



waves of enthusiasm  
since 1985

# FOR ARCHI TECTS





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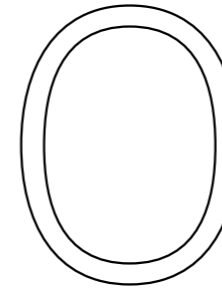
## Biotop Living Pool

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# CLEAR LINES, CLEAR WATER



Over 35 years ago, Biotop was the first company globally to introduce swimming ponds to the market as an ecological alternative to conventional swimming pools. Today, Biotop is the world market leader with over 8,500 installations. Environmental awareness and the desire to build in an ecologically compatible way is more important today than ever before. More and more people want to own a swimming facility with clear, natural water instead of bathing in chlorinated water. With the Living Pool and Swimming Pond, Biotop offers flexibly designed natural pools that also make an active contribution to environmental protection and create ecologically valuable habitats. For this, Biotop has received the Austrian Environmental Protection Award, among others. Our show garden at the company headquarters in Weidling near Vienna presents an impressive overview of our range with four different natural pools and swimming ponds.

Why Biotop? Our technology is the result of more than 35 years of development and know-how - a head start that offers solutions that work perfectly, are practical and easy to understand. Biotop is the owner of numerous patents that fundamentally distinguish us from other system providers and make us unique in the market. Our customers benefit from this. Whether a classic natural Swimming Pond with plants or a clearly designed Living Pool - with the patented Biotop system, all customer desires can be fulfilled. But Biotop also has solutions ready for existing swimming facilities that do not function satisfactorily or are being cleaned chemically.



**The Biotop headquarters have been located in Weidling near Vienna, Austria, since the company was founded in 1985.**

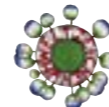
The Biotop Living Pool and Swimming Pond meet every customer wish thanks to their unlimited design options - regardless of whether it is a private natural pool or a hotel swimming pond. Biotop products impress with crystal-clear, 100 percent organic water without any chemical additives. Through its network of nearly 90 sales partners, Biotop is represented worldwide and offers comprehensive services - from consulting to planning and implementation to maintenance. Numerous swimming facilities that have been functioning reliably for decades are a reference for quality and safety. One more reason why more and more customers trust in Biotop.

We hope you enjoy exploring  
**Your Biotop Team**



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# LIVING POOL



# SWIMMING POND



## OUR PHILOSOPHY

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To dive into pure, clear water completely free of chemicals, clear as a mountain lake. On hot days especially, many people try to find some relief from the sun's heat—even better, if they can find it in their own garden. But how do you create such a haven with perfectly balanced water?

It was Leonardo da Vinci who described water as the “blood of the Earth”. It is our most valuable good, and we need to treat it with care. As world market leader in the sector of natural swimming pool construction, our concern is to preserve this vital resource. For more than 35 years, we have been striving to bring clear, living water— like fresh from an alpine lake—into our clients’ gardens. Always at the cutting edge of technology, we provide long-lasting, crystal-clear swimming pleasure entirely without chemicals. We believe water should be alive, not deadened by toxic additives. Living water regenerates itself thanks to Biotop’s technology and has positive effects on the mind, body and soul.

A Swimming Pond is the spitting image of a natural lake. The Living Pool is the biological version of a swimming pool. With a Living Pool or Swimming Pond, you can create your own garden paradise and a place for everyday natural swimming enjoyment. Individual adaptation to the existing architecture and detailed planning will integrate your Living Pool or Swimming Pond perfectly into your garden and create an oasis of well-being. Biotop’s newest development is the Zero Energy Pool, which meets its entire energy requirements through the power of the sun using photovoltaics. Measured over the entire year, the pool’s energy balance is neutral, meaning no additional electric power is required to operate the pool.



# BIOTOP SWIMMING POND

## Clear lines, Austria

**Build year:** 2017

**Swimming area:** 80 m<sup>2</sup>

**Water depth:** 1.5 m

**Regeneration area:** 73 m<sup>2</sup>

**Total volume:** 205 m<sup>3</sup>

**Build style:** Masonry Finish

**Liner:** FPO, patina-green

**Biotop equipment:** Overflow channel with curved screen skimmer in the surge chamber, Bio-Mineralfilter, Converter V50

**Lighting:** 4 x Astel Meteor

**Miscellaneous:** 23 metre long overflow gutter, stone covering of the steps, mineral filter under the footbridge, concrete regeneration zone

**Biotop Wassergestaltung T&P GmbH**

Hauptstraße 285, 3400 Weidling, Austria

**Photo:** Jürgen Skarwan

Every construction project is an intrusion into nature. With the construction of a biopool, something is given back to nature. Living Pools and Swimming Ponds are an attraction and a valuable water source. They generate a holiday feeling, an enrichment of everyday life. To relax, all you have to do is step out onto the terrace. The water is waiting there.

