



Aquarium equipment



Approved by

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For more information: www.tetra.net



To create a stunning aquarium and keep it looking good, you need the right equipment. Whether your aquarium comes complete with everything you need, like the **Tetra AquaArt**, or you are buying parts individually, it is important to have a basic understanding of what the different items of equipment do. Getting the right equipment will make looking after your aquarium much easier, and keep your fish healthy & happy!

Filter

The filter is the most important piece of equipment in your aquarium, performing a number of jobs:

- Trapping solid waste and removing it from the water
- Removing toxins such as ammonia and nitrite
- Removing dissolved organic matter from the water, keeping it crystal clear
- Aerating water, increasing its oxygen content

Without a filter, your aquarium would be dirty and uninhabitable, making the fish very unwell. You should therefore never attempt to keep fish without one.

How filters work

Although different types of filter can do different things, they all perform two important tasks:

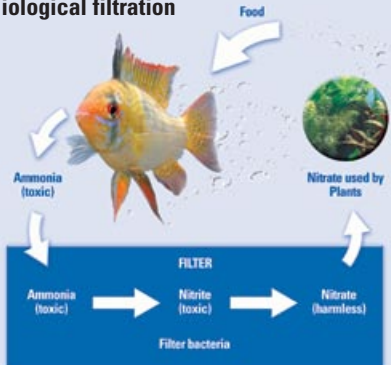
- Mechanical filtration is the trapping of solid waste. Sponges and other 'mechanical' filter

media act like a sieve, straining particles from the water.

- Biological filtration is the removal of dangerous dissolved wastes from the water by naturally-occurring bacteria. These special nitrifying bacteria convert ammonia into nitrite, and then nitrite into harmless nitrate. This process is called nitrification, and it occurs on special biological media.



Biological filtration



Types of filter

Although all filters offer both mechanical and biological filtration, they differ in their ease of use, efficiency, and overall ability to keep the aquarium healthy. All **TetraTec filters** are designed to offer a combination of efficient filtration and ease of use. There are two main types of filter to choose from:

Internal filters

These filters fit inside the aquarium, fixing to the glass with rubber suckers. They usually contain a sponge that works both mechanically and biologically, to remove ammonia and solid waste. They are ideal for smaller aquariums, or those that are not heavily stocked with fish.

TetraTec IN plus internal filters are suitable for aquariums up to 200 litres (44 gallons). As well as working both biologically and mechanically, they blow air bubbles into the water to increase oxygen levels. The sponges can be removed without taking the whole filter out of the aquarium, making maintenance easier. An optional charcoal sponge is available that keeps aquarium water crystal clear.

External filters

External filters are larger than internal ones, and sit outside the aquarium (usually in a cabinet underneath). Not only do they free up space inside the aquarium, they also provide a much larger volume for filter media. This allows you to use different types of media, and increases the overall level of filtration. They are ideal for larger aquariums, or those with a lot of fish.



TetraTec EX external filters come with a selection of filter media, and are designed to be simple to access and maintain. Carbon Granules and Filter Floss keep water crystal clear, Ceramic Rings and Filter Foams remove solid particles, and Bio Balls provide an ideal environment for the biological removal of ammonia. The water returns from the filter through a spray bar, increasing the aquarium's oxygen level.

Most people begin with an internal filter and move on to an external as they progress. However, with modern external filters being so easy to use, more people are choosing to start with them.

EasyCrystal filter

Tetra's unique **EasyCrystal filter** is based on a one-touch cartridge replacement system, which makes maintenance much easier compared to ordinary internal filters. Once a month you simply discard the old cartridge and fit a new one – keeping the water crystal clear and healthy.

Selecting the right size filter

The size of filter you need depends on the volume of your aquarium. The packaging will tell you what size of aquarium the filter can manage, so it is simply a matter of matching the two up.



