

# Bacteria UV sterilizer UVC-2

User Manual



This User Manual includes key features, operating instructions, intended use, maintenance, repair, storage and transportation of **Bacteria UV sterilizer UVC-2** (hereinafter referred to as the Device).

**Attention!**

*Please carefully read the present User Manual before using the Device.*

*Follow the rules, restrictions and instructions contained in this User Manual in order to increase the lifespan of the Device and to use it more effectively.*

*Violation of the storage instructions and operating rules will lead to manufacturer warranty termination.*

**Attention!** *After transportation during winter period or long storing keep the Device at room temperature for two hours before using it.*

**Attention!** *There's an ultraviolet light source inside the Device. Direct UV light is harmful for the skin and mucous membranes. It is prohibited to switch on the Device with the lid removed.*

**Attention!** *The Device is a source of ozone. Take all necessary precautions described in this User Manual.*

# 1. DEVICE DESCRIPTION AND OPERATION

## 1.1. Device description.

1.1.1. The Device is a household appliance used for air disinfection in living areas, with people and pets present.

**Disinfection is conducted by pumping room air through a closed housing of the Device and exposing it to ultraviolet (hereinafter referred to as UV) as well as by ozone generation from oxygen contained in the air when exposed to UV.**

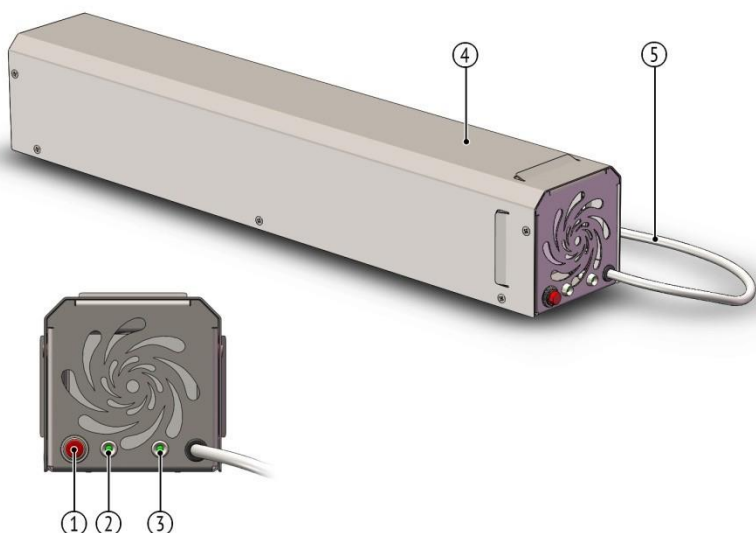
**The Device is used for disinfecting the air in small areas: apartments, cottages, offices, car interiors etc. As a result, the Device sterilizes the air and the surfaces in the treated area.**

1.1.2. In “STANDARD” mode the Device generates safe concentration of ozone as such disinfection can be conducted with people present.

1.1.3. **Attention!** People must not stay in the room while disinfecting in “MAXIMUM POWER” mode. Ventilate the room once disinfection is over.

## 1.2. Technical features.

1.2.1. Visual appearance of the Device is shown in the Picture 1.



- 1. Mode change button
- 2. “STANDARD” mode indicator (blue)
- 3. “MAXIMUM POWER” mode indicator (red)
- 4. Housing
- 5. Power cord with power switch

the Device

1.2.2. Technical features are presented in the Table 1.

Table 1

Parameter	Value
Dimensions	450x78x72 mm (17.9x3.1x2.9 in)
Weight	2,2 kg (4.85 lb)
Supply voltage (50 Hz)	110-230±23 V
Power consumption	15 W

Number of UV lamps	1
Power of UV lamp	8 W
Type of UV (ozone) lamp	T5/G5
Endurance of UV lamp	8000 hours
IP Code	IP20
Ozone productivity	Not more than 70 mg O <sub>3</sub> /h
Airflow capacity	More 50 m <sup>3</sup> /hour
Disinfection area	50 m <sup>2</sup> (538 ft <sup>2</sup> )

1.2.3 Unlike ordinary bacteria sterilizers, which disinfect only the air, UVC-2 also sterilizes surfaces by virtue of ozone generation. Surfaces may include wardrobes, tables, shelves, ceilings etc.

