

**Operation Manual GB**

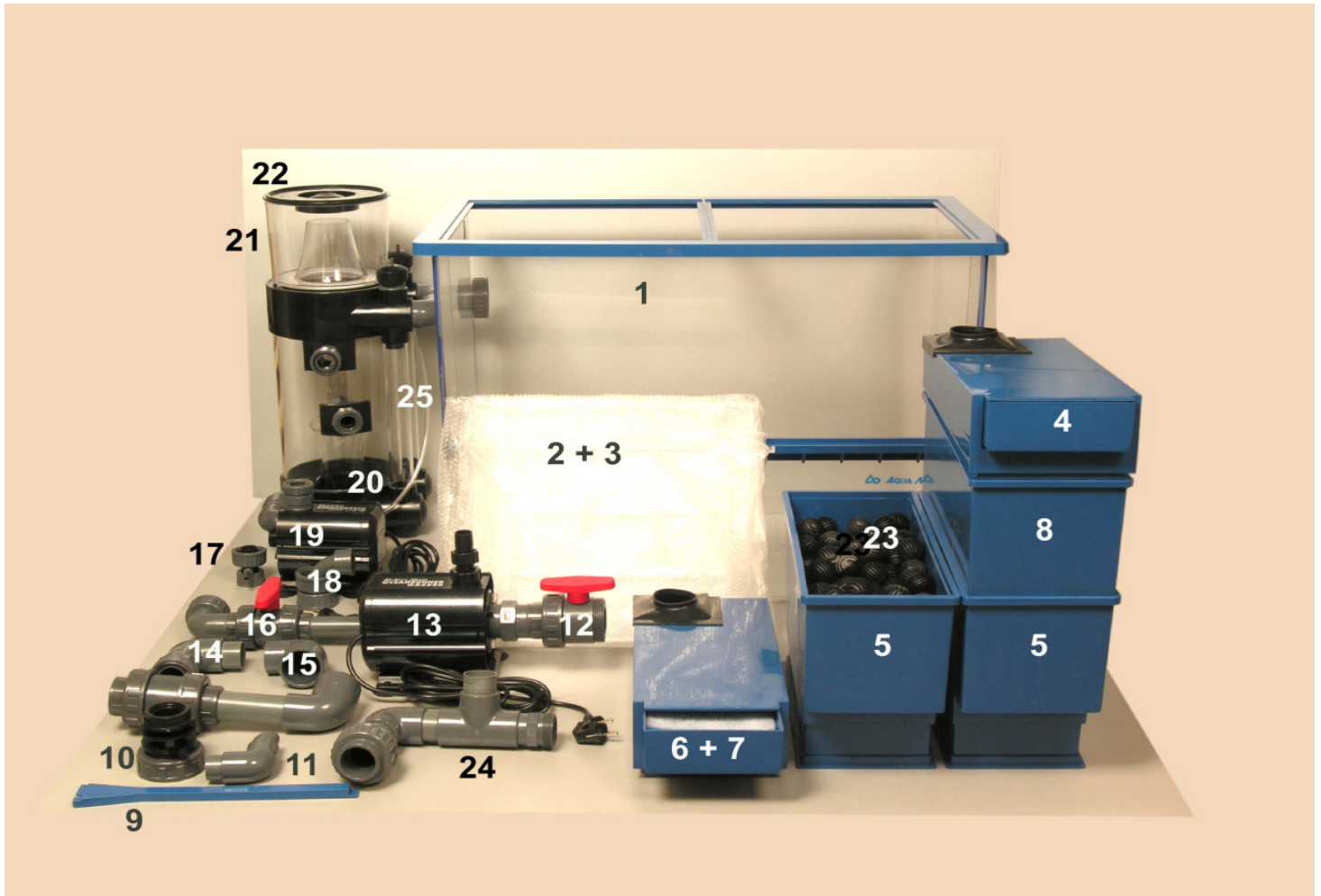


With the purchase of this filtration system you have selected a top quality product. It has been specifically designed for aquaristic purposes and has been tested by professionals. With this unit - if used correctly - you are able to reduce organic substances and other pollutants of your aquarium water to non-toxic levels. The filtration system consists of mechanical prefilter, motor driven protein skimmers with post-switched trickling filters. The filtration system Blue Reef 2000 convinces by its compact and functional design and its clear arrangement.

