



# Handbook for the Operation of the Nebulair<sup>®</sup> NS500 in a <u>Class II Safety Cabinet</u>

Contents:

- 1. Introduction to your NS500 system
- 2. Preparing the Nebulair<sup>®</sup> NS500 for operation
- 3. Loading the Nebusan<sup>™</sup> bottle of disinfectant
- 4. Operating the Nebulair NS500 system
- 5. Health and safety
- 6. Changing the Nebusan<sup>™</sup> bottle
- 7. Draining and cleaning the Nebulair after use.
- 8. Recommended Protocol
- 9. Recommended Misting times
- 10.Refill bottles
- 11. Warranty and Technical specification summary
- 12.Safety Data Sheet





Picture A: NS500 in travelling case



Picture B: LED Indicator Light



Picture C: Back of Unit



Picture D: Dispensing Cap



Picture E: Loading the bottle



Picture F: Drain Pipe



## 1. Introduction to your Nebulair<sup>®</sup> system NS500

The Nebulair<sup>®</sup> system NS500 incorporates patented technology capable of dispersing a 'dry' mist of Nebusan<sup>™</sup> disinfectant solution into the chosen room or vehicle. Nebulair is designed to give the maximum sanitisation with the minimum of disruption.

Experience and a wide range of tests have identified that, no matter how thorough the conventional cleaning protocols adopted, there can still be pockets of contamination which will threaten to compromise the effective of the cleaning performed.

In critical areas the solution until now has been to use the most aggressive biocide and to wet fog the area. The large and complex wet fogging machines necessitate the sealing or doors and windows, removal of all sensitive electronic equipment, evacuation of all staff and even then stratification will reduce the effectiveness of the fog.

By contrast the Nebulair<sup>®</sup> "Dry" Misting system uses a particle size so small that it will not damage electronic equipment making removal unnecessary and the mist will reach all parts of the volume being treated. This whole room decontamination treatment is achieved with the minimum of disruption and maximum effectiveness. The latest disinfectants are more friendly to the environment and in

effectiveness. The latest disinfectants are more friendly to the environment and in combination with Nebulair<sup>®</sup> can be as effective as more traditional solutions.

The NS500 is a highly mobile and lightweight unit that incorporates a dry misting unit that takes a liter bottle of disinfectant and is simple to operate, as described over the forthcoming sections. The Nebulair<sup>®</sup> is best suited to eradicate contamination after routine cleaning has taken place thereby guaranteeing that the maximum decontamination has taken place.

Should you have any questions regarding the application or operation of your system then please contact us.

## 2. Preparing the Nebulair for Operation.

The NS500 machine is supplied in a robust travelling case (**Picture A**) and in an outer cardboard case. When you have removed all cardboard packaging we recommend retaining it so that in the unlikely event of your system needing to be returned under warranty, the original packaging will be available to ease shipment. Once the unit is removed from the travelling case we recommend that you have look at the unit to ensure that there is no obvious damage or scratches.



#### i. Positioning

The Nebulair<sup>®</sup> system NS500 must be sited on a firm level surface. Consideration should be given for access to change the bottle and access the on/off switch. The unit must be positioned to ensure that the fan is not obstructed.

## ii. Connecting the mains lead

The Nebulair<sup>®</sup> system NS500 automatically senses the supply voltage and will work equally well on 110v/60hz or 240v/50hz AC. The unit carries a 3 amp fuse. The power lead should be inserted into the 3 pin socket at the rear of the unit and the appropriate plug into a convenient wall socket.

## 3. Loading the Nebusan<sup>™</sup> disinfectant bottles

After checking the packaging label to ensure that you have the correct bottle remove the travel cap and fit the special dispensing valve supplied. The dispensing cap has a removable lid which protects a latex valve. (**Picture D**) After screwing the dispensing valve onto the bottle, the bottle should be turned upside down. The bottle should not drip at this time.

Holding the bottle by its base it can be lowered into the receiving chamber (**Picture E**) and pressing lightly on base of the bottle to ensure it is fully inserted.

At this point you should be able to hear the liquid slowly filling up the tank.

In the unlikely event that the liquid is not dispensing into the reservoir then please take the bottle out and relocate it again. Double check the valve.



#### 4. Operating the Nebulair® system NS500

#### i. Switching the system on

The RED on/off switch is located on the back of the unit (**Picture C**). The moment the unit is connected to the mains supply the switch will illuminate. The ON position is enabled by pressing the RIGHT HAND SIDE of the switch as you view the rear of the unit (Position I).

To turn the unit OFF press the Left Hand Side of the switch (Position 0)

#### ii. LED Indicators.

On the front panel there is a LED indicator **(Picture B)** above the mist outlet. When the system is powered up and there is no or insufficient liquid in the reservoir then this LED will be RED.

Once the reservoir is at the required level the LED will turn Green and the unit will start up automatically with the fan turning. Please note that in certain light it will not be possible to see the fine mist particles.

#### 5. Health and safety

The system should be run following the protocol and safety procedure.

## THE SAFETY CABINET MUST BE SEALED PRIOR TO AND DURING MISTING.

The system should be operated by a timing switch plugged into the mains socket or a remote switch. Please contact for details.

