

Protein Skimmer 400 HO

US Information for use sera marin Protein Skimmer 400 HO

Please read these instructions carefully and keep for future use.

The sera marin Protein Skimmer 400 HO is a high performance, energy saving and flexibly usable dispergator skimmer for aquariums up to 400 l (106 US gal.). It can be used as a hang-on version (fig. 1) as well as in a filter underneath the aquarium (fig. 2) (sump). It is therefore optimally suitable for all aquarists that wish to switch over from freshwater aquariums to saltwater aquariums.

Included items (fig. 3)

- 3.1 Skimmer with holder and built-in tubing
- 3.2 Dispergator pump NP 1600 with pinwheel
- 3.3 Stick-on tubing on the pressure side (connection between pump and skimmer)
- 3.4 Flexible outlet hose
- 3.5 Air intake with intake nozzle and air regulator for the dispergator pump
- 3.6 Flexible flotata outlet hose with adjustor

Skimmer tasks

A skimmer is the heart of saltwater aquarium filtration. It removes protein that is permanently released into the water by micro organisms, invertebrates and fish. The skimmer removes particles such as floating matter and aerates the aquarium. Protein not removed from the water will lead to an increasing amount of harmful substances such as ammonia, nitrite and nitrate (bacterial breakdown chain beginning with protein). Keeping saltwater organisms in closed systems would be considerably more difficult or, depending on the requirements of the species in question, even impossible.

Function principle (fig. 4)

The dispergator pump of the sera marin Protein Skimmer draws in the water from the aquarium or from the filter chamber (4.1), mixes it with air drawn in (4.3) by the resulting low pressure inside the gyro case (4.2), where it is scattered into tiny air bubbles by the sera pinwheel. The fine air bubbles provide a large surface where the protein can settle.

This water/air mixture is pumped into the inner reaction chamber of the protein skimmer (4.4). The outlet directed sideways make the mixture rotate, keeping the air bubbles floating for a longer time and therefore increasing the flotata yield (4.5). The protein attaches to the bubbles within this chamber. The bubbles accumulate at the water surface and form a solid foam while floating there. The narrowing standpipe of the foam cup directs this foam into the flotata cup where it is collected (4.6). The purified water flows into the standpipe at the bottom end of the skimmer and back into the aquarium or filter tank through the outlet hose (4.7) connected to it.

Assembly instruction (fig. 5)

- 5.1 Cover
- 5.2 Flotata cup
- 5.2.1 Inner tube of flotata cup
- 5.2.2 Flotata outlet opening with hose and adjustor
- 5.3 O-ring seal
- 5.4 Flow adjustor
- 5.5 Skimmer case
- 5.6 Water outlet opening
- 5.7 O-ring seal
- 5.8 Outlet hose for clean water
- 5.9 Holder bracket
- 5.10 Locking screw
- 5.11 Water intake pipe 20 mm (0.8 in.) diameter
- 5.12 Water intake nozzle
- 5.13 O-ring seal
- 5.14.1 Hose fixture for flotata outlet
- 5.14.2 Hose fixture for air intake
- 5.14.3 Flotata outlet hose with adjustor
- 5.15 Dispergator pump
- 5.15.1 Rotor
- 5.15.2 Shaft
- 5.15.3 Rubber bearing
- 5.16 Holder plate
- 5.17 Pump head with bayonet lock
- 5.18 Intake opening
- 5.19 Air hose
- 5.20 Intake nozzle
- 5.21 Air regulator

Hang-on installation on the outside of the aquarium glass (fig. 1)

An easily accessible but well protected place on the side or on the back should be selected for this installation mode. The skimmer is hung on the aquarium edge from the outside using the holder bracket (5.9) (fig. 1). The locking screw (5.10) within the holder bracket serves only for securing the skimmer and should be fastened only carefully. The water intake pipe (5.11) is pushed onto the water intake nozzle (5.12).

The pump (5.15) is pushed onto the water intake pipe (5.11) on the inside of the aquarium, underneath the water surface. The pump can then hang there without further securing. However, you may additionally attach the pump to the aquarium glass. Insert the holder plate (5.16) into one of the rails on the pump to do so. Due to the suction cups, the pump will then be firmly attached to the aquarium glass. Do not twist the pump when pressing the suction cups, as the bayonet lock of the pump head cover (5.17) might loosen. Installing the pump in deeper water will reduce air intake performance while increasing the water flow rate.

