

# USER MANUAL

for

UP-02

UP-02B

UP-02C

ultrasonic nebulizers



Verz. 02.

### GENERAL INFORMATION

Thank you that you have chosen for your therapy SANASOL's device. Our firm's ultrasonic medication vaporizers were developed for vaporizing water soluble medications, alkaline medicinal water and physiological saline solutions. The arising aerosol gets into respiratory-tract by inhalation through the mouthpiece – or in the case of bad respiratory functional condition, or in case when a toddler is inhaling + through mask. The vaporization of the fluid is done by piezo-ceramics, with the help of interference liquid and the vaporizer membrane. The size of the made particle makes it possible that the medicine gets into the smallest bronchia too. The vaporization of medication is very frugal, the device works efficiently until the last drop. The device is suitable for the treatment of bronchitis obstructiva, atelectasia, emphysema, acut and chronikal bronchitis, bronchiectasia, asthma bronchiale, laryngitis, pseudocroup, mucoviscidosis etc., or for preventing pneumoconiosis.

**Before the first use of the device, read carefully this Manual, and while using it keep to as it is written there, in order to that your device twill be able to serve you as long as possible.**

With your questions, suggestions or complaints turn to us with confidence.

Zalaegerszeg, 15<sup>th</sup> February, 2007.

Gábor Németh  
ExecutiveDdirector

## I. STRUCTURE OF THE DEVICE

The ultrasonic personal inhalers consist of two main parts:



1. The vaporizing unit



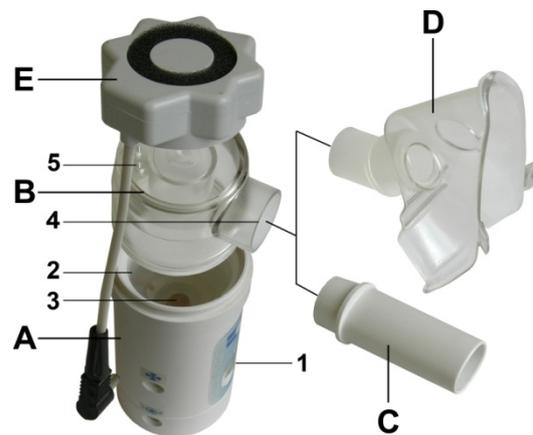
2. Network adapter

The manual vaporizing unit consist of the following parts:

- A** vaporizer house
- B** vaporizer cap
- C** mouthpiece or
- D** inhalation's mask
- E** ventilator

On the vaporizer house you can find:

- the operating pushbutton, (1)
- the, from silicone rubbery made vaporizer insertion (2), and on its base
- the vaporizer membrane (3)



The mouthpiece opening(4) and the air-breathing opening (5) are located on the removable vaporizer cap.

## II. INITIAL INSTALLATION OF THE DEVICE

For working of the vaporizer you need the interference liquid (distilled water) between the the piezo ceramics and the vaporizer cap. The device is filled by the manufacturer during the production. This filled amount of liquid may decrease during the use and the storage. Since it can be a significant period between the manufacture and the use, so it can happen that the liquid level may decrease already before the first use. Therefore check the, by the factory filled fluid at the first use. If the level does not reach the vaporizer membrane on the bottom of the vaporizer cap, then you have to do the filing of the device as it is written in the Chapter IV (pages 9 and 10).

### NOTICE!

The pushbutton is continuously lighting after it is connected to the network. If the liquid level drops so much to a level that would endanger the operability, the control electronics disables the operation is, which is indicated by the continuous flashing of the pushbutton after it is connected to the network. In such cases the device can be used again after it is filled with interference liquid.

The device should be disinfected before first use according to section V. (page 12)!
---

The applied vaporizer membrane allows that with the device any kind of water soluble medicine can be directly vaporized.

