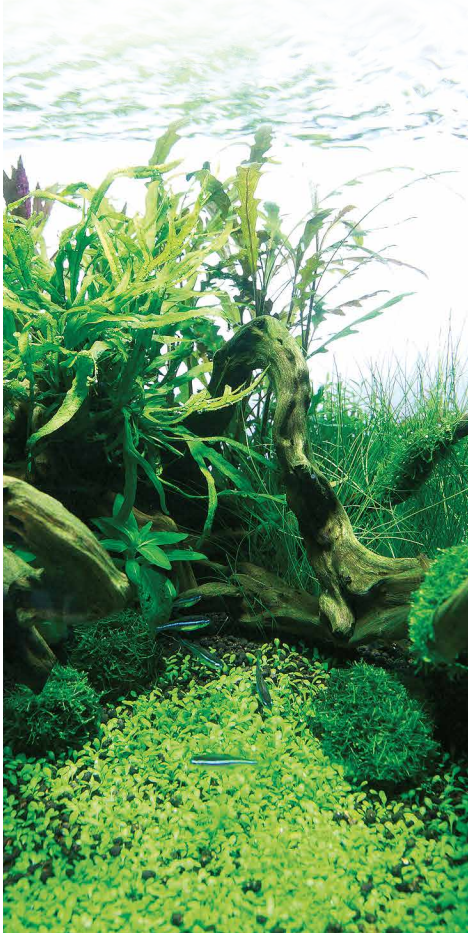
DECORATIVE AQUARIA

aqua art

GUIDE

aqua art®

www.aqua-art.uk



1 Deciding on owning an aquarium

Modern technologies and an exquisite selection of plants, animals and natural decorations allow you to easily start your adventure with aquaristics. In our guide we will provide the necessary knowledge to make your aquarium enjoyable and rewarding, and to make sure its inhabitants are healthy and full of vitality.

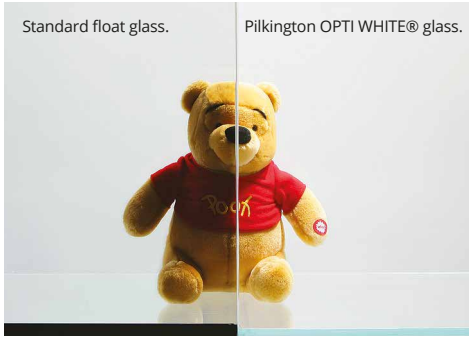
Your aquarium will be a wonderful natural feature of any interior. Psychological studies confirm that owning and observing pets, as well as helping parents take care of them, positively affects the emotional development of children. It teaches responsibility and consequences and stimulates interest in nature. Especially in our climate during the long winters and short days, seeing a clear, green and full of life aquarium perfectly calms and relaxes. An aquarium is a convenient and safe hobby that will not expose you to allergies or colds and will not cause problems when you are away.

2 Place for an aquarium

The best place for your aquarium will be in a place where you can conveniently watch it while relaxing. Slightly away from the everyday movement of household members it will also provide peace and comfort for the inhabitants of the aquarium. Make sure you have easy access to the aquarium for its maintenance. Place the aquarium in such a way that the sunlight coming through the window never lights the aquarium directly, as it could adversely affect its biological balance.

3 Selecting a tank

Aqua Art aquariums are manufactured using Pilkington Opti White extra clear glass. The highest quality is achieved by grinding and polishing all the edges and gluing them with clear silicone. Aqua Art aquariums emphasise the natural beauty of their interiors and are perfectly suited to being open aquariums. Open aquariums have many advantages, for example the daily maintenance this type of tank is very simple: you do not have to remove the cover, which can prove awkward every time you need to feed the animals, supply fertiliser or remove some unnecessary item.



Polishing and finishing touches of edges.

Aqua Art® aquariums

Aqua Art offers aquariums in standard sizes, the proportions of which give the best possibilities of arranging the interior and selecting lighting equipment and furniture . Aqua Art also manufactures custom aquariums from glass with thickness of: 10, 12, 15, 19 mm, in every size.

Table of available standard aquariums

External dimensions. width/ depth/ height	Glass thickness	Capacity in litres:
120 / 60 / 50 cm	10 mm	360
120 / 50 / 50 cm	10 mm	300
100 / 50 / 50 cm	10 mm	250
100 / 40 / 50 cm	10 mm	200
90 / 45 / 45 cm	8 mm	182
80 / 40 / 40 cm	8 mm	128
80 / 35 / 40 cm	8 mm	112
60 / 30 / 36 cm	6 mm	64

4 Aquarium setup

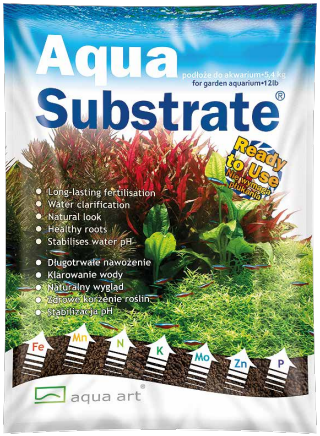
Set aside a few quiet hours to install and arrange your aquarium. Your success and satisfaction will depend on how you set-up the aquarium. Carefully place the aquarium on a sturdy piece of furniture on a soft and flat surface. Remember to level it in both planes, along the short and long side. Precise levelling of the tank will allow you to enjoy an even water level.

5 Selecting a natural substrate

Natural substrate or quartz gravel? The answer is obvious: quartz gravel is an unnatural alternative, which adversely affects the quality of water, scratches the aquarium glass and does not create the right conditions for plant growth. Aqua Substrate is a complete substrate for aquariums, ready to use immediately after opening. Aqua Substrate consists of granulated natural volcanic soil, enriched with minerals and nutrients that will create the ideal conditions for the development of beneficial flora in the aquarium. Aqua Substrate will fertilise the plants, clarify and crystallise the water, decrease and stabilise the hardness and pH of the water to values appropriate for tropical biotopes, from which the animals and plants in our aquariums originate. It will provide the nutrients for many months. Aqua Substrate is a substrate for aquarists who have soft or medium-hard water in their taps, while Aqua Substrate II+ is a product with enhanced water treatment properties for aquarists who have hard water (most common in the UK) in their taps.

Aqua Substrate®
FOR DECORATIVE AQUARIUMS

- **Long lasting fertilisation:** Aqua Substrate contains a slow-releasing long-acting plant fertiliser.
- **Clarification of water:** Aqua Substrate restores water clarity, removes colour and cloudiness caused by, for example, wooden decorative elements inside the aquarium.
- **It stabilises the pH of water:** Aqua Substrate softens water to levels which are appropriate for natural areas of occurrence of most plants and fish found in our aquariums. It stabilises the pH of the buffer.
- **Healthy roots:** Aqua Substrate's porous structure ensures the development of natural bacterial flora and is excellent for the healthy growth and nutrition of plant roots.
- **Natural look:** Aqua Substrate fits perfectly with the layout of planted aquariums.



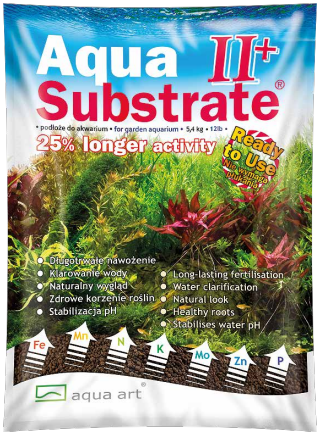
Aqua Substrate®

Colour: Brown
Pack size: 5.4 kg

Aqua Substrate is a scientifically developed substrate, created on the basis of natural volcanic soil. Sintered with other necessary materials and nutrients it creates a porous, soft structure, ideal for the development of natural bacterial flora and proper nutrition of plant roots. The product is available in dark brown, packed in 5.4 kg bags which is sufficient for an aquarium about 40 litres. In a newly set-up aquarium the bottom surface should be covered with a 5-6 cm layer of Aqua Substrate.

The unique technology of Aqua Substrate ensures water clarity by absorbing its cloudiness and discolouration. Aqua Substrate decreases water hardness and adjusts the pH of the buffer, setting its value in the ideal range for plants and animals of tropical biotopes, which is approximately 6.5-7.0.

NOTE – Do not rinse, crush or dry the substrate.



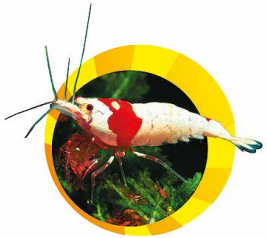
Aqua Substrate® II+

Colours: Black, Brown
Variants: Normal, Powder
Pack sizes: 5.4kg, 1.8kg

Aqua Substrate II+ is a new generation of product, specially designed for harder water which is a most common in Europe. Additionally, thanks to an innovative technology, it lasts a 25% longer provides plant nutrition. The product is available in black and dark brown, packaged in 5.4 kg bags which is sufficient for an aquarium about 40 litres. In a newly set-up aquarium the bottom surface should be covered with a 5-6 cm layer of Aqua Substrate II+.