The pump (5.15) is connected to the air intake hose (5.19). Stick the air hose (5.19) onto the nozzle on the inner side of the split cone (5.20) to do so. The cone is then pushed into the intake opening (5.18) of the pump. The hose (5.19) is directed through the hose fixture (5.14.2) on the skimmer case (5.5) and fixed above the water surface, allowing the pump to draw in air. The air regulator (5.21) is attached to the hose end. It will also prevent the hose from slipping out.

Push the outlet hose for clean water (5.8) onto the water outlet opening (5.6) and direct the outlet hose over the aquarium edge, allowing the water to flow back into the aquarium.

The skimmer is now ready for operation and can be started.

Installation in a filter tank (fig. 2)

The sera marin Protein Skimmer 400 HO can also be installed in a cabinet filter. The installation outside the filter tank (on the aquarium edge) is carried out as described above. It is then hung onto the edge of the filter tank. You can simply place it aside the tank in case the filter tank is not high enough. The dispergator pump is attached inside the filter tank hanging just underneath the water surface. It is advisable to maintain a constant water level by means of automatic evaporation compensation as to prevent the pump running dry.

Operation

Air is automatically drawn in after switching on the pump. The air is scattered into very fine air bubbles by the rotating pinwheel (5.15.2). The special construction of the pump prevents loud noise. The skimmer (5.5) will run full of saltwater. Accordingly, the water level of the aquarium will sink slightly. Top up the tank accordingly with saltwater. The pump will now blend water and air. Starting a skimmer for the first time will often lead to relatively strong foam formation: Extremely moist foam will end up in the flotata cup (5.2) which quickly runs full of water this way. In that case a temporarily reduced air intake at the air regulator (5.21) or a very low water level inside the skimmer will help. Each aquarium has its own biology and its own protein level.

One day after starting up you should adjust the skimmer more accurately for the first time: First open the air regulator (5.21) of air intake to the dispergator pump as wide as possible. As a reaction, you will notice that the water/foam level within the skimmer (5.5) rises within the next minutes. This level can be further raised by turning the flow adjustor (5.4) on the outlet of the unit. The level within the skimmer should be approximately 1 cm (0.4 in.) below the gray edge of the flotata cup. Depending on whether you wish to skim moist or rather dry foam you can adjust the air regulator (5.21) and the flow adjustor (5.4) in combination. However, the air intake should always be as wide open as possible, i.e. you should primarily adjust the foam amount with the flow adjustor (5.4). Fully open the flow adjustor (5.4) before removing the flotata cup (5.2) and switch off the pump if necessary as to prevent water flowing over.

Cleaning

Although the flotata cup (5.2) is equipped with a flotata outlet (5.2.2) through a hole in the bottom it needs to be cleaned every few days. In particular, the inner tube (5.2.1) of the flotata cup must be cleaned regularly as to prevent the air bubbles of the rising foam from bursting at the deposits that often contain fat. The flotata outlet (5.2.2) in the flotata cup can be used for directing the flotata into a larger collection container, e.g. in case of prolonged absence.

Deposits may form on the bottom of the skimmer over time, which reduce outflow at the bottom and thus affect the skimmer performance. Therefore, the entire skimmer should be cleaned regularly.

The pump (5.15) and the air intake (5.19, 5.20, 5.21) should be checked monthly. Lime deposits may especially reduce the air intake (5.21). Clean the parts mechanically in case of lime deposits. Persistent deposits can be removed by soaking the parts to be cleaned in sera pH-minus. Do not use any household detergents. Rinse the parts under running water before putting them back in place. Depending on the situation, the rotor (5.15.1) of the pump can be covered with mucous and then needs to be cleaned. Simply twist the pump head (5.17) carefully against the pump body, until both parts separate at the bayonet. The rotor (5.15.1) can be taken out of the pump along with the magnet after you have taken off the pump head. The shaft (5.15.2) can be pulled out of the rotor after removing the stick-on rubber bearing (5.15.3).

SAFETY PRECAUTIONS:

Pull all mains plugs before every maintenance measure in the aquarium!

