AQUARIUM PROTEIN SKIMMER

Users' manual

Model No. 23PUM002-1822-2

Catalog

I. Introduction and Operating Principle:

A. Introduction:

1822 aquarium protein skimmer removes the proteins and other organic wastes from the aquarium before they have a chance to break down into more harmful elements, such as ammonia and nitrite. Removing these wastes also helps prevent algae build-up, as does the reduction in phosphates. Protein skimmers are also helpful in removing any toxins released from corals or invertebrates in the aquarium. As a result of these effects, the water quality is therefore improved, and less frequent water changes are necessary. Protein skimmers have an added advantage in increasing the amount of oxygen in the water. Many saltwater aquariums could benefit greatly from having a skimmer.

B. Operating Principle:

A protein skimmer works by creating tiny bubbles in a collection chamber. Organic waste materials adhere to these bubbles through a chemical process called adsorption. The bubbles propel the waste materials up to the surface of the collection chamber, where dissolved protein and other contaminants are physically removed from the water column and contained in the collection cup.

By generating millions of air bubbles, protein skimmers also replenish oxygen levels in the entire aquarium. Elevated oxygen levels and proper gas exchange help maintain a stable pH by counteracting the pH-lowering effects of carbon dioxide that can occur at night.

Benefits of Protein Skimming:

- ✓ Remove organic wastes and toxins
- ✓ Decrease algae build-up
- ✓ Lower phosphates
- ✓ Reduce water changes
- ✓ Increase oxygen levels
- ✓ Improve water quality

II. 1822 Features & Specification:

A. Features:

- ✓ Totally submersible pump
- ✓ Oil-free motor
- ✓ Quiet operation
- ✓ Completely self-contained
- ✓ Double venturi pump produces almost 50,000 micro bubbles a minute
- ✓ Collection cup detachable for frequent cleaning and maintenance
- ✓ Suction cups with oscula on both pump and skimmer
- ✓ 2 curved foam outlets help release foam faster

- ✓ Two applications
  - a) Suck on the inwall of aquarium
  - b) Hang on the tank (position bracket width: 5/8")

B. Specification:

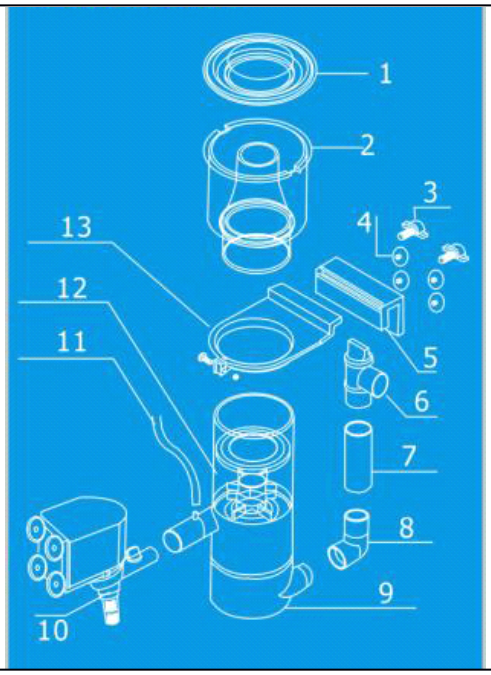
- ✓ Flux: 530 GPH
- ✓ Power: 32 W
- ✓ Voltage: 110V/60Hz
- ✓ Tank capacity recommended: 80 - 132 gal

C. Package Content:

- ✓ 1 x 530 GPH Pump
- ✓ 1 x Skimmer
- ✓ 2 x Air Hoses (one for backup support)

III. Parts Diagram

1. Collection cup lid
2. Collection cup
3. Clip bolt
4. Osculum
5. Position bracket
6. Outlet control tube
7. Connecting tube
8. Outflow syphon
9. Reaction chamber
10. Water pump
11. Air hose
12. 3-layer flow lead
13. Fastened ring

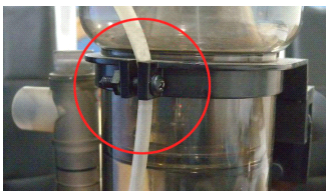


IV. Installation:

A. Assembly:

1. To start, take the skimmer and water pump out of the box and unpack them carefully.
2. Check the parts of skimmer. Make sure there's no part missing.
3. Study the parts diagram above and be ready to assemble the skimmer.
4. Take the reaction chamber (9) out and put the fastened ring (13) with position bracket (5) on

it.



