# USER MANUAL

ECCOVET


NÉVOA VET $0_3$

MODEL 1– VETERINARY USE

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## 1. ABOUT THE EQUIPMENT


Silent, durable, robust, reliable, compact, portable, and lightweight;

Precise ozone control integrated with mist production ensures that 100% of the ozone gas is incorporated for enhanced user safety.

The electrical discharge is contained within the cell, eliminating any risk of shock;

The cell's insulating coating eliminates issues associated with water condensation;

Instant ozone production that requires no warm-up time.

Isolated electrical components guarantee the highest level of safety, quality, reliability, and product consistency.

**Voltage:** Automatic dual voltage – 50/60 Hz; **Power:** 100 VA; Power Control: Automatic; Timer: 1–15 minutes.

**Cell:** Quartz (98% purity); Water **consumption:** 1 liter per hour.

**Fog production:** 6 billion droplets per second.

**Weight with packaging:** 5.55 kg; Net weight: 4.5 kg.

**Packaging Dimensions:** Height 43 cm, Width 25 cm, and Length 45 cm.

**The ultrasonic humidification system is considered one of the most efficient methods for generating MIST nowadays because it produces mist particles that are more uniformly sized and in high quantities.**

**IMPORTANT NOTE:** This equipment is designed to operate by humidifying environments with ozonated water mist. Its ability to raise the relative humidity of the environment depends on several factors, such as the size of the area, ventilation, and the distribution of the generated mist.

**The ultrasonic mist equipment operates with millions of ultrasonic implosions that generate mist. We refer to this vibrational phenomenon as ULTRASONIC CAVITATION.**

## 2. ABOUT OZONATED MIST

The Ozonated Mist Generator is an electromechanical device that comprises an ultrasonic humidifier integrated with an ozone generator. The ozonated mist is safe to be applied on the skin, infected wounds, and fur that require cleaning, decontamination, and hydration of skin, fur, and/or down.

The "ozonated mist" is produced in the Ozonated Mist Generator, which produces droplets of ozonated water. It is safe both for the person applying it and the recipient, aiding in aesthetic treatment procedures for skin and fur. The efficiency in decontaminating the surface of the skin and fur/down are ensured by a small-scale ozone generator incorporated into the ultrasonic mist equipment.

The ozonated mist generator is safe for direct application on the skin or fur, because unlike ozone vapor generators—which use boilers to boil water at high temperatures (above 100°C) and risk causing burns—the ozonated mist is much safer since it is cold, produced by an ultrasonic humidifier that generates droplets of ozonated water at a temperature very close to ambient (25°C).

## 3. HOW THE EQUIPMENT WORKS

Using ultrasonic technology, water is transformed into very small droplets (5 - 10 microns in diameter) that form a kind of cold mist. The ozonated mist technology relies on ultrasonic transducers operating at a frequency of 1.6 MHz, which convert electrical energy into mechanical energy and create waves that break the surface tension of the water. This process results in the formation of billions of microdroplets, creating a cold mist on the surface of the equipment's tank. These transducers can be described as diaphragms composed of metal along with quartz crystal or ceramic. Once the mist is formed, an integrated ozone generator—controlled by electronic processors—ensures the production of a perfect mixture of ozone gas and ultrasonic mist, forming what we call “ozonated mist.” This mist is cold, odorless, and pleasant for both humans and non-human animals.

## 4. USAGE INDICATIONS

- Professional use.
- This equipment is reusable and has no limitations on usage frequency.
- The equipment is small, lightweight, and considered portable.
- It can be utilized on any area of the body.

## 5. CONSIDERATIONS: OZONATED MIST

Contrary to popular belief, "ozonated water" as well as "ozonated mist" does not contain gaseous ozone but rather dissolved ozone. This sanitizing solution—also known as "ozonated water"—is formed by a mixture of water, hydroxyl radicals (OH-), hydroperoxides (HO2), and superoxides (O-). It can be applied either in liquid form or as a mist.

## 6. ACTION OF OZONATED MIST

**Versatility:** Ozonized mist is an innovative technology with broad applications in veterinary medicine, standing out for its dual capability to decontaminate veterinary materials and instruments while simultaneously providing therapeutic effects on biological tissues. This mist

is produced using ultrasonic transducers, which convert ordinary water into tiny droplets, transforming it into a carrier medium for hydroxyl radicals (OH-) + hydroperoxides (HO2) + superoxides (O-), which are reactive oxygen species (ROS).