The pump performance will considerably increase in case the air supply is suddenly switched off, the skimmer can overflow, and large amounts of water may be pumped from the tank!

Troubleshooting:

Problem	Possible cause	Troubleshooting
Insufficient air intake rate	Intake valve (5.21) insufficiently opened	Open intake valve (5.21) further
	Air hose (5.19) is encrusted with lime or dirty	Clean
	Intake nozzle (5.18) on the pump is dirty	Pull off and clean
	Pump performance is too low	Clean rotor and shaft
Foam too moist/ too much foam	Water level within the unit is too high	Open flow adjustor (5.4) further
	Too much air	Close intake valve (5.21) further, first try to adjust with the flow adjustor (5.4)
Foam too dry/ very viscous foam	Water level within the unit is too low	Slightly reduce flow rate at the flow adjustor (5.4)
	Insufficient pump performance	Clean rotor, shaft and intake nozzle
Insufficient foam formation	Insufficient amount of air	Open intake valve (5.21) further
Foam formation too strong, very brownish flotata, very sticky foam	Water strongly polluted see: Insufficient foam formation	Partial water change, feed less Increase flotata moisture
Foam formation breaks down	Feeding fatty food (fish, mussels)	Foam formation will begin again after a few hours
	Air intake congested	Clean air intake or open further

Technical Data:

Width:	20.7 cm (8.2 in.)
Height:	40 cm (15.8 in.)
Depth:	18.6 cm (7.3 in.)
Volume:	approx. 3 l (0.8 US gal.)
Pump:	NP 1600 220 – 240 V ~ 50 Hz, 20 W max. 40°C (104°F)
Hmax:	1.2 m (3.9 ft.)
Qmax:	1,400 l/h (369 US gal./h)
IPX8:	up to 1 m (3.3 ft.) water depth



The sera marin Protein Skimmer 400 HO is an open flow unit. If the water flow back into the aquarium is obstructed or otherwise not possible, large amounts of water can be pumped from the aquarium and cause water damage.

Spare parts:

Rotor with pinwheel
Ceramic shaft with rubber bearings
Pump NP 1600 (complete)
Flotata cup with cover
O-ring seal for outlet

Disposal of the unit:

Waste electrical and electronic equipment (WEEE) must not get into domestic waste!

If ever the unit cannot be used anymore, the consumer is legally obliged to hand in waste electrical and electronic equipment (WEEE) separately from domestic waste, e.g. at a collection point of his community/his district. This ensures that waste electrical and electronic equipment (WEEE) is expertly processed and that negative effects to the environment are avoided.

Therefore electrical and electronic equipment bears the following symbol:



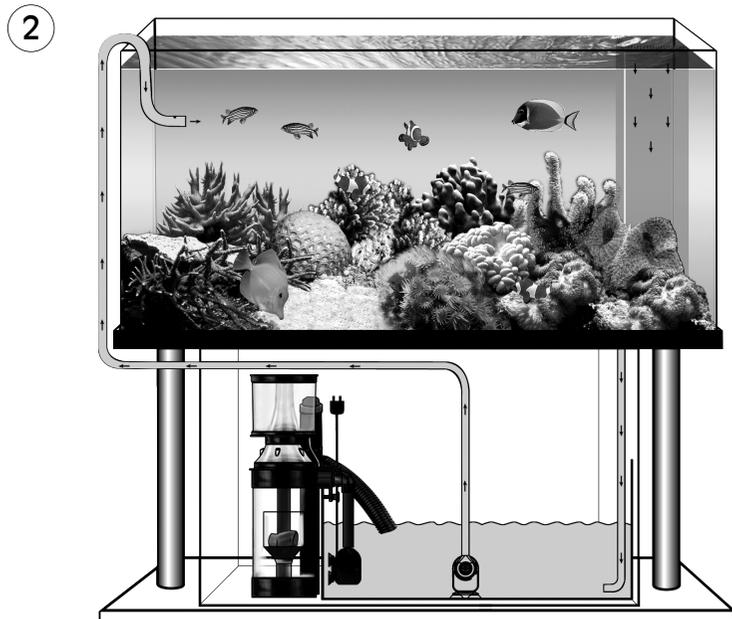
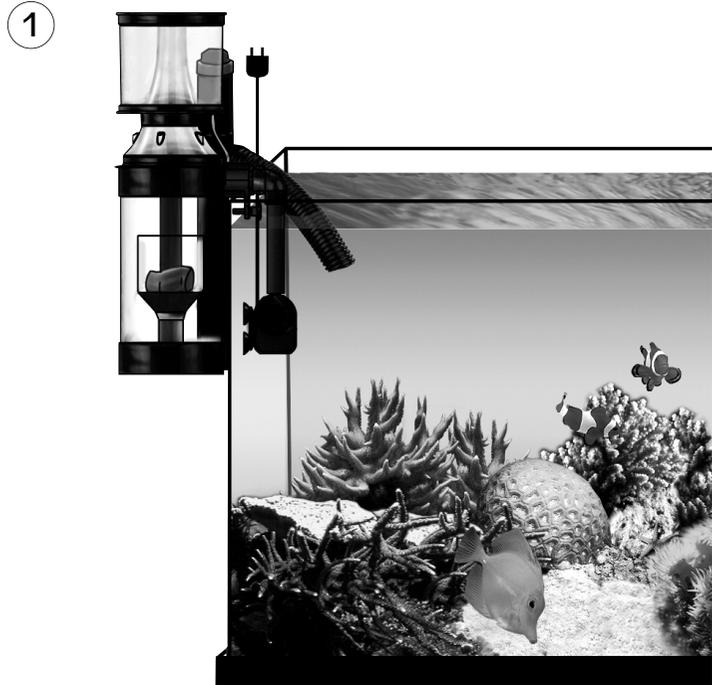
Warranty:

When following the directions for use, the sera marin Protein Skimmer 400 HO will perform reliably. We are liable for the freedom from faults of our products only within legal regulations beginning with the purchase date.

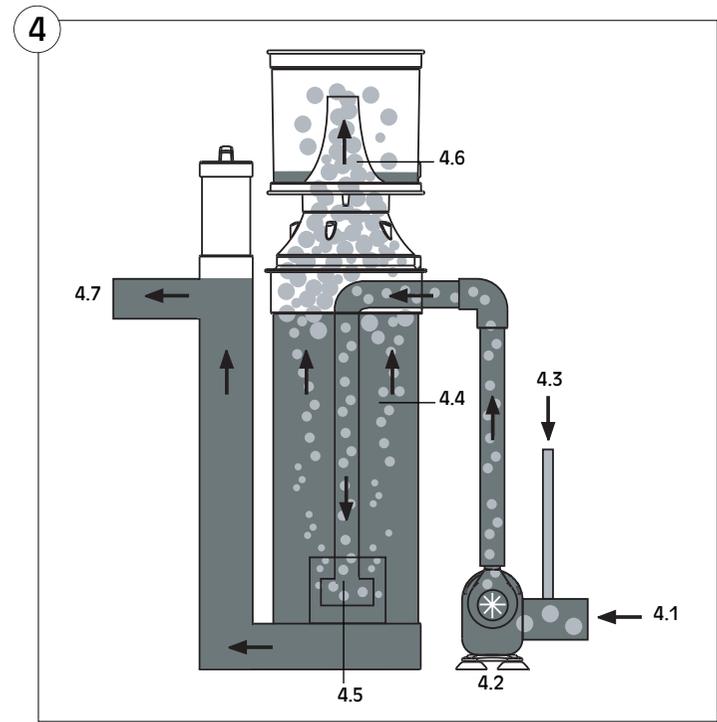
We are liable for complete flawlessness at delivery. Should usual wear and tear occur by use as intended by us, this is not considered a defect. Warranty claims are also excluded in this case. This particularly refers to the running unit (rotor, shaft, rubber bearings) and the hoses.

In every case of a defect we recommend that you consult the specialized retailer where you purchased the unit. He will be able to judge whether it is actually a warranty case. In case of sending the unit to us we will unnecessarily have to charge you for occurring costs. Any liability because of contract breach is limited to intent or gross negligence. sera will be liable in case of slight negligence only in case of injuries to life, body and health, in case of essential contractual obligations and with binding liability according to the product liability code. In that case, the extent of liability is limited to the replacement of contractually typically foreseeable damages.

