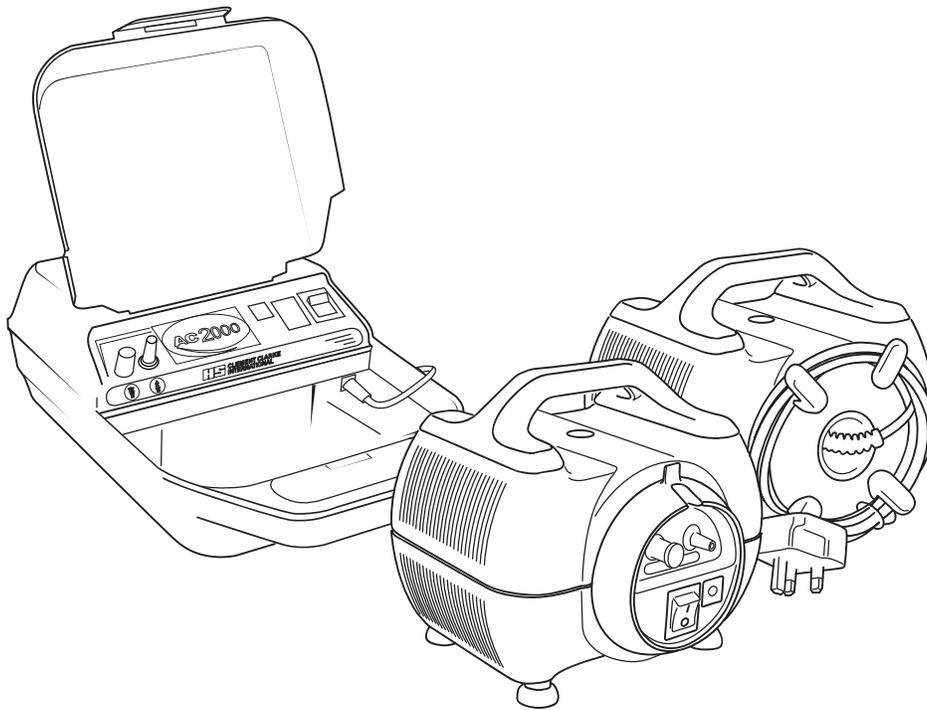


**MEDIX**  
NEBULISERS

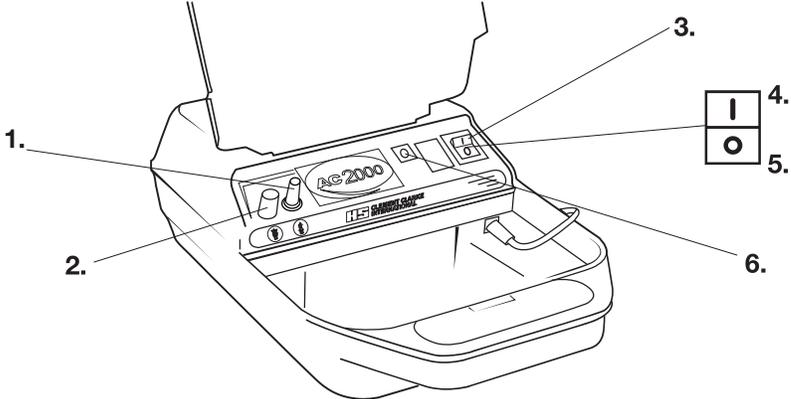
## AC2000, Econoneb & Turboneb 2



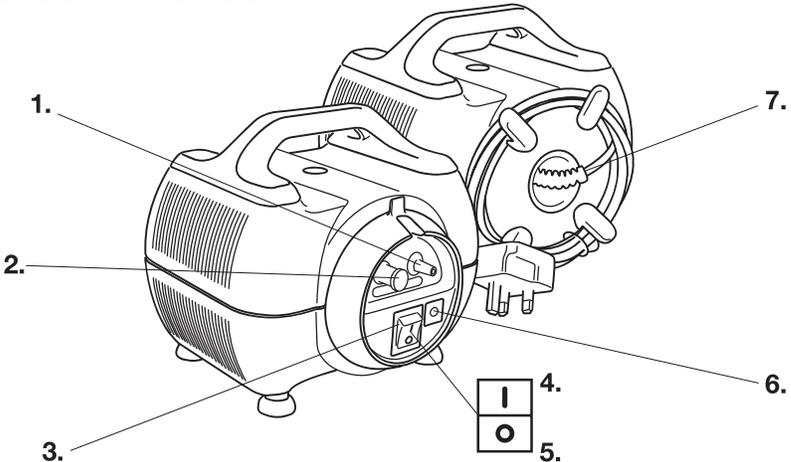
**HS** CLEMENT CLARKE  
INTERNATIONAL

Tradition and Innovation

**AC2000**



**Econoneb/Turboneb 2**



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## 1. Product Identification

