

Art. 7904
Art. 7905 (UVC)

D Gebrauchsanweisung

Teichfilter / Teichfilter mit UVC-Licht

GB Operating Instructions

Pond Filter / Pond Filter with UVC light

F Mode d'emploi

Filtre de bassin / Filtre de bassin avec lampe UV-C

NL Gebruiksaanwijzing

Vijverfilter / Vijverfilter met UVC-lamp

S Bruksanvisning

Dammfilter / Dammfilter med UVC-ljus

I Istruzioni per l'uso

Filtro per laghetti / Filtro per laghetti con lampada a raggi UVC

E Manual de instrucciones

Filtro para estanques / Filtro para estanques con luz UVC

DK Brugsanvisning

Bassinfiler / Bassinfiler med UVC-lys

GARDENA Pond Filter / Pond Filter with UVC light

Welcome to GARDENA aquamation ...



Please read these operating instructions carefully and observe the notes given.

Use the instructions to familiarise yourself with the equipment, the operating controls, their correct use, and the notes on safety.

⚠ For safety reasons, children under 16 as well as persons not familiar with these operating instructions should not use this Pond Filter.

Keep these operating instructions in a safe place.

Application Range of Your Filter

Intended purpose

The GARDENA Pond Filter and the GARDENA UVC Pond Filter have been designed for domestic outdoor use around your home and garden for the sole purpose of cleaning garden ponds with or without fish stock.

Attention

⚠ The Pond Filter must not be used for industrial applications and in conjunction with chemicals, food, flammable and explosive substances.

! For Your Safety



Caution!
Protect eyes
from flash

UVC light:

Caution! Ultraviolet radiation.

This radiation is harmful to eyes and skin.

→ Never operate the lamp without its casing!

Using the UVC light

The UVC light should be operated using a residual current device with a residual current rating of ≤ 30 mA (DIN VDE 0100-702 and 0100-738). Please consult a professional electrician.

Extension cables

If extension or connector cables or adapters are used, they must be earthed.

Mains power cables

Mains power cables should not have a smaller cross-section than a rubber sheathed cable of the designation H05 RNF. Extension cables must meet the requirements of DIN VDE 0620.

For Austria

In Austria power cables should correspond to ÖVE-EM 42, T 2 (2000)/1979 § 22 according to § 2022.1. According to this standard units used in swimming pools and ponds should only be operated via an isolating transformer. Please contact your electrician.

For Switzerland

In Switzerland mobile appliances which are used outdoors, must be connected via a residual-current device.

Visual check

Carry out a visual check before operating the device in order to see whether the UVC light, in particular the mains power cables and plugs have been damaged. A damaged lamp must not be used. In case of damage please have the UVC light tested either by our GARDENA Service Centre or by an authorised electrician.

Check line voltage

Check line voltage. Data indicated on the type plate must match technical data of the mains supply.

Positioning the Pond Filter

Position the Pond Filter in a firm and dry area, protected from flooding, within a distance of at least 2 metres from the pond (only for Pond Filter with UVC Light). The filter must be protected from falling into the pond. Please consult a professional electrician.

Do not operate UVC light, if ...

- Never operate the UVC light if water is not flowing through it. First connect the power cable of the pump before operating the UVC light.
- If the power cable, the inspection window or the casing of the UVC light seem to be faulty, the lamp must not be operated.

Thermostat

An integrated thermostat switches off the UVC light if it overheats. The light is switched back on again once it has cooled down.

Do not carry the UVC light by its cable

Do not carry the UVC light by its cable, and do not use the cable to disconnect the plug. Protect the cable from heat, oil and sharp edges.

Disconnect the plug

When the UVC light is out of operation or not in use or before maintenance disconnect the plug!

Electrical connections

Take care that the electrical connections are kept dry.

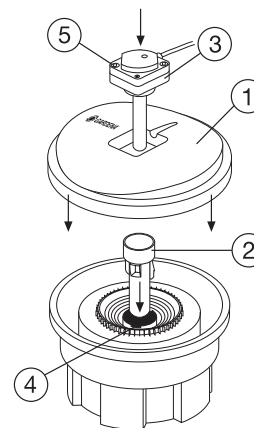
Keep water outlet free of obstructions – filter must not be allowed to overflow

Make sure that the water outlet is always kept free of obstructions and check it regularly. The filter must never be allowed to overflow at any time (for example, due to the outlet being blocked). In that case, the pond would be in danger of being emptied!

