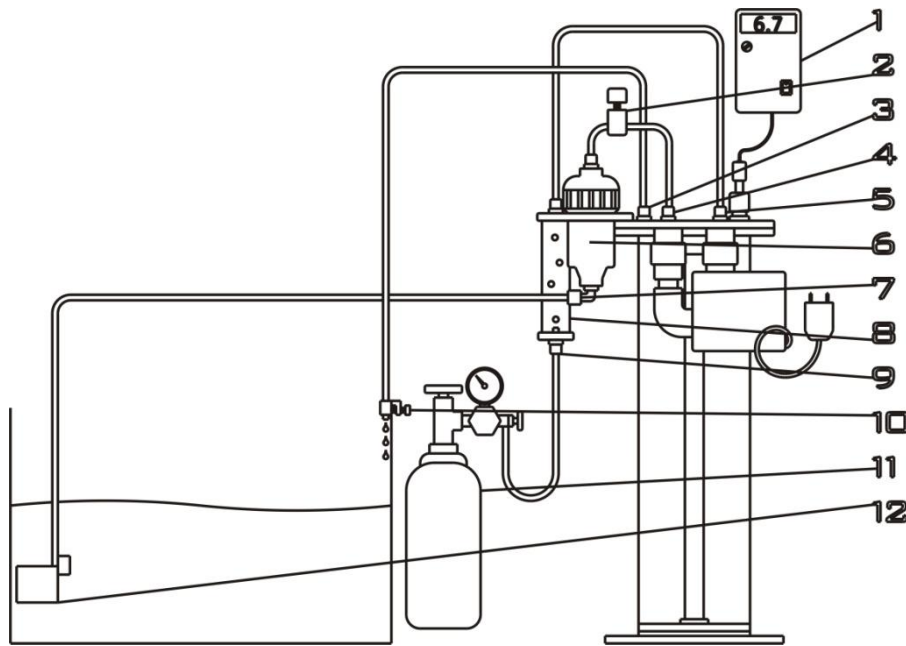


cTech Calcium Reactor

Calcium Reactor Set-Up Diagram

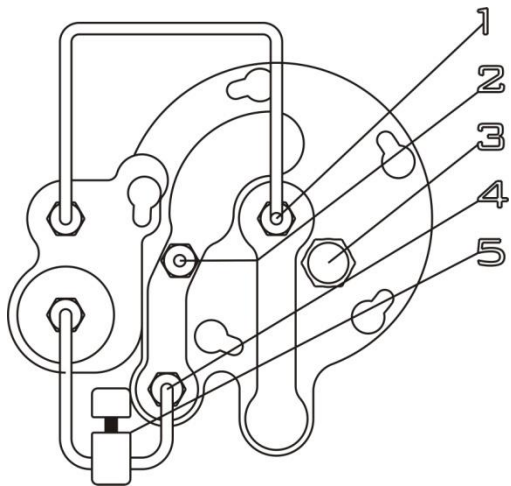


1	pH Monitor*
2	Flow Control Valve
3	Water Outlet
4	Water Inlet
5	CO2 inlet
6	Water Inlet Filter
7	Water Inlet
8	CO2 Bubble Counter
9	CO2 Inlet
10	Bracket for Water Outlet
11	CO2 Tank and regulator**
12	Feeding Pump***

**optional*

***sold separately*

****AquaLifter or comparable pump recommended*



1	CO2 inlet
2	Water Outlet
3	pH Probe Holder
4	Water Inlet
5	Flow Control Valve

Installation Guide

Please open the package carefully and check for damaged or lost parts.

Parts Included

- Calcium Reactor Main Unit
- Flow Control Valve
- Tubing for Water Inlet and Outlet
- Hanger for Water Outlet
- Bubble Counter
- CO2 Tubing
- Water Inlet Filter

Additional Parts Needed

- Feeding Pump (AquaLifter pump recommended)
- Calcium Reactor Media
- CO2 Check Valve
- CO2 Cylinder
- CO2 Regulator
- pH test kit, pH monitor or pH controller

Install the CO2 Inlet

1. Cut a short length of tubing and connect it to the bottom of the CO2 bubble counter. Connect the CO2 check valve (required and sold separately) to the tubing.
2. Use your feeding pump (we recommend the AquaLifter pump) to feed freshwater into the bottom of the CO2 bubble counter. Once the bubble counter is 3/4 full, disconnect the feed pump. The check valve will prevent the water from leaking out of the bubble counter.
3. Connect CO2 check valve to your CO2 regulator.
4. Do not open the flow of CO2 at this time. Verify that all the valves on the CO2 tank are closed.
5. Connect the recirculation pump to the reactor manifold.