1. Outlet filter
2. Inlet filter
3. Mains switch
4. On
5. Off
6. Fuse (T1AL)
7. Hard wired lead

## 2. Symbols



Consult 'Instructions for Use'



Fuse (T1AL)



Caution



Class II Equipment



Do not allow liquid to enter  
mains input socket



Type BF Equipment



Inlet filter



Do not dispose of with household refuse



Outlet filter

**CE** 0120 This product complies with the essential requirements of the medical devices directive (93/42/EEC). Compliance has been verified by UK notified body per 0120 (SGS United Kingdom Ltd).

### 3. Introduction

These compressor nebuliser systems are designed to deliver a fine aerosol mist from the liquid medication prescribed by your doctor to treat your respiratory condition.

Use according to the instructions given by your doctor or physician.

Please read the instructions carefully to obtain the maximum benefit from the compressor nebuliser systems.

The compressor nebuliser systems are approved for the following environmental / ambient conditions for transportation, use and storage purposes:

#### 3.1 Storage

The machine should be stored in a dust and smoke-free area.

Recommended: 0°C - 40°C

RH: 15% - 95%

Pressure: 950hPa - 1020hPa



**WARNING:** Do not use compressor nebuliser systems near active high frequency surgical equipment or electro-magnetic equipment.

#### 4. Starter kits are supplied with the AC2000 and Econoneb containing:

|                        |                     |
|------------------------|---------------------|
| 1 x medication chamber | 1 x driveline       |
| 1 x inlet filter       | 1 x filter spanner  |
| 1 x mouthpiece         | 1 x adult face mask |
| 1 x child face mask    |                     |

#### ***The Turboneb 2 is not supplied with a starter kit.***

The Turboneb 2 supplies the highest flow rate for nebulising viscous antibiotics and has been designed to operate from mains voltage. Two versions are available, UK and EURO, (i.e. plug type) both 220-240V /50Hz.

This compressor-only unit provides flexibility for the user to choose the most appropriate accessories for demanding applications.



#### **Note:**

- Both Econoneb and Turboneb 2 are continuously rated for repetitive use. Please refer to the information label on the machine to establish that you have the correct voltage for your mains supply.
- The parts listed above are required for correct function of this compressor nebuliser and must be in compliance with EN 13544-1.

## 5. Notes on Compressor Nebuliser Care



### Caution

1. Do not immerse machine in water.
2. Physician prescribed use only.
3. Never use more frequently than prescribed.
4. If therapy is having no effect, consult physician.

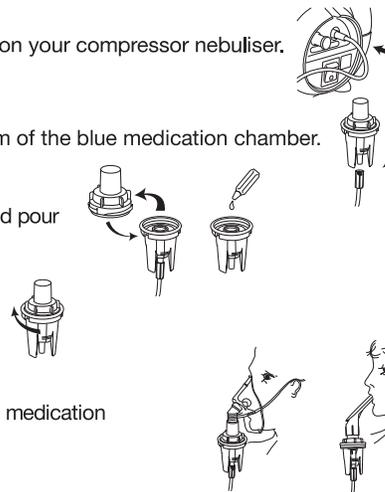
## 6. Operating Instructions (Mains Operated)

1. Carefully withdraw compressor nebuliser from the box.
2. Connect mains lead to a mains power supply.
3. Connect driveline to outlet filter nozzle.
4. Connect nebuliser chamber, followed by mouthpiece or face mask, to the driveline.
5. Press mains switch on ( I ). The switch will illuminate, check airflow before each use.
6. The equipment can now be operated.

### 6.1 Filling the Medication Chamber

#### For Single Patient Use

1. Connect one end of the driveline to the outlet filter on your compressor nebuliser.
2. Connect the other end of the driveline to the bottom of the blue medication chamber.
3. Remove the medication chamber top from the cup and pour medication into the chamber (max. 10ml.)
4. Screw the top back onto the medication chamber.
5. Connect either the face mask or mouthpiece to the medication chamber top.



