

The logo for HS aqua features the letters 'HS' in a bold, white, sans-serif font. To the right of 'HS' is a stylized graphic of a fish, composed of blue and orange curved lines. To the right of the fish graphic is the word 'aqua' in a lowercase, orange, sans-serif font.

HS aqua

*A clear view
of nature*

A blue circular tag with a white hole at the top, attached to a thin brown string. The tag is positioned in the lower right quadrant of the image, overlapping the green background and the yellow bottom section.

With
**practical
tips for
beginners**

The freshwater aquarium

Set-up and maintenance

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Welcome to the underwater world

An aquarium is actually a piece of nature. It gives us the chance to take a peek under water. An amazing world that would otherwise remain hidden from us. It allows us to get to know a variety of beautiful fish and plants and learn everything about their behaviour.

Setting up and maintaining an aquarium is not difficult. However, it is important to pay attention to what nature needs and wants. HS aqua products will help you do just that. For over 35 years, we have been supplying a complete range of true-to-nature products for freshwater and marine aquariums. In this brochure, we take you on a tour of the world of the freshwater aquarium. We help you

get started with the set-up of a community aquarium, and give you tips and information on maintaining this set-up. If you still have questions after reading this brochure, simply consult our website: www.hsaqua.nl. Our website not only gives you a complete overview of all of our products, but also provides you with the opportunity to ask our specialists questions. We hope you will enjoy reading our brochure!



A glimpse under water

shopping list

- Aquarium
For example: the HS aqua Quadro Basic or Deluxe Aquarium.
- Includes:
 - + HS aqua fish net
 - + HS aqua glass thermometer
 - + HS aqua Procell
 - + O.S.I. Fish Foods
- Heater
- HS aqua Humalit 5 plus
- HS aqua Substrate, such as river sand, Gravel, Pebbles or HS aqua Decoquartz
- HS aqua 3D Background or HS aqua Photo Background
- HS aqua Decoration ornament(s)
- HS aqua Procell or HS aqua Gold Protect
- HS aqua Bacto
- Plants
- Fish

Setting up an aquarium is not difficult. It does pay off to get familiar with the territory in advance.

Most aquariums contain a colourful mix of fish and plants from different parts of the world. We call this type of aquarium a community aquarium. A community aquarium is extremely suitable for beginners. In setting up this type of aquarium, bear in mind that every type of fish and plant places its own demands on the water, the design of the aquarium, and the maintenance. Every form of life in the aquarium - even in a community aquarium - must be able to co-exist with the other life forms!



Choosing an aquarium

You are of course anxious to get started right away! And this is why HS aqua developed the Quadro Aquarium. The HS aqua Quadro Aquarium is available as a Basic or Deluxe model, with volumes of 35 or 55 liters. The Deluxe aquarium comes complete with built-in lighting, fan and biological filter.

Thanks to PL lighting, you can easily recreate daylight, and with the LED lighting, night. The fan ensures a constant temperature in the aquarium, and good oxygen exchange with the water. The biological filter cleans the water and ensures good water quality.



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Depending on the type of Quadro you choose, the following options are included:

HS aqua Quadro 35 Basic

Lighting with one type of light source: **1 white PL lamp** for 10 to 12 hours per day.

X

Internal filter with a capacity of **200 liters** per hour.

HS aqua Quadro 35 Deluxe

Lighting with two types of light source: **1 white PL lamp** for daytime and **2 blue LED lamps** for nighttime.

Fan

Biological filter driven by a pump, with a capacity of approx. **400 liters** per hour.

HS aqua Quadro 55 Deluxe

Lighting with two types of light source: **2 white PL lamps** for daytime and **2 blue LED lamps** for nighttime.

Fan

Biological filter driven by a pump, with a capacity of approx. **600 liters** per hour.



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Choose a good spot

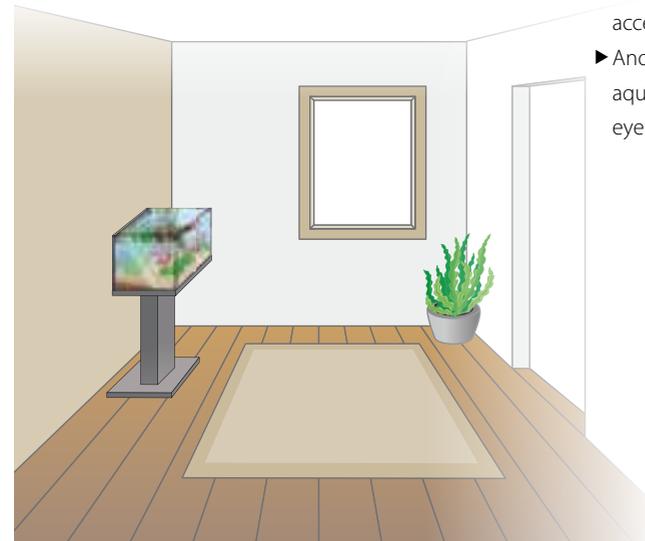


The HS aqua Quadro Aquarium is available in trendy silver or black. Optional furniture includes **matching T-stand** for the Quadro 35 Aquarium or a **cabinet with a door** for the Quadro 55 Aquarium.



