

JOHN BUNN®
NANO-NEB™



COMPRESSOR NEBULIZER
MODEL: JB0112-065

USER'S MANUAL

Read this manual before operating the nebulizer
Save these instructions for future reference

Caution:

Federal law restricts this device to sale by or on order of a physician, or any other practitioner licensed by the law of the State in which he practices to use or order the use of this device.

Spare Parts Description

Nebulizer's body and cover



Jet nebulizer



Cover jet nebulizer



Cone



Base

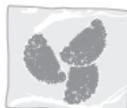
Adult and pediatric mask



PVC tubing



Filters



AC/DC adapter



Rechargeable battery pack*



Car lighter adapter*

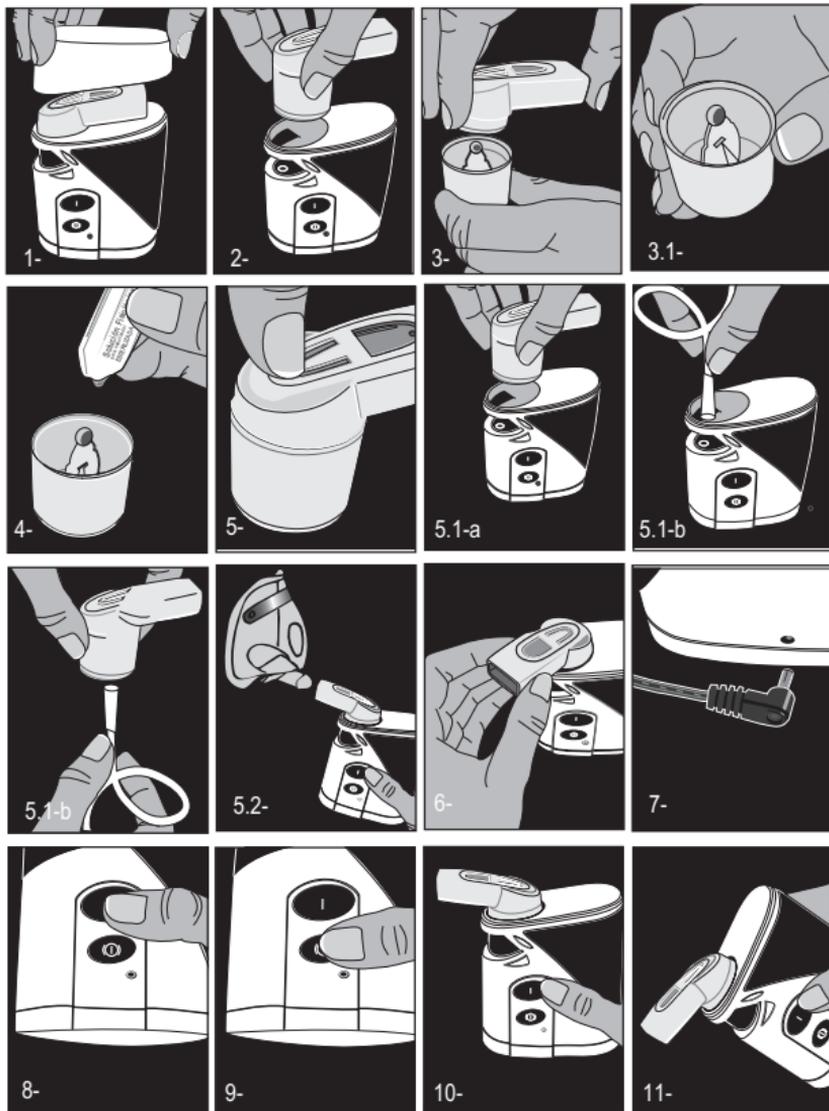


Carry bag with compartments

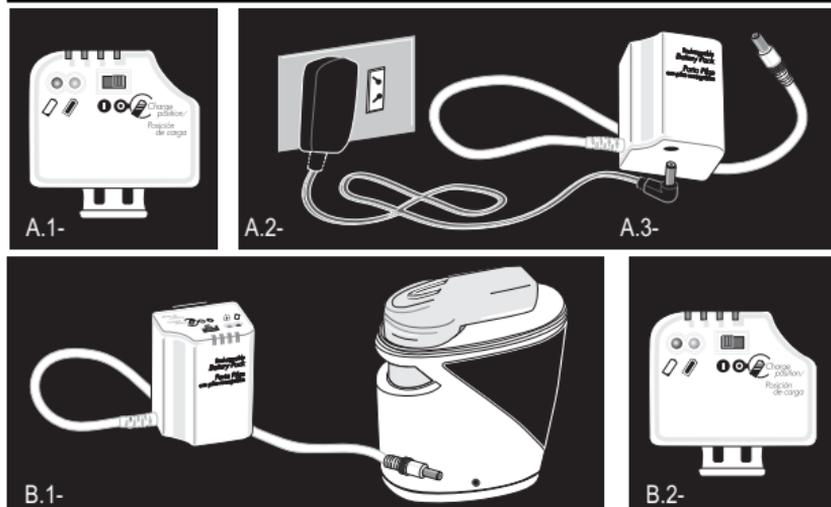


* optional

Use Instructions



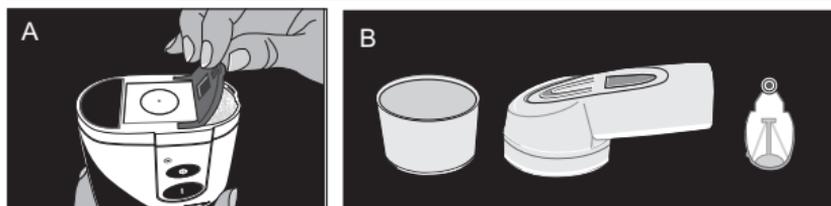
Operation with Rechargeable battery pack



Operation with car lighter adapter



Cleaning and maintenance



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Symbols key

ON.....		Class II.....	
Off / Customize nebulizing.....		Type B.....	
DC.....		Read the instructions....	

Introduction

Congratulations on your purchase of the John Bunn Nano-Neb Compressor Nebulizer! Thanks for your trust. Graham-Field guarantees that this product has been manufactured with top-quality materials and complies with both national and international safety rules in force.

The new John Bunn Nano-Neb Compressor Nebulizer, is a portable, lightweight, and practical device. It can be powered by three different sources: house electric power (by using an AC/DC adapter provided), car lighter adapter or optional rechargeable battery pack.

This device is operated by two systems: an automatic one with an 8-minute timer, and the other one operated by the patient, through which the unit will issue the spray only upon pressing the switch.

Please, read the instructions very carefully before use, and operate the device as described.

Recommendations

- 1 Read the User's Manual carefully before using this device and keep it for any future reference.
- 2 This device should only be used for aerosol therapy. Any use different than the one prescribed is inappropriate, and thus dangerous. The manufacturer shall not be held responsible for any damage caused by undue or improper use.
- 3 The following precautions are particularly important:
 - This device is not protected against liquid penetration.
 - Avoid any contact with this device with wet hands.
 - This device is not to be used together with any anesthetic mixtures flammable in contact with air, oxygen, or nitrogen protoxide.
- 4 Before cleaning and/ or performing maintenance service, unplug the device from any power source.
- 5 Disconnect the equipment if not in use.
- 6 Never open the main compressor unit.
- 7 Use only the accessories, components, and spare parts provided by John Bunn. The use of any inappropriate adapter infringes the safety conditions of the unit and thus may hinder its performance.
- 8 Always turn unit off prior to disconnecting power source.
- 9 Adapter cables should be as straight as possible to avoid overheating.

