



## CY 194 Cyclone Series Bio-Filters

The Cyclone Bio-Filters are designed to provide a protein skimmer, biological trickle filter, and sump space all in one compact unit. These units utilize the RVT Rejuvenation Venturi powerhead as well as our Bio-Bale™ filter media, providing increased oxidation of ammonia and nitrite. The Cyclone Bio-Filters also feature additional sump space for heaters, probes, or a return pump as well as a non-warping lid to minimize evaporation. The advantages of compact size, efficient operation, and ease of disassembly for cleaning all make the Cyclone Bio-Filters the choice of the modern marine aquarist.

**Warning:** The Cyclone Bio-Filter is not designed for use with ozone. Although the acrylic is ozone safe, the use of ozone will drastically reduce the effectiveness of the biological filtration section. If you must use ozone, be sure to place a carbon pad in the upflow chamber between the protein skimmer and biological chamber.

To place your Cyclone Bio-Filter into operation:

1. Open the packaging carefully and inspect the unit for damaged or missing parts. You should have:

- (1) Cyclone Bio-Filter body with skimmer column and lid
- (1) Collection cup with lid and drain line
- (1) RVT Rejuvenation Venturi powerhead
- (1) Drip plate
- (1) Bio-Bale™ filter media
- (1) Filter floss pad
- (1) Egg crate
- (1) 1" inlet assembly
- (1) 3/4" outlet assembly with plug
- (1) Four foot 1 1/4" hose with tapered 1" adapters (fixed)

If any parts are damaged or missing, please contact your dealer immediately.

2. Attach the Rejuvenation Venturi powerhead to the skimmer column by sliding the column up and inserting the outlet of the powerhead into the inlet of the skimmer column. **Position the powerhead so that it is upside down, with the two gray elbows and airlines pointing upward.** Make sure that the end of the long airline (with muffler) is out of the water at all times. To do this, attach it to the black clip at the top of the unit. For ease of maintenance, cut the airline just long enough to reach past the clip.
3. Assemble the outlet assembly with the bulkhead nut on the outside of the filter and the gasket on the inside of the filter. Remove the plug if using an external return pump. If you are using a submersible pump it is recommended that you glue the plug in place to prevent leaking.

4. *Attach the drain line to the collection cup and place the collection cup into the protein skimmer column. The drain line can be run into a container to collect the skimmer waste.*
5. *Place the egg crate into the biological chamber as shown in the diagram. Place the Bio-Bale™ filter media over the egg crate. Place the drip plate in position over the Bio-Bale™ and place the filter pad over the drip plate, tucking the edge of the pad under the lip of the adjustable gate.*
6. *Connect the 1 1/4" hose from your overflow or drilled tank to the filter by sliding the tapered adapter on the hose into the inlet of the filter and connecting the other end to the overflow.*
7. *Install your return pump according to its instructions. The CY194 can be used with an external pump connected to the 3/4" bulkhead or a submersible pump. If using a submersible pump, it is recommended that the 3/4" plug be secured with PVC cement to prevent leakage. For maximum efficiency, the flow rate through the CY194 should not exceed 800 gallons per hour (most pumps come with a chart showing how the flow rate decreases with height). If you are using an overflow, make sure it is installed properly and follow the instructions on priming the overflow. Once the siphon starts, add water to the aquarium until the water in the Cyclone Bio-Filter covers no more than 1/3 of the Bio-Bale™.*
8. *Initially it may be necessary to fill the filter one to two inches higher than the desired water line to compensate for your dry return line. Wait for a period of time and check the system for any leaks. Once this is done, start the return pump and check for leaks again, particularly at hose connections. It may be necessary to use PVC cement and clamps to secure the fittings, but this will make many of these connections permanent. The tapered ends of the drain line should hold by pressure fitting. PVC cement can also be used to make this connection permanent.*
9. *Plug in the powerhead attached to the skimmer column. Set the adjustable gate (using the adjustment screw) so that the water level in the skimmer column is about 3/4" above the base of the collection cup funnel. After the skimmer has run for 24 hours you may need to readjust the water height in the skimmer. If foam is coming out too fast or too wet, lower the adjustable gate. If the skimmer is not pulling any material from the tank you may need to raise the adjustable gate. The protein skimmer should start producing greenish-brown foam within approximately ten hours depending on your tanks water quality and biological load. If the tank is new you may find that the skimmer pulls out very little or that you are only collecting clear liquid. This should not be a concern until you begin to add substrate and organisms to the tank.*
10. *The collection cup should be checked and cleaned regularly, paying special attention to the throat of the funnel. Excessive buildup of waste in the throat can decrease the efficiency of the skimmer to collect skimmate. The filter floss should be cleaned or replaced weekly.*

***Your Cyclone Bio-Filter is now operational***

## Removal and Cleaning of Your Powerhead

- 1) Slide the powerhead and protein skimmer tube out of filter. Then remove powerhead from skimmer tube.
- 2) Remove the round plate by unscrewing it.
- 3) Wash all parts under running tap water. Never use a detergent on parts which will come into contact with aquarium water. Make sure air lines and elbows are clear of any foreign matter.
- 4) Reassemble the powerhead and place it back on the protein skimmer tube.
- 5) The powerhead should be regularly cleaned, at least once a month, and should be replaced every twelve to eighteen months for optimal efficiency of the protein skimmer.

### MUFFLER

The CY194 works better without the muffler attached. If the noise level is acceptable without the muffler, remove it. To clean the muffler, soak it in warm water and allow it to dry completely. It can also be replaced with a coarse airstone, which allows more air in than the standard muffler but has quieter operation.