## 1. Product description

The outside filtration system Blue Reef 1000 is placed in a separate Acrylic tank. The system consists of the following components:

- Acrylic filter sump with lids and sliding doors
- 2 Patented prefilter modules with drawer
- Wet dry filter with trickle plate, filled with **AB Aqua Medic** Bactoballs.
- Protein skimmer, Turboflotor Shorty with foam cup and lid
- Venturi pump Ocean Runner OR 3500, with Needle wheel
- Circulation pump Ocean Runner 6500



**Fig. 1: Blue Reef 2000**

- |   |                                       |
|---|---------------------------------------|
| 1. Filter sump                                | 14. inlet filter sump                 |
| 2. Slidung doors                              | 15. inlet wet dry filter              |
| 3. lids                                       | 16. inlet protein skimmer             |
| 4. drawer (2 pcs)                             | 17. air injection nozzle              |
| 5. wet dry Filter (bottom)                    | 18. pressure fitting for venturi pump |
| 6. Filter sponge                              | 19. venturi pump OR 3500              |
| 7. Filter Fleece                              | 20. protein skimmer                   |
| 8. Wet dry filter (Top)                       | 21. foam cup                          |
| 9. prop                                       | 22. lid                               |
| 10. tank union for circulation pump           | 23. Bactoballs                        |
| 11. piping for suction side, circulation pump | 24. inlet to Filter and skimmer       |
| 12. ball valve                                | 25. 8 mm air hose                     |
| 13. OR 6500                                   |                                       |

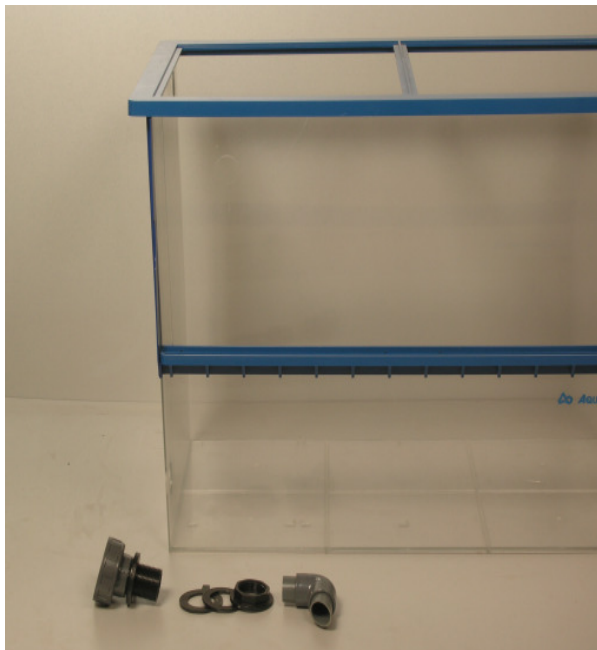
## 2. General description of the system

The water flows out of the aquarium via the overflow chamber - or another overflow device (e.g. an AB Aqua Medic Overflow Box) into the protein skimmer and partly to the prefilter with the drawer. There, the water is cleaned mechanically. The drawer is filled with a blue filter sponge, covered by white filter floss. Below the drawer, 2 containers, filled with Bactoballs work as wet dry bio filter.

The circulation pump OR 6500 is placed outside the filter sump, next to the skimmer. It is connected to the bulkhead in the filter sump. This bulkhead has 2 special washers, that compensate the bevel of the filter sump. During the installation of the pumps and the plumbing it has to be ensured that no resonance bodies are created because these may cause nasty noises. Besides the skimmer enough room is left for the installation of a Nitratrreductor NR 1000 or a Calcium reactor KA 1000.