- 10 Never submerge the nebulizer in water.
- 11 Device not protected against splashes.
- 12 Device not suitable for using in lung vent or anesthetic systems.
- 13 The equipment is designed for intermittent use. Maximum use period: 20min; break: 40 min.
- 14 Children should use this equipment only under adult supervision. Keep nebulizer away from children.
- 15 In order to avoid any infections or disease spreads, accessories should not be shared with others.
- 16 Use the nebulizer only with the medicine prescribed by your physician and follow his/her instructions when performing the treatment.
- 17 If used in another country, a power adapter may be necessary. Before connecting this device to the power source, make sure the electric data shown on the label of nominal values at the base of the unit and/or the adapter match those of the power source. If the socket of the device is not compatible with the plug, contact some trained staff to replace the socket. In general, it is not advisable to use any simple or multiple power adapter, nor an extension cable. If necessary, make sure they comply with the safety rules by paying special attention to the fact that they do not exceed the maximum values indicated in adapters and extension cables.
- 18 This unit must be repaired only by an authorized Graham-Field dealer.

Provided Accessories

1 handy carry bag, 1 jet nebulizer (cover, base and cone), 1 bag with 3 filters, 1 AC/DC adapter, PVC tubing, 1 adult mask, 1 pediatric mask, 1 car lighter adapter, 1 use instructions and warranty, 1 optional battery pack with rechargeable batteries.

User Instructions

IMPORTANT: This unit was designed for intermittent use. Normal use should take 5 to 10 minutes. Turn off the device after using it for 20 minutes and keep it off for 40 minutes before turning it on.

Before using the device for the first time, perform the cleaning procedures described in chapter "Cleaning and Maintenance".

- 1 Remove the main unit lid.
- 2 Remove the jet nebulizer.
- 3 Once the jet nebulizer is separated from the body of the nebulizer, unscrew the upper part of the base (completely removing the jet nebulizer).
- 3.1 Fix the cone to the base of the jet nebulizer.

4. Pour the medicine prescribed at the base of the jet nebulizer as indicated by the physician, paying special attention not to exceed the maximum amount allowed (7 ml).

WARNING: Never pour the medicine in the compressor area since it may be damaged. Add medicine only when the jet nebulizer is separated from the nebulizer.

5. Screw the jet nebulizer lid over its base and put it on the nebulizer body.
- 5.1 Distance nebulization: If you wish, you can use the unit with the extension tubing adapter:
 - Remove the whole nebulizer from the unit
 - Connect the tubing to the unit and the other end to the nebulizer.
- 5.2 Mask nebulization: connect the mask to the nebulizer cup. Nebulization without mask: If you wish, you can use the nebulizer without the mask.
6. Turn the tip of the jet nebulizer up to the intended position.
7. Connect the power source cable to the nebulizer cable and then connect it to the socket of your electric power installation. Make sure the electric nominal values shown on the label of the adapter match those of the power source.

Do not use the device if wet.

The unit may be used alternatively with adapter for the car lighter or with the rechargeable battery pack.

8. Turn ON the device by pressing the on button (the light signal will appear) and inhale according to the prescription of your physician. After approximately 8 minutes the unit will automatically turn OFF.
9. If you wish to turn it OFF before set time, press the on button.
- 9.1. Another way of operation is at the patient's demand. In this case, the user must press the off button so that the nebulization is done manually, regardless of the timer and when releasing the button the device will turn OFF. This system is useful when using small amounts of medicine, to optimize the performance and to synchronize the outlet of the spray with the patient's breathing rhythm (inhaling when pressing the button and exhaling when releasing it).
10. For the correct operation of the device, use it vertically, do not slant it over 30°.
11. Do not slant the device over 90° since the medicine may spill. Once the treatment is complete, turn off the unit. Unplug the adapter, remove the mouth tip, pull the jet nebulizer lid and perform the cleaning procedures as described on chapter "Cleaning and Maintenance".

Operation with rechargeable battery pack

Precautions and Safety Measures

- Do not use the device in the sun, or close to a heat source.
- Never immerse the battery pack in water.
- Do not operate the unit for more than 20 minutes.
- It is normal for the battery pack to increase temperature while being operated.
- If the battery has not been used for a long period (3 months or more), repeat the initial charge.
- If the battery pack will not be used for a long period of time, it is advisable to store it fully charged.

