



NovaGreenTM
Cannabis Disinfection

User Guide

Nova Green Ltd.

VEGA

CANNABIS DISINFECTION MACHINE



Revision 01

March 2020



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Important

This manual is subject to periodic review, update, and revision. Customers are cautioned to verify that the manual's information applies to the software and hardware present in the equipment.

This product performs as described in this manual when assembled, operated, maintained, and repaired in accordance with the instructions provided. Do not repair this product or any of its parts other than in accordance with written instructions provided by Nova Green.



The user of this product shall have the sole responsibility for any malfunction that results from improper use, faulty maintenance, improper repair, unauthorized service, damage, or alteration by anyone other than Nova Green.

The safety, reliability, and performance of this machine can only be assured under the following conditions:

- If the machine has been used according to the accompanying operating instructions.
- If fittings, extensions, readjustments, changes, or repairs have been carried out by Nova Green authorized representatives.

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VEGA Machine User Manual UM001 Revision 1, March 20120



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NovaGreenTM
Cannabis Disinfection

INTRODUCTION

THE VEGA MACHINE

VEGA[®] cannabis disinfection by NovaGreen LTD is a low temperature antibacterial load disinfection machine, developed especially for the treatment of cannabis flowers reducing the flower bacterial and yeast and mold (YAM) load. For recommended installation area and surroundings see VEGA[®] cannabis cleaner installation guide. Machine is intended to be used post flower curing and aging process.



Figure 1A - VEGA[®] cannabis cleaner

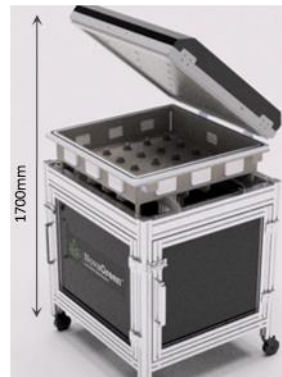


Figure 1B - VEGA[®] cannabis cleaner with top cover opened

INTENDED USE

The product is intended to disinfect dried cannabis and reduce its microbial load.

GLOSSARY

DISINFECTION PROCESS:

Disinfecting the cannabis flowers by means of active oxygen species in low pressure.

HYDROGEN PEROXIDE:

H₂O₂ solution in a concentration of 50% H₂O₂/H₂O

ABOUT THIS MANUAL

This manual provides the information necessary to operate the VEGA Machine in a safe and efficient manner. **Please read and understand this manual before operating the machine.** If any part of this manual is not clear, contact Nova Green Customer Support for clarification (for contact details please refer to section 10.3).

Special messages: Warnings, Cautions and Notes

Three types of special messages appear in this User Guide:



- A **warning** indicates the possibility of injury to the patient or operator.



- A **caution** indicates a condition that may lead to equipment malfunction.



- A **note** provides other important information.

Explanation of Symbols used on the label:



- Caution! Hazardous voltages present inside the unit. Do not attempt to open.



- Class II (double insulated) appliance

Contraindications for use of the machine:

- 1) A damaged H₂O₂ bottle.
- 2) The machine is wet.

SAFETY CONSIDERATIONS

GENERAL SAFETY CONSIDERATIONS



Please observe the following safety instructions when using the VEGA machine.



Warning: DO NOT USE THE VEGA MACHINE BEFORE READING AND UNDERSTANDING THIS MANUAL



Warning: Do not operate the machine with damaged cords or plugs. If damaged, have the cord or plug replaced immediately by Nova Green LTD.



Warning: Do not insert fingers or any other object below the treatment basket.



Warning: Do not use the machine for disinfection of any other material apart of dried cannabis.



Warning: Do not use any flammable or explosive substances while operating the VEGA system. If this cannot be avoided, confirm they have evaporated completely before the VEGA is switched on.



Caution: Do not place equipment on top of the machine.



Caution: Allow as much distance as possible between the machine and other electronic equipment, since the machine may cause interface.



Caution: H2O2 is a corrosive liquid that may cause burns in contact with skin and eyes. H2O2 bottle shall be handled and replaced by a trained personnel only.



Caution: User is prohibited from changing, adding, removing or disassembling any machine parts. Warranty shall not apply to any defects, failure or damage caused by improper use and/or improper or inadequate maintenance and care.



Caution: For any malfunction, please call Nova Green for support.



Note: The contents of this manual are subject to change without prior notice for improvement of analysis precision.

SAFETY CONSIDERATIONS RELATING TO CLEANING THE MACHINE

Please observe the following safety instructions when cleaning the VEGA machine.



