

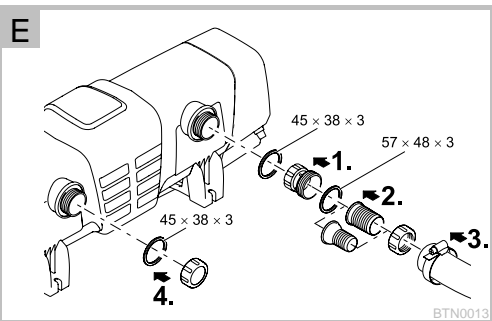
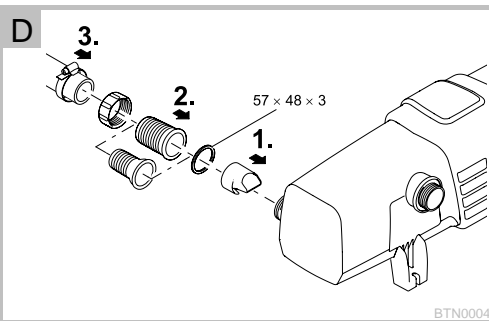
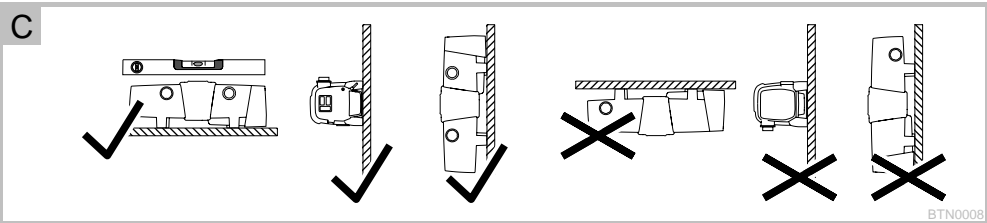
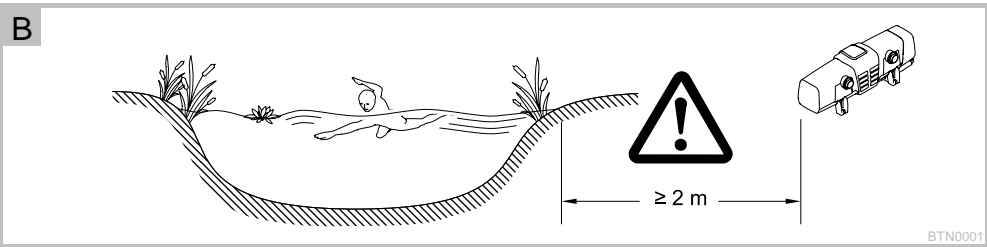
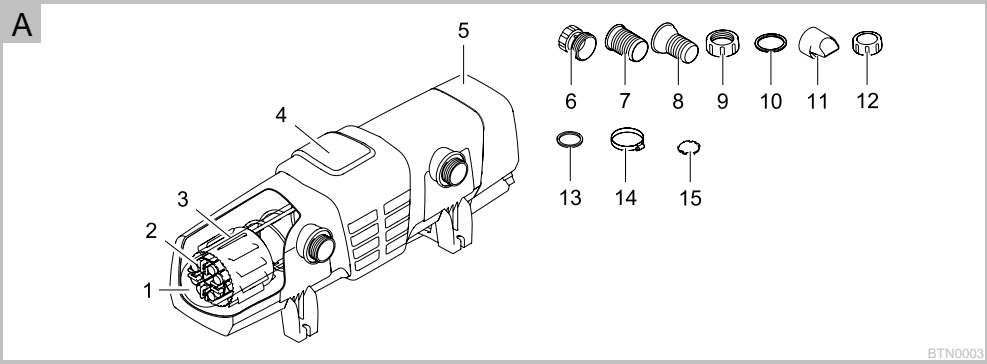
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LIVING WATER

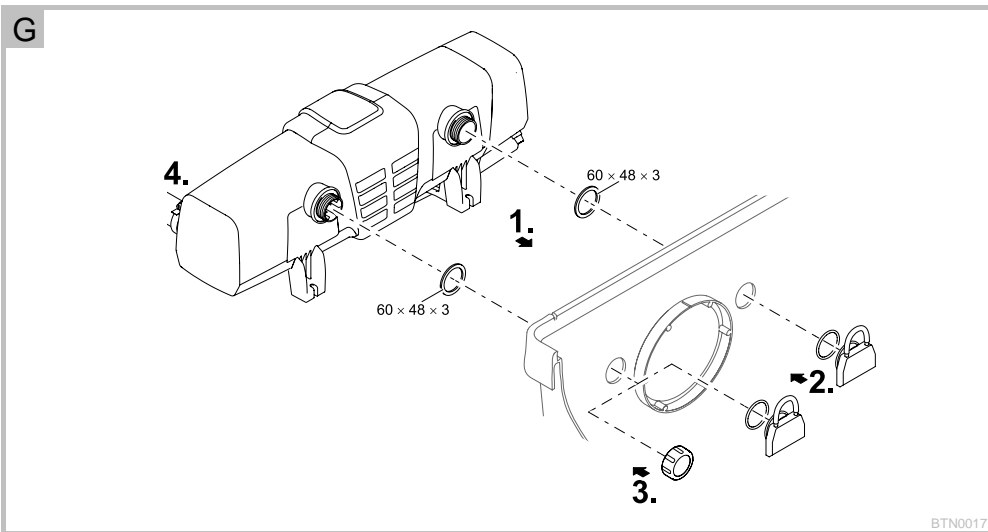
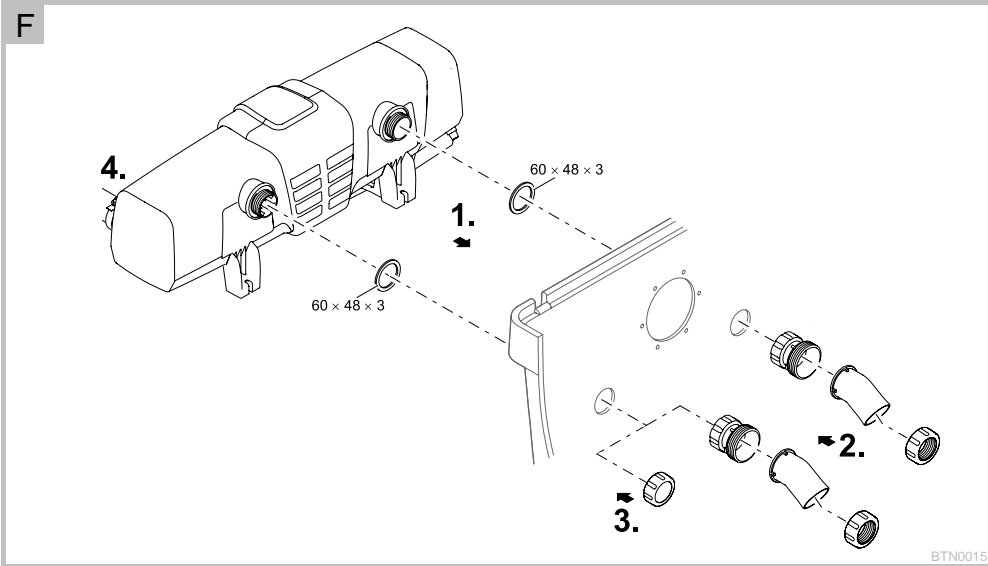


