

# Operation Manual

## Pressure Filter CPF Series

50105, 50123, 50977–50980, 50121, 51042–51044



Illustrations 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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Even though, the WilTec Wildanger Technik GmbH has undergone biggest possible efforts to ensure that the operating manual is complete, faultless, and up to date, mistakes cannot be entirely avoided.

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

Send an e-mail to:

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To return orders for exchange, repair, or other purposes, please use the following address. Attention! To allow for a smooth execution of your complaint or return, it is important to contact our customer service team before returning the goods.

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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 is only allowed with a 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 there are people or animals during operation. The operation of the device during the presence of people 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 correspond to the existent mains voltage.
- Never lift, carry, or fix the device by using the power cable.
- Make sure that the electrical plug connection is placed in a flood-proof area and is protected from 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 local safety and installing regulations. Ask an electrician.
- Consequential damage arising from flooded rooms caused by dysfunctions of the appliance must be avoided by means of the appropriate measures (e.g., installing an alarm system, 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 an intake port completely closed. 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 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 directly to 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.
- Only operate the tubes inside a housing that 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 conveyance of flammable, gassing or explosive fluids is forbidden. This pump cannot be used for other fluids particularly 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.

 **Warning:**

- The UVC filter should be placed in such a way so that the water cannot reach it. The distance between the pond edge and the filter should reach at least 2 m. The UV lamp cannot be operated under water.
- The power supply of the UVC filters must not be turned on before the water circulation has been carried out.
- Please position the UVC filter on a safe and stable place because the pond filter light tube (the tube that conveys the light) is made of quartz glass that can burn easily.
- Do not turn the power on before all the component parts of the device are 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.
- When the device is installed, you must pay attention to the domestic installation rules.
- Please do not pull on the connecting cord. Keep it away from heat, grease, and sharp objects.
- Make sure the upper part of the filter is exposed to pressure lower than 0,3 bar.
- In frosty weather please 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.
- UV light is harmful for the eyes and skin. Do not look directly into the UV light, and do not expose your skin to it.
- If you install the device or repair it, switch off the power supply of the lamp and the pump.
- 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 area/functioning

This UVC device ensures clear water for healthy fish. The water is pumped by a pump through the UVC device. There it flows past the UV lamp and is exposed to UVC radiation. Thus, the bacteria, germs and floating algae in the water are destroyed, and the water is clarified.

To achieve an optimal result the device should be operated 24 hours in the frost-free seasons.

## Commissioning

Switch on the pump and wait until the device is filled with water. Check if all connections are well sealed. By plugging in the power cable, the device is put into operation.

## Technical data

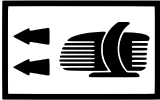
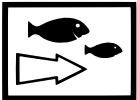
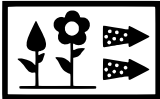
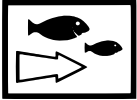

Model	Item number	Power (W)	Power supply	Suitable for ... up to (l)		Recommended max. flow rate (l/h)	Input/output (mm)
				Fish ponds	Decorative ponds		
CPF-180	50123	11	230 V / 50 Hz	3000	6000	9000	19/25/32/40
CPF-250	50105			5000	10,000	10,000	
CPF-280	51042			4000	8000	9000	19/25/32/38
CPF-380	51043			6000	12,000	10,000	
CPF-500	51044	18		10,000	30,000	10,000	
CPF-2500	50978	11		3000	6000	6000	19/25/33
CPF-5000	50976			4000	8000	9000	19/25/32/40
CPF-10000	50977			6000	12,000	10,000	
CPF-15000	50121	18		10,000	30,000		
CPF-20000	50979	36		20,000	40,000	12,000	32/38
CPF-30000	50980	55		30,000	60,000		32/38

## Safety

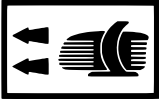
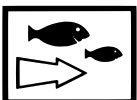
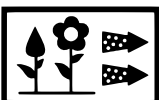
- This device emits dangerous radiation. Being harmful, direct contact to skin and eyes must be avoided.
- If the pond filter is damaged, it must not be operated.
- When no water is transported, the device must be switched off.
- By frosty weather, the device must be removed and kept dry in a place free of frost.

