

# Deltec<sup>®</sup>

## Skimmer 400<sup>i</sup>



**Operating instructions**

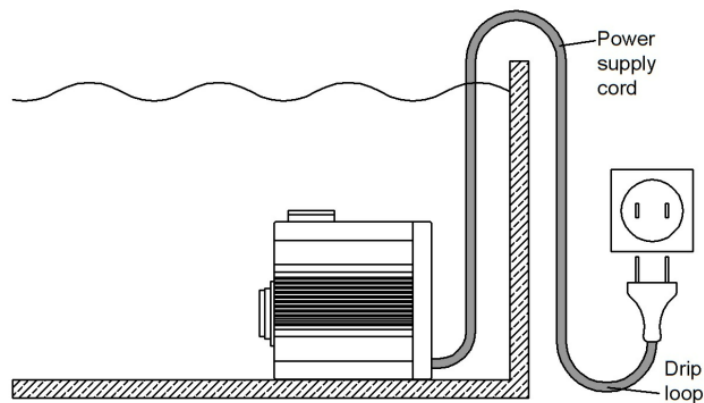
# IMPORTANT SAFETY INSTRUCTIONS

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) For added safety, all electric devices must be connected to an RCD (Residual Current Device).
  - c) 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 Skimmer Series

Skimmer of the Deltec Skimmer Series are designed to operate only in external filter sumps.

## Installation

Please refer to the technical data for the recommended water level in the sump (Fig. 1). 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 or better still a separate skimmer compartment in the sump (picture 2).

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. (6 inches to 10" inches This compartment can be supplied with water from a bypass of the aquarium overflow.