→ Make sure you clean the filter or the outlet regularly (see paragraph on care instructions).

Comply with noise protection regulations

Please comply with local noise protection regulations.

Assembly of the UVC-light

Remove the filter cover ①. To do this, pull the side tabs outwards and remove the cover. Insert the tube supplied ② into the centre of the filter. Make sure it fits properly into middle of the recesses ④.

Insert the UVC light socket ③ into the centre opening so that the mains cable fits into the recess in the cover. Insert and turn both tommy screws ⑤ one quarter turn.

Replace the filter cover ①.

Brief Operating Instructions**1**

Install the filter in a position near your pond.

2

Connect a hose to the water inlet of the pond filter and connect it with the pump in the pond.

3

Connect a DN 70 sewage pipe to the outlet of the pond filter and run it to your pond. If your pump comes with a UVC light, fit the lamp.

4

Connect first the power cable of the pump, and if necessary the UVC light, to a 230-V-AC socket.

What You Should Know About Ponds and Filters**Excess growth of algae – murky pond**

Garden ponds are not as deep as natural water features. The lack of depth means that a garden pond heats up and cools down much more quickly. These changes in temperature and environmental factors such as fertilisers, plant residues etc., are among the main causes of excess levels of nutrients and hence of growth of algae.

High density of fish stock

In garden ponds the density of fish stock per cubic meter is usually higher than in natural ponds. As the fish usually also receive more food than in their natural environment, the amount of pollution due to excrement is very high.

Decrease the level of nutrients and increase the oxygen supply

Excess growth of algae, as well as the high level of pollution due to fish excrement causes a lack of oxygen in your pond; its biological balance has been disturbed.

→ Problem: the level of nutrients in your pond is too high. The most effective solution to this problem is to decrease the level of nutrients available by means of a biological process and

to remove excess nutrients while at the same time increasing the oxygen supply.

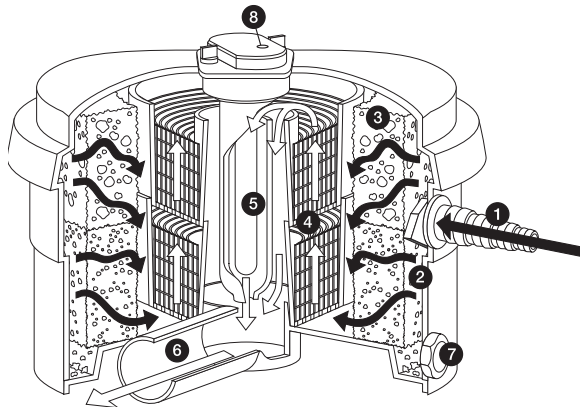
Installing a filter

The growth of algae can be restricted by installing a filter. Floating substances (e.g. floating algae), which cause the water to be murky, are filtered out and the water is purified. This helps the pond to regain its biological balance. However, existing algae (e.g. thread algae) visible at the time of installation must be skimmed off (e.g. with the GARDENA combisystem Pond Sieve, Art. No. 7933).

Use of the UVC light

Use of the UVC light reduces growth of algae. The algae solidify and disease-causing bacteria are destroyed.

Functions of Your Pond Filter



Pos. Element

1 Water inlet

Function

- May be connected to the connection hose leading to the pump in the pond.
- The water flows into the filter forming a circle. The water deflector (= inlet nozzle) causes powerful swirling movements in the water, supplying it with oxygen from the air.

2 Vortex-System (Deposit area)

Floating substances and biological sludge form deposits due to centrifugal force and the effects of gravity.

3 Mechanical multi-filtering

- Coarse mechanical filtering (black filter foam)
Large dirt particles are retained by the high-volume foam filter element. The concentration of oxygen causes the formation of nitrosomonas bacteria, which transform ammonia, a substance highly harmful to fish, into nitrite.
- Fine mechanical filtering and biological filtering (grey foam filter)
With the help of oxygen and nitrobacter-bacteria, nitrites are decomposed into nitrates. Nitrates can be absorbed naturally by plants and decomposed.

4 Biological purification of the water

→ Multi-layer biological filter system with a very large surface area
Here pollutants are decomposed using oxygen (aerobic process) and without oxygen (anaerobic process). Harmful nitrites are decomposed by useful bacteria, which become established in the system.