**Soft Silicone Tubing: Connect water inlet to water inlet filter.*

**White Tubing: Connect CO2 inlet to CO2 bubble counter*

Adding Calcium Media

1. Loosen thumbscrews and remove the lid.
2. Temporarily block the top of the central tube to stop media from going down the central tube.
3. Fill the reactor with calcium reactor media. Do not overfill the reactor! Leave at least 1" of space between the media and the top of the reactor. We recommend that you rinse the media thoroughly before usage, even if the manufacturer says it isn't necessary.
4. Fill reactor with aquarium water.
5. Replace the lid making sure the O-ring is seated properly. Be sure not to spill any media in the O-Ring groove. Tighten the screws in a star pattern to evenly secure the lid. Do not over tighten.

Install the Water Inlet and Outlet

1. Cut a suitable length of the soft silicone tubing for the water inlet and outlet.
2. Connect the water inlet and water outlet tubing to the reactor. Run the outlet tubing to the sump. Run the inlet tubing to your feed pump.
3. Open the flow control valve.
4. Position the water inlet several inches below the sump water line, in a calm area of the sump. Secure the tubing and verify that the intake won't be exposed to air or excessive micro-bubbles. This will avoid excess air from being drawn into your reactor.

Operation:

1. Turn on your feed pump.
2. Turn on the Calcium Reactor pump on for 20-30 minutes or until the water inside the chamber runs clear. Take this opportunity to check for leaks.
3. After several minutes, check to see if water is exiting the flow control valve and flowing back to the sump.
4. Once water is flowing back to the sump, adjust the flow control valve until the drip rate is approximately 2 drips per second.
5. With the needle valve on the CO2 regulator opened slightly, slowly open the main valve on the CO2 tank.
6. Slowly adjust the needle valve while keeping an eye on the bubble counter. Adjust CO2 injection rate to 1 bubble every 3-4 seconds.
7. Once the reactor is running, you will adjust the flow of CO2 and effluent to match your aquarium's calcium/alkalinity demand. Over the course of the next week or two, you will need to fine tune the flow of CO2 and drip rate to match your aquarium's calcium and alkalinity demands. Every tank is different and testing your water chemistry is the only way to determine the exact drip rate and CO2 Injection rate that is appropriate for your aquarium.
8. As changes to the CO2 bubble rate or the drip rate need time to take effect, we recommend making small changes and allow a few hours (or overnight) for the change to take effect before making further changes.

**The cTech will work most efficiently if the internal pH is between 6.5-6.8. For best results, do not set the internal pH lower than 6.4 or higher than 6.9.*

CAUTION

- It is very easy for the water inlets and outlets to become blocked by the very slow flow rate, please check the water and air inlets and outlets during regular maintenance.
- Check the effluent pH of the water from the water outlet regularly if not using a controller.
- Replace the media annually or as needed.
- If you want to disconnect a piece of tubing from the reactor, please remove the blue clip first and then press down the small white collar before pulling out the tubing. (DO NOT PULL OUT THE TUBING DIRECTLY AS THIS WILL DAMAGE THE FITTINGS).

For addition FAQ's and trouble-shooting tips, please visit our website: www.aquamaxxaquariums.com

Warranty

AquaMaxx warrants all AquaMaxx products to be free from manufacturing defects for one year from the original purchase date when purchased through an authorized AquaMaxx retailer. This warranty does not cover any damages caused by misuse, neglect, alterations or improper handling / transport / maintenance / installation. Physical damages are not covered by warranty. AquaMaxx does not cover personal injury, personal loss, or other damages associated with the use of our products. In order to request warranty service, please email us at info@aquamaxxaquariums.com. A purchase receipt is required for any warranty service. Products requiring warranty service must be returned to AquaMaxx. You are responsible for the cost of shipping a warranty claim to AquaMaxx and any damages that may occur during transit. Once a returned product has been inspected, it will be repaired or exchanged at our discretion and returned to you. International and/or expedited shipping are not covered under your AquaMaxx warranty.