The aquarium's location has an effect on the welfare of the fish. For this reason, please take the following guidelines into account:

- ▶ Make sure there are plenty of electrical connections in the vicinity.
- ▶ Never place the aquarium in direct sunlight and not too close to a heat source (radiators, etc.). Sunlight promotes algae growth, and large fluctuations in temperature are not good for the fish.
- ▶ Place the aquarium on a level, sturdy and flat surface. In doing so, please take the weight of the aquarium into account. A 35-liter aquarium will easily weigh 45 kg when filled.
- ▶ Make sure that the aquarium is easily accessible for maintenance.
- ▶ And don't forget: you can only enjoy your aquarium if it's visible! Place the aquarium at eye-level, and in a quiet, dark spot.



Placing the background

As soon as you have found the right spot, you can get started setting up your aquarium. Make sure you do this where the aquarium will ultimately be placed. You cannot move an aquarium once it's been filled. The glass could break!



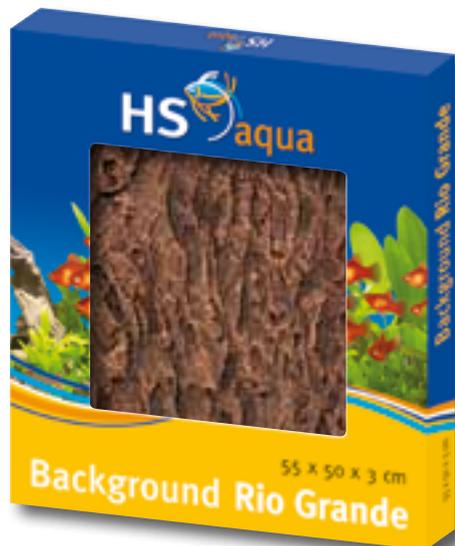
Rio Grande Brown / Grey



Stone Brown / Grey



Amazone Brown / Grey



The aquarium background can really determine the look of your set-up. With a beautiful background, you can effortlessly create a perfect depth effect. After all, there's a good reason **HS aqua** has an extensive range of **3D and photo backgrounds**. Whether you prefer a beautiful rock formation or a photo background depicting plants. With the HS aqua backgrounds, you can set up your aquarium to match your taste. The backgrounds are suitable for every type of aquarium with a free glass back wall, such as the HS aqua Quadro 35 Basic Aquarium. The backgrounds may be easily cut to size.



Laying the substrate

The purpose of the substrate is to provide plants with a place to take root, ensures the right nutrients are present, resulting in luxuriant and healthy plant growth.

Plant growth is essential to a good biological balance in the aquarium. Laying the substrate is done in two layers. First, you lay the nutrient substrate, and then a layer of sand, gravel or pebbles. The sand, gravel or pebbles serve to protect the nutrient substrate.



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Nutrient substrate

Cover the bottom of the aquarium with a layer of approx. 2 cm of **HS aqua Humalit 5 plus**.

This nutrient substrate not only contains all of the trace elements and minerals that are necessary to healthy plant growth, it also contains properties which ensure that the plants will be able to absorb the necessary nutrients easily. HS aqua Humalit 5 plus is made up of five components: laterite, pH-stabiliser, mineral carrier, porous grains and a humus component. Laterite is an element found in tropical soil in which aquarium plants originally grew. This component is particularly well-suited to absorb nutrients and trace elements from the water and to pass them on to plants. The pH-stabiliser creates an ideal substrate environment necessary for the absorption of nutrients. The mineral carrier material offers roots a firm hold, and simplifies the distribution of the nutritional elements, without causing overfeeding as a result. The porous grains offer a home to useful substrate bacteria, and organic grains ensure that the plants get the humus substances they need. If the nutrient substrate has been used for some time and the plants are not growing



at an optimal rate, you do not need to replace the substrate immediately. You can provide the plants with nutrients by adding **HS aqua Terracaps**.



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Substrate materials

Now that you have laid the nutrient substrate, you can cover this with a layer of sand, gravel or pebbles. This is a sort of top layer that prevents the substrate from floating around in the water. The sand, gravel or pebbles will be the only visible materials we use in creating the bottom of the aquarium. Apart from serving as a top layer, the substrate materials also serve as decoration. **HS aqua Substrate Materials** are available in a wide variety of colours and textures. The substrate material you choose will be dependent on your own taste and the type of fish you plan on keeping.



For fish originating from darker regions such as the jungles of South America, we recommend using a dark substrate material. This will enhance the reflection of the fishes' colours, doing them full justice.



Fish from areas with a light bottom, such as Lakes Malawi or Tanganyika best display their interesting behaviour against a light substrate.



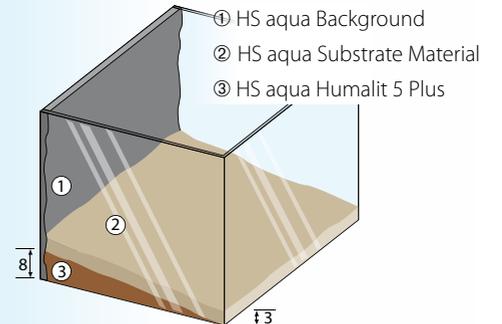
Natural substrate materials

1	Black gravel	1-2 mm
2	Light gravel	1-2 mm
3	Light gravel	3-6 mm
4	Dark gravel	1-2 mm
5	Dark gravel	3-6 mm
6	Nature Quartz Tiger Yellow	2-3 mm
7	Nature Quartz Tiger Yellow	6-8 mm
8	Nature Quartz Black & White	2-3 mm
9	Nature Quartz Black & White	6-8 mm
10	River sand	

