A little piece of paradise in the garden

EHEIM

Pond Guide

Planning | Creating | Technology | Maintenance

Dear reader,

Rippling water, blossoming water lilies, lively fish: a pond full of life in the garden is something very special. A little paradise, an oasis of relaxation.

If you decide to have a garden pond, there are a few things to consider. But don‘t worry. If you plan your pond carefully from the start, it won‘t cost you too much time or money. Pond construction and maintenance are relatively simple. Just make sure that all steps, measures, and components are well coordinated. Then your pond will become a fascinating biotope in a relatively short time.

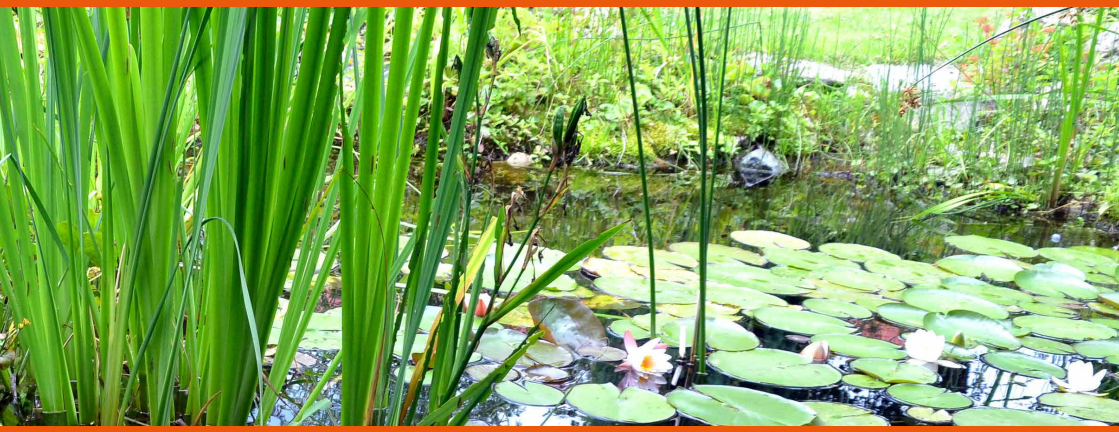
With this guide we hope to help you better understand the biology and physiology and to do the right thing right from the beginning. For this purpose, we have summarised the essentials in such a way that you do not have to read long essays. You can learn the basics for starting and caring for a pond right away.

Afterwards, you may want to get more detailed technical literature. But ideally, contact a good specialist dealer if you have any questions. You can also find more information on our website www.eheim.com. And of course, we will be happy to help you personally (our contact details on page 47).

We wish you success and much joy with your little garden paradise.

Your EHEIM Team

TABLE OF CONTENTS



BRIEF OVERVIEW

Before you read more detailed information on the various topics on the following pages, here is a brief overview. This will give you enough of an overview so you can understand more about the topics in detail later.

POND PLANNING

See also pages 10-13

Choosing the right location:

- Five hours worth of sunshine per day.
- Not too close to groups of trees.
- Easily accessible.
- A nearby electricity and water connection.

Choosing the right pond size:

- Only keep fish in 2,000 litres or more; rule of thumb: Per 1,000 litres max. 2-3 fish of around 8 cm in length.
- From a deep zone of 80 cm fish can overwinter.
- Any pond accessories must be suited to the pond's size.

Creating pond zones for plants and animals:

- Swamp zone: approx. 1/3 of the pond surface; (10 to 20 cm deep, 30 cm wide).
- Shallow water zone: 20 to 60 cm deep, up to 50 cm wide.
- Deep water zone: approx. 2 sqm, from 60 cm deep (overwintering fish from 80 cm deep).

Choosing a prefabricated pond or pond with pond liner?

- Advantage of prefabricated ponds: simple, pre-defined size and shape with pond zones defined, made with robust plastic - however, little freedom to design.
- Advantages of the liner pond: many design possibilities, unlimited and fully custom size/shape - however - more work is required to get it running.

POND CONSTRUCTION

See also pages 14-19

Step 1:
Digging a hole

a) Prefabricated pond:

- Place the pond with the upper edge facing downwards and mark the outline on the floor; add approx. 10 to 20 cm.
- Dig out the profile of the pond; dig 5 to 10 cm deeper (for sand layer to compensate).

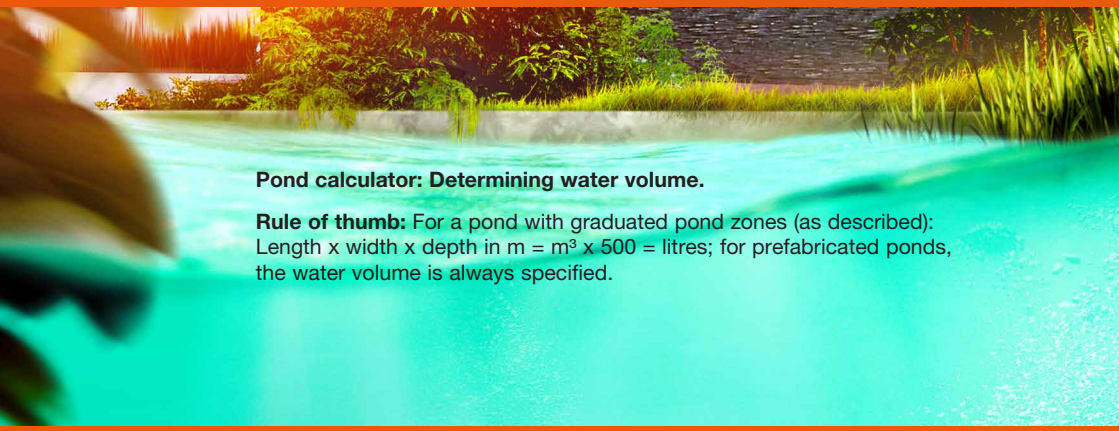
b) Liner pond:

- Mark the outline and take the pond zones into account when digging: sump zone, shallow water zone, deep water zone, etc.
- Dig approx. 20 cm deeper in each case (for sand layer and fleece underlay)
- Create capillary barrier at the edge: Plant or rainwater barrier made of gravel or stones.

Step 2:
Preparing the hole

a) Prefabricated pond:

- Fit the pond into the hole: Sand the surface; the pond must sit flush in the hole.
- The upper edge of the pond should be perfectly horizontal with the ground.
- Fill the deep zone with water so that nothing can slip or move around.
- Fill the space between the digging profile and the edge of the pond with soil.



Pond calculator: Determining water volume.

Rule of thumb: For a pond with graduated pond zones (as described): Length x width x depth in m = m^3 x 500 = litres; for prefabricated ponds, the water volume is always specified.

b) Liner pond:

- Smooth the soil well; remove roots and sharp stones.
- Apply a layer of sand at least 5 cm thick.
- Lay out pond fleece as a base.

Step 3:
Determine pond liner size:

- Lay a string once lengthwise and once crosswise through the hole.
- Then measure the length of the string and add 50 cm.

Step 4:
Lay out pond liner:

- Lay on a warm day so that the material is softer.
- Lay out the foil in the pond hole and smooth out any large folds.
- Create an overflow if possible (for run-off in case of heavy rain or similar).
- Add a layer of sand to the deep-water zone. Cover this with a thin layer of gravel.

Step 5:
Installing any technology:

- Consider the filter placement during construction and position it in the dry.
- Be sure to use the appropriate pump or filter set according to the amount of water (see pond calculator).
- Place water pump in the deep-water area; and place the filter in the shore area (depending on the system).

Step 6:
Filling and creating an edge:

- At first, only let in enough water to fill the deep zone.
- Create a capillary barrier (surrounding trench with gravel or stones).
- Fill up with water gradually - preferably only when the equipment and plants have been positioned.
- Determine water volume (using a water meter)

Step 7:
Pond planting:

- Choose a native plant species (or as close as you can get)
- Create a substrate for level areas: Coconut mats or aquatic plant soil.
- Place plants in plant baskets.

