

Deltec®



Black Edition
1.5ⁱ, 3ⁱ, 7ⁱ

Operating instruction
Page 9

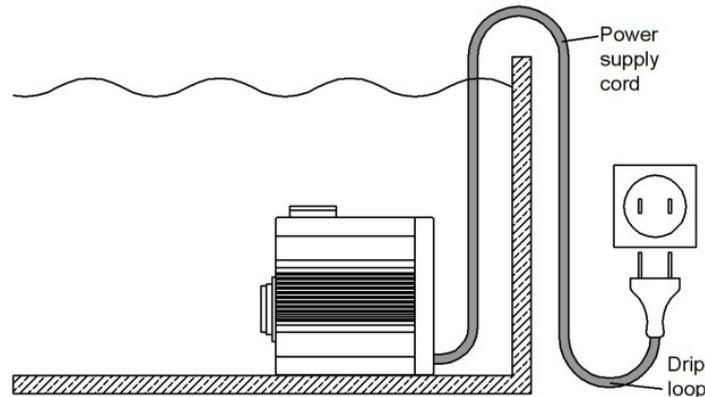
IMPORTANT SAFETY INSTRUCTIONS

WARNING To guard against injury, basic safety precautions should be observed, including the following.

- 1) READ AND FOLLOW ALL SAFETY INSTRUCTIONS.
- 2) DANGER – To avoid possible electric shock, special care should be taken since water is employed in the use of aquarium equipment. For each of the following situations, do not attempt repairs by yourself; return the appliance to an authorized service facility for service or discard the appliance.
 - a) Do not operate any appliance if it has a damaged cord or plug, or if it is malfunctioning or has been dropped or damaged in any manner.
 - b) To avoid the possibility of the appliance plug or receptacle getting wet, position aquarium stand and tank to one side of a wall-mounted receptacle to prevent water from dripping onto the receptacle or plug.

A "drip-loop", shown in the figure below, should be arranged by the user for each cord connecting an aquarium appliance to a receptacle. The "drip-loop" is that part of the cord below the level of the receptacle, or the connector if an extension cord is used, to prevent water travelling along the cord and coming in contact with the receptacle.

If the plug or socket does get wet, **DON'T** unplug the cord. Disconnect the fuse or circuit breaker that supplies power to the appliance. Then unplug and examine for presence of water in the receptacle



- 3) Close supervision is necessary when any appliance is used by or near children.
- 4) Do not use an appliance for other than intended use. The use of attachments not recommended or sold by the appliance manufacturer may cause an unsafe condition.
- 5) Make sure an appliance mounted on a tank is securely installed before operating it.
- 6) Read and observe all the important notices on the appliance.
- 7) If an extension cord is necessary, a cord with a proper rating should be used. A cord rated for less amperes or watts than the appliance rating may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
- 8) This appliance has a polarized plug (one blade is wider than the other). As safety feature, this plug will fit in a polarized outlet only one way. If the plug does not fit, contact a qualified electrician. Never use with an extension cord unless plug can be fully inserted. Do not attempt to defeat this safety feature.

Exception: This instruction may be omitted for an appliance that is not provided with a polarized attachment plug.

Removing of the plug invalidates the warranty!

SAVE THESE INSTRUCTIONS

Deltec Internal Skimmer Black Edition

The Black Edition skimmers are designed to operate in external filter sumps.

The Pump

The BE 1.5ⁱ operate with the E-Flow 4S pump

The BE 3ⁱ operate with the E-Flow 8S pump

The BE 7ⁱ can operate with the following pumps:

1. Deltec E-Flow 12S
2. Abyzz A200 Abschäumer

All pumps includes a "soft start", this means the rotor will be slowly accelerated to it's set at the controller power stage. Through this slow acceleration is starting the Pump, even under difficult conditions, guaranteed. The choice of the power stage by pressing the + and - buttons is carried out at the controller.

The transformer as well as the controller have to be placed in a dry and ventilated place to prevent any possible damage through moisture or water.

Damages caused this way are except from warranty.

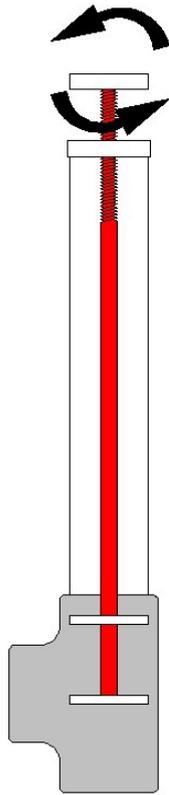
Installation

For best performance the water level in the filter sump should be between 180 and 250 mm. A prerequisite for continuous efficient performance is a constant water level in which the skimmer operates. Ideally, a water level top up system should be used such as the Deltec Aquastat 1001 or better still a separate skimmer compartment in the sump. The water level in the skimmer compartment should be higher than in the rest of the sump. But within the levels recommended for the skimmer model.