**Disinfection and Skin Moisturizer:** Upon contact with animal skin, the ozonized mist not only promotes skin hydration but also exerts a potent disinfectant effect. The ozone in the water is effective at eliminating a wide range of pathogenic microorganisms, making it particularly useful in treating canine and feline dermatopathies.

**Disinfection of Veterinary Materials and Environments:** Ozonation is also an excellent technique for decontaminating instruments and environments, making it a valuable resource in veterinary clinics where mitigating the risk of disease transmission is critical

## 7. INDISPENSABLE GUIDELINES

Two things are important for obtaining high-quality ozonized mist:

1) Always use high-quality water, either potable or filtered water that ensures it is free from metals (iron, manganese, aluminum, zinc, etc.) that can react with ozone and reduce its disinfecting power.
2) Water hardness also hinders mist formation. Water softening filters are an alternative to enable mist production from hard water.
3) Using cold water enhances the incorporation of ozone.
4) Never use water with a temperature above 30°C, as ozone is not soluble in water at this temperature.

Ozonized mist, like ozonized water, is odorless when produced from oxygen and possesses greater sanitizing power. The equipment produces billions of tiny water droplets that are so small they remain suspended in the air or can be directly applied to surfaces where disinfection is desired.

Ozonized mist is safe, does not wet surfaces, and can be inhaled normally by people. The mist can be applied in production environments, on equipment, packaging, and even food products. Its use is often more prevalent for air disinfection in contaminated environments and for surface disinfection

## 8. ABOUT THE LEGISLATION

**Ozonized water** is already recognized as a sanitizer by ANVISA (National Health Surveillance Agency) and can eliminate up to 99.9% of non-sporulated microorganisms carried by the air or present on a surface. It is regulated by Ordinance 888 of May 5, 2021, which addresses the control and surveillance of water for human consumption, serving as the reference standard for the use of water in Brazil. Thus, ozonized water can be used and consumed beneficially for human health.

Ozone gas, although highly effective for sterilization and disinfection of environments, causes respiratory discomfort due to irritation of mucous membranes when it reaches a certain concentration level. **Ozonized water,** like **ozonized mist,** is safe with a pleasant odor for both humans and non-human animals. This mist, formed from the incorporation of ozone gas in ozonized mist, contains enough concentration of hydroperoxides, hydroxyls, and superoxides to eliminate microorganisms from surfaces in just a few seconds. Additionally, it offers other advantages:

*a) does not cause respiratory discomfort;*
*b) does not irritate the eyes;*
*c) does not irritate the skin;*
*d) does not wet surfaces;*
*e) has excellent coverage área;*
*f) can be applied to people, environments, or directly on food.*

## 9. SAFETY

For safety, the ozonized mist equipment is factory-calibrated to ensure that there is no free ozone gas in the mist, only solubilized ozone (ozonized water). An electronic board incorporated into the device ensures a safe mixture, making the process extremely safe for people applying it, receiving the application, or present in the same environment. People can safely inhale the ozonized mist normally. There is no need for PPE such as respirators or protective goggles

### 9.1 Electric shock can be deadly

- The cables supplying power to the panel are energized with 110-220V power. Never touch energized parts with unprotected body parts or damp clothing. Use dry, hole-free gloves to insulate your hands.
- If you still have doubts about safety procedures in the electrical area, refer to Standards NR10 and NR12.
- Turn off and unplug the equipment before performing maintenance.
- Install the equipment according to the recommendations in this manual.
- Remember that electrical installations must comply with NBR-5410.

## 10. OPERATING ADJUSTMENTS

Whenever the equipment is turned on (main switch located on the equipment), it will initiate a check and then display the last settings. This equipment allows for two adjustments

Timer Adjustment e Ventilation Adjustment

- Select the desired adjustment, press and release the (AJUSTE) ADJUSTMENTS button.

- The display will indicate the letter “t” for timer adjustment, and the value will flash.

- Press the AJUSTES button to change the time; wait and release the button as soon as you choose the mist output speed, ranging from 1 to 5. This adjustment changes the time the humidifier generator stays on and off. Higher values keep the generator off longer than on. Setting it to (zero) automatically alternates the on and off times.