Coloured substrate materials

1	Decoquartz Earth-Red	1 mm
2	Decoquartz Earth-Red	2-3 mm
3	Decoquartz Yellow Mix	2-3 mm
4	Decoquartz Ocean Blue	2-3 mm
5	Decoquartz Blue Mix	2-3 mm
6	Decoquartz-Red	2-3 mm
7	Decoquartz-White	1 mm
8	Decoquartz Tropical Orange	2-3 mm
9	Decoquartz Bordeaux Mix	2-3 mm
10	Decoquartz Green Mix	2-3 mm

You can create depth by laying the substrate in a sloping manner, gradually increasing to approximately 3 cm against the front of the aquarium and 8 cm against the background. Rinse the substrate well before adding it to prevent cloudy aquarium water. For a community aquarium, choose a substrate with a grain size of 1 - 3 mm. This will prevent the sinking debris from getting a good chance to settle.



Decorative ornaments

The substrate has been laid. Now you can start placing decorative ornaments. In choosing your decoration, please make the fishes' needs a priority: make sure the fish feel at home, and have enough room to swim about freely!

Decoration is not just beautiful, it is also functional. Using decoration, you create a beautiful point of focus in the aquarium, not to mention a hiding place for the fish. Most fish prefer to stay out of sight from time to time, and also to have a place to get out of the light.

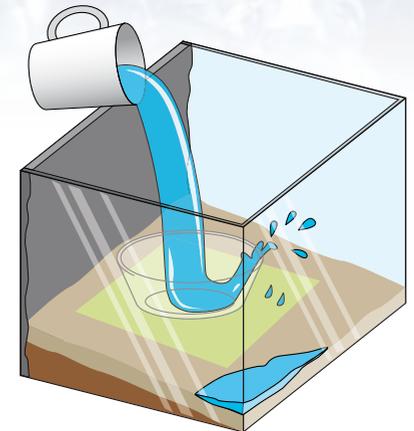
Natural decorative materials such as wood and stone can affect the quality of the water. This is why we recommend going about this carefully! With **HS aqua Decorative Ornaments**, you can avoid risks. Our ornaments are made from polyresin. A 100% safe artificial resin that doesn't affect water quality. Additionally, the ornaments are hollow on the inside, helping keep the volume in the aquarium constant. The HS aqua Decorative Ornaments are available in a variety of colours, types and sizes, and are perfect to use to promote the growth of moss and other plants.



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Water

The bottom is now ready, and the decoration in place. Time to add water! Fill the aquarium to approximately 2/3 of the total height. While you do this, place a plate on the bottom and allow the water to flow onto the plate. After all, you don't want the nutrient substrate to get rinsed away. Use water that is already at the right temperature. For a community aquarium, this is between 22°C (72°F) and 24°C (75°F). Do not fill the aquarium until the plants have been placed. After the aquarium has been filled, you may also place the heater. Set the thermometer to 24°C (75°F). With the **HS aqua Thermometers**, you can control the temperature of the water. Especially during the first days that your aquarium is active, it is a good idea to do this regularly. Using the suction cup, affix the thermometer to the glass.



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Plants

Making the water suitable for fish

Tap water can contain chlorine and heavy metals. These substances are harmful to the health of the fish. To make your tap water suitable for tropical fish, add **HS aqua Procell** to the water. HS aqua Procell protects fishes' sensitive slime layer and this is extremely important, especially for new fish in the aquarium! If you are setting up a goldfish aquarium, we recommend first treating the water with **HS aqua Gold Protect**.

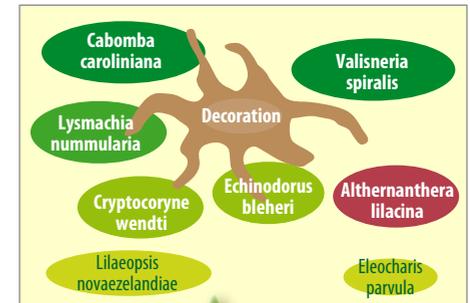
After treating the water with HS aqua Procell or HS aqua Gold Protect, do not add anything else to the water for at least one day. After that, start the filter with **HS aqua Bacto**. HS aqua Bacto contains natural bacteria that purify the water, breaking down waste produced by fish and plants.



Plants give the aquarium a natural look and support the quality of the water. They produce oxygen and clean the water by absorbing nutrients which are otherwise consumed by algae. They are also important to the welfare of fish: they offer a place for the fish to lay eggs and provide shelter.

Adding plants to the aquarium

In order to create a good contrast in colour, shape and height, it would be best to first draw a plant plan. This means typical foreground, middle group and background plants, which, just like the substrate of the aquarium, gradually increase from a low to a higher level. This way, you create a beautiful depth effect, and the plants will not block light from one another. In order to make create an organised look in the aquarium, place plants of the same species together in groups. Make sure there is enough space between the plants so that each plant gets plenty of light, and that there is still enough room left for the fish to swim around.