**DI Architect Zoran Bodrozić**

azb

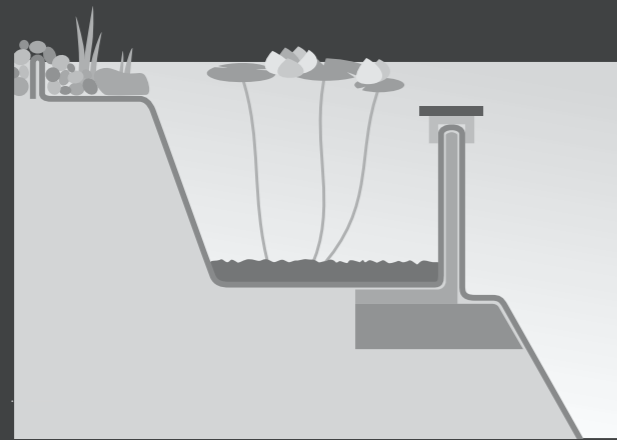
Foto: KURIER/Jürg Christandl



## BUILDING STYLES

The bathing area in the Swimming Pond is protected from contamination by the pond substrate by means of a partition separating it from the regeneration area. This separation also makes it possible to build the Swimming Pond in a small and compact way. Another advantage of watertight partitions between the bathing area and the regeneration area is that the two areas can be emptied separately for cleaning and maintenance. The partition clearly borders the regeneration zone so that the vegetation cannot spread from the regeneration zone into the bathing area.

The following construction methods for the partition are available:



### Angle-element construction

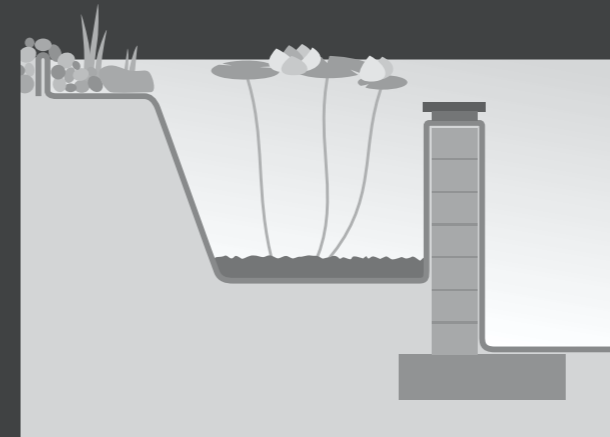
The angle elements are made of polyethylene recycled plastic and are also recyclable themselves. The variable plug-in connection means that the shape of the bathing area can be chosen relatively freely.

#### Advantages

- » Time saving due to prefabricated modules
- » Easy transport and movability of the individual parts due to weight reduction
- » High flexibility in the design
- » Environmentally friendly thanks to recycled material

### Wall construction

This construction and the separation between the bathing and regeneration areas is made by a reinforced concrete wall or reinforced concrete block wall. The partition wall fulfills a purely static function and is sealed by the liner, which is laid over the entire profile. The wall stringer is located between the regeneration zone and the web. The wall stringers also serve as a web support.

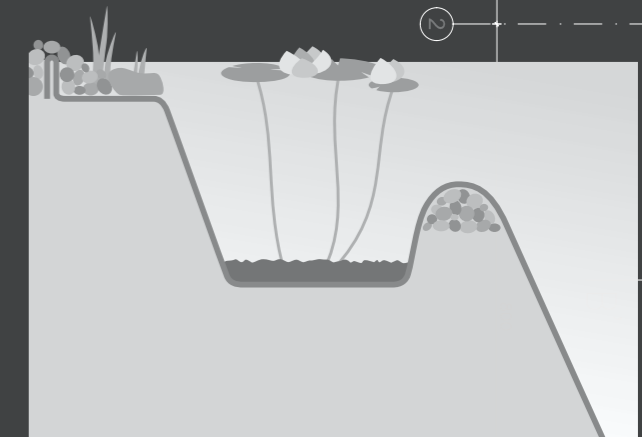


#### Advantages

- » Very sturdy construction
- » Full utilisation of space in the bathing area
- » Smooth, precise liner processing. Use of a pond robot possible
- » Problem-free, less conspicuous installation of technical fittings in the wall of the bathing area
- » Bathing and regeneration areas can be emptied separately
- » Wall is accessible (e.g. for service work)