## Bitron Eco 120W, 180W, 240W

DE Gebrauchsanleitung  
GB Operating instructions  
FR Notice d'emploi  
NL Gebruiksaanwijzing  
ES Instrucciones de uso  
PT Instruções de uso  
IT Istruzioni d'uso  
DK Brugsanvisning  
NO Bruksanvisning  
SE Bruksanvisning  
FI Käyttöohje  
HU Használati útmutató  
PL Instrukcja użytkowania  
CZ Návod k použití  
SK Návod na použitie  
SI Navodila za uporabo  
HR Uputa o upotrebi  
RO Instrucțiuni de folosință  
BG Упътване за употреба  
UA Посібник з експлуатації  
RU Руководство по эксплуатации  
CN 使用说明书

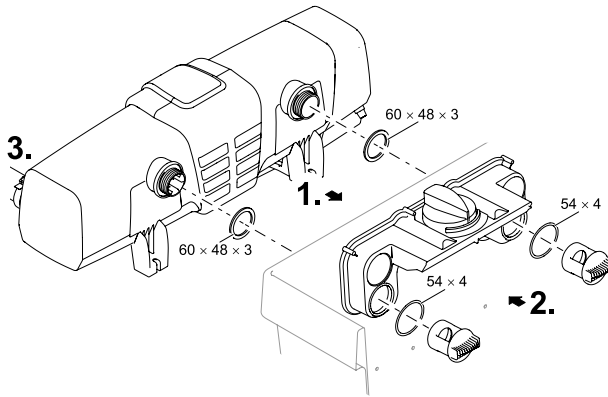






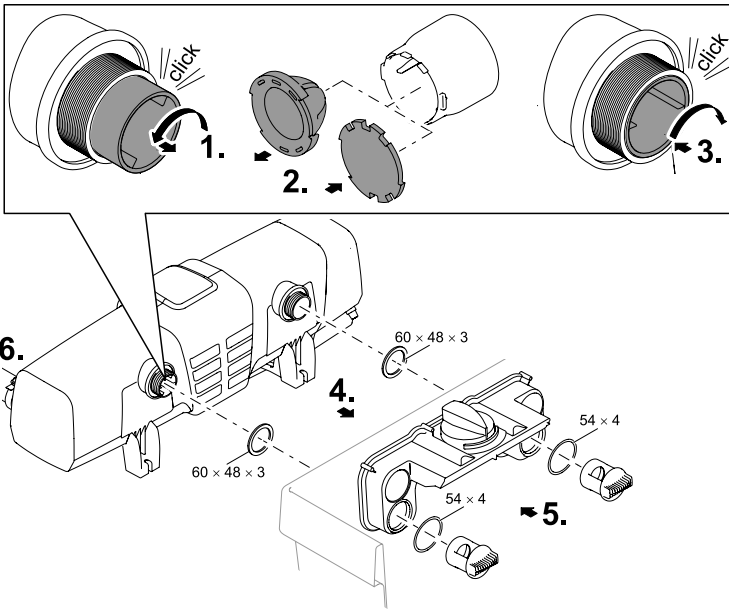


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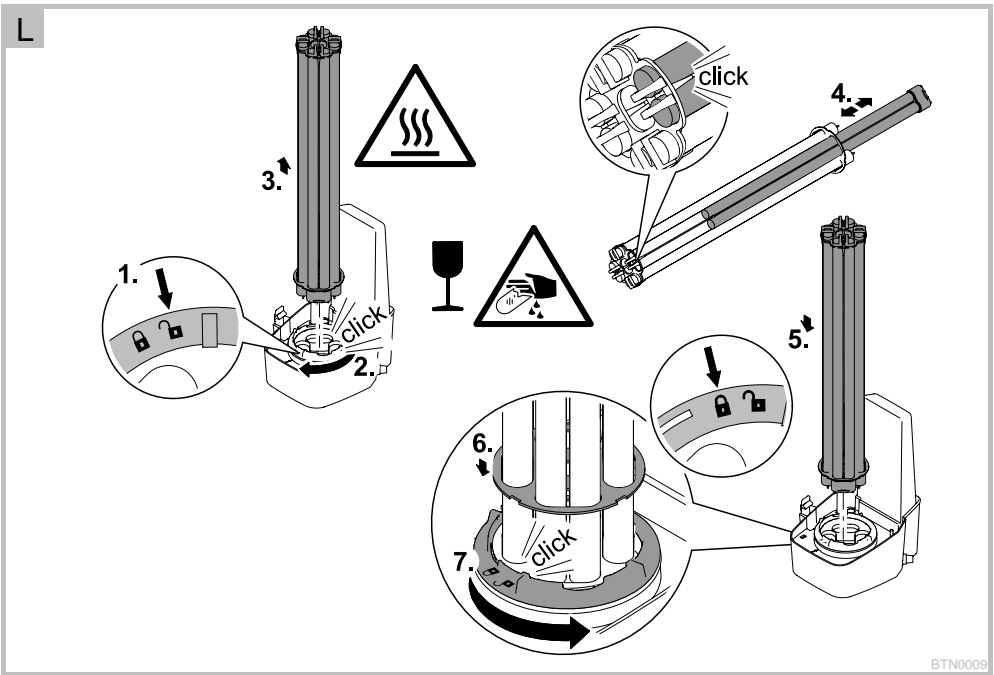
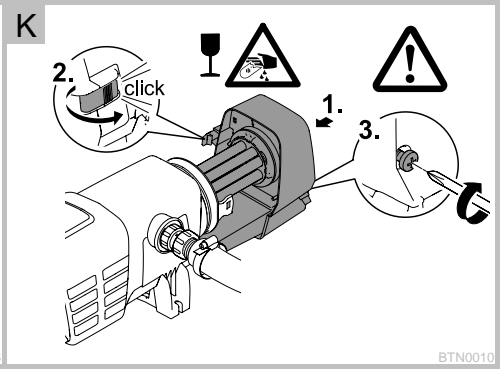
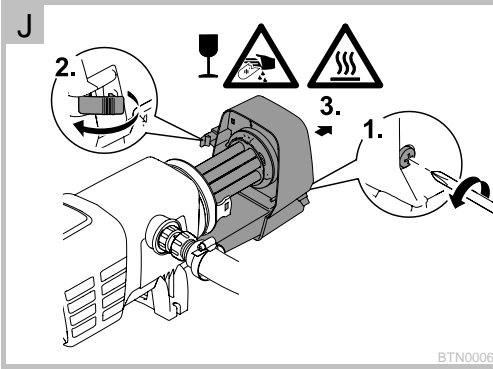