Foreground plants

1. Grass plant

Lilaeopsis novaezelandiae

Origin New Zealand

Light requirements Moderate

2. Dwarf spikerush

Eleocharis parvula

Origin North America, Cuba,
Africa, Europe

Light requirements Moderate to high

Middle group plants

3. Tiny crypt

Cryptocoryne wendti

Origin Sri Lanka

Light requirements Moderate

4. Great Amazon Sword plant

Echinodorus bleheri

Origin South America

Light requirements Moderate

5. Purple Althernanthera

Althernanthera lilacina

Origin South America

Light requirements High

Background plants

6. Green Cabomba

Cabomba caroliniana

Origin North, Central and South
America

Light requirements Moderate

7. Valisneria

Valisneria spiralis (photo: V.gigantea)

Origin Central America

Light requirements High

8. Moneywort

Lysmachia nummularia

Origin North America

Light requirements High





Liquid food

Depending on the species, plants get their nutrition from the substrate as well as directly from the water. In addition to adding a nutrient substrate of HS aqua Humalit 5 plus, it is also advisable to start adding **HS aqua Floracell** about a month after starting up the aquarium. This is a solution containing minerals and trace elements which improves plants' growth. For plants with an extra high iron requirement, add **HS aqua Ferrocell** to the water. Red-coloured plants in particular need a lot of iron.



Carbon

Apart from minerals, carbon is also very important to optimum plant growth. You can add carbon compounds to the water in liquid or CO₂ gas form.

HS aqua FloraCarbo is a source of carbon and a nutrient system in one bottle. You simply add HS aqua FloraCarbo to the water as a liquid. Using the **HS aqua CO₂ Starter Set**, you can add CO₂ to the water in gas form. Both systems are suitable for use in the HS aqua Quadro Aquarium.



For larger aquariums, a more even and efficient addition of CO₂ to the water is desirable. We recommend using the **HS aqua Professional CO₂ Sets** for this purpose. There are two models of these sets available: the HS aqua Professional CO₂ Set 1 for aquariums up to 200 liters and the HS aqua Professional CO₂ Set 2 for aquariums up to 500 liters.



HS aqua CO₂ Starter Set

contains:

- ▶ HS aqua CO₂ Bottle
- ▶ HS aqua CO₂ Diffuser
- ▶ HS aqua CO₂ Tube

Good water quality

HS aqua Professional CO₂ Set 1 contains:

- ▶ HS aqua refillable aluminium CO₂ Cylinder 300 g
- ▶ HS aqua Supporting rack
- ▶ HS aqua CO₂ Pressure Reducing valve
- ▶ HS aqua CO₂ Diffuser
- ▶ HS aqua CO₂ Check valve
- ▶ HS aqua CO₂ Bubble counter
- ▶ HS aqua CO₂ Tube 2 meter



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HS aqua Professional CO₂ Set 2 contains:

- ▶ HS aqua refillable aluminium CO₂ Cylinder 500 g
- ▶ HS aqua Supporting rack
- ▶ HS aqua CO₂ Pressure Reducer with 2 manometers and solenoid valve
- ▶ HS aqua CO₂ Max / Mix Reactor
- ▶ HS aqua CO₂ Check valve
- ▶ HS aqua CO₂ Bubble counter
- ▶ HS aqua CO₂ Tube 2 meter



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Healthy fish and plants are crucial to the enjoyment of your aquarium! This is why it is important to check the water quality on a regular basis.

Testing the water values sounds more complicated than it actually is. Because it is a living piece of nature, all sorts of biological and chemical processes take place in an aquarium. This means the dissolved substances react with one another continually. They are absorbed by plants, processed by bacteria, and new substances are created by the breakdown of waste materials. It is important to monitor these dissolved substances. Certain substances should not reach an excessively high level, whereas others should not decrease too much.



Water values

The primary water values are acidity (pH), carbonate hardness (KH), total hardness (GH), ammonium and ammonia, the nitrite and nitrate values.

Acidity (pH)

The water's acidity is expressed in terms of its pH. A stable pH value is important to the welfare of the fish. The optimum pH for most fish in a community aquarium is between 6.5 and 7.5. Although in some cases, a slightly higher or lower pH value can be desirable.

Carbonate hardness (KH)

The carbonate hardness represents the buffering capacity of the water, and ensures that pH values remain stable. In a community aquarium, a KH value between 3 and 7°KH is considered optimum.

Total hardness (GH)

The total hardness of the water is indicated by GH. This hardness is formed by salts from magnesium and calcium dissolved in the water. In a planted aquarium, a GH value between 4 and 8°GH is considered optimum.

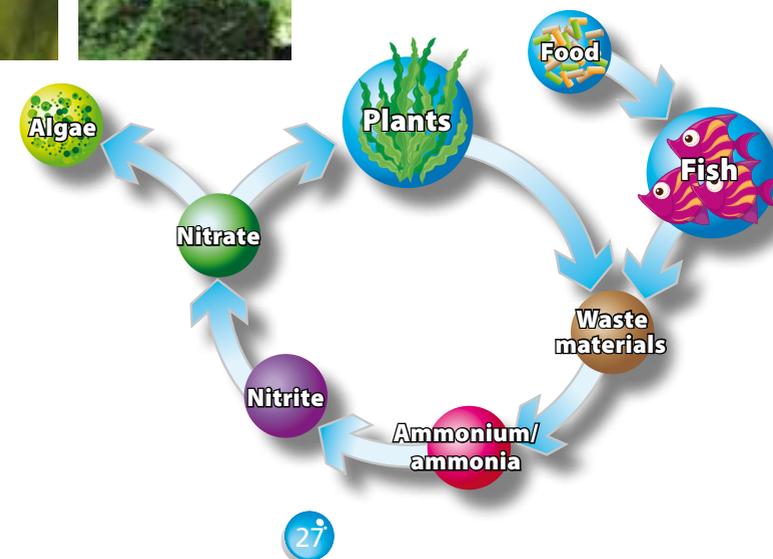
Ammonia / ammonium

In an aquarium, fish and plants produce waste materials. Nitrogen compounds are created in the water as a result. Ammonia develops at a pH value higher than 7, ammonium at a pH value lower than 7. Even in very small amounts, ammonia is toxic to fish, whereas ammonium is less poisonous.



