

How to set up an aquarium according to nature



Colorful ornamental fish



Set up an aquarium in 5 steps



Exotic landscapes



 **sera® guide**

Practical expert tips for beginners and experienced aquarists

Contents

| | |
|---|----|
| Selecting ornamental fish and their environment | 4 |
| Community aquarium | 5 |
| Plants: The green lung for underwater nature | 9 |
| Decoration | 13 |
| sera Biotope Aquarium "South America" | 14 |
| sera Biotope Aquarium "Central America" | 16 |
| sera Biotope Aquarium "Asia" | 18 |
| Technical equipment | |
| Lighting | 20 |
| Heater | 21 |
| Filtration according to nature | 22 |
| Air as propulsion | 34 |
| Useful helpers | 36 |
| Different aquarium shapes | 37 |
| Location and aquarium preparation | 38 |
| Biologically clean | 39 |
| Planning the aquarium landscape | 40 |
| Set up an aquarium in 5 steps | 41 |
| Computer aided aquarium design | 46 |



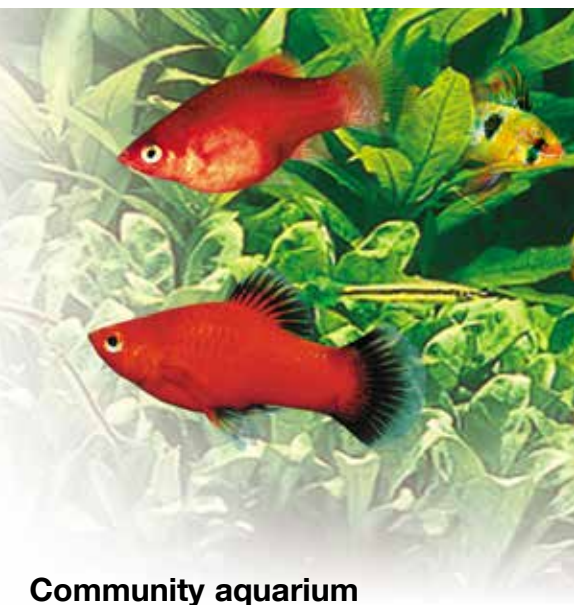
An aquarium is like a holiday at home. Colorful activity inside the aquarium and the mysterious beauty of the underwater world will distract you from everyday's stress. Keeping an aquarium provides plenty of variation, is fun, and there is always something exciting to watch at home.



Natural aquarium setup and maintenance causes little work if you comply to the basic rules in this **sera guide**. **sera** supports you with natural quality products. We wish you plenty of joy and success!

Selecting ornamental fish

In most cases, different ornamental fish species are kept in an aquarium. When doing so, you must consider how fish live in their natural environment. Which fish harmonize, and which water properties are required? In the following, **sera** will give you some recommendations on how to select your ornamental fish and how to put together an aquatic world for freshwater aquariums. There is a special **sera guide** for marine water aquariums.



Aquarium for one fish species

Do you like a kind of fish that much that you want to keep only this species as a pet? Please get informed in advance whether the ornamental fish you want to keep is suitable for a species aquarium.

Biotope aquarium

In that case you decide on animals which originate from the same natural habitat. You can create a natural part of an aquatic world that you will hardly ever see otherwise. This fascinating aquarium type has many advantages. Fish, plants and decoration harmonize among each other. All fish require the same water composition. Maintaining these aquariums is relatively uncomplicated. And if you really enjoy this, just create a part of the Amazon water world, the tropical rainforest and Lake Malawi at your home. This is like a holiday at home. But let us cling to a single aquarium at the moment.

Community aquarium

You will keep ornamental fish and plants that originate from different regions – just what you like. Of course you must be sure that the ornamental fish are peaceful among each other, and that requirements concerning water composition and temperature are the same for all of them.

At first, **sera** will present you some ornamental fish for community aquariums which are particularly suitable for beginners. In the following we will show you some biotope aquariums.

An important tip

Ornamental fish live in different water layers. There are ornamental fish species that mostly swim near the surface, in the middle or near the bottom of the aquarium. In order to have fish in all water layers, try to consider this when selecting the fish. Also, you should know about the size of your aquarium before selecting your favorite fish. A basic rule is: 1 cm (0.4 in.) adult fish per liter (1 US quart) of water.

Community aquarium

Livebearing toothcarps

It is almost impossible to get an overview about the ornamental fish in your retailer's store, at least for beginners. Fish of all colors, shapes and sizes live in retail aquariums. Many beautiful fish are easy to keep also by inexperienced aquarists, other species are suitable only for specialists.

Just like in real life, also in aquatic environments every fish species has its special characteristics and requirements that do not comply with all co-inhabitants. Therefore it is important also to consider territorial behavior, calmness requirements, sleeping and eating habits of the different species, and to keep species that harmonize well among each other.

An important tip

Most ornamental fish live in shoals in nature and should be kept in groups of 6 – 8 specimens also in an aquarium. The fish will also be more attractive optically this way.



fascinate both beginners and experienced aquarists. They are continuously active and very peaceful. The colorful fish mainly dwell in the upper third of the aquarium.



There are many colorful platy breeding morphs.



The breeding morphs of male guppies have splendid dorsal and caudal fins.



Swordtails are especially rapid, active swimmers.

Characins

mainly stay in the mid water layers of an aquarium. They reveal a strong shoaling behavior and are the more attractive the more fish of one species you keep together.



Neon tetras are very popular due to their splendid colors and are easy to care for, even by beginners.



Cardinal tetras are similar to Neon tetras in their requirements.



The *Hemigrammus* genus of tetras comes in different colors. They are peaceful, hardy shoal fish.

Barbs and danios

are robust and colorful. Their active behavior avoids any boredom in the aquarium. Please ask your retailer about the final size of the fish. Some barbs [e.g. Bala sharks (*Balantiocheilus melanopterus*)] simply grow too large for community tanks.



Cherry barbs (*Barbus titteya*) are beautiful, peaceful fish.



Tiger barbs are very conspicuous due to their stripes. These lively fish must not be kept together with species of long-finned fish (e.g. angelfish, gouramis, veiltail hybrids) as they like to nibble at their fins.



Zebra danios reveal a distinct type of shoaling behavior.

Cichlids

show many interesting behaviors, but only some of them are suitable for beginners. Most of the larger species are quite aggressive and/or rather fastidious. Angelfish and dwarf cichlids can easily be kept by beginners.



Kribensis need caves in which they can hide and breed.



Butterfly cichlids are very beautiful fish that should only be kept together with other calm fish.



Angelfish are an easy to keep cichlid species. You should by no means keep them together with neon or cardinal tetras, as these tetras are a delicacy for larger angelfish.

Armored catfish

look for food on the bottom of the aquarium all day long. They are shoal fish that should never be kept alone. Please keep at least four specimens of one species together. In opposition to statements sometimes heard, armored catfish are not “garbage collectors” but need a well-balanced high quality diet, just as the other aquarium fish!



Labyrinth fish

feel well in a richly planted aquarium. Mostly, they are calm and do not threaten other fish. A special feature of labyrinth fish is that they additionally breathe air with a special organ, the so-called labyrinth (hence the name of the fish). Thus, it is absolutely normal that anabantoids breathe air from the water surface.



Siamese fighters are available in many different colors. The males fight each other extremely vehemently, thus only **one** male should always be kept together with one female. The Siamese fighters are completely peaceful towards other fish.



Dwarf gouramis are among the most beautiful aquarium fish. The natural form is striped blue and red, but by now, there are also orange-red breeding morphs.



A group of Pearl gouramis is especially attractive in well-planted aquariums.

Recommendable fish combinations

It is always an advantage to combine fish that stay in different water layers. For example: guppies, gouramis, neon/cardinal tetras and armored catfish, or platies, barbs, dwarf cichlids and armored catfish. In both cases, introduce some algae-eating fish. Small to medium-sized specimens such as Bushy Mouth Ancistrus (*Ancistrus cf. dolichopterus*) and the Midget Sucker Catfish (*Otocinclus cf. affinis*) are especially recommendable. These fish constantly scrape off algae from the inside aquarium glass, stones and plant leaves. Also, livebearing toothcarps (guppies, platies, black mollies, swordtails etc.) eat algae.

Most ornamental fish are comfortable with water temperatures of about 25°C (77°F) and a neutral pH value (6.5 – 7.5).

Plants:

The green lung for underwater nature

Plants fulfill several important tasks in an aquarium.

The different shades of green of the leaves bring calmness and harmony into the aquarium. A beautifully planted aquarium is a relaxing, decorative eyecatcher in your home.

With the bacteria in the gravel, the plants form an effective filter system. The plants should include fast growing species such as hornwort (*Ceratophyllum demersum*) or waterweed (*Elodea* and *Egeria* species) as they withdraw nitrogen containing pollutants from the water from the first day.

During the photosynthesis the plants take up the nutrient carbon dioxide and enrich the water with oxygen.

Plants offer the fish hideaways and thus reduce stress. Young fish need a dense planting with fine plants to hide themselves from their hungry fellow occupants.

How many plants should be planted?