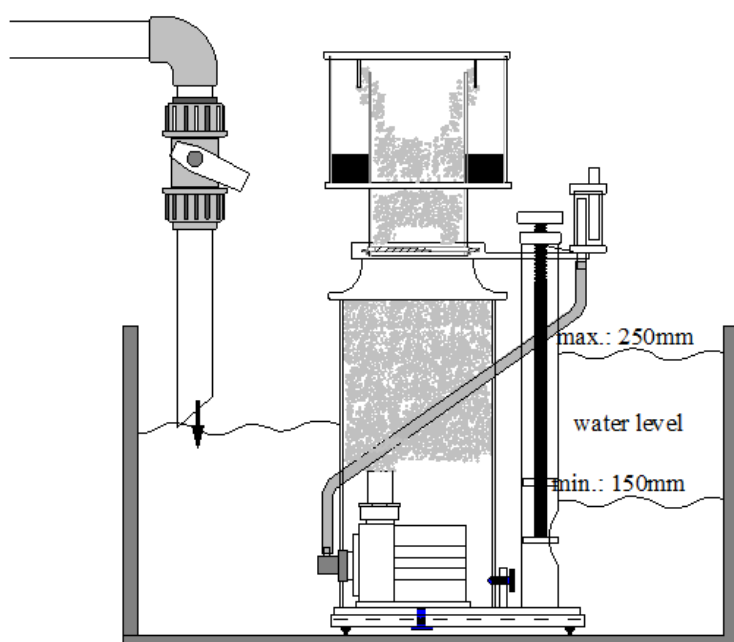


Bild 1 / Picture 1

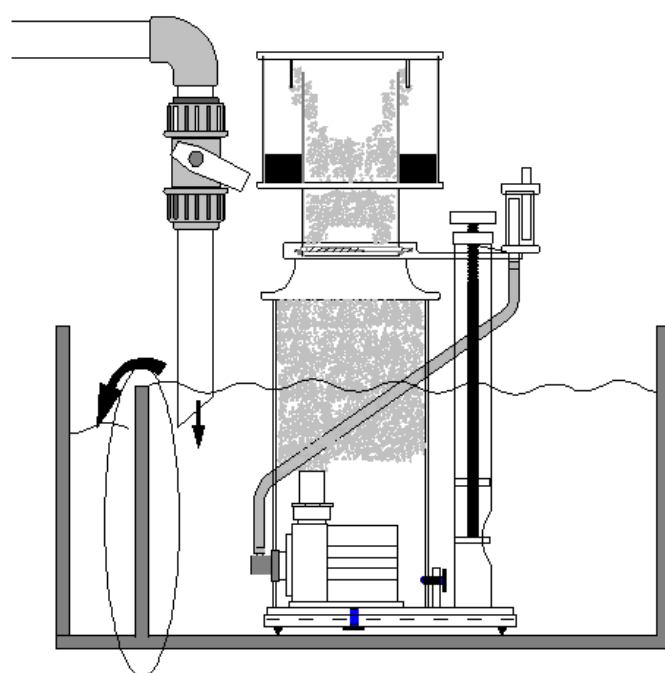
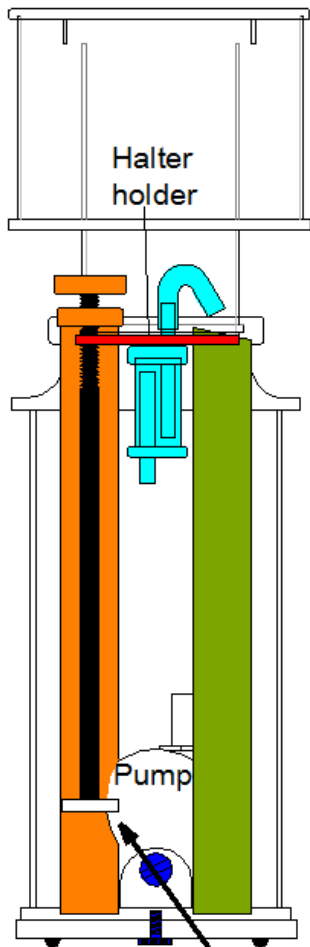


Bild 2 / Picture 2

## Safety Overflow

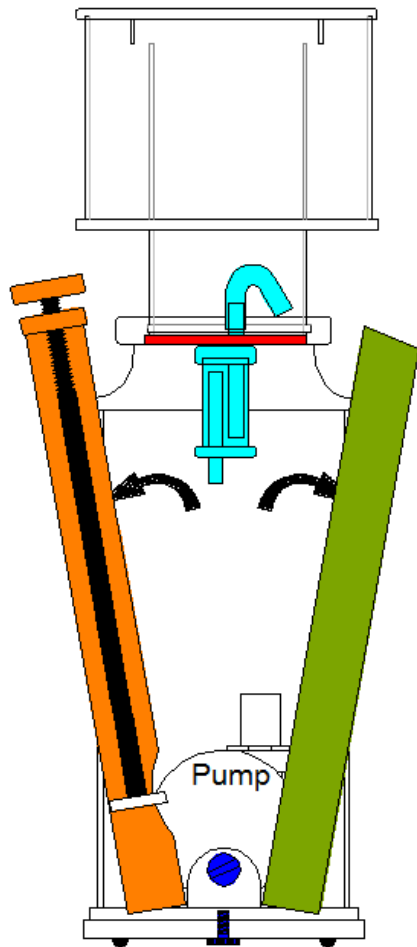
Skimmers of the "i" and "ix" series have a safety overflow and a regulator tube. These are not glued to the footplate and can be interchanged as required (pictures 3,4 and 5). It must be ensured that the outlet of the regulator tube points inwards, as if the skimmer is removed too quickly from the filter chamber, water can be forced over the edge of the filter sump.

If the safety overflow is not desired, the emergency overflow pipe can be removed and the opening can be closed with the supplied plug, (picture6).



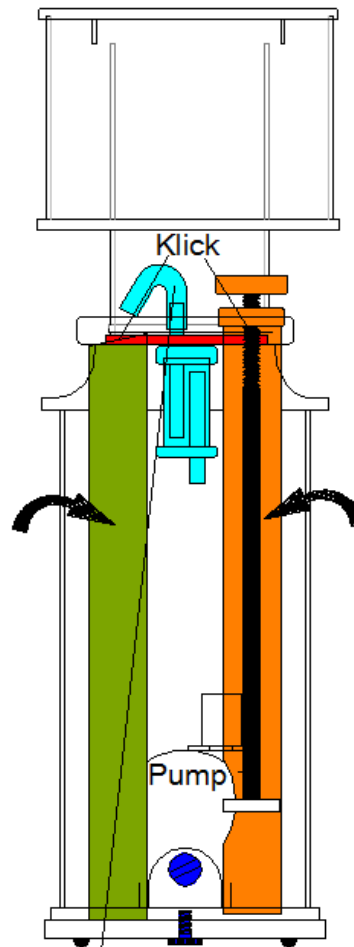
Ablauf nach innen drehen  
Turn the drain inwards