BRIEF OVERVIEW

POND PLANTS
See also pages 20-23

- **Rule of thumb:**
  one and a half to two plants per square metre of water surface; one third of the water surface should remain free.
- **Please clarify:**
  - Which plant is suitable for which pond zone?
  - Does it prefer a sunny, semi-shady or shady location?
  - Is it undemanding or does it need nutrient-rich soil?
  - Is it winter-hardy?
- **Observe the line of sight:**
  Place low-growing plants in the foreground, taller ones in the background.

POND TECHNOLOGY
See also pages 24-25

- **Please clarify:**
  - Size or water volume of the pond
  - Should fish be introduced?
- Most important: do you have the correct pond pump and filter (or complete set)
  - Do you need a pressure filter, flow filter, internal filter?
- Do you need a UVC clarifier?
- Do you need further technology: pond aerator, sludge extractor, water play pump, ice free holder.

INSERT FISH
See also pages 26-31

- Wait a few weeks until the desired ecological balance has been achieved.
- Only introduce fish from a pond size of 2,000 litres.
- Determine the size and number of fish according to the rule of thumb: per 1,000 litres max. 2-3 fish of 8 cm each.
- Have a pond depth of a least 80 cm for overwintering.

POND MAINTENANCE
See also pages 32-37

- Cut back plants regularly, remove any dead parts.
- Clean the filter regularly and replace filter media etc. if necessary.
- Suck out the digested sludge occasionally.
- Fish off filamentous algae, remove leaves and other debris.
- Always leave the pump or filter on
- Use a pond aerator at high temperatures.
- Add tap water (not rainwater) when changing the water.
- Feed fish sparingly: max. 1% of fish weight daily.

CLEAR, HEALTHY WATER
See also pages 38-39

- Ensure a balance between pond size, fish stocking and planting (cf. previous rules and information).
- Use technology that is adapted to the pond.
- Avoid algae growth.
- Check water values (pH value etc.) regularly.

TIP

EHEIM can offer you a range of high-quality pond products:

Specially coordinated filter systems and pumps, UVC clarifiers, pond aerators as well as sludge extractors, ice-free holders, filter media and accessories.

See also pages 24-25 and 40-45.

How to plan your pond

Just as every garden is unique, no two ponds are the same. It is best to start planning and researching your pond quite early in the year. You can turn your garden into something very special with an individually designed pond, you will be amazed at how easy it is! On the following pages we cover the planning steps: the right place, the right size and the right material are crucial.

The right place

Would you like a seating area nearby? Do you have a terrace from which you would like to enjoy your pond? Think about where you will have the best view from. In early spring, your garden is still quite exposed - this makes it easy to pick a suitable location. A few factors to bear in mind while planning:

- The position of the sun is crucial: most pond plants need a lot of sunlight. Five hours of sunlight per day is considered particularly favourable. However, the water should not warm up too much, otherwise algae can spread.
- It is best not to place the pond too close to groups of trees. Otherwise, leaves and other debris fall into the pond too often. Which then involves you cleaning it. Remember that conifers such as firs or spruces also renew their foliage continuously.
- When planning, make sure that you can walk around your pond without any problems. This will simplify maintenance - and you will be able to observe your pond inhabitants better.
- Make sure your power and water supply is easily accessible. It's important when building and operating your pond technology.

The right size

Whether you have limited space or an extensive green area: A pond of any size is a perfect addition to your garden. Do curved contours dominate your garden so far? Then a naturally shaped pond will fit in best. If you have straight lines, we recommend adapting the basic shape of the pond to the garden landscape. Whether large or small, whether stark or naturally colourful: your pond will always be an eye-catching and harmonous resting zone. Things to bear in mind when planning:

- A finished pond usually looks smaller than it appears in the planning phase.
- Would you like to keep fish? Then the pond size should be at least 2,000 litres. As a rule of thumb.
- For every 1,000 litres, a maximum of 2-3 fish of 8 cm each should live in the pond.
- Have a deep zone of the pond of around 80 cm, the fish can then overwinter in the pond.
- The size of your garden pond (measured in litres of capacity) determines what pond technology you can use. E.G do not choose a pond filter that is too small. By choosing the right products, you ensure that your pond becomes the ideal habitat for animals and plants.

Pond zones

A natural pond has several zones. This ensures an optimal climate for the animals and plants. In principle, there are no limits to how you want to design your pond. However, creating pond zones has its benefits:

- **The sump zone** is a wide and shallow shore zone at the edge of the pond with a depth of 10 to 20 cm and a width of 30 cm. 1/3 of the pond surface should be designed as a sump zone. The sump zone provides shelter for frogs, birds and other animals. At the same time, you can get very decorative plants for this zone, such as the marsh marigolds or irises.
- **The shallow water zone** is seamlessly connected to the marsh zone. It has a depth of between 20 and 60 cm and a width of up to 50 cm. Plants planted here should be able to filter nutrients from both the soil and the pond water. Blood loosestrife or pikeweed are very suitable.
- **The deep water zone:** If you want to keep fish, the deep water zone should take up around 2 square metres of the pond surface. This zone begins at a depth of 60 cm. From at least 80 cm, your fish can overwinter in the pond. The deep water zone offers space for elegant floating plants such as the water lily or for plants rooted there such as the arrow leaf. There is also room for your pond pump in the deep water zone.

TIP

With our LAKE pond shells, you can create a natural pond that uses different zones. See page 15.

The right material

Do you already know where you want to lay out your pond, how big it should be and what style you want to pursue? Perfect! We will now briefly introduce you to two common pond construction basics:

Pond construction with a finished pond shell

The prefabricated ponds available in specialist shops and DIY stores are usually made of robust plastic and are available in various basic shapes, often with natural curves. For example, the EHEIM LAKE prefabricated ponds (see page 14/15).

- The advantages here are obvious: you don‘t have to worry about the shape and zoning of your pond. In addition, the hard plastic means that root systems can only very rarely penetrate the pond from the outside and damage it.The disadvantage of the prefabricated pool is that there are limits to the design and later expansion of the pond. In addition, the excavation must be carried out specifically according to the shape and size of the pond. The finished pond zones (sump zone, shallow water zone, deep water zone) are also often very small.

Pond construction with pond liner

The liner pond is inexpensive and gives you all the freedom you need to design your pond. In addition, you often discover a few special features of your chosen landscape, which you can easily take into account when building the pond.

- When it comes to liner, there are polyethylene films, which are environmentally friendly, and remain soft and elastic for a long time. Or PVC films, which are particularly easy to cut. With PVC, however, please note that it shouldn’t contain any plasticisers.

More tips for planning

- Try to ensure that you can walk all around your pond, as this makes maintenance easier.
- Consider the preferred viewing angle. Making sure that the plants are places lowest; such as water lilies, should be in the front, the tallest plants in the back.
- Don‘t worry about pets! If the sump zone is created correctly, cats or dogs can even drink from the pond without endangering the fish stock.
- When choosing your pond fish, make sure that you can offer species-appropriate conditions. And make sure not to use too many animals. Fish excrement clouds the water quickly and promotes the formation of sludge and algae.
- Make sure you have the right technology for your pond! Well-coordinated pond pumps and filters not only ensure clear water; they are also essential for creating a healthy climate for animals and plants in the long term. With the right technology, your pond can easily and quickly become an attractive, long-living ecosystem.

Pond calculator

Knowing the amount of water to put your pond is important in many respects. Especially when it comes to determining the right pond technology, using the right pond care products or preparations to combat algae, and possibly limiting fish stocking.

The starting point is the space calculation formula:
z. E.g. for a **rectangular pond** with vertical sides
Length x width x depth in m = m³ x 1000 = litres

For an **organic pond** with graduated pond zones (like previously described), take about 50 % of this.
Rule of thumb therefore:
Length x width x depth in m = m³ x 500 = litres

The water quantity can be determined more precisely if you read the water meter before and after filling. In the case of a prefabricated pond, you will always receive a indication of the water capacity on the packaging labels.

Prefabricated pond – the easiest method

Building a pond with a prefabricated pond (also called a pond shell) is relatively easy. However, when buying the plastic pond you should make sure that the dimensions correspond to your plans and that the pond zones (sump zone, shallow water zone, deep water zone etc.) are not too small. Prefabricated ponds are usually available in DIY stores or garden centres - rarely in pet shops.