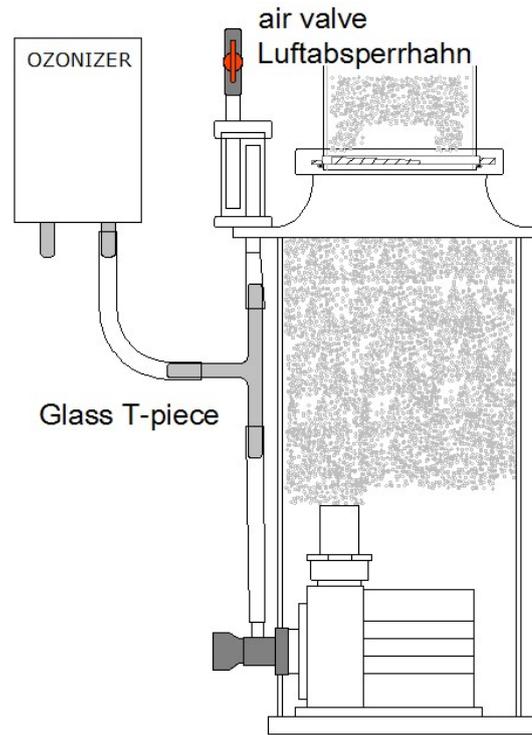
This compartment can be supplied with water from a bypass of the aquarium overflow.

Starting the skimmer

- position the skimmer in the sump
- feed water into the skimmer compartment (if applicable)
- open the water level adjuster (diagram c) fully by turning it anti-clockwise
- start the skimmer pump
- close the water level adjuster until fine bubbles are visible in the area of the transition between the skin tube and the riser.
- initially keep the foam level in the skimmer cup low to avoid over skimming and possible flooding of the cup.
- wait a minimum of 24 hours before the final adjustment
- turn the water level adjuster in or out until the fine air bubbles start bursting approximately half way up the cups riser tube
- for dry foam turn the water level adjuster anti-clockwise
- for wet foam clockwise
- **Important:** Never allow the pump to run dry.



Water level adjuster



Ozonizer

Emergency overflow

All BE skimmer have an emergency overflow. This prevents the skimmer from "overcooking" when the water level in the filter sump changes. The sensitivity of the emergency overflow can be adjusted by means of the movable pipe (no. 6 in the spare parts drawing). The further it is pulled out, the later the emergency overflow reacts. If the emergency overflow is activated, no more air is sucked in, the pump only pumps water. In such a case, the pump should be switched off and the source of the error eliminated. If the pump is not switched off and on again, it continues to pump only water, even after the source of the error has been eliminated.

Operation with ozone

Ozone is an extremely aggressive gas which - if not used properly - can damage one's health. For this reason, ozone should never be breathed in directly.

In addition, at high doses ozone can damage the skimmer.

The dosing of ozone must be set so that no free ozone can be discerned on the skimmer lid. The Skimmer can be operate with 50 mg/h of ozone. An ozone-resistant T-piece (glass) should be fitted in the air hose above the skimmer pump. The free end of the T-piece is connected to the ozonizer by means of an ozone-resistant hose.

One air connection of the ozoniser should be connected via a suitable silicon hose to the protein skimmer pump. The air is automatically sucked in the ozoniser by the skimmer pump. Should the skimmer performance deteriorate please check the ozoniser for blockage.

Safety information:

- The maximum ozone quantity of 50mg/hour per pump must not be exceeded.
- The air passage can be reduced as a result of dust deposits in the ozonizer. This can result in an increase in the water level in the skimmer, which - in extreme cases - can overflow. To avoid this, check the ozonizer regularly to make sure that there are no deposits of dust. If necessary, clean it.
- Never breathe in free ozone.
- The ozonizer may not be directly connected to the air valve.
- In order to avoid water damage, the ozonizer must be placed high enough to ensure that no water can penetrate it when the skimmer pump is switched off or the emergency overflow works.