### III. USING THE DEVICE

#### 1. The using of type UP-02

- Take off the cap of the vaporizing unit.
- Place the mouthpiece into the mouthpiece opening on the vaporizer cap.
- Pour the, to be vaporized medicine or liquid into the vaporizer insertion (max. 10 ml).
- Put the cap back on the lower part of the vaporizing unit.
- Connect the adapter first to the vaporizing unit, then to the network
- Put the mouthpiece into your mouth.
- The vaporizing starts by pushing the pushbutton. Inhale deeply and slowly the arising aerosol through the mouthpiece, that was put into your mouth.
- By pressing the pushbutton again the vaporization stops, remove the vaporizing unit from your mouth.
- Hold your breath back for a few seconds, in order to let the medication precipitate.
- Slowly blow out the air.
- After you put the mouthpiece again into your mouth, repeat the previous process until the treatment is finished.



If the treatment does not stop the vaporization, the built in protection automatically disables its operation after five minutes of operation'. In this case the vaporization re-starts again after pushing the pushbutton.

Additional information on the page 8

## 2. The use of type UP-02B

The device has two functional modes. The first functional mode is identical to that written for type UP-02. In case of the second functional mode, after the filling it with a medicine and connecting it to the adapter

- Put the mouthpiece into your mouth.
- Pushing the pushing starts the vaporizing. Inhale slowly and deeply the arising aerosol through the mouthpiece taken into the mouth. Keep hold the pushbutton during the inhalation.
- Release the pushbutton, and take out the vaporizing unit from your mouth.
- Hold your breath back for a few seconds, in order to let the medicine precipitate.
- Slowly blow out the air.
- Repeat the previous process by putting again the mouthpiece into the mouth until the treatment is finished.

Keep hold the pushbutton only during the time of the inhalation, release it when the inhalation is finished!

The device is equipped with protection, which prevents the continuous operation, hereby the overheating of the medications and the device. If the button is kept pushed continuously (longer than 10 seconds) the protection starts working. Then the light of the pushbutton shifts into a flashing one and the vaporization stops. In that case release the button! The vaporization can be started again, when the pushbutton is continuously lighting again.

In this functional mode, compared to the previous one, the vaporizing performance is higher by 30% (1 ml/minute), so the vaporizing period of the medicine significantly drops off.

Additional information on page 8
----------------------------------

### 3. The use of types UP-02C

In addition to the use written for types UP-02 and UP-02B types C are suitable also for *bad respiratory functional condition or for inhalation of toddlers*. In this case:

- Take off the cap of the vaporizing unit.
- Place the mask into the opening on the cap's mouthpiece.
- Snap the ventilator onto the cap.
- Pour the medicine or liquid (max. 10 ml) to be vaporized into the vaporizer insertion.
- Put the cap back on the vaporizing unit.
- Connect the ventilator into the socket.
- Connect the adapter first to the vaporizing unit, then to the network.
- Pressing the pushbutton for a short time (less than 1 second) starts the continuous vaporization.
- Aerosol blown out by the ventilator through the mask can be inhaled orally.



Pressing the pushbutton again for a short the vaporization time stops. Vaporization automatically stops also after 5 minutes that the vaporization has ended. If the liquid to be vaporized is not consumed, vaporization can be started again by pressing the pushbutton repeated for a short time.

**Important information and warnings in connection with the use of the device**

- Only the medication recommended by the doctor and only in prescribed dilution is allowed to be vaporized!
- The vaporizer unit has to be cleaned after each use. The cleaning process can be found in Section V (page 11). (Occasionally the unused medicine can be left in the device until the next use this does not damage the device.)
- If the interference liquid in the vaporizing unit drops so much that the vaporizer membrane of the vaporizer insertion does not reach into it, the interference liquid has to be refilled. Refill has to be done according to the written in the Chapter IV (page 9).
- During the use the vaporizing insertion becomes worn due to the ultrasonic effect (small cracks appear in the material of the vaporizing membrane in the form of white discolouration on the surface of the membrane). This causes the reduction of the vaporizing output, in that case the vaporizing insertion has to be replaced. Replacement must be done according to the written in the Chapter IV (page 8).
- The lifetime of the vaporizing insertion may be significantly increased when (if it is not necessary) you don't use the whole inserted amount.