The installation is done using the following steps:

Step 1:
Digging a hole

- Place the prefabricated pond with the edge facing downwards on a level surface at the planned location and mark the outlines on the ground, e.g. with a spade. Allow a width of 10 to 20 cm and then lift off the topsoil layer.
- Now dig out the profile of the basin. You should check the depth of the hole by adjusting the pond.
- Dig 5 to 10 cm deeper each time, as sand or soil will be added under the pond to compensate.

Step 2:
Fitting the pond

- Cover the base of the pond with a layer of sand. The bottom of the hole must be completely level and the pond must sit flush all over.
- It is essential to adjust the top edge of the pool using a spirit level and a straightedge.
- When the pond is flush everywhere, you can fill the deep zone with water. This is necessary so that the pond doesn't slide around.
- Finally, the space between the digging profile and the edge of the pool is filled with soil with the addition of water, i.e., carefully mudded in.

ATTENTION

The pond must be carefully installed. Once filled, subsequent corrections are no longer possible. Any cavity under the bottom of the pond can cause the pond to break due to the weight of the water.

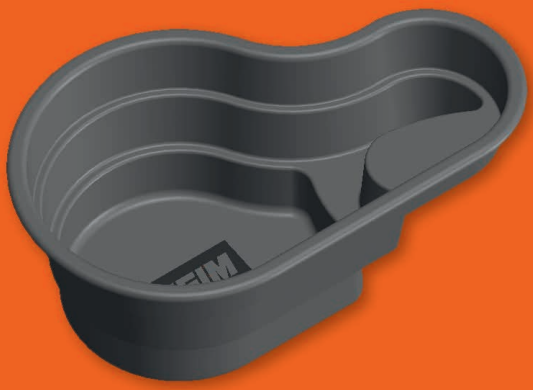
Further steps

You can find out what happens next (technology/planting etc.) from page 18 onwards.

EHEIM LAKE

EHEIM LAKE prefabricated ponds

A user-friendly alternative to the liner pond, with a quick, uncomplicated set-up, in 4 naturally curved basic shapes and sizes.



EHEIM LAKE150

EHEIM LAKE300

EHEIM LAKE500

EHEIM LAKE800

Liner pond - the individually tailored, flexible solution

With a liner pond, many options are open to you. Unlike a prefabricated pond, you can tailor the outer shape of the pond yourself. You are also flexible in the depth and gradation of the pond zones. Even the hole does not have to be prepared so precisely!

Construction is done in the following steps:

Step 1:
Digging hole

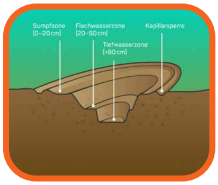
- Once you have determined the location and size, lay out your planned pond in the terrain. For example, with a garden hose or rope.
- Now the digging can begin. Do not dig a deep hole with steep walls, but aim to create different zones. Most plants grow in a shallow area.
- The sump zone is up to 20 cm deep; it should take up about 40 percent of the pond area. This is followed by the shallow water zone, up to 50 cm deep; it takes up about one third of the pond area. The remaining quarter is the deep water zone; it should be at least 80 cm deep. One metre or even 1.50 metres is better.
- Dig about 20 cm deeper than you want your pond to be at that point. This is because sand and a fleece are placed under the liner. (Sand or gravel will later be placed on top of the liner).
- Also think about a capillary barrier at the edge: a plant or rainwater barrier made of pebbles or stones.

Step 2:
Smoothing hole

- The edge of the bank must be the same height on all sides. Check this with a long roof batten (straightedge) and a spirit level (or hose level). Level the edge of the pond if necessary.
- The pond hole should be free of roots and sharp stones.
- Smooth out the soil as best you can.
- Fill the hole with a layer of sand at least 5 cm thick. This will protect your liner later on. In addition, we recommend a pond fleece as a base, e.g. to protect against roots and stones. The sheets are simply laid on top of each other.

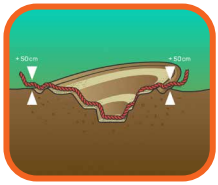
Step 3:
Determine pond liner size

- Now the pond hole is ready for the pond liner. But how big does your liner need to be?
- Lay a string once lengthwise and once crosswise through your future pond so that it rests on the ground at all points.
- Measure the length of the string in each case and add half a metre to the left and right as a safety. If you have measured 7 metres in one direction and 5 metres in the other, you will need an 8 by 6 metre pond liner.



Step 1

Step 2



Step 3

Step 4

Step 4:
Lay out pond liner

- It is best to lay the pond liner on a warm day. Then the material is softer and more malleable.
- First spread the liner on the lawn, then lay it out in the pond hole. (Walk on the pond as little as possible, only barefoot to protect the liner.) The more people help to lay it out, the easier it is. Smooth out the folds, any small folds can be easily covered with pebbles.
- An overflow is recommended: build an elbow and a connecting pipe leading into a small hole filled with gravel or into the house sewer. This prevents your pond from overflowing even during heavy rain.
- A layer of sand should be placed in the deep water zone. This is then covered with a thin layer of gravel.

Further steps
You can find out what happens next (technology/planting etc.) on the following pages.

Prefabricated pond and liner pond – further steps

Some steps that apply to the liner pond should also be taken into account for the prefabricated pond. This applies to the installation of the technology as well as the planting. With a little skill (and pond liner), you can also create an appropriate edge for the prefabricated pond.

Step 5:
Installing technology

- If you take the filter technology into account during construction, you can comfortably plan and position the components somewhere suitably dry.
- First calculate the amount of water in your pond (see pond calculator page 13), then select the right pump or filter set.
- Place the water pump in the deep water area. Hoses and cables can be easily concealed in a liner pond if they are laid in the folds of the pond liner. Depending on the system, place the filter close to the edge of the bank so that it is easy to reach.

TIP

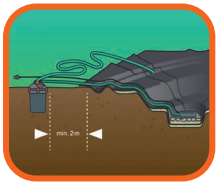
Need a pressure filter, flow-through filter or internal filter? With one of the EHEIM complete filter sets such as LOOP or PRESS you get a perfectly coordinated pump-filter combination for permanently clear water. The super flat internal filter Module 4000 with connection for water features, watercourse or an additional UVC clarifier can be used individually. Also, the EHEIM PLAY water feature pumps are effective fountains (see page 42).

Step 6:
Filling and creating an edge

- Now you can fill it up with water! But be careful not to wash up the layer under the gravel.
- First fill the pond only with enough water to fill the deep zone.
- The pond liner will then adapt to the terrain. With the prefabricated pond, the weight of the water ensures that nothing slides around.
- Now the so-called capillary barrier is created. This prevents the soil surrounding the pond and plants (e.g., the lawn) from sucking water out of your garden pond. To do this, place the pond liner in a small trench and fill it with pebbles or stones.

TIP

Read your water meter before the filling process. Then you will know the exact water content of your pond. This is important for the selection of the correct technology and, if necessary, for the dosage of treatment products. **By the way:** If you have a softening system because of hard water, switch it off before filling.



Step 5

Step 6

Step 7

Step 7:
Planting

- There are no limits to your creativity here. However, native plant species that support water purification are recommended.
- For the overall appearance and planting of the pond, the sump zone is crucial as is the transition to the dry area.
- For flat areas, coconut mats or aquatic plant soil are suitable as a substrate. After planting, cover the soil with a thin layer of pebbles. Plant baskets can be prepared very well in dry conditions and prevent plants from growing too much, but they often remain visible. Though they can be concealed with stones.
- Start planting in the deeper areas and gradually fill the pond with water.
- As a rule of thumb, you need about one and a half to two plants per square metre of water surface. About one third of the water surface should remain free of plants.
- You can decorate the sump zone with large stones.

TIP

Be inspired by our pond plant examples (from page 20). Introducing fish, and the best suited species, can be found from page 26 onwards.

How to install plants

A beautifully designed pond with matching plants is a great feature in every garden. In addition, pond plants bind nutrients, inhibit algae growth, promote clear water and improve the ecological balance of the pond/garden. So, whether you want to create a new design or creatively redesign your pond - planting aquatic plants is worthwhile and very easy.

Basically, you should keep in mind when choosing plants:

- Which plant is suitable for which pond zone?
- Does it prefer a sunny, semi-shady or even shady location?
- Does it thrive best in nutrient-rich soil or is it undemanding?
- Very important: Is the selected plant type winter-hardy?

