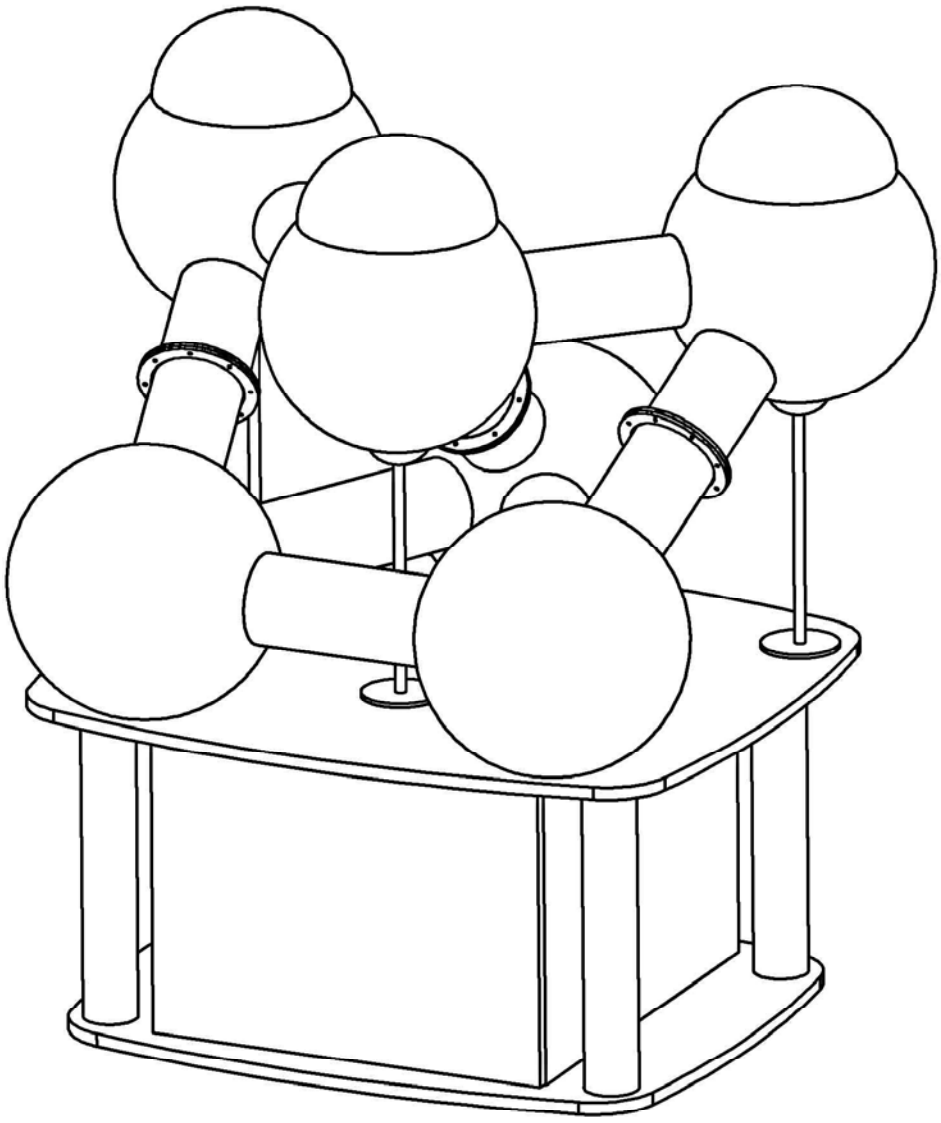
Important - Read This First



Aquarium Setup and Maintenance Guide V2

Octopus studios

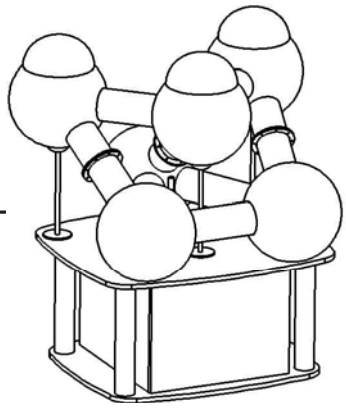
Silverfish aquarium

Thank you for purchasing the Silverfish Aquarium, this following booklet is intended to outline the guidelines for keeping an aquarium. It is deliberately brief, as the subject has filled any number of books.

