

**Operation Manual  
for the**



***Turboflotor multi SL***

**Motor driven skimmer for saltwater aquaria up to 1000 l.**

In purchasing this unit you have selected a top quality product. It has been specifically designed for aquarium use and has been tested by experts. This unit will efficiently remove the dissolved organic substances in your aquarium water.

# 1. Product description

The *Turboflotor multi SL* consists of the following parts:

- Foam cup, cover and reaction-pipe
- a venturi pump Ocean Runner pH 2500 inclusive **AQUA MEDIC** Needle wheel
- outflow box – 2 pieces.

## 2. Parts of the Turboflotor multi SL

1. lid for foam cup
2. foam cup
3. bayonet socket
4. O-ring
5. inlet to skimmer, 20 mm
6. skimmer, reaction pipe
7. 2 outlet pipes
8. flow control taps
9. 2 outflow boxes
10. tubing (flexible hose)
11. venturi pump
12. magnet with needle wheel
13. air injection nozzle
14. air inlet tube
15. silencer
16. clip
17. holder with rubber suction cups

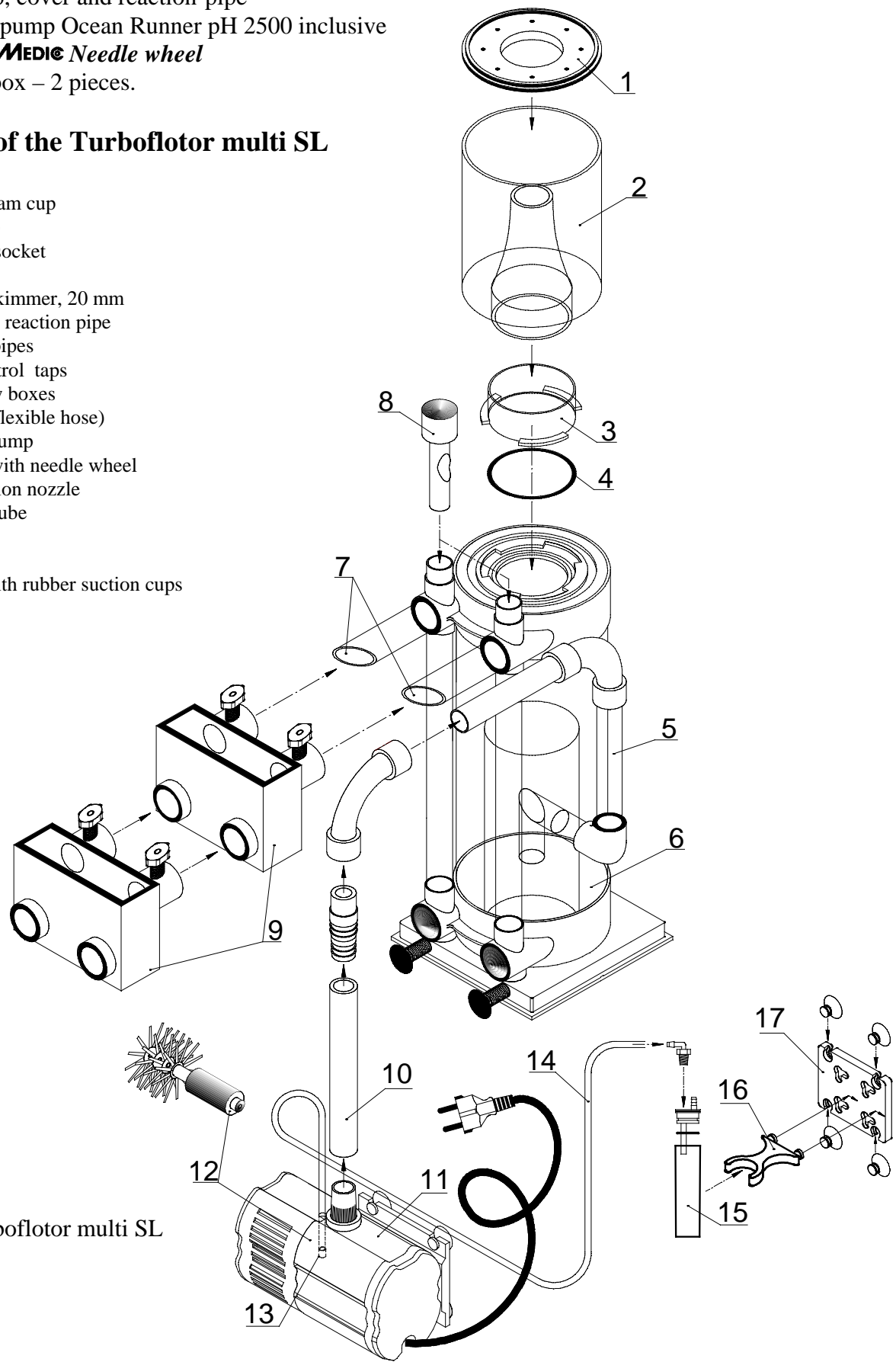
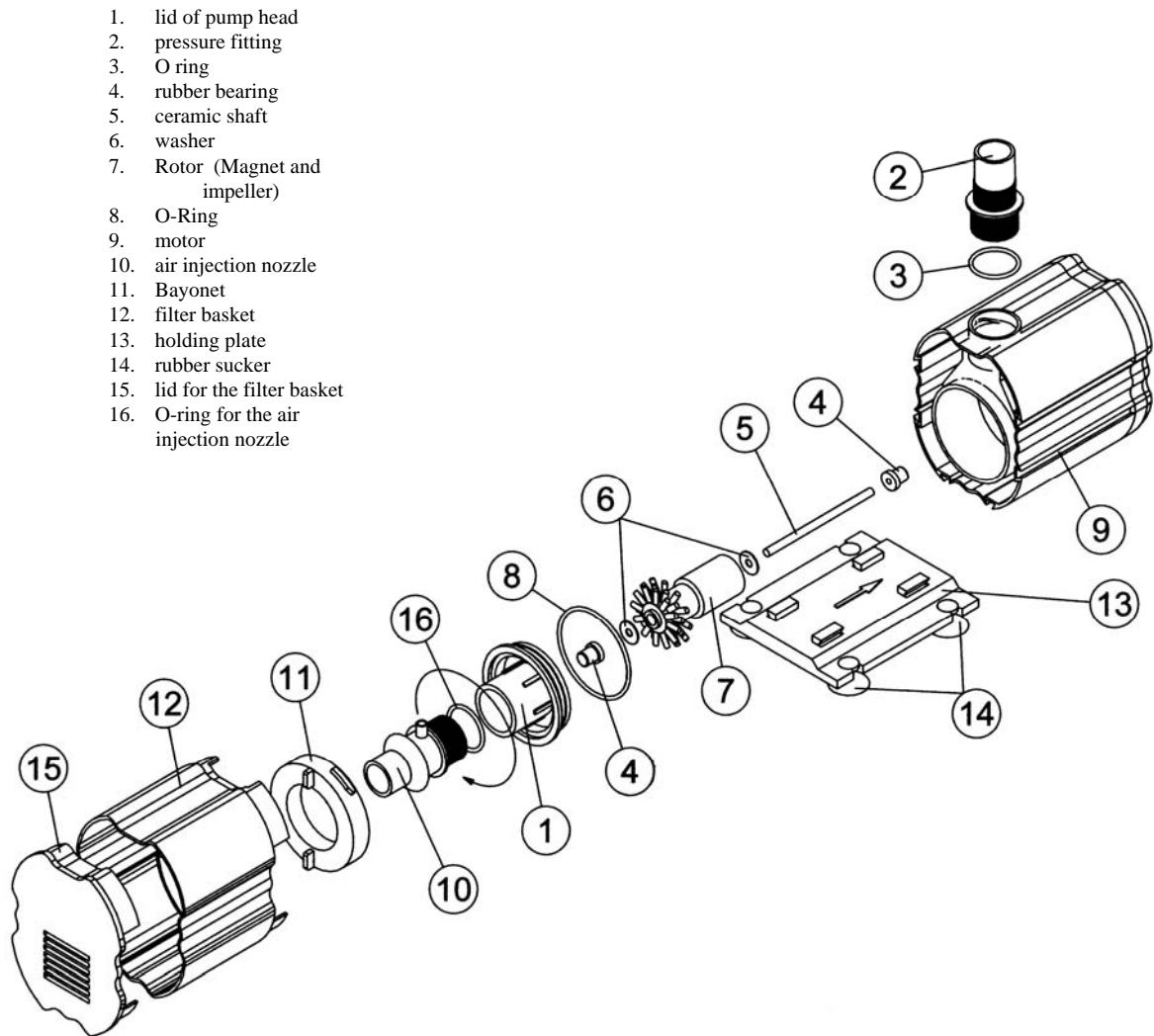