The unique technology of Aqua Substrate ensures water clarity by absorbing its cloudiness and discolouration. Aqua Substrate decreases water hardness and adjusts the pH of the buffer, setting its value in the ideal range for plants and animals from tropical biotopes, which is approximately 6.5-7.0.

NOTE – Do not rinse, crush or dry the substrate.



Shrimp Sand®

FOR SHRIMP TANKS

- Safety: it has absorption properties which remove pollutants from water, including ammonia.
- Clarification of water: it restores water clarity, removes colour and cloudiness caused by, for example, wooden decorative elements inside the aquarium.
- It stabilises the pH of water: it softens the water to levels which are appropriate for natural areas of occurrence of most species of shrimp. It stabilises the pH of the buffer.
- Natural bacterial flora: Shrimp Sand's porous structure ensures the development of natural bacterial flora, which is necessary for the proper functioning of aquariums and well-being of shrimp.
- Natural look: it fits perfectly with the arrangement of aquariums.


Shrimp Sand Powder.

Shrimp Sand®

Colours: Black, Brown
Variants: Normal, Powder
Pack sizes: 4kg, 1.8kg

Shrimp Sand is a scientifically developed substrate, created on the basis of natural volcanic soil. Sintered with other necessary materials and nutrients it creates a porous, soft structure, ideal for the development of natural bacterial flora. The unique technology of Shrimp Sand protects the health, safety and proper development of shrimp. This is due to the absorption of ammonia and pollution. It also ensures water clarity by absorbing its cloudiness and discolouration. Shrimp Sand adjusts water hardness and pH of the buffer, stabilising its value at an ideal pH level for shrimp which is 6.5. By using an undergravel filter together with Shrimp Sand and filter media as a substrate, you will achieve the best effects of treatment, parameters control and quality of water.

NOTE – Do not rinse, crush or dry the substrate.

FAQs

When using Aqua Substrate, is it necessary to pour other products onto the bottom before pouring in Aqua Substrate?

Aqua Substrate contains all the necessary ingredients to set up an aquarium. However, there are situations in which you should use additives to the substrate, for example:

1) Aqua Substrate and Aqua Substrate II+, unlike other products, aren't overloaded with chemicals – therefore setting up an aquarium is easier and less troublesome. However, in situations where setting up an aquarium with a lot of fast-growing plants, a greater amount of fertiliser may be required. In such a case, plant fertiliser capsules – Planta Gainer CAPS are very useful. The capsules put down under the substrate in an elevated dose on the day of setting up the aquarium cause the fast-growing plants to shoot up.

2) In a situation in which an aquarist decided to use Aqua Substrate II+ (substrate dedicated for those who have medium-hard or hard water in their taps) and has soft or very soft water in his tap, it is necessary to provide minerals and carbonates to the substrate when setting up an aquarium – so that Aqua Substrate can start adjusting water parameters (KH, GH, pH). This is best done by pouring Planta Gainer Hydro Mineral onto the bottom of an aquarium before pouring in the substrate.

3) At the start of each aquarium we aim at the quickest possible development of microbial life, which will ensure purity, lack of algae and balance in the aquarium. Aqua Substrate granules are very porous, thus offering a very large surface area for bacterial colonisation. If we allow the bacteria to properly settle on the substrate, we will get a better balance of the aquarium and the perfect "device" for cleaning the bottom sediments. It should be remembered, that nitrifying bacteria "breathe" nitrogen compounds, but "feed" on carbon. Before organic carbon forms in the aquarium, we need to provide it ourselves to the "young" bacteria in the aquarium. At the stage of setting up an aquarium, carbon will be useful not only in the filter. The bottom of the aquarium should be sprinkled with Aqua Art bacterial product and powdered activated carbon of good quality. The activated carbon should also be added in small quantities to the lower layers of Aqua Substrate or Aqua Substrate II+. An aquarium prepared in this way will start even easier, be more beautiful and easier to use.

I'm setting up a shrimp tank and I chose Aqua Art Shrimp Sand as the substrate. I'm thinking about using undergravel filter. Is this substrate suitable for this type of filtration, what are the advantages and disadvantages?

Absolutely yes. Shrimp Sand is very well suited for use as a filtration medium in undergravel filtration. In such a case, we recommend laying undergravel filter grates on the bottom and pumping water from under the substrate using the head (pump) of the filter into the depth of the aquarium.

Advantages:
- Shrimp Sand is very porous (similar to activated carbon), it's an ideal filter bed,
- thanks to the absorption capacities, all adverse substances will be picked up from water and buffered by Sand Shrimp, making the aquarium safe for shrimp, even during the growth of microbial flora,
- water circulation through Shrimp Sand will highlight even more its ability of water treatment and adjustment of its parameters – decrease in the pH, KH and GH.

Disadvantages:
- a potential disadvantage is a rapid change of water parameters (decrease in the pH, KH and GH) during their adjustment, especially in the first period, just after setting up of the aquarium. Water parameters should then be carefully monitored and, if necessary, GH should be increased to the optimum level using Shrimp Mineral.

What is the volume of Aqua Substrate in the packaging?

Product weight of 5.4 kg is specified on the packaging of your products – Aqua Substrate and Aqua Substrate II+. For the purpose of calculating the amount of Aqua Substrate needed to set up a new aquarium, the volume of the product would be more convenient, could you specify it?

5.4 kg packs of Aqua Substrate or Aqua Substrate II+ contain approximately 6 litres of product.

1.8 kg packs of Aqua Substrate II+ or Shrimp Sand POWDER contain approximately 2 litres of product. The specified volume is approximate and may vary slightly in individual packs.

For the purpose of calculating the amount of Aqua Substrate, Aqua Substrate II+ or Shrimp Sand needed to set up a new aquarium you can use the calculator found on Aqua Art's website:

6 Pouring in the substrate

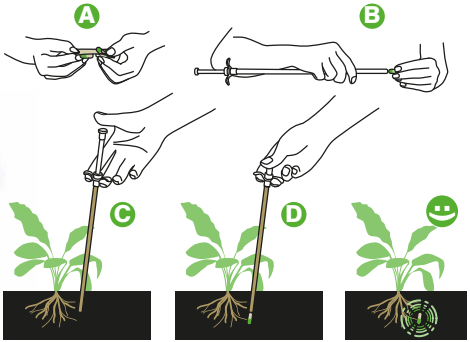
Before pouring Aqua Substrate, apply Planta Gainer Caps, powdered activated carbon and Aqua Art bacterial product to the bottom of the aquarium. Distribute the capsules on the bottom at a distance of not less than 10-15 cm from each other, in areas of the substrate, in which you plan to plant the plants. Evenly cover the bottom of the aquarium with a thin layer of powdered activated carbon and Aqua Art bacterial product to provide a faster start of biological life. Gently pour Aqua Substrate onto the bottom of the aquarium. Height of the substrate – it is best to have no less than 5 cm at the front glass and not less than 10 to 15 cm at the rear glass of the aquarium. For levelling of the substrate, use the recommended tool: substrate flattener. To facilitate planting, moisten the surface Aqua Substrate with water spray before planting

www.youtube.com/aquaarttv

CAPS Release applicator

Applicator and a pack of Planta Gainer Caps (10 caps).

The applicator made of stainless steel designed to facilitate dosing Planta Gainer Caps into the substrate. Its construction also enables application of capsules and bars of other manufacturers.



Planta Gainer® CAPS

Pack: 10 capsules.

Planta Gainer CAPS is a fertiliser for aquatic plants, in the form of capsules filled with granules with slow-releasing nutrients. A complete set of macronutrients (nitrogen, phosphorus, potassium), micronutrients and bio-stimulators ensures good growth of the root system as well as a healthy and intensive growth of plants. Easily-dissolving capsules of Planta Gainer CAPS can be placed in the substrate in the most accessible place for the root system of a plant. Planta Gainer CAPS release nutrients slowly over a few weeks, appropriate for the plants size, ensuring proper nutrition of plants and protecting the safety of the aquarium. Using tweezers, place the capsule in the substrate of the aquarium directly under the root system of selected plants. The product starts to work immediately after application. Capsules should be placed 10 to 15 cm apart, depending on the density of plants. Dose every 4 to 8 weeks, depending on the density of application and needs of the plant.

? FAQs

How do you use Planta Gainer CAPS with other fertilisers? Did you test these capsules as the only source (i.e. without fertilisation of the water column)? Only these capsules and CO_2? Or always in combination with fertilisation of the water column?