Please be aware that the Silverfish Aquarium is a very limited run aquarium that is handmade to order. The product is akin to an art piece rather than a mass-produced product, and it should be treated as such.

It is important that the end user of the Silverfish Aquarium understands that by assembling and putting in service the aquarium (or asking a third party to do so) they accept full responsibility for any damage or accidents that may occur during its use. If you cannot accept this responsibility, Octopus Studios insists that you do not use this aquarium.

To stress the importance of safety, electricity and water do not mix! Anytime anyone's hands are placed in the aquarium the electricity supply should be cut beforehand. It is strongly advised that the building that accepts the aquarium installation be fitted with a Ground Fault Circuit Interrupter or equivalent as part of the standard electrical installation.



Quality

The Silverfish Aquarium is manufactured to the highest quality standards, yet it is still a handmade piece, and as such may have slight imperfections that would not normally be apparent with a mass-produced article. Any imperfections are not a reason for refusing the shipment or filing a complaint.

Installation site

The site chosen for the installation must be flat and capable of supporting the aquarium's estimated working weight of 300Kg. Movement of traffic around the aquarium must be considered. **DO NOT LOCATE THE AQUARIUM WHERE DIRECT SUNLIGHT MAY TOUCH IT**, this will cause algae problems and more importantly create a fire hazard as a sphere of water acts as a large magnifying glass.

Manipulation while installing

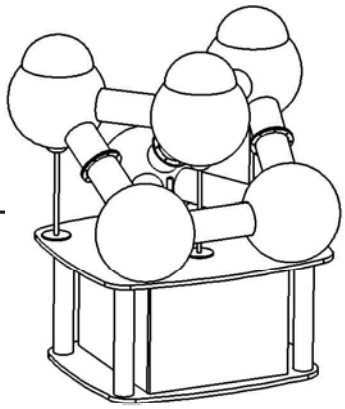
The enclosed documents explain step-by-step aquarium and furniture assembly.

The aquarium is fragile - especially prior to assembly as the design uses triangulation to provide rigidity, and this comes about once the two halves are bolted together. Take care not to bang the aquarium against anything during assembly!

There may be a degree of play in the fitment between the flanges, support pillars and bottom of the aquarium, this is normal (due to its fabrication) and the aquarium will flex to take up any movement. However the aquarium should not be forced to fit together, if there is difficulty assembling the parts the flange bolts should be tightened evenly across all three flanges.

Water Spillages

Any water spilt or leaked onto the furniture should be dried immediately, as it will in time damage the wood. Pay close attention to water finding it's way underneath the bottom spheres. If leaks occur they must be rectified immediately to avoid the risk of water reaching the electrical components.



Cycling the Assembled Aquarium

In established aquariums bacteria break down harmful fish wastes into relatively harmless by products, which are then removed by water changes.

However in a newly set up aquarium, those bacteria are not present in any quantity, and it takes time - about a 4 to 6 weeks under normal circumstances for those bacteria to multiply to the point of being able to keep up with the waste output of the fish.

"New Tank Syndrome" and "The Break-In Cycle" describe the period in which ammonia and then nitrite levels rise to dangerous quantities before being converted into relatively harmless nitrate.

There are three different methods to cycle an aquarium.

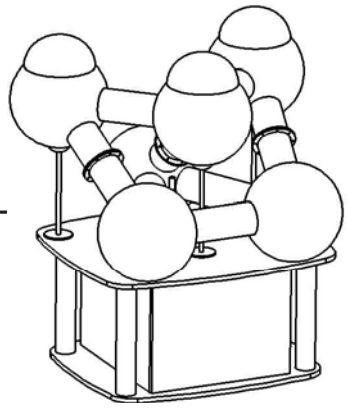
It is advised to monitor the ammonia and nitrite levels (using test kits) throughout the cycle period, until they are both zero (or very close to zero). When they are both zero, the aquarium is cycled.

1. Cycling with inexpensive hardy fish (Recommended)

Stablise the temperature at 74° to 80° F(26° - 28° C). Place hardy, inexpensive fish in the aquarium. Inexpensive fish include danios, platys, barbs, mollies, etc. These fish will provide the initial ammonia to get the biological filter started. This should take about thirty days to six weeks. This can be stressful to the fish, especially if adding large numbers of fish. Fewer fish will be less stressed as they will have a chance to adjust to the slower changing water parameters. After about six weeks, when the aquarium has "cycled", it is possible to add additional fish.