In order to make your aquarium a source of long-term joy you should pay attention to the following basic rule when planting:

$$\frac{\text{aquarium length (cm / in.)}}{50 \text{ (metric) / 8 (US)}} \times \frac{\text{depth (cm / in.)}}{8 \text{ (metric) / 10 (US)}} = \text{number of plants}$$

For an aquarium, sized 100 cm x 40 cm (40 in. x 16 in.), this makes about 80 plants. (In case of bundled plants, i.e. those without pot, each single stalk is counted as one plant.)



Foreground plants

Small plants which do not obstruct the view into the aquarium are best suited for the foreground. The height is below 15 cm (6 in.).



Cryptocoryne nevillei



22 – 28°C (72 – 82°F)



Dwarf Amazon Swordplant
(*Echinodorus grisebachii*)



22 – 28°C (72 – 82°F)



Java Moss
(*Vesicularia dubyana*)



22 – 30°C (72 – 86°F)

Middle ground plants

Taller plants fall into this category. The middle ground plants are divided into so-called solitary plants and group plants.



Anubias barteri



22 – 30°C (72 – 86°F)



Nana Plant
(*Anubias sp.*)



22 – 28°C (72 – 82°F)



Sumatra Fern
(*Ceratopteris thalictroides*)



20 – 28°C (68 – 82°F)



Sagittaria platyphylla



15 – 22°C (59 – 72°F)



Red Ivy
(*Alternanthera reineckii*)



23 – 28°C (73 – 82°F)



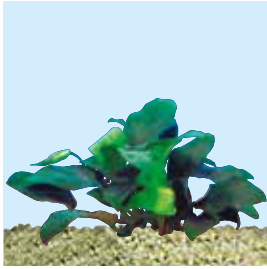
Green Cabomba
(*Cabomba aquatica*)



23 – 28°C (73 – 82°F)

Light demand: ☀ high 🌑 medium ● low

Growth rate: ↑↑ rapid ↑ medium ↑ slow



Nana Barteri Variegated
(*Anubias barteri* var. *nana*) ●
↑
22 – 28°C (72 – 82°F)



Spike Rush
(*Eleocharis pusilla*) 🌑
↑
18 – 26°C (64 – 79°F)



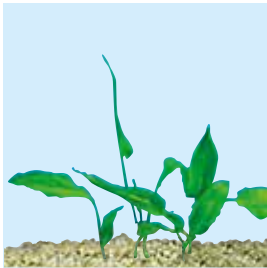
Lilaeopsis (*Lilaeopsis novae zealandiae*) (often falsely sold as *Echinodorus tenellus*) ☀🌑
↑
18 – 26°C (64 – 79°F)

Solitary plants have a larger space demand to the side and are best planted singly; group plants mostly have a slender shape

and look best, as the name tells, when planted in groups.

☐ = Solitary plant

☐ = Group plant



Spade Leaf Fern
(*Cryptocoryne ciliata*) 🌑
☐ ↑
22 – 26°C (72 – 79°F)



Bleher's Swordplant
(*Echinodorus grisebachii* "Bleherae") 🌑
☐ ↑
22 – 28°C (72 – 82°F)



Tiger Lotus
(*Nymphaea lotus*) ☀
☐ ↑
23 – 28°C (73 – 82°F)



Cryptocoryne crispatula
or
Cryptocoryne wendtii 🌑
☐ ↑
23 – 28°C (73 – 82°F)



Java Fern
(*Microsorium pteropus*) ●
☐ ↑
22 – 28°C (72 – 82°F)



False Loosestrife
(*Ludwigia palustris*) ☀🌑
☐ ↑
18 – 26°C (64 – 79°F)

Background plants

Tall-growing plants which you should place in the background and at the sides. In the foreground, these plants obstruct the view into the aquarium and take away too much swimming space from the fish. The rapidly

growing plants, such as hornwort (*Ceratophyllum demersum*) and waterweed (*Egeria densa*) are excellent oxygen providers and remove algae-promoting nitrate from the water.



Giant Vallisneria
(*Vallisneria spiralis*)



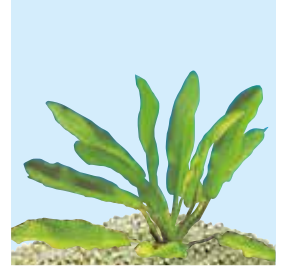
15 – 30°C (59 – 86°F)



Crinkled Aponogeton
(*Aponogeton crispus*)



4 – 28°C (39 – 82°F)



Waving Leaf Swordplant
(*Echinodorus martii*)



15 – 28°C (59 – 82°F)



Waterweed
(*Egeria densa*)



20 – 24°C (68 – 75°F)



Parrot Feathers
(*Myriophyllum aquaticum*)



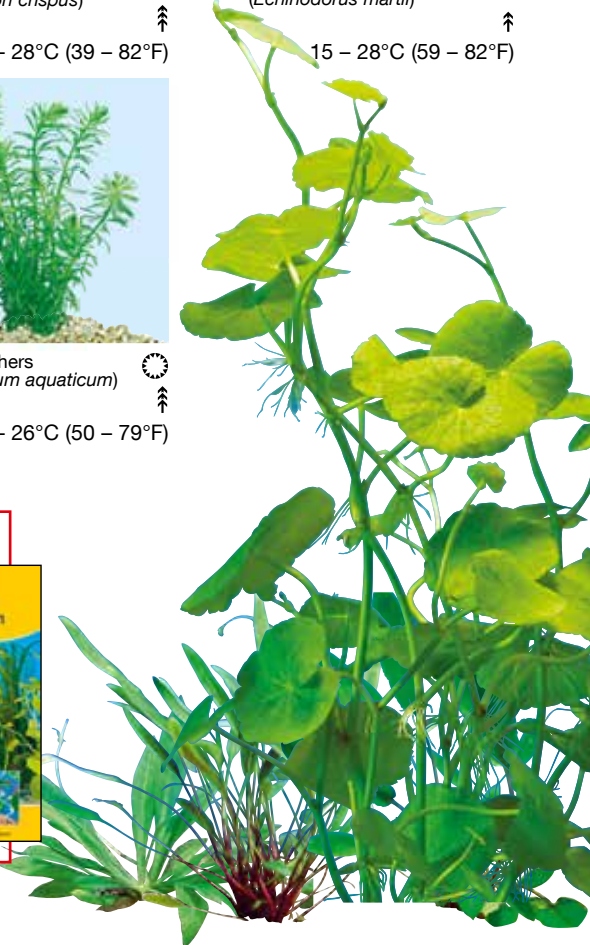
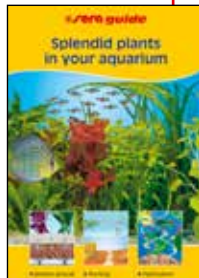
10 – 26°C (50 – 79°F)

An important tip

Water plants must be transported moist.

Wrap them in moist newspapers or the like. Besides special plant transportation bags, **sera** fish bags are also ideal. Ask your specialist dealer!

You will find further information about aquatic plants in the **sera guide** "Splendid plants in your aquarium".



Decoration

Stones

For use in freshwater aquariums, granite and basalt are, for example, suitable. Oil-polluted stones, ore stones, lime-containing stones and stones with metal deposits are not suitable, even if they look very decorative. Rinse every stone thoroughly with boiling water, and do not use too many stones. Use silicon (from the specialized trade, silicon from building trade suppliers often releases pollutants!) to adhere stone constructions together at the connecting points in order to prevent them from collapsing due to digging fish.



Wood

Bog wood, which is available in almost every specialized pet store, is suitable for almost all kinds of freshwater aquarium (except aquariums for East African cichlids). Bog wood is decorative and stable. It originates from moors and is effectively conserved. It does not float once it is soaked with water. You should purchase wood only from your retailer! Self-collected wood may rot in the aquarium and also release other pollutants. Coconut and snail shells also provide interesting decoration and shelter for the fish.

sera Biotope Aquarium “South America”

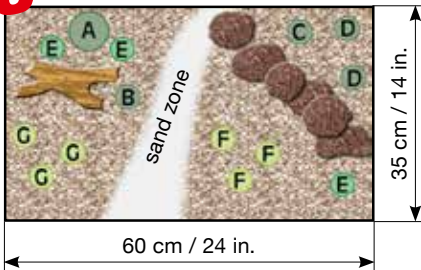
Biotope aquariums represent the natural environments of ornamental fish. This aquarium type looks particularly exotic but is easy to keep as everything originates from one water type. We have described the advantages on page 4.

We give you 3 biotope aquarium examples in this guide, which you can set up in an aquarium that is either 60 (24 in.) or 80 cm (32 in.) long.

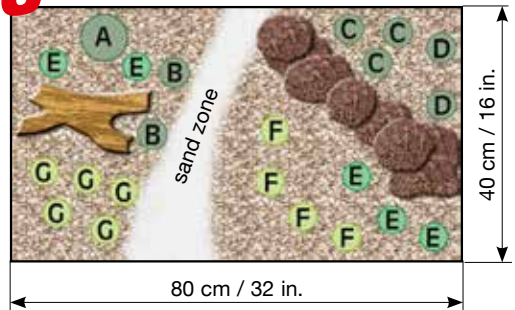


Planting plan aquarium

60



80










The Amazon region is the river system on Earth that carries the largest amount of water. Many colorful fish originate from the huge Amazon region in South America. The shape varieties of the ornamental fish, the decorative roots and rocks as well as the

lush growing plants are the secret of a **sera Biotope Aquarium** “South America.” A guaranteed eye catcher with a particularly exotic appearance.