Operation Indication Display

Select the time

Select the mist output flow

*Maximum selection time is 15 minutes

## 11. BEFORE TURNING ON

### 11.1 Components for the installation of NévoaVetO3 Generators

The Intelligent Generators NévoaVetO3 consist of the items presented in the following table:

| Item | Description | Observation |
|---|---|---|
| Item 1 | Generator of Ozonized Water Mist | Figure 1 |
| Item 2 | Silicone Corrugated Hose | Figure 2 |
| Item 3 | Adapter nozzles for mist output | Figure 3 |

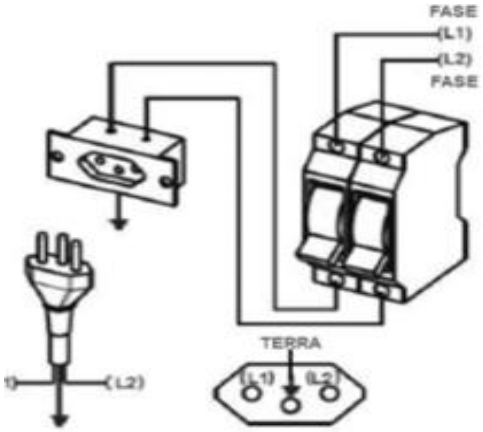

Figure 1

Figure 2

Figura 3

## 11.2 Requirements for electrical installation

The NévoaVet$O_3$ Intelligent Generators you purchased are manufactured to be connected to an electrical grid of 110-220V AC and 60 Hz. For the installation of the power outlet, follow the installation diagram as shown in the adjacent figure.




If the voltage and/or frequency of the local grid differ from those specified, the customer should contact Eccovet Technical Department at +55 (19) 99986-6447 during business hours before turning on the device, as operating outside the specifications of this Manual may cause irreparable damage not covered by the product's factory warranty.

## 11.3 Some ways of usage

**MYCOSIS TREATMENT**


**HEALING OF LESIONS AND WOUNDS**


**SURGICAL PROCEDURES**


**BURNS**

# 12. HOW TO INSTALL

## 12.1 Important Information for Installation

Avoid operating the equipment during thunderstorms with lightning strikes, as voltage transients can damage the device.

Avoid installing the ozonized mist generator too close to other electronic devices that utilize electromagnetic radiation (radio, television, cordless phone, etc.), as it may produce electromagnetic interference with these devices.

Never install the ozonized mist generator in a location that receives direct solar radiation, nor near machines generating water vapor, as high temperatures or high humidity can impair the operation of the electronic circuits and mist formation.

Never power the equipment with the cabinet open. Do not touch the electrical cables during operation, as the generators operate at high voltage and can cause dangerous electric shocks. Maintenance of this equipment can only be performed by a professional from **NÉVOA VETO3** or by someone certified by them.

