OPERATION MANUAL

AQUA MEDIC
Biostar Flotor

Compact filter system for sea water aquaria up to 250 l (65 gal)

The AQUA MEDIC ***Biostar Flotor*** has been designed especially for aquaristik use an is recommended by professional aquarists.
The ***Biostar Flotor*** is a combination of a powerful motor driven protein skimmer with a biological Biorotor filter.

1. Working principle

Protein Skimmer

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 ***Biostar Flotor*** 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 venturi pump of the ***Biostar Flotor*** 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 needle wheel breaks the air into small bubbles. This method eliminates the greater proportion of the noise. The quantity of drawn air should be adjusted so that 75 % of the reaction pipe is filled with air bubbles. 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.

Biofilter

The water from the skimmer flows directly to the Biorotor, a sponge wheel, forcing the wheel to rotate slowly. One third of the Biorotor is submerged.
Due to the rotation, the bacteria settling on the biorotor are alternately emerged and submerged. This ensures an optimum supply with nutrients and oxigen. The rotating sponge, the Biorotor, has a huge surface area, so a high bacteria population can settle on the sponge.

The result is a extremely high biological capacity, only to be compared with trickle filters.

2. Parts of the *Biostar Flotor*

The ***Biostar Flotor*** consists from the following parts:

1. Cup Cover
2. Foamcup
3. Lid
4. Biorotor with shaft
5. Clamp, large
6. Clamp, small
7. Connecting piece 45°
8. Drain
9. Pump
10. Air injection
11. table duct 3/8“
12. 90° Elbow with handle
13. Skimmer-Top
14. Skimmer-Body
15. Skimmer-Bottom
16. Partition
17. Air-Valve