5. Thread the air hose (11) into the gap between screw of fastened ring and the chamber. And tighten up a screw on the fastened ring.
6. Put collection cup (2) on the top of the reaction chamber (9), and cover it with the collection cup lid (1).
7. Join the outflow syphon (8), connecting tube (7) and outlet control tube (6) together. Connect the whole outlet tube to the bottom tube of reaction chamber.

   Please note: both ends of connecting tube have o-ring to prevent from leaking.
8. Take out the water pump, join the cartridge to the pump.
9. Connect the pump to the inlet tube of reaction chamber which is on the middle of the chamber.
10. Attach the air hose to either the inlet tube of reaction chamber or the outlet tube of water pump.
11. Make sure that all the connection is secured.
12. Check the collection cup to see if it is pushed firmly onto the top of the chamber. The cup lid covers it firmly.

B. Positioning:

1822 skimmer is designed to be sucked on the inwall of aquarium or hung on the tank.

1. Suck on the inwall of aquarium (recommended)

1) Suck the oscula of skimmer inside the aquarium steadily.

2) Adjust the fastened ring to the right position, and tighten up the

screw. This step is to put the pump to the proper place in the tank

3) Place the pump inside the aquarium steadily. Adjust skimmer and pump to the optimum position.

4) Make sure the outlet control tube (6) is above the water level and do not immerse into the water. (Please kindly refer to the picture on the right.)

2. Hang on the tank

1) Hang the skimmer on the tank steadily. (Please note that the position bracket is 5/8" wide and you need a sidewall of less than 5/8" in width to have the skimmer hung.)

2) Adjust the fastened ring to the right position, and tighten up the screw. This step is to put the pump to the proper place in the tank.

3) Suck the pump inside the aquarium steadily.

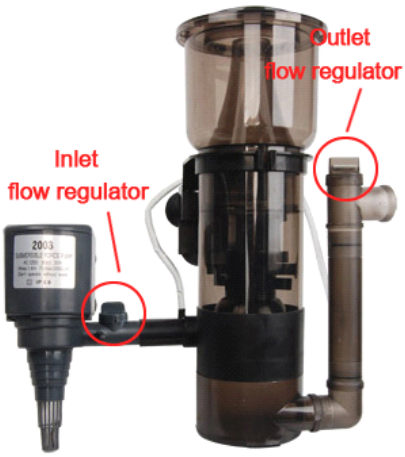
4) Adjust skimmer and pump to the optimum position.

Please note:

- Always keep the outlet nozzle and the air hose head above the water.
- Keep the water pump under the water entirely as running dry may cause permanent damage to the pump and to your tank.
- This skimmer is designed to be used with 530 GPH flux water pump. If used with a water pump of more than 530 GPH flux, it will cause leaking.

C. Flow regulator:

- ✧ Inlet flow regulator: could control the quantity of water from aquarium tank to the reaction chamber.
- ✧ Outlet flow regulator: could control the quantity of water from the reaction chamber to the aquarium tank.



These two flow regulators will play important roles in becoming an optimum function performance.

V. Optimum Performance:

As a new protein skimmer, 1822 requires a break-in period of about 1-2 weeks before it reaches optimum performance. During this time, you will make adjustments to optimize the air-water mix.

VI. Maintenance:

Without a properly functioning protein skimmer, your aquarium could suffer from a loss of water quality due to a buildup of waste products such as ammonia and nitrate. These added pollutants will make the filtration system of the aquarium less effective and will compromise

water quality and inhabitant health.

Water pump maintenance:

A. Unplug the power cord

Unplug the power cord before servicing the unit.

B. Detach the water pump from the skimmer.

C. Clean the cartridge

Take off the cartridge from the pump and clean it weekly, or whenever it becomes dirty or clogged.

D. Clean the impeller and the tube

Clean the impeller and the tube under running water. You could use a cotton swab or something soft in the ends to clean them. Do not use soap or detergent.