Plants

| Location | Aquarium size / Number of plants | 60 | 80 |
|------------------------|---|----|----|
| A Background |  Bleher's Swordplant (<i>Echinodorus grisebachii</i> "Bleherae") | 1 | 1 |
| B Background |  Black Amazon Swordplant (<i>Echinodorus parviflorus</i>) | 1 | 2 |
| C Background |  Delta Arrowhead (<i>Sagittaria platyphylla</i>) | 1 | 3 |
| D Background |  Green Cabomba (<i>Cabomba aquatica</i>) | 2 | 2 |
| E Middle ground |  <i>Echinodorus</i> "Red Devil" | 3 | 5 |
| F Foreground |  Grasswort (<i>Lilaeopsis novae zealandiae</i>) | 3 | 4 |
| G Foreground |  Grasswort (<i>Lilaeopsis mauritiana</i>) | 3 | 5 |







Fish

| Swimming zone | Aquarium size / Number of fish | 60 | 80 |
|---------------|---|----------|----------|
| Top |  Cockatoo dwarf cichlid (<i>Apistogramma cacatuoides</i>) | 1♂ 1♀ | 1♂ 1♀ |
| Top/Middle |  Black tetra (<i>Gymnocorymbus ternetzi</i>) | 4 | 6 |
| Top/Middle |  Bleeding heart tetra (<i>Hyphessobrycon erythrostigma</i>) | - | 5 |
| Bottom |  Sterba's Corydoras (<i>Corydoras sterbai</i>) | 4 | 6 |
| Bottom |  Midget Sucker Catfish (<i>Otocinclus sp. cf. affinis</i>) | 5 | 7 |



Bottom gravel

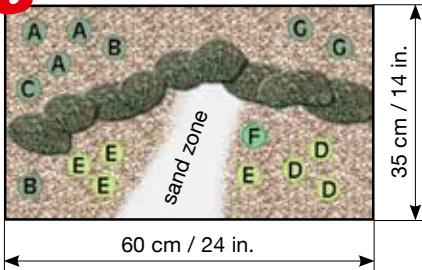
| Aquarium size / Decoration | 60 | 80 |
|--|----------------------------------|------------|
|  dark gravel (slightly reddish) | for 5 cm (2 in.) layer thickness | |
|  fine, white gravel | for "sand path" | |
|  slate stone, flat, red (or similar slate stones) | 5 – 7 pcs. | 10–12 pcs. |
|  root, medium size (or similar root) | 1 | 1 |

sera Biotope Aquarium “Central America”

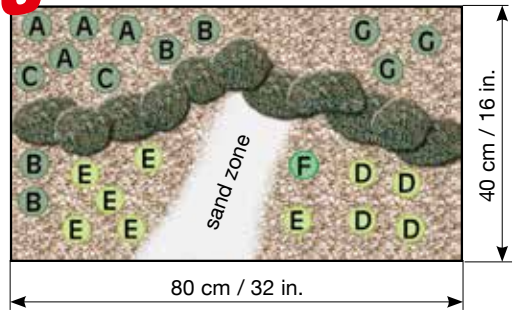


Planting plan aquarium

60



80










In Central America, the fish often live in clear, flowing waters. Livebearing fish species (e.g. swordtails and platys) are colorful, lively fish. Accordingly, there is always happening something in the **sera Biotope**

Aquarium “Central America” leading to new experiences. Fish fry, which will appear from time to time, always keep the Biotope Aquarium “Central America” interesting.


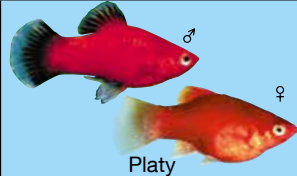




Plants

| Location | Aquarium size / Number of plants | 60 | 80 |
|---------------------------|--|----|----|
| Background A |  Blue water hyssop (<i>Bacopa caroliniana</i>) | 3 | 4 |
| Background B |  Delta arrowhead (<i>Sagittaria platyphylla</i>) | 2 | 4 |
| Background C |  <i>Echinodorus</i> "Red Devil" | 1 | 2 |
| Background G |  Green Cabomba (<i>Cabomba aquatica</i>) | 2 | 3 |
| Middle ground F |  <i>Echinodorus</i> "Reni" | 1 | 1 |
| Foreground D |  Cardinal flower (<i>Lobelia cardinalis</i>) | 3 | 4 |
| Foreground E |  Pygmy Chain Sword (<i>Echinodorus tenellus</i>) | 4 | 6 |





Fish

| Swimming zone | Aquarium size / Number of fish | 60 | 80 |
|---------------|---|----------|----------|
| Top |  ♂ ♀ Swordtail (<i>Xiphophorus helleri</i>) | – | 2♂ 3♀ |
| Top/Middle |  ♂ ♀ Platy (<i>Xiphophorus maculatus</i>) | 1♂ 2♀ | 2♂ 3♀ |
| Bottom |  Black-spotted Corydoras (<i>Corydoras melanistius</i>) | 5 | 5 |
| Bottom |  Bushy Mouth Ancistrus (<i>Ancistrus sp. cf. dolichopterus</i>) | – | 2 |



Bottom gravel

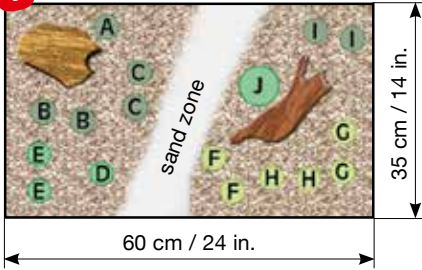
| Aquarium size / Decoration | 60 | 80 |
|--|----------------------------------|------------|
|  dark gravel (slightly reddish) | for 5 cm (2 in.) layer thickness | |
|  fine, white gravel | for "sand path" | |
|  slate stone, flat, green (or similar slate stones) | 10–12 pcs. | 15–17 pcs. |

sera Biotope Aquarium "Asia"

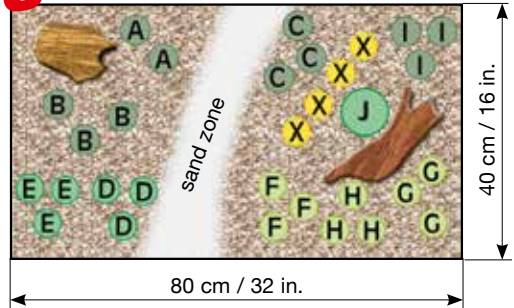


Planting plan aquarium

60



80



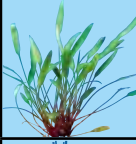
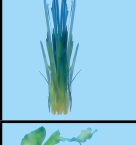

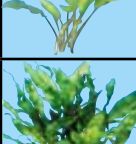






The ornamental fish originating from Asia live in pools and slowly flowing, low-in-oxygen waters. Accordingly, among others the labyrinth fish (e.g. dwarf gouramis) developed interesting behaviors. They take up

essential oxygen at the water surface. The different shapes and colors of Asian ornamental fish in the **sera Biotope Aquarium "Asia"** are inspiring again and again.

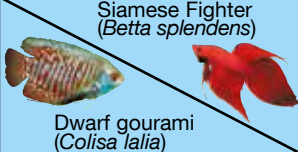
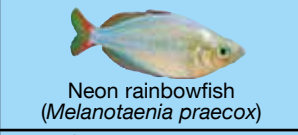
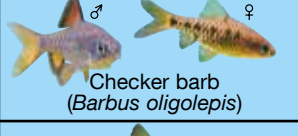
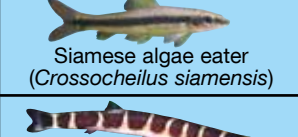

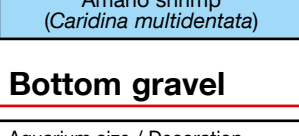


Plants

| Location | Aquarium size / Number of plants | 60 | 80 |
|---------------------------|--|----|----|
| Back-ground A |  Water Wisteria (<i>Hygrophila difformis</i>) | 1 | 2 |
| Back-ground B |  East Indian Hygrophila (<i>Hygrophila polysperma</i>) | 2 | 3 |
| Back-ground C |  <i>Cryptocoryne nevillei</i> | 2 | 3 |
| Back-ground I |  <i>Vallisneria nana</i> | 2 | 3 |
| Middle ground D |  <i>Nymphaea lotus</i> | 1 | 3 |
| Middle ground E |  <i>Cryptocoryne</i> "Green Gecko" | 2 | 3 |
| Middle ground J |  <i>Microsorium pteropus</i> | 1 | 1 |
| Fore-ground F |  <i>Aegagrophila linnaei</i> | 2 | 3 |
| Fore-ground G |  Wendt's water trumpet (<i>Cryptocoryne wendtii</i>) | 2 | 3 |
| Fore-ground H |  Wendt's water trumpet (<i>Cryptocoryne wendtii</i>) | 2 | 3 |