Regular use of the Device makes the air much fresher and reduces number of pathogens contained in it.

The Device is a good preventive measure against flu and other respiratory diseases. Ozonation makes the air quality much better either in an office or at home.

### 1.3. Device components

Device components and supplied package are specified in the Table 2.

Table 2

	Description	Quantity	Notice
1	<b>Bacteria UV sterilizer UVC-2</b>	1	
2	UV lamp (ozonous)	1	Installed in the Sterilizer
3	Individual packaging	1	
4	User Manual	1	

### 1.4. Structure and functioning

1.4.1. The Device is constructed of a metal housing covered with powder paint. The following components are built-in inside the housing:

- Bactericidal UV lamp (ozonous);
- UV lamp power converter;
- Fan power converter;
- Controller of the operating modes of the Device;
- Fan for forced air circulation through the housing;
- Mode change button and mode indicators;
- Fuse.

1.4.2 There are mounting holes for wall mounting (horizontal or vertical) located on the lower side of the housing.

Center-to-center distance between the holes for horizontal mounting is 392 mm (1.30 in). Center-to-center distance between the holes for vertical mounting is 55 mm (0.20 in).

1.4.3 The Device is equipped with a power cord and a power switch on it.

1.4.4. UVC-2 is a direct-flow device. Its operating principle is based on the following algorithm:

Once the Device is plugged in and the mode is selected, the axial fan pumps the air through the Device disinfecting the air by the UV lamp. Simultaneously, the oxygen transforms into ozone under the influence of the UV lamp.

Then the air saturated with ozone goes out of the Device and spreads through the area.

1.4.5. Over time the UV lamp loses its bactericidal capacity and needs to be replaced. On average, operational life of the lamp is 8000 hours.

## 2. Intended use.

### 2.1. Operating restrictions

2.1.1. Do not drop the Device.

2.1.2. It is prohibited to switch the Device on and off with wet hands.

2.1.3. Protect the Device housing from moisture.

2.1.4. Make sure the Device is unplugged before performing any maintenance.

2.1.5. **Attention!** Ultraviolet is harmful for eyes! It is strictly prohibited to peep into holes of the housing when the Device is operating. Also, it is prohibited to switch on the Device with the housing lid removed!

2.1.6. **Attention!** It is prohibited to stay in close proximity to the operating Device more than one hour as concentrated ozone affects respiratory organs. Do not breath in the air directly from the Device.

**If used properly, the Device is completely safe.**

Short-term TLV of ozone is 0,1 mg/m<sup>3</sup>, daily average TLV is 0,03 mg/m<sup>3</sup>.

**Ozone is harmless in concentrations up to 0,01 mg/m<sup>3</sup>, moreover, it has a beneficial effect on human and animal health.**

**Hygienic safety of the Device depends on ozonation duration and the treated room space and requires careful handling (see "Setting-up procedures").**

### 2.2. Setting-up procedures

2.2.1. Before operating the Device, you need to:

- Install the Device on an even horizontal surface (a table, a bedstand) or mount it horizontally on a wall at a height of 2.0-2.1 m (6.5-6.9 ft) above the floor. Either mount it vertically with the lower side at a height of 1.6 m (5.2 ft) above the floor (not less);

- Plug in the power cord.

2.2.2. The Device can be switched on and off by a switch located on the power cord.

2.2.3. Select the mode by pressing the button 1 (see Pic.1).

2.2.4. Operating modes of the Device:

- “STANDARD” – Short press the button 1 (Pic.1) to switch this mode on. – Blue indicator turns on (item 2 in the Pic.1). Operation algorithm: **The Device operates in cycles: 15 minutes of operation and 45 minutes of rest**, until the Device is switched off or the mode is changed.