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Warning: Be sure to turn the power off and disconnect the AC power cord from the instrument before performing cleaning procedures.



Warning: Be sure that no liquid is observed in the treatment chamber before cleaning. If liquid is observed, contact Nova Green.



Caution: The machine is approved for IPX0, to avoid damage to the instrument, be careful of liquid spillage while cleaning.



OVERVIEW OF THE VEGA MACHINE

The machine components are illustrated in the following diagram.



Figure 3: VEGA Machine components

- 1 – User interface touch screen
- 2 – Top lid
- 3 – Treatment chamber
- 4 – Cannabis basket
- 5 – Service door
- 6 – Power supply cable

DETAILED DESCRIPTION OF MACHINE COMPONENTS (FIGURE 1)

USER INTERFACE TOUCH SCREEN (#1)

All functions of the machine are controlled by the user interface touch screen.

The user interface contains two main modes.

- 1) User mode
 - User selects the disinfection program and starts the disinfection process.
 - Error messages.
- 2) Technician mode.
 - Maintenance and trouble shooting mode.
 - Password protected and can be accessed by a certified technician only.

TOP LID (#2)

The top lid is opened for the insertion and removal of the cannabis basket.

The top lid can be opened when the treatment chamber is in environmental pressure only.

When closing the lid, make sure that no objects or fingers are between the chamber and the lid.

After closing the lid, tight it by closing the four clips.



Warning: Make sure that no objects or fingers are present between the chamber and the lid before closing the lid.

TREATMENT CHAMBER (#3)

The treatment chamber accommodates the cannabis basket, pumped to low pressure and receives the reactive oxygen atmosphere.

Do not insert any body part or any object into the treatment chamber apart of the cannabis basket.



Warning: Do not insert fingers or any other object apart of the capsule into the treatment chamber.

CANNABIS BASKET (#4)

The cannabis basket is filled by cannabis and inserted into the treatment chamber.

The basket has two handles to hold it from.

SERVICE DOOR (#5)

The service door shall be opened for maintenance and repairs by a certified technician only.

Do not open the service door if you are not certified to do so by Nova Green.

- c **Warning:** Do not open the service door if you are not certified to do so by Nova Green.

POWER SUPPLY CABLE (#6)

The power cable shall be plugged to the power plug in the rear of the machine and to a standard wall electric plug.

The building shall have a protective relay.



Warning: Do not install the machine in a building where there is no protective relay.

SETTING UP THE MACHINE

INSTALLATION

The machine shall be installed in a ventilated dry room.

Place the machine on a flat, straight floor.

Lock the four cart wheels.



Caution: Avoid wetting. Place the machine in a dry location far from water or wet areas.



Caution: Do not install the machine on a floor with an angle of more than 10 degrees.

Mark a restricted area by a yellow line on the floor around the machine, in a distance of 20cm from it or alternatively, use a marking tape.

Connect the power supply cable to the machine in the power input socket.

Insert the power supply to the electric wall socket.

Certified Technician Only (for T models): Insert a full H₂O₂ bottle through the service door.



OPERATION

BASIC OPERATION

- 1) Open the top lid.
- 2) Remove the cannabis basket.
- 3) Close the lid.
- 4) Fill the cannabis basket by cannabis.
- 5) Open the lid.
- 6) Insert the cannabis basket into the treatment chamber.
- 7) Close the lid.
- 8) Close the four tightening clips.
- 9) Select an adequate recipe.
- 10) Press "ON"
- 11) When "Process terminated" message appears on the screen, open the top lid and remove the treated cannabis.



Note: The treated cannabis should be handled in a clean fashion as possible so not to induce recontamination.

ERRORS HANDALING

If an error message appears on the screen, contact Nova Green for instructions.



Warning: Do no attempt to repair errors by yourself.

MAINTENANCE AND SERVICE

1.1 CLEANING PROCEDURES



Warning: Be sure to turn the power off and disconnect the power cord from the instrument before performing cleaning procedures.



Caution: The machine is approved for IPX0 to avoid damage to the instrument, be careful of liquid spillage while cleaning.



Caution: This machine requires daily cleaning, which includes removal of any cannabis debris, soil or dirt from the treatment chamber. A soft cloth dampened lightly with IPA may be used.

1. The machine should be cleaned as follows:
 - a. Turn off the machine and unplug the power cord.
 - b. Remove the cannabis basket and the bottom plate.
 - c. Wash the basket and the plate using soap and water.
 - d. Use vacuum cleaner to remove cannabis remaining and debris.
 - e. Wipe down the inner treatment chamber walls, floor and lid using a IPA wetted cloth.
 - f. Wipe all external surfaces of the machine and power cord using a cloth with a mild cleaning solution or disinfectant.
 - g. Do not allow fluids to enter the chamber chassis and cart..



