

# Operation Manual

## Pressure Pond Filter CPF-50000

51187



Illustration similar, may vary depending on model

Read and follow the operating instructions and safety information before using for the first time.

Technical changes reserved!

Due to further developments, illustrations, functioning steps, and technical data can differ insignificantly.

Updating the documentation

If you have suggestions for improvement or have found any irregularities, please contact us.



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If you should find a mistake or wish to make a suggestion for improvement, we look forward to hearing from you.

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## Introduction

Thank you for purchasing this quality product. **To minimise the risk of injury we urge that our clients take some basic safety precautions when using this device. Please read the operation instructions carefully and make sure you have understood its content.**

Keep these operation instructions safe.

## Safety guideline



### **BEWARE:**

The use of this device is allowed on standing water bodies, garden pond water or swimming ponds and their surrounding areas only with fault current protection-switch with a triggering nominal current up to 30 mA (according to VDE 0100 article 702 and 738).

The device is not suitable for use in swimming pools, paddling pools and other water bodies where persons or animals may swim or be during operation. The operation of the device during the stay of persons and animals in the danger zone is not allowed. Ask your electrician.

The device is not intended for use by persons (including children) with impaired or limited physical, sensory and mental abilities or lack of experience and/or real knowledge, unless they are supervised by a person responsible for their safety or follow the instructions made by this person on how to use the device correctly. Children should be supervised to make sure that they do not play with the device.



### **ATTENTION:**

- Run a visual inspection of the device before every use. Do not use the device if the safety appliances are damaged or worn out. Never override safety regulations.
- Use the device exclusively according to the intended purpose stated in the instructions for use.
- You are responsible for the safety of the working environment.
- If the cable or the plug is damaged due to external influences the cable must not be repaired! It must be replaced with a new one. This work can be carried out only by an electrician.
- The voltage indicated on the type plate of the device of 230 V AC must meet the existent mains voltage.
- Never lift, carry or fix the device by using the power cable.
- Make sure that the electrical plug connection is protected from flood and moisture.
- Before working on the pond filter, disconnect the appliance by taking the plug out of the socket.
- Avoid exposing the appliance to a direct water jet or rain.
- The user is responsible for the compliance with location specific safety and installing regulations. Ask an electrician.
- Damage arising from flooded rooms caused by dysfunctions of the appliance must be avoided by means of the appropriate measures (e.g., by installing an alarm system, a reserve pump).
- In case of malfunction the repair work can be carried out only by a qualified electrician.
- The appliance must not run dry or with a completely closed intake port. The manufacturer's warranty is no longer valid if the damage is caused by dry running.
- The appliance must not be used for swimming pools.
- The appliance must not be used for drinking water circuits.
- The device must be installed out of the water.
- The distance from the device to the pond must be at least 2 m.
- You must make sure that the filter cannot fall into the water.
- You must make sure that the filter is not exposed to direct sunlight.
- The pond pressure filter must be horizontally fixed with screws on a suitable mounting place.
- The universal-hose stepped tails can be shortened according to the hose diameter if necessary.
- Attach hoses and hose clamps.
- Although the ultraviolet radiation is the lowest of the ionizing radiation, it can be dangerous for people and other organisms as well. UV-radiation with longer wavelengths can destroy the



chemical bonds of the organic molecules, too. Therefore a responsible approach is necessary when dealing with technical UV-sources.

- Operate the tubes only if the housing is closed and not cracked.

 **WARNING:**

**Read carefully all the safety guidelines and the instructions.** Non-compliance with the safety rules and regulations can lead to an electric shock, fire, and/or serious injury. Keep the instructions and the safety guidelines in a safe place in case you need them in the future.

### Stability

- The temperature of the conveyed liquid should not exceed +35 °C in permanent operation.
- The transport of flammable, gas forming or explosive fluids is forbidden. This pump cannot be used for other fluids, especially not for motor fuels, cleaning agents or other chemical products.

### Electrical connection

- The electrical connection takes place via an electric safety socket 230 V ~ 50 Hz. Fuse protection at least 10 A.
- The appliance is turned on/off by means of the ON/OFF switch.