Fish

| Swimming zone | Aquarium size / Number of fish | 60 | 80 |
|---------------|---|--------------------------|------------------------------|
| Top |  Siamese Fighter (<i>Betta splendens</i>) Dwarf gourami (<i>Colisa lalia</i>) | 1♂ Siamese Fighter | 1♂ 1♀ Dwarf gourami |
| Top |  Neon rainbowfish (<i>Melanotaenia praecox</i>) | – | 6 |
| Top/Middle |  Checker barb (<i>Barbus oligolepis</i>) | 3♂ 3♀ | 3♂ 3♀ |
| Top/Middle |  Siamese algae eater (<i>Crossocheilus siamensis</i>) | 3 | 4 |
| Bottom |  Coolie loach (<i>Pangio kuhlii</i>) | 3 | 5 |
| Bottom |  Amano shrimp (<i>Caridina multidentata</i>) | 5 | 7 |



Bottom gravel

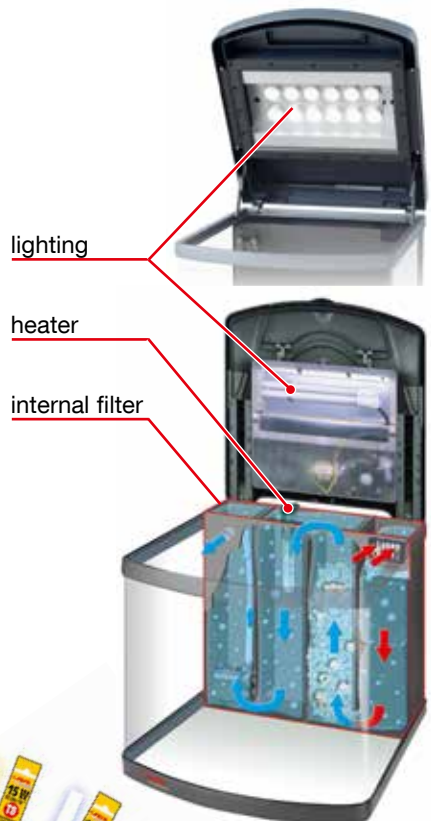
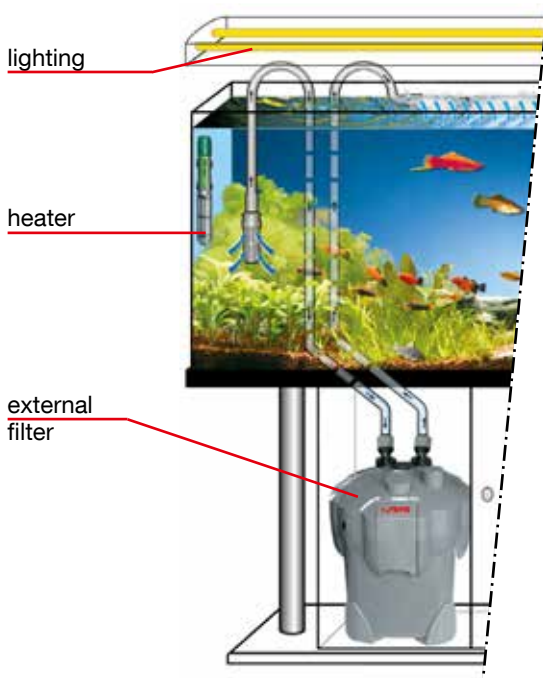
| Aquarium size / Decoration | 60 | 80 |
|---|--|-----------|
|  dark gravel (slightly reddish) | for 5 cm (2 in.) layer thickness | |
|  fine, white gravel | for "sand path" | |
|  bamboo stalks (X in the planting plan) | – | 4 |
|  root, high root, long (or similar root) | 1 each | 1 each |

Technical equipment

Lighting

The most important technical devices to provide natural conditions for most plants and fish, which originate from tropic regions, are

- lighting (LED, PL-T5, T8),
- heater and
- internal or external filter.



Lighting

sera T8 fluorescent tubes have been developed according to the newest findings in lighting technology. The quality "Made in Germany" points to lowest energy consumption at best light yield. By using the newest fluorescent substances the tubes release almost no algae promoting light. You will find information on the ideal combination of **sera fluorescent tubes** for your aquarium at your specialist dealer's or in the **sera folder** "Fluorescent Tubes for Aquariums and Terrariums."



T8 = \varnothing 2.6 cm
(1 in.)

Technical equipment

Heater

Most aquarium fish are accustomed to water temperatures about 25°C (77°F). Thus, the aquarium water must be heated accordingly.

The aquarium heater must be attached in the aquarium in such a way that the water always flows round it in order to heat the water evenly.

The required wattage is very easy to determine: Calculate approx. 1.5 Watts per liter (1 US quart) of water in rooms that are only slightly heated. If the aquarium is placed in a warm room, 1 Watt per liter (1 US quart) of water is sufficient. The heater may without hesitation be chosen in a stronger version; the power consumption for producing a certain amount of warmth is identical.

The stick-shaped **sera aquarium heaters** are entirely water-proof and marine water resistant.

Temperature adjustment is particularly easy due to the adjustment wheel with temperature scale. **sera aquarium heaters** are available in many appropriately selected wattages from 25 Watts to 300 Watts and are fitted with a protective grid.



How to choose the right heater:

| $\Delta T =$ | | aquarium size | | | | | | | |
|------------------|--------------|---------------|------|------|------|------|------------|------------|------------|
| | | liters | 25 | 50 | 75 | 100 | 150 | 200 | 250 |
| US gal. | | 6 | 13 | 20 | 26 | 40 | 53 | 66 | 80 |
| ΔT | 5°C 9°F | 25W | 50W | 50W | 75W | 100W | 150W | 200W | 250W |
| | 10°C 18°F | 25W | 50W | 75W | 100W | 150W | 200W | 250W | 300W |
| | 15°C 27°F | 75W | 100W | 150W | 200W | 300W | 2x 200W | 2x 250W | 2x 300W |

Our tip

A stronger heater has a higher power reserve, e.g., if the heating in your home should ever break down.

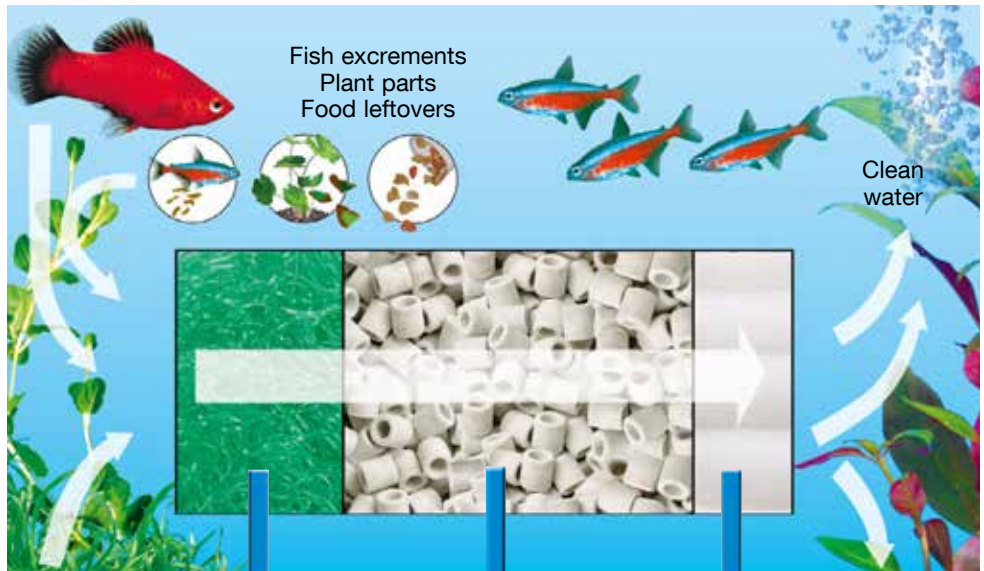


For every aquarium size the correct **sera aquarium heater**

Technical equipment

Filtration according to nature

Schematic description of water purification in aquariums with **sera** filter media, used in an internal or external filter.



Mechanical prefiltration

sera biofibres or **sera filter sponge** collect coarse particles and suspended matter.

Biological water cleaning

Purification bacteria from **sera filter biostart** settle inside **sera siporax Professional** and immediately start the biological breakdown in the filter. Purification bacteria in the volcanic rock from **sera bio nitrivec** clean the water in the aquarium.

Ammonium/ammonia
(NH_4/NH_3)

Nitrite (NO_2)

Nitrate (NO_3)

Plant nutrition

Clean water

Final mechanical purification

sera filter wool or **sera filter mat (floss)** retain little dirt particles. **sera filter mat (floss)** can also be used for the mechanical prefiltration combined with the **sera filter sponge**.

sera water filtration like in nature

In nature, the water seeps through ground layers and is cleaned mechanically this way. Micro organisms in the bottom convert pollutants into nutrients. The water gets into brooks, rivers and lakes via springs. There, too, micro organisms (“purification bacteria”)

make sure that pollutants such as fish excrements and dead plants are broken down biologically. Purifying aquarium water with the **sera** filter systems works on the same principle.