## 3. Set-up of the filter

The under counter filtration system Blue Reef 1000 is delivered ready to use in a filter sump made from Acrylic glass. The dimensions are 82 x 47,5 x 59,5 cm (l x w x h). It can be placed inside of the cabinet of most standard aquariums. The lids on the sump and the sliding doors close the filter sump, so the evaporation is reduced.

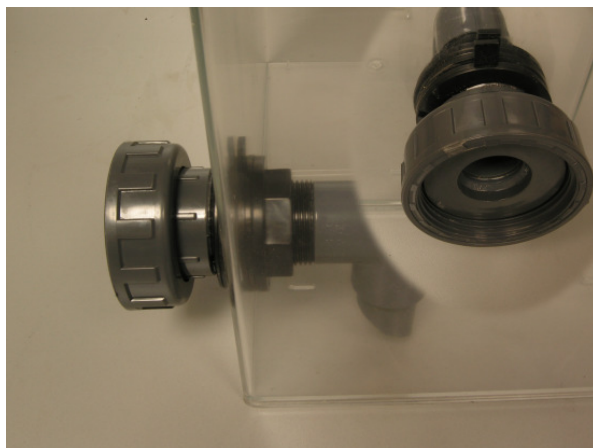


### Tank union:

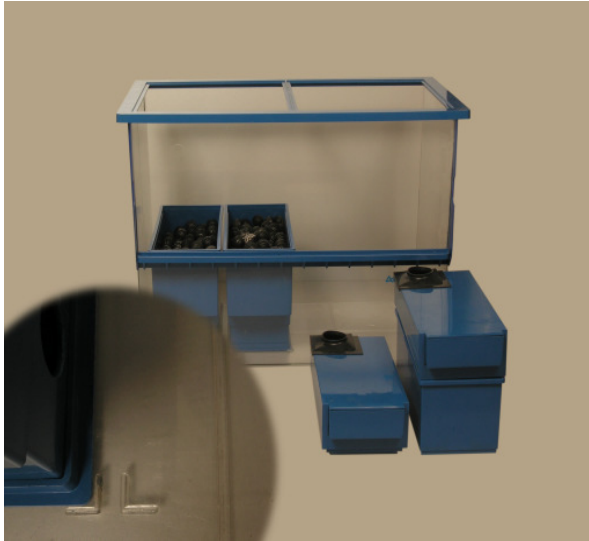
To connect the circulation pump with the filter sump, the tank union has to be installed. The part with the male thread is pushed through the hole from the outside. Attention: Do not forget the washer.

Description of the union:

Before you push in the union, you have to mount the washer with the flag. Then the union is pushed into the sump from the outside. From the inside a second washer with the flag is mounted, followed by the sliding washer of hard plastic.



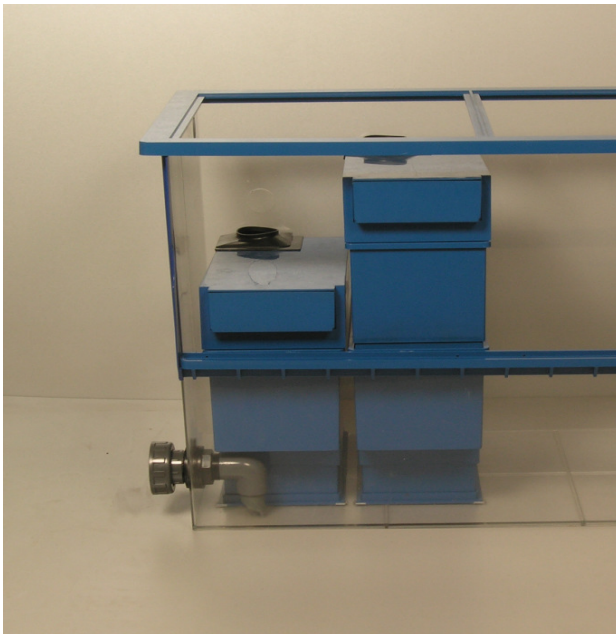
Now, the nut is mounted. Both washer have to be directed in a way, that the flag of the inside washer is directed upwards, the flag of the outer washer is directed downwards. Now the nut can be screwed tight. At the inside of the union a 90° elbow is mounted.