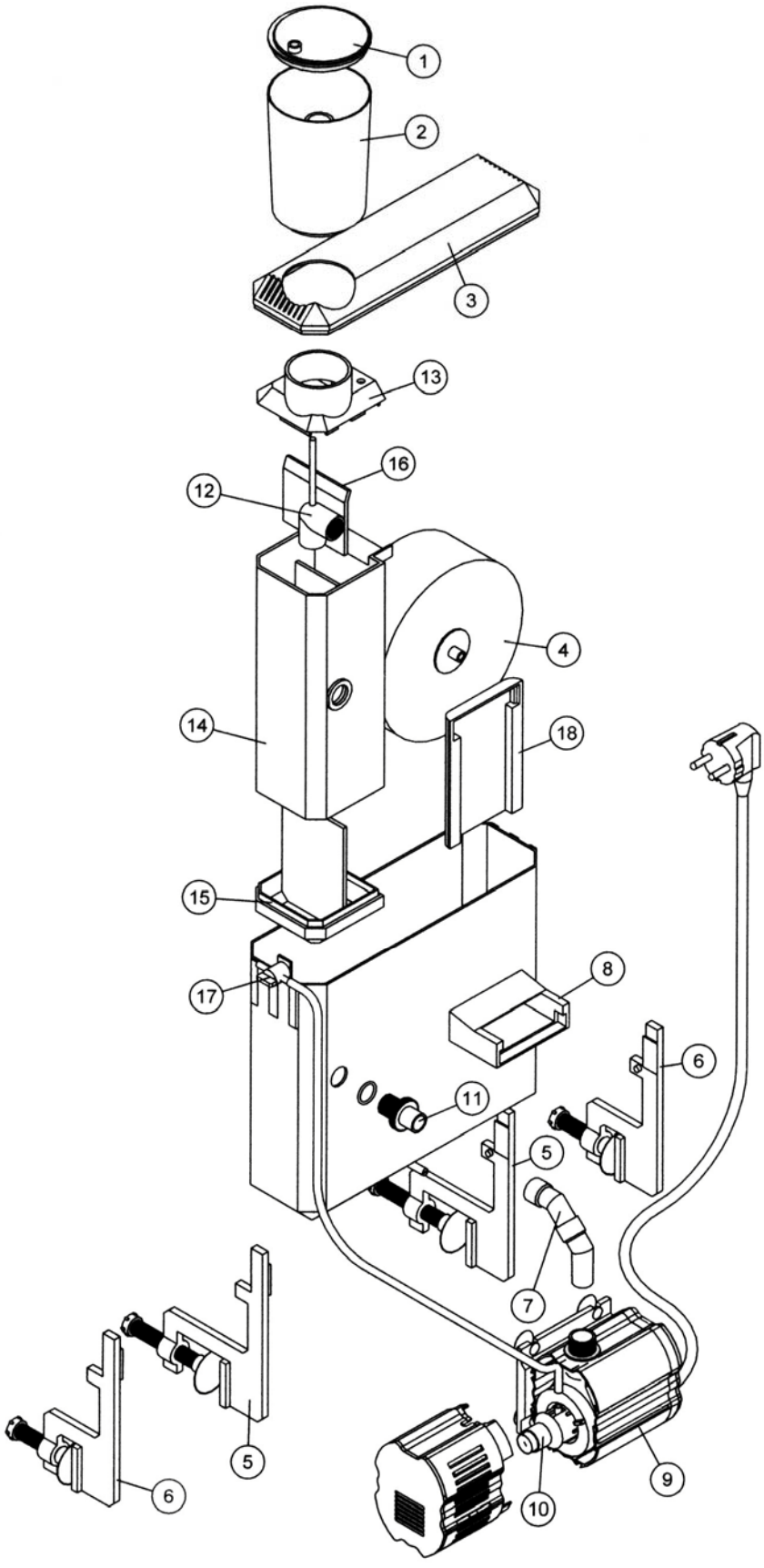


Fig 1: Biostar Flotor

3. Dimensions:

Total highness,including foam cup: 39 cm
Dimensions of the filterhousing:
27.5 x 8.5 cm
Total width, including pump: 19 cm

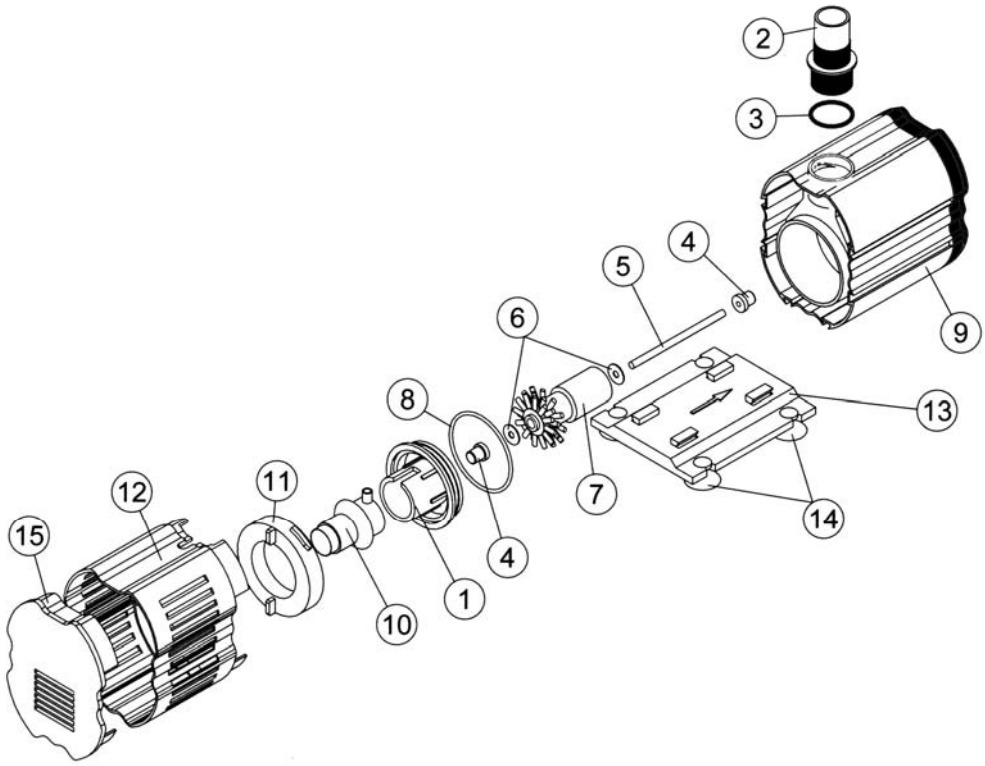
4. Installation

- Assembly of the pump:

Assemble the air injection with filterbasket to the pump. Connect the 6/4mm-airhose to the air injektion nozzle. Fix the pump to the aquarium glass with the holding plate. The plate with the suction cups has to be attached to one side of the pump. Place the pump directly under the water surface. Connect it with two 45° connection pieces to the table duct of the filter housing. Press this pieces tight together.

Fig. 2: Pump

1. lid of pump housing
2. pressure fitting
3. O-ring
4. rubber bearing
5. ceramic shaft
6. washer
7. rotor (magnet and impeller
8. O-ring
9. motor
10. air injection nozzle
11. Bajonet
12. filter basket
13. holding plate
14. rubber suckers
15. lid of filter basket



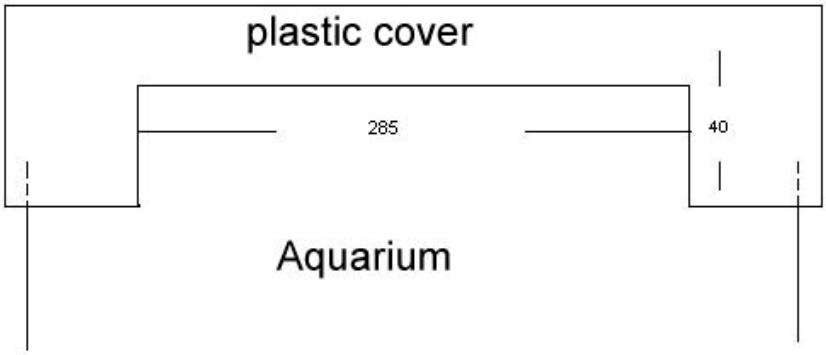
- **Assembly of the skimmer:**

The skimmer consits of a bottom, a body, a top and a partition. Put this pieces together like shown in the drawing and place it inside the filter housing. Screw it with the table duckt 3/8“. The 90° elbow with holder is inside the skimmer and shows downwards. The O-Ring is outside!! When the filter lid is assembled, the foam cup can be added.