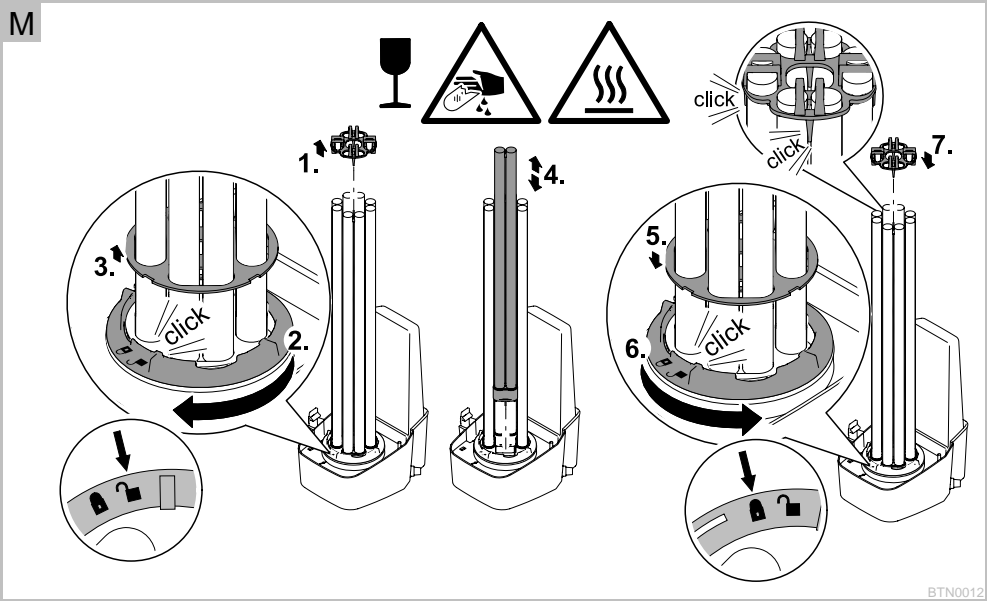
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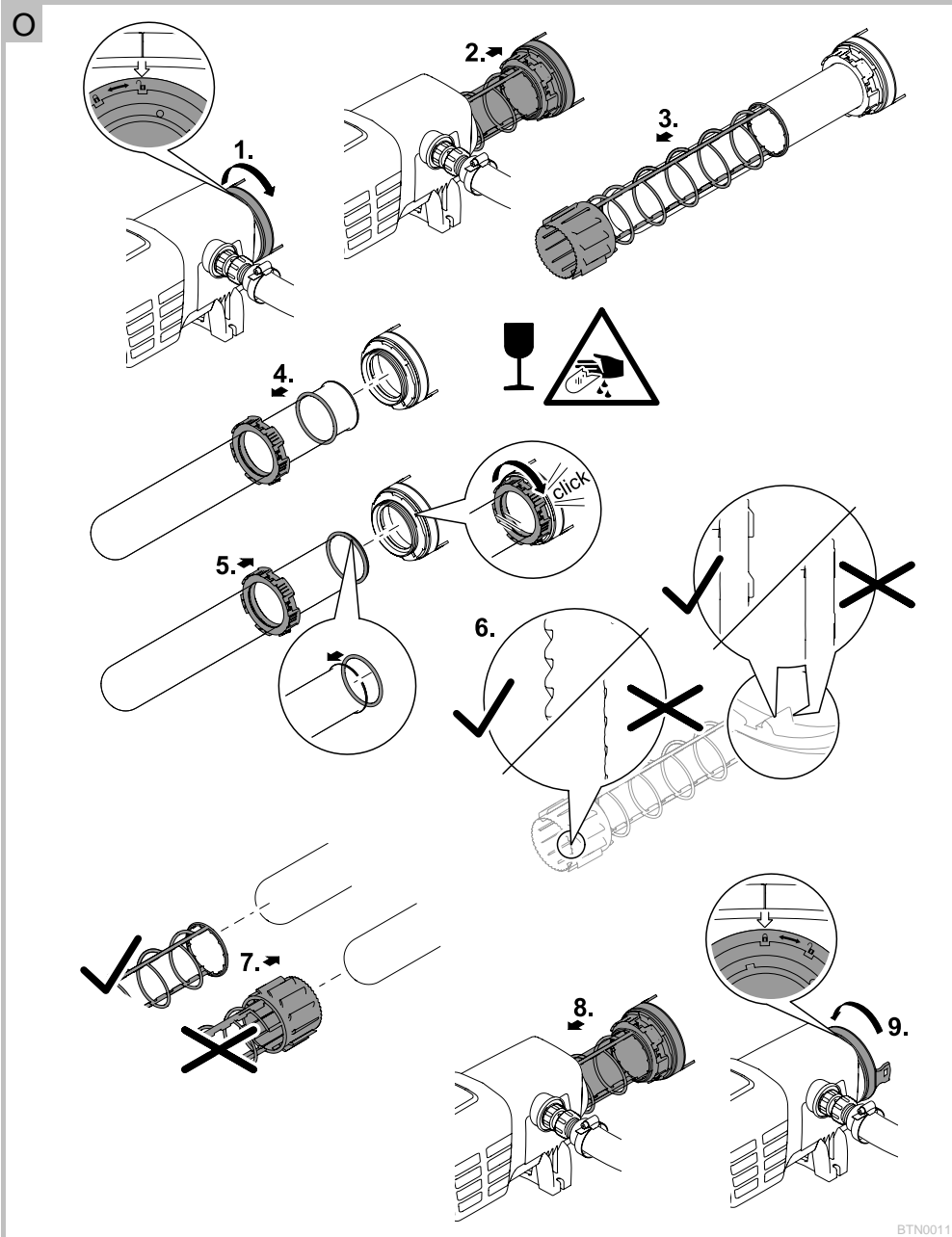




**N**

	Bitron Eco 120W	Bitron Eco 180W	Bitron Eco 240W
<i>Er-L1</i>			
<i>Er-L2</i>			

BTN0002



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## Translation of the original Operating Instructions

### Information about these operating instructions

Welcome to OASE Living Water. You made a good choice with the purchase of this product **Bitron Eco 120W/180W/240W**.

Prior to commissioning the unit, please read the instructions of use carefully and fully familiarise yourself with the unit. Ensure that all work on and with this unit is only carried out in accordance with these instructions.

Adhere to the safety information for the correct and safe use of the unit.

Keep these instructions in a safe place! Please also hand over the instructions when passing the unit on to a new owner.

### Symbols used in these instructions

The symbols used in this operating manual have the following meanings:



#### **Risk of injury to persons due to dangerous electrical voltage**

This symbol indicates an imminent danger, which can lead to death or severe injuries if the appropriate measures are not taken.



#### **Risk of personal injury caused by a general source of danger**

This symbol indicates an imminent danger, which can lead to death or severe injuries if the appropriate measures are not taken.



Important information for trouble-free operation.



#### **Risk of cuts from broken glass**

This symbol indicates a risk of cutting yourself on broken glass.



Handle glass carefully. Avoid applying excessive force.



#### **Risk of burns from hot surfaces**

This symbol indicates a risk of burning yourself on hot surfaces. Switch off the unit and wait until the surface has cooled down.

A Reference to one or more figures. In this example: Reference to Fig. A.

→ Reference to another section.



