FAUNA MARIN
SKIM BREEZE CO_2 REACTOR

Special air filter for connecting directly to a protein skimmer for air purification and CO_2 reduction.

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How to use the SKIM BREEZE CO_2 reactor

How important is CO_2 content and pH value in the aquarium?

Very important. When it comes to understanding the relationship between pH and CO_2 in the aquarium, one must first understand how one affects the other. In aquariums, the pH value of water is strongly dependent on the amount of dissolved CO_2 within the water. This means that the more CO_2 content in the water, the lower pH value will be. Conversely, it is possible to increase pH by limiting the amount of CO_2 added into the water.

An examination of coral behavior and water tests show that corals consume CO_2 during photosynthesis, then later release it back into the water at night. This natural process explains why we have daily pH fluctuations in aquariums. In other words, when the aquarium lighting is ON, corals are consuming the CO_2 in the water thus resulting in increasing pH. When the lights turn OFF, corals begin to release the CO_2, resulting in decreasing pH.

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How is CO_2 introduced into the aquarium in the first place?

Normal outside air typically has a CO_2 content of 0.04%. When it comes to aquariums and CO_2 in the air, the pH of the aquarium is directly affected. One must take into account the placement of the aquarium as most are usually placed in an enclosed area. This same space is also occupied by several people and pets. By simply breathing, the CO_2 content in the air is greatly increased, even more so with multiple people in the same area. When we exhale, we release a CO_2 content of approximately 4%.

With the presence of humans and animals, the CO_2 content in the room steadily increases over time. One can reduce CO_2 in the air by simply opening a few windows and ventilating the room when possible.

The aquarium water undergoes continuous gas exchange with the ambient air. This means that if the air has a higher CO_2 content, the aquarium water will use this air during the gas exchange and result in an increased CO_2 value in the water.

Since most modern saltwater aquariums are equipped with powerful skimmers, the effectiveness of mixing air and water results in a strong gas exchange. The strong pull of air into the skimmer body introduces ambient air which may contain elevated levels of CO_2. The addition of high CO_2 filled air can result in a decrease of pH.

This is where the SKIM BREEZE CO_2 reactor comes into play.

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How does the SKIM BREEZE reactor increase the pH value in the aquarium?

The SKIM BREEZE CO_2 reactor from Fauna Marin is a dedicated filter that is used to hold a special filter media called SKIM BREEZE. This product is responsible for removing all the CO_2 gas it comes into contact with.

By connecting the SKIM BREEZE reactor to the air inlet of a protein skimmer, the air pulled through the reactor and into the skimmer can be purified and stripped of any CO_2 gas. Because protein skimmers are so effective at pulling in mass amounts of air, it is possible to filter this air before it is introduced into the skimmer, thereby reducing the amount of CO_2 being added to the tank. With the Skim Breeze reactor, CO_2 entry is minimized and pH value can be increased and stabilized.

What are the effects of higher pH in the aquarium?

- Water with a pH value that is closer to the natural value of 8.3
- Increased coral growth through more efficient calcification
- Small amount of precipitation of pH value in the water
- Increased reproduction rate of calcareous organisms such as snails
- Increased pH results in a lower Phosphate level which thereby reduces unwanted algae growth
- Nutrient reduction – the increased pH value creates a nutrient buildup limitation and limits how much nutrients are introduced into the aquarium. Under these conditions nutrients are bound to the water surface instead of dissolving into the water column.

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Benefits of using the SKIM BREEZE CO_2 reactor compared to conventional pH buffers

Due to the functional principal of the SKIM BREEZE reactor and media, it is not possible to overdose! Other products such as pH buffers, will in fact raise pH, but will have no effect on the CO_2 content that is already in the water. In order to extract the CO_2 from the water, the process usually entails heavy interventions in water chemistry. With SKIM BREEZE, the CO_2 gas is removed from the air before it is introduced into your aquarium.

The SKIM BREEZE CO_2 reactor is designed to operate passively through the air inlet of the skimmer and therefore does not require any sort of manual dosing.

The "SKIM BREEZE" filter media has a color changing feature which shows the saturation state of the media as it changes from white to violet.

With SKIM BREEZE, protein skimmer performance can increase by up to 15%**.**

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How to handle the filter and filter material

The reactor and filter media are intended for use only as described above.
Under no circumstances should the filter and media come into contact with water.

The SKIM BREEZE filter media DOES NOT require any kind of activation and is ready to use right out of the product container.

We recommend you position the reactor in an area that will always stay dry.
Please keep away from water. Neither the housing nor filter media should ever come into contact with water.

When connecting the air hose to the reactor and skimmer, please make sure to use a dry hose.

Since the SKIM BREEZE media absorbs CO_2 from the air, we recommend you tightly seal any remaining media in the original container and store in a dry area.

After initial use of SKIM BREEZE, one may notice a decrease in their Calcium, Alkalinity, and Magnesium. This is due to the increased calcification rate of corals. Please test your parameters and adjust as needed.

TIPS

- Low pH values are not only attributed to increased CO_2 content in the aquarium. These values can also be caused by low KH values and use of a calcium reactor.
- Protein skimmers may need to be adjusted due to the performance increase from using SKIM BREEZE.
- The effectiveness of the media will greatly depend on the aquarium's current pH value and CO_2 content of the surrounding area.

For further assistance, please visit our support forum at
https://www.faunamarin.de/en/support-downloads/

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