

## **Operation Manual**



**Motor driven skimmer for saltwater aquaria from 500 to 1500 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 Blue 3000 consists of the following parts:

- foam cup, cover and reaction-pipe
- a venturi pump Ocean Runner OR 2500 including AB Aqua Medic mesh wheel

## 2. Parts of the Turboflotor Blue 3000

1. lid for foam cup
2. foam cup
3. O-ring 12,5 x 1,5 (2 x)
4. plug
5. flow regulator
6. plug for pressure line
7. O-ring for flow regulator 42 x 2 (1 x)
8. O-ring for plug 28 x 2 (1 x)
9. neck extension (optional)
10. air inlet fitting
11. O-ring outlet 39 x 2 (1 x)
12. elbow for outlet pipe 90°
13. skimmer body
14. elbow (45°) for pressure pipe
15. O ring inlet (22 x 1,5)
16. outlet pipe
17. pressure hose
18. pressure fitting, straight
19. adjustment screws (3 x)
20. silicone sucker
21. venturi pump
22. sound absorber
23. clip for 22
24. holding plate with silicone sucker for 22
25. filter basket for pump (3 parts)
26. bottom plate for pump with 4 rubber suckers
27. rotor with mesh wheel
28. O-ring for pump housing
29. pump lock
30. reduction
31. O-ring 8 x 2
32. tube clips
33. pressure fitting D 25
34. air injection nozzle
35. bajonet
36. O ring pressure fitting (33) 24 x 2,5