Bild 3 / Picture 3



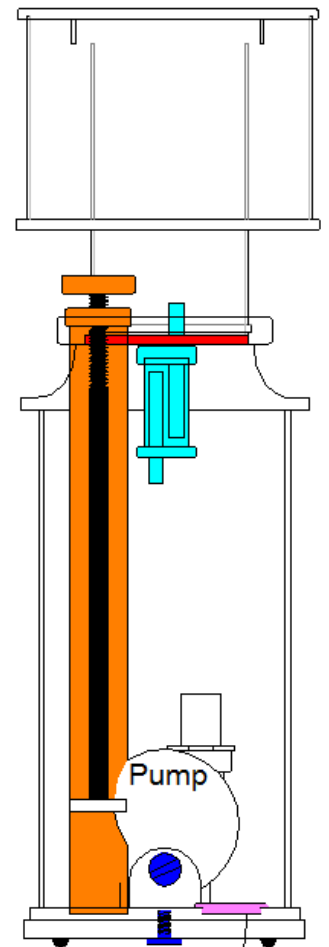
Rohre nach außen ziehen  
Pull the pipes outwards

Bild 4 / Picture 4



Absaugrohr drehen  
Turn suction pipe

Bild 5 / Picture 5



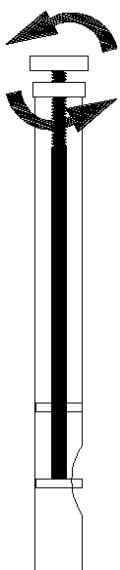
Stopfen  
Plug

Bild 6 / Picture 6

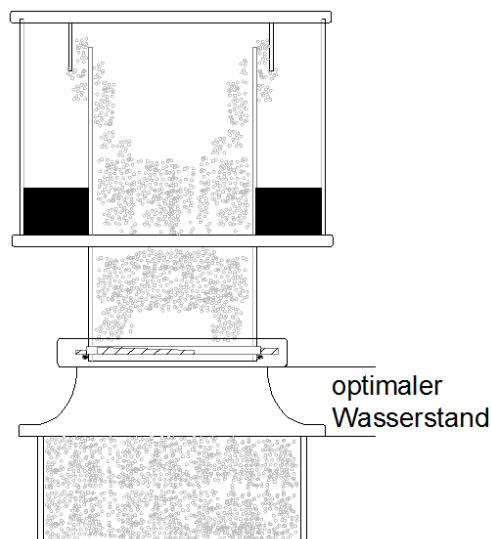
## Starting the skimmer

- position the skimmer in the sump
- Remove the suction pipe above the safety overflow or turn to the side (picture 5).
- feed water into the skimmer compartment (if applicable)
- open the water level adjuster (picture 7) fully by turning it anti-clockwise
- start the skimmer pump
- **Only for 400i - 2000i:** Set the pump controller to the lowest level.
- close the water level adjuster until fine bubbles are visible between the bayonet and the bottom of the skimmer cup (picture 8)
- initially keep the foam level in the skimmer cup low to avoid over skimming and possible flooding of the cup.
- wait a minimum of 48 hours before the final adjustment, only then adjust the controller up and down.
- The specified at the safety overflow pipe min and max. Values for the water level are not to be considered in the start-up phase.
- **Only for 400i - 2000i:** After the start-up phase, set the controller to level 7 (400i) level 5 (600i), level 7 (1000i), level 7 (1500i) or level 8 (2000i), optimal for most aquariums.
- turn the water level adjuster in or out until the fine air bubbles start bursting approximately halfway up the cup riser tube
- Set the water level between min. and max.
- Position the suction pipe above the safety overflow pipe.
- If the safety overflow pipe is not used, adjust the water level in the area of the upper edge of the pipe, lower edge of the bayonet (picture. 8). The suction tube can be removed.
- for dry foam turn the water level adjuster anti-clockwise, for wet foam clockwise
- **Important:** Never allow the pump to run dry.

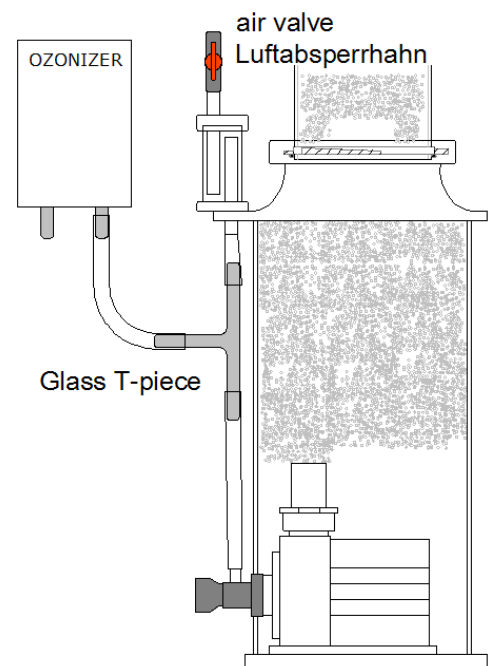
**Only for 400i - 2000i:** When pressing the feed timer button on the controller, the pump will stop for 10 minutes and will resume automatically.