Planta Gainer CAPS include full NPK and essential micronutrients + development stimulators for the root system.

For large plants that like rich fertilising such as: Echinodorus or Lotus, the mere use of Planta Gainer CAPS works in such a way that they become more and more beautiful and shoot up before one's eyes. One of the shop owners who received test samples of Planta Gainer CAPS from us, came up with a very interesting way of growing Echinodorus and Lotus plants using capsules from Aqua Art. It consists of planting these plants in plastic cups, on the bottom of which a Planta Gainer CAPS capsule is placed. The cups are pressed into the aquarium substrate and the effect surpasses all expectations.

When fertilising:
1. more demanding plants
2. rows of plants
3. using Planta Gainer CAPS as a bedding layer/starter under the substrate at the start of a new aquarium

We recommend to use PG CAPS at least in parallel with Planta Gainer Classic and Planta Gainer K+. – it is a required minimum that will allow you to achieve very good results.

The best results can be achieved by using Aqua Substrate and Planta Gainer liquid fertilisers in parallel with Planta Gainer CAPS for selective fertilisation of individual plants or selected rows of plants. With this technique, we can vary the size, colour, and the rate of growth of certain plants or groups of plants.

7 Rocks and roots in an aquarium

In our offer you can find natural decorative materials: original Red Moor Root Wood, rocks: Grey Mountain, Knife Stone, Samurai Stone and Dragonstone. These selected materials will allow you to compose a wonderful natural aquarium decoration. Choose them in advance and take the time to set up your arrangement. It is important that you have a ready, well-thought concept of the aquarium's appearance before you start setting it up. It will make it easier for you to plan the selection of species and plant layout. You won't lose time and money on unnecessary purchases.

Root
Red Moor Wood:

8 Preparing roots

It is best to purchase the Red Moor Root Wood in advance and soak it so that it sinks in the water. If you are using dry roots, you should prepare a few extra rocks and place them on the roots before pouring in the water to make sure they stay on the bottom. Plants such as: Microsorium, Bolbitis and mosses should be attached to the roots using a cotton thread or a thin fishing line, preferably in a dark green colour. Cotton thread will dissolve after a few weeks, when the plants begin to adhere to the wood and in the case of a line, you will have to remove it after some time.

Attaching Microsorium

For decoration
we recommend
the following materials:

Red Moor Wood

Natural roots.
Quick soaking and sinking process.
Perfect for growing mosses.

Grey Mountain

A natural rock with developed shapes and surface texture.
It resembles much larger rock formations. It does not alter the water parameters significantly.
.

Knife Stone

A natural rock characterised by sharp slender shapes that lets you create space in even the smallest tanks.
It does not alter the water parameters significantly.

Samurai Rock

A natural rock characterised by soft shapes and colour that fits perfectly when combined with roots.
It does not alter the water parameters significantly.

Dragonstone

A natural rock characterised by sharp shapes that lets you create a rocky space in the aquarium.
It does not alter the water parameters significantly.

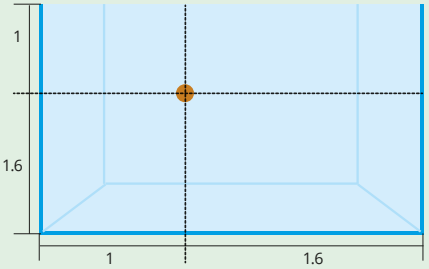
Mountain Stone

A natural rock with cold colour which greatly underlines the natural green of plants. It is a great choice for stone-style aquaria and as an addition to root arrangements.
It does not alter the water parameters significantly

9 How to arrange the decorations?

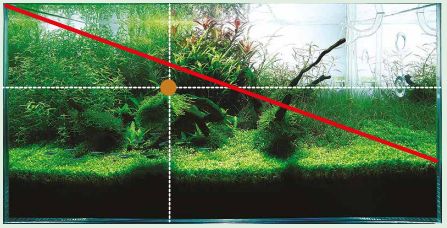
Arranging the decorations does not require much skill. It is enough to know the basic design rule – "the golden ratio". Make a decision as to the shape of the arrangement and follow our instructions. Arrangements pleasing to the eye have one or two "golden points": the places we want the observers to look at, i.e. the place that shows off our most beautiful plant, a group of plants or a unique rock or group of rocks.

60 x H36 cm aquarium and the "golden ratio".

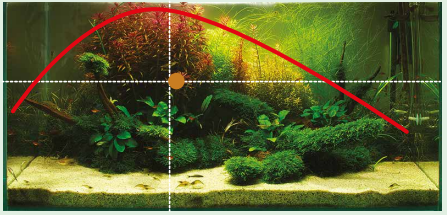


Measure the length of the aquarium and divide it by 2.618. Measure the result out from one side of the tank and mark it. The ratio of this length to the rest of the tank will be exactly 1:1,618. In the same way find the golden ratio for the height of the tank. The place where the lines meet is in the "golden point" of the aquarium.

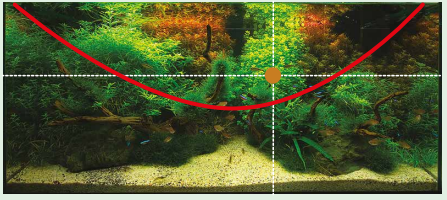
Basic shapes of decorations.



Triangular layout (high on one side, decreases in height in the direction of the opposite corner of the aquarium)



Convex layout (low on the sides, high near the line of the golden ratio)



Concave layout (high on the sides, low near the line of the golden ratio)

Find the "golden point", select the shape of the arrangement and plant the plants keeping in mind the three plans above. Your aquarium will have a natural look and depth. You can experiment, but should always keep in mind our guidelines.

10 Plants

Once you have the interior decorations planned, you should plan and buy the plants you will put in the aquarium. There are a few rules to keep in mind. You will achieve the best effect by dividing your aquarium into three zones and depending on their size you will select the quantity and types of plants. Your aquarium will look best if you plant low-stemmed plants in the front zone, medium-stemmed plants in the central zone and high-stemmed plants in the back. You can attach epiphytic plants, such as Microsoria, to the roots.

11 Planting

Place the pre-planned and prepared arrangement of rocks and roots on the moistened substrate. Now you can start planting. Remember that plants should be removed from the baskets and cleaned of the cotton wool. If you are using plants from in vitro cultures, clean them of the gel. Split the plants into smaller portions and plant them successively from the front towards the rear, relatively densely next to each other. Aqua Art tweezers will help you in precise planting. Plant the plants by placing them in the moistened substrate at an angle, using tweezers, grasping small portions of the plants.

We recommend the following tools:

Substrate flattener

Stright tweezers 27 cm

Curved tweezers 27 cm

Straight tweezers 38 cm

Straight scissors 25cm

Metal scraper for glass

12 Pouring treated water into an aquarium

It is a quite sensitive and important moment. Pour water into an aquarium very slowly having the flow and power under control all the time. You can diminish the power of water by pouring it onto an open palm or a small plate placed on the bottom. Try not to destroy the carefully laid substrate and planted plants. If you are using water from a reverse osmosis filter you have to mineralise it using Planta Gainer Pro Hydro Mineral.

Reverse osmosis filter 380

Aquarium reverse osmosis filter set.

Aesthetic compact design, high reliability and very high capacity (380 litres per day) puts it at the forefront of its class. The set includes: 100 GPD osmotic membrane (380 litres) and handles. Additionally: connection to the water system, inlet valve, connection of the waste water outlet to the sewer, water pipe, wrench for the installation and replacement of the osmotic membrane, wrench for the installation and replacement of the quick-coupler.

Reverse osmosis involves the separation of water molecules from other compounds dissolved in it by means of a semipermeable membrane, which retains 96%-99% of the salt, organic and inorganic pollutants, bacteria and various viruses dissolved in water. Osmotic water is an ideal base for the preparation of water for decorative and plant aquariums and soft water biotopes. This is done by adding Planta Gainer Hydro Mineral to the osmotic water or alternatively by mixing the osmotic water with properly prepared tap water.

Planta Gainer® Pro Hydro Mineral

Pack size: 500ml.

A mineralising product for fish and aquatic plants used to prepare (treat) water that has been previously filtered by a reverse osmosis filter.

It enriches the water with minerals and macronutrients necessary for fish and plants, i.e.: calcium, magnesium, sodium, potassium, chlorides, sulphates and carbonates. Shake the product well before use to create a uniform suspension. There will be a light turbidity in the water immediately after application, but it will disappear once the product dissolves fully.

Dose the product directly into the aquarium after a partial water change. 1 ml (one press of the dispenser) for every 4 litres of replacement water. The product is packaged in a 500 ml bottle, which lasts for 2000 litres of water.