Caution: Cleaning should be performed with care to avoid liquid penetration.

OBTAINING SERVICE

Contact your NOVA GREEN VEGATM representative.

RESPONSIBILITY OF THE MANUFACTURER

Nova Green is responsible for the safety, reliability and performance of the unit only under the following conditions:

- The electrical installation of the relevant room complies with local codes and regulatory requirements such as IEC and BSI.
- Equipment use is in accordance with the Nova Green User Manual.

SERVICE ORDER

Call your Nova Green representative for assistance. If needed, a service representative will arrive to support you.



TROUBLESHOOTING

The following chart lists some typical conditions or problems that may occur with the VEGA:

| # | Condition | Possible Cause | Recommended Action |
|---|---------------------------------------|---------------------------------|--|
| 1 | The VEGA machine is not switching on. | Power supply cable disconnected | Check the power supply cable connection to the machine and to the electric wall socket. Turn on the main power switch and see if the “main power LED” light is on. If the problem persists, contact Nova Green support. |
| 2 | | | |
| 3 | | | |
| 4 | | | |

TECHNICAL DATA AND SPECIFICATIONS

| Model | Camber Volume[L] | Chamber Dimensions[mm] W x D x H | External Dimensions[mm] W x D x H(open) | Power [W] Current [A] | Current[A] 220V(110V) | Total Weight [Kg] |
|---------------------|------------------|-------------------------------------|--|--------------------------|--------------------------|-------------------|
| VEGA [®] T | 35 | 575 x 575 x 110 | 720 x 660 x 1070(1700) | 2500[W] | 11(21) | |
| VEGA [®] O | 40 | 600 x 540 x 125 | 780 x 660 x 1150 | 2500[W] | 11(21) | |

Inputs

| | | |
|-------------------|--------------------|-------------------|
| Hydrogen Peroxide | Disinfection agent | 1 Liter reservoir |
|-------------------|--------------------|-------------------|

Outputs

| | |
|--------------------|--|
| Exhaust | Chamber output airflow to a vented area/opened air |
| Liquid trap outlet | Condensed vapors drain output |

Operational data

| | |
|---------------|--|
| Control panel | 7” multi-color touch screen panel, multiple access levels. |
|---------------|--|



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| | |
|---------------------|---|
| Front loading door | Top cover open for cannabis loading |
| Service access door | Machine service door is located on the right side of the cart |

OPERATING SPECIFICATIONS

AMBIENT TEMPERATURE AND HUMIDITY FOR THE VEGA:

Operation condition: 4-40°C/ 39-104°F

Atmospheric pressure: 700hPa to 1060hPa

Storage condition: Ambient conditions

Delivery condition: -5- 40°C/ 23-104°F

Operating altitude: Up to 2000m














Relative Humidity: Maximum 80% for temperatures up to 31°C decreasing linearly to 50% at 40°C.

EMC COMPLIANCE







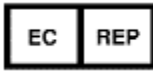





NA

SYMBOLS





| # | Symbol | Title |
|------|---|----------------------------------|
| A 1 |  | "OFF" (power) |
| A 2 |  | "ON" (power) |
| A 3 |  | Earth (ground) |
| A 4 |  | Alternating current |
| A 5 |  | Equipotentiality |
| A 6 |  | Keep Dry |
| A 7 |  | Do not use if package is damaged |
| A 8 |  | Consult instructions for use |
| A 9 |  | Protective earth (ground) |
| A 10 |  | Serial number (S/N) |
| A 11 |  | Follow instructions for use |
| A 12 |  | Catalog number (P/N) |
| A 13 |  | Notified Body |



| # | Symbol | Title |
|------|---|--|
| A 14 |  | Date of manufacture |
| A 15 |  | WEEE symbol |
| A 16 |  | Humidity limitation |
| A 17 |  | Temperature limit |
| A 18 |  | Manufactured by+ details of manufacturer |
| A 19 |  | Sterilized using irradiation |
| A 20 |  | Authorized Representative symbol |
| A 21 | REV | Revision Number |
| A 22 |  | Use by |
| A 23 |  | Do not reuse |
| A 24 | IPN ₁ N ₂ | IP environmental code |
| A 25 |  | Batch Code |
| A 26 |  | Keep away from sunlight |
| A27 |  | High temp limit |



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| # | Symbol | Title |
|-----|---|--------------------------|
| A28 |  | Fragile |
| A29 |  | This Side Up and Fragile |