AquaMaxx cTech Nano Calcium Reactor User’s Manual

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**Parts Included:**
A - Water Outlet  
B - Reactor Water Inlet  
C - pH Probe Port  
D - Recirculation Pump & Housing  
E - Prefilter Water Inlet  
F - Reactor Chamber  
G - Reactor Base  
H - Flow Control Valve  
I - Reactor CO2 Inlet  
J - Water Prefilter  
K - CO2 Bubble Counter  
L - Bubble Counter CO2 Inlet  
M - Fluidization Pipe  
N - Media Plate  
O - Reactor Tank Mount  
P - Tubing Tank Mount

**Additional Parts Needed:**
Feeding Pump, Calcium Media, CO2 Cylinder, CO2 Check Valve, CO2 Regulator, CO2 Tubing, pH Test Kit / pH Monitor / pH Controller
STEP 1 - Assembling the Reactor

A. Attach the bubble counter / prefilter assembly to the reactor lid by fingertwisting the white thumbscrew in a clockwise motion.

B. Push-connect the flow control valve to the reactor’s water inlet.

C. Push-connect the bubble counter to the reactor’s CO2 inlet.

D. Attach the recirculation pump to the reactor. Secure with zip ties, if desired.
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STEP 2 - Adding Calcium Media

A. Finger-twist the five thumbscrews counter-clockwise to loosen and remove the reactor lid.

B. Temporarily block the top of the central tube while filling the reactor with Calcium 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.

C. Fill the reactor with aquarium water. Ensure the o-ring is properly in place before replacing the reactor lid.

D. Tighten the thumbscrews in a star pattern to evenly secure the lid. Do not overtighten.
STEP 3 - Installing the CO2 Inlet

A Cut a short length of CO2 tubing and connect it to the bottom of the CO2 bubble counter.

B Connect a CO2 check valve (sold separately) to the other end of the CO2 tubing.

C Use your feeding pump (sold separately; we recommend the AquaLifter pump) to feed freshwater into the bottom of the CO2 bubble counter.

Disconnect the feed pump once the bubble counter is 3/4 full. The check valve will prevent the water from leaking out.

D Connect the CO2 check valve to your CO2 regulator (sold separately).

Do NOT open the flow of CO2 at this time. Verify that all the valves on the CO2 tank are closed.
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STEP 4 - Installing the Water Inlet

A  Cut two suitable lengths of the included white tubing to form the water inlet and outlet lines.

B  Connect the outlet tubing to the reactor water outlet.

C  Connect the inlet tubing to the water prefilter inlet.

D  Run the outlet tubing to your sump and secure it using the included tank mount. Run the inlet tubing to your feed pump.

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.
STEP 5 - Running the Reactor

A. Open the flow control valve.

B. Turn on the feed pump and the reactor pump. Let them run for 20-30 minutes, or until the water inside the chamber runs clear. Take this opportunity to check for leaks.

C. After several minutes, check to see if water is exiting the flow control valve and flowing back to the sump. Once water is flowing back to the sump, adjust the flow control valve until the drip rate is approximately 2 drips per second.

D. With the needle valve on the CO2 regulator opened slightly, slowly open the main valve on your CO2 tank. Slowly adjust the needle valve, keeping an eye on the bubble counter. Adjust the CO2 injection rate to 1 bubble every 3-4 seconds to start.
ADDITIONAL OPERATION NOTES & CONSIDERATIONS

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, so testing your water chemistry is the only way to determine the exact drip rate and CO2 injection rate that is appropriate for your aquarium.

As changes to the CO2 bubble rate or the drip rate need time to take effect, we recommend making small changes and waiting a few hours (or overnight) 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.

It is very easy for the water inlets and outlets to become blocked by the very slow flow rate, so 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).

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.