E. Reassemble the pump

1822 skimmer maintenance:

A. Check the collection chamber:

Make sure the skimmer is properly pushing the waste materials, called skimmate, to the top. The collection chamber should be foaming with bubbles, which trap organic waste generated by your aquarium inhabitants through a process called adsorption.

The neck of the collection chamber should be cleaned 1-2 times a week to avoid a buildup of organic matter on the sides. This buildup can act as a wax inside the chamber, inhibiting the bubbles from pushing the organic waste into the collection cup. The collection cup itself should be washed out 1-2 times a week as well to keep the cup from collecting an excess deposit of waste residue and to avoid trapping a very fishy and unpleasant odor inside.

Note: Clean collection cup and tube with clear, fresh water only - never use soap or cleansers of any kind.

B. Check the flow regulator:

Make sure 1822 is not overskimming and wasting water. The flow regulator will allow it to optimize the bubble size to make skimmer more effective.

C. Clean the pipe and tubes:

Disassemble the inlet pipe and clean it with a cotton swab or something soft in the ends, and clear air tubes with clean water.

D. Inspect hoses:

Connecting your skimmer to make sure that the connections are tight, there are no kinks, and that all the passageways are open.

E. Maintain water levels:

Ensure that your skimmer doesn't fluctuate from pressure changes and pulls the maximum amount of waste product from the water, maximizing its efficiency.

VII. Trouble shooting:

A. How to adjust the foam rate?

There are two flow regulators. Please kindly refer to Part C of IV. Installation above.

You could control the quantity of water from aquarium tank to the reaction chamber with the inlet flow regulator. And with the outlet flow regulator you are able to control the quantity of water from the reaction chamber to the aquarium tank.

Usually they are both set to the largest level to enable highest flow rate. And if you want to keep your aquarium in a relatively peaceful condition, you can adjust the flow regulator following the instructions above.

B. It keeps filling water but not foam.

The skimmer works by creating tiny bubbles in the collection chamber. It functions on circling the salt water and propelling the wastes up to the surface of the chamber and removing from the water column.

Normally there will be bubbles instead of foam if your aquarium is not full of organic wastes. So this is normal situation if the skimmer is just employed in your aquarium for a short time period.

If you have used the skimmer for quite a long time, please keep the upper chamber maintained regularly so that your aquarium can stay clean and your fishes can remain energetic.

C. The water leaks out of the top.

The skimmer comes with a 530GPH pump which is supposed to be of optimum effect when being used together. So it will be better that users do not change the pump to one with much higher or lower flux., or it will be overpowered or leak as a result. If the pump can not work properly, we suggest you replace it to one with 450 - 550GPH flux. Please note that a pump of higher than 550GPH flux. is not recommended for the best effect.

Besides, the skimming system is designed for aquarium with 80 - 132 gal capacity. So if your aquarium is with much lower or higher capacity, please get another one to match your needs, or there will be little effect on your fishes, corals, water plants, etc. Also, leaking will be arising if you install it in a much smaller aquarium.

D. Not work.

Please check if the pump and the skimmer are installed and connected properly. Reassemble them according to the instructions above. Make sure the pump is totally immersed in the water. And please keep the outlet nozzle as well as the air hose head above water level so that the skimming can be done efficiently. You can also have a check on the

power supply to see if the pump works.

E. It produces too many air bubbles.

This item is designed for activating the living environment for the fishes, corals, water plants, etc. so that they can live an energetic, clean and ocean-like lives. Thus adequate bubbles are needed when skimming. By generating millions of air bubbles, protein skimmers also replenish oxygen levels in the entire aquarium. Elevated oxygen levels and proper gas exchange help maintain a stable pH by counteracting the pH-lowering effects of carbon dioxide that can occur at night.

F. Skimmer makes noise.

As a new protein skimmer, 1822 requires a break-in period of about 1-2 weeks before it reaches optimum performance. During this period, you will make adjustments to optimize the air-water mix. and pump placement. The pump should be placed totally inside the water so that it can function properly. In general, there will be low volume at the very beginning as the pump will vibrate a little when it is working. Please check its performance 1 or 2 days later after installation. If it makes lots of noises as if it is shaking violently, there must be problems with the shaft and the casing gasket. A replacement pump will be needed in case there will be damage to the aquarium or the skimmer chamber.