## Description

CPF-180/CPF-250

	Water inlet from the pump into the filter
	Water flow from the filter into the pond
	Clean water outlet from the filter to waste water or flower bed
	Function position "Filter"
	Function position "Clean"

CPF-2500/CPF-5000/CPF-10000/CPF-15000/CPF-20000/CPF-30000

	Water inlet from the pump into the filter
	Water flow from the filter into the pond
	Clean water outlet from the filter to waste water or flower bed

The WilTec pressure filter is an ideal filter system for your garden pond. The filter has more advantages:

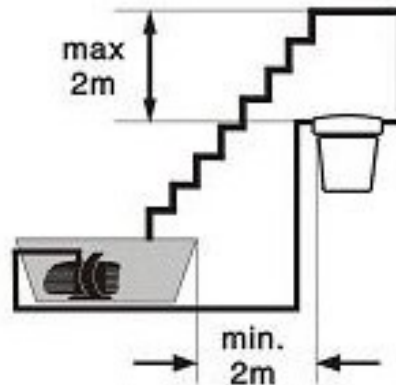
- high cleaning capacity
- combine mechanical and biological (depending on model) filtering
- performant filter material
- built-in UVC unit and dirt indicator
- remains waterproof also by high pressure
- water delivery 3 m height (dependent on pump output which is connected)
- easy installation and maintenance of the filter

### WilTec pond filter functions

The WilTec pond filter clarifies the water in 3 phases:

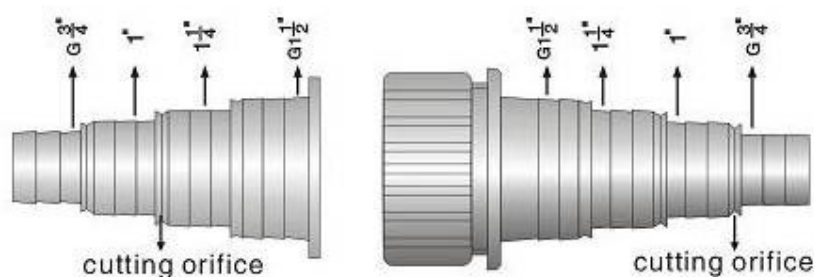
1. The first stage is **mechanic**. The visible particles of dirt are removed by means of a 3-layer filter foam, arranged from coarse to fine.

2. The second stage is **biologic**. With the help of the so-called bio-balls (depending on model) the settling of bio-organisms is stimulated. These bio-organisms remove the organic components from the pond water (depending on model).
3. The third stage comprises a **UVC water treatment**. The UV light destroys swimming algae and germs. The result is healthy water.



### Commissioning

- The pressure filter should be placed at least at a 2-meter distance from the pond edge. The water outlet back to pond should be placed max. 2 m over the filter cover (0,2 bar water pressure!).
- The pump must be started first. The UVC lamp must not be operated as long as no water flows through it. Do not use the UVC lamp if the lamp or the connections show damage signs. Do not use the UVC-filter if there are people inside the water.
- The built-in UV filter temperature sensor stops the UVC lamp. After cooling down, it is automatically re-started.
- The WilTec filter is delivered with all the necessary filter mats. Carefully wash the filter mats with pond water before using. The bio-balls (depending on model) are placed at the bottom of the filter, above put the grating with the protective tube for the UVC unit. Then put the filter foam layers on it, arranged from fine to coarse. Put the cover lid on the housing and close the filter with the supplied cramping bracket.
- If properly installed, the filter is waterproof up to a 0,5 bar working pressure. The power supply must be equipped with an earth leakage circuit breaker that does not exceed 30 mA.