**Scope of delivery**

<input type="checkbox"/> A	Quantity	Bitron Eco 120W/180W/240W
1	1	Quartz glass
2		UVC lamps
	2	– Bitron Eco 120W
	3	– Bitron Eco 180W
	4	– Bitron Eco 240W
3	1	Cleaning rotor
4	1	Casing
5	1	Unit head with control unit
Accessory kit with connection material:		
6	1	Adapter 38/50 mm (1½ / 2 ") for connection of the hose connector to the outlet
7	2	Hose connector 50 mm (2 ") for the inlet or outlet
8	2	Hose connectors 38 mm (1½ ") for the inlet or outlet
9	2	Union nut 50 mm (2 ") for fastening the hose connector (7, 8)
10	2	Flat seal 57 × 48 × 3 mm for the union nut (9)
11	1	Inlet nozzle for driving the cleaning rotor – Has to be inserted into the inlet for flow rates < 10000 l/h
12	1	Cover cap 38 mm (1½ ") for closing the outlet
13	2	Flat seal 45 × 33 × 3 mm for cover cap (12) and adapter (6)
14	2	Hose clip 40 ... 60 mm
15	1	Bypass closure for membrane holder – Necessary for mounting on the filter when an outlet needs to be closed. – The membrane holder with bypass membrane is located in the outlet opposite the inlet (delivery state).

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### Product Description

**Bitron Eco 120W/180W/240W** is a powerful UVC clarifier for controlling algae and harmful bacteria thanks to its radiation output, water dwell time and thorough mixing action.

- The UVC lamps are switched on and off as required according to the algal growth rates. This allows it to achieve a maximum result with minimum use of energy.
- The capacity can be individually adjusted using the control unit.
- Fully automatic bypass control ensures an ideal combination of flow rate and radiation output.
- The long dwell time of the water in the large volume casing increases the sterilising capacity.
- Suitable for fitting to OASE filter systems ProfiClear, BioTec 30 and BioTec Screenmatic.
- The cleaning rotor continuously removes soiling from the quartz glass.
- The 60 Watt Eco lamps are energy saving and have an operating life of 12000 hours.
- The electronic ballast is virtually lossless.
- It is not necessary to remove the quartz glass for changing the UVC lamps. The filter system can remain in operation continuously.

### Intended use

Bitron Eco 120W/180W/240W, in the following termed "unit", and all other parts from the delivery scope may be used exclusively as follows:

- For cleaning garden ponds, swimming ponds, pools and aquariums.
- Operation under observance of the technical data.

The following restrictions apply to the unit:

- Never operate the UVC lamp outside the casing or use it for any other purposes. The UVC radiation is harmful to the eyes and skin even in small doses.
- Never use the unit to convey fluids other than water.
- Never run the unit without water.
- Do not use for commercial or industrial purposes.
- Not to be used for sterilising drinking water or other fluids.
- Do not use in conjunction with chemicals, foodstuff, easily flammable or explosive substances.

### Safety information

Hazards to persons and assets may emanate from this unit if it is used in an improper manner or not in accordance with its intended use, or if the safety instructions are ignored.

This unit can be used by children from the age of 8 and by persons with physical, sensory or mental impairments or lack of experience and knowledge, as long as they are supervised or instructed on how to use the unit safely and are able to understand the potential hazards. Do not allow children to play with the unit. Do not allow children to clean or maintain the unit without close supervision.

### Hazards encountered by the combination of water and electricity

- The combination of water and electricity can lead to death or severe injury from electrocution, if the unit is incorrectly connected or misused.
- In the case of electrical units and installations with a rated voltage of  $U > 12 \text{ V AC}$  or  $U > 30 \text{ V DC}$  located in the water: Isolate the units and installations (switch off and disconnect from the power supply) before reaching into the water.

### Correct electrical installation

- Electrical installations must meet the national regulations and may only be carried out by a qualified electrician.
- A person is regarded as a qualified electrician, if, due to his/her vocational education, knowledge and experience, he or she is capable of and authorised to judge and carry out the work commissioned to him/her. This also includes the recognition of possible hazards and the adherence to the pertinent regional and national standards, rules and regulations.
- For your own safety, please consult a qualified electrician.
- The unit may only be connected when the electrical data of the unit and the power supply coincide. The unit data is to be found on the unit type plate or on the packaging, or in this manual.
- Ensure that the unit is fused for a rated fault current of max. 30 mA by means of a fault current protection device.
- Extension cables and power distributors (e. g. outlet strips) must be suitable for outdoor use.
- Ensure that the power connection cable cross section is not smaller than that of the rubber sheath with the identification H05RN-F. Extension cables must meet DIN VDE 0620.
- Protect the plug connections from moisture.
- Only plug the unit into a correctly fitted socket.

### Safe operation

- Never operate the unit if either the electrical cables or the housing are defective!
- Do not carry or pull the unit by its electrical cable.
- Route cords/hoses/lines in a way that they are protected against damage, and ensure that they do not present a tripping obstacle.
- Only open the unit housing or its attendant components, when this is explicitly required in the operating instructions.
- Only execute work on the unit that is described in this manual. If problems cannot be overcome, please contact an authorised customer service point or, when in doubt, the manufacturer.
- Only use original spare parts and accessories for the unit.
- Never carry out technical modifications to the unit.
- The power connection cables cannot be replaced. When the cable is damaged, the unit or the component needs to be disposed of.
- If the device is installed directly at the water ( $< 2 \text{ m}$ ), ensure that there are no persons in the water while it is operating.
- Keep the socket and power plug dry.

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## Installation and connection

### Operation with pool water or salt water

- For operation with pool water or salt water, the following limits must be adhered to:

Type	Pool water	Salt water
pH value	7.2 ... 7.6	7.5 ... 8.5
Free chlorine	0.3 ... 0.6mg/l	< 0.3mg/l
Bound chlorine	< 0.2 mg/l	–
Chloride content	< 200 mg/l	–
Salt content	–	< 3.5 %
Water temperature	+4 ... +30°C	+4 ... +25°C

- Pool water or salt water can impair the appearance of the unit. Such impairments are excluded from the guarantee.

### Distances to be adhered to

B

- Swimming pond or pool that may be accessed by people.
  - Install the unit at least 2 m away from the water.
- Garden pond or aquarium that will not be accessed by people.
  - The unit can be installed directly at the water (< 2 m).
  - Do not install the unit more than 100 mm below the surface of the water. For this, fasten the unit to the ground to prevent it from floating.
- Allow sufficient space for carrying out maintenance work.
  - Ensure that there is space of at least double the width of the casing for removing the unit head.

### Solo operation

C

- Only install the unit in the permitted positions to ensure fault-free operation.
- Take the required distances into consideration. (→ Distances to be adhered to)
- Use suitable fastening material for the type of ground. Ensure that the fastening means securely hold the unit. Take the weight of the unit into consideration. (→ Technical data)
- Fit a slide valve in the water supply upstream of the inlet of the unit if the unit is to be installed below the water level. This allows the water supply to be shut off for maintenance work.

### Connecting the inlet

Use hoses that are suitable for a pressure of at least 1 bar.

Recommended combinations for using the hose connector.

Inlet	Outlet 1	Outlet 2 (opposite the inlet)	Required accessories
50 mm (2 ")	50 mm (2 ")	closed	–
38 mm (1½ ")	38 mm (1½ ")	closed	–
38 mm (1½ ")	38 mm (1½ ")	38 mm (1½ ")	For outlet 2, a 38 mm (1½ ") hose connector with 38 mm (1½ ") union nut
50 mm (2 ")	38 mm (1½ ")	38 mm (1½ ")	

How to proceed:

D

- Push the inlet nozzle into the inlet.
  - The inlet nozzle is only necessary for a flow rate < 10000 l/h to ensure unimpaired rotation of the cleaning rotor.
- Screw the hose connector with union nut and seal onto the inlet.
- Connect the hose with the stepped hose adapter and secure with a hose clip.