 **Caution**

- The UVC filter should be placed to prevent the water from reaching it. The distance between the pond edge and the filter should be at least 2 m. The UV lamp cannot be operated under water.
- The power supply of the UVC filter must not be turned on before the water circulation has been started.
- Position the UVC filter on a safe and stable place because the pond filter light tube is made of quartz glass that can easily break.
- Do not turn the power on before all device components have been installed.
- If the quartz glass tube or the upper part of the UVC filter is damaged, the pond pressure filter cannot be used.
- The UVC filter cannot be used either if there are people in the pond water.
- Make sure that the used voltage and the frequency correspond to those indicated on the filter label.
- After having installed the device, you must pay attention to the national and international installation rules.
- Please do not pull on the connecting cord. Keep it away from heat, grease, and sharp objects.
- Make sure that the upper part of the filter is exposed to a pressure lower than 0.3 bar.
- When there is frost, remove the UV filter.
- When you install the UV filter, do not expose it to direct sunlight.
- Dirt influences the efficiency of the quartz glass tube; therefore, it needs to be regularly cleaned.
- To secure the proper functioning of the device, the UV-quartz tube should be replaced after 8000 operating hours.
- If the upper part is blocked by sand, the quartz tube can be destroyed. Please place the filter sponge in the inlet of the water pump.
- Ultraviolet light is harmful for the eyes and skin. Do not look directly into the ultraviolet light and do not expose your skin to it.
- If you install the device or repair it, switch off the lamp and pump power supply.
- The device must be installed on a horizontal flat surface with the feet downwards. For safety reasons it not allowed to install the device otherwise.



### Application/operation mode

- This UVC device ensures for healthy fish and clear water. The water is transported by a pump through the UVC device. There, passing a UV lamp, it is submitted to a UVC radiation by the means of which the bacteria, pathogens and floating algae are destroyed, and thus the water is cleaned.
- To achieve an optimum result, the device should operate during 24 hours a day in the frost-free season.

### Commissioning

- Turn on the pump and wait until the device is filled with water.
- Check all connections regarding their tightness.
- The device is in operation when the mains power plug is plugged in.

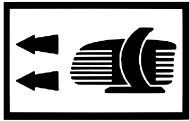
### Technical data

<b>Model</b>	<b>CPF-50000</b>	
<b>Power consumption (W)</b>	55	
<b>Power supply</b>	230 V / 50 Hz	
<b>Flow rate max. (<math>\frac{\text{m}^3}{\text{h}}</math>)</b>	13000	
<b>Hose connection (mm)</b>	20–38 ( $\frac{3}{4}$ "–1 $\frac{1}{2}$ " )	
<b>Max. pond size (ℓ)</b>	<b>with fish</b>	40000
	<b>without fish</b>	80000
<b>Dimensions (mm)</b>	600 × 600 × 815	

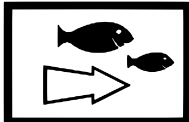
### Safety

- This device produces a harmful radiation. The direct contact with skin or eyes is harmful and must be avoided.
- The device must not be operated when it is damaged.
- The device must be turned off when no water is transported.
- In case of frost, the device must be demounted. Store it in a frost-protected area.
- Before operating the device, make sure that all hoses and connections are properly connected. The UVC clarifier only must be used for water!
- The integrated UV lamp may be switched on as soon as the filter system has been placed in an appropriate location and the pump has been properly connected.

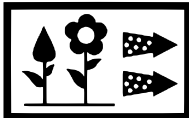
## Description



Water inlet from pump to filter



Water outlet from filter to pond



Cleaning outlet from filter to sewerage or flower bed

Our pressure filters are an ideal and easy filter system for your garden pond. Compared to commonly used filter systems, our filters dispose of various advantages:

- large cleaning capacity,
- combined mechanical and biological filtering (depending on the model),
- effective filter materials,
- integrated UVC unit as well as waste display,
- remains waterproof even at high pressure,
- water delivery up to 3 m in height (depending on the capacity of the pump connected),
- easy installation and maintenance of the filter.