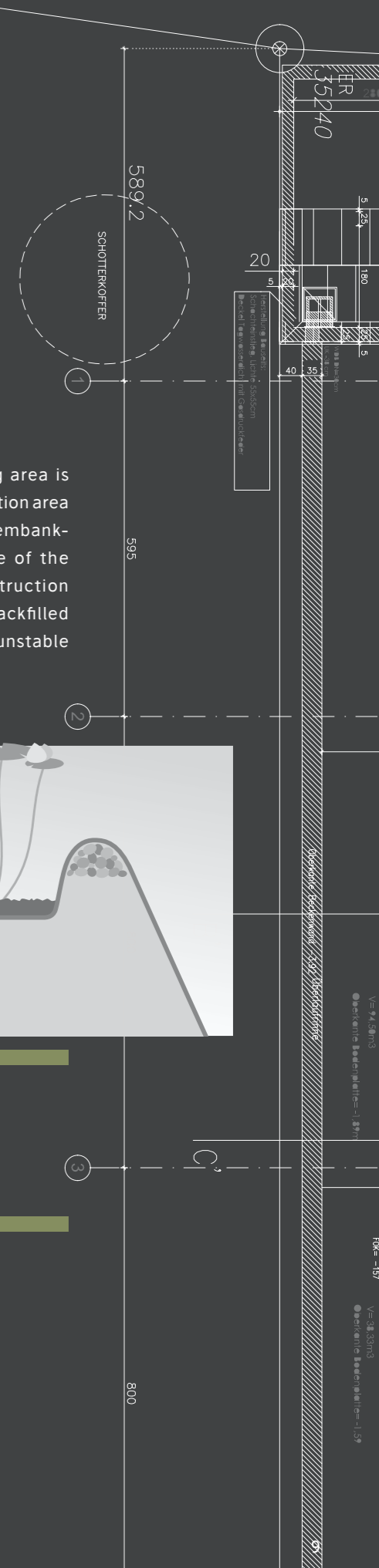
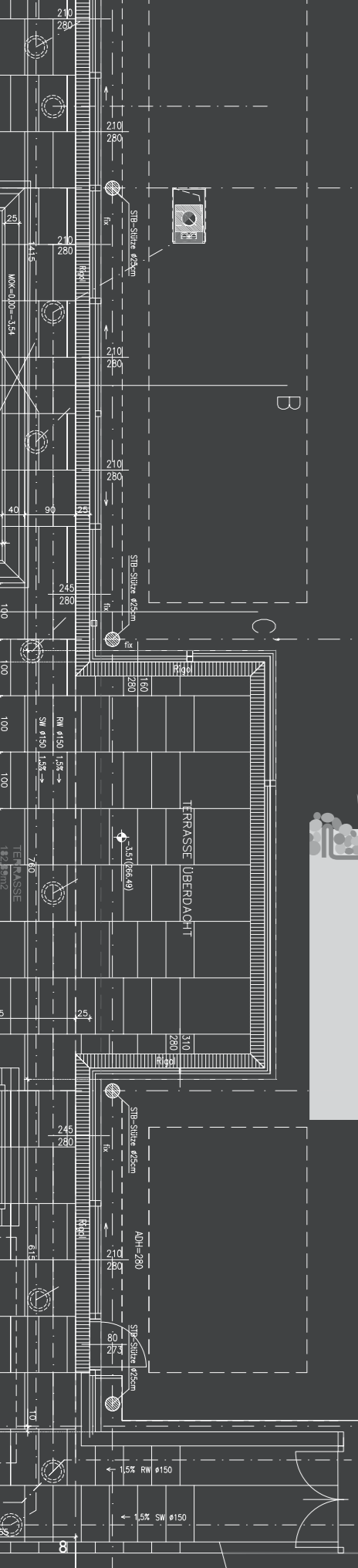
### Earth wall construction

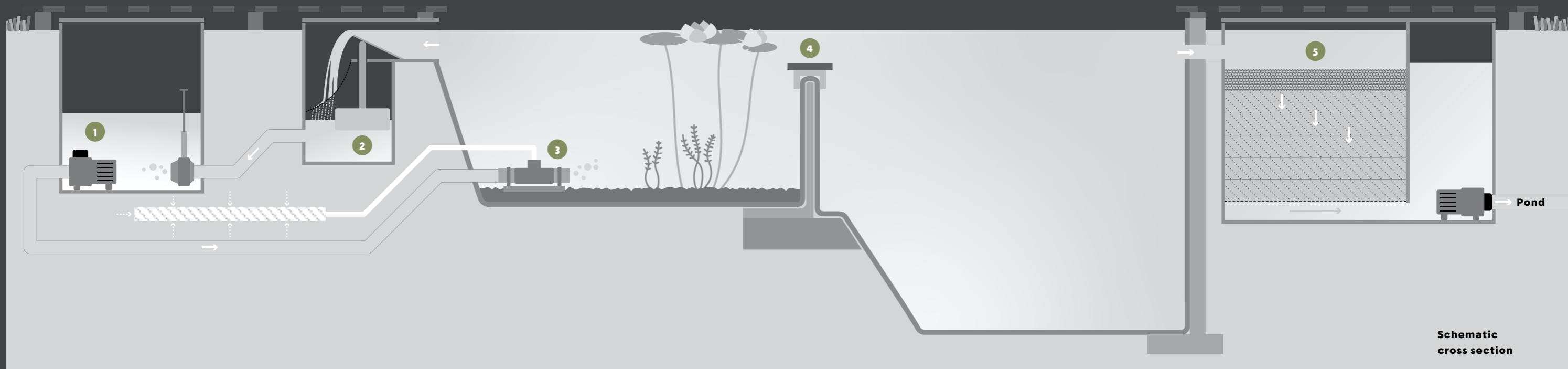
In this version, the bathing area is separated from the regeneration area by a simple earth wall. The embankment is built in the course of the excavation work. This construction method is not suitable for backfilled (not naturally occurring) or unstable subsoil.