Fresh salt water

If the skimmer is used with new water on an aquarium it is common for find an excessive quantity of small bubbles and often the skimmer cup fills with a clear liquid. This is due to the high surface tension of the new water which prevents the bubbles from bursting. Once the water matures this effect will go away but can take up to 2-3 weeks. The effect is different on different salt brands and is often dependant on levels of conditioning agents added to the salt. Once these are skimmed out then the skimmer will act normally.

Heavier feeding in the initial stages will give the chemically pure water something to react with and allow it to mature into proper aquarium salt water rather than the initial chemical soup which is new salt water.

Technical data

Techniical Daten	Dimension mm		Aquarium size litre	Water level mm		Air optimal litre/ h	Power consumption optimal / Watt	Air maximall litre/ h	Power consumption maximal / Watt
	Footprint	Height		min.	max.				
BE 1.5	350x210	610	800-1500	160	230	1100	24	1300	30
BE 3	480x290	610	1500-3000	160	230	1700	40	1900	50
BE7i E-Flow	630x350	950	3000-7000	180	250	2200	110	2300	130
BE7i Abyzz	620x350	950	3000-7000	180	250	2200	130	4000	215

Fault finding

malfunction	cause	remedy
Pump produces insufficient air	airline blocked	clean
	airline kinked	remove kink
	ozonizer blocked	clean
excessive air bubbles in aquarium water	caused by additives in certain sea salts and water conditioners	Use different salt or feed heavily for a period, empty skimmer cup frequently. This condition may last for several weeks.
Pump does not start	Bearing of the impeller stuck. When the pump (after having been used) has been stored dry for a period of time, the bearing can "dry out".	Remove impeller and loosen the bearing by moving the bearing plate around and along the ceramic shaft in tap water. If applicable leave the impeller for 24 h in tap water.

Maintenance

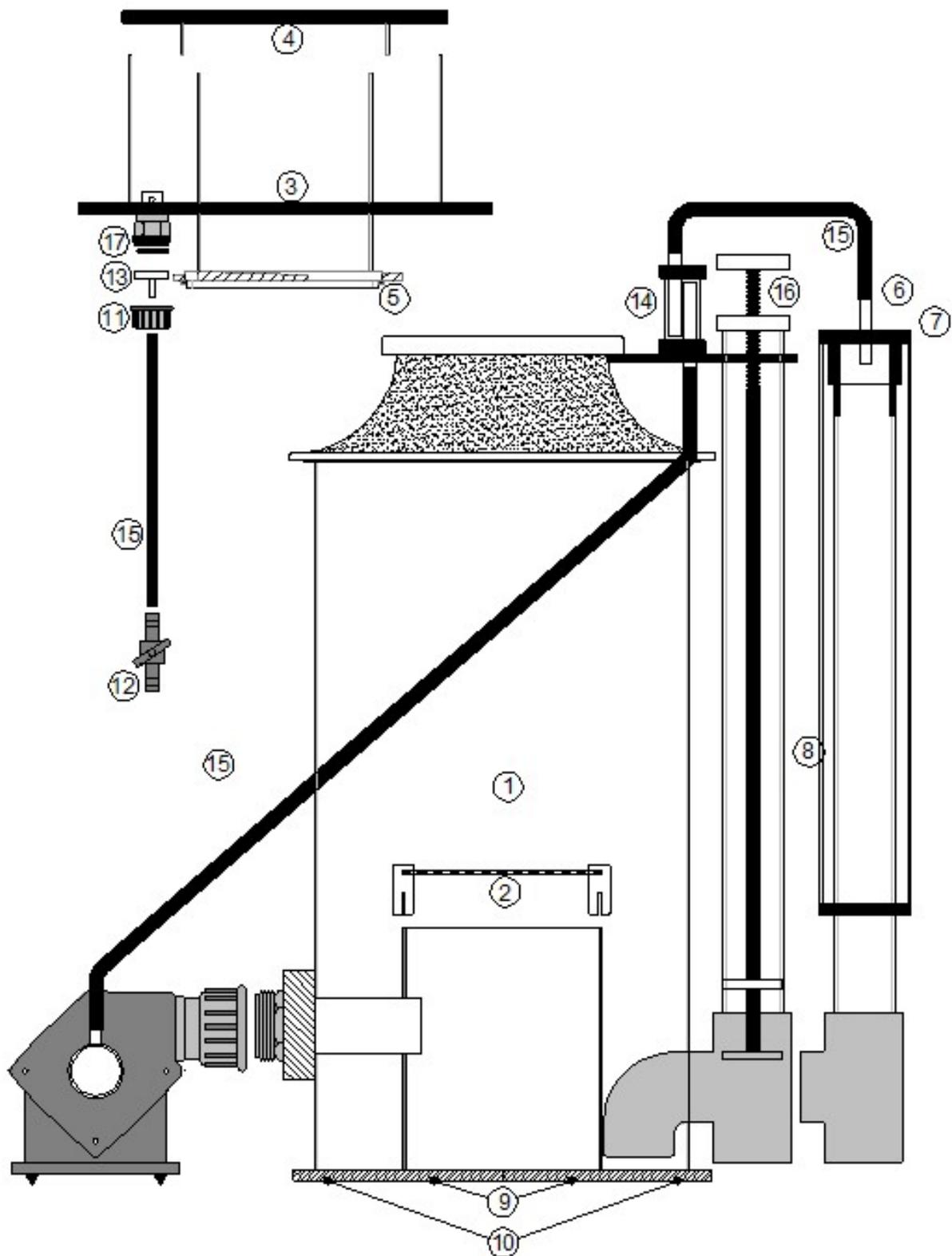
The Deltec skimmer range should need very little adjustment and maintenance once set correctly however due to the high levels of calcium in marine aquariums it is common for deposits to build up on moving parts requiring periodical cleaning. It is recommended every 6 months, or when required, that the pumps are removed from the skimmer having first drained the body of Water.