All accessories must comply with EN 13544-1

## 6.2 Administering the Medication

Switch the compressor unit on. Sitting in an upright relaxed position, place mouthpiece into the mouth (or face mask over the nose and mouth) and start breathing slowly and deeply. Do not try to breathe quickly. If you have any problems seek instruction from your doctor or physiotherapy department at your hospital. Switch off the compressor nebuliser when the misting has stopped. Unplug the mains lead.

## 6.3 Cleaning

In order that you benefit fully from your equipment, it is important that the machine and accessories are kept in a clean condition. Ensure that the medication chamber is taken apart and washed in warm soapy water. Rinse and allow to dry after each use. The jet holes should be blown clear by attaching the chamber to the air outlet from the compressor and running the machine for a couple of minutes. We advise that the tube is disconnected from both the outlet filter and the chamber after each use to prolong the life of the connector.

The compressor nebuliser devices are suitable for cleaning daily with approved CE marked disinfectant wipes for the lifetime of the device.

 **WARNING:** Accessories are not for multiple patient use due to risk of infection. Device must be cleaned between patients to prevent risk of infection.

## 6.4 Changing the Attachments

It is recommended that the following disposable items should be changed as follows:

|                    |   |                        |
|--------------------|---|------------------------|
| Medication chamber | } | change every 3 months  |
| Inlet filter       |   |                        |
| Driveline          |   |                        |
| Face Mask          |   |                        |
| Mouthpiece         | } | change every 12 months |
| Outlet filter      |   |                        |

Only medication chambers supplied or approved by Clement Clarke International should be used.

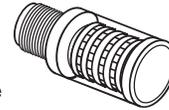
## 6.5 Replace filters for the Econoneb/Turboneb 2

### **Inlet filter:**

Using the filter spanner, unscrew your used, **white**, inlet filter in an anti-clockwise direction and discard.

Replace with a new filter, ensuring you have the **white** inlet filter.

Screw the **white** inlet filter, into the left-hand hole on the front panel, in a clockwise direction, tightening with the filter spanner.

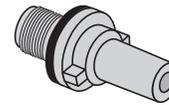


### **Outlet filter:**

Using the filter spanner, unscrew your used, **blue**, outlet filter in an anti-clockwise direction and discard.

Replace with a new filter, ensuring you have the **blue** outlet filter.

Screw the **blue** outlet filter, into the right-hand hole on the front panel, in a clockwise direction, tightening with the filter spanner.



## 6.6 Replace Fuse

1. Switch off at mains.
2. Using a screwdriver or a coin, push and twist fuse in an anti-clockwise direction to extract fuse.
3. Replace with new fuse.

## 6.7 Servicing

In order to maintain your warranty, your unit is required to be serviced by an approved service agent every 12 months. Please contact the manufacturer or distributor for details of your nearest authorised service agent.

 **Warning:** Disconnect power supply before servicing. When servicing, use only identical replacement parts. Not suitable for use with flammable anaesthetics.

 **Caution:** Do not immerse in water.

 **Please Note:** When returning your nebuliser for servicing to Clement Clarke International, please contact customer services for an authorised returns number.

***Please do not return your consumables when returning your nebuliser for servicing.***

The compressor nebuliser case should be wiped clean with an approved CE marked disinfectant wipe, before returning for servicing.

## 7. Safety Precautions

- Always disconnect from electricity supply before undertaking any maintenance or cleaning.
- Never operate the unit where it may come into contact with water.  
Should this happen, switch off at mains and unplug immediately.
- Never block air intake grills on the carrying case.
- Always keep electrical leads clear of heated surfaces.
- Position the unit on a clean surface. Do not place on carpet where fibres can be drawn into the unit when in use.
- Avoid using in a room where people smoke.
- Store in a clean, dry, dust free environment at room temperature.
- Not suitable for use with flammable anaesthetic gases.
- Do not modify the equipment or its accessories in any way.
- Do not allow liquid to enter the mains input socket.
- Performance information provided is in accordance with EN 13544-1 and may not apply to drugs in suspension or of high viscosity form as there is a risk of particle size distribution curve being altered. Please consult drug suppliers for further information.
- Accessories should not be shared, due to risk of infection.
- Not suitable for use in anaesthetic breathing systems or lung ventilator breathing systems.