#### Advantages

- » Lower costs
- » Flexible in the design of the shape
- » More ecologically sound





## TECHNOLOGY

At Biotop, we strive to make our technology as simple as possible and easy to understand for the user.

**1** For the water circulation in Swimming Ponds Biotop has developed a special system. The pump is fitted in the so called **Submersible Pump Chamber** where it is completely submersed in water, allowing water to flow to it simply by the force of gravity instead of being “sucked in” by the pump. Mounted at the bottom of the chamber, the pump conveys the water back into the pond through pressure pipes.

### Advantages

- » Submersed pumps are quiet, creating almost no noise
- » The low noise level means the chamber can be installed underneath the wooden deck
- » The pump does not need to be uninstalled for winter
- » The pipes do not need to be emptied for winter
- » Incoming and outgoing pipes can be regulated individually
- » The pump is cooled by the water around it

**2** The purpose of the Curved Sieve Skimmer is to remove floating particles from the Swimming Pond. The water flows over a curved screen with a mesh of only 0.3 millimetres that removes even the smallest particles. A sophisticated mechanism controls the water flow via a flexible flap so that the correct amount of water always flows over the screen. Biotop was granted a European patent for this innovation.

### Advantages

- » Even the finest particles are eliminated from the system
- » The screen is self-cleaning
- » Nutrients are removed from the water

**3** The **Carbonator** serves to feed natural CO<sub>2</sub> into the swimming water. As a result the plants in the Swimming Pond are supplied with carbon, and the pH value is regulated. This unique process was developed by Biotop and is patented.

**4** A separation between the swimming zone and the regeneration zone can be created by fitting special wall units, as shown in the illustration above. You can find further methods on the next pages.

**5** Water flows through the **Bio Compact Filter** from top to bottom and is biologically cleaned along the way. Furthermore, impurities are held back by the filter. The result is crystal-clear water. In order to optimise the cleaning performance, water flows through the bio filter permanently. The biologically cleaned water then flows back into the pond.

### Advantages

- » Biological cleaning with no need for chemicals
- » The Bio Compact Filter is comparatively small in size and is installed under the deck, invisible to the user
- » Takes up less space than common filter systems

**1 + 5**

The components 1 and 5 can be installed in a single unit, the Combi-Box, to save space.


### Two water circuits: Easy to operate

The separation into two water circuits allows the pumps to operate economically and with minimal use of space. The first circuit is responsible for cleaning the surface of the water and removing floating particles. Its pump runs throughout the day.

The purpose of the second circuit is to eliminate organic compounds. Its pump runs continually during the swimming season. Features like rock fountains, waterfalls or curtain fountains can be integrated into either or both of the circuits.



# BIOTOP SWIMMING POND



*As architects, the common design language of the building and pool is important to us. In this project, this was achieved perfectly with an exposed concrete pool with Living Pool technology as the water treatment system.*

**DI Architect Roberto Rodríguez Paraja**  
haro architects

## Swimming Pond meets Design, Austria

**Build year:** 2020

**Swimming area:** 38 m<sup>2</sup>

**Water depth:** 1.6 m

**Regeneration area:** 26 m<sup>2</sup>

**Total volume:** 100 m<sup>3</sup>

**Build style:** Exposed concrete basin

**Biotope equipment:** Curved screen skimmer, Kombibox V100 with Bio-Kompaktfilter V100 and PhosTec Upstream V100, Carbonator

**Lighting:** 2x LED white in swimming area, 2x LED white in regeneration zone

**Fresner Garten- & Landschaftsbau GmbH**  
Moosheim 135, 8962 Michaelerberg-Pruggern,  
Austria

**Photo:** spacesmunich



# BIOTOP SWIMMING POND



*Water and light create an atmosphere in the outdoor areas of Shine, one that is positively magical. The surface of the water works like a mirror of the sky - our so-called 'skymirror' - and the reflections, in combination with water lilies and dragonflies, conjure up a world of their own in the garden.*