Selecting the right TetraTec filter

Model	Flow rate	Aquarium size	Power consumption
TetraTec IN 300 plus	150 – 300l/h	10 – 40l	5 Watt
TetraTec IN 400 plus	200 – 400l/h	30 – 60l	7 Watt
TetraTec IN 600 plus	300 – 600l/h	50 – 100l	8 Watt
TetraTec IN 800 plus	400 – 800l/h	80 – 150l	12 Watt
TetraTec IN 1000 plus	500 – 1000l/h	120 – 200l	14 Watt



Starting your filter



New filters lack any bacteria, and are incapable of removing ammonia from the water. If you add too many fish at this stage, the water will quickly become polluted and poison them – this is called New Tank Syndrome. This can be avoided by adding **Tetra SafeStart** to the aquarium each time you introduce fish.

SafeStart contains a combination of the bacteria found in aquarium filters – *Nitrosomonas*, *Nitrosospira*, and *Nitrospira*. It rapidly establishes the filter, so it can remove ammonia produced by the fish. Using **SafeStart** allows the safer stocking of new aquariums.

See our '**Setting up a tropical aquarium**' brochure for more information on stocking your aquarium.

An established filter is 'alive' with bacteria and other microorganisms that are essential for clear, healthy water. Washing filter media under tap water will kill these bacteria, rendering it useless and resulting in rapid pollution of the water.

If you have an internal filter with a sponge that acts both mechanically and biologically, you can only clean the sponge in aquarium water. Simply fill a jug with water from the aquarium and squeeze the sponge out in it.

If you have an external filter with separate biological and mechanical media, then only the biological part needs washing in aquarium water. The rest can be cleaned under the tap.

For more information on the on-going care of aquarium equipment, see our '**Caring for your aquarium**' brochure.



Never clean biological filter media with tap water

Following filter maintenance, use **Tetra SafeStart** to re-establish levels of beneficial bacteria





Heater

Tropical fish require a stable water temperature of between 24 – 27°C. This is easily achieved with modern aquarium heaters, such as the **TetraTec HT**. These come with a built-in thermostat, that switches the heater on and off to maintain the desired temperature. A dial on top of the heater allows you to select the setting you want, and that's all you need to do!

Aquariums like the **Tetra AquaArt** come complete with the correct size of heater. If you need to buy one separately, then check the on-pack information for guidance. The size of heater depends on the volume of the aquarium, so have this information to hand. For very large aquariums, it is recommended to have two heaters, one at either end of the aquarium. If the aquarium is in a very cold room it will have to work much harder, so it can be worth getting the next model up.

Selecting the correct TetraTec HT Heater

Model	Aquarium size	Power consumption
HT 50	25 – 60 l	50 Watt
HT 75	60 – 100 l	75 Watt
HT 100	100 – 150 l	100 Watt
HT 150	150 – 225 l	150 Watt
HT 200	225 – 300 l	200 Watt
HT 300	300 – 450 l	300 Watt



TetraTec HT Heaters

Reliability and safety are essential when it comes to aquarium heaters, and the **TetraTec HT** range offers both:

- Accurate within the range of 19°C to 31°C at 0.5°C intervals
- Safety shut-off prevents overheating during water changes and routine maintenance
- Water-tight cap means heater can be fully submerged and even placed horizontally
- Easy to use temperature dial
- Shock-and heat-resistant high-quality glass tube
- Star-shaped heating element to ensure uniform heat dissipation
- Extra long 2.5m cable





Air pump

Just like us, fish need oxygen to survive. Whilst filters such as those in the **TetraTec** range aerate the water and add extra oxygen, for well stocked aquariums, or those with other types of filter, extra aeration can be beneficial.

Air pumps are specifically designed to blow air into the aquarium, increasing its oxygen content. In addition, the flow of air can be used to drive air-powered features and decorations, or simply to provide an attractive curtain of bubbles.

Your choice of air pump depends on what it's going to be used for. To simply run an air-powered

decoration, a small pump will be sufficient. To aerate the water, more careful selection is needed – good quality pumps, such as the **TetraTec APS**, come with recommendations on what size aquarium they are suited for.

You should also consider the noise produced by the pump. Air pumps vibrate during operation, creating a certain amount of noise. Poor quality ones can be very noisy, which is why the **TetraTec APS range** has been designed with professional sound engineers to make it one of the quietest models available.