Mechanical water purification

Larger and solid dirt particles, such as food leftovers and parts of plants and algae, are collected during mechanical water purification, in order not to clog the biological filter media.

sera biofibres or **sera filter sponge** collect coarse dirt particles effectively. Therefore they protect the following filter media from coarse pollution and increase the biological effectiveness of the filter.

sera filter wool consists of solid fibers, which retain small dirt particles for a longer period of time without sticking or collapsing. **sera filter wool** can be washed out many times in aquarium water.

sera filter mat (floss) prevents cotton wool fibers from getting caught inside the motor. Depending on the filter system, **sera filter mat (floss)** fulfils the same tasks as **sera filter wool**.



Technical equipment

Filtration according
to nature

Biological water cleaning

sera siporax Professional is placed in the filter and provides ideal working conditions for the different purification bacteria from **sera filter biostart**. The breakdown of pollutants starts immediately. After mechanical prefiltration, food or plant leftovers as well as fish waste are converted into ammonium. On the large and rough surface mucous forming bacteria have best possible hold. They are sufficiently provided with oxygen. These bacteria convert ammonium into nitrite (aerobic process).

The extremely high amount of open-pored tunnel structures in **sera siporax Professional** allows for ideal supply of the anaerobic bacteria with nutrients and smallest amounts of freshwater. There are oxygen-poor conditions within the tunnels, allowing for nitrite breakdown into nitrate. The bacteria are forced to break down nitrate as to get a sufficient oxygen supply. Therefore, nitrate is also continuously reduced. Remaining nitrate is consumed by aquatic plants as a nutrient.

Due to the large internal cross section of the tubes, the breakdown products get removed quickly, without permanently rinsing away the bacteria.



The surface of one liter (one US quart) of sera siporax Professional has almost as much biological breakdown power as 34 liters (9 US gal.) of clay filter material

Less water changes with sera siporax Professional



Important:

Filter media for bacteria settlement should be tube-shaped. This allows the water to flow off inside them, and there is no clogging or sticking that could affect the filtration process.

Special sera filter media

When keeping fish from tropical soft water areas, the aquarium water should flow through a layer of **sera super peat** blackpeat filter granulate. **sera super peat** evenly releases valuable humic acids and trace elements into the aquarium water for a longer period of time. Depending on the current water values, **sera super peat** decreases the carbonate hardness and the pH value. For a long time, these values constantly remain in the slightly acidic range. **sera super peat** inhibits the growth of fungi, bacteria and algae.



Attention:

sera super peat and **sera super carbon** should not be used together. The filter carbon would immediately absorb all valuable substances from the peat. Use **sera super peat** instead of **sera super carbon**.

After a disease treatment, you should increase the amount of **sera super carbon** in the filter for a short while. Do not use filter carbon during a disease treatment, and remove already inserted filter carbon. Otherwise the active substances of the treatment are immediately absorbed. Due to its very large surface, **sera super carbon** filter carbon remains active for six weeks. After this time, the absorbing capacity is exhausted, and the filter carbon must be removed from the filter in any case. Otherwise absorbed substances could be released to the water again. **sera super carbon** has no influence on the pH value and is free from phosphates and nitrates.



Technical equipment

Filtration according to nature

Phosphate is required only in little amounts as a plant nutrient. In case of accumulation it often causes algae problems. **sera phosvec Granulat** removes phosphate easily, safely and with a long-term effect.



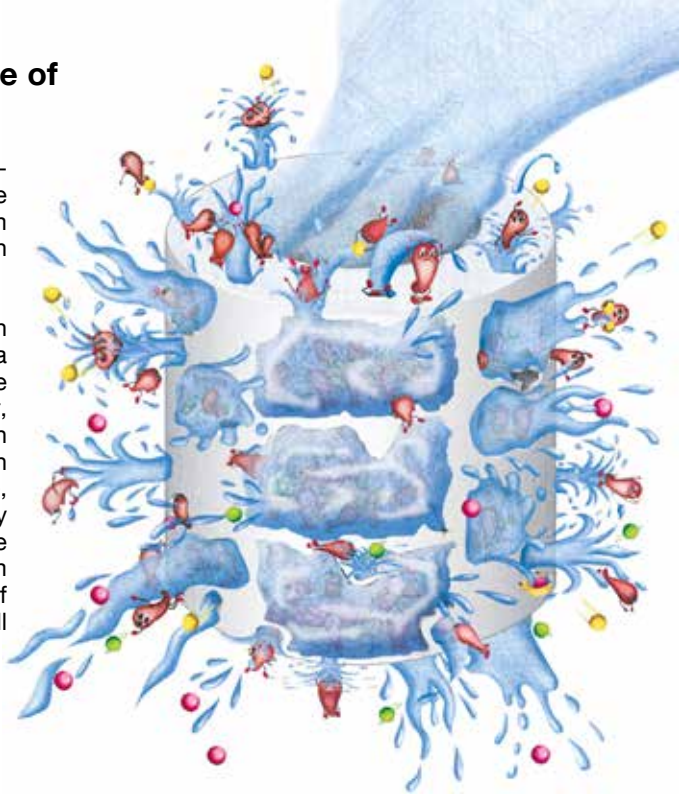
sera biopur and **sera biopur forte** as well as **sera siporax Professional** allow settling of purification bacteria to break down pollutants biologically. These filter media are recommended if only little breakdown performance is required, e.g. in densely planted aquariums with few fish. As shown on page 24, **sera siporax Professional** has a biological breakdown performance that is 34 times higher compared to clay filter material. Therefore, **sera siporax Professional** has an excellent price vs. performance ratio.



The correct performance of pumps and filters

Purification bacteria can only multiply optimally if water currents are “correct.” This also provides them sufficient time to break down pollutants.

The current must be strong enough to sufficiently supply the bacteria with oxygen and nutrients. In case of too strong currents, however, the pollutants cannot be broken down completely. The purification bacteria lack the required time, and they cannot multiply quickly enough. Rapidly growing algae benefit from this, and aquarium pleasure will be spoiled. In case of too strong currents the fish will only lead a short life.



Optimal filter size

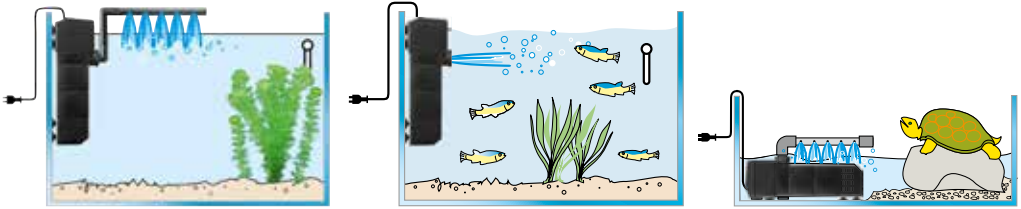
The filter size in relation to the aquarium size may vary. Somewhat larger is always better than too small. You can see which aquarium size a filter suits on the filter package.



Technical equipment

Filtration according to nature

sera water filtration for small aquariums



sera fil internal aquarium filters

The **sera fil 60/120** motor filters are easy to maintain, highly efficient internal aquarium filters for small aquariums up to 60/120 liters (16/32 US. gal.). The very large filter material volume [approx. 200/350 cm³ (12.2/ 21.4 cu.in.)] ensures optimal aquarium water filtration and best possible biological clarification, providing you with crystal clear, natural aquarium water.

filter medium **sera siporax mini Professional**. This filter medium ensures best water quality by optimal biological cleaning.

The extensive accessories range allows to install the aquarium filters in various positions. The filters can be extended by separately available filter chambers.

The third filter chamber of the **sera fil 120** is filled with the new high performance bio



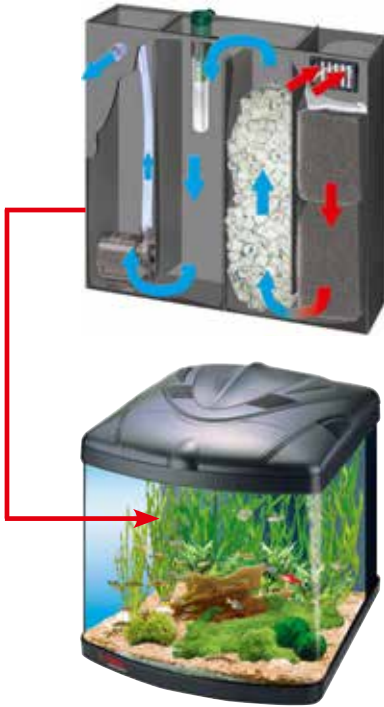
sera water filtration for larger aquariums

Two filter systems have proven well for cleaning the water in larger aquariums:

- Internal filters as included with the **sera Biotop Nano Cube 60** and the **sera marin Biotop Cube 130**

- External filters such as the **sera fil bioactive 130**, **130 + UV**, **250**, **250 + UV**, **400 + UV** have proven well for cleaning the water in larger aquariums up to 130, 250 or 400 liters (34, 66 or 106 US gal.), respectively.