Shrimp Mineral

Pack sizes: 500ml, 100ml.

The product provides essential minerals, which are often lacking in soft water, to shrimp. It is recommended for all species of dwarf shrimp and especially for bee shrimp. It increases the general hardness (GH) of water without changing the carbonate hardness (KH) and pH. Ensuring an appropriate level of general hardness in a shrimp tank (at 5 German degrees or more) and a low carbonate hardness (2-4 German degrees) and pH of around 6.5 provides optimal conditions for smooth moulting and growth of shrimp. It is not harmful to fish or other aquatic organisms.

1ml (one press of the dispenser) of Shrimp Mineral for every 4 litres of water will increase the general hardness of water by about 2 German degrees.

? FAQs

Freshwater shrimp need soft water but rich in minerals with a slightly acidic pH. With such parameters, shrimp moult easily and grow healthy. Ensuring optimal water parameters for shrimp might seem difficult at first glance. Shrimp Sand is a substrate specially prepared for dwarf shrimp. Thanks to a unique production technology, the substrate allows you to achieve the best results of care and breeding of shrimp. Shrimp Sand decreases and maintains a sufficiently low level of hardness of water and its pH. The most suitable conditions for bee shrimp are: adequately mineralised soft water with a general hardness (GH) at a level slightly higher than 5 German degrees, low carbonate hardness (KH) even below 2 German degrees and pH of less than 7.

Shrimp Sand also ensures clarity and purity of water. However, it should be remembered that Shrimp Sand is active and has a constant influence on water parameters. With the initially high activity of the substrate and decrease in the carbonate hardness and pH, the general hardness also decreases. Sometimes, depending on the output parameters of water that is used in a shrimp tank, the general hardness could fall below the recommended level. In such a situation you should use Shrimp Mineral, a product that mineralises water supplementing the micronutrients needed by shrimp and increases the general hardness to the desired level.

Shrimp Mineral increases the general hardness of water without affecting the levels of carbonate hardness and pH. Providing minerals is very important especially in soft water required by shrimp, because juveniles could have problems with moulting if the general hardness is too low, and fully grown shrimp might lose their colour and have problems with changing their carapace. Beneficial bacteria living in the filter and substrate are less active in a lowly-mineralised water. This may degrade the quality of water. In soft acidic water it is difficult to achieve the desired level of general hardness. Using Shrimp Mineral solves all these problems and provides optimal conditions for shrimp.

Safe Water

Pack sizes: 500ml, 100ml, 10ml.

A product intended for preparation and treatment of tap water before pouring it into an aquarium.

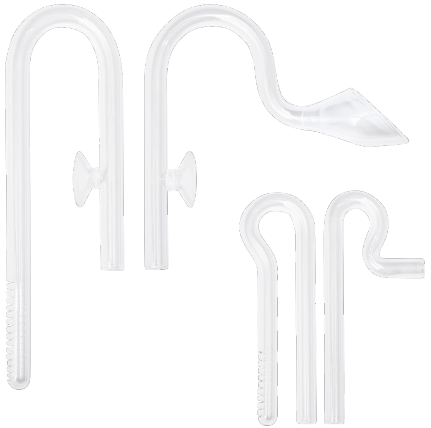
The product binds and neutralises chlorine and heavy metals contained in tap water. It contains active anti-stress B vitamins. It stabilises micronutrients present in water. It soothes skin irritation of fish associated with water change. It clarifies the water. The product should be used when setting up a new aquarium, partially changing water and during transport of fish.

NOTE – Do not use in aquariums with Aqua Substrate.

Dosage: 1 ml (one press of the dispenser) for every 4 litres of water. The product is packaged in 100 ml and 500 ml bottles, which are sufficient for 400 and 2000 litres of water respectively.

13 Installing a filter system

Filter systems based on an internal under-gravel filter (Shrimp Sand) or an external bucket filter, filled with activated carbon and trickling filter, will quickly provide crystal clear water with correct parameters in your aquarium. Utilise the cleansing work of microorganisms. You can ensure rapid development of beneficial flora in the filter and substrate by adding Aqua Art bacterial product. Replace the standard plastic tubes with glass ones offered by Aqua Art. Glass tubes will be almost invisible inside the aquarium.



Inlet and outlet glass tubes for an external filter

Inlet and outlet set for an external filter.

High quality and elegant appearance. Appropriately made slits in the inlet protect even the smallest inhabitants of aquariums from accidentally being sucked in. The oval-shaped end of the outlet allows for a setting in which a gentle whirl cleans the surface of the water from a film of dust that reduces gas exchange and prevents the penetration of light into the aquarium.

Tubes for large and medium-sized aquaria are available, for hose diameters of 12/16 and 16/22 mm.

? FAQs

Is quality of filtration really so important? What is the role of carbon in the filter? How, when and how long should it be used?

One of the most important conditions of owning a beautiful and clean aquarium is to create the optimal conditions for the development of natural microbial flora. Often when aquarists speak of "bacteria in the aquarium", they think of nitrogen bacteria that carry out the most important (mainly from the perspective of fish care) oxidation processes of nitrogen compounds:

1) NH3(NH4+) to NO2-,
2) NO2- to NO3-,

they don't realise that a correct microbial flora in an aquarium consists of hundreds of interrelated organisms (not only bacteria but also fungi for example) that work in our aquariums performing the processes of decomposition of organic waste providing for their cleanliness.

In short, this can be presented in the following way: proper conditions for microorganisms -> more beneficial microorganisms -> clean aquarium -> lack of or significantly reduced growth of algae. Settlement and initial period of development of microbial flora after the setting up of an aquarium is a key problem. Mistakes made in this period might affect the health of animals and balance in an aquarium. They may also lead to a mass growth of various kinds of algae that might affect the growth of newly planted plants or even make them die. Organic waste forms in the water that might cause an increased growth of algae if microbial flora doesn't develop sufficiently. Aquarists unaware of the problem assign the blame to different things, but not to their own ignorance. Avoid this kind of problem, carry out the process of populating an aquarium with a suitable microbial flora in an appropriate manner?

There are several important issues:

1) Setting up and starting an aquarium in such a way that no organic waste (e.g. from a dirty substrate, rotting plant seedlings or from poorly rinsed or prepared decorations) gets into the water in its first weeks. If it does get in, it should be removed by a water change and/or filtration through an absorbing filter. Any organic pollutants in conditions of undeveloped microbial flora will provide food for algae.

2) Inoculation of the tank with microbial flora. Inoculation of the tank with special bacteria requires them to reach us in an endospore form stored under special conditions. Unfortunately, almost all commercially available products do not meet this requirement and as a result aquarists get decaying bacteria which can lead to an algal bloom and not to a start of filtration – but that is a separate topic. As a result, the most effective way to "start" a new tank is to use an "old" ready filter from another healthy aquarium or even replace some of the "living" filter cartridges using ones from an old filter from another healthy aquarium.

3) Preparation of a suitable filtration system in terms of water flow, sufficiently large capacity of filter bed and its quality. The selection of the filter bed is very important, what counts above all is its porosity, i.e. the area provided for microorganisms. A typical good solution is to use lava gravel with granules intersected by thousands of micro-tubules. However, activated carbon is an even better filter bed for starting an aquarium. The area provided for microflora by activated carbon compared to a conventional cartridge is like a football pitch compared to a sheet of paper.

Nitrogen bacteria that we want the most at the start of an aquarium "breathe" with nitrogen and "feed" on carbon. Organic carbon present in the sediments in the filter and substrate is available for bacteria in a functioning aquarium (2 months or longer) with an appropriate balance. However, we need to provide it to bacteria in a newly set up aquarium.

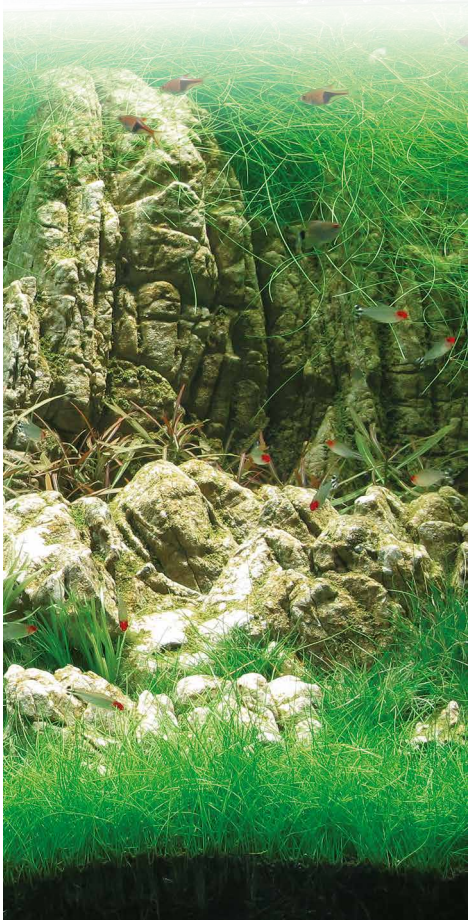
Efficient initiation of the nitrogen cycle allows for the "burning" of nitrogen by nitrifying bacteria as well as binding and use of the created energy by the whole system of microbial flora.

