

PURE 2.4

40 W

75 W

120 W

Installation – Operation – Service

1 General Information regarding UV-C Radiation

Ultraviolet light in the 200 to 280nm (nanometer) spectrum possesses a germ-reducing effect. The cell structure of bacteria, viruses, algae and other microorganisms is harmed most significantly by UVC radiation at 254nm wavelength. The genetic information (DNA) is modified in such way that microorganisms lose their ability to reproduce and eventually die.

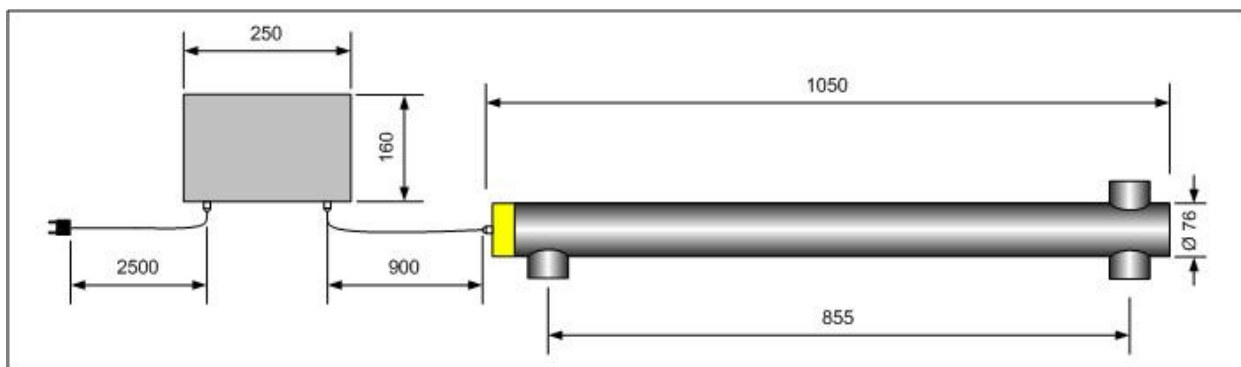
The light source used in your device produces that particular radiation. UV-disinfection does not require extensive dwell times since the process only takes a fraction of a second to complete.

2 Technical Data

Product	Operating voltage	Max. Pressure	Reactor			Ballast			Weight	Max. Flow Rate
			Length*	Ø	Drain Connection	Length	Width	Height		
PURE 2.4 40 W	230 VAC	6 bar	1050 mm	76 mm	2" AG	250	90	160	9,4 kg	20 m³/h
PURE 2.4 75 W	230 VAC	6 bar	1050 mm	76 mm	2" AG	250	90	160	9,4 kg	50 m³/h
PURE 2.4 120 W	230 VAC	6 bar	1050 mm	76 mm	2" AG	250	90	160	9,4 kg	75 m³/h

* incl. cable / cable gland

3 Dimension



4 Scope of Delivery

The PURE 2.4 – UVC-units are supplied ready for use. Please check whether the equipment is complete:

Product	Lamp	PVC Union 63 mm x 2" female	Wall mounts	PVC Cap 2"
PURE 2.4 40 W	1 pc. 40 W	2 pcs.	2 pcs.	1 pc.
PURE 2.4 75 W	1 pc. 75 W	2 pcs.	2 pcs.	1 pc.
PURE 2.4 120 W	1 pc. 120 W	2 pcs.	2 pcs.	1 pc.

5 Safety



Warning: Ultraviolet light can cause damage to eyes and skin. Therefore, you should never try to access the light source while the device is in operation.

• A LED display on the ballast housing indicates the operating status of the UVC light source:

Green: On Red: Off

- If the red LED is lit the light source might be defective and must be replaced. If the red LED still lights up after the light source has been replaced you should contact the sales company or the manufacturer.
- If the main plug has been pulled or the power supply cut off (fixed installation) the LED will not light up.
- Never run your UVC unit without water and never cover it up in operation!



• The device is supplied with a 2-pin grounded plug. If you want to use the device in a permanent installation, which may be conducted only by a qualified electrician, you must adhere to all applicable legal regulations.