Check and clean the impellor of debris. If necessary soak the pump housing in white vinegar or lime scale remover to dissolve any calcium carbonate deposits. A build up of calcium, dust and salt can restrict or block the venturi inlet on the connecting pipe work and reduce the skimming efficiency. This should be checked and carefully cleaned with a toothpick or fine drill rotated between the fingertips.

It is advisable to stop the pump for approximately 15 minutes once every week in order to dissolve any dust or salt crystals that may have collected in the venture tube.

Please observe: The water level adjuster must be checked at regular intervals (at least once a week) for accumulation of dirt or other substances with may inhibit or interfere with its proper function. If required please clean. For this purpose the water level adjuster can be simply removed by pulling it upwards. After reinstallation of the water level adjuster please make sure it is correctly set. Any foreign bodies, limestone build up ect. can cause the skimmer water level to raise, in extreme cases the skimmer may get flooded.

Spare part list BE



No	Art. No.	Description
	81700000	Black Edition 1.5i
1	81501000	Main body
2	81502000	Strainer
3	81503000	Skimmer cup
4	81704000	Lid skimmer cup
5	80500110	O-Ring Skimmer cup
6	81506000	Suction tube emergency overflow
7	81507000	Cao emergency overflow
8	81508000	Tube emergency overflow
9	80500200	O-Ring bottom

No	Art. No.	Description
10		
11		
12	93419000	Shut-off-valve 12
13		
14	81160500	Silencer
15	61764000	Silicone hose 1 meter
16	81516000	Water level adjuster

No	Art. No.	Description
	81700000	Black Edition 3i
1	81601000	Main body
2	81602000	Strainer
3	81603000	Skimmer cup
4	81604000	Lid skimmer cup
5	80500140	O-Ring Skimmer cup
6	81606000	Suction tube emergency overflow
7	81607000	Cao emergency overflow
8	81608000	Tube emergency overflow
9	80500220	O-Ring bottom

No	Art. No.	Description
10		
11	93040100	Cap nut 16
12	93419000	Shut-off-valve 12
13	80258000	Cup outlet
14	81160500	Silencer
15	61764000	Silikone hose 1 Meter
16	81616000	Water level adjuster
17	93040400	O-ring 16

No	Art. No.	Description
	81700000	Black Edition 7i
1	81701000	Main body
2	81702000	Strainer
3	81703000	Skimmer cup
4	81704000	Lid skimmer cup
5	80500160	O-Ring Skimmer cup
6	81706000	Suction tube emergency overflow
7	81707000	Cao emergency overflow
8	81708000	Tube emergency overflow
9	80500110	O-Ring bottom smal

No	Art. No.	Description
10	80500270	O-Ring bottom large
11	93040100	Cap nut 16
12	93419000	Shut-off-valve 12
13	80258000	Cup outlet
14	81714000	Silencer
15	61764000	Silicone hose 1 Meter
16	81716000	Water level adjuster
17	93040400	O-ring 16

Deltec GmbH
Steller Straße 75
D-27755 Delmenhorst

Deutschland / Germany
www.deltec-aquaristic.com