Nitrite and nitrate

Bacteria ensure that ammonium and ammonia are converted to nitrite. Nitrite is also toxic for fish. Nitrite may be broken down by bacteria to form nitrate. Nitrate is a nutrient for higher plants and algae. Larger quantities of nitrate dramatically increase the chance of green algae growth. Nitrate is dangerous when a lack of oxygen occurs. In this case, nitrate can release oxygen and react to form nitrite. Larger quantities of nitrate can therefore also result in very high quantities of the toxic nitrite!



Testing the water quality

Knowledge is power! This is why it's important to check the water quality on a regular basis. There are different ways to determine the water values in the aquarium.

Combination tests

You can determine the pH, KH, GH, nitrite and nitrate values in a matter of seconds using the **HS aqua 5 in 1 Teststrips**. Dip the test strip in the water, and compare the colours you see with those on the colour chart.

Individual water tests

The same principle applies to the **HS aqua Ammonium/ Ammonia Teststrips**. Within one minute, you can determine the ammonium or ammonia level in your aquarium.



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Precise measurements

If you would like to know the precise water values in the aquarium because, for example, you would like to keep fish which make very specific demands on the water quality, then we recommend using the **HS aqua Multimeter Exact**. The HS aqua Multimeter Exact is an easy to operate photometer which you can use to read a large number of water values with extreme precision.



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Continuous readings

Fish really only feel good in water with a stable pH value. To get continuous readings for this value, we recommend the **HS aqua pH-Monitor** or the **HS aqua pH-Controller**. Using the HS aqua pH-Monitor, you can continuously monitor the water's pH. Using the HS aqua pH-Controller, not only can you read the pH, you can also control a dosage device which automatically keeps the pH stable.



Correcting the water quality



Using various HS aqua water improvement products, you can correct abnormal water values. You can also use these products to meet special needs for a variety of fish species.

HS aqua pH Plus raises the pH. HS aqua pH Plus is ideally suited to most fish from East Africa and Central America.

HS aqua KH Plus raises the KH. By raising the KH value, HS aqua KH Plus stabilises the pH value.

HS aqua pH/ KH Minus lowers the pH and KH values. Tap water usually has a high pH, whereas many fish actually need low pH values to thrive.

HS aqua Oak Extract lowers the pH and protects fishes' sensitive slime layer from adverse environmental influences. HS aqua Oak Extract is ideally suited to fish from jungle regions and where the water contains a high level of humus acid.

CO₂ lowers the pH. You can add CO₂ to the water using the HS aqua CO₂ Starterset and HS aqua Professional CO₂ Sets 1 and 2.

HS aqua Bacto and **HS aqua Denibac** are natural bacteria cultures that are essential to a natural biological balance in the aquarium. When used together, these products remove ammonia, nitrite and nitrate from the water.

HS aqua Easycell binds ammonium and heavy metals.



Filter materials

Cleaning the water is done using the filter. Using a pump, the water is pumped through a number of different filter materials.

This filters waste produced by fish, plant remnants and excess food from the water. In addition to this, the filter serves another important function. It is a source of useful bacteria which help to establish a good biological balance. The bacteria in the filter 'eat' the toxic waste materials in the water. There are biological, adsorbent and enriching filter materials available for the HS aqua Quadro Aquarium.

Biological filter materials

HS aqua Denilit and **HS aqua Ceramic Filtermedium** are biological filter materials.

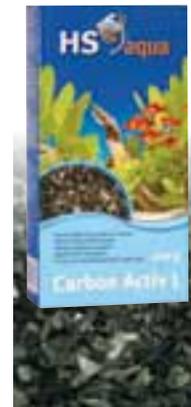
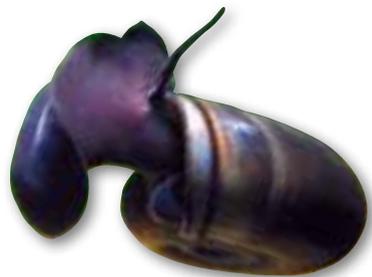
HS aqua Denilit has a highly porous structure and a large surface area. This provides the ideal surface for useful, waste-material reducing bacteria to attach themselves, thereby contributing to the natural processing of the waste in the aquarium. HS aqua Ceramic Filtermedium is the ideal pre-filter material. The tubular form ensures that the filter material is easy to keep clean.

Adsorbent filter materials

HS aqua Carbon Activ S, Carbon Activ L, Carbon Superactiv S, Carbon Superactiv L

and **Zeoliet** are adsorbent filter materials. These materials are capable of adsorbing or binding harmful substances such as ammonia and medication excreted by the fish. After several weeks or months, the filter materials will be saturated and must be replaced.