### Installing stepped hose tails

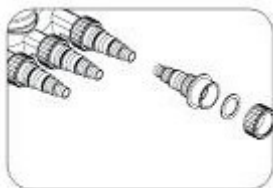
Place the coupling rings around the black hose tails, insert the flat gaskets in the coupling ring and screw it on the water inlet and outflow connection. Screw the hose tails with the flat gaskets on the device.

### *Connecting to the water inlet*

The pump is connected to the hose tail whose arrow is directed towards the filter. Use a hose diameter which is the same as the diameter of the pump outlet. Saw off the hose steps that you do not need.

### *Connecting to the water outlet*

The hose tail with the arrow showing away from filter is the outflow towards the pond. Connect a suitable hose to the large diameter step of the hose tail and saw off the other hose steps. Use hose clamps to prevent the loosening of the hoses.

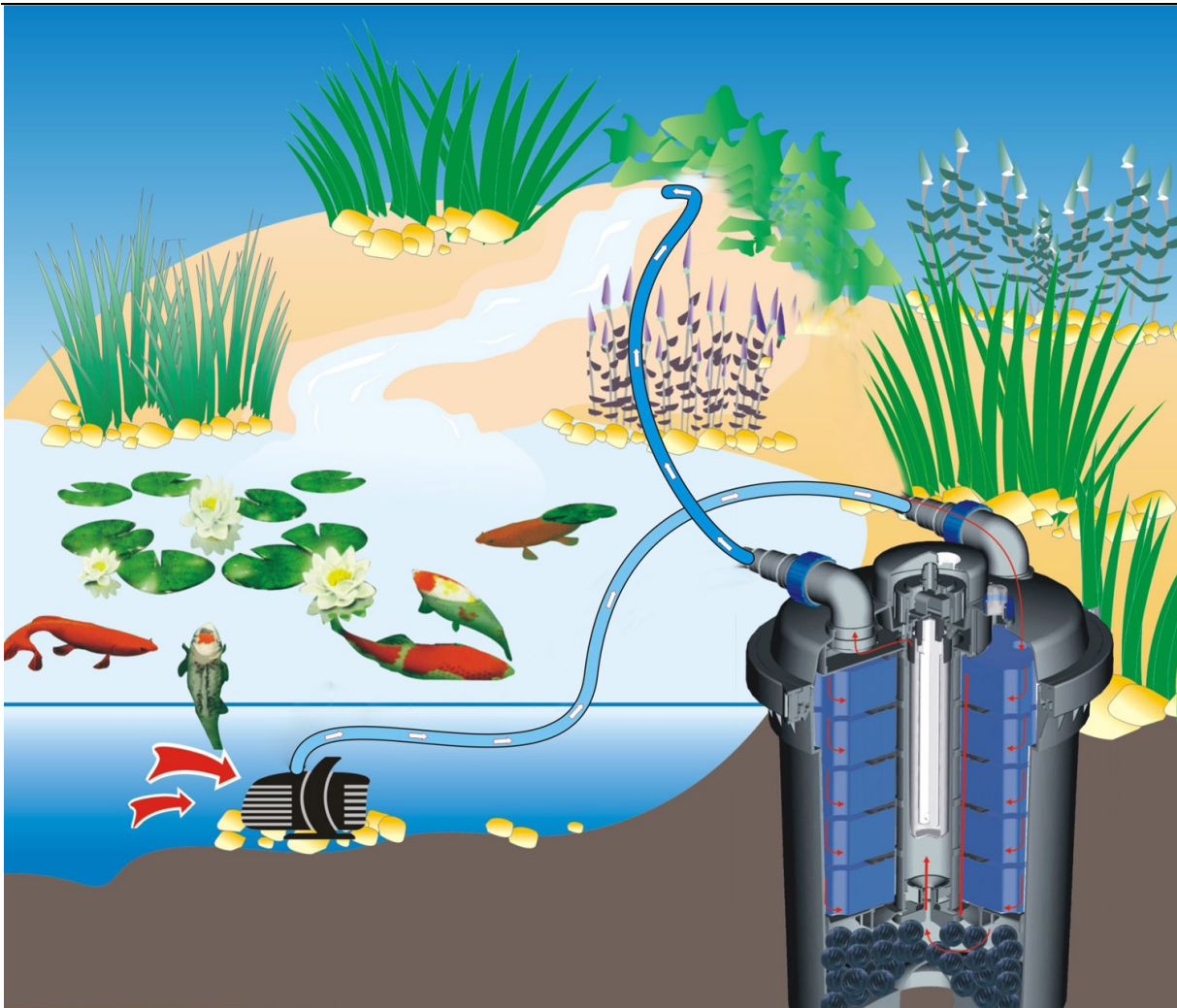


### *Connecting to the cleaning outlet*

To install a permanent drain hose to the cleaning connection (Clean), you must unscrew/remove the stepped tail to the cleaning connection (Clean), install the third stepped hose tail and connect a suitable hose. In the filter operation, the cleaning connection or a connected drain hose must be always closed and sealed with a hose tail (closure cap) and gasket seal, for safety means, in case the function switch is accidentally set on "Clean."

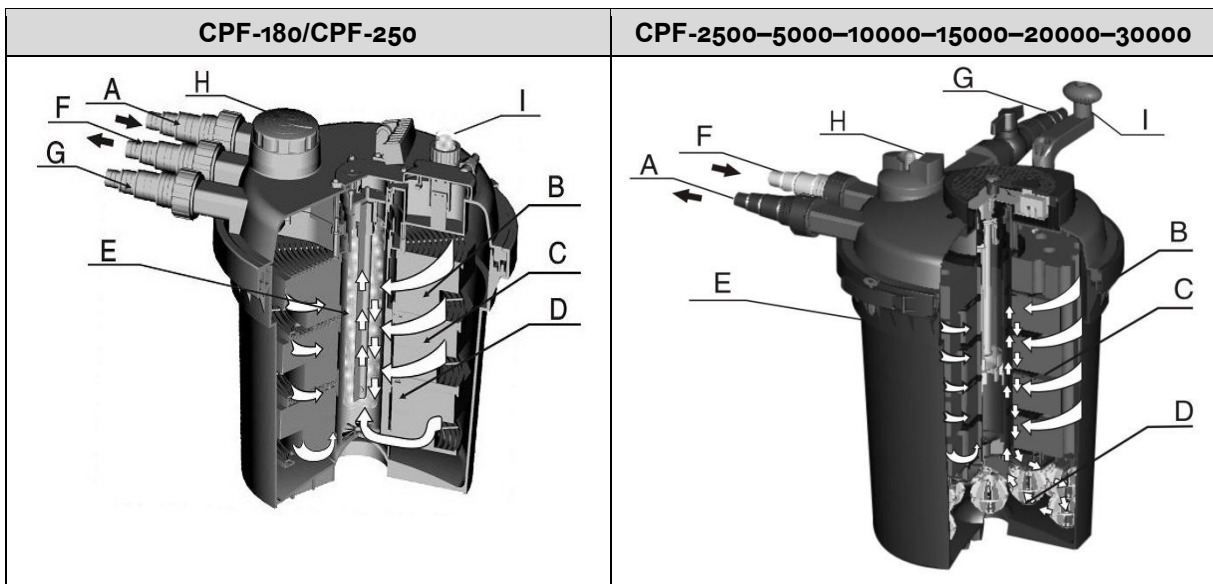
**Attention! Do not operate the device  
without water flow or  
pump  
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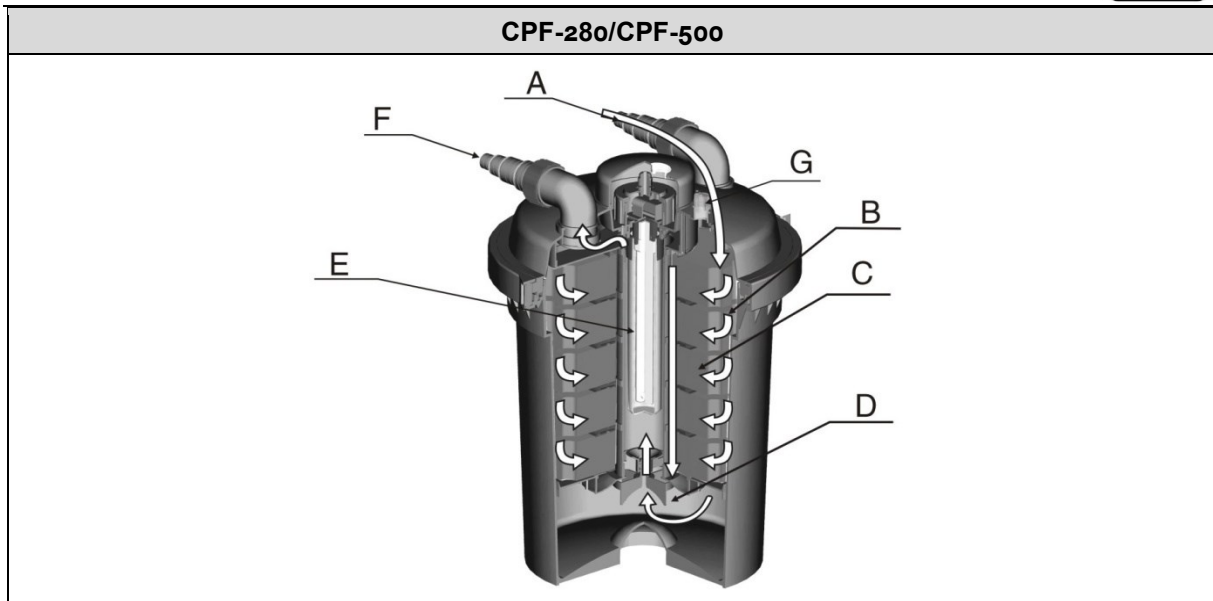




