Orginal instruction E25.01.2021

EN

USER MANUAL

800Z01

Ozone generator KILLVIR-48

KLIMAWENT S.A. Poland
194 Chwaszczyńska street, 81-571 Gdynia
phone: +48 58 629 64 80
fax: +48 58 629 64 19
e-mail: klimawent@klimawent.com.pl

www.klimawent.com.pl

800Z01 KILLVIR-48
EN E2021-01-25

TABLE OF CONTENTS

1. INTRODUCTION

This user manual is intended for the users of the **KILLVIR-48** device. Its purpose is to provide the users with instructions on the use, assembly, commissioning, and operation of the device.

NOTICE
Carefully read this manual before installing the device at the workplace and using it.
Due to the continuous improvement of its products, the manufacturer reserves the right to introduce construction changes to increase the utility values and safety of use.

The design of the **KILLVIR-48** device takes into account the current state of knowledge and technology level and is following normative principles and regulations, and above all with the principles of safety and health protection set out in the following legal acts and also meets the requirements of the following harmonised standards:

- ✓ **Directive 2006/42/EC (MD)**
- ✓ **Directive 2014/35/EU (LVD)**
- ✓ **Directive 2014/30/EU (EMC)**
- ✓ **PN-EN ISO-12100:2012**
- ✓ **PN-EN 60204-1:2018-12**
- ✓ **PN-EN 60034-1:2011**
- ✓ **PN-EN 60529:2003/A2:2014-07**
- ✓ **PN-EN ISO-13857:2020-03**
- ✓ **PN-EN IEC 61000-6-1:2019-03**
- ✓ **PN-EN ISO 14123-1:2016-03**
- ✓ **PN-EN 1005-2+A1:2010**
- ✓ **PN-EN 842+A1:2010**

2. APPLICATION

The **KILLVIR-48** ozone generator is designed for ozonation and deodorization of closed rooms with a volume of up to 450 m3.

NOTICE
The KILLVIR-48 ozone generator can be used to inactivate virus particles in the air while maintaining the appropriate proportions of the exposure time of the atmosphere inside the room to ozone and the size of the room.

Table 1 Approximate ozonation times

The size of the room	Ozonation time
150 m2 (volume ~450m3)	90 min
75 m2 (volume ~225m3)	45 min

3. MANUFACTURER'S DISCLAIMER

- The manufacturer is not liable for damages resulting from the incorrect connection of the power supply and improper use of the device.
- It is unacceptable to install any additional elements not included in the device or equipment on the device.
- Unauthorized alterations and modifications to the device are not allowed.
- The device should be operated and repaired by an authorized and trained person.
- Protect all machine components against mechanical damage.
- The manufacturer is not responsible for bodily injury resulting from incorrect use.
- Protect people, animals and plants from the harmful effects of ozone.
- Protect ozone-sensitive materials.
- Protect the device from falling as it may permanently damage the generator.

! DANGER

The KILLVIR-48 ozone generator should be used in compliance with the safety and hygiene regulations! Ozone [O3], which is the result of the device's operation and at the same time an agent with strong biocidal, antiseptic, and oxidizing properties, is used in disinfection and at the same time is harmful to human health, also in the form of ozonation treatment residues.

4. TECHNICAL DATA

Ozone generator **KILLVIR-48** produces 15 g/h volatile ozone.

Table 2 Technical data of ozone generator KILLVIR-48

Type	Part no.	Maximum volume flow of ozonu (O_3) [g/h]	Fan maximum volume flow [m^3/h]	Motor power [W]	Supply voltage [V, Hz]	Sound pressure level [dB(A)]	Mass [kg]	Ingress protection
KILLVIR-48	**800Z01**	**48**	**2×350**	**250**	230V, 50Hz	**60**	**8**	**IP20**
Device dimensions (L×W×H):	600 × 390 × 250 mm							

NOTICE

The life of the ozone generator installed in the device – 6000 working hours.

