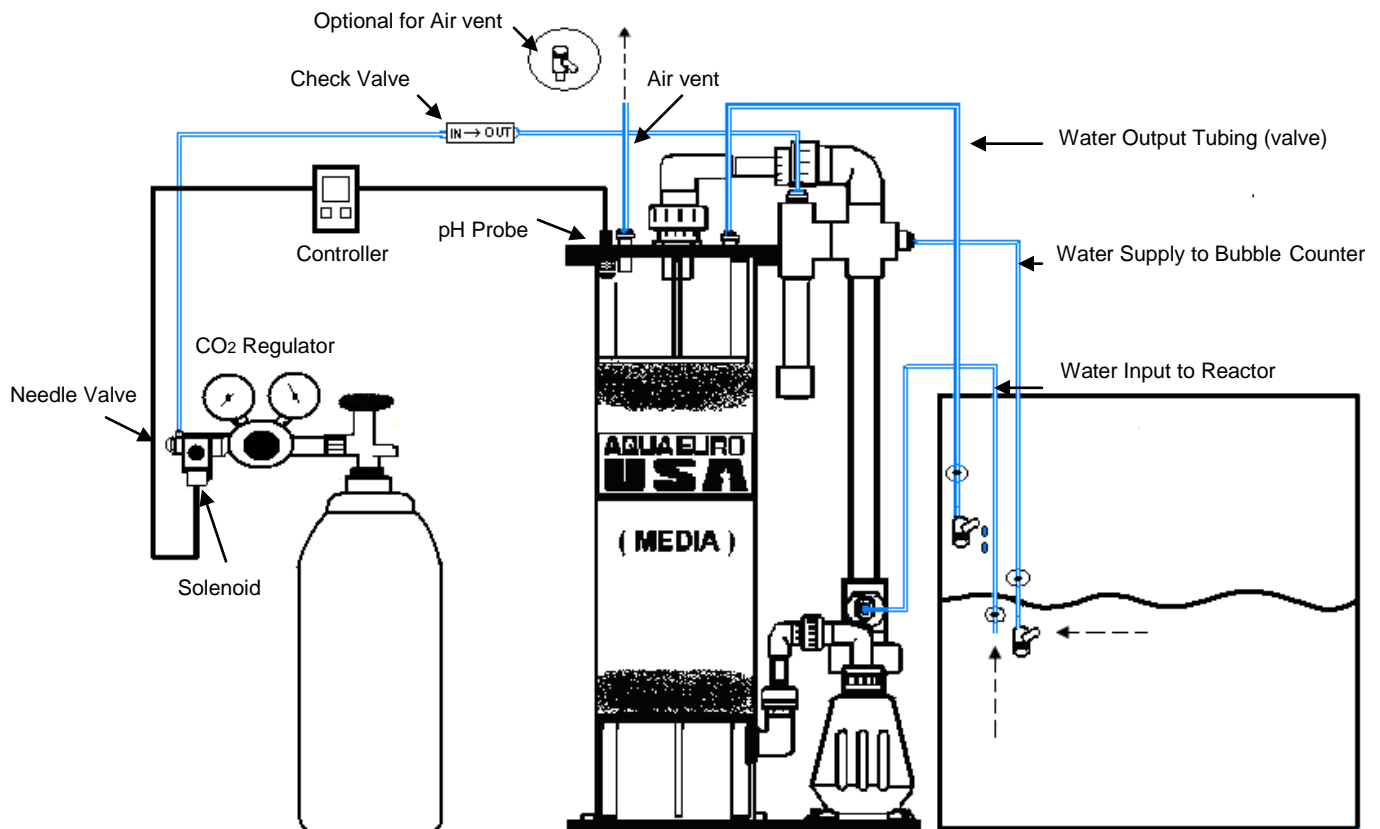
1. It is extremely important to follow all safety precautions when handling the CO₂ cylinder.
2. Only use CO₂ compatible tubing.
3. Connect pump to ground fault circuit interrupter (GFCI).
4. Don not run pump dry
5. Do not touch electrical plug with wet hands to connect pump to outlet.
6. Do not attempt to repair a damaged pump
7. Do not operate the pump if cord or plug has been damaged in any way.
8. Make sure tubing and all connections are secure
9. Create a drip loop for pump power cord to prevent water from running the length of the power cord and reaching the power outlet.
10. Unplug unit from outlet or power source before replacing parts or performing maintenance



CALCIUM REACTOR STANDARD SETUP



CALCIUM REACTOR WITH PH CONTROLLER



Aqua Euro USA™ One-Year Limited Warranty

Inspect Calcium Reactor when it is received. If Reactor is received damaged, notify the carrier, note damage on freight bill. Otherwise no claim can be made against the carrier.

Aqua Euro USA™ guarantees this product, to the original purchaser, against defects in components, materials and workmanship (that occur under normal use) for a period of ONE (1) YEAR from the date of retail purchase. The warranty is not transferable and is confined to the original retail purchaser only. The warranty does not extend to damages caused by power surges, improper installation or any form of abuse. The warranty does not apply if (1) damages result from misuse, accident, lack of reasonable care or abuse, (2) the product is not purchased from Aqua Euro USA™ or an authorized dealer, (3) damage due to modification or alteration that is made to the product (4) wrong circuitry or unspecified electrical input to the pump, (5) the site (location where the product is kept) conditions do not conform to the recommended operating conditions for the skimmer, (6) the original brand name is removed, obliterated or altered from the product.

Contact the company at www.aquaeuroussa.com

Purchaser pays any postage, shipping and insurance fees to return skimmer

In the event of product failure within the warranty period, please contact the store where the product was purchased for further instructions for repair or replacement. Repair or replacement will be carried out through Aqua Euro USA™ or its authorized dealers. A return authorization number and a copy of original purchase receipt are required for return of the defective product. After any repairs/replacement of the unit, this warranty will thereafter continue and remain in force only for the unexpired period of warranty. Moreover, the time taken for repair/replacement and in transit whether under the warranty or otherwise shall not be excluded from the warranty period.

Limitation of Implied Warranties and Exclusion of Certain Damages.

Limit of Liability: For any single claim, the limit of liability under this contract is the least of the cost of (1) authorized repairs, (2) replacement with a product or equal or greater value, (3) reimbursement for authorized repairs or replacement, or (4) the price that you paid for the product. (No cash refunds will be made). The total liability under this contract is the purchase price you paid for the product; in the event we replace the product or reimburse you for replacement of the product with another product of equal or greater value, we shall have satisfied all obligations owed under this contract.