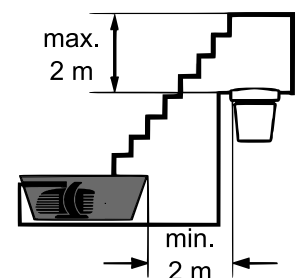
## Pressure filter functions

Our pressure filter purifies the water in 3 stages:

1. The first stage is mechanical. The visible dirt particles are removed by 3 layers of filter sponges arranged from coarse to fine.
2. The second stage is biological. By means of so-called bio balls (depending on the model), the accumulation of bio-organisms is stimulated. These microorganisms remove organic components from the pond water (depending on the model).
3. The third stage consists of a UVC treatment of the water. The UVC light destroys algae and germs. The result: healthy, clean water.

## Pressure filter installation

1. Place the pressure filter so that it is not flooded or does not fall into the pond; it should be in a distance of at least 2 m from the pond edge.
2. Make sure that it is placed on an even surface.
3. To simplify the pressure filter handling, make sure that you can easily reach the opening.
4. The water outlet back to the pond should be 2 m at most above the filter lid (0.2 bar of water pressure).
5. The pump should be turned on first.



## Commissioning of the pressure filter

Before commissioning make sure that all cables and hose connections are installed correctly. The switch must be set to "filter function." Before the very first operation, the safety instructions must be read:

1. Switch on the pump. **Attention!** The UV lamp must not be operated before the pump delivers water.
2. Check that all connections are watertight.
3. Turn on the pressure filter.
4. The filter system with the integrated UV lamp must permanently operate 24 hours a day.
5. The UV lamp should be replaced after an operational period of 8000 hours to guarantee an optimal efficiency of the system.
6. The filter system should be cleaned regularly.

**Attention:** In case of the first/a new installation, the cleaning capacity will be fully reached only after a few weeks, after the necessary microorganisms have grown. This will be especially the case with an ambient temperature above +10 °C.

### **Caution:**

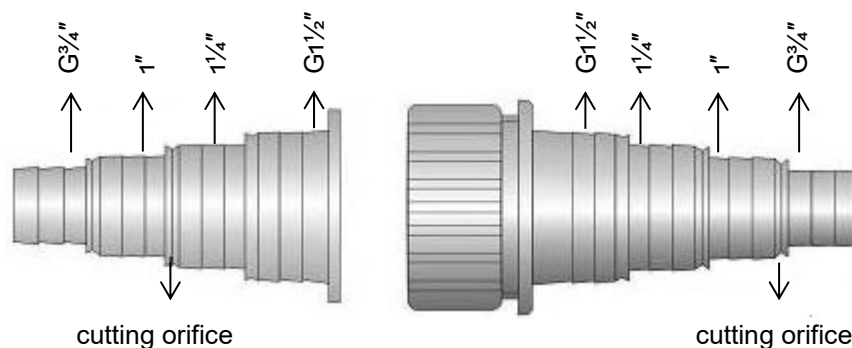
- The UVC lamp must not be operated as long as it is not flooded by water.
- Never use the UVC unit if the lamp or a connection is damaged.
- Never use the UVC filter if there are people in the water.
- The installed temperature sensor inside the UVC filter switches off the UVC lamp automatically in case of an overheating. After cooling down, it is automatically switched on again.
- The pressure filters are supplied completely with all necessary filter mats. Before use rinse them carefully with pond water.

## Installation and structure

### Filter media

The bio filter balls (depending on the model) are placed on the filter bottom, the grate with the protective tube for the UVC unit is inserted above. Place the filter sponges on it, ascending from fine to coarse. Set the lid and close the filter by means of the enclosed clamp. When installed correctly, the filter is waterproof up to a working pressure of 0.5 bar. The power supply must be equipped with a fault current protection switch that must not exceed 30 mA.

### Installing the hose connectors/nozzles



Slide the nut on the black stepped nozzle. Insert the flat gasket into the nut and screw it on the water inlet stub and the water outlet stub respectively. Screw the closing caps on the clean stub.



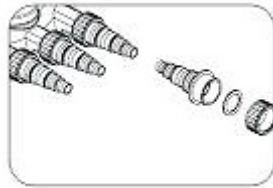
### *Connecting the water inlet*

The pump is connected to the nozzle showing the direction of arrow to the filter. Make use of a hose diameter that is equal to that one of the pump outlets. Saw off the unused diameter of the hose nozzle.