5. STRUCTURE AND FUNCTION

5.1. Principle of operation and function

The principle of operation of the **KILLVIR-48** device is based on the production of ozone in a volatile state as a result of the phenomenon of partial discharges on the surfaces of ionizing plates. A fan located on one of the walls forces air through the inside of the device and blows the ozone generated outside into the room.

5.2. Structure

The **KILLVIR-48** ozone generator has the following components:

- Perforated metal housing with handle.
- 2 axial fans forcing the airflow inside the generator.
- 2 ozone production units with a summary capacity of 48 g/h of volatile ozone.
- Control panel.

6. INSTALLATION AND COMMISSIONING

6.1. Installation

The **KILLVIR-48** ozone generator can only be operated in a closed room, protected against the effects of precipitation, moisture and dust.

Before using the **KILLVIR-48** device, check that the device is complete, undamaged, has no dents, has an undamaged connection socket, power cord and a legible nameplate, etc.

NOTICE

The KILLVIR-48 ozone generator is delivered fully assembled and ready to use.

6.2. Connecting the power supply

The **KILLVIR-48** device has an IEC 10A, 250VAC socket and a 3 m power cord with a grounded plug.

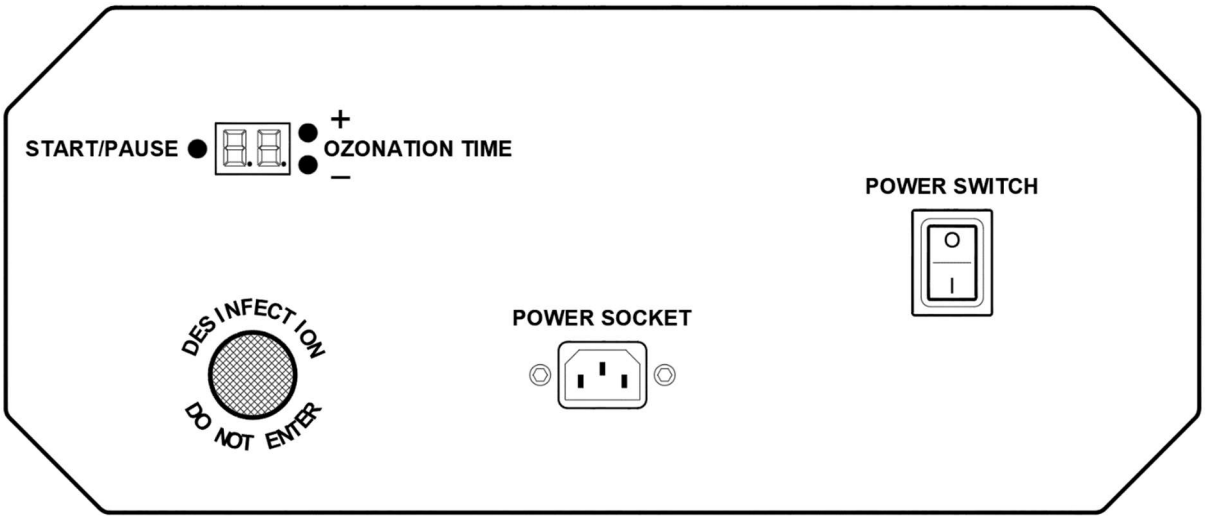
! WARNING

The device must be connected to a 230 V, 50 Hz earthed socket.

7. OPERATION

The operation of the **KILLVIR-48** ozone generator consists in turning the device on and off and controlling the working time – see Picture 1 Control panel.

The control panel includes a socket for connecting the power cord with grounding, an illuminated **O / I** switch, a display with operating time control buttons and a warning lamp **"DISINFECTION – DO NOT ENTER"**. Before starting, check that the power cord is not damaged.



Picture 1 Control panel

7.1. Procedure

7.1.1. Installation

A. Place the device as high as possible and in the centre of the room.

B. Before starting, check that the power cord is not damaged.

NOTICE

Ozone is a gas heavier than air and it falls.