**DI Arch. Susanne Brückner**  
Brückner Architekten GmbH

## **Brückner Raubling, Germany**

**Build year:** 2019

**Swimming area:** 80 m<sup>2</sup>

**Water depth:** 1.3 m

**Regeneration area:** 73 m<sup>2</sup>

**Total volume:** 150 m<sup>3</sup>

**Build style:** Exposed concrete basin

**Liner:** Exposed concrete

**Biotop equipment:** Submerged pump shaft XL, Curved screen skimmer Standard, Bio Compact Filter V100

**Lighting:** Floodlight on site

## **Fuchs baut Gärten GmbH**

Schlegldorf 91a, 83661 Lenggries, Germany

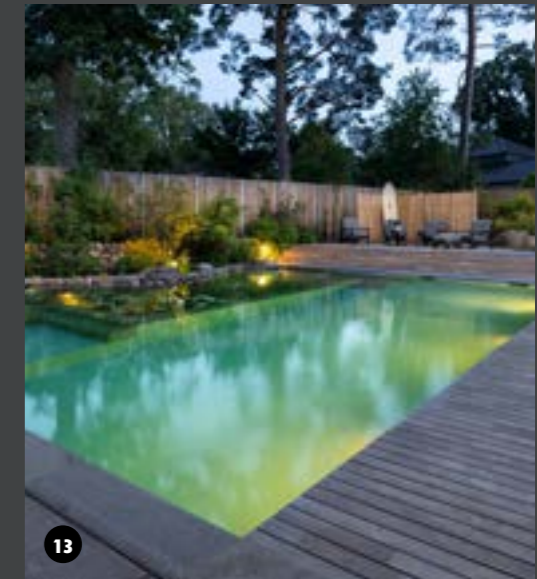
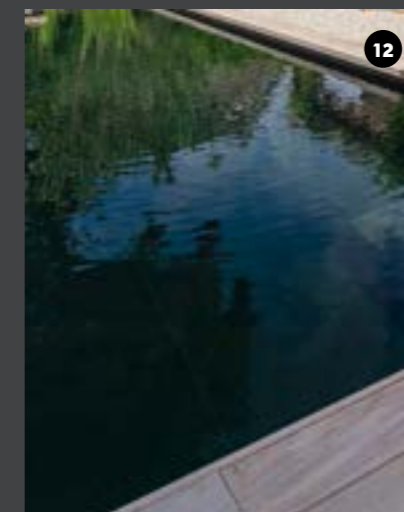
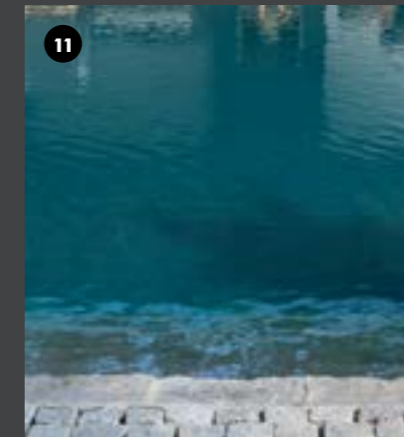
**Photo:** Brückner Architekten,  
Fotograph Florian Holzherr



# INDIVIDUAL CONFIGURATION

There are no limits to the imagination. The appearance of a Swimming Pond depends to a large extent on the design elements that are employed. For example, a cosier impression is created when more wood is used. A cooler ambience is created by the use of stone. The type of planting also plays an important role here. The right underwater lighting creates a special atmosphere at night.

- 1 – Individualised planting
- 2 – Stepping stones and wooden deck
- 3 – Wooden deck
- 4 – Stone bordering
- 5 – Individualised shapes



- 6 – Olive green liner
- 7 – Wooden ladder
- 8 – Deck
- 9 – Rock fountain
- 10 – Blue green liner
- 11 – Graphite grey liner
- 12 – Black liner
- 13 – Underwater lighting





*The pool is definitely the centre-piece of this house. The owner uses it daily from March to the end of October. He is especially happy about the water quality.*

**Dr. Architect Christian Schwienbacher**  
Arch. Christian Schwienbacher

# BIOTOP LIVING POOL

## Modern elegance, Italy

**Build year:** 2015

**Swimming area:** 27 m<sup>2</sup>

**Water depth:** 1.5 m

**Total volume:** 40.5 m<sup>3</sup>

**Build style:** Masonry Finish

**Liner:** FPO, granite grey

**Biotop equipment:** Bio Compact Filter Mono, PhosTec Ultra D450, Biofilter Aquarius Universal Eco 4000, Circulation pump Aquamax Eco Premium 20 000

**Lighting:** Astral LED RGB

**Miscellaneous:** Underfloor roller shutter, Infinity edge, solar heat exchanger

## Garten Wammes GmbH

Schlierenzau 37, 6425 Haiming, Austria

**Fotograf:** Jürgen Eheim



# CONSTRUCTION METHODS

## Liner pools

This is the most commonly used construction method for Living Pools. A base plate is made onsite and a wall is built. The pool is then sealed using a polypropylene liner.