Activated carbon at the start of an aquarium provides:

1. A vast area available for the settlement of microorganisms.
2. Food for nitrifying bacteria.
3. Absorption capacity that allow the removal of organic waste from an aquarium, which is particularly important at a time when a developing microbial flora doesn't have the full capacity of decomposing the organic waste.
4. Removal of clouding and discolouration of water providing crystal clear water – well lit plants, stronger photosynthesis and better growth.

We can use the properties of activated carbon as a filter medium which can be gradually replaced with lava gravel after the aquarium has been started and stabilised. When setting up an aquarium a good way of populating the substrate with microorganisms is to pour a small amount of carbon onto the bottom, under Aqua Substrate. In this way we will facilitate the populating of the substrate with microorganisms and use the highly porous (comparable to activated carbon) structure of the substrate for work on the decomposition of organic waste that naturally accumulates in the substrate.

In a mature aquarium with an appropriate balance, activated carbon can be periodically used as an absorption filter medium that will capture unwanted organic or chemical pollutants. In such a case, after completing this task, we should remove the used carbon from the filter as after the initial absorption of unwanted substances, they could get back into the water.



14 Installing a CO_2 fertilisation system

For growing plants carbon dioxide (CO_2) fertilisation is as important as water column fertilisation. Supplementation of (CO_2) through a glass diffuser using a high pressure cylinder with a regulator is a very effective method of stimulating the photosynthesis process of aquatic plants. In our offer you can find all the necessary parts required to build such a system. In addition, we recommend adding Planta Gainer Carbo to the water, which is an alternative or complementation of the (CO_2) supplementation.

? FAQs

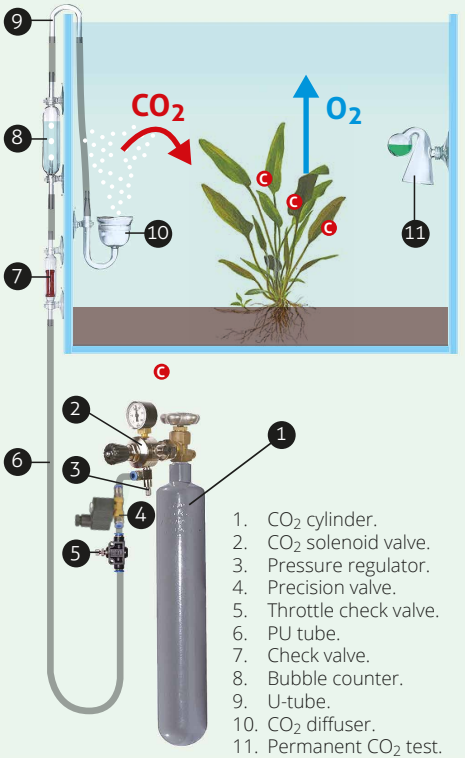
Why do you recommend placing a diffuser at 2/3 of the height of an aquarium? What is the reasoning behind it?

It's a good compromise between the depth of immersion of the diffuser (the longer the path of the emerging CO_2 mist, the more accurately it will dissolve in water) and water movement – the more movement (at the surface), the better the CO_2 will dissolve. Furthermore, at the bottom of an aquarium there is usually a bigger chance of the diffuser being covered by plants, thereby reducing its efficiency.

On what basis do you select the supply of CO_2 in your aquariums? How do you know what amount is adequate? In what time intervals do you measure it?

I must admit that after years of experience I am able to more or less select and adjust the CO_2 fertilisation system on my own with a good effect. However, I would recommend following the following rules: if we have a precise and well-calibrated electronic pH meter, we can calculate the amount of CO_2 dissolved in the water on the basis of pH and KH. I recommend approximately 30 ppm for the phase of stimulating the growth of plants and approximately 20 ppm when maintaining the condition of the arrangement. NOTE! Due to the lack of precision, pH drop tests are wholly unsuited for this purpose, especially with low KH the above result will be completely unreliable. If using membrane diffusers, a proper selection of the size of the diffuser and the number of diffusers in the aquarium largely facilitates subsequent setting up of the CO_2 system. Generally, a good rule is to start with the expected minimum of CO_2 fertilising and after thorough observations make minor adjustments (a dozen or so percent).

How to correctly assemble together all the elements of the CO_2 fertilisation system?



1. CO_2 cylinder.
2. CO_2 solenoid valve.
3. Pressure regulator.
4. Precision valve.
5. Throttle check valve.
6. PU tube.
7. Check valve.
8. Bubble counter.
9. U-tube.
10. CO_2 diffuser.
11. Permanent CO_2 test.

CO_2 Diffuser Nano

Small ergonomic size makes it ideal for even the smallest of tanks. In combination with the very precise Aqua Art regulator it provides excellent precision in dispensing.

CO_2 Diffuser 35 ART

A diffuser with an ergonomic shape in the form of a flower. Diameter of the diffusion membrane: 28 mm.

Spiral CO_2 bubble counter.

An elegant and effective CO2 bubble counter made of laboratory glass. Comes with two suction cups for attaching it to a wall of an aquarium.

CO_2 Diffuser 50 Pro

High quality and a very elegant design. Ideal for larger tanks. Diameter of the membrane: 50 mm.

Set, CO_2 bubble counter + Check valve

A set for controlling the supply of carbon dioxide (CO_2) into an aquarium. It consists of a bubble counter and an additional check valve. It is made of laboratory glass and has two suction cups. The set must be installed between the regulator and diffuser.

CO_2 bubble counter PRO

An extremely accurate CO_2 bubble counter with a capillary tube.

Permanent CO_2 test-set

Includes: glass body, indicator, sticker with the colour scale. The glass body is filled with water mixed with the indicator and then attached to a wall of an aquarium below the surface of the water. Comparing the colour of the mixture in the body to the colours on the sticker allows you to control the amount of CO_2 in the water.

Throttle check valve

A connecting valve for the 6 mm CO_2 tube. It allows for a very precise control of CO_2 flow in the system.

More connection elements for the CO_2 tubes at:

www.aqua-art.pl

Aqua Cleaner

Pack size: 500ml

A product for cleaning the glass elements of aquarium equipment, such as tubes, thermometers, CO_2 diffusers, etc.

Aqua Cleaner BOX

Capacity: 650 ml

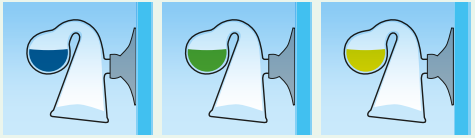
Aqua Cleaner BOX – is a functional container for cleaning glass elements with Aqua Cleaner. The walls made of a soft material provide an ongoing control of the cleaning process and protect the cleaned element against damage, including breakage. A convenient wide inlet and a tight screw cap make the cleaning process convenient and safe.

? FAQs

What is the purpose of the permanent CO_2 test?

Its purpose is to identify and monitor the level of CO_2 in the water. As a result of changes in the level of CO_2 the liquid in the indicator changes from blue to yellow and achieving the optimal level is indicated by a green colour.

Changes in the colour of the indicator inside the permanent test-set:



Blue. Too little CO_2.

Green. Optimal amount of CO_2.

Yellow. Too much CO_2.

How to clean the glass components, tubes and diffuser?

It's quite simple, using Aqua Cleaner and Aqua Cleaner Box you can safely remove algae and dirt from the diffusers, thermometers and glass tubes.

CO_2 cylinder

Capacities: 2000g (A) , 500g (B).

Brand new CO_2 cylinders with a universal valve. The cylinder is certified for use and filling with CO_2. The cylinders are sold fully filled with carbon dioxide. (C) A free-standing housing made of stainless steel with optional wall mounting is available for the 500g cylinder.

PU CO_2 tube

6mm x 4mm - transparent

The tube is characterised by a high resistance to pressure (up to 10 atm), ageing and mechanical damage. It is used with high pressure CO_2 cylinders, RO filters and all other devices which require high durability tubing.