7.1.2. Turning on the device

A. Plug the power cord into the power socket of the device.

! WARNING

The device must be connected to a 230 V, 50 Hz earthed socket.

B. Turn the **"POWER SWITCH"** switch to position **I**. The switch will be illuminated red.

C. Set the ozonation time using the **+** and **–** buttons according to the room volume - see - Table 1 Approximate ozonation times.

D. Press the **START** button to start ozonation. The **"DISINFECTION – DO NOT ENTER"** warning light will illuminate. The dot in the lower right corner will flash on the display.

E. Leave the room – see Note 1 Warning regarding ozonation.

F. Secure the entrance to the room and mark with an information sign with the appropriate content, e.g. **DO NOT ENTER! OZONATION** or **NO ENTRY! DISINFECTION WITH OZONE**.

! WARNING

DO NOT go into the room when the light is on warning "DISINFECTION – DO NOT ENTER" without adequate protection!

7.1.3. Operation

A. The device will automatically finish ozonation after the set time has elapsed, and the fan will continue to work for another 30 minutes, mixing the air in the room.

! CAUTION

The fan of the device continues to work 30 minutes after the end of ozonation, which is signalled by the warning light "DISINFECTION - DO NOT ENTER".

When the time reaches 0 value, the device stops working, and the time on the display will return to the previously set time.

B. After the warning light goes out, you can enter the room and take the device away, observing the safety rules described below in the warning (Note 1 Warning regarding ozonation) and point **10 - OHS INSTRUCTIONS**.

7.1.4. Turning off the device

A. Turn the **"POWER SWITCH"** switch to the position **O**. The switch turns off. The device will stop working.

B. Disconnect the power cord from the power socket.

C. Ventilate the room for at least 15 minutes.

! CAUTION

If no one is left in the room after ozonation, you can leave it unventilated and let the ozone decompose itself. Then the room will be ready for use after at least 1 hour.

8. TROUBLESHOOTING GUIDE

Table 3 Typical disturbances and remedies

Disturbances	Possible causes	Remedies
The device does not turn on	Incorrectly connected or damaged power cord	Check and correctly insert the cable into the device and power socket
The device turns on, but the fan is not running	Blocked or broken fan	**Contact the manufacturer KLIMAWENT S.A.**
The device turns on but produces no ozone	Blocked or damaged fan or ozone generator	**Contact the manufacturer KLIMAWENT S.A.**

9. MAINTENANCE AND RECYCLING INSTRUCTIONS

9.1. Maintenance

The design of the device enables continuous operation provided it is properly used and does not require maintenance from the user. All repairs and maintenance are performed by the manufacturer or his representative.

9.2. Recycling and cassation

! CAUTION	
	**When the product is transferred for cassation, the provisions on the erasing of machines withdrawn from use and/or recycling of waste should be applied. No part of the construction of the device belongs to the hazardous waste group.**

10. OHS MANUAL

! CAUTION	
	**The device, according to the definition, is a machine and meets the safety requirements of Directive 2006/42/EC and does not require additional safeguards for safe use, but requires careful use and compliance with the operating procedure - see 7 – OPERATION and 13 – RESIDUAL RISK INFORMATION!**
	**Use personal protective equipment and protective clothing while operating the working device! The KILLVIR-48 ozone generator should be used in compliance with the safety and hygiene regulations! Ozone is an agent with strong biocidal, antiseptic and oxidizing properties and, at the same time, is harmful to human health, also in the form of ozone treatment residues.**
	**Start-up and operation of the device may only take place after reading these instructions. The device is not dangerous if it is handled according to this manual!**
	**The device has a plug socket with a grounding pin and a cable with a grounding plug. The device must only be connected to a 230V, 50Hz earthed socket!**
	**Ozone must not be used in the environment of flammable gases or explosives, because Ozone is a highly oxidizing compound!**