Step 1:
Plant potting

- The easiest way is to lower the new plant in a basket into your pond. To do this, you need a close-meshed plant basket that is slightly larger than the pot you bought the plant in.
- Fill the plant pot with mineral substrate for aquatic plants. This is available ready-mixed in the shops. Compost, peat or nutrient-rich topsoil are not suitable for ponds.
- Leave a hole in the substrate into which you insert the plant. Press everything down. Finally, fill the basket with a thin layer of gravel or coarse sand to protect it from swirling and fish.

TIP

Place the pots directly near the pond; the ready-made planters can become very heavy with larger water plants.

Step 2:
Inserting plants

- Now all you have to do is sink the prepared plant baskets into the pond at the desired location. It is best to place the largest, deepest plants first, followed by the plants in the edge areas.

TIPS

Smaller plant baskets can simply be placed with a shovel.

After potting, you can temporarily **plant water lilies** in shallow water. There they will grow roots and longer leaf stalks more quickly. After a few weeks, move them to their final position in the deep water area.

Ideal plants for your pond

Planting in your garden pond is not only for pretty visuals. Healthy pond water needs good pond planting. Here are a few of the most popular species which will wnsure a long an healthy life for your pond.

Water lily

The water lily is called the „queen of the garden pond“. And there is a suitable species for practically every pond. From water lilies with a very shallow planting depth of only 30 cm and little space requirement, to special cultivars such as the water lily „Darwin“: this takes root at a depth of more than one metre and can cover a good 2 square metres of pond surface when fully grown. The advantage of water lilies is if they are chosen appropriately, they need little space and depth. The water lily is a floating leaf plant, as the leaves and flowers are on the surface of the water while the roots are at the bottom of the pond. The easiest way is to buy the water lily in a suitable planting basket and plant it directly when building the pond.

- Botanical name: Nymphaea
- Conditionally winter hardy
- Pond zone: Deep water zone
- Planting depth (mini water lilies): 20-40 cm
- Planting depth (regular): 40-100 cm
- Space requirement / expansion: ab 40 cm
- Flowering: May-September
- Location: sunny

Flowering rush (swan flower)

With its delicate pink flowers, the flowering rush or swan flower is a decorative rarity among pond plants. Planted in groups, it looks amazing when it unfolds. This marsh plant forms creeping rhizomes and reproduces by root division. In Central Europe, the flowering rush is now very rare due to the destruction of its habitats (mining, cultivation, and drainage of moorland sites). It is classified as „critically endangered“ on the German Red List. One more reason to put the swan flower in your pond!

- Botanical name: Butomus Umbellatus
- Winter hardy
- Pond zone: Shallow water zone
- Planting depth: 0-30 cm
- Height of growth: 60-100 cm
- Flowering: June-August
- Location: shady to semi-shady

Water Lily

Flowering rush

POND PLANTS

Marsh iris

Marsh marigold

Swamp iris

Marsh Iris (Blue Marsh Iris)

The undemanding marsh iris is also called the blue marsh iris, but it only grows to an average height of 25 cm. All parts of the marsh iris are also slightly poisonous, and it is advisable to wear gloves when planting. It does not easily crowd out other plants and is also well suited to a small garden pond. A big advantage is that the marsh iris is very happy to flower, even without fertilising.

- Botanical name: Iris versicolor
- Winter hardy
- Pond zone: Swamp zone
- Water depth: 0-10 cm
- Height of growth: 25 cm
- Flowering: June -July
- Location: sunny

Marsh marigold

As an early bloomer, the marsh marigold brings the first golden yellow splashes of colour to your garden pond. It is very widespread in Central and Northern Europe, prefers a heavy, loamy soil and is very undemanding.
Caution: All parts of the marsh marigold are slightly poisonous and can cause mild skin irritation. Therefore, wear gloves when planting.

- Botanical name: Caltha palustris
- Winter hardy
- Pond zone: Swamp zone
- Planting depth: 0-5 cm
- Height of growth: 20 cm
- Flowering: March - May
- Location: sunny – semi-shady

Swamp iris

The robust, native marsh iris with its intense yellow flowers is well suited for decorative pond edge planting in the shallow water zone. However, as it takes up a lot of space, it should rather be used as a solitary plant in a planting basket. This way it cannot crowd out weaker neighbouring plants so quickly. Also consider the height: a marsh iris can grow up to 2 m high. Caution: All parts of the marsh iris are slightly poisonous in all parts. You should therefore wear gardening gloves when planting.

- Botanical name: Iris pseudacorus
- Winter hardy
- Pond zone: Shallow water zone
- Planting depth: 0-5 cm
- Height of growth: 60-100 cm
- Flowering: May - July
- Location: semi-shady, also for shady ponds and along streams

Pikeweed

Purple loosestrife

Arrow leaf

Pikeweed

The pikeweed originates from North America and is one of the few plants that bloom bright blue. It is suitable for decorative border planting and is a very beautiful addition to the pond, both in clumps and as a single plant. Unfortunately, it is not completely winter hardy, which is why it should be covered over the winter with fir branches, for example.

- Botanical name: Pontedaria cordata
- Partly winter hardy
- Pond zone: Shallow water zone
- Planting depth: 20-30 cm
- Height of growth: 50 cm
- Flowering: June-September
- Location: sunny – semi-shady

Purple loose strife

Purple loosestrife is particularly suitable for planting along the edge of the pond. It thrives best in the swamp zone and can also tolerate occasional flooding. The long, bright purple inflorescences are a particularly attractive eye-catcher. This low-maintenance native plant makes hardly any demands on its environment.

- Botanical name: Lythrum salicaria
- Winter hardy
- Pond zone: Swamp zone
- Planting depth: 0-5 cm
- Height of growth: 100-150 cm
- Flowering: June-August
- Location: sunny

Arrow leaf

The arrow leaf or arrow weed is very common, especially in the North German lowlands. It is a beautiful complement to large-flowered plants such as the water lily, as it stands out more for its characteristic leaves. The arrow leaf is very undemanding and thrives best in the deeper shallow water zone. Its pointed leaves are partly submerged and partly floting. In winter it retracts the parts of the plant above the waterline and hibernates at the bottom of the pond. Fun Fact: On sunny days the leaf tips point north. As such, the arrow leaf is therefore also known as a “compass plant”.

- Botanical name: Sagittaria sagittfolia
- Winter hardy
- Pond zone: Shallow water zone
- Planting depth: 5-30 cm
- Height of growth: 40-80 cm
- Flowering: June-August
- Location: sunny – semi-shady

Essential pond technology

If you want permanently clear, healthy water in your pond and want to introduce fish, you need the right technology in place. Well-coordinated pumps and filter systems ensure natural circulation, filter pollutants and keep the water clean.

If you are creating a new pond, it is advisable to install the technology before you let the water in. This makes it easier to position the pump and filter.

What are pond pumps and pond filters for?

The pump is the centrepiece of every garden pond.

Installed at the deepest point of the pond, it ensures continuous circulation of the water (and thus the necessary oxygen supply). It also transports the water to the pond filter. When choosing the right pump, it is important that even larger dirt particles can be transported through without any problems, that the pump works quietly and that it has a continuously smooth operation.

The pond filter cleans the passing water mechanically and biologically.

Both are important for a healthy ecosystem and for permanently clear water.

- **Pressure filters** offer the advantage that they can be buried and hidden by up to two-thirds at the edge of the pond so as not to disturb the appearance of your garden. For example, our EHEIM PRESS set.
- Continuous **flow filters** are particularly easy to put into operation and can be conveniently installed at the edge of your pond. For example, our LOOP set.
- **Internal filter** module 4000 – it consists of a pump and individual filter modules that can be reduced or added as required depending on the size of the pond. You can also connect water features, a stream, or a UVC clarifier directly to it.

WATER PIPE »DANCE«

LOOPpro6000

WATER PIPE »BUBBLE«

WATER PIPE »SPLASH«

You will find all **EHEIM pond products** and more detailed information from page 40 onwards.

The easiest way to get the right technology in place is to choose one of our complete sets. For example, the LOOP flow-through filter set or the PRESS pressure filter set. You can also choose from a MODUL4000 internal filter. In addition, many other products - from water feature pumps, UVC clarifiers to pond aerators and much more.