### Connecting the outlet

How to proceed:

E

- Screw the adapter with seal onto the outlet and hand tighten.
- Screw the stepped hose adapter with union nut and seal onto the adapter.
- Connect the hose with the stepped hose adapter and secure with a hose clip.
- Screw the cover cap with flat seal onto the outlet.
  - The cover cap has to close the outlet opposite the inlet so that the main flow of water is guided along the UVC lamps and is exposed to the UV radiation for as long as possible.

**Connect the unit to the flow-through filter.**

- Take the required distances into consideration. (→ Distances to be adhered to)
- Fit a slide valve in the water supply upstream of the inlet of the unit if the unit is to be installed below the water level. This allows the water supply to be shut off for maintenance work.

**ProfiClear Premium / ProfiClear Classic**

This section describes the connection of the UVC clarifying unit Bitron with a pump fed system.

- Please adhere to the instructions for use of the flow-through filter.
- The bypass membrane is fitted on delivery and is located in the outlet opposite the inlet.
- OASE recommends closing the bypass in the following situations:
  - Acute problems such as disease or turbidity due to a build-up of bacteria.
  - Low flow rates:
    - Bitron Eco 120 W: < 10000 l/h
    - Bitron Eco 180 W: < 13000 l/h
    - Bitron Eco 240 W: < 15000 l/h

How to proceed:

F, G

1. Insert the outlets with flat seals through the holes in the container wall.
2. Fitting the inlet:
  - ProfiClear Premium: First screw the adapters onto the outlets and hand tighten. Then screw the 30° inlet bends with the union nuts onto the adapters and hand tighten. Ensure that the openings point downward.
  - ProfiClear Classic: Screw the inlet nozzles with the O rings onto the outlets and hand tighten.
3. Closing the bypass (optional):
  - ProfiClear Premium: Screw the cover cap onto the outlet instead of the adapter and inlet bend.
  - ProfiClear Classic: Screw the cover cap onto the outlet instead of the inlet nozzle.
4. Connect the Bitron to the filter pump. (→ Connecting the inlet)

**BioTec ScreenMatic**

- Please adhere to the instructions for use of the flow-through filter.

**With bypass**

- The bypass membrane is fitted on delivery and is located in the outlet opposite the inlet.

How to proceed:

H

1. Insert the outlets with flat seals through the holes in the container wall into the distributor.
2. Screw the distributor nuts with O rings onto the outlets and hand tighten.
3. Connect the Bitron to the filter pump. (→ Connecting the inlet)

**Without bypass**

- OASE recommends closing the bypass in the following situations:
  - Acute problems such as disease or turbidity due to a build-up of bacteria.
  - Low flow rates:
    - Bitron Eco 120 W: < 10000 l/h
    - Bitron Eco 180 W: < 13000 l/h
    - Bitron Eco 240 W: < 15000 l/h

How to proceed:

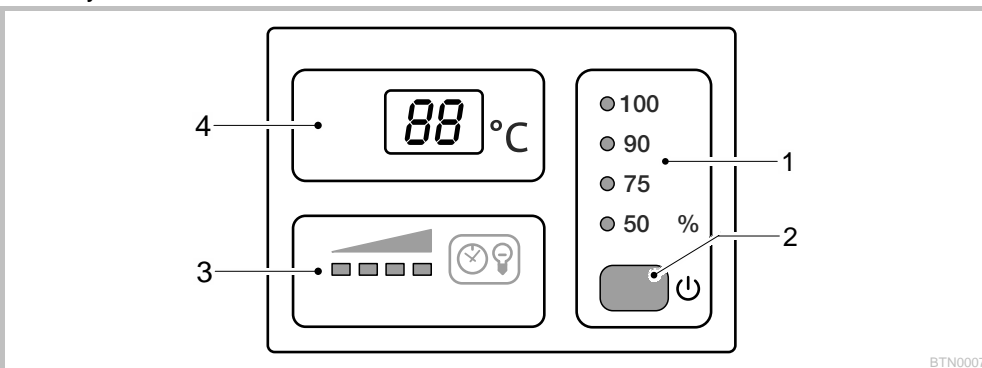
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1. Turn the bypass holder counterclockwise until it makes an audible click and remove it from the outlet.
2. Pull the bypass membrane out of the bypass holder and fit the bypass closure onto the bypass holder.
  - The bypass closure can only be fitted onto the bypass holder in one position.
3. Insert the bypass holder into the outlet and turn it clockwise until it makes an audible click.
  - The bypass holder is locked in place.
4. Insert the outlets with flat seals through the holes in the container wall into the distributor.
5. Screw the distributor nuts onto the outlets and hand tighten.
6. Connect the Bitron to the filter pump. (→ Connecting the inlet)

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## Operation

### Control system overview



1	<b>Operating mode</b>	Four operating modes for irradiation of algae and germs as required (→ Selecting the operating mode) – LEDs indicate the selected operating mode. – LED is lit blue: UVC lamps are switched on. – LED is lit green: UVC lamps are switched off.
2	<b>Button</b>	Functions – For switching the unit on/off (→ Switching on/off) – For selecting the operating mode (→ Selecting the operating mode) – For reading the residual operating life of the UVC lamps (→ Resetting the operating hour counter) – For resetting the operating hour counter (→ Resetting the operating hour counter)
3	<b>UVC lamp status display</b>	LED bars for indicating the residual operating life: – Four LEDs lit: 9001 ... 12000 hours – Three LEDs lit: 6001 ... 9000 hours – Two LEDs lit: 3001 ... 6000 hours – One LED lit: 1 ... 3000 hours – One LED flashing: Replace UVC lamps. – All LEDs unlit: At least one UVC lamp is defective.
4	<b>Display</b>	Display of the operating status: – Display of the current water temperature in °C – Display of the system messages (→ System messages) – Display of the residual operating life of the UVC lamps (→ Resetting the operating hour counter)

### Switching ON/OFF

Function	Proceed as follows	Note
<b>Switching on</b>	Press <input type="button" value="100"/> .	<ul style="list-style-type: none"> <li>– The operating mode "50 %" is active.</li> <li>– The display indicates the current water temperature.</li> <li>– The status display of the UVC lamps is lit.</li> </ul>
<b>Switching off</b>	Press <input type="button" value="100"/> several times until the UVC lamps switch off after operating mode "100 %".	<ul style="list-style-type: none"> <li>– Switching sequence: 50 % – 75 % – 90 % – 100 % – Off.</li> <li>– The display indicates ∅.</li> <li>– In the event of an error, the respective error message is indicated in the display.</li> </ul>

### Selecting the operating mode

To allow irradiation of algae and germs to suit the respective situation, it is possible to choose between four operating modes.

The duration of irradiation is automatically controlled on the basis of the measured water temperature and the selected operating mode. The ratio of the switch-on time to the switch-off time of the UVC lamps is dependent upon the operating mode. The higher the percentage value, the longer the switch-on time in relation to the switch-off time.

The UVC lamps are permanently switched on in the 100% operating mode.