2. Cycling using ammonia

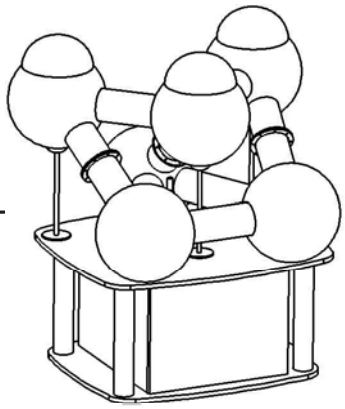
Higher temperatures of 86°- 95°F (30°- 35°C) can be used for optimum bacteria when cycling without fish, but the aquarium must be stabilised slowly back to lower temperatures before adding fish. Introduce pure ammonia to cycle the aquarium. Unscented ammonia with no additives is available from supermarkets or a bottle of ammonium chloride can be used. Add ammonia from a dropper, 3 - 5 drops per 10 gallons of water per day to get and maintain a reading of 5 ppm.
Initially there will be no nitrites. Monitor nitrites daily and continue the daily ammonia dose until a nitrite reading is visible. At this point the daily amount of ammonia can be reduced to 2 - 3 drops per 10 gallons. Continue this until both the ammonia test and the nitrite test reads 0 ppm.
This method can take as little as three weeks or up to six weeks to complete the nitrification cycle.
When the cycle is complete reduce the temperature slowly back to 74°- 80°F(26°- 28°C)



3. Cycling using fish food

Simply feed the tank with a fish food to keep an ongoing decomposing process. As the food decays it will to produce ammonia and get the biological filter started. This method takes about the same amount of time as the fish method above. The main drawback to this method is that it is difficult to get a large enough initial bacteria colony. So when introducing the fish, they may add a larger ammonia load than the colony can handle. Consequently additional ammonia and then nitrite spikes may be visible, though they should be less dramatic and shorter lived than the initial cycling spikes.
Another drawback is that the decaying food, besides producing ammonia, can add other by-products such as phosphates.

In all cases it is advised to speed up and enhance the nitrification process by introducing a starter culture of bacteria. One way to do this is by is seeding the aquarium with some gravel or filter media with existing bacteria from an established aquarium. The other way is by adding commercial preparations of nitrifying bacteria, there are several different brands available at pet stores.



Aquarium Keeping Basics

There are three basic rules that can be used as a guide to keeping a healthy aquarium.

1/ DO NOT OVERSTOCK A TANK WITH FISH
- This can cause a rapid degradation of water quality.

2/ DO NOT OVERFEED THE FISH
- Uneaten food will contaminate the water.

3/ DO FREQUENT PARTIAL WATER CHANGES
- This removes pollutants and adds fresh, clean water to the aquarium.

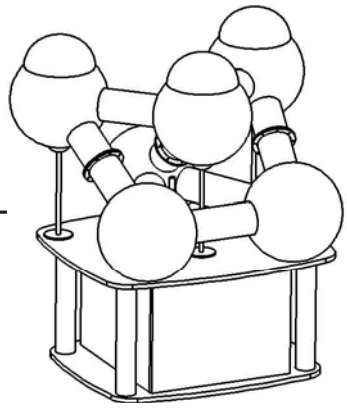
If there are problems with diseased and dying fish on a regular basis, there is almost certainly an issue with at least one of these three rules.

The biggest factor that will keep an aquarium in good condition is STABILITY, as long as everything is running properly and the fish are healthy, there is no need for any major changes, even if the water pH or hardness seems to be slightly out of the preferred range. Only increases or decreases of the major water parameters will need careful but immediate attention.

Adding fish to the aquarium

A common problem with new aquariums is adding too many fish at once, until the bacterial colonies have fully established, the aquarium cannot safely support a full load of fish. Wait until both the ammonia and nitrite levels have risen, then fallen to zero, before adding more fish.
It is strongly recommended to purchase two Ancistrus and two Corydoras for the Silverfish Aquarium, as they will dramatically reduce the maintenance required. (The Ancistrus are indispensable for algae control)

While there is almost an infinite choice of freshwater fish available, in terms of size and maintenance Pterophyllum Scalare work very well, but of course the choice is free to the end user.