Battery Charging / Initial operation

The battery pack is initially discharged and it is necessary to fully charge it before its first use to ensure the capacity and useful life of the battery.

- A.1** Make sure that the ON/OFF button is OFF (0).
- A.2** Connect the supply power cord of your John Bunn nebulizer to the power source.
- A.3** Connect the plug of the power supply cord into the opening of the pack base and charge 14 hrs.

Battery Charging / Regular operation

- A.1** Make sure that the ON/OFF button is OFF (0).
- A.2** Connect the supply power cord of your John Bunn nebulizer to the power source.
- A.3** Connect the plug of the power supply cord into the opening of the pack base and charge between 6 and 12 hrs, depending on the use. Do not leave the Pack charging for more than 24hrs.

Operating Instructions

Prepare the nebulizer as you normally do or follow the instructions.

- B.1** Connect the pack plug to the nebulizer.
- B.2** Turn the ON/OFF button to the ON position (I) (the green light that indicates the state of the battery will illuminate).

Turn the nebulizer on. If the red light is on disconnect the nebulizer plug and charge the battery pack. The battery will run 30-40 minutes after a full charge. Once nebulizer use has been completed, turn the Battery Pack off and disconnect it.

Technical Specifications

Battery TypeNickel-metal hydride

Capacity550mAH

Output12V --- 1.1A

Input12V --- 0.5A

Charge time14 hrs Initial Charge 6 to 12 hrs Normal Charge

The battery material must be recycled or deposited in a place specially adapted for that purpose



Operation with car lighter adapter

C.1 Connect the adapter to the car lighter and the other wire end to the unit. Then operate the nebulizer as per the instructions previously described.

Cleaning and maintenance

1. Clean the outer surfaces with a wet cloth and dry immediately. The jet nebulizer should be replaced if obstructed by any medicine residue or other substances.

Warning:

- Jet nebulizer and accessories must not be boiled.
- Do not let the unit get wet or submerge it into any liquid.
- Do not use any abrasive substances to clean up the unit.

2. The air filter is to be replaced once a month or earlier, if it becomes gray, or after 3 months, if the device has not been used for a long time.

Attention:

- Use only the manufacturer's original filters.
- Do not operate the unit without an air filter.

IMPORTANT:

- If medicine enters the compressor area, clean the device with a dry cloth and stand it idle for 5 minutes, by placing it upside down. After 5 minutes, operate the device for 2 minutes without the nebulizer.
- The unit must not be opened for any reason whatsoever. The parts contained cannot be repaired by any unqualified person; the compressor requires neither lubrication nor maintenance.
- After cleaning operations, cover the nebulizer with the unit lid.

WARNING: in order to avoid any infection risk due to contaminated medicine, it is recommended to clean parts after each use. Nebulize only with products prescribed by a physician, and follow the instructions. Do not use any balsamic or aromatic substances.

Nebulizer elements cleaning and maintenance

1. Remove the jet nebulizer from the nebulizer and dismantle each part by following steps from 1 to 4 described in "Use Instructions".
2. Once the three parts are dismantled, submerge each part into a solution of three parts of warm water and one part of white vinegar for 30 minutes, or use a bacteria germicidal disinfectant available in drug stores.
3. Drain any liquid from components, reassemble and insert them into the unit.
4. Turn on the device and leave it on for about 5 minutes. This operation will dry components and avoid wasting medicine, which may obstruct air flow.

Warning: nebulization elements are to be replaced about 6 months after use, or earlier if they do not seem to be working properly, or if the unit has not been used for a long time. Use only the manufacturer original spare parts.

Air filter change

1. The filter should be replaced every month, or more often if it gets dirty or worn out.
2. Remove the jet nebulizer from the nebulizer body.
3. Turn the nebulizer base upside down.
4. Remove the filter cover lid and replace it with a new one.
5. Remount by pressing the filter cover lid, with the new filter in place.

Precaution: using a dirty filter or replacing it with another material such as cotton, may damage the compressor.