## Converting a chlorine pool

When converting a chlorine pool into a Living Pool, the existing water circuit consisting of skimmer, pump and sand filter can usually still be used. Only the chlorination is discontinued. Instead a converter chamber containing the biological filter, the PhosTec Upstream filter and a pump is installed.

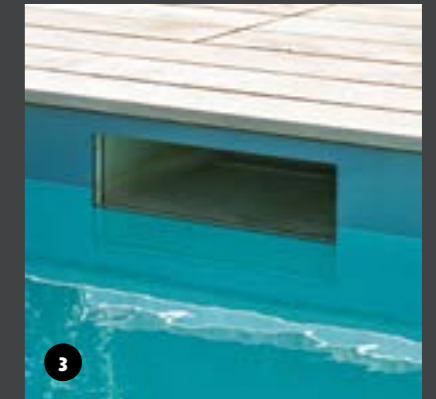
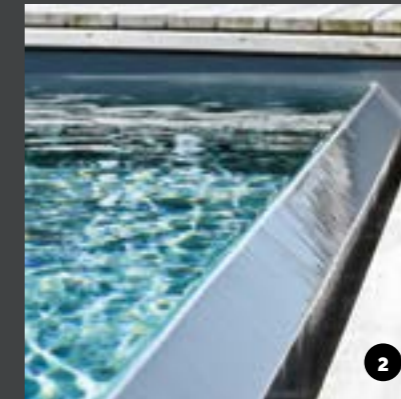
This chamber measuring about 2 x 1 x 1 metres is installed right next to the existing pool and connected to it by a feed and a return pipe. The pump for the bio filter circuit only requires very little electrical power, which is also why the pool's operating costs can be reduced significantly through such a conversion.

## Prefabricated monopools

The Living Pool can also be delivered as a prefabricated monopool. In this case, a pit is excavated at the construction site and a concrete slab is cast as a foundation. This requires precise planning and preparation, but the monopool's long lifespan, the short construction time and perfectly smooth surfaces are its distinct advantages. Further, this construction method is ideal for organic pools, since monopools are very easy to clean. The monopool is not made of the commonly used epoxy resin. Instead, polypropylene sheets are used. These sheets are welded together by the manufacturer beforehand, according to the dimensions and shapes required. This means the completed monopool can be transported to the customer in one piece. Thanks to the large variety of shape and design possibilities, there are no limits to your imagination—yet another advantage over epoxy resin pools.

## Advantages

- » Any shape or size is possible
- » Polypropylene, an environmentally friendly material, does not release any toxins
- » High quality finishing on all corners and edges
- » Simple, quick installation with short on-site construction time
- » Smooth surfaces simplify cleaning
- » 10-year warranty



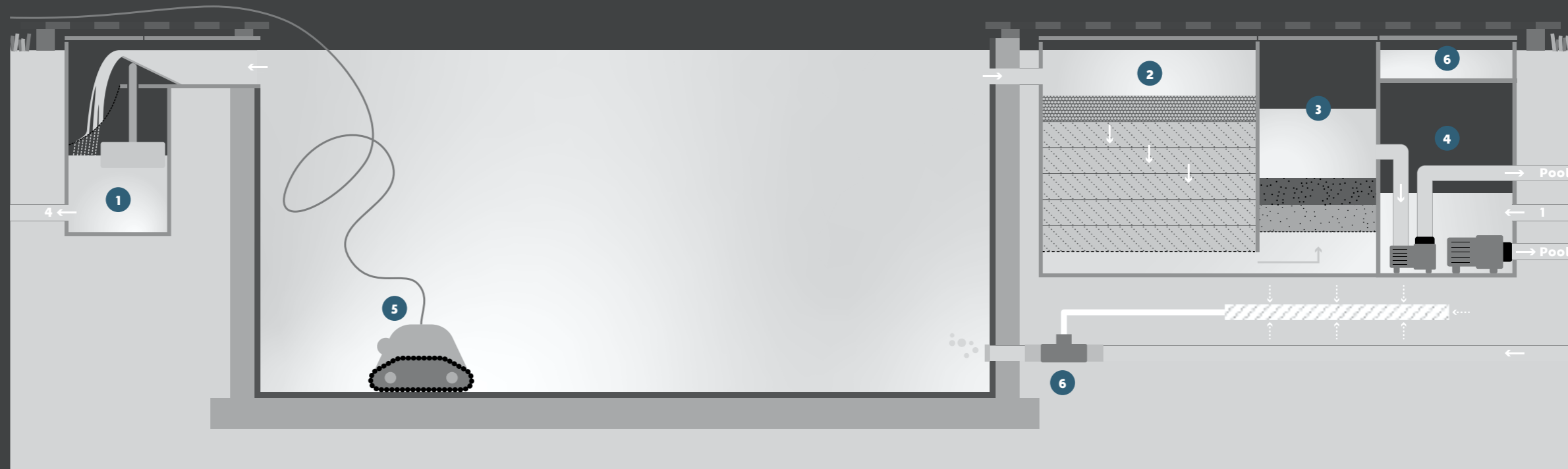
The monopool is delivered in one piece. It is lifted into the excavated pit by a crane. A concrete slab forms the base of the pit.