5* UVC-radiation

The previously purified pond water is subjected to radiation with short-wave UVC light (ultraviolet radiation). This reduces growth of algae and fights harmful bacteria which may cause diseases in fish.

6 Connection for sewage pipes

70 mm standard outlet connection for, e.g., soil pipes.

7 Water and dirt-drain screw

Drain for sludge and water. Prior to frosty conditions, for example, the filter can be drained and may be left outside during winter.

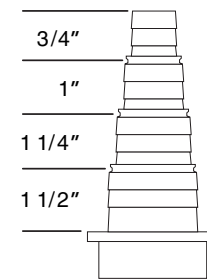
8 Inspection glass

To indicate the UVC light is switched on (blue lamp).

* applies only to GARDENA Pond Filter with UVC light, Art. No. 7905

The UVC-light for the Pond Filter Art. No. 7904 is available from GARDENA Customer Services.

Operation

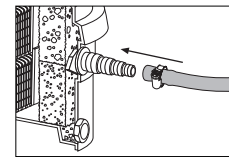


The universal fitting provides various options for fitting a hose, i.e., connections for

- 19 mm (3/4") or
- 25 mm (1") or
- 32 mm (1 1/4") or
- 38 mm (1 1/2") hoses.

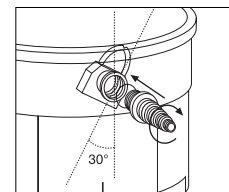
→ Using a saw, cut off the parts of the universal fitting that you do not need inside the nut, otherwise the pump may perform less efficiently.

→ To choose a hose size, please read paragraph "Installation Instructions".



Push 2 hose-clips over the ends of the hose, then push the hose into the universal fitting and over the pump connection. Fix the hose using these hose-clips. If necessary, assemble the universal fitting and water deflector after dismantling

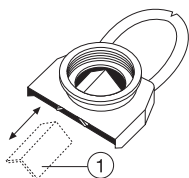
If necessary, assemble the universal fitting and water deflector after dismantling



If you have unscrewed the universal fitting in order to saw part of it off, assemble it as follows:

- Remove the cover of your pond filter.
- Using one hand, hold the water deflector (= inlet nozzle) with the opening pointing downwards, on the inside of the pond filter, and with the other hand, firmly screw on the universal fitting from the outside.
- Make sure the seal is properly fitted.
- Adjust the water deflector to an angle of 15-30° to the vertical.

Caution! If incorrectly adjusted, the filter can overflow and the pond will be drained.

Restrictor

When using the pumps FSP 10000/15000 the water flow through the filter can be increased by removing the restrictor ① from the water deflector.
This is done by pressing down on the restrictor and simultaneously pulling it out of the output opening.

If necessary, fill with Zeolite

We recommend that, if necessary, you fill the pond filter with GARDENA Zeolite (Art. No. 7914 and 7915) in order to obtain an even larger surface area and hence a greater purification effect. To do this, remove the filter cover, take the bio surface elements out of the filter and then remove the top basket. Fill this basket with Zeolith and replace the top basket with the bio-surface elements. Then fit the cover.

Note:

To ensure the zeolith functions correctly, we recommend you replace or clean it every 6 months (e.g. in salt water).

Installing the pond filter

Install the pond filter in a position close to the pond (e.g. behind bushes).
→ The container must be level and positioned on an even, firm surface. Please make sure that the minimum distance of 2 metres from the pond is adhered to (→ see "For Your Safety").

Attaching the sewage pipes

Put a 70 mm-standard soil pipe (DN 70 pipe sections and/or bends available in specialised plumbing shops) onto the return pipe. We recommend that you run the return pipe in such a way that the purified water will be led indirectly into the pond, e.g. via a small stream. In this way, the purified water will receive more oxygen.

Note:

- If you run the sewage pipes outdoors, we recommend you use UV-resistant pipes.
- Lubricate the seals (e.g. with plumbing lubricant or any other acid-free lubricant) before installing the connectors.

Pond Filter with UVC light

Fit the lamp supplied as described in the section "How to Change the Lamp".
Please note: due to an integrated safety switch the lamp only lights up when the filter is installed completely.

Switching on the pump

Switch on the pump before connecting the plug of the UVC light to a 230-V-AC socket.

Inspection window

When the lamp is lit, a blue shimmer of light can be seen through the inspection window on the UVC light.

Dual filter operation

For dual filter operation, fit a T-piece (available from GARDENA customer services). Then connect each outlet via two hoses to a GARDENA pond filter.