People may stay in the treated area when the Device operates in “Standard” mode.

- “MAXIMUM POWER” – Long press the button 1 (Pic.1.) – Red indicator turns on (item 3 in the Pic.1).

Operation algorithm: **The Device operates in cycles: 1 hour of operation and 30 minutes of rest**, until the Device is switched off or the mode is changed. **Maximum operation time in this mode is 12 hours**, then the Device turns off automatically. Switch this mode on again for another cycle of operation.

**It is prohibited for people to stay in the area disinfected with this mode!** Wait for 15 minutes, then ventilate the area.

2.2.5 Once the mode is selected, the fan turns on and the light appears in the holes of the housing. After a while (usually up to 5 minutes), pay attention to ozone odor. It may appear or not depending on the room size and the air contamination. If the smell remains persistent, people must leave the area and close the door.

A mixture of ozone and the air spreads through the area. Once disinfection in “MAXIMUM POWER” mode is over, turn the Device off (using the switch on the power cord) entering the area for a while. Then ozone will be decomposing to oxygen (O<sub>2</sub>) naturally during 30 minutes. After this people may enter the area.

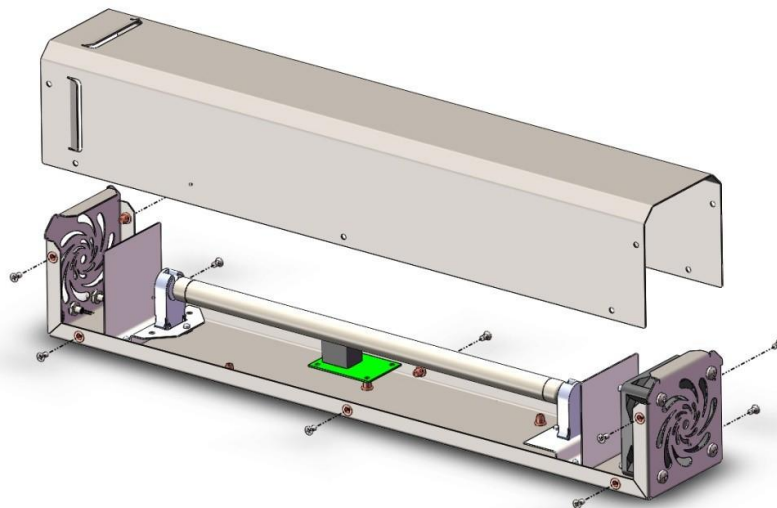
### 3. MAINTENANCE

**3.1. Attention!** Make sure the Device is unplugged before performing any maintenance.

**3.2.** Prevent the UV lamp from damaging while maintaining the Device.

**3.3.** Maintenance requires cleaning the housing and the lamp from dust as well as replacing the lamp once it's dead.

**3.4.** Unscrew the screws on the housing to remove the lid as shown in the Picture 2 in order to clean or replace the lamp.



Pic. 2 – Removing the lid.

**3.5.** Use a sponge soaked in distilled water (make sure it is wrung-out) for cleaning the lamp. The lamp must be clean as even a film of dust on the lamp affects bactericidal properties of the Device. Frequency of maintenance is determined by the user depending on the operational environment, but at least every three months.

**3.6.** In order to replace the lamp:

- rotate the lamp around the longitudinal axis by 90 degrees, so that the electrode terminals (screw caps) are opposite to the groove in the lamp holder;
- remove the screw caps from the lamp holders;

- install a new lamp and rotate it by 90 degrees.

**3.7.** Be careful while replacing the lamp. Do not damage the lamp. If it's damaged, rinse the glass shards and the area with 1% potassium permanganate solution or 20% ferric chloride solution to neutralize mercury residues.

**3.8. Attention!** Maintenance requiring the Device to be switched on with the lid open must be carried out in clothing that protects the skin from UV radiation. It is forbidden to switch on the Device without protective glasses when the lid is removed in order to avoid inflammation caused by UV rays.