Fig.1: Turboflotor multi SL

**Fig 2: Venturi pump Ocean Runner PH 2500 with Needle wheel**



### 3. 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 only one molecule. Surface active compounds like proteins behave in the same way. The *Turboflotor multi SL* uses its air bubbles to create a large water surface for the waste substances to attach themselves to. These air bubbles are forced into the reactor-pipe in a such a way that they undergo a long contact time within the counter current. Enriched with organic substances, they rise to the top and form a firm foam, that is dehydrated and pushed into the collection cup. This method removes organic wastes from the aquarium water before they become part of the biological waste treatment cycle.

The Ocean Runner PH 2500 venturi pump draws the water out of the aquarium or the filter chamber, mixes it in the pump housing with air, which is then cut into small air bubbles by the **AQUA MEDIC Needle wheel**. This water/air mixture is pumped into the reaction pipe where the organic substances are taken up by the air bubbles. Foam is formed and is pushed into the foam cup. The cleaned water flows to the bottom of the skimmer and is transported via two transparent tubes on the outside of skimmer back into the aquarium or into the filter chamber.

## 4. Set-up

The *Turboflotor multi SL* is a skimmer, that can be set up in various ways:

1. As an external skimmer, directly mounted on the aquarium: "Hang on", (fig.3)
2. For use in the cabinet with a sump or under tank filter system (fig.4)
  - next to the filter tank
  - in the filter tank