⚠ Please Note when Installing

Bacterial activity	There is increased bacterial activity from + 10 °C upwards.
New installation	The filter system is a biological system and it will therefore take several weeks for it to develop its full effectiveness.
Continuous operation	If possible the filter should be allowed to operate continuously and not to dry out.

Installation Instructions

	Pond size and water quality		Difference in level	Hose	Observation	Pump type
	slightly dirty	dirty (fish stock)				
			Pond surface area / Water inlet of the filter			GARDENA FSP
1	up to 8 m ³	up to 4 m ³	0.75 m	32 mm (1 1/4")	Single filter operation	5500
2	up to 5 m ³	up to 2.5 m ³	1.5 m	25 mm (1")		
3	up to 11 m ³	up to 5,5 m ³	1 m	38 mm (1 1/2")	Single filter operation	10000
4	up to 8 m ³	up to 4 m ³	2 m			
5	up to 11 m ³	up to 5,5 m ³	3 m	38 mm (1 1/2")	Single filter operation	15000
6	up to 8 m ³	up to 4 m ³	4 m			
7	up to 22 m ³	up to 11 m ³	1 m	38 mm (1 1/2")	Double filter operation	10000
8	up to 16 m ³	up to 8 m ³	2 m			
9	up to 32 m ³	up to 16 m ³	1 m	38 mm (1 1/2")	Double filter operation	15000
10	up to 26 m ³	up to 13 m ³	2 m			
11	up to 22 m ³	up to 11 m ³	3 m	38 mm (1 1/2")	filter operation	
12	up to 16 m ³	up to 8 m ³	4 m			

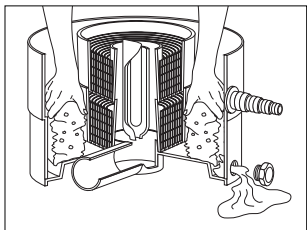
Determine the amount of water in your pond, e.g. when filling it up for the first time, using your own water-meter.

Example:

- You have determined the size of your pond as being about 3.5 m³. There are fish in your pond.:
→ **Line 4: dirty (fish stock) up to 4 m³**

The difference in level between the surface of your pond and the water inlet of the filter must not be higher than 2 metres. Therefore, clean your pond with single filter operation, using a 38 mm (1 1/2") hose in conjunction with the GARDENA Submersible Pump for Pond Filter or Stream FSP 10000, Art. No. 7869.

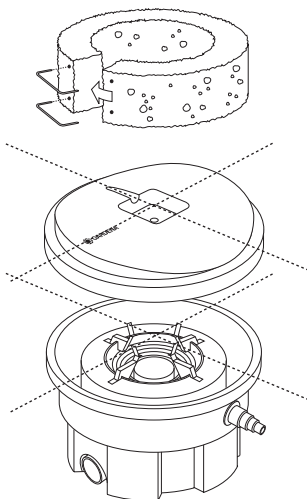
Care Instructions



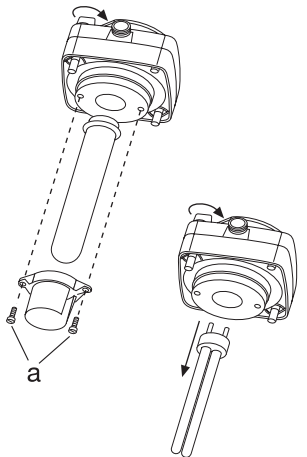
The GARDENA Pond filters are largely maintenance-free. But they must be cleaned when necessary.

1. Disconnect the UVC light!
2. Switch off the pump.
3. Remove the filter-cover by pulling the lateral locks outwards and lift off the cover in an upwards direction.
4. Tilt the holding-down devices slightly to one side and then remove them by pulling upwards.
5. → If the filter is slightly dirty, unscrew the dirt-drain screw and push the foam filter down so that the dirt can be drained out through the outlet.
→ If it is very dirty, remove the foam filter and clean it under running water.
6. Flush the whole filter out with water to ensure that all dirt particles are removed.
7. If necessary, clean the UVC light, e.g. with a glass detergent. Please read the paragraph on "How to Change the Lamp".
8. Reassemble the clean foam filter – first the fine (grey) and then the coarse filter (black).
→ Make sure the clips are properly re-attached.
9. Replace the holding-down devices so that they are angled at 90° to one another.
→ Important: position the first holding-down device towards the universal connector.
10. Close the filter by replacing the cover. The groove of the cover must face one of the holding-down devices.
→ Make sure the lid locks properly!
11. Then switch on the pump again and connect the UVC light to a 230-V-AC socket.