Internal filters as included with the **sera Biotop Nano Cube 60** and the **sera marin Biotop Cube 130** also available with newest LED technology



Advantages

- Maximum filter volume with minimal space requirement
- Innovative parallel filter technique
- Clings closely to the aquarium glass, saves space
- Fits in unobtrusively into the aquarium landscape



The 4 chamber internal filter in the **sera Biotop Nano Cube 60** includes

- net
- filter sponge for mechanical filtration
- **sera siporax Professional 1,000 ml** (290 g/ 10.2 oz.) for biological filtration, with 270 m² (2,900 sq.ft.) filter surface
- **sera heater 50 W**
- **sera flow pump STP 1000**
- 50 ml (1.7 fl.oz.) **sera filter biostart** bio cultures for immediate biological pollutant breakdown

The 4 chamber internal filter in the **sera marin Biotop LED Cube 130** includes

- **sera Protein Skimmer PS 200**
- filter sponge for mechanical filtration
- **sera siporax Professional 2,000 ml** (580 g/ 1.2 lb.) for biological filtration, with 540 m² (5,800 sq.ft.) filter surface
- **sera heater 100 W**
- **sera flow pump STP 1000**
- **sera UV-C System 5 W**
- 100 ml (3.38 fl.oz.) **sera marin bio reef-clear** bio cultures for immediate biological pollutant breakdown

Technical equipment

Filtration according to nature

sera fil bioactive external filters

With this newest generation of external filters, **sera** provides crystal clear, biologically clean water in constant quality.

Being equipped with the unique filter medium **sera siporax Professional** [270 m² surface per liter (2,900 sq.ft. per US quart)] and with **sera filter biostart**, the filter becomes immediately active after starting it. Furthermore, the **sera fil bioactive + UV external filters** reduce algae growth and pathogens.

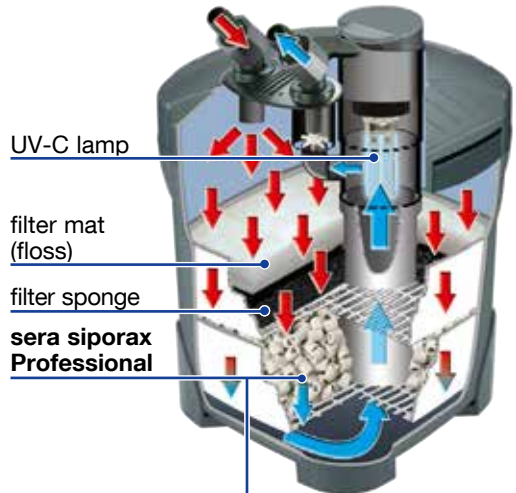


sera bioactive filter system for an immediate start and lasting biological pollutant breakdown within the filter

- Coarse plant and uneaten food particles as well as fish waste are collected by the filter mat (floss) and sponge.
- Purification bacteria and enzymes from **sera filter biostart** decompose the remaining waste particles and convert them into ammonium for further breakdown by **sera bio nitrivec**.
- Purification bacteria working in the filter require special settling space. The biologically active filter medium **sera siporax Professional** provides best settling conditions on a surface of 270 m² per liter (2,900 sq.ft. per US quart) (see page 24, please).

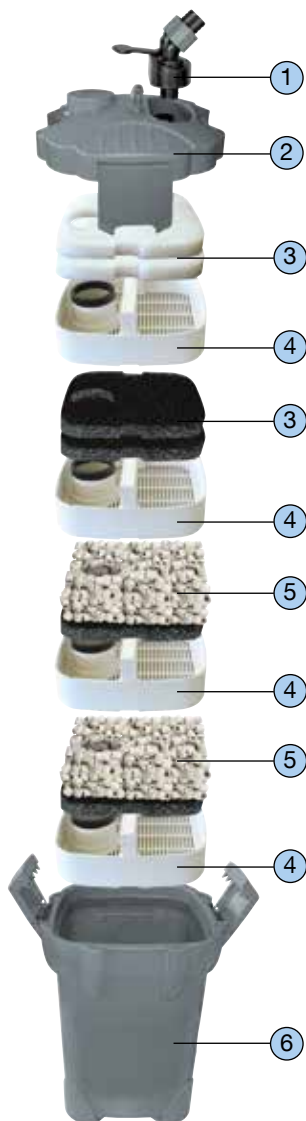
Simply pour the amount of **sera filter biostart** required for the tank size onto the dry **sera siporax Professional**. **sera filter biostart** contains highly active and optimally blended micro organisms, perfectly balanced to the high performance filter medium **sera siporax Professional**. The filter will immediately become biologically active after the start. Add **sera bio nitrivec** to the

aquarium water at the same time as to start pollutant breakdown in the entire aquarium.



Advantages of the sera fil bioactive external filters

- Immediately ready for use
- Easy to start
- Easy to clean
- Low energy consumption
- Quiet operation
- Long life time
- Quick breakdown of ammonium and nitrite



- Immediately biologically active
- 34 times as much filter performance*

+UV

- Reduces algae growth
- Reduces pathogens

* compared to common clay filter material

1. Multi-function valve

- Hose connection
- Rotatable water intake and outlet
- Multi-purpose handle for water flow regulation and quick water shutoff

2. Filter power head

- Pump and cable
- UV-C lamp for removing cloudiness and reducing algae and pathogens (130 + UV, 250 + UV, 400 + UV)
- Intake suction pump for an easy and convenient start
- Retractable handle for easy transport (130, 130 + UV)
- Clip locks

3. Filter mat (floss) and filter sponge for mechanical filtration

4. Filter media basket

- Separately removable
- Retractable handles for easy removal and cleaning

5. sera siporax Professional bio filter medium and sera filter biostart for biological filtration

- 1 liter (1 US quart) **sera siporax Professional** in the **sera fil bioactive 130** for more than 200 liters (53 US gal.) of aquarium water
- 2 liters (2 US quarts) **sera siporax Professional** in the **sera fil bioactive 250** and **400** for more than 400 liters (106 US gal.) of aquarium water

6. Filter case

- With rubber feet for a safe stand and acoustic insulation
- With clip locks



sera bioactive filter system program



| Model | Watts | Qmax |
|-----------------------------|-----------------|--------------------------|
| sera fil bioactive 130 + UV | 16 W / UV-C 5 W | 300 l/h (79 US gal./h) |
| sera fil bioactive 250 + UV | 32 W / UV-C 5 W | 750 l/h(198 US gal./h) |
| sera fil bioactive 400 + UV | 36 W / UV-C 5 W | 1,100 l/h(291 US gal./h) |
| sera fil bioactive 130 | 11 W | 300 l/h (79 US gal./h) |
| sera fil bioactive 250 | 22 W | 750 l/h(198 US gal./h) |

sera UV-C System 5 W

The ideal addition for external filters without built-in UV-C water clarifier

- Reliably removes all kinds of floating algae (green, cloudy water) without using chemicals
- Reduces the multiplication of thread and other algae
- Reduces pathogens and cloudy water caused by bacteria

Powerful but very economical UV-C clarifier with multi-purpose connection for filters and pumps.

The **sera UV-C Clarifier** can be used in combination with a flow pump, e.g. **sera P 1200**, or an external filter, e.g. **sera fil bioactive 130** or **250**. The performance of the pump should be the volume of the aquarium per hour. The UV-C clarifier cannot be operated without a pump.

Aquarium inhabitants and filter organisms are not harmed by using the **sera UV-C Clarifier**. You will achieve permanently biologically healthy aquarium water up to 500 liters (132 US gal.).



sera UV-C System 5 W for addition to filters without built-in UV-C clarifier



High performance air pumps: sera air 110 / 275 R / 550 R plus

Many situations in an aquarium require air. Therefore you need a powerful air pump, e.g. for air-driven

- airstones
- filters
- gravel cleaners
- gravel washers

The **sera air 110 plus** has one, the **air 275 R plus** two, and the **550 R plus** four outlets with an always absolutely independent membrane system. Therefore the **sera air plus pumps** are ideally suitable for supplying more than one aquarium with only one pump. The **sera air 275 R plus** and **550 R plus** are electronically adjustable – there is no complicated and less precise adjustment by valves and hose clamps. The pumps of the **sera air plus** series are excellently manufactured and bear the TÜV/GS and CE Signs. The especially thick-walled and noise-absorbing casing consists of shockproof and long lived ABS material, superior to PVC and similar plastic. Elastic standing feet ensure permanently quiet use with little vibration.



Airstones and connection to air-operated devices

The **sera air set "S"** is ideal for use with the **sera air 110 plus**. It contains two meters (2.2 yd.) of silicon hose, which is much more flexible and durable, compared to customary hoses. Also, it contains an appropriately sized airstone, a regulator and a non-return valve.

The **sera air set "M"** suits the **sera air 275 R plus**. Four meters (4.4 yd.) of silicon hose, two airstones, two non-return valves, and one regulator allow the independent use of two aquarium decorations or an air-operated filter such as the **sera L 150** or **L 300**.