**Do not operate the device with a removed cap, because the device bespatters  
the medication,  
and the ultrasound – if you touch into the fluid – can cause painful injury.**

***You MUSTN'T operate the device with opened or damaged cover!***

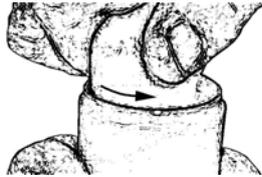
**If there would come up any problem in connection with the use of the device, before you would  
turn to service, look at as it is the written in the Chapter 9 (page 15).**

#### IV. REFILLING OF THE INTERFERENCE LIQUID, REPLACEMENT OF THE VAPORIZING INSERTION

If the vaporizing insertion becomes worn during the use due to the ultrasonic effect (white discolouration can be seen on the rubbery surface of the vaporizer), or the interference liquid in the vaporizing unit drops so much that the vaporizing membrane of the silicone rubbery made vaporizing insertion doesn't reach into it, the device must be dismantled, and the vaporizing insertion has to be replaced, and the interference liquid has to be refilled. The replacement and the refill have to be done in the following way:



1. Insert the blank attached to the device into the slots on the inner side of the ring, which is fixing the vaporizing insertion.



2. Screw out the ring anticlockwise.



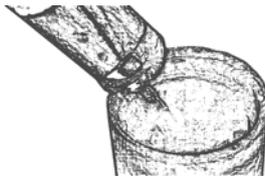
3. If the fixing ring has not lifted the vaporizing insertion, remove it from its place.

4. Pour out the liquid that is still there.  
5. If it necessary clean the inner surface of the container.

**Do the cleaning with a wet cloth**

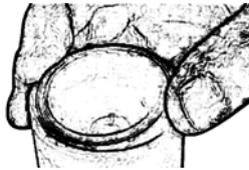
**or a cloth wetted with alcohol,**

**do not use any other product!**

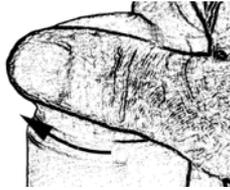


6. Fill up the tank with 23 ml **distilled water**. It is expedient to use a syringe for the refill.

*Attention!*  
*Do not use a needle in the syringe during refill to avoid damages to the vaporizing insertion!*  
*Be careful not to touch the golden surfaced ceramic with a hard object!*



7. Replace the vaporizing insertion. If the old one is worn out, replace it with a new one.



8. Screw back the fixing ring, and tighten it with the help of the attached blank.

*ATTENTION! The lifetime of the vaporizing insertion can be significantly reduced, if the device is used empty, without liquid to be vaporized. So if the liquid, medicine to be vaporized, is consumed, do not use the device further!*

It is expedient to do the sterilization process written in the Chapter V (page 12) during the replacement of the vaporizing insertion and the refill of the interference liquid .

Replacement of the worn vaporizing insertion is provided by the manufacturer. Our availability is on the back cover.

## V. CLEANING-DISINFECTION

THE CLEANING AND DISINFECTION OF THE DEVICE CAN EXCLUSIVELY BE PERFORMED IN A STATE DISCONNECTED, ANNEALED FROM THE NETWORK!

### Cleaning

- Snap the ventilator from the cap before the cleaning is started.
- Pour out the liquid, which was left in the device as you take off the cap.
- Flush out the vaporizing insertion with clean water.
- Wash the cap, the mouthpiece, and the mask with running water.
- Dry the cleaned device and its accessories on air by putting them onto a clear surface.

Wash out the air filter of the ventilator (if is it necessary) occasionally with running water.

The filter should be refitted only after it is completely dried.

Replace the worn or damaged filter. (Available at the manufacturer)

A clogged filter decreases the air transport!

*Do not use other agents (petrol, solvent, etc.) for cleaning!*

*Take care that no water should get into the connectors' of the vaporizer unit!*

DURING THE CLEANING AND DISINFECTING, TAKE CARE NOT TO TOUCH THE RUBBERY MEMBRANE WITH A SHARP OBJECT, BECAUSE THAT COULD CAUSE THE DAMAGE OF THE MEMBRANE!