The compact EHEIM products are very easy to install and of course also to maintain. See for yourself. You will find our product range from page 40.

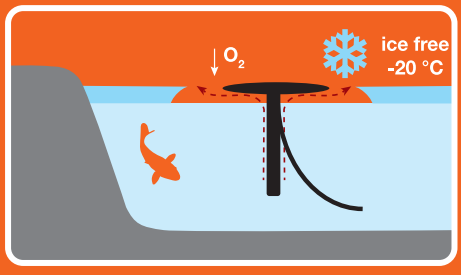
CLEARUVC

Do you need a UVC clarifier?

The ideal complement to the pump and filter in the pond is a UVC clarifier. It is connected in front of the pond filter. Inside, a UV lamp irradiates the water flowing through. The UV radiation changes the nucleus of the cells so that the smallest floating algae cannot multiply any further. Bacteria and germs are also killed.

Our LOOP and LOOPpro complete sets already include a UVC clarifier.

Priniple of the **THERMO200** ice preventer



When is a pond aerator necessary?

Oxygen is essential for the biological processes in the pond. Especially if you keep fish in your pond. Unfortunately, it's hard to get good oxygen supply in the pond, especially if very few acid-producing plants are planted. This is where a pond aerator can help.

- **Pond aerator in summer:** With increasing solar radiation, the oxygen content in the pond decreases. The result: increased algae growth and difficult living conditions for the pond inhabitants. Our AIR pond aerator enriches the circulated water with oxygen and thus ensures a healthy climate with crystal clear water.
- **Pond aerator in winter:** In the cooler seasons, the oxygen production of your pond plants decreases. Although the metabolism of the fish also slows down, it becomes critical for the inhabitants to get enough oxygen especially when the first layer of ice on the pond descends. The AIR system counteracts the formation of a closed ice cover in winter and ensures that putrefactive gases are removed.
- In addition, we offer you an **ice preventer**. The **THERMO200** prevents the pond from freezing over completely up to -20 °C.

Popular fish for your pond

After your pond is completely filled, it will take a few weeks before the ecological balance is established, and you can introduce fish. The „maturing process“ can be accelerated with treatment products to turn tap water into near-natural pond water. But you should have a little patience in any case.

Note: To determine the number of fish for your pond, the amount of treatment products and the appropriate technology, you should always know the amount of water in your pond. If you did not determine this when filling the pond, you can do so using the pond calculator (see page 13).

A few principles in advance

To make your new pond inhabitants feel as at home as possible, you need some background knowledge: How do the species react differently? How can you create the best environment for your fish? And what do you need to consider?

- If your pond is up to a size of 2,000 litres you should not think about keeping fish. However, when your pond is around 3,000 litres, you can think about keeping some.
- Pay attention to which species live in harmony with each other, whether the animals themselves are rather solitary or should be kept in groups, and what space requirements the adult animals have.
- Is your pond deep enough? It should be at least 80 cm deep if your fish are to overwinter in it.
- Is there enough free-swimming space and densely planted areas where your fish can hide?
- Do you have the right technology? With a fish population, the requirements for your pond filter and pump change very quickly due to the fish excrement!
- The calculation of the appropriate amount of water per fish is as individual as your pond is. A maximum of 2-3 fish of 8 cm each should live in the pond per 1,000 litres.

The goldfish

Goldfish are by far the most popular inhabitants of garden ponds in Central Europe. This is not without reason: Goldfish are very robust, peaceful animals and do not make high demands on their environment. They are also very curious and and swim close to the water surface in the evening. The ideal animals if you like to watch your pond fish.
As Goldfish are sociable animals keep at least 4-5 fish together! Please note: Goldfish develop their characteristic golden colouring only after about one year.

- Designation: Carassius auratus auratus
- Length: up to 30 cm
- Keeping: Goldfish are sociable (keep 4-5 together)
- Special features: Goldfish reproduce strongly
- Gets on well with bitterling or minnows

The koi

Many pond owners dream of an elegant koi pond. The koi is a very friendly, peaceful animal, but has very specific requirements for its environment. Many experts recommend that a pond size of at least10,000 litres is the minimum to be considered for koi keeping. Not only is a high space requirement characteristic for these „kings of the garden pond“: individual species can even grow up to 80 cm. Koi are also very sociable and social and appreciate the company of at least 5 of the same size. Koi are a cultivated form of the carp - and thus they tend to burrow extensively. They rummage and chew through the bottom of your pond and are just as happy to ravage your planting. Koi are also very sensitive to cold and have a particularly high demand for oxygenated water. The right filter and pump system is absolutely essential for keeping koi. They also require special koi food!

- Designation: Cyprinus carpio
- Length: approx. 60 to 80 cm
- Keeping: Always keep koi in a group, as they are very social fish!
- A peaceful, burrowing pond fish; koi pollute the water heavily, you will need a powerful filter.
- Best kept together with conspecifics only.

The shubunkin

The shubunkin is a Japanese breeding variety of the goldfish and is therefore just as easy to keep, making it an ideal pond fish. The shubunkin is bicoloured (mostly red and a shimmering blue) and, unlike the goldfish, has a very pronounced tail fin. It also has its attractive colouration right from the start.

- Designation: Carassius auratus var. shubunkin
- Length: up to 30 cm
- Keeping: Shubunkin are sociable (keep 4-5 animals together)
- Special features:
- Shubunkin reproduce strongly
- Gets on well with bitterling or minnows

The three-spined stickleback

The three-spined stickleback is extremely undemanding and adaptable. In the wild, stickleback populations survive even in heavily polluted waters. With its characteristic three spines, the three-spined stickleback can defend itself very well against larger predators. The stickleback forms territories and is quite aggressive towards conspecifics and other pond dwellers, especially during the breeding season. Sticklebacks should always be kept in a small group. Males and females are best kept in a ratio of 2 to 5, as they reproduce very strongly.

- Designation: Gasterosteus aculeatus
- Length: approx. 5-8 cm
- Keeping: small groups
- Special features: adaptable, but very aggressive during the breeding season; well suited for small ponds
- Keep only in very large ponds with other small fish (bitterling, minnow, moderlieschen).

The moderlies

The moderlies is a robust, undemanding and very friendly pond fish. These animals are schooling fish and should only be kept in groups of 10 or more. They appreciate good water quality, although they are also happy in very small ponds, and like a gentle current via a water feature or stream. Groups of these fish like to stay in the planted shallow water zone and are therefore well suited for observation. In addition to pond fish food, the Moderlieschen also feeds on annoying mosquitoes around the pond in summer. Like many small pond fish species, the Moderlieschen breeds readily and quite quickly. Be sure to pay attention to this when buying! The Moderlies gets along well with other small peaceful species such as the bitterling or the minnow.

- Designation: Leucaspius delineatus
- Length: approx. 9 cm
- Keeping: native swarm fish
- Special features: very peaceful fish that can also tolerate higher water temperatures. The Moderlieschen reproduces strongly!
- Gets on well with e.g. bitterling or minnows

The bitterling

Like the Moderlieschen, the Stichling and the Minnow, the Bitterling is a small pond fish. It got its name because of its bitter taste! The special thing about the bitterling is its way of reproducing: this only takes place in symbiosis with the mussel or river mussel. The female lays individual eggs in the gills of the mussel, which are then immediately fertilised by the male bitterling. Each mussel contains only one or two eggs. The female repeats this - so that up to 100 eggs are laid in different mussels. This special symbiosis protects the bitterling eggs very effectively from predators and the small, hatching bitterlings are again protected inside the mussel.

- Designation: Rhodeus sericeus amarus
- Length: approx. 6-8 cm
- Keeping: from a group of 5 fish or more
- Special features: very peaceful, native fish; reproduces via mussels (please use only one mussel per bitterling pair and no more than 4 bitterlings per cubic metre of pond volume).
- Gets along well with other remaining small species. However, if you want to breed bitterlings, then keep them exclusively!