**Note:** Refer to website for updates to IFU.

## 8. Troubleshooting

| Problem  | Action  |
|--|---|
| Air compressor will not operate when switched on.        | If the green light in the mains switch is on, yet the motor does not function, there is an internal fault. The machine should be returned to the point of purchase or an authorised person for examination.<br>If the green light(s) on the switches are off:<br>1. Check mains lead is securely connected each end.<br>2. For machines with a 3 pin plug (UK) remove and check the fuse in the plug. Fuse - 3.15AL 25mm long.<br>3. Check mains fuse in the control panel. Fuse - T1AL 20mm long.<br>4. Disconnect unit from electricity supply. Check mains fuse in the mains inlet socket. |
| Nebuliser chamber bubbles or produces little or no mist. | 1. Check inlet filter. Replace if necessary.<br>2. Wash nebuliser chamber. Replace if problem still occurs.<br>3. Check driveline tubing is not kinked or leaking. Replace if necessary.  |
| Time taken to nebulise significantly increases.          | 4. Service compressor.  |

## 9. Technical Specifications

|                      | <b>AC2000</b>                                 | <b>Econoneb</b>                               | <b>Turboneb 2</b>                                  |
|----------------------|---|---|--|
| Country              | UK/EU   | UK/EU   | UK/EU  |
| Operating Voltage    | 220V-240V / 50Hz                              | 220V-240V / 50Hz                              | 230V / 50Hz  |
| Power Consumption    | 62VA (260mA)                                  | 64VA (270mA)                                  | 68VA (296mA)                                       |
| Fuse                 | 1 x T1AL 20mm long                            | 1 x T1AL 20mm long                            | 1 x T1AL 20mm long                                 |
| Flow Rate            | min flow 7 L/min, max flow 9 L/min @ 138 kPa* | min flow 7 L/min, max flow 9 L/min @ 138 kPa* | min flow 9.5 L/min, max flow 10.5 L/min @ 138 kPa* |
| Aerosol output rate  | 0.38 ml/min                                   | 0.39 ml/min                                   | 0.46 ml/min  |
| Particle Size (MMAD) | 3.4 $\mu$                                     | 3.4 $\mu$                                     | 3.2 $\mu$  |
| Weight               | 2.9kg (w/o starter pack)                      | 2.7kg   | 2.7kg  |
| Dimensions           | 363 x 230 x 118mm                             | 210 x 210 x 185mm                             | 210 x 210 x 185mm                                  |
| Type Rating          | Class II BF Continuous                        | Class II BF Continuous                        | Class II BF Continuous                             |
| Sound Pressure Level | 60 dbA approx.                                | 63 dbA approx.                                | 63 dbA approx.                                     |
| Intended Use         | Heavy   | Heavy   | Heavy  |

### Product Suitability

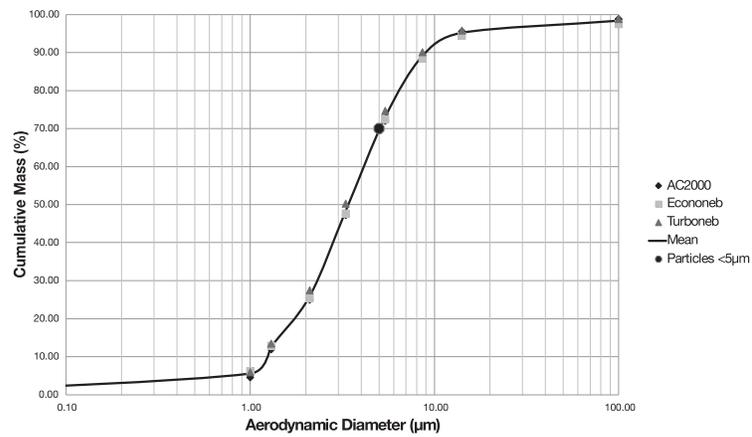
|          |   |   |   |
|----------|---|---|---|
| Hospital | ✓ | ✓ | ✓ |
| Clinic   | ✓ | ✓ | ✓ |
| Home     | ✓ | ✗ | ✗ |

\*1 kPa = 0.01bar or 0.145psi



## 10. Particle Size Distribution

Plot of Cumulative Size Distribution for Microneb III & Medix Compressor Nebulisers  
Results based on Melbourne Scientific BS EN 13544-1 Test Results (Ref AA118) 70% of particles <5µm



⚠ Compressor Nebuliser performance is based upon testing that utilises adult ventilatory patterns, these are likely to be different from those stated for paediatric or infant population.