**Operating principle of the pressure filter**

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





Part	Name	Explanation
A	Water inlet	The pump is connected to the water inlet via a pressure hose.
B	Whirl system	The water permeates through the bio-filter materials due to the centrifugal and gravitational forces.
C	Mechanical filter	Dirt particles are retained on the surface of the sponge filter before the water flows towards the inner of the filter.
D	Biological cleaning	Microorganisms settle on the filter sponge pores. The blue and the yellow filter sponge differ in size and density. This generates zones/areas through which the water flows at different speeds. In the zones/areas with a high flow speed (blue filter), mainly microorganisms settle that convert ammonium to nitrate. In the areas in which the water flows faster (yellow filter), mainly anaerobic microorganisms accumulate that reduce the nitrate to nitrogen.
E	Pre-cleaning of the pond water	When the water flows out, it is shortly exposed to the UV radiation emitted by the UV lamp. As a result, germs, bacteria, and algae are destroyed. The water circulates when flowing through the filter from inside outwards.
F	Water discharge with flow display	The cleaned water flows back into the pond.
G	Hose tails for rinsing water when on cleaning (CPF-180/CPF-250)	
	Flow indicator (CPF-280/CPF-500)	
	Hose tails for rinsing water when on cleaning (CPF-2500–5000–10000–15000–20000–30000)	
H	The function switch changes between “filtration” and “clean filter.”	
I	Flow indicator (CPF-180/CPF-250)	When there is too much dirt on the sponge, the turbidimeter will change from green to yellow to warn you to clean the sponge.
	Cleaning crank (CPF-2500–5000–10000–15000–20000–30000)	



### **Cleaning the filter sponge with crank (CPF-2500–5000–10000–15000–20000–30000)**

- The filter sponge can be cleaned by turning around the cleaning handle. Installation guidelines about the clear water guarantee, the following installation guidelines must be observed.
- Please read the following notes to ensure that the water always is cleaned sufficiently:
  - The filter system must remain switched on for 24 hours a day.
  - The UV lamp should be changed after 8000 operating hours so that the device can work effectively and efficiently. The filter system must be cleaned regularly.

