

1. Product Description

The *Turbofotor 1000 Stand Alone* consists of the following parts:

- 1-Skimmer Body
- 2-Foam cup with lid
- 3-Filter Box with bio balls
- 4. Down Tube Outlets
- 5-Rio pump attachments
- 6-Rio needle wheel
- 7-Throttle Caps

Please inspect the unit to insure there is no shipping damage and all parts are present. If you find any damage due to shipping please contact the company that shipped the unit immediately so that a claim can be filed.

*This unit requires a skimmer pump to be purchased separately. You have a choice of the Aqua Medic Ocean Runner 2700 or the Rio 1700/2100.



2. Theory

Protein skimming is a method of physical water treatment. It uses a phenomenon known from our daily experience: the adhesion of surface active substances to air water layers. If we add a drop of oil to a water surface, a thin film is produced with a thickness of one molecule. Surface active compounds like protein behave in the same way. The *Turbofotor 1000 Stand Alone* uses the bubbles it creates to increase the amount of surface area to which waste substances can attach. These bubbles are forced into the reaction chamber in such a way that they undergo a long contact time within the counter current. The bubbles laden with organic substances, rise to the top to form a compact foam that is dehydrated and pushed into the collection cup. This method removes waste from the aquarium water before they can become part of the biological waste cycle.

The Ocean Runner 2700 draws water from the reaction chamber, mixes it with air, which is chopped up into smaller air bubbles and returned to the reaction chamber. The water flow through the skimmer is provided either by gravity feed from the tank overflow or by a separate power head which draws from the sump. The cleaned water is transported via two out flow tubes on the outside of the reaction chamber back into the sump.

3. Set up

- 1. Begin by removing the bayonet from the top of the skimmer with a counter clockwise twist.



- 2. Insure that the bayonet O-ring is seated properly on the bottom of the bayonet.



- 3. Replace the bayonet onto the skimmer body with a clockwise twist



- 4. Fit the foam cup and lid onto the top of the bayonet.



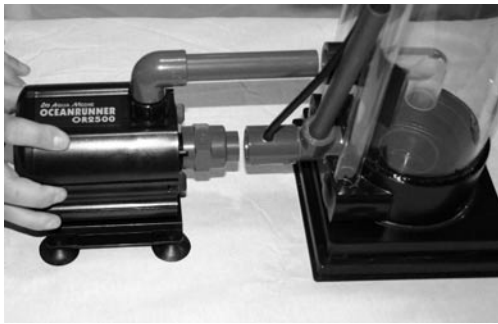
5. The throttle caps can be inserted for additional adjustment, however the skimmer function best with out installing the throttle caps.



B. Attach pump outflow assembly to top of the pump.



D. Attach pump onto the skimmer body.
(Parts will fit loosely, this allows for easy maintenance)



8. Attach a water feed line to the water intake on the skimmer body.



6a. *Ocean Runner 2700* pump option (Needle wheel is already installed in the unit)

A. Place washer into the pump outflow assembly.



C. Attach the intake assembly onto the front of the pump.



6b. *Rio 1700/2100* pump option

A. Refer to additional instructions

7. Place skimmer assembly into the sump

Overflow feed option:

9a. Attach the other end of the feed line to a ball valve and then to your tank or over flow (Flow should be between 100-250gph). The ball valve will allow you to fine tune the flow and excess overflow water can be routed through a T.

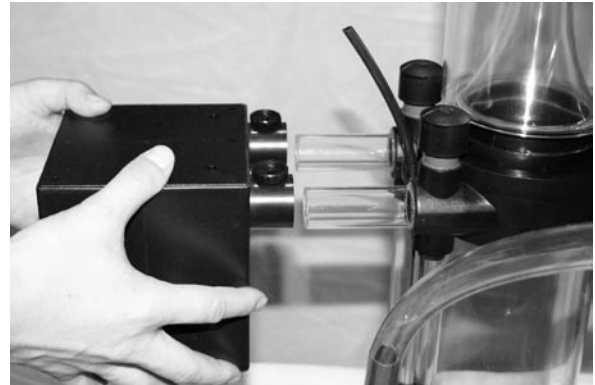


Power Head feed option:

9b. Attach the other end of the water feed line to a power head that will rest in the sump (A adjustable power head with a range of 100-250 gph is recommended)



10. Slide the filter box onto the outlets of the skimmer and lightly tighten the screws.



The down tube outlets can be substituted for the filter box if room is limited.