## 11. Guarantee

This guarantee is offered to you as an extra benefit and does not affect your statutory rights.

CCI products are carefully designed, manufactured and inspected. CCI undertake to replace or repair any part found to be defective in material or workmanship subject to the following terms and conditions:

The compressor/motor, excluding serviceable parts, are guaranteed for three years on condition that:

- the unit is serviced every 12 months for the first three years
- cleaned and maintained in accordance with the instructions
- servicing is undertaken by CCI approved engineers/agents
- only CCI approved parts may be used to service this equipment.

This guarantee does not apply to:

- The disposable medication chamber, driveline, face mask, mouthpiece and filters.
- Defects arising from misuse, negligence, improper maintenance, accident, damage in shipment or unauthorised modification or service.
- The cost associated with routine 12 monthly servicing.

To register this guarantee please return the card, supplied with this handbook, within 15 days of purchase.

CCI shall not be liable for any third party or consequential loss or damage of whatever nature arising from or in connection with this equipment. Should it become necessary to make a claim under guarantee, return the unit properly packed (preferably in the original packaging) to the point of purchase (the manufacturer, shop, distributor or outlet where the device was purchased).

Please include name and address, details of problem and proof of date of purchase (please retain original invoice). Carriage costs to be paid by the customer.

## **12. EMC (Electromagnetic Compatibility) Declaration**

With the increased number of electronic devices such as PC's and mobiles, medical devices in use may be susceptible to electromagnetic interference from these devices. Which may result in incorrect operation of the medical device and create a potentially unsafe situation. Medical devices should also not interfere with other devices.

In order to regulate the requirements for EMC with the aim to prevent unsafe product situations, the EN 60601-1-2 standard has been implemented. This standard defines the levels of immunity to electromagnetic interferences as well as maximum levels of electromagnetic emissions for medical devices.

Medical devices manufactured by Clement Clarke International Ltd. conform to this EN60601-1-2 standard for both immunity and emissions.

Nevertheless, special precautions need to be observed:

The use of accessories and cables other than those specified by Clement Clarke International Ltd., with the exception of cables sold by Clement Clarke International Ltd. as replacement parts for internal components, may result in increased emission or decreased immunity of the device.

The medical devices should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is unavoidable, the medical device should be seen to operate normally as it should in this situation.

Summary of EMC tests IEC 60601-1-2 (See additional sheet) No deviations occurred.

Electronic devices should be no closer than 30cm (12inches) to any part of the compressor nebuliser system.

Abnormal performance of the compressor nebuliser could be displayed by:

- changes in motor speed
- changes in airflow

Further guidance regarding the EMC environment (in accordance with EN60601-1-2) in which the device should be used is available at <https://www.haag-streit.com/clement-clarke/products/nebulisation/>

### **IMPORTANT**

The wires of the mains lead wire are coloured in accordance with the following code:

Blue - Neutral

Brown - Live

As these colours may not correspond to the coloured markings sometimes used to identify the terminals in a plug, proceed as follows:

Connect the Blue wire to the terminal marked N or coloured black.

Connect the Brown wire to the terminal marked L or coloured red.

### **NOTE**

Neither wire should be connected to the earth pin marked E  $\perp$  or coloured green or yellow and green.

## 13. Disposal Instruction

All compressor nebulisers, should NOT be disposed of with household waste as they are not biodegradable in landfill sites. They should NOT be incinerated.

For safe disposal, take to:

The local (council/authority) environmental waste site, (in accordance with the European Environmental directive).

For details contact your local authority/recycling centre.

## 14. Spares and Accessories

Fuse pack (2 x T1AL) ..... 3605534

### Year Pack

Adult year pack ..... L3605122

Contents: 4 x medication chambers, 4 x drivelines, 4 x adult face masks, 1 x mouthpiece,  
4 x inlet filters and 1 x outlet filter

Child year pack ..... L3605123

Contents: as above but with child size face masks.

### AC2000 only

Shoulder bag ..... 3607691

Adult year pack (2012) ..... L3605125

Contents: as above but with no outlet filter

Child year pack (2012) ..... L3605124

Contents: as above but with child size face masks and no outlet filter.

 **Please note:** All our masks are made from a strong plastic with anti-microbial and low static properties and are phthalate free.