A solenoid valve for carbon dioxide (CO_2). It regulates the supply of CO_2 into an aquarium. Connected to a timer it allows you to turn on the supply of CO_2 during daytime (lit aquarium) and turn off the supply of CO_2 during night-time (darkness in the aquarium). It can also work with a computer-regulator of pH adjusting and maintaining a constant level of CO_2 in the water. Once the cylinder is drained of CO_2 it prevents the regulator and cylinder from being flooded with water. The valve is made of high quality materials. The set includes convenient and tight quick-co-uplers for a pneumatic tube with a diameter of 6 mm and can be easily connected to all Aqua Art CO_2 devices. With only 6.5 W coil power, it is quiet and does not overheat. The valve is available in two versions: 12V or normal 230V. It also has a high quality check valve in its body that prevents water from getting into the CO_2 system once the cylinder is drained, which often happens with other valves causing damage or contamination of the regulator and cylinder.

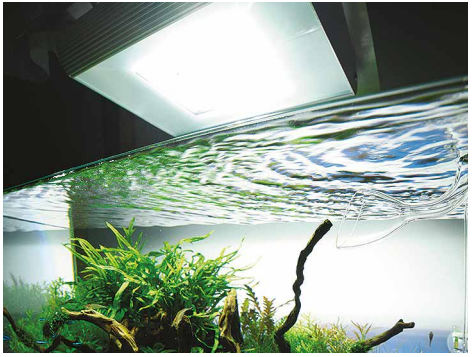
CO_2 regulator

Two versions: with one or two pressure gauges.

It regulates the pressure and allows you to set a suitable flow rate of CO_2. It is an essential component for supplying carbon dioxide using a high pressure cylinder. It has an aesthetic chrome body and a high pressure gauge that allows controlling the amount of CO_2 in the cylinder. A precise two-stage regulation with an extremely accurate needle valve on the second stage of the regulation allows adjusting the amount of supplied CO_2 to the needs of even the smallest tanks. The highest precision of the regulator allows you to set up a stable and slow flow rate of CO_2 – for example, at the level of one bubble per minute. It also includes a high quality quick-coupler that prevents leakage of carbon dioxide and a two metre pneumatic line with a diameter of 6 mm.

15 Installing lighting

Aquarium lighting is the final essential element of your aquarium. Just like in nature, you need to provide your plants with the appropriate light dose with the recommended spectrum that is as close as possible to sunlight. You will achieve the best result by using a HQI light and a system based on fluorescent lamps with T5 technology. The ratio of light output to the capacity of an aquarium should not be less than 0.5 W per litre. Make your choice wisely. Regularly replace the light sources, as recommended by their manufacturers.



? FAQs

T5 fluorescent lamp, HQI filament or LED lighting; what works best in a decorative aquarium?

Lighting should highlight the great looks of the decorations and natural colours of its inhabitants, as well as provide the necessary light energy required for photosynthesis of plants. It is best to light the aquarium using light sources with a broad spectrum and natural colour (5000-8000K), such as metal halide lamps (HQI), T5 or LEDs. The daily time of lighting an aquarium should be adapted to the natural circadian rhythm in the tropics, i.e. about 10h a day. The ratio of light output to the capacity of an aquarium should not be less than 0.5 W to a litre, and for the most demanding species of plants or CO_2 fertilisation using a high pressure cylinder, it can reach up to 1 W to a litre.

Should I start switching on the light immediately after setting up my aquarium or is it better to start illuminating the aquarium after a while?

After setting up an aquarium it is important that the plants adapt, root and begin to grow. Therefore, from the very first day we should provide them with the best possible conditions, including good lighting. However, until the time of acclimatisation the life processes of freshly planted plants are slower and hence their need for light is slightly smaller. In a fresh aquarium in which microbial life has not yet developed and the biological balance is not yet stable, too large a light dose can stimulate the invasion of algae.

Therefore, you should follow the rule of gradually increasing the daily dose of light follows:

- For the first week, illuminate the aquarium for 6 hours.
- In the second week for 7 hours.
- In the third week for 8 hours.
- In the fourth week for 9 hours.
- In the fifth week we reach the full length of the day - 10 hours.

16 Fertilising an aquarium

Our substrates are active substrates that will supply plant nutrients to water. However, a substrate is a component of the system. It should be supplemented with liquid fertilisers supplied every day directly into the water. From the very beginning you should treat the water using Aqua Art products in the manner described earlier. On the very first day you should also start fertilising the plants using Planta Gainer fertilisers. By following our recommendations you should choose a liquid fertilisation system according to the species of plants you will cultivate in your tank.

Planta Gainer® K+

Pack sizes: 500ml, 100ml, 10ml.

Potassium contained in K+ is one of the essential nutrients for plants. K+ makes the nitrogen and phosphorus, brought to the aquarium water with metabolic processes, readily available for plants. A balanced formulation and easily absorbable form of potassium ensure growth and beauty of plants. It prevents the loss of the lower leaves or holes in them. K plus added to tap water before supplying it into an aquarium facilitates the neutralisation of chlorine. It is not harmful to fish or other aquatic organisms.

Dispense 3 ml for every 10 litres of replacement water. To enhance the effect, K+ can be supplied daily in an amount of approximately 1 ml (one press of the dispenser) for every 40 litres of water in an aquarium.

Planta Gainer® Carbo

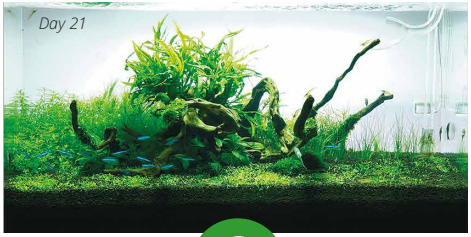
Pack sizes: 500ml, 100ml.

Organic carbon compounds are the basic building block of plant tissues. Plants must be properly nourished to ensure their beauty and proper development. Planta Gainer Carbo is easily assimilated and an efficient carbon fertiliser, perfect both as a primary source of carbon for plants and supplement of free carbon dioxide fertilisation. It effectively promotes the growth and beautiful appearance of plants while fighting algae.

Aquariums with an average number of plants: daily 1 ml (one press of the dispenser) for every 50 litres of water in an aquarium. Aquariums with a high number of plants: daily 1ml for every 25 litres of water in an aquarium.

17 Outline of fertilisation of plants in Aqua Art aquariums

Substrate:



1

From the day of setting up of an aquarium until the rooting and beginning of the growth of plants (approx. 1-4 weeks after the setting up):

Planta Gainer K+: a single dose after filling the aquarium with water. 3 ml per 10 litres of volume + doses after water changes + daily doses. Detailed instruction on p. 24.

Planta Gainer Classic, preferably in daily doses of: 1 ml per every 100 l of aquarium volume.

2

From the time of rooting until the time of start of microbial life (5-6 week):

Planta Gainer Classic - dosing according to the instruction, detailed advice on p. 25,

Planta Gainer Macro RED – daily 1 ml per 40 litres of volume of the tank – adjust the dose (decrease) proportionally to the current biomass of plants in relation to the full biomass intended. Example: 120 l aquarium, 120:40=3, biomass of approx. 33% of the intended, i.e. 3 x 0.33 = 1 ml/day.

Water

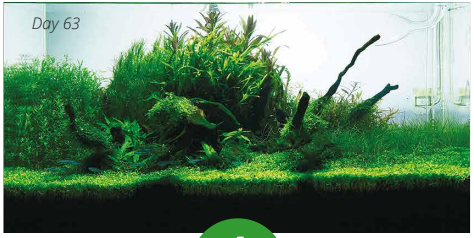
Filtration

CO_2 fertilisation

Lighting

A sample 63 litre aquarium with dimensions of 60x35x30 cm – products used in it, outline of fertilisation, progress, final photo and detailed description of the aquarium can be found on page 30.

aqua art®
www.aqua-art.uk



3

From the time of full start of microbial life until the aquarium stabilises fully (approx. 1.5-2 months):

Planta Gainer CARBO according to the instruction. If supplying CO_2 from a high pressure cylinder, Planta Gainer CARBO will provide extra care, however it is not essential.

Planta Gainer CAPS – to be placed under the substrate every 4-8 weeks.

4

Fully stabilised aquarium (nearly 100% of the assumed biomass, starting from 9 weeks):

Planta Gainer Macro RED alternately with Planta Gainer Macro GREEN detailed advice on p. 27.

Planta Gainer Ferro+ - according to the instruction, Detailed advice on p. 28.

FAQs

I have Aqua Substrate II as my substrate. How should I fertilise the tank using Planta Gainer products?

I suggest the following strategy, split into 5 stages:

0) During set up of the tank:
   a) Place Planta Gainer CAPS at the bottom of the aquarium before pouring in Aqua Substrate covering the surface of the bottom on which you plan to plant the plants. Planta Gainer CAPS can be placed closer apart than it is recommended in the instructions for a functioning aquarium.
   b) Carefully pour in Aqua Substrate in such a way to not move the capsules.