Starting and Adjustment

1. Begin by starting the water flow through the unit.. Adjust the flow until the water rises to just below the top of the skimmer body (The outlet tubes should be $\frac{3}{4}$ full).
2. Start the skimmer pump (OR3700 or Rio 1700/2100).
3. The skimmer may go through a break in period of 4-12 hours in which it will produce too much foam or no foam at all. This is normal and will subside.

Trouble Shooting

Producing too much foam or clear skimate:

- This can occur during initial break in period, after water changes, after additive additions, or if too much water flow is going through the system.
- Allow skimmer to run if any additions to the tank have been made. The skimmer will return to normal operation in 1-2 hours.
- Check to make sure that the water level is just below the top of the skimmer body when skimmer pump is shut off. If it is higher, reduce water flow to the skimmer.
- As a last resort, a gate valve can be added to the air intake to restrict the air flow. This will reduce the efficiency of the unit slightly.

Not producing enough foam:

- This can occur if the skimmer is not getting enough water; if the tank does not have a very high bio load, if the air intake is clogged, if you have had your hands in the tank water; or if the pump is not functioning.
- Check to make sure that the water level is just below the top of the skimmer body when skimmer pump is shut off. If it is higher, reduce water flow to the skimmer.
- Check to see if air intake is clogged by blowing through the air intake hose. If you can not blow some air through the tubing you will need to remove the pump and clean out the air intake, or you can use a syringe to inject hot water down the tube to remove any build up or salt creep.
- If the pump does not seem to be functioning. Refer to the pump cleaning in the Maintenance section.
- Your hands contain oils that will stop the production of foam for a short period. The oils will be dispersed and the skimmer will return to normal operation.

Returning air bubbles to the tank:

- This can occur when the flow rate through the skimmer is too high or the skimmer body is dirty.
- Ensure the filter box is attached to the outflow tubes. If you do not have the space for this, run the outflow water through sponge or other media to allow the bubbles to pop.
- Check to make sure that the water level is just below the top of the skimmer body when the skimmer pump is shut off. If it is higher, reduce water flow to the skimmer.
- Clean the skimmer using bottle brushes after a soak in a water and vinegar mixture. (see maintenance section)
- As a last resort a gate valve can be added to the air intake to restrict the air flow. This will reduce the efficiency of the unit slightly.

The pump is very noisy:

- This can occur if the pump is resting against the glass of the sump or if the pump needs cleaning.
- Move it away from the glass or place a rubber pad in between the pump and glass.
- Clean the pump according to the Maintenance section.

Maintenance:

The collection cup should be cleaned regularly (daily or weekly, depending on organic load). Turn off the skimmer and remove the cup. Use fresh water and a soft cloth to clean the cup inside and out. Do not use an abrasive on the cup. This will create small scratches which can reduce the efficiency of the unit.

The skimmer body should be cleaned only once or twice a year. Soak the skimmer body in a mixture of water and vinegar for a few hours. Use flexible bottle or flask brushes to clean out all of the skimmer tubes. Rinse thoroughly with fresh water.

The skimmer pump should also be cleaned once or twice every 2-3 months. Remove the pump from the skimmer then remove the holding bracket on the pump inlet by twisting counter clockwise. Remove the holding plate gently to avoid breaking the ceramic impeller shaft. Remove impeller and shaft and clean impeller housing shaft and impeller thoroughly with a soft tooth brush. Be careful not to lose the impeller washers. To remove calcium deposits soak pump in a vinegar water bath.

Warranty

Aqua Medic warrants this product free from workmanship or material defects for 1 year. This warranty will not apply to complaints, which are due to improper installation, misuse, poor cleaning, calcium deposition, or unauthorized modification. *Aqua Medic* reserves the right to repair or replace items covered under this warranty at its own discretion. Warranty coverage does not include return freight to *Aqua Medic*. *Aqua Medic* is not liable for any consequential damages caused by the use of the product. To be covered under this warranty the unit, complete with all parts must be returned with a sales receipt, and a complaint report.

