



Operation manual

E-Cone 1000/2000/3000

Protein Skimmer for saltwater aquariums up to a volume of 2500l



Congratulations for your new E-Cone protein skimmer. It is a quality product and has been specially designed for use in marine aquariums. It has been developed and tested by specialists.

1. Delivery

The E-Cone protein skimmers are delivered ready to go, including the venturi pump. They can be placed directly into the filter sump.

Features of the E-Cone:

- Due to their space saving construction with a small footprint, they fit into almost every filter sump.
- A high foam production is ensured by the conical shaped reaction pipe.
- The powerful but energy saving and silent running needle wheel pumps combine high air intake with low energy consumption.
- The E-Cone 3000 is supplied with a 24V DC pump. The fine tuning of the foam production can be adjusted using the included pump controller. The speed of the pump can be adjusted to the organic load of the aquarium to achieve a perfect skimming.

2. Technical Data of the E-Cone skimmers:

The E-Cone are delivered in 3 sizes

The E-Cone 3000 DC is supplied with a 24V low voltage pump.

	E-Cone 1000 DC	E-Cone 2000	E-Cone 3000	E-Cone 3000 DC
For aquaria up to a volume of	1000l	2000l	2500l	2500l
Power consumption	36 Watts max	29 Watts	45 Watts	34 Watts
voltage	24V =	230V~, 50 Hz	230V~, 50 Hz	24V=
Dimensions,	20x17x52,5cm (L x W x H)	22,5x20x57,5cm (L x W x H)	41 x 25 x 66 cm (L x W x H)	41x25x66 cm (L x W x H)
weight	kg	kg	kg	kg

3. Safety advice

The protein skimmer may only be used indoors. For all works at the aquarium or the protein skimmer unplug it from the mains. The power cable of the pump or the plug may not be replaced. If the cable is damaged, the pump may not be used.

4. Working principle

During protein skimming a large quantity of smallest air bubbled are blown into the reaction pipe of the E-Cone skimmer. At the same time aquarium water is pumped through the skimmer. Water inlet is in the middle of the pipe, the outlet at the bottom. Organic waste,

protein, fatty acids attach to the air bubbles and form dirty foam that rises up and is pushed into the foam cup. In this way the load of the biofilter is reduced and the build-up of nitrate and phosphate minimized.

The E-Cone is placed in the filter sump. The water level should not fall below 15 cm. The pump of the E-Cone will take in water and air simultaneously and mix both. The purified water is directed from the bottom through the outlet pipe back into the filter sump. A flow regulator is placed at the top of the outlet pipe. It can be used to adjust the water level in the reaction pipe and so the skimming capacity. The air rises in the reaction pipe and is collected as foam and pushed into the foam cup.



Fig1:

Construction of the E-Cone:

1. Conical shaped reaction pipe
2. Foam Cup with Lid
3. Water outlet
4. Water inlet, venturi pump and nozzle
5. Air tube
6. Silencer/air intake, regulation valve (red)

5. Starting

After placing the skimmer into the filter sump, it can be started. After switching on the pump, it will start automatically to blow air and pump water into the skimmer. The air hose is mounted to the silencer to minimize the noise. The air is cut into finest bubbles by the rotation of the brush wheel. The construction of the brush avoids bussing noise. After the first start it will take a few hours before the first foam is produced. This is caused by the reaction of the aquarium water with the acrylic pipe. Latest the next day foam should be pushed into the cup. The amount of foam produced depends on the organic load of the aquarium water.



Fig 2:

1. Regulation valve for the water outlet
2. Air injection fitting
3. Silencer



Fig 3: E Cone
Pump with brush wheel



Fig 4:

1. Thumbscrew to disassemble the E-Cone.
2. Venturi nozzle

6. Failures

Adjustment: The skimmer can be adjusted with the regulation valve at the water outlet (fig 2). The water level in the reaction pipe is adjusted with this valve.

If there are problems with the skimmer, check first that the venturi nozzle is tightly fixed to the pump.

Air bubbles in the water outlet:

If the skimmer is attached to an existing aquarium, it may be, that the water already contains a high concentration of organics. This results in very tiny air bubbles in the

skimmer. These bubbles remove organics effectively; however they may enter into the aquarium and disturb the animals. Latest after some days, the organic load should be reduced, so the skimming is normalized and this effect disappears.

Wet foam:

If the saltwater is fresh prepared or if foam producing water conditioners have been added, it may happen, that too much too wet foam is pushed into the foam cup.

Empty the foam cup frequently. After 24 hours the organic load should be reduced and the foam production is normalized. If it is not normalized, open the regulation valve to reduce the water level in the reaction pipe.

Dry foam, not enough air bubbles:

Low foam production is mostly caused by a dirty or even clogged brush wheel or clogged injection nozzle (mainly the air intake). Clean both parts carefully.

7. Maintenance

The foam cup should be cleaned regularly, minimum once per week. The venturi pump and the air injection nozzle should be cleaned when necessary, minimum twice per year to keep the air intake high. To take out the pump, open the 4 thumbscrews at the bottom of the skimmer. Now the skimmer can be taken from the bottom plate and you can work at the pump.

8. Warranty

Should any defect in material or workmanship be found within 12 months of the date of purchase.

Theiling 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, unauthorized 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 Theiling 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.

Theiling GmbH, Maschweg 49, D-49324 Melle, Germany
www.theilinggmbh.de

- technical changes reserved –07/2014