### **Connecting the pump**

- On the filter cover/lid, there are three connections equipped with hose tails:
  - The pump is connected to the first hose tail. Use a hose diameter that is the same with the diameter of the pump outlet. Saw off the diameter-hose steps that you do not need.
  - The hose tail in the middle of the filter cover/lid is the outflow to the pump. Connect to the large diameter of the tail a suitable hose and cut away the rest of the tail diameter. To avoid the loosening of the hoses please use hose clamps.
- Never use the filter with a built-in UVC unit with a water pressure higher than 0,2 bar! The height difference between the filter lid and the pressure-free outflow point of the supply line can amount to max. 2 m. The pressure of the water pumped to the filter cannot exceed 0,5 bar. Use the filter only with hoses that can withstand at least a pressure of 0,2 bar, the max. pressure of the pump.
- Make sure that outflow /discharge in the pond is positioned on a clean place. If the outflow is blocked a higher pressure may result. Higher pressure can lead to leaking spots in the filter and therefore to a complete emptying of the pump.
- When the filter is used in “filter-modes,” the user should be careful and make sure that all seals are properly installed to avoid the emptying of the pond. The sealing cap functions simultaneously as safety measure in “Clean” mode. Make sure that filter always operates in the “Filter” mode as long as the pump is running. The filter should be set on “Clean,” if the filter sponges are cleaned. Before you start the filter, check, and make sure that all hoses and seals are correctly fastened. Filter only water and no other fluids. By frost the filter must be removed. Do not expose the filter to the direct sun light.
- After the filter has been placed on the right place and the pump has been connected the integrated UV-unit can be switched on.

### **UV unit**

- The WilTec filter is delivered with all the equipment you need, and an integrated UV unit. The UV lamps have approx. 8000 working hours that correspond to a season period of use from March till November. The UV lamps can be replaced by loosening the screws from the spherical upper part of the cover lid.
- It is recommended to change the UV lamp with a new one at the beginning of the season.
- The UV lamp clears the green water and destroys germs. The WilTec filters have a separate chamber, through which UVC rays are not exposed to contact with the filter media. Because of this the micro-organisms in the filter material are not damaged.

Maintenance/cleaning/adjustment possibilities (setting options) (CPF-180/CPF-250 only)



	A
	B
	C
	B1
	D

- A = Pump connection
- B = Return to pond (backflow)
- B1 = Setting – filter operation
- C = Watering connection
- D = Setting – cleaning
- E = Switch/cleaning mechanism

**Filter operation:** Bring the rotating switch **E** into position **B1**. With the help of a pump, the water is led to the filter through the connection **A**, where it is cleaned and discharged back into the pond via connection **B**.

**Cleaning operation:** Bring the switch **E** into position **D**. This setting enables the cleaning mechanism by pressing down the setting switch **E**. By means of this pressure, the sponges inside the filter are squeezed. By using this switch setting the dirty water is not led back into the pump but it is discharged via connection **C** and it can be used for garden watering.

The pond filter of the series CPF-2500–5000–10000–15000–20000–30000 have a fast-cleaning function that can be activated with the aid of the crank. Instead of the setting switch (press button) described above, turn the crank handle (like the one of a salad spinner) until the filter sponges have lost enough dirt.

**The filter materials as well as the lamp should be replaced 1x year to ensure a problem-free operation of the filter.**