## PERSONAL PROTECTIVE EQUIPMENT (PPE) SHOULD BE USED AT ANY TIME

Including: gloves mask and goggles. Please contacts for details.

## **PPM monitor PROSENS II**

This one handed operated gas detector provides the ability to perform regular checks. The sample pump allows monitoring of the PPM of chemical in or out of a safety cabinet. Please contact for details.



## 6. Changing the Nebusan<sup>™</sup>bottle

In the unlikely event that the LED indicator turns from GREEN to RED in mid cycle, then the bottle will be empty and will need replacing. Please note: that the Nebulair<sup>®</sup> system will not operate if the level in a reservoir drops dangerously low. The reservoir will hold approximately 50mls of liquid which will remain in the unit until drained through the drainage pie on the back panel.

The following procedure assumes that the same product is to be used.

i. Grasp the bottle by the base and withdraw it slowly. If removing an empty bottle please dispose of safely in line with the Safety Data Sheet. *The bottles are made of High Density Polyethylene (HDPE) and may be recycled*. If the removed bottle still contains solution, and is to be stored, replace the dispensing valve with the previously removed travel cap and store upright.

**ii.** To fit the new bottle, refer to the Loading the Nebusan<sup>™</sup> bottle section 3.

## 7. Draining and Cleaning the Nebulair<sup>®</sup> system

Draining and Cleaning will be necessary if the unit is to be stored for a period exceeding one month or is to be transported.

i. Draining the Nebulair<sup>®</sup> system NS500

Firstly switch off the unit and disconnect from the Mains Supply. Ensure that the unit is on a level surface. Grasp the bottle by the base and withdraw it slowly from the unit, lightly tapping the neck of the bottle against the bottle guide, to release any solution on the valve. Remove bottle and unscrew the valve and place the bottle on flat surface.

Use the clear plastic drainpipe located in the flight case. (Picture F)

- ii. When the unit has finished draining, replace cap. (Picture D )
- iii. Cleaning and maintenance of the Nebulair<sup>®</sup> system NS500 Drain the unit as described above. Replace the drainpipe. Insert a bottle field with distilled water. Switch the Nebulair<sup>®</sup> system on for 10-20 minutes and then drain as above. If stored for a long period drain all remaining solution.



## 8. Recommended Protocol

Calculate safety cabinet volume and as described with the timing table below.

Set the Nebulair<sup>®</sup> system in the safety cabinet Connect the power lead

Position the gas detector to check Particles Per Million if possible

- i. Openings must be closed and sealed during misting.
- ii. Turn the power ON at the switch or timer

When the misting time is finished, wait for the down time.

Disconnect the power

The opening should be left closed until the PPM are gone down to 1

Open the safety cabinet and remove the Nebulair® system

## 9. Recommended misting times for the NS500

For a Class II safety cabinet 15 Minutes misting with a 30 downtime down time is recommended. If external ventilation is available wait until the PPM is gone down to 1 or leave a minimum of 12 hours before opening the safety cabinet. Check the PPM again before re-opening.

## 10.Refill Bottles

The bottle will not degrade or dry out and can be stored and used again within a three-month period. Only the supplied product bottle should be used with the system. Failure to do so may result in damage to the unit and not work properly.



## **11.Warranty and Technical Specifications**

Your Nebulair<sup>®</sup> system NS500 has been designed to give you years of fault free service but, for your peace of mind, is guaranteed against mechanical and electrical malfunction for a period of 12 months from date of purchase or 2000 hour of usage. *The Guarantee is deemed as void where there are signs of tampering, use of nonstandard products or damage due to misuse.* 

#### **Technical Specifications**

Size.			<b>Case Dimensions</b>
Height	=	35cm	40 cm
Width	=	23cm	50 cm
Depth	=	24cm	39 cm
Weight			
Without Bottle	=	7.2 Kg	
With full Bottle	=	9.2 Kg	
Electrical.			
Voltage	=	220-240 VAC mains down to 24V (DC)	
Power	=	30 - 45 Watts @ 240VAC	
Frequency	=	50 Hz	

#### **Compliance with European Directives**

8

72/23/EEC (Low Voltage Directive) 86/594/EEC (Household Noise Emissions Directive) 89/336/EEC (Electromagnetic Compatibility Directives)

Should your unit fail, contact our help line on +44 (0) 7719 095 084, and one of our technical team will discuss the problem with you. If this does not resolve the problem you will be given a Goods Return Number (GRN) and asked to ship the unit for inspection and repair or replacement to our Service Department. Completely drain the unit and

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return to us quoting the GRN. On receipt of your unit, an inspection will be carried out, following which a repaired or replacement unit will be sent to you.

**Electrical Safety:** 

Do not remove the cover as dangerous voltages exist inside this unit.

There are no user serviceable parts inside the enclosure.

The unit must be properly earthed at all times. If in doubt seek professional advice.

This information was accurate to the best of our knowledge at the time of writing (TS146)

#### 12. Safety Data Sheet:

Please ensure that you have the appropriate Material Safety Data Sheet (MSDS) for the disinfectant and have read any particular safety precautions.

We strongly advise that misting is carried out by trained staff.

Section 8 refers to the disposal of the liquid and advises that the concentrate should not be discharged down the drain or watercourse. Please consult the MSDS before disposing of the diluted excess liquid to avoid any environmental impact.