Picture 7  
Water level adjuster



Picture 8  
Skimmer cup



Picture 9  
Ozonizer

## **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. Deltec skimmers can be operated with 50 mg/h of ozone per pump. 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.

In addition, if necessary (depending on the skimmer) an air valve must be installed. It must be throttled until air is independently sucked through the ozonizer. The skimmer can be operated with ozone up to max. 50 mg/h per pump. The air connection of the ozonizer should be connected via a suitable silicon hose to the protein skimmer pump. The air is automatically sucked in the ozonizer by the skimmer pump. Should the skimmer performance deteriorate please check the ozonizer 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.

## **Fresh saltwater**

If the skimmer is used with new saltwater on an aquarium it is common to 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 seawater 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 dependent 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 and assist with normal protein skimming.

## Technical data

Technical Data	Skimmer 400i	Skimmer 600i	Skimmer 600ix	Skimmer 1000i	Skimmer 1000ix	Skimmer 1500i	Skimmer 1500ix	Skimmer 2000i
Footprint (l/w) mm	205x120	220x140	220x140	235x155	235x155	270x185	270x185	300x225
Height mm*	510*	510*	510*	520*	520*	565*	565*	560**
Aquarium size / litre	100-400	200-600	200-600	600-1000	600-1000	1000-1500	1000-1500	1500-2000
Water level mm	150-250	150-250	150-250	150-250	150-250	160-260	160-260	160-260
Power consumption Watt	5 - 12	9 - 21	9	9 - 21	11	10 - 28	27	10 - 28
Power AC/DC Volt	DC / 24V	DC / 24V	AC / 230V	DC / 24V	AC / 230V	DC / 24V	AC / 230V	DC / 24V
Air litre/h max.	450	900	450	900	600	1200	1200	1450
Air litre/h optimal / Cont. stage	300 / 7	500 / 5	450 / --	650 / 7	600 / --	1000 / 7	1000 / --	1300 / 8
Body diameter mm	110	125	125	140	140	160	160	200
Cup diameter inner tube mm	60	76	76	90	90	110	110	125
Pump	DCC 1	DCC 2	DCS 400	DCC 2	DCS 600	DCC 3	DCS 1200	DCC 4
Controller	SWC 1	SWC 2	-	SWC 2	-	SWC 3	-	SWC 3
Double Base Anti-Flood	•	•	•	•	•	•	•	•
Safety overflow	•	•	•	•	•	•	•	•
Drain Skimmer cup	-	-	-	•	•	•	•	•
Cleaning system manual	-	CSM 600	CSM 600	CSM 1000	CSM 1000	CSM 1500	CSM 1500	CSM 2000
Cleaning system automatically	-	-	-	-	-	CS 1500**	CS 1500**	CS 2000**

\*+15 mm to remove the cup \*\* without siphon

## Fault finding

malfunction	cause	remedy
Pump produces insufficient air	airline or venturi 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 in marine water) 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.
	Impeller incorrectly fitted	See service hints