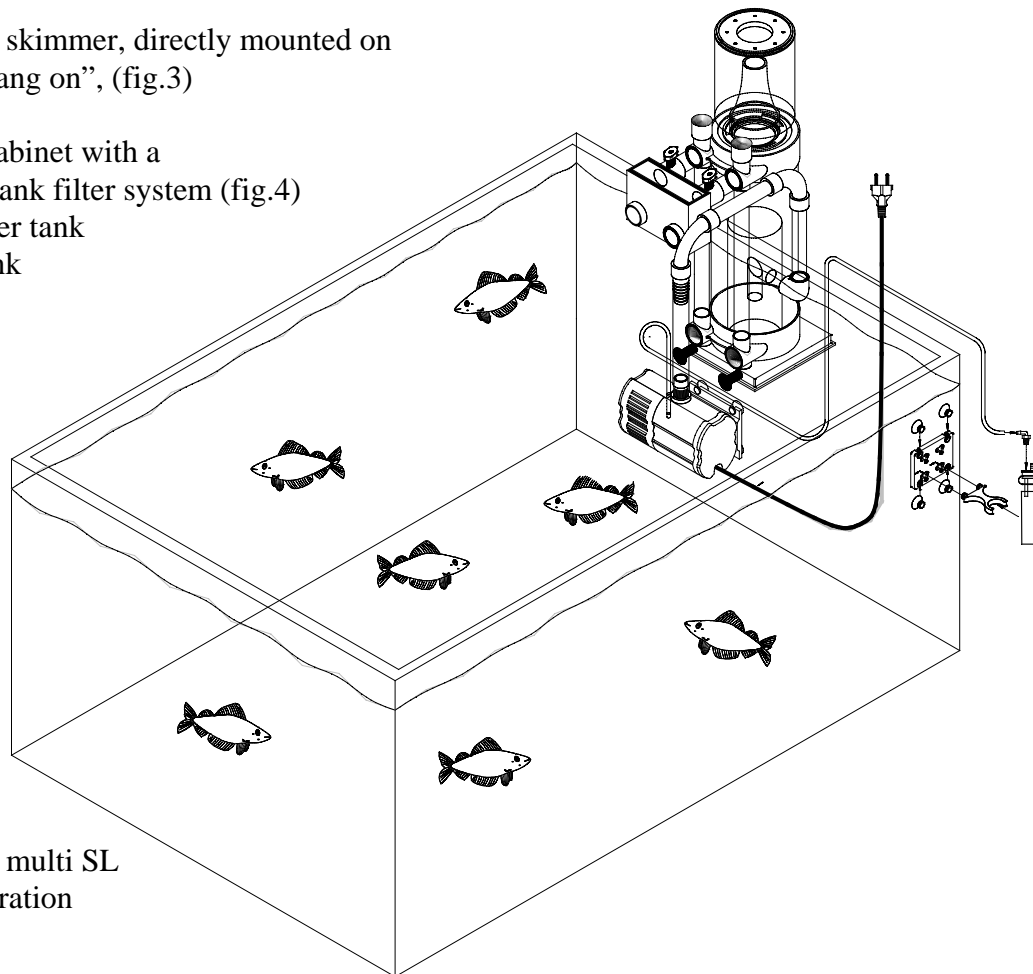


Fig.3: Turboflotor multi SL in "Hang on" operation

### Set up as an external skimmer on the aquarium - Hang on (fig.3)

Assemble the necessary parts of the skimmer, (see fig.1) It now can be attached to the aquarium. Look for a protected place within easy reach - at the side or at the back. The venturi pump (11) is connected with the pressure tube (10). The length of the flexible tubing (10) should be as short as possible. The pump must be placed directly below the surface, because the air intake will decrease if it is mounted deeper. A 6-mm air tube is connected to the air injection nozzle (13) and fixed above the water level, so the pump can draw in air. Use the full length of the air hose, which is attached to the silencer (15).

We recommend securing the hose with the clips provided. Now the skimmer can be aligned with the aquarium. The two screws at the bottom of the skimmer are adjusted in such a way that the skimmer is hanging safely on the aquarium. It is advantageous if the skimmer is not 100% upright, but leaning slightly ( $5^\circ$ ) to the aquarium (Fig.3). The skimmer is then not only hanging more safely, but also back-flow of water from the outflow box over the aquarium frame is prevented. Both adjusting screws at the bottom are supplied with silicone suction cups for increased safety.