## 12.2 To Install the Ozonized Mist Generator

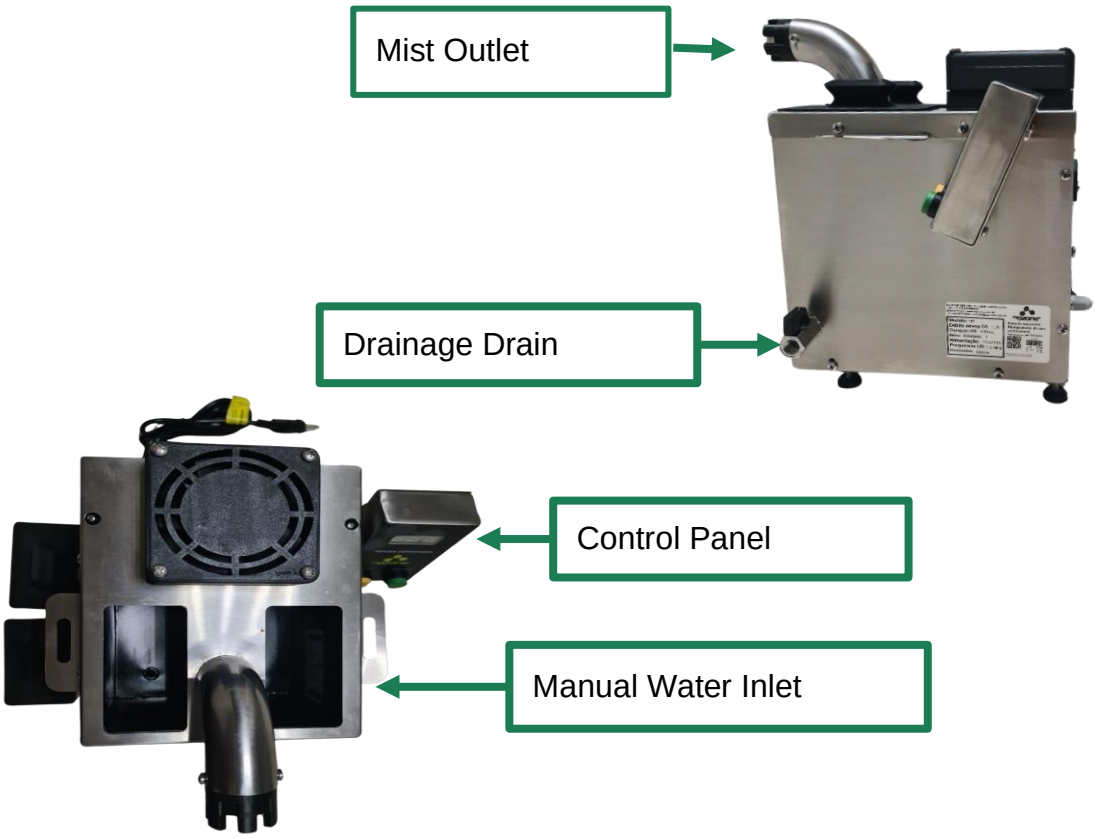
The following sequence of procedures is presented for the proper assembly of the NÉVOA VET O3 ozonized mist generators:

1. Connect the power cable to the equipment and plug it into an outlet. The equipment is automatic dual voltage 110-220V.

2. Fill the reservoir with potable water until it reaches the water level as indicated by the label inside the tank.

3. Connect a hose to direct the mist to the desired application location.

## 12.3 Parts and Components of N1




## 13. TURNING ON THE GENERATOR FOR THE FIRST TIME

Before starting ozone applications in real cases, it is recommended to conduct tests and operation trials with the generator. The sequence of operations for these tests is presented as follows:

I. Check if all the hose connections are properly secured.
II. Connect the power cable to a 220 V, 60Hz outlet.
III. Connect the N-1 to a running water source or use the pump with a gallon of clean water free from impurities.
IV. Turn on the equipment using the on/off button; once powered on,
V. The equipment will perform a check and automatically complete
VI. The water level in the tank.
VII. Check for the illumination of a green light (mist) and a blue light (ozone) located on the front panel of the N-10

For proper functioning, avoid using 'heavy or reused water' that contains a very high amount of mineral salts, as this may reduce the equipment's mist generation capacity.

## 14. PREVENTIVE MAINTENANCE – CRYSTAL CLEANING

Periodic cleaning of the tank is essential to ensure the proper functioning of the equipment, thereby increasing its durability

**Operating Environment -** Some environments have a lot of suspended dirt, such as dust, soot, general powder, and other possible contaminants. In these cases, these suspended particles are sucked in by the fan into the ultrasonic tank and settle in the water contained within the tank. The accumulation of settled dirt in the tank can, in extreme cases, lead to the burning of the ultrasonic crystals, as excessive dirt prevents the ultrasonic crystals from contacting the water.

**Periodic Tank Cleaning** - To establish a cleaning schedule, initially check the environment where the equipment is installed. Locations with many suspended particles should consider a weekly check. After the initial week, check the inside of the tank with the equipment turned off and drained to find accumulations. Repeat this procedure weekly until you determine the ideal frequency, which might be shorter depending on the concentration of particles in the environment. To define the frequency for washing the tank, open the equipment's lid and view the crystals inside. Clean them when there are dirt deposits on the crystals.

See the instructional video at the link below, or point your cellphone at the QR-Code: www.youtube.com/watch?v=skSYwVuWf-s&t



**IMPORTANT NOTE:** The crystals are extremely sensitive to mechanical contact. Never use metallic or pointed objects such as keys or scalpels for cleaning or removing dirt from the crystals. Irreparable damage will occur to these parts and the warranty will be voided.