## Disinfection

Before the first use, or after long storage, and to avoid back-contamination, the device has to be disinfected occasionally. The process for disinfecting is:

- Prepare from any kind of cold disinfectant available at a drugstore (e.g.. BARRYCIDAL 33), - on the way prescribed for the agent - a disinfectant solution.
- Fill up with the solution the vaporizer insertion of the vaporizer unit, and soak it for the agent prescribed contact time.
- Soak the removable vaporizer cap, the mask, and the mouthpiece into the disinfectant for the prescribed contact time.
- Wipe off the external surface of the vaporizer unit and the ventilator cotton swab (tissue) wetted with disinfectant.
- After completing the disinfection, thoroughly flush out the disinfectant liquid from the vaporizer insertion with water, flush out the disinfected accessories too with running water.
- From time to time do over the network adapter (if it is needed) with disinfectant on a mildly wetted tissue.
- Dry the so disinfected device and its accessories on air -by putting them onto a clear surface.

***If water would get into the adapter during the cleaning or the disinfecting (if it fell into water by accident), do not try to dry it, but send it to the service promptly! The device in this case might damage, or cause an electric shock. You MUSTN'T connect it again to the network!***

## VI. MAIN TECHNICAL DATAS

Voltage:	24 V DC	Vaporizing output (measured with distilled water, minimum) UP-02: UP-02B, UP-02C, 1 ml/min Operating time/pause: 30/30 perc Weight vaporizing unit: 151 g adapter: 110 g Brutto: 261 g Size: 110 x 50 x50mm Storage temperature: 0 - +35 C°
Performance:	14 W	
Adaptor:	input: 100-240V AC 50/60 Hz 0,45A max output: 24V DC 750 mA	
Vaporizing frequency:		
UP-02, UP02 B		
UP-02C	2,4 MHz	
Particle size:		
UP-02, UP-02B		
UP-02C	5 µ MMD	
Filling amount:	10 ml	

**Do not store the device at temperatures under 0 C°, because the distilled water in the vaporizer freezes and from this the device will be temporarily out of order!**

Manufacturer: **SANASOL** Kft.  
u.13. 8900 Zalaegerszeg, HUNGARY

Wlassics Gyula

☎: +36 92-511-381 Fax: +36 92-511-382

Skype: sanasol2

E-mail: [info@mail.sanasol.hu](mailto:info@mail.sanasol.hu) web: [www.sanasol.hu](http://www.sanasol.hu)

## VII. CONTENT OF THE PACKING

- |                    |                 |                                    |
|--------------------|-----------------|------------------------------------|
| 1. Vaporizing unit | 4. Mask*        | 7. User Manual                     |
| 2. Network adapter | 5. Ventilator*  |                                    |
| 3. Mouthpiece      | 6. Carrying bag | * No accessories for UP-02, UP-02B |

## VIII. ACCESSORIES SOLD SEPARATELY

- |                                     |   |                  |
|-------------------------------------|---|------------------|
| 1. Flat mouthpiece                  | 6. Inhalational mask                    | 11. Wall holder  |
| 2. Mouthpiece with a one way valve  | 7. Ventilator                           | 12. Carrying bag |
| 3. Mouthpiece with a two-way valve  | 8. Cigar-lighter connector              |                  |
| 4. Mouthpiece with a PEP valve      | 9. Battery pack                         |                  |
| 5. Mouthpiece with oxygen connector | 10. Laryngeal mask for built-in cannula |                  |

On all types can be used all accessories.

**The single devices differ only in their services and equipment, so the individual types may be upgraded upwards according to the request, with the separately to be ordered accessories and the reforming of the device in the service (UP-02 → UP-02B → UP-02C).**