Technical specifications

Method of nebulization	.Lubrication free piston compressor.
Operating voltage	100-240 V ~ 50-60 Hz 12V --- 1.25A
Class	.II
Power	.16W
Maximum medication capacity	.7 ml
Particle dimension (microns)	.less than 5 microns
Nebulized solution quantity	.0.25 ml / min. or greater
Air flow	.2-3 l/min
Maximum pressure	.2.3 kg/cm ²
Device dimensions	.123 x 86 x 48 mm / 4.85" x 3.4" x 1.9"
Weight	.0.77 lbs / 350 g
Operating temperature and humidity	.50° F - 104° F (10° C - 40° C) 30% - 95% RH
Storage temperature and humidity	.13° F - 140° F (-25° C - 60° C) 10% - 95% RH
Atmospheric pressure range for transport and storage	.500-1060 mb

Reference:

Electric Power Safety Standards EN 60601.1 / Electromagnetic Compatibility as per EN 60601.2

*The specifications and the outer design are subject to change for improvement reasons without previous notice.

Troubleshooting Tips

Attention: this unit is provided with an internal over-consumption/ over-heating protection device. If the unit does not turn on, unplug it and wait for 40 minutes before reusing.

If something out of the ordinary happens during use, please check and correct any of the following items:

Troubles	Causes and solutions
The device doesn't work.	1- Make sure the plug is correctly connected to the device. 2- Make sure the AC/DC socket is in direct contact with a power source. 3- Press the ON / OFF button again.
The device is on but the nebulization is not enough.	1-Make sure the jet nebulizer is well placed; repeat the insertion procedure. 2- Make sure the nebulizer is in a vertical position during use, do not slant it over 30 degrees. 3- Check the jet nebulizer is not empty. 4- Clean or replace the jet nebulizer as described in chapter "Cleaning and Maintenance". 5- Check and verify if there is any obstruction in the air filter or if it is dirty.
The device is ON but does not nebulize.	1- Be sure that the micronebulization cone is located in the nebulization chamber. 2- Check that the medicine is in the jet nebulizer base.
The device doesn't work.	The overconsumption protector device was activated due to any of the following reasons: 1- The device was working under conditions different to those indicated in the manual. 2- The device was working near heat sources or heat rooms. 3- Keep the device off for at least 40 minutes.
The device makes some noise.	Check that the filter lid is correctly placed and completely covers the filter seat. If the noise continues, please contact the Graham-Field Consumer Service Center.

1 Year Limited Warranty

Graham-Field warrants to the original retail purchaser that this product is free from defects in material and workmanship for a period of 1 year from the date of purchase. This warranty does not cover failures resulting from misuse, abuse, alteration of the John Bunn Nebulizer System, use of improper components or failure to comply with the operating instructions. This warranty does not include the Nebulizer System tubing or accessories.

All requests for warranty service should include the model number of your John Bunn Nebulizer System, proof of purchase (including date of purchase), your phone number and the nature of your service request. Graham-Field will either repair or at its option replace free of charge any parts necessary to correct defects in material or workmanship covered by this limited warranty.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, WHETHER ORAL, WRITTEN, EXPRESS OR IMPLIED. THERE ARE NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, EXCEPT FOR THOSE IMPLIED WARRANTIES ARISING BY OPERATION OF LAW WHICH ARE LIMITED IN DURATION TO THE 1 YEAR TERM OF THIS WARRANTY. GRAHAM-FIELD'S LIABILITY, WHETHER BASED ON CONTRACT, TORT, WARRANTY, STRICT LIABILITY, OR ANY OTHER THEORY, SHALL NOT EXCEED THE PRICE OF THE INDIVIDUAL JOHN BUNN NEBULIZER SYSTEM WHICH IS THE BASIS OF THE CLAIM. IN NO EVENT SHALL GRAHAM-FIELD BE LIABLE FOR ANY LOSS OF PROFITS, FACILITIES, EQUIPMENT OR OTHER INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Some states do not allow limitations on how long an implied warranty lasts, or allow the exclusion or limitation of incidental, consequential, or special damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

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JB0112-065-INS-LABRevA05

NEHA/8112