Overstocking

The most important thing to note with fish quantities is:

MORE FISH = MORE MAINTENANCE

So it really is a choice of the user. As a rough guide, the most basic rule is 1" of fish length per 1gallon of water (6.5cm per 10L) for a new setup, with the possibility to increase that figure after six months. Usually the calculation is done considering the maximum size the fish may grow to. However there are quite a lot of other factors to consider, such as feeding habits, temperament, habitat requirements, plus the fact that one 3" fish is a greater load on the system than three 1" fish. Running through a rough calculation gives around 55 inches (140cm) of fish. However many fish are kept it is important that the end figure is reached gradually so as not to overload the system.

Overfeeding

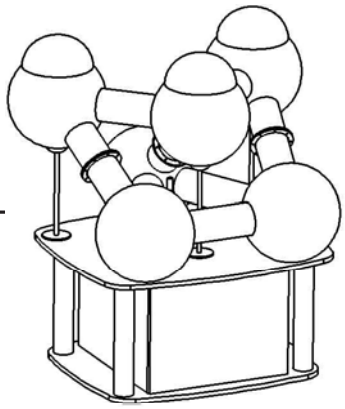
The most common mistake made by fish keepers is OVERFEEDING their fish. Fish are opportunistic and will seek food at all times. Just because they appear hungry, don't assume they require feeding. Feed them no more than is COMPLETELY consumed in three minutes. Otherwise the added food is just polluting the water.

Feed fish no more than twice per day, and during critical times when ammonia or nitrite levels are high, withhold feeding for a day or two to reduce the wastes being produced. Fish can easily go several days without food, and not suffer ill effects. Use of flakes for top dwelling fish and sinking pellets for the lower spheres is advised.

Failure to do water changes

As an aquarium is a closed system wastes build up in the tank that can only be removed by vacuuming the gravel and removing some of water and replacing it with fresh water.

Although the fish may not die if there is a failure to do maintenance and regular water changes, they will be stressed by substandard water conditions. As a result they will be more susceptible to disease and often will have a shorter lifespan than they should have.



Maintenance

The Silverfish Aquarium has been designed to be maintained in the same manner as any standard aquarium. The following is intended to be an outline for the maintenance required to keep the aquarium and fish in top condition.

Helpful things during maintenance:

Towels
Pencil torch - to view filter flow indicator, check for tubing leaks.
Bucket - with a pouring lip

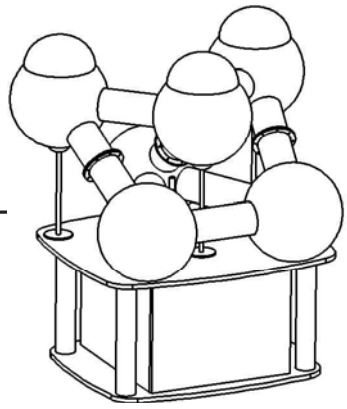
The amount of maintenance the Silverfish Aquarium will require depends on:

Tank Placement:
The ease of accessibility will allow fast and simple maintenance.
It is important not to allow direct sunlight to touch the tank as this will dramatically increase the possibility of algae growth.

Number of Fish:
What is the load on the system?

Feeding:
Any excess uneaten food in the water will cause pollution. It is important to purchase the appropriate food for the type of fish and to feed them only as much as they will eat within a few minutes, and to know how often they should be fed. If in doubt, overfeeding is probably taking place.

Basic aquarium maintenance is not time consuming if the tank is set up correctly and stocked wisely.



The Maintenance Schedule

Daily

- Equipment Check - Filter/Heater/Aeration is running properly, there are no water leaks.

- Water Temperature Check - bear in mind temperatures will change throughout the day.

- Behaviour Check - Watch the fish to see if they are swimming normally, look at their skin, looking for any sign of disease.

- Water Check - Look at the water to ensure it is not cloudy, does not have a foul odour, and that nothing unusual is present in the aquarium.

- Feed the fish twice a day - taking care to feed only as much as what will be eaten immediately. Check the fish are eating. Loss of appetite is a sign of stress or disease.