## IX. WHAT TO DO IF...

Defect effect	Cause of the defect	To do
The pushbutton flickers after it is connected to the network	No interference liquid under the vaporizing insertion	Check the interference liquid's (distilled water) existence. Refill it if it is necessary (Chapter IV, pages 9 and 10).
	Cracked ceramic	If you can find the interference liquid, in that case the device is damaged, and can be repaired only in the special service.
The vaporizing output of the device has dropped	The vaporizing insertion is worn out	Check it if a white discoloration can be seen on the vaporizing membrane, at the bottom of the vaporizing insertion. If yes, replace the vaporizing insertion. (Chapter IV, pages 9 and 10)
	The ceramic is worn out	If the replacement of the vaporizing insertion has not solved the problem, the replacement of the ceramic is required. Turn to the service.
The device vaporizes, but the ventilator does not rotate	The ventilator is not connected	Check if the connecting plug of the ventilator is pushed until impact into the vaporizing unit.
	Water got into the ventilator	Disconnect the ventilator, remove it, and let it dry (1 day). Try again it after the ventilator dries up.
	Other failure	Contact the service.
The device vaporizes, but the ventilator does not blow out the aerosol.	Water got into the air-inlet bores of the vaporizing cap	Disconnect the ventilator, remove it, and remove the liquid from the air-inlet bores by blowing them out.

*X. SYMBOLS USED ON THE DEVICE*



WARNING! Read the Instruction Manual, and note those written in it!



**B-type device**



**II. Class of touch protection device (dual isolation)**



Manufacturer

**Declaration of conformity**

Manufacturer: **SANASOL Meditechnika Kft.**  
Address: **Wlassics Gy. 13, H-8900 Zalaegerszeg, HUNGARY**  
**Phone: +36 92 511 381 Fax: +36 92 511 382**  
**e-mail: info@mail.sanasol.hu web: www.sanasol.hu**

Product typ: **UP-02, UP-02B, UP-02C Ultrasonic nebulizer**  
Serial number:  
Class: **II.a (according to the Rule 11 of Annex IX of 93/42/ECC Directive)**

**We herewith declare on our sole responsibility that above product complies with the requirements of EC Directive 93/42/EEC.**

Applied standards: **For applies standards, please refer to Chapter IV. of the Technical Construction File.**  
Notified body: **TÜV Rheinland Product Safety GmbH**  
**Am Grauen Stein, 51105 Köln (Notified Body No. 0197)**  
Certificate No: **DD 60022053 0001**  
Certificate date: **28. Aug. 2008.**  
Date of Issue: **01. Sept. 2008.**



**Issued by:**  
Executive Director

Gabor Nemeth  
A blue ink signature of Gabor Nemeth.

## **CONDITIONS OF GUARANTEE**

On the guarantee document the date of the purchase and the seller's official stamper has to be indicated. The incomplete filling, and any correcting, deleting, notation on the guarantee document or registration of invalid data' entails the guarantee document's invalidity.

With valid guarantee document the SANASOL Ltd gives guarantee from the 12 months counted from the purchasing for failures of production and material-failures.

The guarantee does not extend to failures which were caused by misuse, careless use, improper storing or natural damage, and the damages because of natural wearing.

The unprofessional intervention into the device goes with extinction of the guarantee's obligation.

Possessing of a proper filled guarantee document within the guarantee time the following rights are entitled to you:

- In case of damage within 72 hours we exchange your device promptly. You can ask for the exchange at the producer, or at the distributor.
- In case of damage over 72 hours we repair the device cost-free.
- If we can't do the repair within 15 days, we ensure a free exchange device.
- If we can't keep off the failure within 30 days, you can ask for an exchange of the device.
- If the failure can't be repaired, we insure an exchange device.

Any exchange over 72 hours can be done only by the producer. We take guarantee for the exchange device for 12 months.

**GUARANTEE CARD**

Product name: **ULTRASONIC NEBULIZER**

Type: ~ **UP-02** ~ **UP-02B** ~ **UP-02C**

Product serial number:

Manufacturer: **SANASOL** Kft. Wlassics Gy u. 13. 8900. Zalaegerszeg, HUNGARY

The producer gives 12 months' guarantee for the above ware.

Date of purchase: .....day .....month ..... year

\_\_\_\_\_  
signature of the seller

\_\_\_\_\_  
stamp of retailer

**SERVICE:**

SANASOL Kft., Wlassics Gy u. 13. 8900. Zalaegerszeg, HUNGARY

. : +36 92-511-381 Fax: +36 92-511-382

E-mail: [info@mail.sanasol.hu](mailto:info@mail.sanasol.hu)

Skype: sanasol2