Air-operated internal filters

sera internal filters L for aquariums up to 60, 150 or 300 liters (16, 40 or 79 US gal.), respectively, are very powerful and quiet in operation. The air is evenly distributed. The specially developed sponge is able to collect even smallest particles. The high porosity provides ideal living conditions for the bacteria that break down pollutants. The **sera internal filter L** is ideally suitable for rearing young fish.



Gravel cleaner

The **sera gravel cleaner** thoroughly removes sludge and dirt from the gravel without a water change. The **sera gravel cleaner** is suitable for aquariums up to 60 centimeters (24 in.) high, and is easily attached to an air pump, such as **sera air plus**.



sera gravel washer (sludge cleaner)

The **sera gravel washers** thoroughly remove sludge from the aquarium gravel. You can change a part of the water at the same time. The **sera gravel washer triangular** is ideal especially for small aquariums, as it makes cleaning in the corners between the plants easier. Height 14 cm (5.5 in.), edge length 7 cm (2.8 in.). The **sera gravel washer round** is suitable especially for large areas. Height 24 cm (9.4 in.), Ø 5.7 cm (2.2 in.).



Automatic feeding

The **sera feed A plus** automatic feeder reliably feeds your aquarium fish. The hungry impression of the fish does not make it overfeed. Friends or relatives often overdo it. While you are away, the feeder will feed 1 – 6 times daily for up to 30 days, depending on your settings. This is ideal for young fish, for they grow up faster and more healthy with more than one small meal per day. **sera vipagran** is especially suitable for a automatic feeder.



For a good view inside

Even in case of good aquarium care, slight periphyton growth on the aquarium glass cannot be completely avoided. Bright green spots often cloud the view. The **sera glas clear TA6** algae scraper allows to clean the glass quickly and thoroughly. No scratches will appear even after several years of use. The brush of the cleaning part consists of high-quality solid plastic. The cover of the outer part is made of soft felt.



For the offspring

The **sera breeding container** has a volume of 2.5 liters (0.6 US gal.) and offers plenty of swimming space for the young fish. Fast and healthy growth is therefore guaranteed. With some **sera biofibres**, the **sera breeding container** is also excellent for spawning.



Different aquarium shapes

Living room layout plays an important role.

There are no limits to your imagination when choosing an aquarium shape, provided the aquarium functions biologically. There are triangular, hexangular or octangular aquariums, and also individual custom models (e.g. with curved panorama front glass).

All-glass aquariums

The panes are directly glued together with silicon without a frame.

Partly framed aquariums

Aluminum frame at the top and at the bottom, the frames should be glued and not merely put on.

Completely framed aquariums

The panes are glued into a stable metal (mostly aluminum) frame. These aquariums are particularly shock-proof.

Complete aquariums

Everything is included and optimally balanced in this case. Panes, frames and internal filter are connected among each other. This makes the aquarium especially robust and less shock-sensitive. The internal filter is completely equipped for immediate biological pollutant breakdown (see page 29, please). The cover with aquarium lamps and food opening is also included. The **sera** Cubes are also available with newest LED technology. They are immediately ready for use.

Aquarium cabinets

Suitable aquarium cabinets are available for many aquarium types. They provide space for accessories and the technical aquarium equipment.



Location and aquarium preparation



The correct location

When choosing the location, bear in mind that subsequently moving the aquarium is difficult. A decorated and filled 100 liter (26 US gal.) aquarium weighs up to 150 kg (331 lb. – without cabinet)! In older buildings we recommend that you gather information about the stability of the floor first. Take into account that the viewers' weight adds to the aquarium weight! A small aquarium can add to more than 300 kg (662 lb.) in a small area of floor space.

Quiet places in the room which are far from the window are best. Sunlight coming in through the window promotes algae growth. Furthermore, the fish start to swim in a slanting way as – frankly speaking – 'up' to them is where the light comes from.

In a dark corner of the room the aquarium optically stands out better, and the fish are less frequently disturbed by persons rushing along, opening doors, etc.

The rack

In case you do not want to place the aquarium on a cabinet, you will need a suitable rack. It must be stable and stand exactly horizontally. A spirit level is very helpful. Place a safety pad and heat insulation below the aquarium to avoid tension caused cracks. The **sera thermo-safe** safety pad reduces the danger of breaking glass caused by e.g., single sand grains or tension caused cracks caused by torsion of the wooden cabinet. **sera Biotop Cubes** are not placed onto a safety pad as they are equipped with a glued-on safety frame.

The power supply

In any case you will need a (multiple) mains supply close to the aquarium in order to connect filter, heater, lighting, etc. The power supply should, if possible, be above the aquarium as then no water (e.g., during the water change or refilling) can run into the socket.

Biologically clean



Cleaning and checking for water proofness

Aquariums sold nowadays come with safety standards. However, you should check the panes and the glue seams for eventual manufacturing defects. The silicon seams must be done carefully, and there must be no gap between the silicon and the glass. This control can best be carried out during the now described cleaning.

- Clean the aquarium carefully before set-up as to remove possible chemicals used during production, etc. You need one or two new buckets for this purpose, which never were in contact with cleaning agents or other chemicals, and which are used for aquarium care only.
- The panes (incl. covering pane) should by no means be cleaned with chemical glass cleaners, not even on the outside. A dash of the cleaning agent easily gets into the aquarium by mistake.
- Thoroughly clean the aquarium with hot water and a firm cloth or sponge on which you have added some drops of **sera pH-minus**. Attention: Many sponges are already impregnated by the manufacturer with cleaning agents and thus not suitable for aquariums!

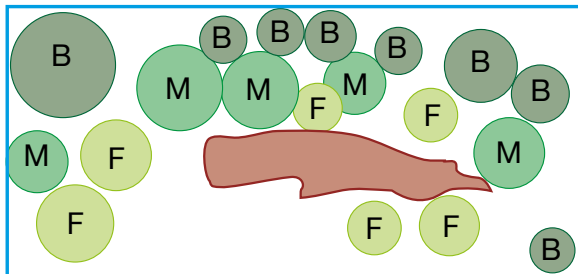
After cleaning the aquarium is filled with water and watched for 2 – 3 hours. If no water leaks out of the aquarium during this time, the aquarium is water-proof.

Planning the aquarium landscape

Before setting up your aquarium you should think about the ideal layout. A sketch describing all rock arranging, roots

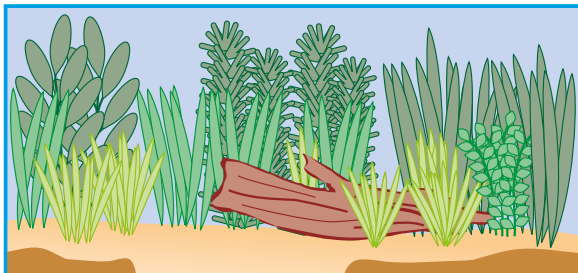
and plants is a good basis for planning the aquarium landscape.

- Take into consideration enough hideaways for your fish. Caves, which can very easily be built from slab-shaped stones or stones with holes, are particularly well accepted (see page 13, please).
- Large plants belong to the back pane of the aquarium, otherwise they will obstruct the view. In the foreground, small and lawn-forming plants should be planted.
- By means of suitable decoration material, technical equipment in the aquarium (filter, heater, etc.) can be hidden in such a way that they become “invisible” or at least quite unobtrusive. The water must flow around the heater in order to have the warmth distributed evenly.
- Include a sufficiently large free zone as swimming space for lively fish.



▲ sketch (bird's-eye view)

- B background plants
- M middle ground plants
- F foreground plants



▲ front view

- decoration material
- bottom gravel
- sera floredepot

sera – The CD is an ideal aid for this. You can replace all plants and decoration as often as you like. Just continue to change things if you do not like it. If you are not sure you can just save the present planning state. So you can watch your designs as often as you like.



Set up an aquarium in **5** steps

1 Fill in bottom gravel

The bottom gravel is the basis for the successful plant and fish care. It offers a large settlement surface for the bacteria which break down the pollutants. In addition, it provides a support for the plants.

Fill **sera floredepot** gravel fertilizer into the aquarium, maximum filling height: two centimeters (0.8 in.). Cover it with a 5 cm (2 in.) freshly washed layer of finely grained aquarium gravel.

During the initial phase, **sera floredepot** provides the plants with nutrients (for 4 – 6 weeks) that the plants need for strong roots and green leaves. Distribute **sera floredepot** evenly on the space assigned for planting (see sketch on page 40, please).

As a “covering layer,” finely-grained (2 – 4 mm) aquarium gravel or river sand with a grain size of 1.5 mm is used. Please make sure not to use sharp-edged gravel (e.g., basalt chippings or fired ceramic chippings), as grubbing fish such as armored catfish otherwise get injured.

The gravel should be dark, in no case bright white. Bright gravel irritates the fish and causes stress. Furthermore, the splendid colors of the ornamental fish look even better above dark gravel.



Purchase aquarium gravel only from specialized retailers, never from building material stores or the like! At the specialized retailer's you may be sure that the gravel does not release pollutants into the aquarium water. Clean the gravel thoroughly under running water before use.