The minnow

The minnow is a lively, native fish that occurs mainly in flowing waters in Central Europe to Asia. In some regions of Germany, the minnow is also known as „Pfrille“. In former times, the minnow or „Maipiere“ was considered a delicacy in the Rhineland - to this day, it is caught in some areas of Russia with trawl nets and traps and used as an edible fish. It has been used as a bait fish by sport anglers. In Germany, however, the minnow is protected and may not be taken from open waters. They can be kept together with smaller native fish species with similar requirements such as the moderlies and the bitterling. The minnow needs clean, oxygenated water that should not exceed 20 °C if possible.
Fun fact: minnows are used to monitor the quality of drinking water.

- Designation: Phoxinus phoxinus
- Length: up to 10 cm
- Keeping: Keep at least 10 fish together
- A very lively fish that like to swim at the surface. They need oxygen-rich water - so pond aeration is often recommended.
- Get along with moderlies or bitterling

The golden minnow

The golden minnow is not related to the native minnow, but is a relatively new North American breed, which is also often found under the name „fathead minnow“. It prefers to live in swarms and usually stays just below the water surface. This is ideal if you like to observe life in your pond. The golden minnow is quite tolerant of water temperatures, but needs very clean, oxygenated water, ideally with a slight current. Golden minnows that have reproduced once live on average only 2 years afterwards. The characteristic golden to pink colouring of the golden minnow and its friendly nature make it a very popular small pond fish.

- Designation: Pimephales promelas
- Length: up to 9 cm
- Keeping: Keep at least 10 fish together
- Special features: very lively fish that like to swim at the surface. They need oxygen-rich water - so pond aeration is often recommended
- Gets along well with all other small pond fish such as moderlies or bitterling

How to feed correctly

Proper feeding is also part of pond care. On the one hand, it ensures the health of your fish, and on the other hand, the environment in the pond. Which food is the right one depends mainly on the population of fish. But the season and water temperature also play a role.

As a rule of thumb, the daily ration should not be more than 1% of the fish weight. At very high or low temperatures, even less is sufficient.

These are the main types of feed (year-round feed):

- Pellet food - suitable for koi and goldfish
- Pond sticks - generally suitable for all pond fish species
- Flakes - suitable for fry and very small fish

There are also special feeds that you can use sparingly, e.g.:

- Colour food - for koi and goldfish to enhance their red colouring.
- Power food (growth food) – only for young koi that are still growing.
- Snacks and treats - only occasionally for pampering (silkworm pupae, gammarus, mosquito larvae) or cereal-based food pastes and nibble sticks.

Good pond food is optimally adapted to the nutritional habits of the respective pond inhabitants and supports their immune system. In most aquatics shops you will find a rich selection and qualified advice.

How to maintain your pond

If you maintain and clean your pond properly from the beginning, you can keep the workload reasonable. Basically: regularly cut back plants and remove dead parts, clean the filter regularly, vacuum out sludge, fish out filamentous algae, remove leaves and other debris and possibly cover the water surface with a pond net.

Your pond in spring

In spring, your pond awakens from its winter dormancy. With a little effort you can make it fit for the spring.

- As soon as the weather is frost-free, you can start up your pond equipment again. Clean the filter material if this was not done in autumn. Filter activation supports a crystal-clear start to the pond year.
- If you use a UVC clarifier, change the UV lamp (e.g. GLOW replacement lamp) every spring.
- Stabilise the water values: especially at the beginning of the year as some will be very low!
- Spring is the best time to think about additions to the pond: for example, would you like to install a water feature or a stream?
- When you add water to your pond, we recommend adding basic treatment to ensure the best water quality right from the start.
- Especially in spring, when the temperatures rise, the algae bloom begins. You can combat this with targeted pond treatment. In addition, regular pond skimming helps to keep the pond clean.
- Spring is planting time: check which of your pond plants need pruning and make sure that any greenery does not remain in the pond.
- Would you like to replant your pond? Then take a look at page 20.

Your pond in summer

Summertime is the most beautiful pond season. With a few simple steps you can ensure that your pond is a feast for the eyes all summer long:

- Check your pond filter; clean it for the first time if necessary.
- Never switch off the pump overnight, this is the only way to ensure constant filtration. The EHEIM pumps are particularly energy-saving.
- The oxygen saturation of the water can drop due to permanent high solar radiation. The use of a pond aerator helps against this. Not only will your fish will thank you for it, but due to the higher oxygen saturation, your pond water will also become crystal clear very quickly. In addition, an aeration system effectively cools down the water.
- Water also evaporates during long periods of good weather. When the water level drops, always fill up with fresh tap water and treat naturally with a basic treatment or a water stabiliser.
- If the water needs topping up, do not wait for the next downpour to fill up your pond! This can cause considerable damage to plants and fish.
- You can regularly cut back plants that are growing too lush. However, most pond plants are comparatively uncomplicated. A phosphate binder, used regularly, has a preventive effect against algae growth. However, if you should ever have too much algae growth in your pond, it‘s no big deal: algae treatments are a quick and lasting remedy.
- You should always remove falling leaves, especially in late summer.
- The warmer it gets, the more active your fish become! Please bear this in mind when feeding.

Your pond in autumn

In autumn, with the first falling leaves and increasingly cooler days, it is time to prepare the pond for the cold season. All aquatic plants stop budding and growing, and the fish prepare for hibernation and therefore eat less.

- Cut back your pond plants, dead stalks, and grasses one last time.
- Falling leaves should be regularly removed; it is even easier to protect your pond with a leaf protection net.
- Rotten water lily leaves, dead underwater plants, and mulch must be sucked out. The EHEIM VAC40 sludge extractor is perfect for this.
- Before the pond water freezes, you should remove and clean your pond equipment (e.g., pump, water feature pump). You can also clean the filter again and store it frost-free. Your pond pump is best left in a bucket of water or simply in the pond itself for the winter.
- You should now switch your fish to easily digestible special food for the cold season.

Now the pond will go into a winter clean state and decaying organic matter is reduced to a minimum. The organic substances do not consume any additional oxygen that your fish urgently need. In addition, there will be a reduction of the nutrient depot of nitrogen (nitrate) and phosphate resulting from the decomposition processes that are partly responsible for the strong growth of algae in spring when the pond water warms up again.

Your pond in winter

In winter, your garden pond is in a natural resting phase. There are a few things to keep in mind:

- A pond aerator (page 43) is the simplest way to keep your pond ice-free. The moving water usually cannot freeze - at the same time you can be sure that your fish are supplied with the best possible oxygen.
- In very cold temperatures, you should make sure that your pond does not freeze over completely. You can prevent a closed ice cover from forming (under which harmful putrefactive gases can quickly build up and create a lack of oxygen), by using an ice preventer (page 44).

Ice preventer **THERMO 200**

Your guide to easy maintenance

If you want to enjoy your pond without disturbances, there are a few things you should keep in mind. First and foremost, algae infestation and anything that can cloud your pond water is important to tackle. If you keep fish in your pond, a predatory visit of a heron can also be a massive problem. And – counter-intuitively: rainwater can also have a negative effect on the quality of your pond water.

Heron Protection

The grey heron, also known as the heron, likes to help itself to the fish populations of garden ponds when foraging, particularly in spring. Especially if you keep koi, a heron preying around the pond can be very painful. However, a few simple things can help against the predatory heron in the garden pond:

- The easiest way is to place a heron figure by the pond. As a rule, herons only fish individually and do not settle in the territory of another bird.
- Another simple method is to use decorative reflecting pyramids or spheres in the pond. The reflection of the light keeps herons away.
- Of course, you can also work with a „heron frightener“: a device that’s triggered by a motion sensor and chases the heron away with a targeted water jet.
- **Please note:** The Grey Heron has been under species protection since the 1970s.

Algae

Algae forms in every artificially created water landscape. They are an important link in the biological chain of the garden pond. However, if the biological balance gets out of kilter, algae growth increases. The water becomes cloudy or forms cotton-wool-like filamentous algae. This can be easily remedied with a few tools and a little background knowledge.