HS aqua Carbon Activ S and Carbon Activ L are high-quality charcoal products. HS aqua Carbon Activ S is used for a rapid removal of waste materials and HS aqua Carbon Activ L is normally used to remove odours, colours and toxins from the water. If an extremely high absorbent capacity is desired, we recommend using HS aqua Carbon Superactiv S or HS aqua Carbon Superactiv L. HS aqua Zeoliet is a filter material that is very suitable for aquariums with a varying biological load. HS aqua Zeoliet is a natural rock that binds the harmful waste product ammonia.





Fish

Did you know?

Enriching filter materials

HS aqua Torogran is an enriching filter material. This material is used to create a slight acidification and brown colouration in the water, helping to create a natural environment for tropical blackwater fish.

- ▶ Fish can drown.
- ▶ Fish sleep with their eyes open.
- ▶ Fresh water fish don't drink.
- ▶ Fish swim in an angle when the light comes from the side of the aquarium.
- ▶ Some Fish have a memory of 3 months.
- ▶ Some fish change their gender when they get older.
- ▶ Some fish don't lay eggs but give birth.
- ▶ Some fish don't eat for weeks during breeding.
- ▶ Fish get more active when the natural temperature of the water raises a few degrees.

You can buy fish at the specialty store. These stores can give you excellent advice on which fish can be put in the same aquarium together.

You cannot just put any fish together in an aquarium at random. Some fish are too large, or will eat the plants, whereas others can turn from cute little fish to gluttonous raiders. You should also be sure to get good advice on the right number of each type fish for your aquarium. Some fish live as couples in nature, whereas others live in schools. When choosing species of fish, do not only consider what you think is beautiful, but be sure to pay particular attention to the needs and wishes of the fish - choose the healthy option! Fish must be able to swim around, remain alert, and be at their optimum colouration. If you see dead fish in the store aquarium, it would be better not to choose any fish from this tank. The aquarium must get the chance to develop a biological balance. This is why it is best not to place too many fish in the aquarium for the first 14 days, nor to give them too much food. Gradually increase the quantity of food. Check the water quality every day, and add several useful fish first, such as bottom dwellers and algae eaters.

Recommended combinations of fish

In a community aquarium, it is best to keep fish that have more or less the same requirements in terms of water values and temperature. Match your choice of fish to top, middle and bottom dwellers. This will create a beautifully filled aquarium, without you having to worry about the fish getting in one another's way. In choosing the quantity of fish, use the following rule of thumb: 1 cm of adult fish for each liter of water.





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Top dwellers

Honey Gouramis, Guppies and Chinese Danios are typical top dwellers.

1. Honey Gourami *Colisa chuna*

Origin India, Bangladesh
 Family Real Gouramis
 Behaviour Peaceful, sometimes shy
 Food O.S.I. Freshwater Aquarium Flakes, O.S.I. VividColor™ Aquarium Flakes and frozen food
 Min. quantity 1 male with 2 females

2. Guppy *Poecilia reticulata*

Origin Central America
 Family Live-bearing toothcarps
 Behaviour Very peaceful, lively
 Food O.S.I. Freshwater Aquarium Flakes, O.S.I. VividColor™ Aquarium Flakes, frozen food and algae
 Min. quantity 1 male with 3 females

3. Chinese Danio *Tanichthys albonubes*

Origin China
 Family Carps
 Behaviour Very peaceful, active
 Food O.S.I. Freshwater Aquarium Flakes and frozen food
 Min. quantity 7

Mid-water dwellers

Cardinal Tetras, Harlequin fish and Red-eyed Tetras are typical mid-water dwellers.

4. Cardinal tetra *Paracheirodon axelrodi*

Origin South America, Amazon
 Family Characins, tetras
 Behaviour Very peaceful, active
 Food O.S.I. Freshwater Aquarium Flakes, O.S.I. Staple Granules and frozen food
 Min. quantity 7

5. Harlequin fish *Rasbora heteromorpha*

Origin Southeast Asia
 Family Barbs
 Behaviour Very peaceful, active
 Food O.S.I. Freshwater Aquarium Flakes, O.S.I. Staple Granules and frozen food
 Min. quantity 7

6. Red-eyed tetra *Moenkhausia sanctaefilomenae*

Origin South America, Paraguay
 Family Characins, tetras
 Behaviour Very peaceful, sometimes shy
 Food O.S.I. Freshwater Aquarium Flakes, O.S.I. Staple Granules and frozen food
 Min. quantity 5

Bottom dwellers and algae eaters

The Armored catfish is a typical bottom dweller. The Ancistrus and Siamesis are algae eaters.