## 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.

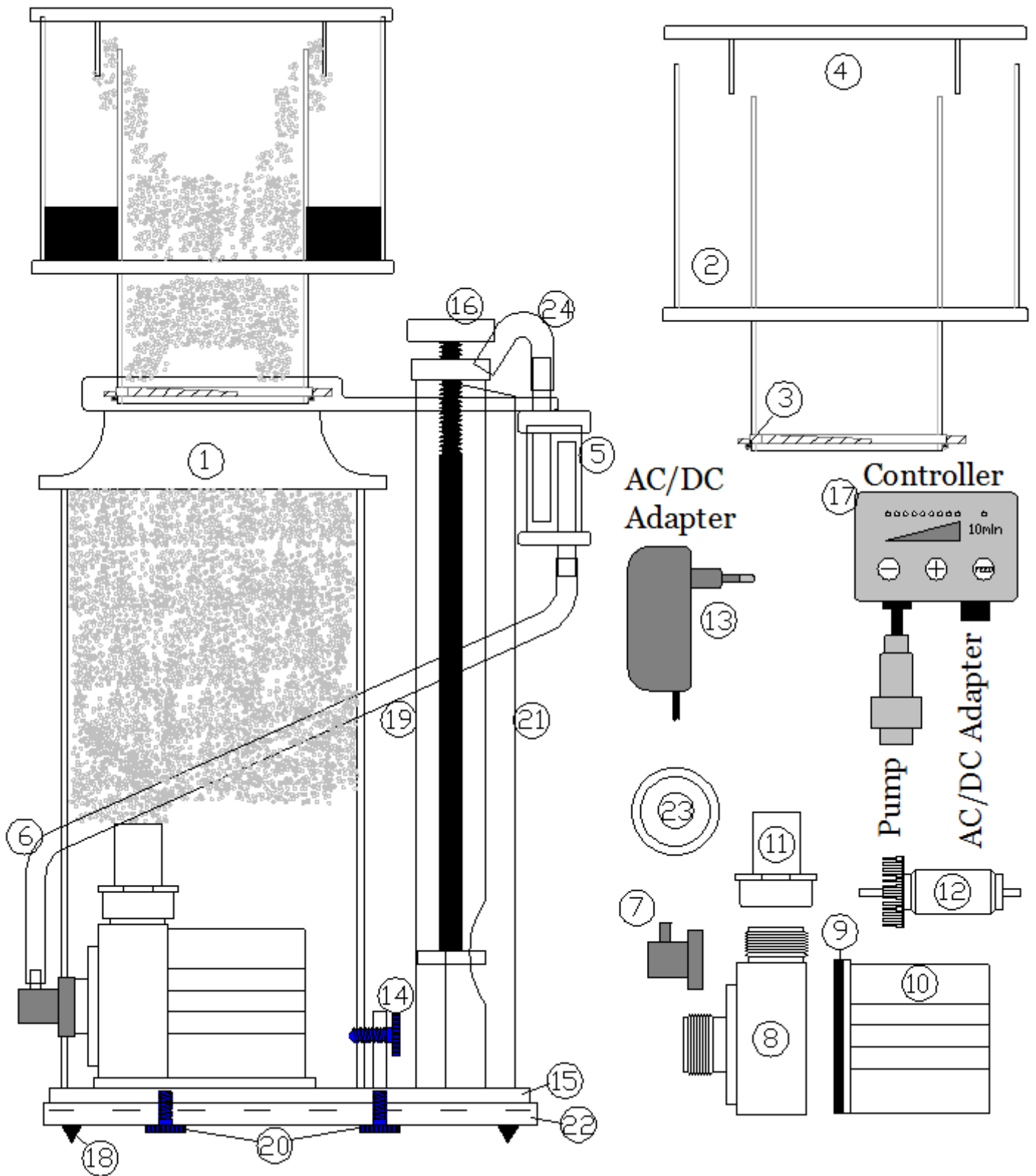
Check and clean the impeller of debris. Soak the neck of the pump housing in white vinegar or lime scale remover to dissolve any calcium carbonate deposits. A build up of calcium, dust and salt can restrict or block the venturi inlet on the connecting pipe work and reduce the skimming efficiency. This 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 which 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 etc. can cause the skimmer water level to raise, in extreme cases the skimmer may get flooded.



# Skimmer 400i



# 400i Parts List

No	Art. No. Skimmer 400i	Description	No	Art. No. Skimmer 400i	Description
1	81128100	Body only	14	80601000	Knurled head screw long
2	81128200	Skimmer cup	15	81128400	Foot plate top
3	80500060	O-Ring Skimmer cup	16	81135500	Water level adjuster
4	81128300	Lid skimmer cup	17	29007000	Controller DCC1 SW
5	81160500	Silencer	18	61701000	Silikone foot
6	61758000	Silicone hose white 5/8	19	81135110	Regulator tube
7	81128600	Air inlet adapter	20	80600000	Knurled head screw long
8	29081000	Pump housing	21	81135120	Safety overflow tube
9	26081100	O-Ring Pump DCC1	22	81128500	Foot plate bottom
10	26081000	Stator DCC1	23	81135140	Plug for safety overflow
11	81128700	Adapter	24	81135130	Suction tube safety overflow
12	27081000	Impeller DCC1			
13	37044000	Ballast			

# Disassembly 400<sup>i</sup>, 600<sup>i</sup>, 1000<sup>i</sup>, 1500<sup>i</sup>, 2000<sup>i</sup>