### *Connecting the water outlet*

The hose nozzle showing direction of arrow from the filter is the outlet towards the pond. Connect an appropriate hose to the largest diameter of the nozzle and saw off the remaining diameter. Make use of hose clamps to prevent loosening of the tubes.

***Hint: We recommend the heat the hoses with warm water to facilitate the attachment to the connection.***



### *Connecting the cleaning connection*

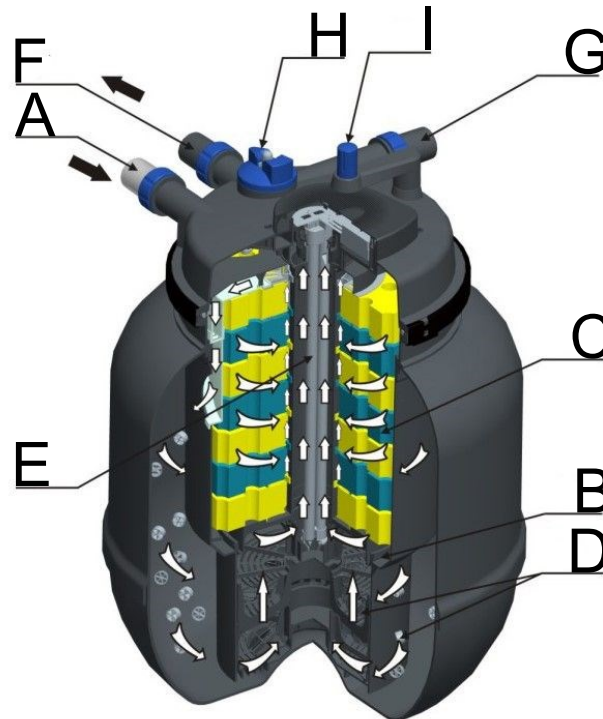
To mount a drain hose permanently on a cleaning connection, screw off the closing cap from the cleaning connection, mount the third hose nozzle along with an appropriate hose. When filter-operated, the cleaning connection or the assembled drain hose must be closed at any time by means of the closing cap or an inserted flat gasket. This is meant to be a security in case the switch is set to "Clean" inadvertently.

**Attention! Never operate the device without water flow or without pump filter!**



### Operating mode of the pressure filter

The pressure filter with its integrated UVC is a sealed filter system for the biological and mechanical cleaning of pond water.



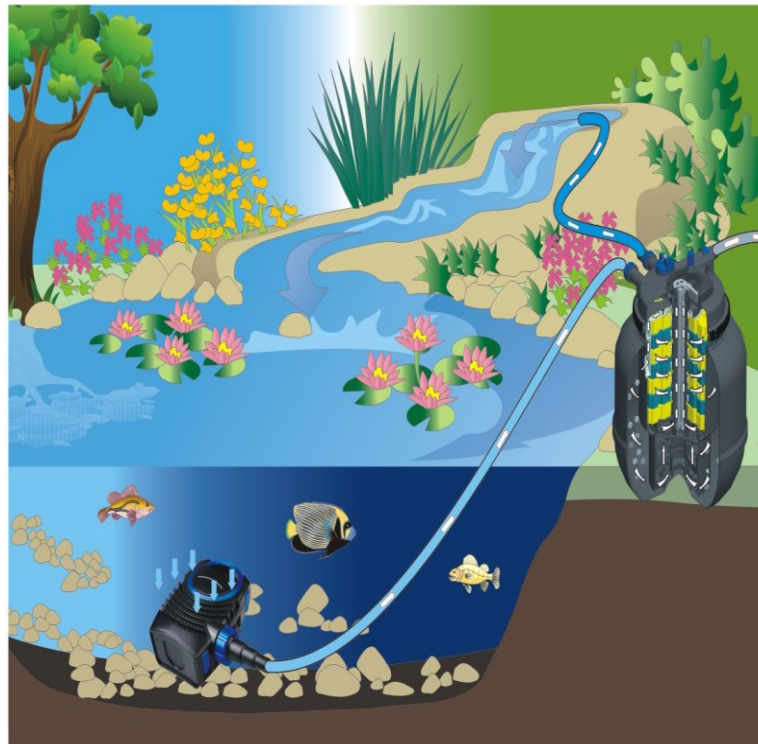
<b>A</b>	Water inlet	The pump is connected by means of a pressure hose to the water inlet.
<b>B</b>	Swirl system	By means of gravity, floating particles and contaminants settle down.
<b>C</b>	Biological cleaning	Microorganisms accumulate on the filter sponge pores. The blue and yellow filter sponges differ in size and density. With different speeds, the water flows through the different zones. Microorganisms that convert ammonia into nitrate mainly settle in the zones of high flowing speed (blue filter). The growth of anaerobic microorganisms which oxidize nitrate to nitrogen is particularly favoured in the zones of lower flowing speed.
<b>D</b>	Mechanical filter	Dirt particles are retained on the surface of the filter sponges before the water flows towards the filter inside.
<b>E</b>	Cleaning of the pond water	When flowing out, the water is exposed to the ultraviolet radiation of the UVC lamp thus destroying germs, bacteria and algae. When flowing through the filter, the water circulates from the outside to the inside.
<b>F</b>	Water outlet with flow indicator	On the outlet, the cleaned water is led back into the pond.
<b>G</b>	Cleaning connection	Here a hose can be connected in order to clean the filter. This is to remove the accumulated dirt. The waste water can be directly disposed of or used to water the flower bed.
<b>H</b>	Function switch	For selectively switch between "filtering" and "clean filter."
<b>I</b>	Cleaning handle	The filter sponges can be cleaned manually by turning the cleaning handle.

