

Protein Skimmers Made Simple

Drs. Foster & Smith Educational Staff

An aquarium with a well-adjusted protein skimmer is sure to reward you with better water conditions and healthier inhabitants.

A protein skimmer, also known as a "foam fractionator," can help you maintain water quality in marine aquariums and reduce the need for water changes. Unlike a mechanical filter, a skimmer removes proteins and other contaminants from the water column before they have a chance to break down into more harmful elements such as ammonia and nitrite. A protein skimmer also increases the amount of oxygen in the water, reduces phosphate to help prevent algae buildup, and is particularly effective at removing toxins released from corals or invertebrates.



Skimmer Designs

Skimmers are made in three designs: turbo, air driven, and venturi. Driven by water or air pumps, or a combination of both, all of these units mix air and water to create a froth of micro-bubbles.

Organic substances adhere to the bubbles which are then "skimmed" into a collection cup. The most efficient units create smaller bubbles and maintain water levels in the exchange chamber for a longer duration to optimize the process.

Units are designed to fit directly in your filter's sump, adjacent to your filter, hung on the back of your aquarium, or installed directly inside your aquarium. With on-going technical innovations, there is now a sump-less model that can stand alone below the aquarium (shown below). The best choice for your setup will depend on your aquarium size, filter type, and available space.

How to Optimize Your Skimmer

A new protein skimmer 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. You'll need to adjust the water flow to set the water level in the reaction chamber, in some models, you will also need to adjust the air flow so that no bubbles are carried into the outer tube. If the unit does not initially collect foam, don't worry. While most users see results quickly, it may take up to three months to materialize, especially if your aquarium is new. Once your new skimmer hits its stride, you'll be amazed at its performance.

Changes due to variables such as feeding, use of supplements, salinity, and bio-load require that you clean the unit regularly and make flow adjustments as needed to maintain peak efficiency:

- **Remove and clear** the collection cup once or twice a week.
- **Adjust** the flow regulator to optimize bubble size and to avoid over skimming, which wastes water.
- **Disassemble** the inlet pipe and clean it with a bottle brush, and clear air tubes with hot water.
- **Inspect hoses:** connections tight, no kinks, passageways open.
- **Maintain** the water levels in the aquarium or sump above the skimmer.