Note 1 Warning regarding ozonation

! WARNING

A. People and animals must not be in the ozonated room, plants should also be removed from it.
B. Ozone room should be properly sealed so that ozone does not leak outside to adjacent rooms or the environment.
C. If the room is ventilated, turn off its ventilation.
D. People should not stay in rooms adjacent to ozone plants, into which some ozone could penetrate. It is necessary to exclude the possibility of exposure to increased concentrations of ozone by outsiders.
E. All ozone sensitive materials should be removed from the room.
F. Do not use ozone in the environment of flammable gases or explosives!
G. It is forbidden to smoke, work with open fire, work with tools that generate a flame or sparks, work with oils and greases, or leave objects contaminated with oil or grease in an ozonated room!
H. After the ozonation treatment is completed, the room should be aired for at least 15 minutes; it is best not to enter it earlier than 1 hour after the end of ozonation.

11. STORAGE

The device should be stored according to the following rules:

A. The device should be stored in a transport packaging that protects against external factors.
B. The storage place should be dry and dust-free and at a temperature between -10ºC and + 40ºC.

12. TERMS OF WARRANTY

The warranty period is specified in the device **Warranty Card**. The warranty does not cover:

- mechanical and electrical damages of the device caused by the user,
- damage resulting from improper use or failure to comply with the operating instructions,
- damage resulting from improper transport, storage, or improper maintenance.

! CAUTION

Non-compliance with point 3 “MANUFACTURER'S DISCLAIMER” of this manual, especially the unauthorized modification of the device or its improper use will void the warranty!

13. RESIDUAL RISK INFORMATION

! CAUTION

Ozone treatment of rooms must always be performed by qualified personnel secured with appropriate personal protective equipment.

13.1. Types of risk and security measure

Ozone [O_3]

During operation of the **KILLVIR-48** generator, 48 g of volatile ozone are produced each hour. Ozone is harmful to human health during the operation of the device, as well as in the form of ozone treatment residues.

! WARNING

Do not enter and do not allow bystanders to come into contact with the atmosphere of the ozonated room!

Immediately after ozonation, ventilate the room for at least 15 minutes until the concentration of ozone in the room is reduced to a safe level, i.e. 0.1 ppm ozone. The characteristic odour after ozonation may persist for another 48 hours.

! WARNING

Use personal protective equipment and protective clothing while operating the working device!

14. EXAMPLE OF EC DECLARATION OF CONFORMITY

CE

KLIMAWENT

EC DECLARATION OF CONFORMITY

NO. _____

Manufacturer (eventually also the authorized representative/importer)
name: **KLIMAWENT S.A.**
address: **POLAND, 81-571 GDYNIA, 194 Chwaszczyńska street**

A person, authorized for issuing the technical documentation:
name and address: Teodor Świrbutowicz, **KLIMAWENT S.A.**

hereby declares that the product: **Ozone generator**

type / model: **KILLVIR-48**

Serial number: _____ Year of production: _____

Meets the requirements of the subsequent European Directives:
Directive 2006/42/EC (MD), **Directive 2014/35/EU (LVD)**, **Directive 2014/30/EU (EMC)**

Meets the requirements of the following harmonised standards:
PN-EN ISO-12100:2012, **PN-EN 60204-1:2018-12**, **PN-EN 60034-1:2011**,
PN-EN 60529:2003/A2:2014-07, **PN-EN ISO-13857:2020-03**, **PN-EN IEC 61000-6-1:2019-03**,
PN-EN ISO 14123-1:2016-03, **PN-EN 1005-2+A1:2010**, **PN-EN 842+A1:2010**

place, date	*signature of the authorized person*	*name, surname, a function of the signatory*