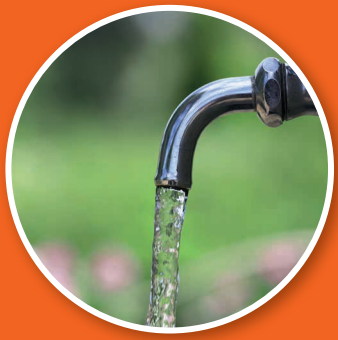
- In spring, slightly increased algae growth is completely normal. With a good filter system and effective filter activation, the biological balance is quickly restored.
- Practically every type of algae forms when the water is too rich in nutrients. Decay products from leaves and plant remains are mainly responsible for this. It is therefore important that you regularly remove leaves etc. from the pond surface.
- Check whether the number of your fish fits the size of your pond! Too many fish also make for an algae-friendly environment.
- Make it as easy as possible for yourself: a good phosphate binder prevents algae formation.

Rainwater

Rainwater is generally considered harmless. However, this is not the case with your garden pond. The quality of rainwater varies greatly from region to region and from season to season.

- Rainwater can be very acidic, which is harmful to animals and plants and places a heavy burden on the ecological balance.
- In addition, rainwater carries large amounts of pollen, especially in summer: this increases the supply of nutrients in the pond and thus promotes algae growth.
- When you discharge rainwater via the gutter, etc., in most cases you are also discharging some pollutants: Pollution from road traffic and deposits from copper pipes damage your pond water.

Tap water is best. If you then treat it with basic treatment and use a coordinated system of pump and filter, you can be sure that you will enjoy your pond for a long time.



How to ensure clear, healthy water

Here are some basics you should know about pond water:

Pond size and fish population

The ratio of pond size to fish population and planting must be right.

- As a rule of thumb, fish can only be introduced from a pond size of 2000-3000 litres.
- A maximum of 2-3 fish of 8 cm each should live in the pond per 1,000 litres. For the small ones (Moderlies) it can be 7 fish. (When buying fish, bear in mind that young fish often grow considerably larger).
- A lack of plants can lead to strong algae growth.
- Balanced planting is therefore important for the biological balance.
- As a rule, one third of the pond surface should be planted.

Pond technology

Technology that is perfectly matched to the pond is important. At the heart of this is the filter system. There are pond filters that consist of a pump and the filter unit.
There are also filter systems in which the pump (see page 42) and the filter unit are separate. The principle is always the same: the pump transports the water to the filter. This removes the pollution from the water not only mechanically, but also biologically. Unfortunately, suspended algae and bacteria pass through even the best filter system. A UVC clarifier connected in front of the filter helps against this. It ensures that bacteria and germs are also killed. Other equipment that you should have includes a pond aerator, ice-free holder and sludge extractor, as well as a separate UVC clarifier if necessary (See page 43).

Water values

The water quality of your pond depends on many factors. Stronger fluctuations in the water values can be dangerous for the pond inhabitants. Therefore, if there is a fluctuation in one value, you should also check the other values.

pH-value

The pH value describes the acid or base content of the water. The neutral pH value is 7 and is ideal for pond dwellers. Lower values mean acidic water, higher values mean alkaline. The pH value can change regularly and should therefore be checked regularly. Generally, it is higher in the evening than in the morning, as water plants release CO2 at night. In addition, the value increases when the pond is aerated more strongly and thus the CO2 value decreases.
Make sure that the values do not fluctuate by more than 0.5 %, as this causes stress for the fish.

Ammonium & Ammonia

Ammonium is excreted by fish as a metabolic product (25% via urine and 75% via gills). It is relatively harmless. However, ammonium is converted into ammonia by a natural process. And this is extremely toxic to fish. From a good filter with enough beneficial bacteria, ammonia is converted into less toxic nitrite. But this is also harmful.

The ammonia value should always be 0 mg/l, already at 0.2 mg/l you should add a filter starter and provide additional aeration. If the value rises above 0.2 mg/l you must carry out a water change (at 0.5 - 1.0 mg/l a 25% water change and at higher values up to 70%).

Nitrite & Nitrate

As said, nitrite is formed when ammonia is decomposed by filter bacteria. Nitrite is also harmful for fish and should always be 0 mg/l. It becomes critical at 0.2 mg/l, because oxygen can no longer be bound, and the fish suffocate. Here too, at values up to 0.5 mg/l you should add filter bacteria and provide aeration. At higher values, you should change the water (1 mg/l: 25%, above that up to 50%).

Nitrate is formed when nitrite is further decomposed. It is a plant nutrient, but it also makes algae grow faster. Therefore, your pond plants should „take away“ the nitrate from the algae. Many plants keep the nitrate value low. Here, too, the ideal value is 0, but this is very difficult to maintain.
A low nitrate value is a sign of a good balance between fish excretions and plant nutrient uptake. If the nitrate value is high, a water change is called for here too.

Carbonate hardness & total hardness

Carbonate hardness (KH) refers to the total potassium content. It is the measure of the „buffer capacity“ of the water and indicates how well the pond can withstand pH value fluctuations.

Ponds with a lot of algae are generally subject to stronger pH fluctuations and the KH should be checked regularly. The minimum value is 4°dH, better between 6 and 8°dH (°dH is the sum of carbonate hardness (KH) and non-carbonate hardness (NKH)).

The total hardness (GH) describes the sum of the minerals dissolved in the water. The amount of calcium and magnesium determines whether the water is soft or hard: the harder, the higher the mineral content. If the GH is too soft, the biological processes in the pond begin to stagnate. Therefore, you should also check the GH value regularly because it is constantly decreasing as the minerals are consumed by pond inhabitants. Guide value: at least 8°dH.

Phosphate

Phosphate is a plant nutrient. It is found in almost all soils and is introduced through fish food or faeces, pollen, plant residues, fertiliser or tap water.
Increased algae growth already begins at a value of 0.035 mg/l. The value can be reduced by reducing the fish population, oxygen enrichment, suctioning off the pond sludge and generally by less input of organic substances.

What you need for your pond

Depending on the type, size, location and fish population as well as your requirements, we can offer you a wide range of important and helpful products. Some (e.g. filters etc.) you should get right from the start. Others you may want to purchase later, once you have gained some experience.

EHEIM PRESS

EHEIM MODUL 4000 POND internal filter

With the EHEIM Modul 4000 you have a true multi-talented product: a variable filter and water feature pump in one. It consists of a pump and individual filter modules that can be reduced or added as required depending on the size of the pond or fish population. The unit also has a separate adjustable water outlet. This allows you to operate it in parallel as a water feature pump, create a stream or connect a UVC clarifier. The Modul 4000 offers mechanical-biological filtration. It is extremely low-maintenance, easy to clean and suitable for ponds up to 4000 litres.

EHEIM PRESS pressure filter system

Connect, switch on, and enjoy!
PRESS is a ready-to-install, very powerful complete filter set with innovative BACKWASH cleaning technology: Simply flip the lever in the lid and water flows through the unit, cleaning in the opposite direction. The powerful pressure pump makes it possible to feed water at higher altitudes. You can even use even it below the water level of your pond!

EHEIM PRESS pressure filter systems are available for ponds of 7000 and 10000 litres without fish population (or 3500 and 5000 litres with fish population) - both models are also available with UVC clarifier.

EHEIM MODUL 4000

EHEIM LOOPpro

EHEIM LOOP continuous flow filter system

Create crystal clear pond water and the best living conditions for plants and fish! The 4-stage biological-mechanical process of our LOOP filter systems ensures this naturally: It guides water automatically through several filter layers and the integrated UVC clarifier before it flows back into the pond without algae, dirt particles and germs. All components are perfectly coordinated and extremely low-maintenance. LOOP filters are available as ready-to-install complete sets for ponds with 5000, 7000, 10000 and 15000 litres (with fish population, half the number of litres applies in each case).

EHEIM LOOPpro continuous flow filter system

The LOOPpro corresponds to the LOOP filter. However, it is the only one in the „middle class“ that has a pre-filter (modelled on the EHEIM external aquarium filters). Here, coarse dirt is caught before the water flows through the other separate filter chambers. In addition, the BACKWASH function removes coarse residues. This improves the effectiveness and increases the service life of the biological filter media. The upstream UVC clarifier also kills germs, algae spores, etc. LOOPpro filters are also available as ready-to-install complete sets for ponds with 6000, 8000, 12000, 18000, 26000 and 38000 litres (with fish population, half of the litre figures apply in each case).