### **Wet dry filter towers.:**

Both filter towers are placed into the filter sump. They have to be exactly placed to the marks at the bottom.

Inside both towers, the black grid is placed. Now they can be filled with Bactoballs.



On the left wet dry filter, the prefilter drawer can be placed. Take care, that the draer will not touch the sump, when you open it. Inside the drawer are the prefilter media, blue sponge and white floss and mechanical filter media.

On the right filter tower, the second wet dry tank is mounted. Its bottom is already a trickle plate and is used as support for the Bactoballs. So, it can be filled with Bactoballs. On top of this tower the second prefilter drawer is mounted.

At the inlet side, the rubber inlet fittings are mounted at both drawers.

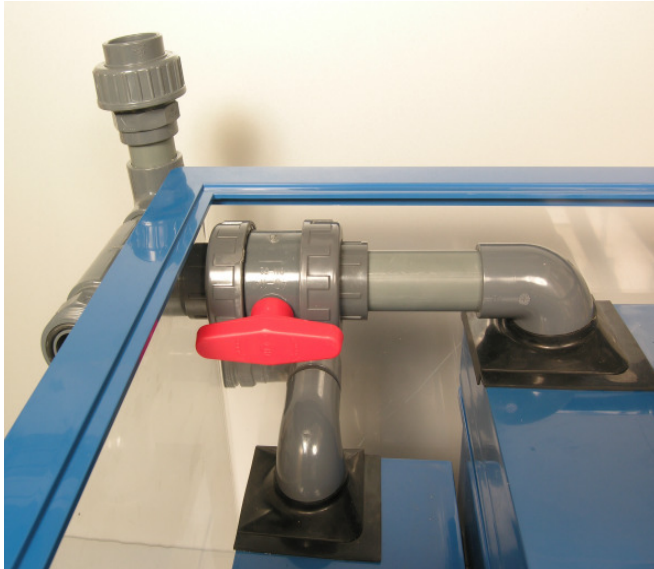


### **Piping:**

Both wet dry filter towers have separate inlets.

The inlet of the left filter tower is connected to the outlet of the protein skimmer.





The inlet of the right wet dry tower is connected to the water pipe at the side coming from the aquarium. This back flow is divided into 2 parts. One part is flowing directly into the protein skimmer, the second part into the right filter tower.

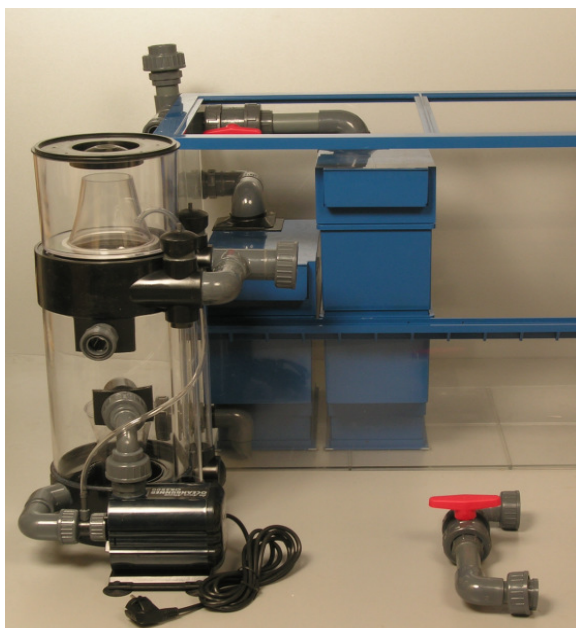


**Protein skimmer Turboflotor 5000 Shorty.**

First the pump (OR 3500) is mounted to the protein skimmer. Now, air injection nozzle is connected to the suction side of the pump. Both are connected to the lower union of the protein skimmer.

The PVC hose (6 mm diameter) is pushed on the air intake and fixed through the hole between the 2 outlet tubes of the skimmer.

This ensures that the end of the hose is always above the water level. If the end of the hose lies on the bottom, the skimmer may be drained empty, in case of power failure or pump shut off.