- All local electrical regulations must be complied with.
- The device must be protected by a RCD (residual current circuit breaker).

- For maintenance tasks (cleaning of quartz glass tube or changing the light bulb) the power and water supply must be interrupted (pull the power plug or deactivate the RCD).
- The UVC device must be protected against frost. If the device is filled with water the water must be drained. The device must be stored in a frost-free and dry place

- The device is protected to IP 65.
- The UVC device is rated for a nominal pressure of 6 bar. The unit may not be operated under pressure exceeding 6 bar.
- If parts of the device are damaged (particularly the quartz glass tube) the UVC device may not be operated.

6 Installation

- Remove the device from the box. Assemble the device and ballast using the brackets included. **Do not open the ballast box! This will lead to an instant loss of warranty (security label).**
- Depending on the type of installation you should leave some space to exchange bulbs or quartz glass tubes (two times the length of the device). If possible the device can be removed simply by loosening the connection couplings.



- Do not mount the ballast in a place exposed to direct sunlight, this can lead to malfunction due to overheating.
- Connect the supply and drain sides. Wrap Teflon tape around the stainless steel outside threads of the device. Cover the third connection opening with the PVC cap (rubber gasket). If in the inflowing water stones or other hard particles are present, use as the inlet one of the openings on the side of the reactor where a protective steel sleeve protects the quartz glass tube.
- Check the tightness of the system before turning on the device.
- Insert the 2-pin grounded plug → Device is warming up (orange LED light) → after a few seconds the unit is in operation (green LED lights up).



- The **PURE 2.4 120 W should be installed horizontally in principle**. The types PURE 2.4 40 W and PURE 2.4 75 W are recommended for horizontal installation, but a vertical installation in overhead lamp connection is possible. Be careful to complete removal of the air inside of the plant.
- If water stagnation is possible during the operation of the UVC device a protective system (not included) should be used which deactivates the UVC device if the temperature rises above a certain threshold (recommendation: 40 °C).

7 Maintenance

7.1 Lamp replacement

Always disconnect the main power plug before maintain the device!



- Retract plastic cap (printed with safety labels). Loosen the three Allen screws in the black plastic cap with a 3mm Allen wrench.
- After lifting the black plastic cap you can remove the green-yellow grounding conductor wire from the socket. Now gently pull the light bulb attached to the white plug-in socket out of the housing.

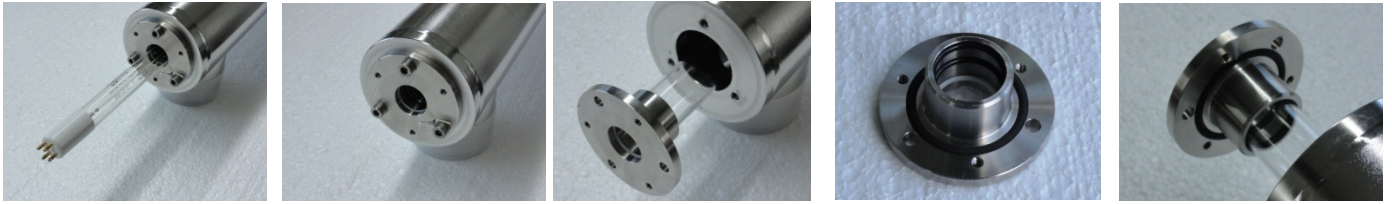


- If the lamp is pulled out a piece of the stainless steel housing, loosen the four-pin plug connection and replace the lamp with a new one.
- Gently push it into the quartz glass tube inside the stainless steel housing. Avoid touching the light bulb with your skin.
- Re-attach the grounding conductor to the flat plug. Attach the black plastic cap with the three Allen screws. Make sure that the cap and the O-ring seal are positioned properly and that the grounding conductor is not jammed.
- Push the yellow plastic cap all the way forward onto the black plastic cap.

7.2 Quartz glass cleaning and replacement

Always disconnect the main power plug before maintain the device!