1) From the day of setting up of the aquarium until the rooting and beginning of the growth of plants (approx. 1-4 weeks since starting the aquarium):
   a) Planta Gainer K+, a single dose after filling the aquarium with water - a full dose calculated just like when changing water, calculated on the basis of the tank's volume + doses for water changing and daily doses, according to the instruction and rules described on p. 24.
   b) Planta Gainer Classic, preferably in equal, daily doses equal to: 1 ml per each 100 l of the volume of the aquarium. (example: 200 l aquarium, dosing: 2 ml per day. 50 l aquarium, dosing: 1 ml every 2 days).

2) From the time of rooting until the time of the start of microbial life (5-6 week from starting the aquarium):
   a) Planta Gainer K+ doses during water change and daily doses according to the instruction and to the rules described on p. 24,
   b) Planta Gainer Classic - dosing according to the instruction and to the rules described on p. 25.
   c) Planta Gainer Macro RED – daily dose calculated on the basis of the instructions – adjusted (reduced) by the current biomass of plants in the aquarium in relation to the full biomass intended. (e.g., 30%, 70%, etc.)

3) From the time of full start of microbial life until the aquarium stabilises fully (approx. 1.5-2 months):
   a) Planta Gainer K+ as in step 2.
   b) Planta Gainer Classic – as in step 2,
   c) Planta Gainer Macro RED – as in step 2,
   d) Planta Gainer CARBO – According to the instructions (if supplying CO_2 from a high pressure cylinder, Planta Gainer CARBO will provide extra care, however it is not essential).
   e) Fertilisation of selected plants or their rows may be augmented using Planta Gainer CAPS according the rules described on p. 8.

4) Fully stabilised aquarium (nearly 100% of the assumed biomass):
   a) Planta Gainer K+ as in step 2,
   b) Planta Gainer Classic – as in step 2,
   c) Planta Gainer Macro RED alternately with Planta Gainer Macro GREEN in the respective periods, according to the rules described on p. 27.
   d) Planta Gainer Ferro+ - according to the instruction and to the rules described on p. 28.
   e) Planta Gainer CARBO – as in step 3,
   f) Planta Gainer CAPS as in step 3.

Is it safe to supply all of the potassium intended for one week at once, or is it advisable to divide it into daily doses?

It is safe and recommended to supply the whole dose calculated on the basis of the instructions in proportion to the volume of changed water when making the change. To enhance the effect you can also supply daily doses - also described in the instructions.

I would like to find out why K+ increases the KH in the aquarium. I change the water every week (25%), but I'm afraid that the KH will continue to increase if I keep using Planta Gainer K+?

The so-called "carbonate hardness" test actually measures the alkalinity of water, which from the point of view of aquarists doesn't have much practical significance, however, it is important from the point of view of the phenomenon I am writing about.

Planta Gainer K+ is alkaline, so when you add K+ directly into the vial in which you measure the KH, the reading of carbonate hardness (alkalinity) increases. Potassium supplied into the water in the form of K+ is partially absorbed by plants and partially accumulated in the water – which is good and desirable, because aquatic plants require an appropriate level of potassium to properly absorb it. When supplying Planta Gainer K+, the accumulation of a certain level of potassium in the water causes a slight increase in the carbonate hardness KH (alkalinity) - usually by about 2-3 German degrees.

This increase in the KH of the water of you aquarium is not a problem because by using Planta Gainer K+ you are NOT supplying any ballast substances into the aquarium (as it happens when fertilising with salts) and therefore there is NO danger of poisoning your aquarium with these substances (on forums it is often mistakenly described as potassium "pre-fertilisation"), as evidenced by the healthy looking plants in your aquarium.

Planta Gainer® Classic

Pack sizes: 500ml, 100ml, 10ml.

Planta Gainer Classic is a universal fertiliser intended for use in all decorative and multi-species aquariums.

It contains iron, manganese, zinc, copper, molybdenum, boron, potassium, magnesium in an easily available form for plants. For use in aquariums with tap water or mixed with water from a reverse osmosis filter (R/O).

Dispense directly into an aquarium after a partial water change – 1 ml (one press of the dispenser) for every 4 litres of replacement water.

? FAQs

Cam Planta Gainer Classic be supplied only at water changes? Can the doses be increased? If yes, to what extent?

On its label Planta Gainer Classic has a recommendation to supply it at water changes on the basis of the quantity of replacement water. Such a recommendation is intended to avoid situations in which users that do not change the water in an aquarium (who also like to supply a lot of fertilisers) overdose the product. We recommend Planta Gainer Classic in between water changes – for example, daily, dividing the dose accordingly.

Let us assume that we change 100 litres of water once a week (e.g. Saturday). The calculated dose of Planta Gainer Classic is 25 ml.
We can supply a part of the dose immediately after the water change, i.e. on Saturday – 13 ml. We divide the remainder of the dose into daily doses – for the other days of the week, i.e. Sunday, Monday, Tuesday, ... Friday - 2 ml per day x 6, a total of 12 ml.
Calculated dose (25 ml) = dose supplied immediately after the change (13 ml) + the sum of the daily doses (12 ml).

The doses can be increased if required by the care programme of a specific aquarium. However, you should not exceed 300% of the base dose specified on the packaging.

Planta Gainer Classic or Planta Gainer Micro Pro – which one should I use?

Planta Gainer Classic is a micronutrient fertiliser - universal with magnesium and potassium additives intended for use when using tap water or a mixture – tap water + water from a reverse osmosis filter (R/O).

Planta Gainer Micro is a specialised micronutrient fertiliser intended for use when using 100% of water from a reverse osmosis filter (R/O).

We can expect a natural mineral background in tap water or its mixture with water from an (R/O) filter. In contrast, osmotic water is almost sterile in this respect. Furthermore, tap water may (but not necessarily) contain unwanted metal ions additives used for the construction of pipelines (e.g. copper and zinc), which will not occur in the water after filtration through a reverse osmosis filter.

Planta Gainer Micro contains a wider spectrum of micronutrients to supplement them after sterilisation of water by R/O filtration. Furthermore, assuming that the water is free from unwanted additives, it has a stronger composition of some groups of micronutrients. The compositions of Planta Gainer Classic and Micro are similar in terms of iron and manganese and the strategies of application of both of them together with Planta Gainer Ferro+ do not differ.

We should remember that our actions related to the fertilisation of aquatic plants and adjustment of water chemistry are a reproduction of natural conditions, and we might not always succeed, and sometimes despite the best technologies it might still be difficult to achieve. Sometimes we might even surpass or improve naturel itself. It is best when we can use natural water that is clean, soft and has parameters similar to water from biotopes, from which our plants and animals originate. Unfortunately, natural water England and has such parameters in very few places. Therefore, the second best option is to adjust natural water – which is pure, has the correct parameters, but is too hard – by mixing it with the water from a reverse osmosis filter (R/O). Unfortunately, many aquarists do not have any of the above options. If the water we have is not suitable for use in aquariums, e.g. it does not meet the standards for drinking water just like groundwater containing contaminants or it has been "treated" at a home "descaling" station, i.e. passed through ion exchangers regenerated using table salt etc., then we use 100% osmotic water mineralising it with Hydro Mineral and fertilising it with Planta Gainer Micro. Using 100% osmotic water is a kind of a last resort – it is NOT ideal. Personally I use (whenever possible) tap water or a mixture of tap and osmotic water. In these cases you should use Planta Gainer Classic (not Planta Gainer Micro) as the base fertiliser.

aqua art®
www.aqua-art.uk

Planta Gainer® Pro Micro

Pack size: 500ml

A micronutrient fertiliser for aquatic and aquarium plants intended for the preparation of water pre-filtered by a reverse osmosis filter. It enriches the water with the necessary micronutrients for fish and plants (iron, manganese, zinc, copper, boron, molybdenum, silicon, titanium and cobalt) in optimal proportions. It is not harmful to fish or other aquatic organisms.

Dispense directly into replacement water or aquarium immediately after a partial water change, into a pre-demineralised water – 1 ml (one press of the dispenser) for every 4 litres of replacement water. Intended for use in conjunction with Planta Gainer PRO Hydro Mineral.

Planta Gainer® Pro Macro RED

Pack sizes: 500ml, 100ml

A macronutrient fertiliser specially formulated for fast-growing species of stemmed plants, especially of a warm colour, such as Rotala, Alternanther and Ludwigia. It enriches the water with the necessary macronutrients for aquatic plants (nitrogen, phosphorus and potassium) in optimal proportions. It is recommended especially for heavily-lit aquariums, fertilised with carbon dioxide, endangered with shortages of basic macronutrients. An easily assimilated form and balanced components ensure fast absorption by plants and no residual ballast elements in the water. It is not harmful to fish or other aquatic organisms.

Dose daily by adjusting the dose to the individual needs of a tank, e.g. 1 ml (one press of the dispenser) for every 40 litres of the tank's volume.