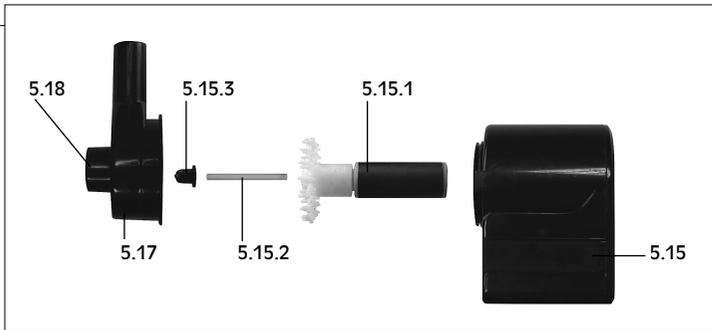
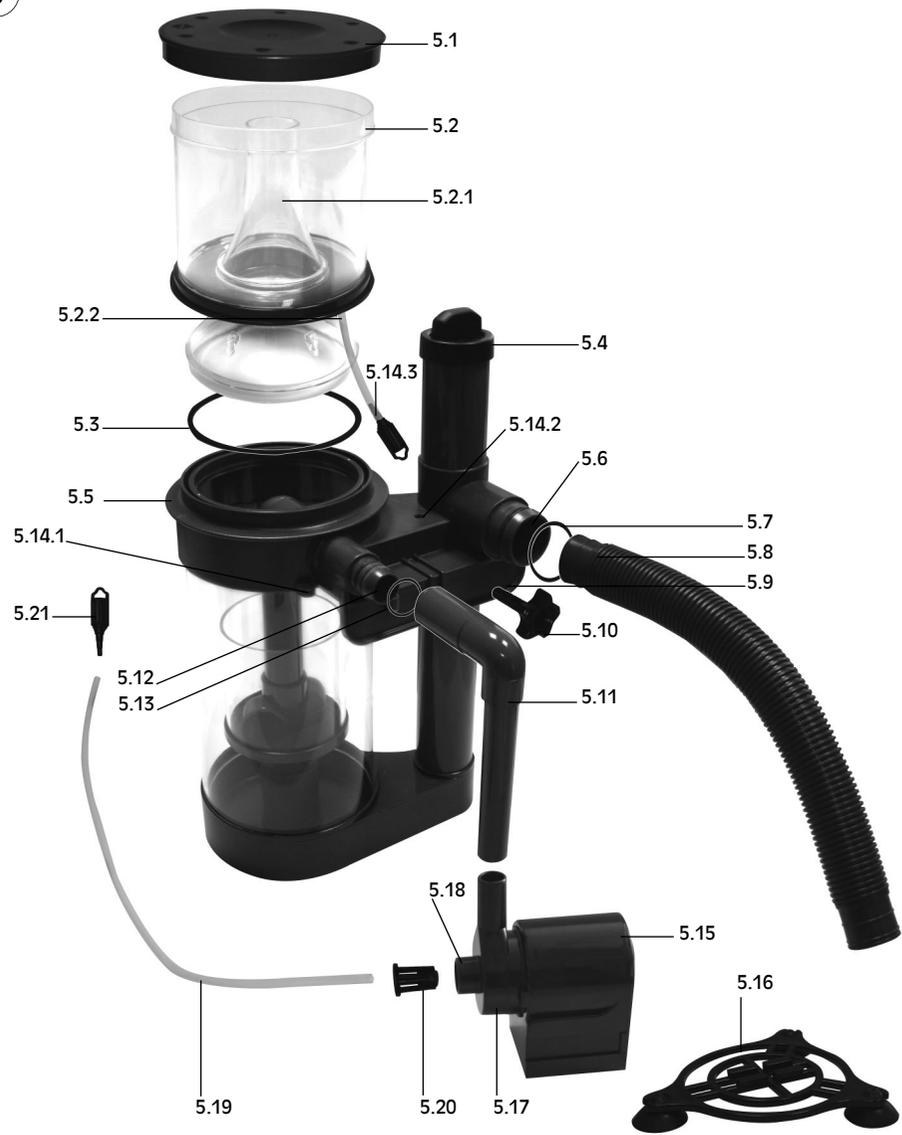
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Subject to technical alterations and errors

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