Function	Proceed as follows	Note
<b>Selecting the operating mode</b>	Press <input type="checkbox"/> several times until the desired operating mode is reached.	<ul style="list-style-type: none"> <li>- Switching sequence: 50 % – 75 % – 90 % – 100 % – Off.</li> <li>- UVC lamps on: LED is lit blue:</li> <li>- UVC lamps off: LED is lit green (energy-saving phase in Eco mode).</li> <li>- Select Eco mode 50 % if the water is only slightly soiled.</li> <li>- Select Eco mode 75 % or 90 % if the water is more soiled.</li> <li>- Select operating mode 100 % if the water is very soiled.</li> </ul> <p>Procedure for green water:</p> <ul style="list-style-type: none"> <li>- Start with operating mode 100 %. As soon as the desired result is achieved, change to Eco mode 50 %. If the water becomes green again, choose the next highest Eco mode until the desired result is achieved in the long term.</li> </ul> <p>Procedure for clear water:</p> <ul style="list-style-type: none"> <li>- Start with Eco mode 50 %. If the water starts to go green, select the next highest Eco mode until the desired result is achieved in the long term.</li> </ul>

Water temperature [°C]	Operating mode 50 % High saving in energy (50 %)			Operating mode 75 % Medium saving in energy (25 %)			Operating mode 90 % Low saving in energy (10 %)		
	ON [h]	OFF [h]	Irradiation duration [%]	ON [h]	OFF [h]	Irradiation duration [%]	ON [h]	OFF [h]	Irradiation duration [%]
4	12	72	14	12	12	50	24	12	67
5 ... 9	12	36	25	24	12	67	48	12	80
10 ... 14	12	12	50	36	12	75	96	12	89
15 ... 19	12	0	100	12	0	100	12	0	100
≥ 20	12	12	50	36	12	75	12	0	100

### Resetting the operating hour counter

When the maximum operating life of the UVC lamps is reached, the LED of the UVC lamp status display flashes.

Replace the UVC lamps to achieve the optimum irradiation output. Subsequently reset the operating hour counter.

- You can read off the exact residual operating life of the UVC lamps on the display.

Function	Proceed as follows	Note
<b>Reading off the residual operating life of the UVC lamps</b>	Keep <input type="checkbox"/> pressed for approx. 6 s.	<ul style="list-style-type: none"> <li>- The 6-digit value is displayed by three groups of two digits that appear in succession in the display.</li> <li>- This is repeated three times after an extended pause to make it easier to read the number.</li> </ul> <p><b>Example:</b> 01-11-54--01-11-54--01-11-54 01-11-54 corresponds to 11154 hours of residual operating life</p>
<b>Resetting the operating hour counter</b>	<p>Keep <input type="checkbox"/> pressed for 6 s until the status of the UVC lamps is displayed.</p> <p>While the status of the UVC lamps is indicated: Press <input type="checkbox"/> again and keep it pressed until all four LEDs for the status display of the UVC lamps flash and rE extinguishes in the display.</p>	<ul style="list-style-type: none"> <li>- When rE extinguishes, the operating hour counter is reset to 12000 hours.</li> <li>- If the button is released too early, the operating hour counter is not reset.</li> </ul>

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### System messages

The system messages are indicated in the display. If there are several system messages pending at the same time, the oldest message is always displayed.

- The 4-digit system message is displayed as two groups of two digits appearing in succession.
- As soon as the cause has been eliminated, the system message is automatically extinguished.

System message	Cause	Remedy	
Er-11	<ul style="list-style-type: none"> <li>– Unit head removed.</li> <li>– Unit head is not correctly seated in the casing.</li> </ul>	Insert unit head into the casing, close with the engagement hook and secure with screw.	
Er-66	Unit has switched off. Unit overheated.	<ul style="list-style-type: none"> <li>– Protect unit from direct sun radiation.</li> <li>– Ensure that water can continuously flow through the casing.</li> <li>– After cooling down, the unit automatically switches on again and activates the last selected operating mode.</li> </ul>	
Er-67	Unit has switched off. Unit temperature has been exceeded five time in succession.	<ul style="list-style-type: none"> <li>– Eliminate the cause of overheating (e.g. direct sun radiation, no water flow).</li> <li>– Keep the button pressed for six seconds.</li> </ul>	
Er-L1	UVC lamp "L1a" and/or "L1b" defective.	<ul style="list-style-type: none"> <li>– Replace defective UVC lamp (→ Cleaning and maintenance)</li> <li>– Er-L1 is not extinguished: Contact the OASE service.</li> </ul>	
Er-L2	Bitron Eco 180W	<ul style="list-style-type: none"> <li>– Replace defective UVC lamp (→ Cleaning and maintenance)</li> <li>– Er-L2 is not extinguished: Contact the OASE service.</li> </ul>	
	Bitron Eco 240W	<ul style="list-style-type: none"> <li>– Replace defective UVC lamp (→ Cleaning and maintenance)</li> <li>– Er-L2 is not extinguished: Contact the OASE service.</li> </ul>	
88	Temperature value flashing	Water temperature < 4 °C	Ensure water temperatures of at least 4 °C or take the unit out of operation (→ Storage/overwintering)
L0		Ambient temperature < -9 °C	Temperature display out of operation, operation is not practical.

### Start-up



#### Note!

If the water flow is suddenly interrupted downstream of the outlet (e.g. with a slide valve), this can lead to a brief increase of pressure of more than 1 bar (water hammer).

**Possible consequences:** The unit may be damaged.

#### Protective measures:

- Switching off: First switch off the pump, then close the slide valve. If the unit is operated in a filter system, first take the filter system out of operation.
- Switching on: First open the slide valve, then switch on the pump. If the unit is operated in a filter system, start up the filter system last.
- Install the slide valve upstream of the inlet.



When using filter starter, medicines or pond water treatments, leave the UVC clarifying unit switched off for at least 36 hours so as not to impair their efficacy.

### Order of starting up steps



#### Note!

The unit is switched off in the delivery state. *OF* is indicated on the display.

- In the case of new pond installations, do not start the UV irradiation until at least 36 hours after set-up to ensure that a stable pond biology can develop as quickly as possible.
- Switch on the pump.
- Check all connections for leaks.
- Connect the unit to the power supply.
  - The unit switches on with the last selected operating mode.
  - Switch on the unit if necessary. (→ Switching ON/OFF)
- Select the operating mode.
  - A garden pond is subject to a number of different influencing factors that encourage algae growth (e.g. direct sunlight, nutrient contamination, natural planting). Therefore the suitable Eco mode can only be individually determined.
  - Observe the information regarding the selection of a suitable operating mode. (→ Selecting the operating mode)