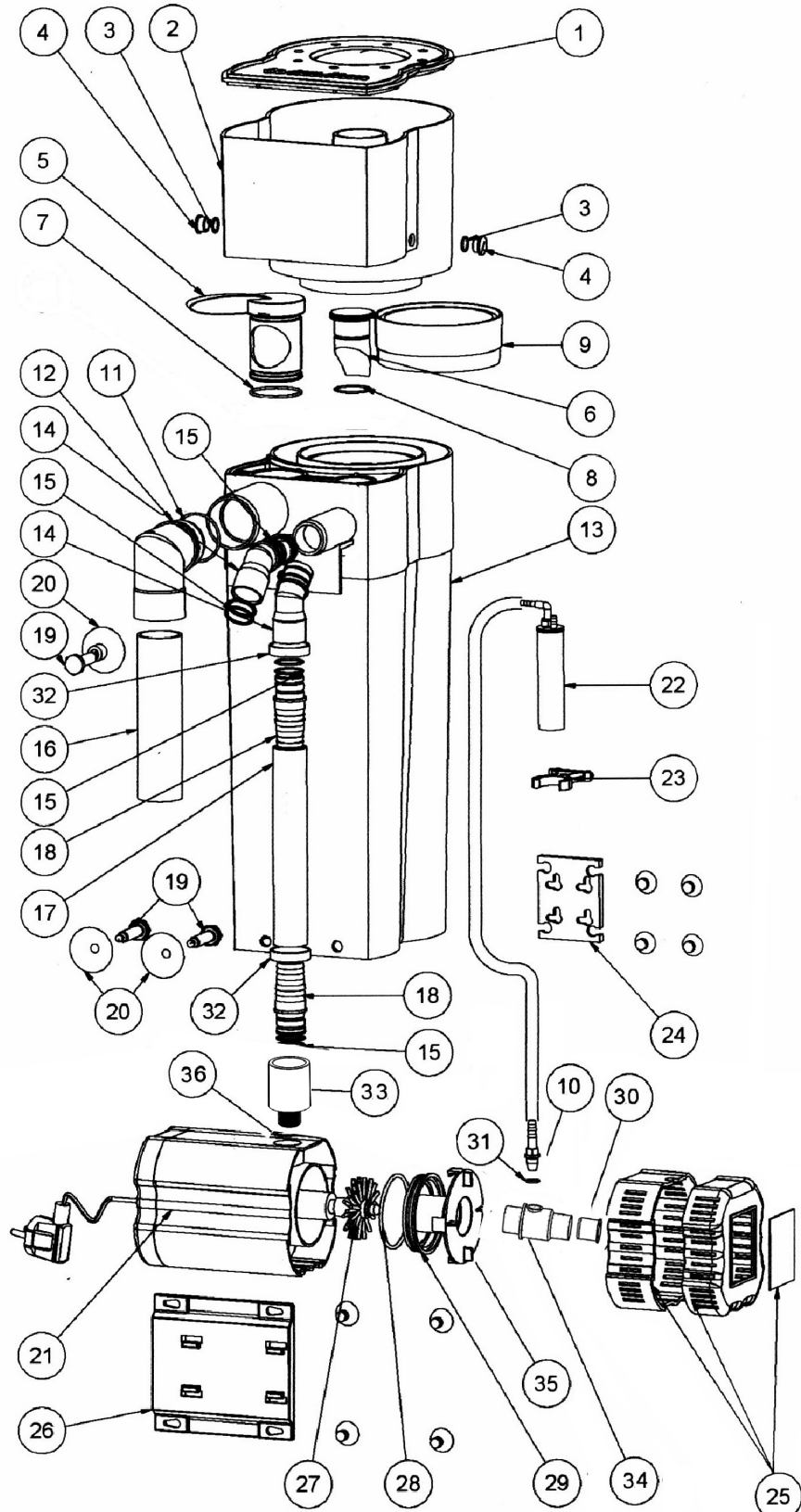
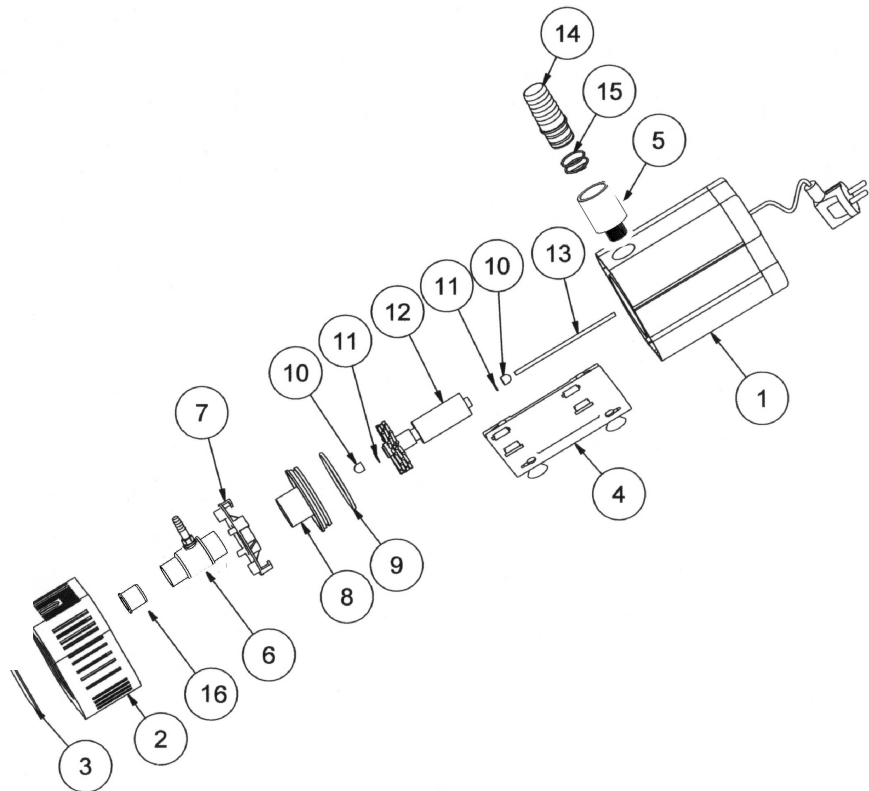


