



## **Power Outage / Filter and Diaphragm Pump Failure**

**Generally, when a filter pump fails, the diaphragm pump, which provides the oxygen supply for the aquarium, will continue to operate.**

**However, in the event of a complete power outage/ blackout, both filters and diaphragm pumps will fail and you will need to additionally provide the oxygen supply manually.**

**It is important to note that in the event of a power outage, your diaphragm pumps will fail, causing a lack of oxygen in your aquarium. If your fish do not have enough oxygen, you will see them coming to the surface of the water and gasping for air.**

**In this situation, you will need to replenish the water's oxygen content manually.**

### **How to supply oxygen manually:**

- 1.** Using a beaker or kitchen measuring jug with a capacity of 1 litre/0,26 US gallons scoop up aquarium water and pour it back into the aquarium from a height of approx. 50 cm / 20", so that the water flows like a waterfall. Please repeat this procedure every 5 minutes. Providing oxygen manually is time consuming; in essence, you should continue doing this until the power is back on.
- 2.** Using a kitchen whisk/ egg whip, churn the surface of the aquarium water, to mix in oxygen.

During normal operation, an aquarium filter will provide your fish with an optimum water quality and will break down toxins and feed rests. This is done by the bacteria cultures, which develop gradually, and which perform the organic break down of substances which is vital for your fishes' survival.

**Aquarium filters are bio-organic filters** and not simply mechanical filters, like a sieve, for example. That means that the aquarium filter's function is not the "retention" of waste particles. Hence, there is no need to "clean" the filter to remove such waste particles. **In an aquarium, it is the bacteria, which accumulate in the filter substance, that break down the water pollutants and thereby carry out the filtration.**

It is crucial to understand this concept, in order to understand why aquarium filters do not need to be cleaned regularly! In fact, by cleaning your filter, you are destroying the bacteria culture and thereby destroying the filtration and cleaning performance!

These valuable bacteria cultures, which have developed in the foam of the filter material, and which ensure the biological equilibrium and water quality in your aquarium, require oxygen to stay alive. This oxygen is normally supplied by the filter pump's water circulation.



**If this oxygen circulation in the filter is interrupted for more than 15 minutes (e.g. switching off the pump, power outage), then the valuable bacteria cultures in the filter material will begin to die off and will turn into a hazardous sludge!**

**If you then reconnect a filter to the power supply after a longer stoppage, this harmful sludge in the filter material would be pumped into the aquarium. This would result in immediate nitrite poisoning and be lethal for all fish in the aquarium.**

After longer periods of filter stoppage/ filter failure/ lack of power supply, please proceed as follows:

**Under no circumstances should you simply switch on a filter, or re-connect it to the power supply, if it has stopped running for more than 15 minutes!**

The filter foam, which is now filled with hazardous sludge, must be **cleaned outside of the aquarium.**

**Please do not simply lift the filter out of the aquarium. By lifting the filter out, the sludge inside the filter would run out into the aquarium water. Under no circumstances should you switch on a filter again, if it has stopped running for more than 15 minutes!!! The hazardous sludge would be pumped directly into the aquarium water and result in the death of the fish (within a matter of minutes)!**

When a filter fails, the oxygen in the filter decreases and the bacteria begin to die off. Ammonium and/ or ammonia develop. Ammonium and ammonia smell strongly of rotten egg gas. By smelling your filter material, it is easy to tell whether the filter stoppage has been too long or not.

To check your filter, you need to remove it from the aquarium as follows: in the aquarium, place a plastic bag or bucket around the filter or filter foam, so that you can remove the filter **with its water containing the harmful sludge** from your aquarium entirely.

Now you can wash and squeeze the sludge out of your filter material under running water or in a bucket. After **cleaning your filter thoroughly**, you can place the filter back in your aquarium and re-connect the filter to the power supply.

If you have a fixed installation filter, you can simply remove the filter material and subsequently suction off the contaminated water in the filter casing.

Unfortunately, due to the filter stoppage, there is no longer any live bacterial culture present in your filter. You will need to gradually run in your filter again (approx. 2 weeks)

[\(see LINK Running in Filters\)](#)

During these two weeks, you should feed your fish very little, giving the bacteria culture time to develop. Your fish will cope with the lack of food quite well. However, feeding too



much feed would result in nitrite poisoning, because the filter is unable to break down feed during the initial run-in phase!

With a little patience and with minimal feed amounts, your filter will soon have reached its previous performance again and will provide your fish with an optimal water quality.

Overview of steps to take after longer filter stoppages:

1. It is imperative you leave the filter switched off! You must first remove the hazardous sludge in the filter sponge!
2. Do not simply lift the filter (or filter sponge) out of the aquarium water! The toxins in the filter sponge would immediately drain out into the aquarium and cause nitrite poisoning in all of your fish!
3. Remove the filter (or filter material) from the aquarium with the help of a plastic bag or a bucket

For the reasons explained here, it is equally important that you take particular care of the filter during water changes. During a water change, you must re-position the filter pump so that it cannot run dry (causing it to be damaged) and so that the water circulation in the filter is not interrupted for longer periods of time.

If it is not possible for you to re-position the filter in this manner, turn off the pump. You must make sure that you do not to exceed a time period of 15 minutes in which the filter pump is switched off!

**EMERGENCY PLAN:**

A filter may automatically start running again after a power outage (e.g. a black out occurs in your absence). If this is the case, then the hazardous sludge will already have been pumped into your aquarium water. If you observe that your fish are “shooting” through the aquarium or gasping for air, you should remove and transfer the fish immediately:

Fill a bucket, bathtub or polystyrene fish box made with tap water (at the appropriate temperature) and place the fish in this emergency aquarium as quickly as you can. **Every second counts!**

You will need to fit your emergency aquarium with an aeration stone, a heating rod and a thermometer. Our discus fish are quite able to survive in such an emergency aquarium filled with normal tap water for several weeks. However, since the emergency aquarium is not fitted with a filter, you must not feed your fish at all. Your fish are able to cope quite well for a few weeks without feed (e.g. holidays). ([see Running in Filters](#))