



Waterchange

Changing water and cleaning the aquarium

For an aquarium containing 180 litres (with c. 12 discus fish and companion fish) changing 30 % of the water in the aquarium once a week (take cold water).

The reason for changing the water is to keep water values within the normal range, i.e. a pH value above 5.0 and a nitrate value less than 50 mg. If the fish display unusual behaviour (e.g. breathing rapidly), it may be necessary in an emergency to change 90 % of the water. You should measure the water values regularly, as described in detail in the section "Water values and water chemistry".

A overview of values:

pH value to be measured once a week. Normally the pH value is above 7. If the pH value should drop below 6 as a result of feeding and a very good filter, change the water. If the value is still around 7 after one week, you can delay changing the water by one week.

Nitrate should be measured every 2 months before changing the water if the filter is functioning well (unless the fish display unusual behaviour).

Ammonium, ammoniac and nitrite should be measured daily in a new aquarium until the filter reduces these values to practically zero when feeding normally. Thereafter these values need only be measured if the fish display unusual behaviour.

Overview of changing the water

- Clean your hands thoroughly
- Clean glass panes, plants and the outside of the interior filter
- Place pumps and heating rod in the correct position

•Suction off water and dirt (c. 1/3 of the water in the aquarium)

- Run the tap for a few minutes and then fill a clean bucket with water using the shower head
- Slowly pour the tap water into the aquarium up to the previous water level
- Replace pumps and the heating rod in their previous position.

Preparing to change the water:

- Clean your hands with a brush under running water (without using soap). This will remove contaminants such as the remains of cream which may be on your hands and which should not get into the water of the aquarium under any circumstances.**
- Prepare cleaning aids which you should only use for cleaning the aquarium and changing the water. It is important that no remains of cleaning agents are in the bucket or on the other cleaning aids since these contaminants can seriously injure your fish! Useful aids for cleaning and changing water are: bucket, scraper, toothbrush, rubber gloves and a thin hose for suctioning off water and dirt.
- Placing pumps and heating rod in the correct position. Before you start changing the water, slide the pumps towards the bottom to reduce the amount of water



flowing through. The pumps may not run dry since they would be damaged irreparably. You should also ensure that the heating rod is always under water since this would burn out if exposed to the air. When you switch off the heating rod for cleaning, don't forget to switch it on again when you have finished cleaning!

Clean your hands with a brush under running water (without using soap). This will remove contaminants such as the remains of cream which may be on your hands and which should not get into the water of the aquarium under any circumstances.

Work very carefully and slowly so as not to injure the fish with the sharp scraper or frighten them with quick movement!

Cleaning the aquarium and suctioning off the stale aquarium water:

- Glass panes should be cleaned with a scraper.
- Plants and the outsides of filters (for interior filters) should be cleaned of algae and dirt using a toothbrush.
- Suctioning off the stale aquarium water: suction off algae and dirt from the bottom into a bucket through a hose.

Create a vacuum in the hose so that the water can flow out of the aquarium into the bucket through the hose

To start suctioning off, there is **no need to suck on the hose**. Instead follow these steps:

1. Press the whole hose under water so that all air can escape.
2. Close one end of the hose with your thumb and put it in the bucket. As soon as you take away your thumb, water will flow through the hose.

Always make sure that the end of **the hose is in the bucket and that the bucket does not overflow!** Suction off around 1/3 of the stale water and also suction off the dirt through the hose (using it like a vacuum) into the bucket.

Add fresh water:

Only use **cold tap water because warm water normally is normally heated in boilers (made of copper). Warm water could therefore be enriched with copper and should not be allowed to reach the aquarium.** Leave the water running for c. 3 minutes so you do not use water for the aquarium which has been standing in the pipes. You can also use a shower head to fill the bucket (held at a distance of 10-20 cm - this will remove chlorine residue). Then pour the fresh water carefully from the bucket (which should be used solely for this purpose) into the aquarium. Repeat the process until the former level of the water is reached.

Chlorine can be removed from tap water simply by holding the shower head 10 - 20 centimetres away from the bucket or the aquarium. The chlorine will escape from the water and not be introduced into the aquarium. This is especially important because chlorine is injurious to fish or, depending on the dose, can even be fatal. As the water flows through the shower head the water jet separates and each drop of water comes



into contact with air, allowing the chlorine to escape. We always recommend this method as a precaution.

Fill up water through a hose

Each time, before changing the water, make sure the hose is drained of stale water because it could contain harmful softeners which can cause chemical contamination in your aquarium. Here we also recommend using a shower head to remove any residual chlorine and to avoid bubbles forming.

If you add water without using a shower head and with too much pressure, small bubbles can form in the aquarium. **You can avoid bubbles forming by fixing a shower head to the end of the hose.** These bubbles can be dangerous because **not only do they settle on every object in the aquarium, they also settle on the gills of the fish. This can cause breathlessness in the discus fish and even suffocate them!**

The only way to deal with bubbles which have already formed is to wait until they disappear by themselves. If this process lasts too long and the fish show signs of breathlessness, place the fish immediately in another tank. We recommend using the quarantine tank or in an emergency a bucket (which does not contain remains of cleaning agents) and add an outlet stone. The fish can remain in the bucket for several hours.

Replace the heating rod *(witch back on if previously switched off) and filter in their former positions

Exceptions which require the water to be changed completely (90 %)

If nitrite is traced you should firstly halve the amount of food and not stop feeding completely. You can tell from the behaviour of the fish if the nitrite level is too high because they will refuse to feed and will start to breathe heavily and faster. If this happens to your discus fish, stop feeding immediately and change 90 % of the water. Do not start feeding slowly again until the nitrite or ammonium or ammoniac level has dropped back to zero.

If you have **very soft water** (overall hardness 0-5) you may have to change the water more frequently. If the pH value drops from 7,5 to 6,0, for example, you should change the water immediately otherwise the pH value and hence the acid content in your water will drop very quickly. At a pH value of 3,6 the acid will be so strong that the fish would die.

If you have a **smaller number of fish**, you can reduce the amount of water changed or change it less frequently.

When is a 90 % change of water needed and how do you go about it?

A 90 % change of water is needed when there is a case of poisoning! When the discus fish "shoot" through the aquarium, this is most likely due to poisoning. This can be the case, for example, if you feed more than the filter can break down (nitrite poisoning).

Remove the water using a hose and bucket. Adjust the position of the filters so that they continue to function as long as possible and when clean water is added they **can**



start running again as quickly as possible. When adding fresh water use water at the appropriate temperature (c. 28 °C) so that the water which the fish are swimming in does not cool down too much. **In such a case you will have to use water heated in a boiler because the temperature difference when changing 90 % of the water would be too great.** Remember to pour the first bucket of fresh water gently against the inner front pane of the aquarium so that the fish, which will certainly be frightened by the low level of water, are not startled or injure themselves.