Fig. 1: Turboflotor Blue 3000

1. motor housing
2. filter basket (2 parts)
3. lid for filter basket
4. bottom plate with rubber sucker
5. connection D 25
6. air injector
7. bayonet closing
8. pump lock
9. O-ring for pump lock
10. rubber bearing
11. washer
12. rotor with mesh wheel
13. ceramic axle
14. pressure connection
15. O-ring for pressure for connection
16. reduction



**Fig. 2: Venturi pump Ocean Runner OR 2500 with mesh wheel**

### 3. Theory

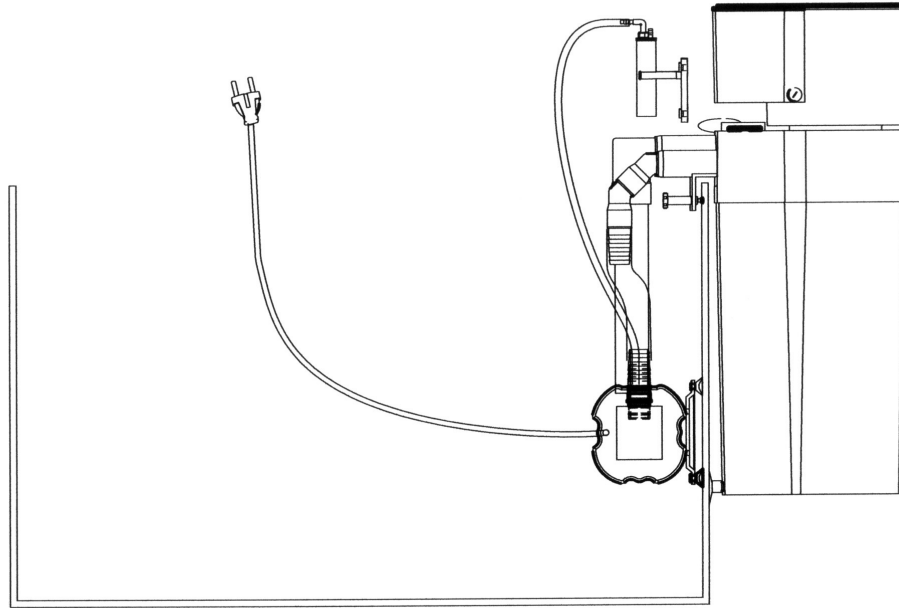
Protein skimming is a method of physical water treatment. It uses a phenomenon known from our daily experience: the adhesion of surface active substances to air water layers. If we add a drop of oil to a water surface, a thin film is produced with a thickness of only one molecule. Surface active compounds like proteins behave in the same way. The Turboflotor Blue 3000 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 OR 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 AB Aqua Medic mesh wheel. This water/air mixture is pumped into the reaction pipe where the organic substances are taken up by air bubbles. Foam is formed and pushed into the foam cup. The purified water leaves the skimmer via the outlet (fig. 1 No. 12) and is directed by gravity back to the aquarium or filter sump.

### 4. Set-up

The Turboflotor Blue 3000 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 Blue 3000 in "Hang on" operation**