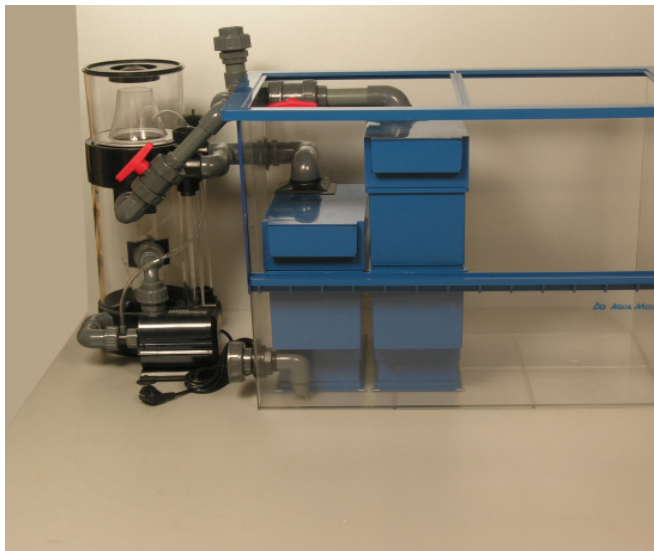
Next the pressure side of the pump is connected to the protein skimmer. The skimmer pump is now ready to use.

The foam cup of the skimmer is mounted via a bayonet. To remove it for cleaning, it is turned for 45° and then moved upwards.



The protein skimmer is placed besides the filter sump. The water pipe coming from the aquarium is connected to the upper inlet union of the skimmer.

The free union of is connected to the pipe coming from the overflow of the aquarium. The percentage of the back flowing water passing the protein skimmer and the trickle tower can be adjusted with the ball valves. We recommend directing as much water directly to the skimmer as it can take.



#### **Circulation pump:**

**The circulation pump** (Ocean Runner 6500) is connected to the filter sump. The pressure side of the pump is connected to the aquarium by a flexible hose or hard PVC piping ( not included)

As soon as the connections to the aquarium are ready, the filter can be started.

Sind die Verbindungen zum Aquarium hergestellt, kann der Filter gestartet werden.

Besides the skimmer enough room is left for the installation of a Nitratreductor NR 1000 or a Calcium reactor KA 1000. (not included)



### **Sliding doors and lids.**

To reduce evaporation we recommend to mount both sliding doors and top lids.

### **Piping**

The piping from the aquarium to the filter and back is not included.

Backflow, from the aquarium to the filter:

The aquarium should be connected to the inlet bulkhead of the filter sump with a PVC pipe or a flexible hose (not included) of 40 mm diameter. The connection is a bulkhead of 40 mm diameter. With this bulkhead, the piping can easily be separated, if necessary. We recommend mounting a ball valve between the filter and the aquarium to prevent dripping water, when the filter is disconnected.

## **Turboflotor 5000 Shorty**

### **Protei skimmer for aquariums up to 1500 litres ( 400 Gallons)**

#### **1. Basics**

During the protein skimming process organic pollutants in the aquarium water, i.e. protein compounds formed by the excretions of animals, are attached to fine air bubbles as a mono-molecular film. These air bubbles are pushed against the inflowing water in the reaction pipe so that there is a long contact time. Enriched with organic substances, they rise to the top and form strong foam which is dehydrated in the reaction pipe and then passes into the collection cup.

Using this method, removal of organic pollutants from the aquarium water takes place, whereas during bacterial processes they are merely transformed and not removed.