## Connecting the pump

- Make sure that the drain into the pond is placed in a clean place. If the drain is blocked, there can be a higher pressure. This can lead to a leak inside the filter, thus effecting a complete drainage of the pond.
- When the filter is used in “filter mode,” it must be ensured that all gaskets are mounted correctly to prevent the complete drainage.
- The sealing cap also serves as a security means in “clean” mode. Make sure that the filter always operates in “filter” mode as long as the pump is operating. The filter should be only set to “clean,” when the filter sponges are cleaned.
- Before switching off the filter, check whether all hoses and gaskets are correctly placed.
- Never filter any other liquids than water.
- In freezing conditions, the filter must be removed.
- Never expose the filter to direct sunlight.
- After the filter has been installed in the right place and the pump has been connected, the UVC unit can be switched on.

## UVC unit

- Our pressure filters are completely supplied including UVC unit. The UVC-PL lamps have approx. 8000 of active burning hours. This corresponds to a seasonal use from March to November. The UVC lamp can be easily replaced by loosening the screws inside the spherical part of the lid.
- It is recommended to replace the UVC lamp at the beginning of a season.
- The UVC turns green water clear and fights germs. The pressure filter disposes of a separate space by the means of which the UVC radiation does not get in touch with the filter media. By this means, the microorganisms inside the filter material are not damaged.



*Installation example with pump, filter system, flower bed watering, and a small water course*



## Maintenance and cleaning

### *Waste water outlet*

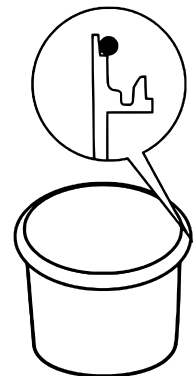
The waste water outlet allows the drainage of polluted water into drains or a flower bed after you have cleaned the filter sponges.