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

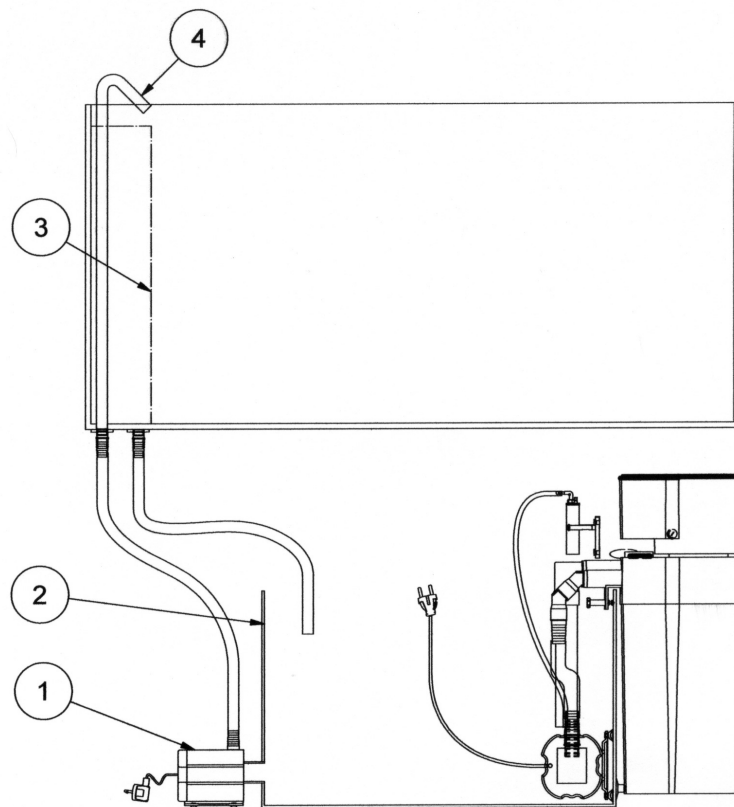
Assemble the necessary parts of the skimmer, (see fig. 1). Now, it can be attached to the aquarium. Look for a protected place within easy reach - at the side or the back. The venturi pump (21) is connected with the pressure hose (17). The length of the flexible tubing should be as short as possible. 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 injector (30) 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 sound absorber (22).

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 (2°) 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. 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 (fig. 4):**

The Turboflotor Blue 3000 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, the 90°-elbow fitting may be connected to the outlet 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 the length of the pressure tube has to 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 to use an automatic level controller (e. g. aquaniveau or Niveaumat) to ensure replacement of evaporated water and to keep the water level in the filter constant.



1. pump
2. filter sump
3. overflow
4. return-pipe to aquarium

**Fig. 4: Turboflotor Blue 3000, 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 mesh 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 aquarium water. Equilibrium of electrical charges takes place. After a maximum of 24 hours, the foam should be pushed evenly into the collection cup. The quantity of liquid and organic substances is dependent on the pollution of the aquarium.

## 6. Problems

**Adjustments:** The skimmer is adjusted using the flow control tap (5) so it works to the optimum. This adjusts the water level in the reaction chamber. If the foam is too wet, even when the flow control tap is fully open, the neck extension (9) can be mounted to adjust the foam production.

**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 mesh wheel is dirty or the venturi is obstructed. An accurate cleaning is recommended. Remove the hose connection from the pressure side of the pump.

Increase the water level inside the skimmer with the flow control tap. Remove the neck extension .

## **7. 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 also be cleaned from time to time. The pump has to be removed and the complete pump housing and mesh wheel flushed with clean water. The same procedure should be undertaken with the air injection nozzle.

## **8. Warranty**

Should any defect in material or workmanship be found within 12 months of the date of purchase AB Aqua Medic GmbH undertakes to repair or, at our option, replace the defective part free of charge – always provided the product has been installed correctly, is used for the purpose that was intended by us, is used in accordance with the operating instructions and is returned to us carriage paid. The warranty term is not applicable on the all consumable products.

Proof of Purchase is required by presentation of an original invoice or receipt indicating the dealer's name, the model number and date of purchase, or a Guarantee Card if appropriate. This warranty may not apply if any model or production number has been altered, deleted or removed, unauthorised persons or organisations have executed repairs, modifications or alterations, or damage is caused by accident, misuse or neglect.

We regret we are unable to accept any liability for any consequential loss.

Please note that the product is not defective under the terms of this warranty where the product, or any of its component parts, was not originally designed and / or manufactured for the market in which it is used.

These statements do not affect your statutory rights as a customer.

If your AB Aqua Medic GmbH product does not appear to be working correctly or appears to be defective please contact your dealer in the first instance.

Before calling your dealer please ensure you have read and understood the operating instructions. If you have any questions your dealer cannot answer please contact us.

Our policy is one of continual technical improvement and we reserve the right to modify and adjust the specification of our products without prior notification.

**AB AQUA MEDIC GmbH - Gewerbepark 24 - 49143 Bissendorf/Germany**

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