Monopools can basically be divided into the three types overflow, infinity and skimmer. Overflow (1), Infinity (2), Skimmer (3)



# TECHNOLOGY

At Biotop, we strive to make our technology as simple as possible and easy to understand for the user.



Schematic cross section

**1** The purpose of the **Curved Sieve Skimmer** is to remove floating particles from the Living Pool. The water flows over a curved screen with a mesh width of only 0.3 millimetres that removes even the smallest particles. A sophisticated mechanism controls the water flow via a flexible flap so that the correct amount of water always flows over the screen. Biotop was granted a European patent for this innovation.

### Advantages

- » Even the finest particles are eliminated from the system
- » The screen is self-cleaning
- » Nutrients are removed from the water

**2** Water flows through the **Bio Compact Filter** from top to bottom and is biologically cleaned along the way. Furthermore, impurities are held back by the filter. The result is crystal-clear water. In order to optimise the cleaning performance, water flows through the bio filter permanently. The biologically cleaned water then flows to the PhosTec Upstream filter.

### Advantages

- » Biological cleaning with no need for chemicals
- » Functions with low energy requirements
- » The bio compact filter is comparatively small in size and is installed under the deck, invisible to the user
- » Takes up less space than common filter systems

**3** The **PhosTec Upstream phosphate filter** efficiently binds the phosphorus dissolved in the water without the use of chemicals. Phosphorus promotes the growth of algae. By binding it, the algae are literally “starved”. The pool water flows through the filter from bottom to top to minimize the risk of clogging the filter. Nutrient-poor water is then pumped back into the pool by a small pump. Biotop was granted a European patent for combining the bio filter with the PhosTec Upstream filter.

### Advantages

- » Phosphorus is reliably removed from the water
- » The filter’s compact size saves space
- » Easy handling
- » Simple replacement of the filter material
- » Long lifespan

**4** For the water circulation in a Living Pool Biotop has developed a special system. The pump is fitted in the so called **Submersible Pump Chamber** where it is completely submerged in water, allowing water to flow to it simply by the force of gravity instead of being “sucked in” by the pump. Mounted at the bottom of the chamber, the pump conveys the water back into the pool through pressure pipes.

### Advantages

- » Submersed pumps are quiet, creating almost no noise
- » The low noise level means the chamber can be installed underneath the wooden deck
- » The pump does not need to be uninstalled for winter
- » The pipes do not need to be emptied for winter
- » Incoming and outgoing pipes can be regulated individually

**5** The pool robot cleans the walls and bottom of the pool automatically.

**6** A **Carbonator** or a Carbonatorbox feed natural CO<sub>2</sub> into the swimming water. As a result the biofilm in the Living Pool is supplied with carbon, and the pH value is regulated. This unique process was developed by Biotop and is patented.

**2 + 3 + 4**

The components 2, 3 and 4 can be installed in a single unit, **the Combi-Box**, to save space.

### Two water circuits: Easy to operate

The separation into two water circuits allows the pumps to operate economically and with minimal use of space. The first circuit is responsible for cleaning the surface of the water and removing floating particles. Its pump runs throughout the day.

The purpose of the second circuit is to eliminate organic compounds. Its pump runs continually during the swimming season. Features like rock fountains, waterfalls or curtain fountains can be integrated into either or both of the circuits.





# BIOTOP LIVING POOL



*The pool is my living canvas in the garden, where I watch the raindrops, listen to the dragonflies, observe the pollen fighting against the overflow.*

**Mathias Kreibich**  
blauhaus Architekteten BDA, Nürnberg

## Garden happiness with pool, Germany

**Build year:** 2020  
**Swimming area:** 24 m<sup>2</sup>  
**Water depth:** 1.3 m  
**Total volume:** 32 m<sup>3</sup>

**Build style:** Prefabricated pool, overflow with surge tank

**Liner:** blue-grey

**Biotop equipment:** 2x Curved screen skimmer, Fill water phosphate filter Q10, Aquamax Universal Eco 3000, Upstream V50, Biotop Carbonator, Aquamax ECO Premium 20000, Carbonator nozzle in the surge water tank