### *Cleaning the filter sponges*

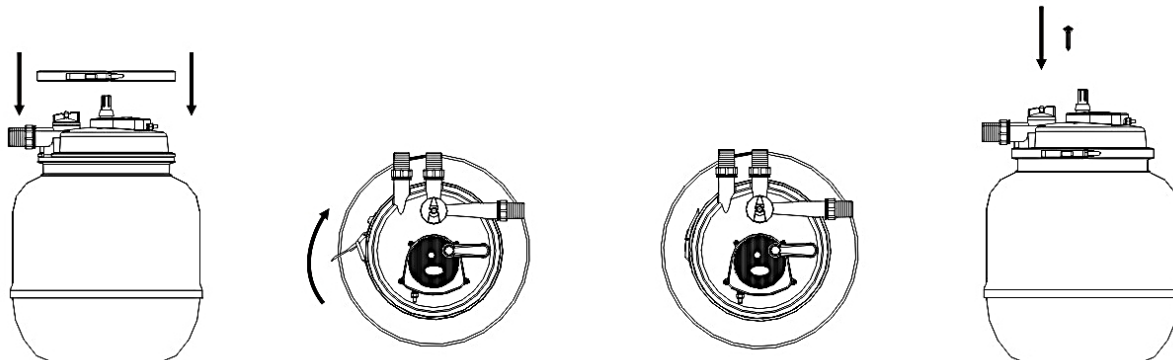
- Over the time, contaminants accumulate inside the filter sponges, and their cleaning effectiveness will be reduced. Therefore, they should be cleaned on a regular basis, even weekly if necessary.
- At any case, they should be cleaned when muddy or even dirty water flows out of the filter and back into the pond. (The indicator lamp on the cleaning handle turns red.)
- To clean the filter sponges, proceed as follows:
  1. Turn the function switch clockwise to the “cleaning” function until you hear a click.
  2. Rotate the cleaning handle several times. Thus, the filter sponges are pressed and cleaned mechanically. Rotate clockwise and counter-clockwise to achieve a better result.
  3. You will recognize clean filters when re-flowing water through the transparent hose of the cleaning port is clean. Now put the function switch again to “filtration.”
  4. The filter is now ready for use; check the water inlet to the pond.

### *Replacement of the filter sponges*

- If the flow is too low and it cannot be improved by the “cleaning” function, the sponges must be washed or replaced.
- Please do not use chemical cleaning agents, for not to kill the microorganisms of the filter sponges!
- Proceed as follows:
  1. Unplug the power cord.
  2. Turn off the pump and make sure that it cannot be reconnected unintentionally. Remove all nuts and hoses.
  3. Remove the safety lock, then open the filter.
  4. Lift the filter head with the filter sponge assembly. Place it upside down on a clean surface. The filter sponges are on top.
  5. Remove the filter sponges, wash, or replace them.
  6. Remove the filter sponges and wash them in clean water. Wring them out well afterwards. The sponges may also be cleaned with pond water.
  7. Clean the container, seals, and O-rings with a garden hose.
  8. Replace the filter sponges back to the previous position.
  9. Place the O-ring 3 onto the upper edge of the container (to easy fit, you should make it wet; see picture of the O-ring 3 position).
  10. The safety lock must be in the right position. Close the clamp.
  11. Again, connect the filter to all hoses.
  12. The filter is ready to operate again.



**Caution:** There is a precisely fitting connection between container and lid. When you install them, both must be precisely aligned.

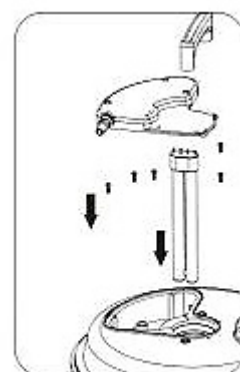


### Replacing the UV lamp

If multiply the algae, the lamp needs to be replaced. The UV Indicator shows, if the bulb lights or not. The bulb should be replaced after every season.

### Cleaning of the quartz tube and replacing of the UV bulb

1. Remove the screws from the head.
2. Pull out the UV device; you can now clean the quartz tube.
3. Remove the fixing nut from the quartz tube.
4. You can clean the quartz glass tube on the inner and outer side.
5. Pull out the UV bulb.
6. Clean the bulb with a clean and wet cloth.
7. Check if everything is in order. If anything is broken, replace it.
8. Set up all part of the filter as before, and start up the filter again.