Model	Aquarium size	Air flow	Power consumption
APS 50	10 – 60 l	50 l/h	2 Watt
APS 100	50 – 100 l	100 l/h	2.5 Watt
APS 150	80 – 150 l	150 l/h	3.1 Watt
APS 300	120 – 300 l	300 l/h	4.5 Watt
APS 400	250 – 600 l	400 l/h	4.5 Watt

Setting up an air pump

Along with your air pump, you will also need some airline, an airstone, and a check valve. The air pump sits outside the aquarium, connected to the airstone via the airline. The airstone is positioned inside the aquarium, usually hidden beneath the substrate or behind a rock for example. Airstones, such as the **TetraTec AS**, work to break up the air flow into small

bubbles, improving oxygen delivery and creating a more pleasing effect.

The check valve is very important, as it prevents water from back-siphoning out of the aquarium and into the air pump. To fit one, you simply cut the airline in half, and reconnect it either side of the check valve. **TetraTec CV check valves** provide maintenance-free protection for all air pumps.



Light

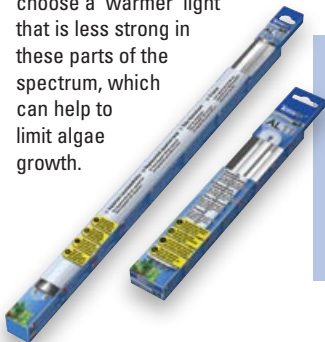
To create a visually pleasing effect, it is important to light the aquarium properly. Correct lighting is also essential for live plants, which need it to photosynthesise and grow.

If you have a **Tetra AquaArt** aquarium, then this comes fitted with a light that is suitable for plants. If you need to buy one separately, make sure it is designed for encouraging plant growth. Plants need light from the orange-red and violet-blue parts of the spectrum, so it must be strong in these areas. This should be stated on the packaging. If you don't want live plants, you can choose a 'warmer' light that is less strong in these parts of the spectrum, which can help to limit algae growth.

For more information on aquarium plants and their requirements, see our **'Planting your Aquarium'** brochure.

In addition to the light tube, if you are buying a light separately you may also need a light control unit. These are needed to light the tube, and come with end caps that it fits into. Clips are normally provided to help you attach the tube to the aquarium lid.

The size of bulb you need depends on the size of the aquarium. So that it can fit into the lid, the length of tube you need will be a little shorter than the length of the aquarium.




Over time, the quality of light produced by light tubes decreases. This will affect the growth of live plants, and so tubes should be replaced once a year.

Gravel cleaner

Once your aquarium is set up, a gravel cleaner is really useful for simplifying maintenance. It allows you to clean the gravel without removing it from the aquarium. This is beneficial, as it keeps the aquarium clean, healthy, and looking great.

TetraTec GC gravel cleaners can be started automatically, and as they siphon water from the aquarium they suck dirt up from the gravel.

All you need to do is push the uptake tube into the substrate to lift out any debris.



Model	Aquarium size
TetraTec GC 30	20 – 60 l
TetraTec GC 40	50 – 200 l
TetraTec GC 50	50 – 400 l

Glass cleaner

By using the right **Tetra** products, and caring for your aquarium correctly, the growth of algae can be minimised. However, from time to time you may get a build-up on the glass that you want to remove.

The easiest way to do this, without getting wet, is to use a **TetraTec GS glass scraper**. This quickly and easily removes algae, leaving the glass clean and tidy.





Test kits

The quality of aquarium water has a big effect on the health of the fish and plants within it. By using the right equipment, you should avoid any problems. However, the only way to be certain is by testing the water from time to time. Even clear water can be polluted, so its visual appearance alone is not enough.

The easiest way to check the quality of your aquarium water is with a test kit. These are available in a variety of forms, but the easiest to use is the **TetraTest 5 in 1 strips**. These strips test for five important water quality parameters in 60 seconds. All you do is dip them in the water and then wait for the colours to change.

For even more accurate testing, **TetraTest liquid kits** are available for ammonia, nitrite, nitrate, pH, oxygen, and general hardness.

We recommend testing every 1-2 weeks for ammonia, nitrite, and pH, to ensure your aquarium is healthy. For more on aquarium care, see our **'Caring for your Aquarium'** brochure.



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