EHEIM LOOP

pond

3 year guarantee EHEIM

EHEIM compactOUT

EHEIM PLAY

EHEIM compactOUT compact pump

Energy-saving, whisper-quiet, and indestructible! EHEIM compactOUT is the compact yet powerful pond pump. Despite its high pumping capacity, it has a low power consumption, and is mounted with robust suction cups. The pump comes with accessories such as suction baskets and threaded connections in 2 sizes - for maximum flow rates of 600 and 1000 litres per hour.

EHEIM FLOW – Pond pumps for filter and stream

FLOW pumps form the perfect basis for your pond system. They are ultra-compact and work as quietly as a whisper. They feed streams or bubbling waterfalls and creates the optimum circulation for your pond.
The extremely robust pump technology also conveys any large debris into the filter. This ensures that the pump cannot become clogged. You will find our FLOW pumps in the LOOP complete sets (continuous flow filters) or in the PRESS pressure filter sets.
They are available in 6 sizes - for maximum flow rates of 3500, 5000, 6500, 9000, 12000 and 16000 litres per hour.

EHEIM PLAY water feature pumps our ultra compact pump

Water feature pumps offer you a wide range of applications: Whether supplying ornamental fountains or feeding small streams or playing around statues. PLAY works reliably and as quiet as a whisper. You can choose between 2 nozzles for different water patterns, and they have separately adjustable water outlets for parallel operation of ornamental fountain and stream. The pumps are extremely low-maintenance and easy to clean. There are 4 models: PLAY 1000, 1500, 2500 and 3500 - for maximum flow rates of 870, 1200, 2300 and 3200 litres per hour.

EHEIM FLOW

EHEIM CLEARUVC

EHEIM VAC40

EHEIM CLEARUVC UVC clarifier

Suspended algae and pathogens threaten your pond. Our UVC clarifiers provide a highly efficient remedy: the special UV radiation kills algae spores, bacteria, viruses and other germs and helps to create crystal clear pond water. CLEARUVC clarifiers can be used individually or in combination with PRESS and LOOP pond filter sets, where they are already part of the equipment. There are 7 models for ponds from 7000 to 60000 litres.

EHEIM AIR Pond aerator

Sufficient oxygen is important for fish, healthy plants and for the biological processes in the pond. The AIR pond aerator ensures an optimal oxygen supply by improving the circulation of water. It also ensures better filtering results as the bacterial decomposition of pollutants is effectively enhanced by sufficient oxygen.

There are available 2 models: 500 and 1000 - with maximum flow rates of 540 and 1000 litres per hour.

EHEIM VAC40 sludge extractor

Food remains, fish excrement, dead animals, and plant parts as well as external debris settle at the bottom of the pond. The decomposition processes produce putrefactive gases, and the water is deprived of oxygen. The VAC40 sludge extractor is specially designed for gentle cleaning of the pond bottom. The performance is adjusted so that dirt is picked up without stirring up the substrate too much.
It is easy to handle due to its stable handle, fully automatic activation and emptying due to built-in timer control, and it comes with accessories (4 m suction hose ø 35 mm, suction pipe with universal suction nozzle, 2.5 m drain hose ø 50 mm and filter insert).

EHEIM AIR

EHEIM THERMO200

EHEIM BEASTER 180e

EHEIM THERMO200 ice preventer

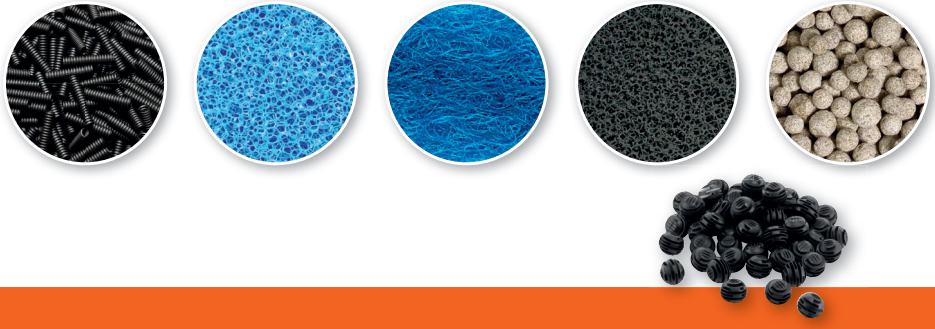
A sturdy stainless steel heater – which prevents the pond from freezing over (up to -20 °C).
The garden pond should never freeze over completely. This is because toxic putrefactive gases develop under the ice. The EHEIM Ice preventer avoids the pond freezing over completely and ensures that the putrefactive gases can escape. The vital exchange of gases can continue to take place on the surface of the pond, meaning the biological self-purification and detoxification of the pond water. So fish and micro-organisms are supplied with oxygen.

EHEIM BEASTER 180e high pressure cleaner

With the EHEIM BEASTER 180e we have thought of more than just your garden pond. Nothing should disturb the idyll around your beautiful pond. That‘s why we also offer you a first-class high-pressure cleaner. The BEASTER 180e offers you excellent cleaning performance with up to 180 bar. You can choose from three pressure levels. The digital control system allows you to tweak individual settings and cmes with a status display. Additional cleaning agents can be added through the integrated tank. It has a high build quality, a lot of available accessories, and has a range of safety features.

EHEIM Skimmer

EHEIM fish nets



FILTERMEC

FILTERMEC is a mechanical filter medium made of water-neutral plastic for all EHEIM pond filter systems. With its spiral-shaped elements, it reliably removes small and medium-sized dirt particles from the flowing water.

REPLAYFINE filter pads

REPLAYFINE filter pads, with their highly porous surface, offer an optimal habitat for important microorganisms that biologically break down pollutants. At the same time, they mechanically retain fine dirt and tiny suspended particles.

REPLAYRAW filter pads

REPLAYRAW filter mats, with their highly porous surface, offer an optimal habitat for important microorganisms that biologically break down pollutants. At the same time, they mechanically filter coarse dirt out of the pond water.

REFINECOAL

The adsorptive filter media REFINECOAL bind harmful substances such as chlorine, residues of cleaning agents, medicines, dyes, etc. REFINECOAL is needed when setting up new ponds, when changing the pond water and after the use of medicines in the pond.

FILTERBIO

FILTERBIO is a high-quality filter granulate with excellent biological cleaning performance. It consists of highly porous sintered quartz, the surface of which offers optimal living conditions for natural cleaning bacteria.

BioBalls

Disc-shaped balls made of pH-neutral plastic. The filter effect is mechanical and biological: dirt particles are retained between the balls, and due to their layered structure, the balls offer an increased colonisation area for cleaning bacteria. The BioBalls can be washed out and used several times.

KEYWORD INDEX

Do you need advice and help?

If you have any questions, it is best to contact the relevant experts directly. Qualified advice is available, depending on the range and orientation, e.g. in pet shops, DIY stores or garden centres. We, your EHEIM team, will also be happy to help you.

You can find an EHEIM specialist dealer near you on the Internet at

www.eheim.com

(Home page at the bottom - Dealer search). However, not all dealers are familiar with the topic of garden ponds. So please call first.

You can reach the EHEIM team for questions about the garden pond by telephone:

EHEIM service hotline:
+49(0)7153/7002–183

And by email:
eheim.service@eheim.com

You can also find much on ponds at www.eheim.com. The content of this guide is based on the pond guide on the website: https://www.eheim-teich.de/teichratgeber.

Imprint

EHEIM GmbH & Co. KG
Plochinger Str. 54
73779 Deizisau
Tel.: +49 (0)7153 / 70 02 -01
Fax: +49 (0)7153 / 70 02 -174
E-mail: info@eheim.com

Registry court Stuttgart HRA 211766
VAT ID: DE 1453 394 92

Managing Director:
Ibrahim Mefire Kouotou

Text:
Kaspar H. Noeren CMC
(According to basic texts on website https://www. eheim-teich.de/teichratgeber)

Layout:
Bettina Müller.DESIGN

With this guide, EHEIM gives you suggestions and tips about garden ponds. Above all, beginners get an overview, learn the essentials and are instructed step by step. Key information is concisely summarised, and you will have a solid basis for starting a demanding, but fascinating and rewarding hobby.

EHEIM GmbH & Co. KG

Plochinger Str. 54
73779 Deizisau
Germany
Tel. +49 7153/70 02-01
Fax +49 7153/70 02-174