Weekly or Bi-weekly

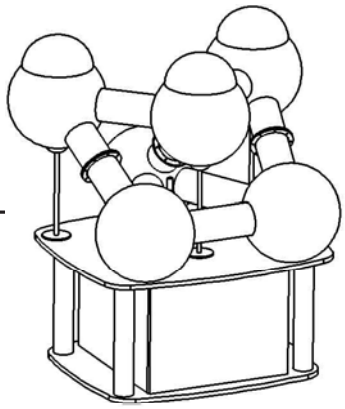
- Partial Water Change. - Whilst leaving fish in the Aquarium, remove a maximum of 40L of water - using a bucket or water changer, and replace with fresh conditioned (dechlorinated) water. Changing more than 30% or so of water at a time can be stressful to fish and is should be avoided unless removing medication or fighting some sort of water quality problem.

In deciding how much and how often to do water changes, keep in mind that for stability, smaller water changes done frequently are best. The main reason for water changes is to remove compounds that are not removed by any of the filtration methods such as nitrates and phosphates.

If the tank is lightly stocked and care is taken not to overfeed, this basic aquarium maintenance can be done every other week. Lightly stocking also means that more extensive filter maintenance doesn't have to be done as often either.

- Rinse filter media.

- Clean Inner Surfaces - Use a soft sponge to remove any dirt or algae that's accumulated.



- Vacuum Gravel - Using the supplied Eheim vacuum, suck particles of debris ("mulm") from the gravel and anything floating in the water. For the bottom spheres it is possible to stir the water with the vacuum to disturb any debris in an inaccessible area.

- If necessary, to aid cleaning of the lower spheres, the filtration system can be reversed by swapping the taps to the filter of Tubing A and B (see Aquarium Assembly document - Step 33A) The filter will then draw water from the lower spheres. This should only be done for a short period while maintenance is being performed as the system is designed to run in the original assembled direction.

- Exterior surfaces - Take a clean cloth and wipe the outside of the aquarium.

After cleaning, the water may have clouding, condensation or bubbles (usually dissolved oxygen). These are usually just due to the disturbance of cleaning and should go away within a short while.

If there is regularly lots of debris when the tank is vacuumed, it could indicate the tank is overstocked or the fish are overfed. It may need cleaning more often.

Monthly

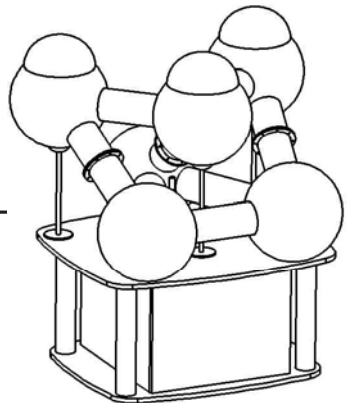
- Test pH levels, ammonia, nitrites and nitrates - and record the results, days and times. This allows for changes to be checked at a later date.

- Clean Filter Media - Only rinse biological media if it is clogged with debris. It should be rinsed bit by bit never all at once, as there is a risk to kill off the bacteria required by the system.

- Rinse filter pads in aquarium water - do this during a water change, so the water removed from the tank can be used. If they are so clogged they can't be cleaned, they should be replaced.

- Check filter for debris and slime blocking the water path; remove it with a flexible cleaning brush.

- Check Air stones - Whenever there is a big drop in bubbles production, the stone needs to be cleaned or replaced.



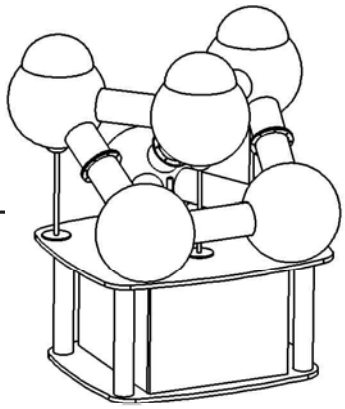
Twice a year

These tasks can be done more frequently if equipment is getting dirty/clogged before six months is up. This will preserve the life of the equipment and ensure everything is kept functioning smoothly.

- Clean Filter Impeller - remove the impeller following manufacturer's instructions and clean debris from it and it's housing. If the impeller has missing blades or is cracked, replace it.

- Clean all housings, inlet and outlet tubing - This may require a filter or tubing brush to get all the way inside these parts.

- Lubricate filter priming mechanism.



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