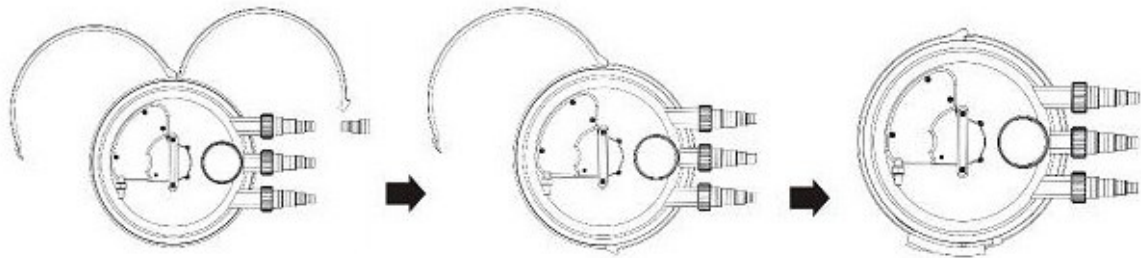
When the filter is used for normal operation, “the watering connection” (**C**) with the screwed ring plus sealing and the viewing glass (included in the delivery) should be closed to avoid leaking. The pressure filter model of the series CPF-2500–5000–10000–15000–20000–30000 have a stepped hose tail with integrated ball valve to close the connection.



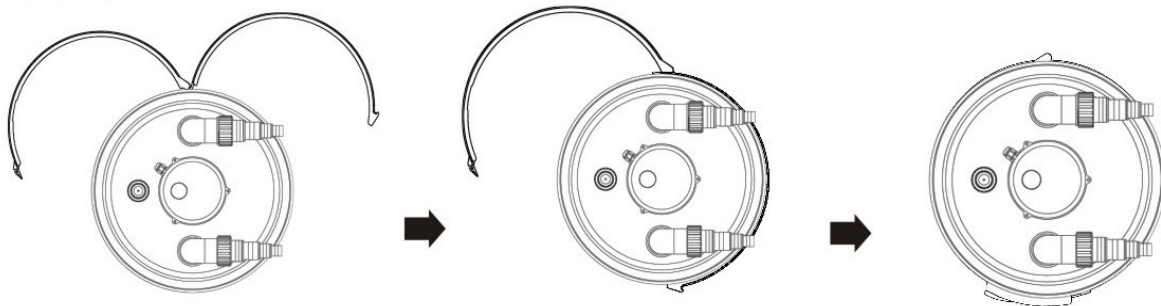
**Other notes and remarks:**

- Before every commissioning of the filter the user should check if sealings and connections are fitted correctly.
- Pressure pond filters are exclusively designed for filtering pond water with typical impurities.
- Do not expose the filter to the direct sun light over a longer period.
- By frost the filter must be completely emptied, if necessary, dug out and stored in a dry, frost-free place.
- After work that requires the removal of the lid, please make sure when attaching the cover lid that the sealing rings are fitted correctly! Fit the clamp ring around the lid, press on the cover lid and close the sealing clam.