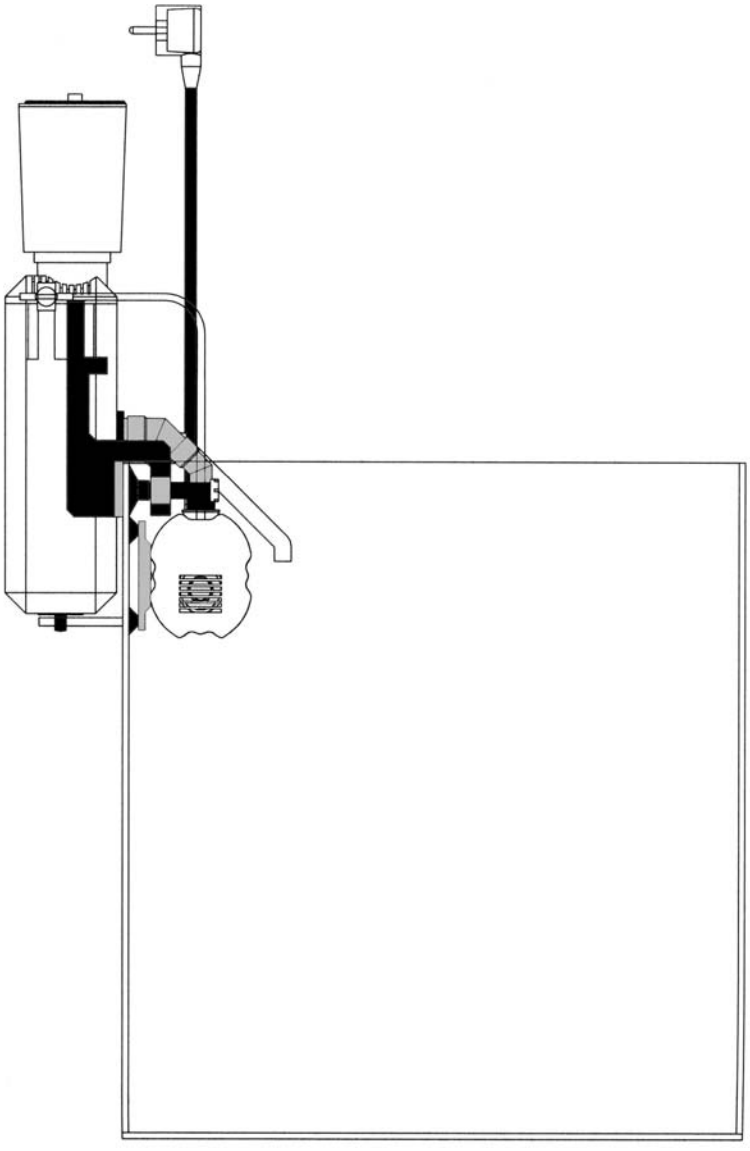
- **Assembly of the filter housing:**

The filter housing can be used aquaria with vertical glass plates of 4.5 cm. Two different pairs of clamps are delivered with the filter. Fix the clamps to the sides of the filter housing and screw the clamps. Aquaria with plastic cover need a gap like shown in the drawing below. The gap can be sawed out.

It is very important, that the waterlevel in the tank is not too low. The pump should be directly below the surface of the water. Connect the drain to the filterhousing.



Aquarium frames have to be cut, so an open space of 285 x 40 mm is created.



Starting the system:
When the filter is assembled completely, the pump can be started. If the foam is too wet, reduce the air wih the help of the valve. The waterlevel inside the filterchamber should be 2-3 cm lower than the shaft of the biorotor. From time to time the foam of the biorotor has to be cleaned with warm saltwater. Align the filter with the aquarium with the help of the screw on the bottom of the filter housing. For that a screw driver is needed.

Adjustments: Due to the construction, air and water mixing is automatic, and no adjustment is required. The regulation valve (17) allows to adjust the air quantity and so the foam quantity.

Air bubbles. 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.**

5. Cleaning

The foam cup is not fixed on the reaction pipe. For cleaning it can be removed easily. After removing the top, the jar can be cleaned with a brush under running water.

From time to time, depending on the waste concentration, the reaction pipe can be cleaned, too.
The air injection of the pump can be clogged with salt or lime. Clean it from time to time with a wire. On the pressure side of the pump is a movable little tile. It can be cleaned after removing the hose connection.

6. Warranty

On the Biostar Flotor we guarantee 12 months on material defects. Excluded are 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 misappliance, 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 us or an approved service centre.
If you make use of the warranty, send the defective unit or part inclusive the proof of purchase and a complaint report prepaid in.
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 –

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