**Lighting:** 3x DotSpot aq20

**John GmbH**  
Kaiweg 1, 96103 Hallstadt  
Germany

**Photo:** Biotop/Lorenz Masser





1



5



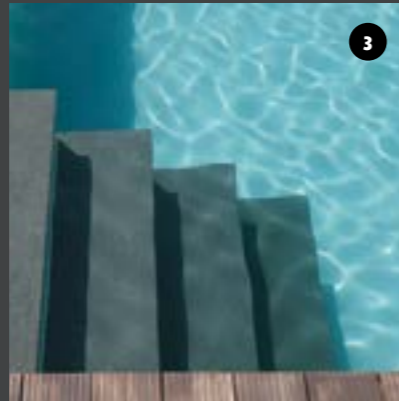
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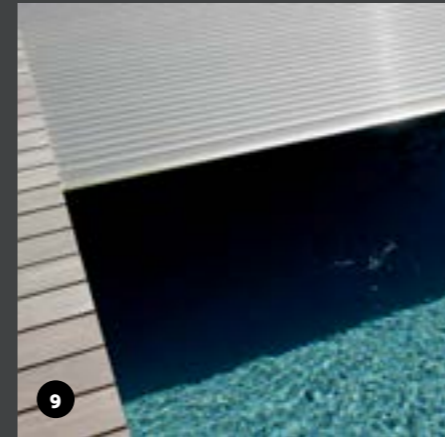
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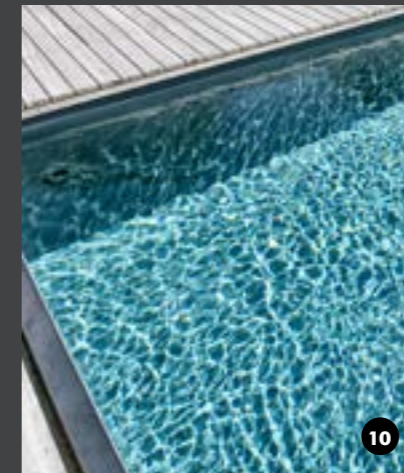
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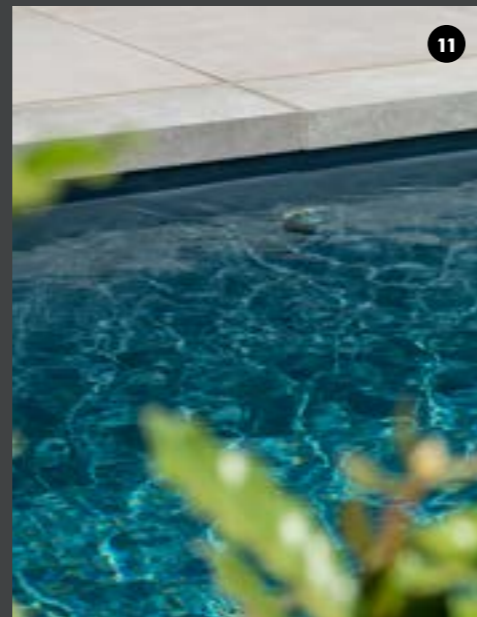
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10



4



11



12



13

## INDIVIDUAL CONFIGURATION

Selected features and materials can enhance your Living Pool. An exclusive pool cover, an exquisite staircase access, solar heating or a heat pump—you name it. Only the finest materials will be used for your Living Pool. Our range of additional features includes underwater lighting, solar-heated showers and many more.

- 5 – Shower
- 6 – Underwater lighting
- 7 – Black liner
- 8 – Pool cover
- 9 – Pool cover
- 10 – Graphite grey liner
- 11 – Anthracite grey liner
- 12 – Blue grey liner
- 13 – Heat pump

- 1 – Counter-current system
- 2 – Water curtain
- 3 – Stone stairs
- 4 – Stainless steel ladder





*The pool is located in the centre of the new, circular atrium, one side of which is formed by the timber construction and the other by the natural stone terraces.*

**DI Dr. Arch. Herwig Ronacher**  
Architekten Ronacher ZT GmbH

#### **Hotel Kreuzwirt, Austria**

**Build year:** 2019

**Swimming area:** 55 m<sup>2</sup>

**Water depth:** 1.8 m

**Regeneration area:** 75 m<sup>2</sup>

**Total volume:** 175 m<sup>3</sup>

**Build style:** Wall finish

**Liner:** FPP, green

**Biotop equipment:** Curved screen skimmer, compact biofilter V75, upstream V150, 1x Aquamax, ECO Premium 8000, 1x injector nozzle grey D20, mounted on concrete block

**Miscellaneous:** 1x Electronic level control

**Fresner Garten-  
und Landschaftsbau GmbH**

Moosheim 135, 8962 Michaelerberg, Austria

**Photo:** HPhoto Hannes Pacheiner



# WE ARE SEEKING YOU

## Get in touch with the world market leader and its partners.

We are looking for architects who share our passion for inspiring even more people to swim in natural water.

### Reasons to work with us:

- » Steadily growing market demand for natural pools and swimming ponds
- » We offer a mature, patented technology that is reliable and at the same time easy to understand
- » Flexible technology suitable for new buildings but also for retrofitting to existing chlorine pools
- » Almost 90 partners in 16 countries stand behind the success of Biotop

Photo: Schellheimer\_Mathis Leicht



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