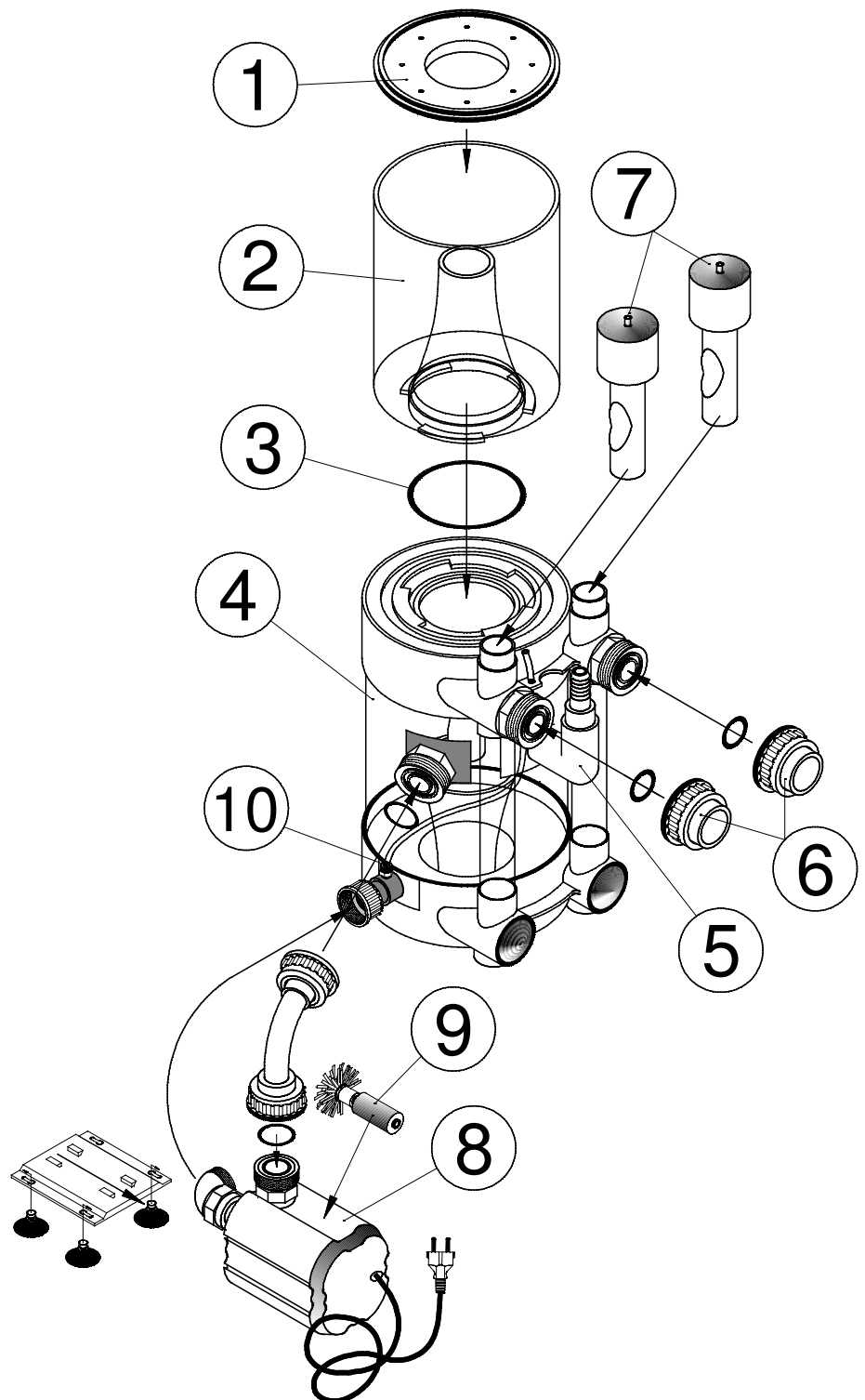
#### **2. Product description**

The **Turboflotor 5000** consists of:

- reaction pipe, 200 mm (8 inch) diameter and bayonet socket
- conical collection cup
- venturi pump **OCEAN RUNNER 3500** with AB Aqua Medic needle wheel
- two large outlet ports (40 mm)
- inlet with hose tail connection (20 mm)

- drain ball valve at the base of the skimmer with hose tail connection (25 mm)
- air tube for the venturi pump.