#### 4. TROUBLESHOOTING

Typical problems and possible solutions are specified in the Table 3.

Table 3

Problem	Possible reason	Possible solution
UV lamp doesn't work	Need to replace UV lamp	Replace UV lamp
	The Device is defective	Take the Device to a service center
The fan doesn't work	The Device is defective	Take the Device to a service center
The Device doesn't work	Need to replace a fuse	Replace a fuse (see Pic.3)
	The Device is defective	Take the Device to a service center

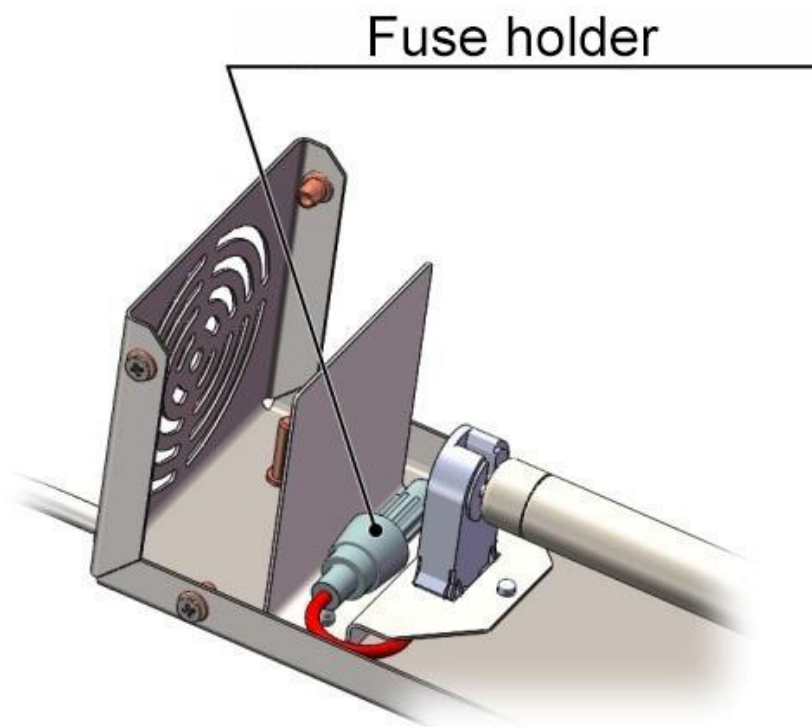


Рис. 3 – Replacing a fuse

## 5. PACKAGING AND TRANSPORTATION

Each device is packed in an individual package according to the supply package as indicated in Table 2. Device moving in the package is not allowed.

Packaged devices can be transported by vehicle or railway in covered trucks or containers, by air in pressurized compartments.

During transportation packages should be protected from precipitation and direct sun rays.

### **Transportation conditions:**

- Surrounding air temperature: from -50 up to 50° C (-58 to 122° F);
- Relative humidity up to 95% at 25°C (77°F);
- Atmospheric pressure from 84 up to 107 kPa (630 - 800 mmHg);
- Shock acceleration peak value is up to 147 m/s<sup>2</sup> (15 g), with a duration of shock acceleration 10 ... 15 ms.

The requirements on warning signs must be strictly obeyed when loading and transporting.

## 6. MANUFACTURER WARRANTY

**6.1.** Service life of the Device is 5 years.

**6.2.** Manufacturer warranty period is 12 months from the date of purchase. Manufacturer warranty does not apply to the UV lamp.

**6.3.** If the Device fails during the warranty period, the supplier (manufacturer or companies providing maintenance services) should replace or repair it at its own expense.

**6.4.** Warranty is voided in the following cases:

- After warranty period expiration;
- Violation of the operation, transportation and storage instructions;
- Mechanical damages causing failure of the Device after the purchase;
- Manufacturer sealing is broken.

**6.5.** Repair and maintenance of the Device with an expired warranty period is covered at the customer's expense.





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Questions concerning the exchange after-sales service should be applied to the distributor that completed a sale.