Planta Gainer® Pro Macro GREEN

Pack sizes: 500ml, 100ml

A macronutrient fertiliser specially formulated for slow-growing species of plants, such as: Microsorium, Bolbitis, Anubias and others that do not require a high light intensity. It enriches the water with the necessary macronutrients for aquatic plants (nitrogen, phosphorus and potassium) in optimal quantities and proportions. An easily assimilated form and balanced components ensure fast absorption by plants and no residual ballast elements in the water. It is not harmful to fish or other aquatic organisms.

Dose daily by adjusting the dose to the individual needs of a tank, e.g. 1 ml (one press of the dispenser) for every 40 litres of the tank's volume.

? FAQs

Planta Gainer Macro Green or Planta Gainer Macro RED? I have an aquarium and I fertilise it with CO2 from a cylinder. There are the following plants in it: Hemianthus Callitrichoides, a lot of mini pelia and mosses. I use Planta Gainer: Classic, K+, Carbo, Macro Green, Ferro+.

Should I use Macro GREEN or Macro RED in these conditions?

Should I increase the GH using Shrimp Mineral as the KH is higher than the GH?

Planta Gainer Macro RED is a concentrated macronutrient fertiliser for fast-growing plants, such as Hemiantus Callitrichoides. It contains a lot of potassium and an NP balance gently shifted from the average needs of fast-growing plants, in the direction of nitrogen.

Due to this, dosage adjustment is very simple. With a gentle pre-fertilisation, excess nitrogen will accumulate in the form of nitrates surplus (NO3-) before water changes, with still relatively low levels of phosphates (PO4-).

Dosing Planta Gainer Macro RED correctly, achieves a great growth of fast-growing plants and an excellent appearance and condition. Unfortunately, with an intensive care of fast-growing plants, we might observe the deterioration of slow-growing plants such as Microsoria, Bolbitis, Anubias, etc. They have slightly different requirements regarding fertilisation that can be met by using Planta Gainer Macro GREEN – it is slightly less concentrated, has a completely different NPK balance and its fertilising components are present on other media. In such a case, Planta Gainer Macro RED should be used as the base fertiliser, as it will feed all the plants. Planta Gainer Macro GREEN should be used as fertiliser for supplementing the growth of plants.

Should we use them simultaneously? ABSOLUTELY NOT.

You should never mix or use Planta Gainer RED and Planta Gainer GREEN simultaneously. This should be done alternately, by changing the Macro RED to Macro GREEN (and vice versa) over longer periods.

Example:

Planta Gainer Macro RED to be used in the period of intensive "force-growing" of fast-growing plants. After they have reached their proper size, we discontinue supplying Planta Gainer Macro RED and start supplying Planta Gainer Macro GREEN, slowing the growth of fast-growing plants and focusing on slow-growing plants. We use this fertilisation until trimming and immediately after trimming of fast-growing plants, until new growing tips appear on the stems.

At this point, we discontinue supplying Planta Gainer Macro GREEN and we start the cycle from the beginning, going back to supplying Planta Gainer Macro RED. Depending on the needs of particular aquariums, we can lengthen or shorten each phase of the cycle and differentiate the daily doses of fertilisers.

Black moss is likely a symptom of a poorly functioning biological filtration and incomplete development of microbial flora. Aquariums with intensively cultivated plants are much more sensitive to such symptoms if there is a microbial imbalance.

Should you increase the GH using Shrimp Mineral as the KH is higher than the GH? You may but it is not essential.

Planta Gainer® Pro Ferro+

Pack sizes: 500ml, 100ml

An iron and micronutrient fertiliser for aquatic and aquarium plants. For everyday use it enriches the water with iron, in an easily assimilated form for plants and supplements the level of essential micronutrients: manganese, zinc, copper, boron, molybdenum, in optimal proportions.

Dose daily by adjusting the dose to the individual needs of a tank, e.g. 1 ml (one press of the dispenser) for every 40 litres of the tank's volume.

? FAQs

How should I dose Planta Gainer Pro Ferro+?

Determining the optimal doses of Planta Gainer Pro Ferro+ for a particular aquarium depends on many factors and is highly individual. First of all, it depends on the level of available forms of iron that we want to maintain the tank and which can vary from 0.1 ppm – in the case of tanks with easy species of plants (or tanks with an unstable biological balance in which we want to maintain only the minimum level of iron required for proper vegetation of plants and not causing the growth of algae in unstable conditions), up to 0.5 ppm in stable tanks with difficult species of plants with colours in shades of red, where for example, prior to taking pictures of the tank we want to achieve the maximum colour saturation of plants.

In addition, the doses of Planta Gainer Pro Ferro+ depends on the rate of oxidation of available forms of micronutrients to unavailable forms of oxides. This process will be quicker the greater the overall salinity of the water, the stronger and longer illumination of the tank (including UV steriliser), and the stronger oxygenation of the water. It will also depend on the rate of filtration of water in the tank and the type of filter.

To sum up – daily fertilisation with Planta Gainer Pro Ferro+ should begin no earlier than in the second month following the setting up of the tank after the rooting of plants, stabilisation of the plant stock and biological stabilisation of the aquarium. The fertiliser is best supplied daily in carefully selected doses in the evening after turning off of the lights. We recommend that you start with a small dose of approximately 1 ml per 40 litre of the tank's volume (which should correspond to approximately 0.1 ppm) and gradually increase the dose while observing the tank. No visible results in the appearance of the plants with subsequent increases of the dose or an increased growth of green algae are signals that the most recently selected dose was an optimal one.

aqua art®
www.aqua-art.uk

18 Fish and animals

By using Aqua Art products and following our recommendations, you will be able to start populating your aquarium with animals as soon as the first week after setting it up. Remember to select the size and amount of fish and shrimp according to the size of your aquarium. Do not go overboard with the amount and abundance of species. Try to imitate the biotopes from which your animals originate. Successively put in the planned species. Remember that too many fish and too much food may be a reason for the growth of algae in your tank.

19 Taking care of your aquarium

Plants in a correctly set up and fertilised aquarium grow very quickly. Regularly trim the plants. Aqua Art scissors available in several sizes will definitely prove invaluable and very helpful. You can easily remove the precipitate on the glass with the metal scraper with replaceable blades. Use Aqua Cleaner and Aqua Cleaner Box to clean the glass elements. Remember to clean the external filter at least once every 3-4 months. Wash filter cartridges in water pumped out of the aquarium.

Before trimming plants. After trimming plants.

? FAQs

How often should I change the water?

An aquarium is a small ecosystem, but we need to change its water to maintain the biological balance. It is necessary to remove (dilute) waste and decomposition products accumulating in the water. Thanks to water changes we are able to control the level or organic waste in an aquarium, maintaining cleanliness and taking care of the health of its inhabitants. You should change the water every week or every two weeks depending on the amount and size of fish in an aquarium, changing approximately 20-40% of the volume of an aquarium. Remember to provide an appropriate level of quality of the water prepared for water changes.

How to trim plants?

Trimming rows of stemmed plants allows for the alignment of the height of a row. Furthermore, after trimming plants, new growing tips emerge from the nodes located below the top of trimmed plants. Thanks to these growing tips, a few stems grow from each trimmed stem. Rows of plants trimmed in this way become much denser and look nicer. Using this procedure at successively higher levels, we can thicken and level the rows many times while controlling and refining its appearance.

We can cultivate rosette plants by cutting off old outer leaves, thus making room for new ones that will grow better and be better exposed.

Aquarium made with Aqua Art products 8 weeks after it was set up.

Tank: 60x35x30 cm Aqua Art®.

Substrate: Aqua Substrate® II+, Planta Gainer® Caps.

Lighting: HQI 70W 6500K – 10 hours per day.

Filtration: Eheim 2036 Ecco pro 300 + Ehi Aktiv -> Ehi Lav.

Water parameters: KH 3, GH 6, pH 6,7.

Fertiliser: Planta Gainer®: K+, Classic, Carbo,
Pro Macro Red / Pro Macro Green, Pro Ferro+.

Aqua Art CO2 fertilisation: 1.5kg cylinder + CO2 regulator
+ solenoid valve + CO2 Diffuser 35 Pro,
3 bubbles / sec, 10 hours per day

Water changes: RO water + tap water,
30% - once per week

Plants: Elatine hydropiper, Eleocharis parvula,
Staurogyne repens. Taxiphyllum barbieri, Microsorum
pteropus "Windelov", Alternanthera reineckii roseafolia,
Rotala species "Green", Heteranthera zosterifolia,
Hygrophila pinnatifida.

Animals: Paracheidon Simulans, Caridina multidentata,
Crossocheilus siamensis, Otocinclus affinis, Anentome Helena.

Sample aquariums made with Aqua Art products:

aqua art®

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