- You should check on a regular basis (approx. 2 times a year) whether lime has built up on the quartz glass tube. Such build-up negatively impacts the effectiveness of the device and must be removed.
- Wear gloves and goggles when replacing the quartz glass tube.
- Remove the UVC lamp as described in 7.1. . Remove stainless steel flange by loosening 3 Allen screws with a 4mm Allen wrench (There are spring washers under the Allen screws heads.). You can now gently pull out the flange with the quartz glass tube.
- Clean the quartz glass tube with a commercially available decalcifier. For quick and effective cleansing we recommend using a decalcifying gel. After the exposure time of the decalcifying agent rinse the quartz glass with clear water and then wipe it off with a soft cloth. Avoid cleaning the quartz glass tube with rough items.
- Under normal circumstances the quartz glass tube must be replaced only when it's damaged. The tube must be pulled from the stainless steel connection gently and with a slight twisting motion (Wear gloves!)



- Now carefully insert the new quartz glass tube into the stainless steel connection. Note that there are 2 seals (o-rings) inside the stainless steel flange. We recommend replacing the o-rings along with the quartz glass tube. The o-rings are available as spare parts. Using silicon lubricant when replacing the o-rings will help avoid leakages later on. Make sure that the quartz glass tube is pushed all the way in..
- Now reinsert the assembled quartz glass tube into the stainless steel housing. There is a spring mounted to the bottom of the inside of the stainless steel housing. The spring holds the quartz glass tube in place. Inserting the tube requires some practice.
- Attach the three Allen screws (Don't forget the spring washers and the flat plug!). Tighten the screws firmly and equally. Make sure the O-ring fits exactly to the underside of the flange.
- Insert the light bulb into the quartz glass tube and continue as described in *7.1 Lamp replacement*. Attach the ground conductor wire to the flat plug. Attach the black plastic cap with the three Allen screws. Make sure the cap is positioned properly and that the grounding wire is not jammed. Push plastic cap all the way forward onto the black plastic cap.

8 Troubleshooting

- A permanent red lighting of the LED indicates a malfunction of the UVC lamp or the ballast. First check the proper tightness of the UVC lamp in the socket (see *7.1 Lamp Replacement*) or replace the UVC lamp. Note that the UVC lamp is lit only when it is installed in the housing (protection against damage from accidental UVC irradiation).
- Cause of a temporary breakdown of the system can be too strong heating of the ballast (e.g. by intense solar radiation). Eliminate, as far as possible heat sources in the vicinity of the ballast.
- Should the problems not be resolved, contact your dealer or the manufacturer.

9 General Instructions / Disposal

- The housing of your UVC device is made of corrosion and acid-resistant stainless steel, a quality with extremely long lifetime and reliability.
- Before maintenance make sure to disconnect the power and turn off the water supply.



- The tube containing the light bulb is high-quality quartz glass and available as a spare part.
- Before activation check all connecting elements for leakages.
- To keep your UVC device operating at maximum capacity we recommend replacing the light bulb every 8,000 hours of operation.
- The packaging materials are recyclable.
- To dispose the UVC units and all spare parts and consumables, please contact a regional active waste disposal company.
- Used or defective bulbs contain mercury. Don't dispose the UVC lamps in the regular trash.

10 Warranty

The warranty of your UV-C device is limited to the device itself (light bulb and quartz glass tube are not included) and is valid for two years from the day of purchase. Please keep the original package in case you need to ship the device. Opening the ballast device will void your warranty. Please contact the customer service department at the retailer or the manufacturer.

Should the device become defective during the above mentioned warranty period you are entitled to warranty services according to the legal regulations.

The manufacturer does not grant warranty for damages caused by accidents or improper installation and use, as well as subsequent damages. The warranty is limited to the exchange of the defective device. The warranty is not transferable. Your legal rights remain untouched.

Spare part list	
Article-No.	Article
501	UVC lamp 40 Watt
502	UVC lamp 75 Watt
503	UVC lamp 120 Watt
810	Quartz glass sleeve for PURE 2.4 (20x23x950)
820	Sealing kit for PURE 2.4