Important! Do not use any chemical detergents as they would kill off the bacteria.



How to Change the Lamp



1. Disconnect the UVC light!
2. Unscrew each of the tommy screws one quarter turn.
3. Remove the UVC lamp from the cover in an upward direction.
4. Loosen the screws (a) with a cross-tip screwdriver.
5. Pull off the seal flange in a downward direction.
6. Pull out the glass tube with the O-ring from the intermediate flange.
7. Remove the lamp from its holder and, if necessary, change the lamp or clean it. Important! Use only lamps of the type TUV PL-S, 9 Watt. They are available from GARDENA Customer Services.
8. Clean the glass tube and check the O-Ring for damages and, if necessary, replace it (available from GARDENA Customer Services).
9. Push the lamp back into its holder and re-assemble it, reversing the above steps.
10. Put the UVC light in its position in the lid cover and close the pond filter using the cover.
11. Connect the UVC light to a 230-V-AC socket (→ when the UVC light is lit, the inspection glass turns a bluish colour).

Storage during Winter

- Store the UVC light, after cleaning and drying it thoroughly in a dry place, protected from frost.
- Drain the filter container via the drain screw and cover it in order to prevent rainwater penetrating. Leave the filter "dry".
- Also drain all the connecting pipes and remove them, if necessary.

Available Accessories

GARDENA UVC light

If your pond filter is not fitted with a UVC light, then it is available from GARDENA Customer services.

- Use a knife to cut out a disc in the groove provided in the dent of the lid cover (→ top) and then insert the lamp.
- To fix the connecting screws turn them 90° clockwise.
- To operate the light, connect it with a 230-V-AC socket.

⚠ Please observe the safety instructions and warnings in these operating instructions when using UVC light!

GARDENA Zeolite

We recommend filling the bottom basket of the pond filter with Zeolite (1.5 l) to ensure a larger surface and therefore an improved cleaning effect.

GARDENA Zeolite 1 l, Art. No. 7914
GARDENA Zeolite 5 l, Art. No. 7915

Trouble-Shooting

Problem	Probable cause	Remedy
Water is not clear.	UVC light is not switched on.	Check electrical connections.
	The glass tube of the UVC light is dirty.	Clean the glass tube of your UVC light (see paragraph on "How to Change a Lamp").
	Pump capacity not suitable.	Check your pump capacity according to the paragraph "Installation Instructions".
	The floating material in the pond is brown and sinks to the bottom.	Remove algae and leaves mechanically from the pond, e.g. with the GARDENA combisystem Pond Sieve, Art. No. 7933.
	The pond is extremely dirty and full of excess nutrients.	Check the nitrate content (e.g. with the GARDENA Pond-Testset, Art. No. 7920). If necessary, change the water and clean the pond.



Problem	Probable cause	Remedy
Water is not clear.	Excess density of fish and animal stock.	As a guideline for fish stock the following rule applies: maximum length of fish 60 cm in 1m ³ of pond water.

If you have any problems with your Pond Filter, please contact our Service or return the defective unit together with a short description of the problem – in case of guarantee, with the warranty card duly completed and signed – postage paid to one of the GARDENA Service Centres listed on the back of this leaflet.

Product liability

We expressly point out that, in accordance with the product liability law, we are not liable for any damage caused by our units if it is due to improper repair or if parts exchanged are not original GARDENA parts or parts approved by us, and, if the repairs were not carried out by a GARDENA Service Centre or an authorised specialist. The same applies to spare parts and accessories.

Guarantee

GARDENA guarantees the Filter for 3 years and the UVC-light for 1 year (from date of purchase). This guarantee covers all serious defects of the unit that can be proved to be material or manufacturing faults. Under warranty we will either replace the unit or repair it free of charge if the following conditions apply:

- The unit must have been handled properly and in keeping with the require-

ments of the operating instructions. Neither the purchaser nor a non-authorised third party have attempted to repair the unit.

Parts subject to wear (e.g. luminaries) are excluded from this guarantee.

This manufacturer's guarantee does not affect the user's existing warranty claims against the dealer/seller.

In the event of a fault, please send the defective unit together with the receipt and a description of the fault, postage paid, to one of the GARDENA Service Centres on the back of this page.

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