7. Armored catfish *Corydoras trilineatus*

Origin South America, Amazon
 Family Catfish
 Behaviour Peaceful, lively
 Food O.S.I. Shrimp Pellets, frozen food, algae and green food
 Min. quantity 5

8. Ancistrus *Ancistrus dolichopterus*

Origin South America
 Family Armored catfish
 Behaviour Very peaceful, calm
 Food O.S.I. Spirulina Aquarium Flakes & Pellets, O.S.I. Spirulina Wafers, algae and green food
 Min. quantity 1

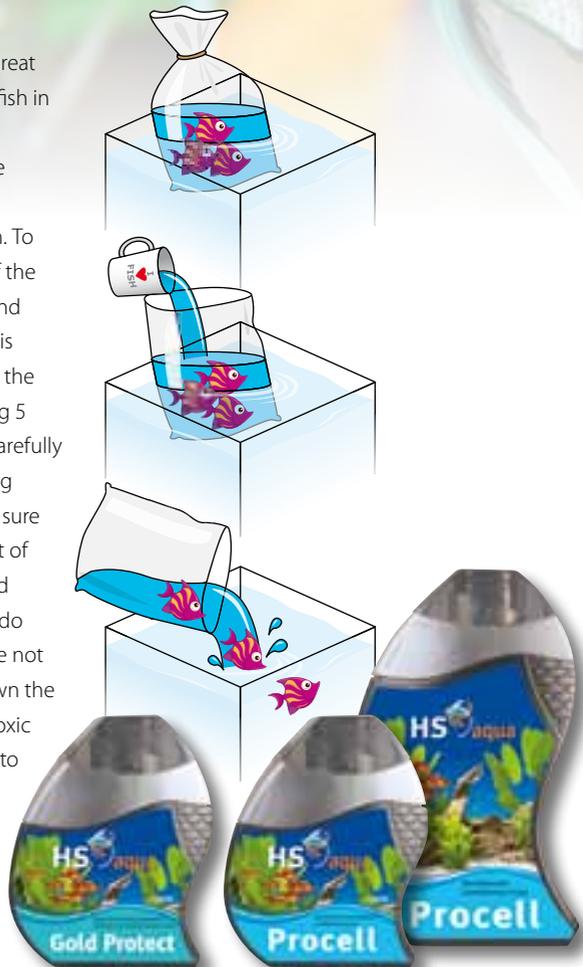
9. Siamesis *Epalzeorhynchus siamensis*

Origin Southeast Asia, Thailand
 Family Barbs
 Behaviour Peaceful
 Food algae and green food
 Min. quantity 5

Food & vitamins for fish

Releasing fish into the aquarium

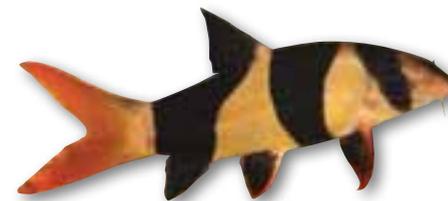
Adding fish to your aquarium requires a great deal of care! Let the bag you bought the fish in float on top of the aquarium for about 20 minutes. This will allow the temperature of the water in the bag to adapt to the temperature of the water in the aquarium. To prevent differences in the composition of the water, take a cup of water from the bag and pour it down the drain. Next, replenish this same amount in the bag with water from the aquarium. Repeat this 4 or 5 times, waiting 5 minutes between each exchange. Now carefully allow the fish to slowly slide out of the bag into the aquarium. Always check to make sure all of the fish are out of the bag. With a bit of luck, the fish will feel good right away, and the fun can start! For the first 2 to 3 days, do not give the fish too much food. There are not enough bacteria present yet to break down the nitrite in the water which can result in a toxic concentration in the water. It is advisable to add **HS aqua Procell** or **HS aqua Gold Protect** to the water again to provide extra protection for fishes' slime layer.



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To optimise fishes' health, you must feed food that is suitable to the types of fish you are keeping. The best way to do this is with staple food and supplemental foods from O.S.I.

O.S.I. foods contain pre-digested proteins. This makes them easily digestible and allows them to be better absorbed better by the fish. Fish need less food, and this leads to better water quality. Not only does the food enhance fishes' natural colours, fish love the taste! Feed flake foods to fish swimming at the surface of the aquarium. Feed pellets or granules to middle- and top dwellers. These are pellets that sink to the bottom of the aquarium. Do not feed fish a large quantity once a week, but instead feed them 1 to 2 times a day as much food as they can consume in 2 to 4 minutes.



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General staple foods

O.S.I. Freshwaterflakes	For all tropical fish.
O.S.I. Staple Granules	
O.S.I. Red Tiny Bits	For all carnivorous tropical fish such as small Discus, Tetras and Cichlids.

Special staple foods

O.S.I. Cichlid Flakes & Pellets	For Cichlids.
O.S.I. Goldfish Flakes & Pellets	For Goldfish and Fantails.
O.S.I. Shrimp Granules	For Fancy shrimp.

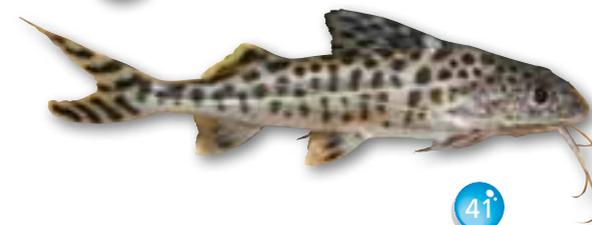
Supplemental foods

O.S.I. VividColor™ Aquarium Flakes	For all tropical fish.	Colour-enhancing food based on natural pigments.
O.S.I. Brine Shrimp Flakes	For all carnivorous tropical fish such as Catfish.	Protein-rich, colour-enhancing food based on natural pigments.
O.S.I. Shrimp Pellets	Also suitable for shrimp.	Good growth food.
O.S.I. Spirulina Flakes,- Pellets & - Wafers	For herbivorous tropical fish such as Tanganyika and Cichlids. Also suitable for shrimp.	Colour-enhancing food based on natural pigments. Strengthens the immune system.



No time to feed your fish?