2 Decoration and technical equipment

Now you can install the **sera** filter (fig.: **sera fil 60**) (see page 28, please) and the **sera aquarium heater**. Build a little underwater landscape from well-cleaned rocks and roots from the specialized trade that you have washed with scalding water. This will allow the fish to form their territories and hide.



Set up an aquarium in **5** steps

3 Filling in and conditioning water

Filling in water correctly

First place a shallow plate on the gravel to prevent water from whirling up. Then pour the lukewarm water (24 – 26°C / 75 – 79°F) on top of it until the aquarium is filled by 2/3. The **sera precision thermometer** makes temperature control easier.



Fish-friendly water

Without conditioning according to the fishes' requirements, tap water is not suitable as aquarium water. Chlorine and other pollutants, such as metal ions and different salts, endanger fish, plants and micro organisms.

sera aquatan binds heavy metal ions immediately, clears the water and neutralizes effects of dissolved salts and aggressive chlorine. **sera aquatan** protects the fish's mucous membrane due to a valuable vitamin B complex and skin protection colloids.

sera blackwater aquatan is a water conditioner with natural peat extracts, trace elements and humic acids. Suited for all fish originating from tropical soft waters, like characins, barbs, catfish and South American cichlids. **sera blackwater aquatan** hinders the growth of unwanted bacteria, fungi and algae.



The biological water conditioning with **sera bio nitrivec** is especially important. **sera bio nitrivec** consists of different purification and pollutants breaking down bacteria that



build up a natural micro flora within hours and, therefore, a functioning pollutant breakdown. When using **sera bio nitrivec** the fish can already be introduced into the newly set-up aquarium after 24 hours (also see page 45, please)!



Important water values for the beginning

Basic water criteria are at first the carbonate hardness and the pH value. Both parameters should be checked by all means before introducing the fish, and adjusted accordingly.

The ideal values differ for the fish. Your retailer will advise you on the ideal pH value for your desired fish. Also, the encyclopedia included in **sera – The CD** will inform you in detail about the water requirements of the fish. **sera – The CD** checks if the parameters fit already when selecting the fish.

The carbonate hardness stabilizes the pH value. It buffers changes that are, for example, caused by biological degradation processes in the aquarium and the carbon dioxide consumption of the plants.

The carbonate hardness is measured in "degrees of German carbonate hardness (°dKH)." It should be between 5 and 10°dKH in community aquariums.

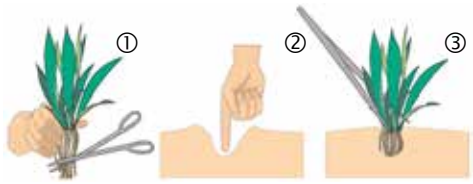
So, please check the carbonate hardness first by means of the **sera KH-Test** and increase it, if necessary, by means of **sera KH/pH-plus** according to the directions for use. Then the pH value should be determined by means of the **sera pH-Test** reagent or the electronic **sera pH meter**.

You can easily and safely adjust the correct pH value by means of **sera KH/pH-plus** resp. **sera pH-minus** according to the directions for use.



4 Adding plants

- 1) Shorten the root tips slightly with the **sera flore tool S** plant scissors before planting (fig. 1), and remove rotten or frayed leaves.
- 2) Dig a planting hole with your finger into the gravel which has been prepared with **sera floredopot** (fig. 2).
- 3) Carefully put the roots into the hole (fig. 3) and cover them with gravel. Press the gravel carefully and pull the plant slightly with the **sera flore tool P** plant tweezers, so that the roots face downwards again.



Set up an aquarium in **5** steps

Fertilize plants correctly

Successfully keeping plants becomes easy with the finely adjusted **sera** fertilization system. Use **sera floreplus** as a growth promoter during the first 4 – 6 weeks. The faster the plants grow, the sooner they will contribute to the biological water purification and supply the fish with oxygen. Then start regular fertilization.

Some plants (e.g., *Cabomba*) take up their nutrients mainly via the leaves. These plants are fertilized with **sera florena**.

Other plants, such as *Anubias* and *Cryptocoryne* species, take up the nutrients mainly via the roots. These plants are ideally cared for by means of **sera florenette A**. **sera florenette A** releases the nutrients well dosed over a prolonged period.



The **sera CO₂-Start** kit is the reasonable start into the CO₂ fertilization for small aquariums. You will need the **sera flore CO₂ fertilization system** for larger aquariums. It provides a complete set consisting of extremely diffusion-proof parts in particularly high quality. It contains an environmentally friendly re-usable 450 g (15.9 oz.) CO₂ bottle that you can get refilled at your retailer's.

The **seramic pH Controller** regulates CO₂ dosage automatically. This microprocessor controlled unit controls the pH value permanently and keeps it at the desired value constantly by dosed adding of CO₂.



Carbon dioxide (CO₂) is an important nutrient for all plants. The carbon dioxide demand, however, differs strongly. Many slowly growing plants (e.g., *Anubias*) have only a low CO₂ demand. The situation is different with rapidly growing species (e.g., *Cabomba*, *Miriophyllum*) and the very decorative red-leaved plants (e.g., tiger lotus, *Nymphaea lotus*): With these, carbon dioxide fertilization is indispensable in order to care for the plants successfully over a prolonged period.



5 How to add the fish

Now, finally, the aquarium is set up, decorated and planted; filter, heating and lighting work as they should. The **sera** tests reveal good water quality.

Now the first fishes are introduced. Start the biological pollutant breakdown at the same time.

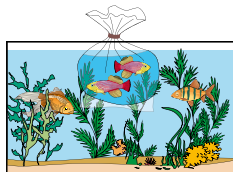


- Fill the tank with water up to 2 cm (0.8 in.) below the edge. Then add **sera aquatan** (pH value 6.5 – 7.5). Put the filter into operation.
- Add **sera bio nitrivec** one hour after you added **sera aquatan**. **sera bio nitrivec** accelerates activation of the filter bacteria.
- The first fish can be added after 24 hours at the soonest (start with algae eaters and bottom-orientated fish).
- Ammonium and nitrite should be checked at least every other day. **sera toxivec** quickly neutralizes too high values.
- Dose **sera bio nitrivec** again after 7 days. From now on, you can use it weekly, after cleaning the filter or after carrying out a partial water change.
- The rest of the animals can be added after 8 days.
- During the start-up phase feed only sparingly using the **sera vipan product family**: **sera vipan** flakes for fish in the upper and **sera vipagran** soft granules for fish in the middle water layers. **sera vipachips** for all bottom fish.

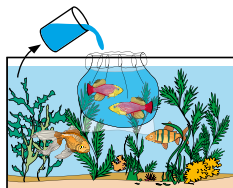


Transfer into a new aquarium means a climate change for the fish. Switch off the aquarium light. Avoid bright light.

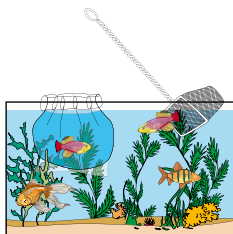
Put the fish bag into the aquarium (opening on top) and make sure the bag floats.



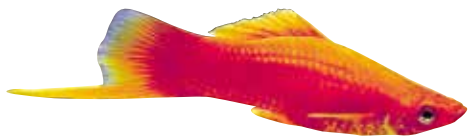
Open the bag and turn up the edges several times. The bag then floats open in the water. Fill aquarium water (approx. the two- or threefold original amount of the bag content) into the bag in portions within the course of half an hour.



After thirty minutes you can transfer the fish using the **sera fish net**. Be sure to dispose the transport water into the sink!



Computer aided aquarium design



sera – The CD makes aquarium setup easy

sera – The CD 2.0: Design your desired aquarium

You can easily combine colorful fish and fascinating aquatic plants to form exotic underwater worlds.

sera – The CD already exists since 1999. With possibilities unique until now, **sera – The CD 2.0** provides a considerably improved software program for aquarium set-up.



sera presents you great and easy to keep biotope aquariums on the CD, which you can alter within a biotope according to your taste. Furthermore, you can combine over 140 different fish and 50 different plants. You can do nothing wrong. **sera – The CD** checks automatically whether aquarium size, bottom gravel, fish, plants, rocks and wood suit each other. **sera – The CD** provides many possibilities, e.g.:

- Basics including everything you need to know about aquariums
- Step by step aquarium setup as a film to follow
- Valuable advice about aquarium care
- Encyclopedia with information about fish and plants
- Shopping list for your desired aquarium



Start page





Adding and exchanging the fish



Encyclopedia



Drag-and-drop design with the mouse



sera online laboratory

The **sera online laboratory** simplifies aquarium care and is a real fun. You will learn effortlessly how to use water test kits and water conditioners. You can check the quality of your aquarium water, and of course pond water, permanently. This offers the following advantages:

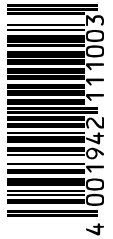
- continually good water quality
- fewer problems with algae
- less time needed for the aquarium care

Go and see for yourself on the Internet

www.seralabor.com



Printed in Germany



42/09US

sera GmbH • D 52518 Heinsberg • Germany



For natural aquariums

www.sera.de • info@sera.de