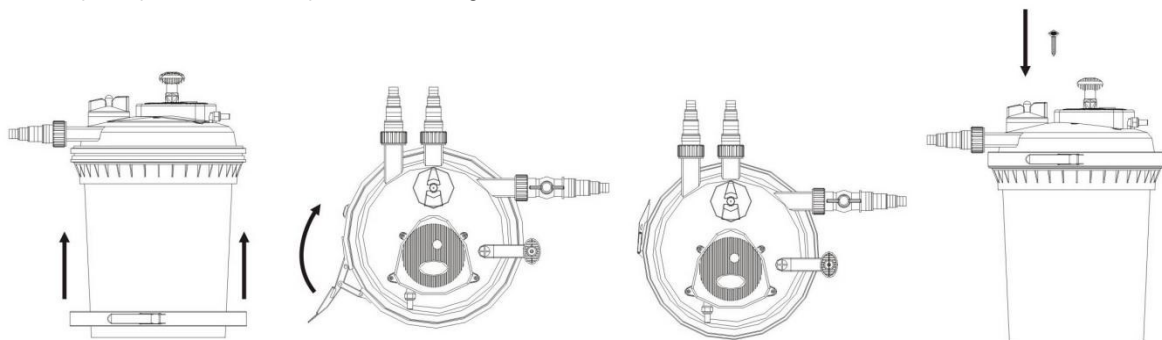
*CPF-180–250*



*CPF-280–380–500*

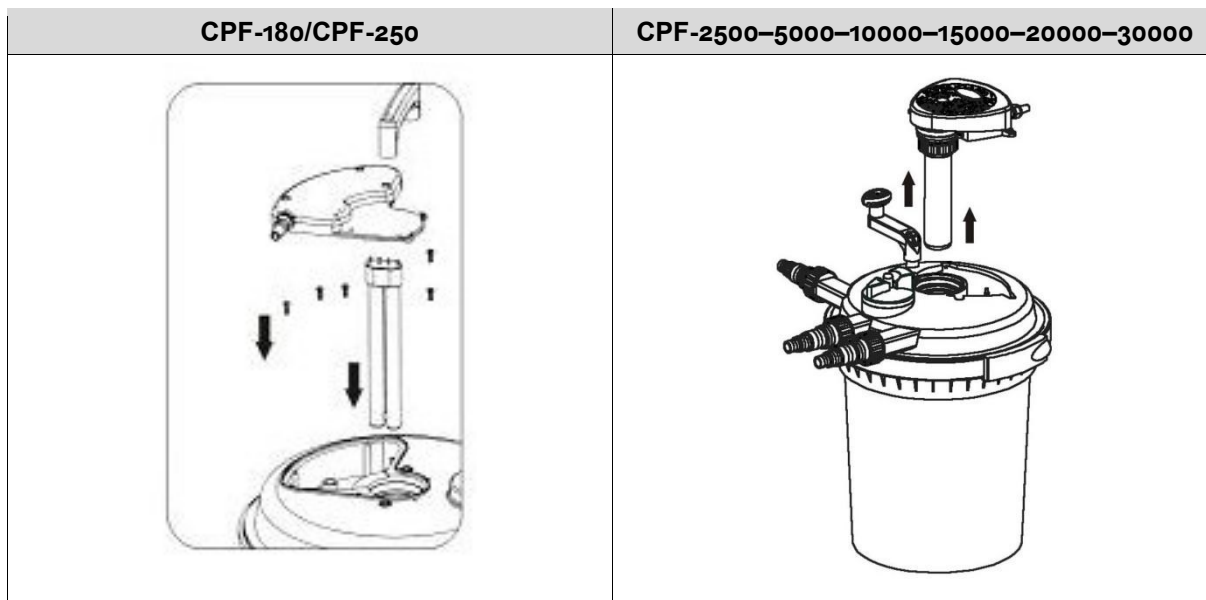


*CPF-2500–5000–10000–15000–20000–30000*



## Changing the light tube

If the algae proliferate, it is necessary to check the correct functioning of the UV-C lamp. You recognise on the UV-indicator if the lamp lights at all. Change it every season.



- Before changing the UV lamp disconnect the pump.
- Release the 8 screws of the UV unit from the filter lid.
- Carefully remove the UV lamp.
- After the UV unit has cooled down and dried up, grab the base of the light tube (not the glass!) with a soft cloth and pull it cautiously out of its socket.
- Now the quartz glass inside which the light bulb is placed must be cleaned. For this purpose, the lime must be dissolved under heating with appropriate agents (coffee machine or kettle descaler like citric acid). After this rinse the quartz glass from residues remaining from the cleaning agents.
- After rinsing all parts are reassembled in reverse order. The pump and the device are connected again to the power supply.
- The wear parts (filter materials, light tubes, quartz sleeves, seals) are usually available in stock at **WilTec Wildanger Technik GmbH – [www.wiltec.de](http://www.wiltec.de)**.

### CPF-2500-5000-10000-15000-20000-30000

With this mode, you only need to loosen 4 screws to take off the UV unit.

#### **WARNING:**

- For all maintenance work the UVC must be disconnected from the power supply!
- The filter can be put into operation only if the UVC is FULLY assembled!
- Never tinker with the running UVC lamp!
- The UVC must NOT be carried by the cable!
- Always place the UVC outside the pond (not in the water)!
- Remove the UVC by frosty weather!

## 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  
 Königsbenden 12 / 28  
 D-52249 Eschweiler

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