## 15. PROBABLE CAUSES OF MALFUNCTION

If your equipment does not start operating, the most common causes that can be corrected by the user are presented below.

| PROBLEM | POSSIBLE CAUSE | ACTION TAKEN |
|---|---|---|
| Equipment Does Not Turn On | Power supply voltage drop | Wait for the power to return |
| | Blown fuse | Rplace the fuse with another one of the same maximum current value (10A) |

| | | |
|---|---|---|
| | Power switch turned off | Check if the equipment's on/off button is in the on (I) position. |
| No Oxygen Flow | Total depletion of oxygen in the cylinder | Request a new O2 cylinder from your supplier |
| No Oxygen Flow Even with Valve Open | Gas leak at some point along the path | Carefully check the connections |
| No Ozonized Mist Generation | Lack of water | Check the water source level |
| | Water inside the Silicone Corrugated Hose | Remove the water |

**To check the water quality, a practical test is to add 3 to 5 drops of neutral detergent to the humidifier tank and observe if the mist volume increases. If it increases considerably, check the quality and hardness of the water supplying the humidifier and ensure its treatment before it reaches the humidifier.**

Note: If none of the above cases relate to the detected problem, please contact EccoVet at Phone: +55 (19) 99986-6447 or Email: assistenciatecnica@eccofibras.com.br for guidance or maintenance of your equipment.

## 16. PREVENTIVE OR CORRECTIVE MAINTENANCE SERVICES

The expected lifespan of the NévoaVetO3 Intelligent Generators is high, depending on the conditions of use, estimated in years of operation without producing problems or defects. However, since the cells that compose the reactor require annual inspections due to the intense work of electrical discharges, it is recommended to perform a cleaning, replace the sealing rings, and review the electro-electronic components of the elements at least once a year, including recalibrating the equipment.

## 17. CIVIL LIABILITY FOR THE USE OF OZONE

As stated in the introductory part of this Manual, improper use of ozone can cause undesirable effects. The user has full responsibility over the dosage and method of application, as well as the environment chosen for ozone application. NévoaVet is only responsible for the quality of the gas produced by this GENERATOR and not for its misuse

## 18. TECHNICAL SPECIFICATIONS

| Models | Voltage | Lites/hour | Numbers of Crystals | Power VA | TIMER |
|---|---|---|---|---|---|
| **N1** | Automatic Bivolt | 1 | 1 | 100 | 1-15 minutes |

## 19. WARRANTY CERTIFICATE

This contractual warranty is valid for 1 year (365 days) from the date of invoice issuance and upon its presentation. This contractual warranty includes a legal warranty of 90 days. Within the warranty period, parts or components (see exclusions below) that are proven to have manufacturing defects will be repaired or, as the case may be, replaced without charge for repair labor or the replaced part.

During the warranty period, if the product shows manufacturing defects under normal usage conditions, it will be repaired or replaced (with the same or similar model, at ECCOVET's discretion) without charge for parts or labor. The costs of transporting the equipment to ECCOVET's technical assistance and subsequent return are the buyer's responsibility.

The accessories (hoses, caps, among others), being items of natural wear and tear, have a legal warranty of 90 days. This warranty term does not cover defects from:

- Inadequate use of the device;
- Electrical installations not complying with ABNT NBR-5410 standards;
- Connecting the device to an inadequate power network;
- Failure to follow the instructions provided in the guide accompanying the device;
- Use of third-party manufactured parts;
- When it is confirmed that the device was used with objects in direct contact with the bottom of the tank.

**Warranty ceases immediately**

• When it is found that the device has been tampered with by third parties, particularly for repairs or maintenance.
• When it is found that the recommendations made in this manual are not followed.

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After the warranty period, all mentioned expenses will be the responsibility of the customer. We inform you that technical assistance, both during and after the warranty period, must be carried out exclusively by ECCOVET.

ECCOVET cannot, under any circumstances, be held responsible for equipment on which corrective maintenance (which involves opening the equipment) has been performed by third parties

For any additional information regarding maintenance, please contact:
Technical Assistance Department
**Mobile /Whatsapp:** +55 (19) 99986-6447
Rua Doutor Euclides Vieira, 44 – Parque Sao Quirino – CEP 13088-280 –Campinas-SP –Brazil

**Email:** assistenciatecnica@eccofibras.com.br

**Our Technical Assistance Department will provide guidance on shipping the equipment. The shipment must be made in the original packaging or similar. All transportation expenses to the address indicated above are the responsibility of the customer**