## Remedy of faults

Malfunction	Cause	Remedy
Water remains cloudy (green water).	Water is extremely soiled or contaminated.	<ul style="list-style-type: none"> <li>- Remove algae and leaves from the pond.</li> <li>- Clean the pond thoroughly.</li> <li>- Change the water, remove algae and leaves from the pond.</li> <li>- Clean the pond thoroughly.</li> <li>- Change the water.</li> </ul>
	Insufficient circulation of the pond water.	<ul style="list-style-type: none"> <li>- Ensure that the pond water is sufficiently recirculated.</li> <li>- Place the pump in a different position.</li> <li>- Use a pump with a higher circulation capacity.</li> </ul>
	Capacity of the UVC lamps is not sufficient.	Change the UVC lamps after 12000 operating hours.
	The quartz glass is soiled.	Clean the quartz glass (→ Cleaning the quartz glass)
	The quartz glass is scratched.	<ul style="list-style-type: none"> <li>- Replace the quartz glass (→ Cleaning the quartz glass)</li> <li>- If the profile is worn, replace the cleaning rotor (→ Cleaning the quartz glass)</li> </ul>
	Unit is deactivated.	Exit <i>0F</i> mode and select Eco mode.
Unit is not functional.	Power plug not connected.	Connect the power plug.
	Connection defective.	Check the electrical connection.
Lamp does not light up.	Safety switch-off activated.	<p>For safety reasons, the lamps are deactivated when the unit is opened.</p> <p>Defective lamps are indicated on the display by <i>E-L1</i> or <i>E-L2</i>.</p>
Drips forming at the connection to the filter.	Seal is not sufficient.	<ul style="list-style-type: none"> <li>- Check the seating of the seal.</li> <li>- Tighten the screw connection.</li> </ul>
The unit head cannot be removed.	The locking screw has not been undone.	Undo the locking screw.
	A vacuum has formed inside the unit.	Switch on the unit and allow it to warm up for a few minutes. Subsequently pull the power plug and remove the unit head.
Display of different temperature values when several OASE units with temperature display are used.	Tolerance range of the temperature measurement	<p>The temperature probes are precise to <math>\pm 1</math> °C. If other units with temperature display are operated, the displayed temperature values may differ from one another by up to 2 °C.</p> <ul style="list-style-type: none"> <li>- Recommendation: The arithmetic mean of all displayed values produces a useful approximation of the actual temperature.</li> <li>- Greater deviations are possible if the units are exposed to direct sunlight. For this reason, ensure that the unit is installed such that it is protected from direct sunlight.</li> </ul>

- GB -

## Maintenance and cleaning



### Attention! Dangerous electrical voltage.

**Possible consequences:** Death or severe injury.

**Protective measures:**

- Electrical units and installations with a rated voltage of  $U > 12 \text{ V AC}$  or  $U > 30 \text{ V DC}$  located in the water: Isolate the units and installations (switch off and disconnect from the power supply) before reaching into the water.
- Isolate the unit before starting any work.
- Secure the unit to prevent unintentional switching on.



### Attention! Breakable glass.

**Possible consequences:** Injury to your hands caused by cuts.

**Protective measures:** Handle the quartz glass and UVC lamp with care.

## Regular tasks

Check at regular intervals that the unit is functioning perfectly. Determine suitable intervals depending on the unit operating time and soiling of the water. The higher the demands on cleaning, the more often you must check the unit. Check the following:

- Unit status on the control system (→ Control system overview)
- Function of the cleaning rotor. A visual inspection is possible when the unit head is removed. (→ Removing the unit head)
  - Use a torch to improve visibility.

## Dismantling the unit head



### Attention! Lamp is hot.

**Possible consequences:** Risk of burns on touching the lamp.

**Protective measures:** Switch off and disconnect the unit. Wait several minutes until the lamp has cooled down before dismantling.

How to proceed:

J

1. Unscrew the locking screw until it is pushed out by a spring.
  - The locking screw cannot be completely unscrewed.
2. Undo the engagement hook.
3. Carefully pull the unit head out of the casing.



### Note!

For safety reasons the UVC lamp can only be switched on when the unit head has been correctly fitted into the casing.

## Fitting the unit head

How to proceed:

K

1. Carefully push the unit head into the casing.
2. Lock the unit head in place with the engagement hook.
3. Screw in the locking screw and hand tighten.
  - The unit is only protected from the ingress of moisture if the locking screw is tightened.

**Replacing the UVC lamp**

Replace the UVC lamps after max. 12000 operating hours. This ensures optimum filtering performance.

- An LED is flashing in the LED bar of the control system. This status display indicates that the UVC lamps need changing.
- Only use UVC lamps whose identification and capacity data correspond to the information on the type plate.  
(→ Technische Daten)

Prerequisite: The device head is removed. (→ Removing the unit head)

How to proceed:

L

1. Turn the blue locking ring counterclockwise as far as the stop.
  - Rotational direction symbol "Open lock".
2. Carefully pull the UVC lamp package out of the lamp sockets in the unit head.
3. Replace the UVC lamps.
  - Soiling can burn into the lamp glass and can impair the operating life of the UVC lamps. Therefore only touch the UVC lamps with a cloth or clean gloves.
  - Carefully release the old UVC lamps from the lamp holder and pull out of the retaining plate.
  - Push the new UVC lamps through the retaining plate until the lamp head locks into place in the lamp holder.
4. Carefully insert the UVC lamp package into the lamp sockets in the unit head.
5. Push the retaining plate onto the locking ring.
6. Turn the blue locking ring clockwise as far as the stop.
  - Rotational direction symbol "Close lock".
  - The locking device fixes the retaining plate such that the UVC lamps are firmly seated in the lamp sockets.

**Replacing a defective UVC lamp**

- Only use UVC lamps whose identification and capacity data correspond to the information on the type plate.  
(→ Technische Daten)

Prerequisite: The device head is removed. (→ Removing the unit head)

How to proceed:

M, N

1. Carefully pull the lamp holder from the UVC lamps.
2. Turn the blue locking ring counterclockwise as far as the stop.
  - Rotational direction symbol "Open lock".
3. Guide the retaining plate over the UVC lamps and remove.
4. Change the defective UVC lamp.
  - How to determine which UVC lamp of the respective lamp pair is defective (L1a/L1b or L2a/L2b): Change one of the two UVC lamps and assemble the unit. If the system message is still displayed, reinsert the UVC lamp and change the other UVC lamp. If the system message is still displayed, both UVC lamps are defective.
5. Guide the retaining plate over the UVC lamps and push it onto the locking ring.
6. Turn the blue locking ring clockwise as far as the stop.
  - Rotational direction symbol "Close lock".
  - The locking device fixes the retaining plate such that the UVC lamps are firmly seated in the lamp sockets.
7. Carefully press the lamp holder onto the UVC lamps such that all lamp heads engage.

- GB -

### Cleaning the quartz glass



**Attention!** Breakable glass.

**Possible consequences:** Injury to your hands caused by cuts.

**Protective measures:** Handle the quartz glass and UVC lamp with care.



#### Note!

If the water flow is suddenly interrupted downstream of the outlet (e.g. with a slide valve), this can lead to a brief increase of pressure of more than 1 bar (water hammer).

**Possible consequences:** The unit may be damaged.

#### Protective measures:

- Switching off: First switch off the pump, then close the slide valve. If the unit is operated in a filter system, first take the filter system out of operation.
- Switching on: First open the slide valve, then switch on the pump. If the unit is operated in a filter system, start up the filter system last.
- Install the slide valve upstream of the inlet.