Naturally, there are times you might not be able to feed your fish. For example, if you are going away for a weekend, or on a well-deserved holiday. **HS aqua Weekend Food** is the solution for feeding your fish when you're away from home. One feeding block is enough to feed about 15 fish for 2 to 4 days. If you plan to be gone a bit longer, with **HS aqua Vacation Food**, you can feed about 15 fish for 10 to 14 days. Place the feeding block at the bottom of the aquarium, and it will gradually dissolve into small portions of food.



Vitamins & minerals for fish

In addition to a healthy diet, vitamins and minerals are also important to the health of the fish. Place the **HS aqua Mineralblock** at the bottom of the aquarium, and it will gradually release vitamins and minerals into the water. For extra health benefits and disease resistance, mix fish food with **HS aqua Vivocell**. This is a multivitamin solution that ensures your fish will be vital and will improve their resistance to disease. HS aqua Vivocell is a particularly indispensable product when you plan to breed your fish!



Don't ever skip maintenance

Maintain your aquarium with fixed regularity. It is better to perform small maintenance activities regularly, than to do major maintenance only every now and then.

A clean aquarium

Cleaning agent residue is deadly for plants and fish! This is why it is so important to be careful when cleaning your aquarium. Use a new bucket that you use only for the aquarium. Be careful when using glass cleaners for the outside of the aquarium and try to avoid using volatile products such as hairspray, flea spray, paint, etc. in the vicinity of the aquarium. Make sure that your hands are clean when they come in contact with the water, and that all traces of soap have been rinsed off.

Natural cleaning

In order to remove dissolved wastes from the water, add **HS aqua Easycell** to the water. HS aqua Easycell ensures clear water and better and more stable water quality. If your aquarium water is cloudy, we recommend using the **HS aqua Clear** for this purpose. HS aqua Clear binds dirt particles that are too small to be removed by the filter. The coarser particles that form as a result will then be able to be filtered out. **HS aqua Denibac** removes excess plant waste materials from the water, and breaks down humus and sludge. This way, HS aqua Denibac cleans the aquarium in a natural manner, and prevents troublesome algae growth.



Maintenance after the start-up phase

Daily	Weekly	Every 3 to 4 weeks
Feed fish 1 to 2 times a day with O.S.I. fish food	Change 10% of the water in the aquarium. After water changes, always add HS aqua Procell and HS aqua Bacto . The temperature of the water you add must be the same as that in the aquarium.	Add HS aqua Easycell to the water
Observe fishes' behaviour and appearance	Rinse the filter with water from the aquarium (do not use tap water!!). After cleaning, add HS aqua Bacto .	Add HS aqua Denibac to the water
Check the temperature	Clean outside of glass and remove debris using HS aqua Battery Cleaner , an HS aqua fishnet or a HS aqua planter	Check filter materials and replace if necessary
Check equipment	Test water values (pH, KH, GH, ammonia, nitrite and nitrate), and correct if necessary	Trim the tops of plants that have gotten too tall

Trouble-shooting

Just like people, fish can also get sick. This is why it is important to make a habit of regularly checking your fishes' behaviour and appearance. It is best to do this during feedings!

External appearance of sick fish

- ▶ White spots on the skin
- ▶ Red spots on the skin
- ▶ Changes in fins
- ▶ White fungus on the skin
- ▶ Increased slime layer
- ▶ Gills which are unusually red or white
- ▶ Sores
- ▶ Discolouration
- ▶ Swelling or thinning
- ▶ White slimy excrement

Behaviour of sick fish

- ▶ Rubbing against decoration or plants
- ▶ Hectic swim movements
- ▶ Not eating
- ▶ Swimming in an unnatural position
- ▶ Clenching the fins or tail
- ▶ Rapid breathing
- ▶ Lying on the bottom
- ▶ Isolation





Medication

Fortunately, most problems may be treated through the use of several different products. In order to accurately determine the problem, it is best to contact a specialty shop. Bring a sick fish, a water sample, or affected plants with you so that the professional can perform a check before you start treatment.

HS aqua Ichtocell

To treat white spot disease or ich.

HS aqua Unicell

Universal treatment for skin infections.

HS aqua Fungicell

To treat fungal infections.

HS aqua CamaCell

To treat internal and external worm infections.

HS aqua SpiroCell

To treat internal infections caused by flagellates.

Always follow the instructions on the packaging and give only the exact amount indicated.

Algicides

Excessive growth of algae often indicates a dirty aquarium. This may be caused by a variety of environmental factors. Never wait too long to ask the specialist for advice. The solution is often a simple one, and responding quickly to the problem can often prevent it from worsening!

HS aqua Clear

To treat cloudy water.

HS aqua Cupracell

To treat beard and hair algae. After treatment, you should try to find what is causing the growth of the algae. The cause can often be a lack of minerals for the plants, overfeeding or changing water too infrequently.

HS aqua CyanoCell

To treat blue algae. Blue algae can multiply extremely quickly when the aquarium's biological balance is disturbed.

After using HS aqua Cupracell or HS aqua CyanoCell, you must restore the biological balance in the aquarium. Use HS aqua Bacto to do this.





New!

HS aqua FloraCarbo

**The 1st complete nutrition for aquatic plants
with carbon source**

- ▶ Ideal for Aquaria without CO₂ fertilization
- ▶ Safe for fish, shrimp, crawfish and fancy snails

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