1. Top lid
2. Foam cup
3. O-ring
4. Reaction pipe
5. Water inlet
6. Outlet fittings
7. Aodrusion valves
8. Needle wheel pump
9. Needle wheel impeller
10. air injection nozzle with connection for air tube



**Turboflotor 5000 Shorty**



| Type                              | Outlet height    | Total height   | Venturi pump                                  | Power consumption | Capacity                         |
|-----------------------------------|------------------|----------------|---|-------------------|----------------------------------|
| Turboflotor 5000<br><b>SHORTY</b> | 30.5 cm<br>(12") | 62 cm<br>(25") | <b>OCEAN RUNNER 3500</b><br>with needle wheel | 65 Watts          | up to 1,500 l<br><br>400 Gallons |

### 3. Principle of Operation

The aquarium water is pumped to the skimmer using a separate pump (not supplied) which should have a capacity of approx. 2,000-4,000 litres/hour. The relative positions of the inlet and outlet ports ensure the maximum contact time of the air bubbles in the counter current. If the SHORTY COMPACT is mounted in the cabinet, it can be supplied with water directly from the overflow of the aquarium. In this case a bypass should be installed, so the volume of water can be adjusted

The venturi pump draws the water from the skimmer and mixes it with air. Within the pump housing the bubbles are cut into very fine pieces by the AB Aqua Medic needle wheel. The air/water mixture is pumped back into the skimmer.

The treated water flows out of the bottom of the skimmer and is pumped through the two transparent pipes positioned outside the skimmer back into the aquarium or filter sump.

### 4. Installation

- Check that the sealing rings for the unions are in place.
- Slot the holding plate for the venturi pump to one side of the skimmer. Push the pump on to the holding plate and connect the pump to its union.

The PVC air tube should be fed so, that the end is higher, than the water level in the skimmer. **This air tube must not hang down.** It should only jut out 5 cm at the top.

Connect the bottom end of the tube to the air intake of the pump.

- The water inlet is located at the same side as the outlet pipes. Attach the union and the hose tail (20mm).
- We recommend a pump with a capacity of 2,000 to 4,000 litres/hour for the water supply or direct connection to the aquarium overflow.
- Fit the rubber sealing ring for the bayonet socket of the reaction pipe.

Push the foam cup into its seating and turn it to lock.

The drain from the skimmer has to run freely into the aquarium. A PVC pipe (40 mm dia) can be glued into the drain ports. It is possible to let both drains flow into one pipe, but the diameter of the pipe must not be reduced. If the drains are left separate, a reduction in pipe size to 32mm is possible.

The skimmer can now be filled by pumping directly from the aquarium. Ensure that the water level of the aquarium is not lowered too much. As soon as the water level in the skimmer reaches the height of the venturi pumps, these pumps should be started.

Top up with sea water as necessary.

After first use or after cleaning of the skimmer it takes some time for the initial foam to build up in the reaction pipe of the collection cup. This is because the cleaned acrylic initially reacts with the water until a build up of fatty acids naturally takes place.

After approx. 24 hours, the foam should be pushed slowly and evenly into the collection cup. The quantity of liquid and organic substances depends on the pollution of the aquarium.

## 5. Maintenance

- **Collection cup:** Depending on the organic load the cup should be cleaned daily to weekly.
- **Reaction pipe:** This needs to only occasional cleaning; we recommend intervals from 6 to 12 months.
- **Venturi pump:** The maintenance of the pump should be done at the same time as that of the reaction pipe:

Drain the water out and dismantle the pump. Flush the pump housing and the needle wheel with clean water.

The same should be done with the **air injection nozzle**.

## 6. Failures

Failures may arise if:

- The ratio between supplied air and the water volume is not correct.

Cause: The air injection nozzle is clogged or the pump chamber containing the needle wheel is dirty.

Action: Dismantle the venturi pump, clean it thoroughly, carefully clean the air injection nozzle with a thin brush or blunt instrument and re-assemble the pump again.

- The venturi pump does not re-start after an interruption of the power supply.

Cause: The water pressure is too high.

Action: Let the water out up to the height of the pump to lower the water pressure. Restart the pump.

## 7. Warranty

Should any defect in material or workmanship be found within twelve 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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