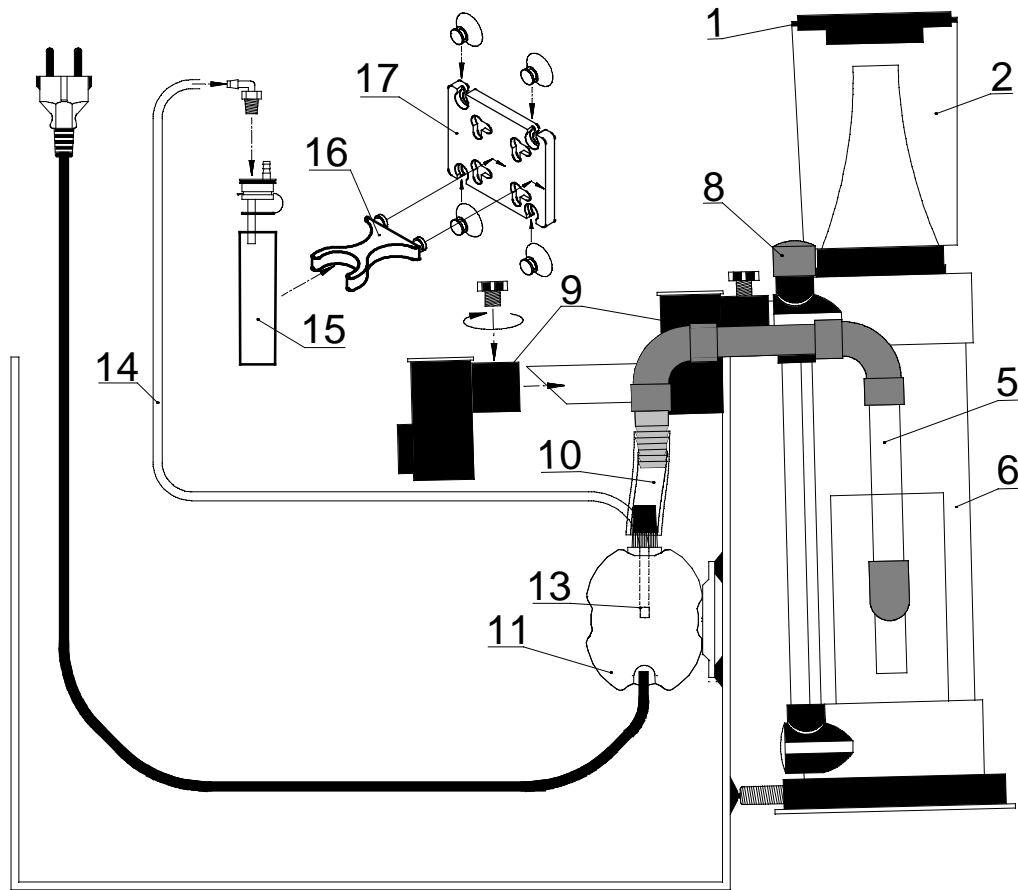


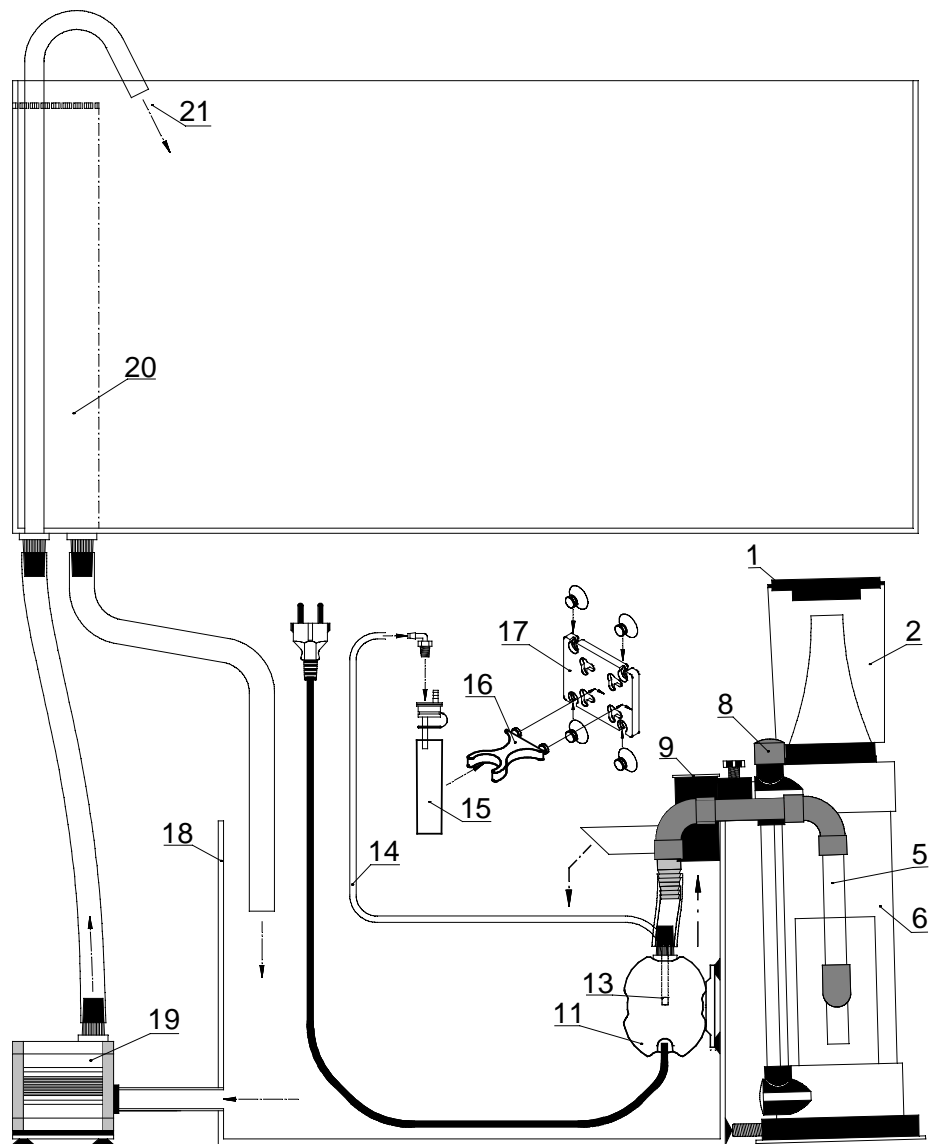
Fig.4: Turboflotor multi SL, Hang on, tilted at 5°

The skimmer is now ready for use and can be started.

**Set up: beside or inside the filter tank of a sump or under tank filter system**

The Turboflotor multi SL can also be used in a sump or under tank filter system. It can be placed either in- or outside the filter.

See the above hang-on procedures for installing the skimmer on the outside of the filter tank. It is attached to the frame of the filter tank. If the filter tank is not high enough, the skimmer is placed beside the tank. For the return flow, outflow boxes may be used. If the water level in the filter tank is very low, or there is a shortage of space in the tank, two 90°-elbow fittings may be connected to the outlets (7) and the water will then be directed down to the water surface in the tank. This avoids splashing and reduces noise. The venturi pump is fixed inside the filter tank, in such a way, that it will not run dry and that the length of the pressure tube be kept as short as possible (fig.4). The pump should be placed close to the water surface. To prevent the pump running dry, we recommend using an automatic level controller (e.g. **ab-aquaniveau** single) to ensure replacement of evaporated water and to keep the water level in the filter constant.