15. WIRING DIAGRAMS

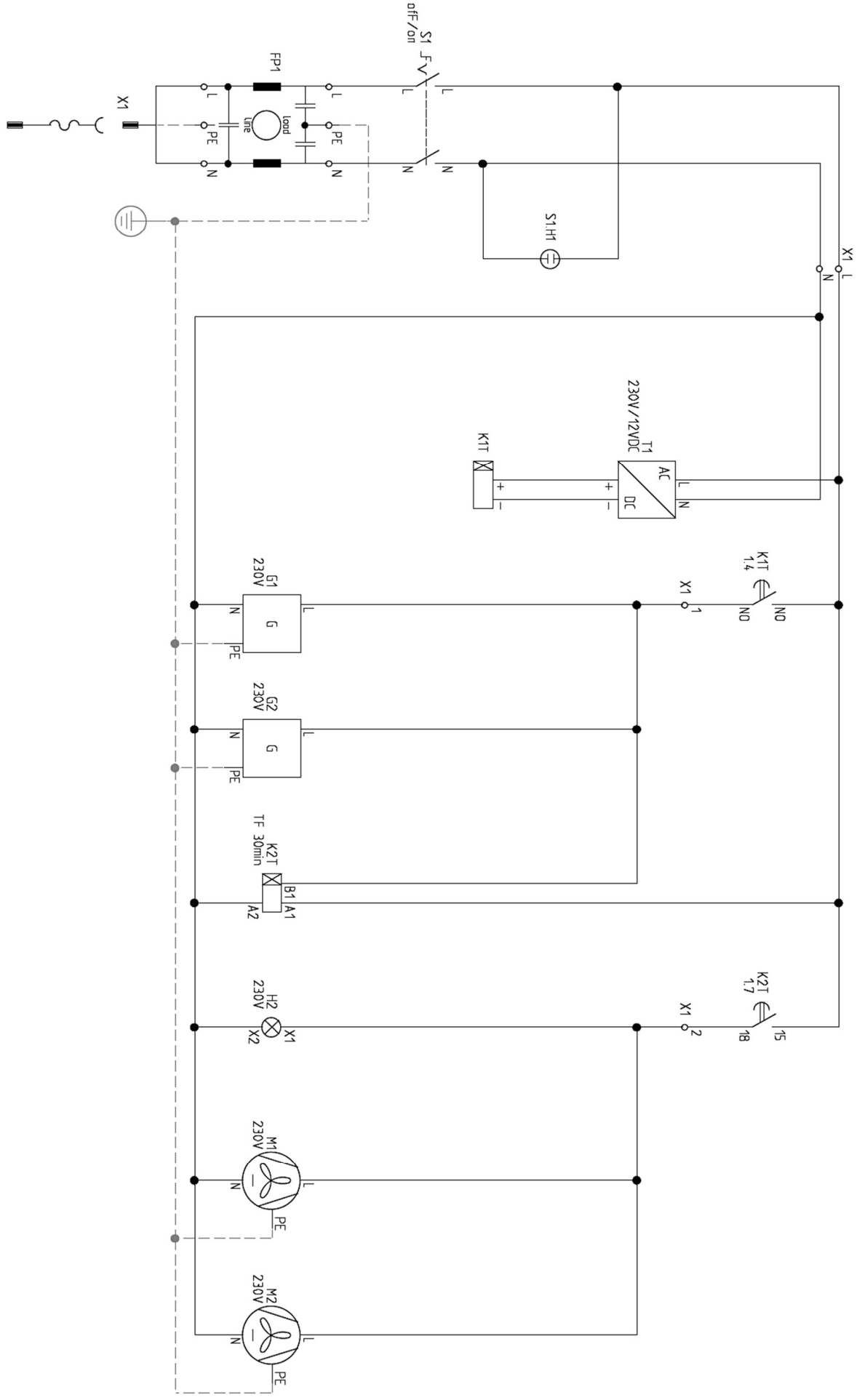


Diagram 1 Electrical connections

KLIMAWENT S.A. Poland
194 Chwaszczyńska street, 81-571 Gdynia
phone.: +48 58 629 64 80
fax: +48 58 629 64 19
e-mail: klimawent@klimawent.com.pl

800Z01 KILLVIR-48
PL E2021-01-25