Prerequisite: The device head is removed. (→ Removing the unit head)

How to proceed:

O

1. Turn the casing cover counterclockwise as far as the stop.
  - Rotational direction symbol "Open lock".
  - The casing cover can be very firmly seated. If necessary, insert a rod through the lugs to achieve greater leverage.
2. Carefully pull the quartz glass and cleaning rotor out of the casing.
3. Clean the quartz glass and the cleaning rotor.
  - Pull off the cleaning rotor and clean with a brush under running water.
  - Wipe the quartz glass with a damp cloth.
  - Thoroughly clean the inner and outer surfaces of the casing.
4. Replace the quartz glass if it is damaged or very scratched.
  - Undo the clamping screw and pull the quartz glass, together with the O ring, from the casing cover.
  - Clean the O ring and lubricate with OASE grease (order No. 27872). Replace the O ring if it is damaged.
5. Fit the quartz glass together with the O ring onto the casing cover and screw in the clamping screw as far as the stop.
  - Pull the O ring over the flanged rim to avoid grease residue coming into contact with the quartz glass.
  - Ensure that the clamping screw audibly engages, otherwise the casing cover cannot be fitted into the casing.
6. Check the profile wear at both ends and the inner surfaces on the cleaning rotor.
  - If the profile is worn, the cleaning rotor rotates sluggishly and has to be replaced.
7. Push the cleaning rotor onto the quartz glass.
  - Ensure that it is correctly positioned.
8. Carefully push the quartz glass and the cleaning rotor into the casing.
9. Turn the casing cover clockwise as far as the stop.
  - Rotational direction symbol "Close lock".

### Wear parts

The following components are wear parts and are excluded from the warranty:

- UVC lamp, quartz glass and O ring for quartz glass
- Cleaning rotor
- Lamp holder

### Storage/Over-wintering

#### The unit is protected from frost:

The unit can be operated as long as the water temperature does not go below +4 °C.

#### The unit is not protected from frost:

Remove the unit at temperatures below zero degrees centigrade. Thoroughly clean and check the unit for damage.

### Disposal









Do not dispose of this unit with domestic waste! For disposal purposes, please use the return system provided. Disable the unit beforehand by cutting off the cables.

Dispose of the UVC lamp by using the return system provided for this purpose.

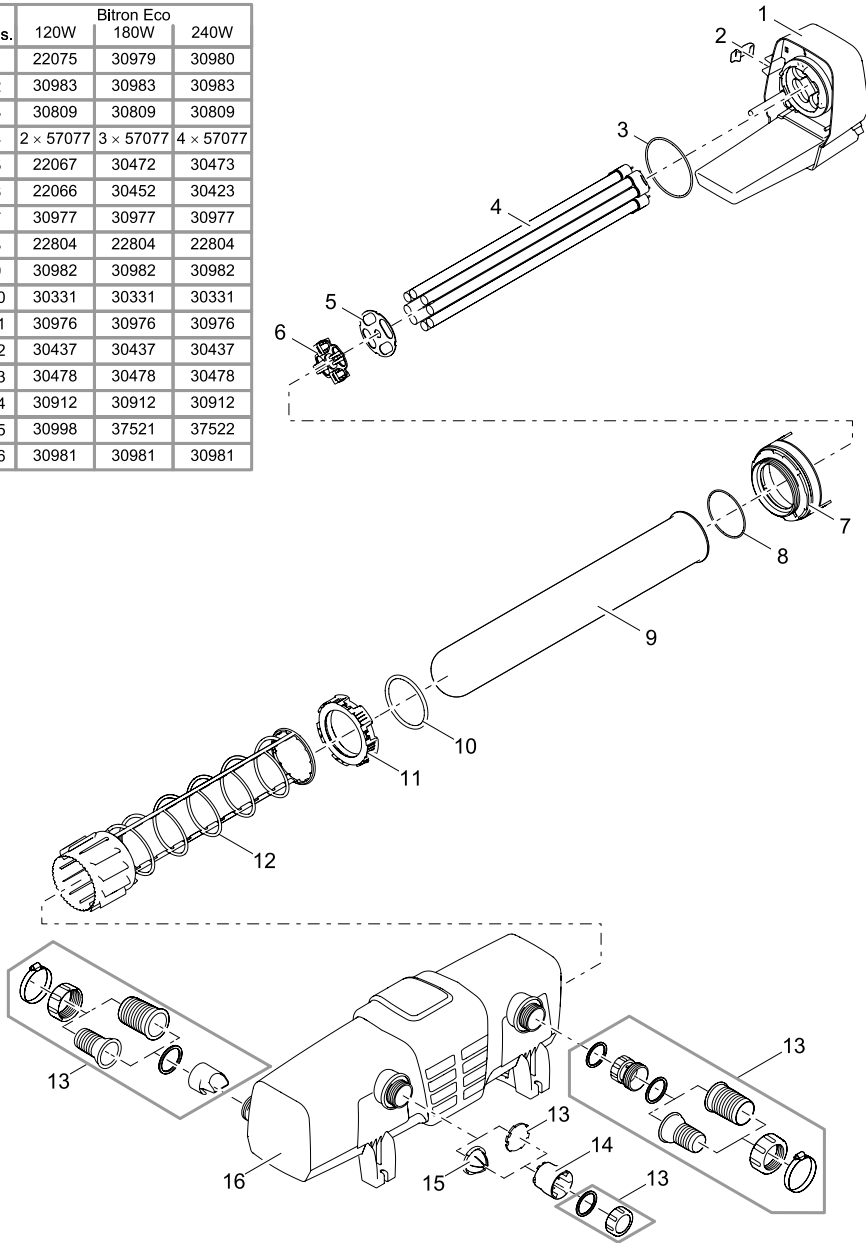
### Technical data

Bitron Eco			120W	180W	240W
Supply voltage			220 – 240 V AC, 50 – 60 Hz	220 – 240 V AC, 50 – 60 Hz	220 – 240 V AC, 50 – 60 Hz
Power consumption	W		120	180	240
UVC lamp wattage	W		120	180	240
UVC lamp type	Type		60 W TC-L (UV-C)	60 W TC-L (UV-C)	60 W TC-L (UV-C)
	Operating life	h	12000	12000	12000
Water temperature	Permissible range	°C	+ 4 ... + 35	+ 4 ... + 35	+ 4 ... + 35
Temperature sensor	Tolerance	°C	± 1	± 1	± 1
Power cable	Length	m	5	5	5
Inlet	Quantity		1	1	1
	Connection	mm	38 / 50	38 / 50	38 / 50
		in	1½ / 2	1½ / 2	1½ / 2
Outlet	Quantity		2	2	2
	Connection	mm	38 / 50	38 / 50	38 / 50
		in	1½ / 2	1½ / 2	1½ / 2
Flow rate	max.	l/h	50000	50000	50000
Operating pressure	max.	bar	1	1	1
Dimensions	L x W x H	mm	725 x 227 x 248	725 x 227 x 248	725 x 227 x 248
Weight	without water	kg	7.9	7.9	8.1
	with water	kg	15.8	15.8	16

### Symbols on the unit

	Read the instructions for use.
	Remove at temperatures of 0 °C and below.
	Protect from direct sun radiation.
	Dangerous UVC radiation.
	Do not dispose of with household waste.
	Dust tight. Watertight to 0.1 m.
$p_{\max} = 1 \text{ bar}$	Max. permissible operating pressure: 1 bar.
$T_W = +4 - 35^\circ\text{C}$	Permissible water temperature: + 4 °C bis + 35 °C.

Pos.	Bitron Eco		
	120W	180W	240W
1	22075	30979	30980
2	30983	30983	30983
3	30809	30809	30809
4	2 × 57077	3 × 57077	4 × 57077
5	22067	30472	30473
6	22066	30452	30423
7	30977	30977	30977
8	22804	22804	22804
9	30982	30982	30982
10	30331	30331	30331
11	30976	30976	30976
12	30437	30437	30437
13	30478	30478	30478
14	30912	30912	30912
15	30998	37521	37522
16	30981	30981	30981



BTN0014



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