Numbers see Fig.

1

18. filter tank 19. re-circulation pump

20. overflow chamber 21. Return flow into the aquarium

Fig.5: Turboflotor multi SL, set up adjacent to the filter tank of a sump or under tank filter

## 5. Starting / Performance

The system can be started when the *Turboflotor* is correctly installed. After switching the pump on, air is automatically drawn into the skimmer. To minimize the noise level, connect the air inlet tube with the blue connecting piece of the silencer supplied. Fix the silencer with the holding device on the aquarium or the filter system.

The needle wheel breaks the air into small bubbles. This method eliminates the greater proportion of the noise. After the initial start, some hours may pass before the first foam is pushed into the collection cup. This is due to a reaction between the surface of the acrylic glass and the aquarium water. Equilibrium of electrical charges takes place. After a maximum of 24 hours, the foam should push evenly into the collection cup. The quantity of liquid and organic substances is dependent on the pollution of the aquarium.

## 5. Problems

**Adjustments:** Due to the construction, air and water mixing is automatic, but you can increase the amount of air and water by removing the grey reduction piece from the suction side of the pump. Normally no adjustment is required but it may be necessary to alter the flow control taps (8) to ensure overpumping does not occur particularly in the start up phase. If still an overflow occurs use the 5-cm elongation between foam cup and skimmer body.

**Air bubbles:** Reduce the length of the hose between pump and skimmer. The pump should be placed close to the surface otherwise more air and less water will be sucked in because of the increasing water pressure. Result: Many air bubbles are leaving the skimmer, wet foam will fill the foam cup in a very short time.

If the skimmer is added to an existing aquarium there may be a high concentration of organic substances already dissolved in the water. This results in very tiny bubbles in the skimmer. These tiny bubbles remove the organic substances effectively, however it may be that some of these bubbles are drawn back into the aquarium. After a few days, the concentration of organic substances will have decreased to such low levels that this effect will have gone and the water flow is free of air bubbles.

Some types of frozen food may have the same effects. It is best to thaw and wash the food prior to feeding it to the fish. The air bubbles will stop after a short period by themselves.

**Wet foam.** With freshly prepared sea water, after using water conditioners or at extremely high loading, excessive wet foam may be produced. This wet foam is forced into the cup, requiring more frequent emptying than normal. After approximately one day the aquarium load will be normal, and the skimmer will produce the correct foam.

**Dry foam:** Not enough foam or too dry a foam could be an indication that the needle wheel is dirty, or the venturi is obstructed. A thorough cleaning is recommended. Remove the hose connection from the pressure side of the pump. Move the flap inside the pump from one side to the other until it can be moved easily (Turn the pump around and shake it. Now you must hear the flap. If not, clean it again).


Increase the water level inside the skimmer with the two flow control taps. Take the elongation between foam cup and skimmer and/or the grey reduction piece from the suction side of the pump away.

## 6. Maintenance

The collection cup should be cleaned regularly (daily or weekly, depending on the organic load). The reaction pipe of the skimmer needs to be cleaned only once or twice a year. The venturi pump should be also cleaned from time to time. The pump has to be removed and the complete pump housing and the *Needle wheel* flushed with clean water. The same procedure should be undertaken with the air injection nozzle. Don't forget the flap on the pressure side.

## 7. Warranty

On the Turboflotor multi SL we guarantee 12 months on material defects. Excluding all wearing parts. Proof of purchase is the original invoice.

 **AQUA MEDIC** warrants only material and workmanship defects. The warranty will not apply to complaints, which are due to improper installation or miss use, poor cleaning, frost, calcium deposition or improper repairing.

In our production we use only quality materials. Nevertheless, in case of a justified complaint, we provide a repair or a replacement of defective parts free of charge. We reserve the right to charge the assembly costs. Generally, all warranty claims have to be treated either through an approved service centre or us.

If you make use of the warranty, send the defective unit or part inclusive the proof of purchase and a complaint report.

We are not liable for consequential damages caused by failures of the pump.

Complaints due to transport damages can only be handled if the damage has been monitored and confirmed by the carrier at the time of delivery.

- Technical changes reserved -

 **AQUA MEDIC** GmbH -Gewerbepark 24 – 49143 Bissendorf/Germany 06/03