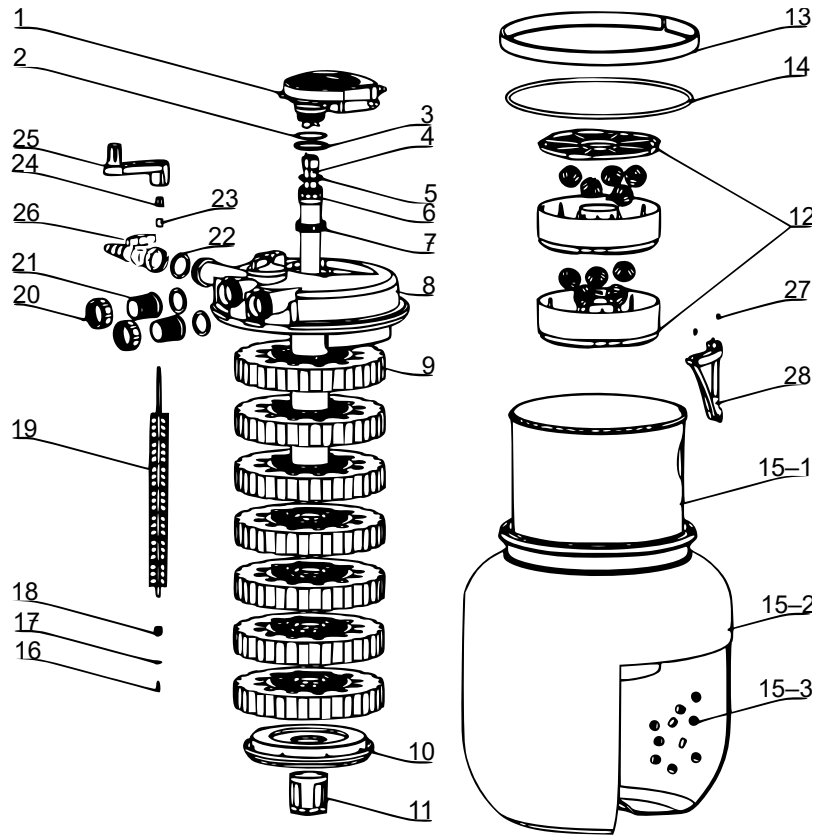


The wearing parts (filter mats, tubes, quartz tubes, seals) are usually available from our stock.

### CAUTION:

- For all maintenance work, the UVC unit must be **DISCONNECTED** from the mains!
- **ONLY** operate the UVC unit when it has been assembled **COMPLETELY!**
- Do **NOT** perform any repair or other work on a UVC unit switched on!
- The UVC unit may **NOT** be carried on the cable!
- UVC unit must always be placed **OUTSIDE** the pond (never in the water)!
- With **FROST**, the UVC unit must be unmounted!

### Explosion view and part list



No	Name	No	Name	No	Name
1	UV head with cable	11	Tube	20	Inlet and outlet nut
2	O-ring 1 $\varnothing 71 \times 2.8$	12-1	Filter basket base	21-1	Inlet and outlet $\varnothing 32$
3	Rubber lining	12-2	Filter basket cover	21-2	Inlet and outlet $\varnothing 38$
4	UV-C lamp 55 W	12-3	Bio-balls	21-3	Inlet and outlet $\varnothing 50$
5	O-ring 2 $\varnothing 21$	13	Clamp	22	Rubber gasket
6	Quartz glass tube	14	O-ring 3 $\varnothing 421 \times 7.5$	23	Rest
7	Sealing screw	15-1	Inner container	24	Shaft connection
8	Lid	15-2	Container	25	Handle
9-1	Sponge (blue)	15-3	Bio cell $\varnothing 18 \times 10$	26	Valve
9-2	Sponge (yellow)	16	Screw M5 $\times$ 12	27	Screw 2
9-3	Sponge holder	17	Gasket	28	Outlet plate
9-4	Sponge press	18	Rest		
10	Plate	19	Clean holding		

## Disposal regulations

EU guidelines regarding the disposal of scrap electric appliances (WEEE, 2012/19/EU) were implemented in the law related to electrical and electronic equipment and appliances.

All WiITec electric devices that fall under the WEEE regulations are labelled with the crossed-out wheeled waste bin logo. This logo indicates that this electric equipment must not be disposed with the domestic waste.

The company WiITec Technik GmbH has been registered in the German registry EAR under the WEEE-registration number DE45283704.

Disposal of used electrical and electronic appliances (intended for use in the countries of the European Union and other European countries with a separate collection system for these appliances).

The logo on the article or on its packaging points out that this article must not be treated as normal household waste but must be disposed to a recycling collection point for electronic and electrical waste equipment. By contributing to the correct disposal of this article you protect the environment and the health of your fellow men. Environment and health are threatened by inappropriate disposal.



Material recycling helps reduce the consumption of raw materials.

Additional information on recycling this article can be provided by your local community, municipal waste disposal facilities, or the store where you purchased the article.

Address:  
 WiITec Wildanger Technik GmbH  
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