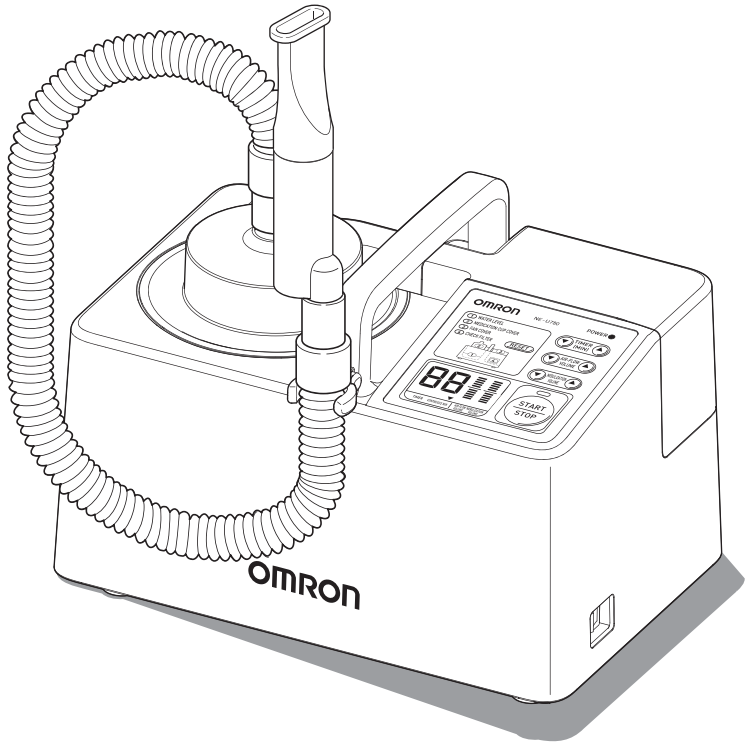
OMRON

ULTRA A-I-R Pro



Ultrasonic Nebulizer

NE-U780

(NE-U780-E)

Instruction Manual

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- This product is a medical device and should be used under the guidance of a physician. For type, dose, and regime of medication, follow the instructions of your doctor or pharmacist.
- This product is not designed to function as a home-use inhaler for the purpose of moistening the mucous membranes of the nose and throat.

All for Healthcare

IM-NE-U780-E-03-03/2017
5371508-1C

Intended Use

Medical Purpose	This product is intended to be used for inhaling medication for respiratory disorders.
Intended User	• Legally certified medical experts, such as doctor, nurse and therapist • Caregiver or patient under the guidance of qualified medical experts
Intended Patients	• Patients with asthma, nasal inflammation, or COPD • Patients requiring humidified oxygen after surgery
Environment	This product is intended for use in a medical facility, such as hospital, clinic, and doctor's office, or at facility under the strict guidance of a medical expert.
Durable period	Durable periods are as follows, provided the product is used to nebulize 30 ml of saline solution at 26 °C with 26 °C water in the removable water tank 18 times a day for 10 minutes each time at a room temperature of 23 °C: Durable period may vary depending on usage environment. Frequent use of the product may shorten the durable period.

Main Unit	5 years
Removable water tank	5 years
Power cord	5 years
Medication cup cover	1 year
Silicon packing (Washer)	1 year
Medication cup holder	1 year
Mouthpiece	1 year
Inhalation hose M	1 year
Medication cup	6 months

Precautions for use	Warnings and cautions described in the instruction manual should be observed.

Important Safety Precautions

■ This section provides information about how to use the product safely and to prevent injury to yourself and others as well as property damage.

⚠Warning: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

(Usage)
- For type, dose, and regime of medication, follow the instructions of your doctor or pharmacist.
- Keep the device out of reach of unsupervised infants and children.
- Always dispose of any remaining medication after use, and use fresh medication each time.
- This product should not be used on patients, who are unconscious or are not breathing spontaneously.
- Do not use only water in the nebulizer for inhaling purposes.
- Do not use the product while connected to an automatic respirator.
- Do not use in anaesthetic or ventilator breathing circuits.
- Do not touch the vibrator while the product is plugged in.
- Do not use the device where it may be exposed to flammable gas.
- Do not block the openings on the bottom of the device during use.
- Do not use or store the device in a humid location such as a bathroom.

(Power source)
- To avoid the risk of electric shock, this equipment must only be connected to a supply mains with grounding.
- Do not operate the device with a damaged power cord or plug.
- Plug the power cord into appropriate voltage outlet. Do not use in a multi-outlet plug.
- Never plug or unplug the power cord with wet hands.

(Cleaning and disinfecting)
- Clean and disinfect the product's parts before using the product for the first time, after the product has not been used for an extended period of time, and when the nebulization set is contaminated.
- Clean and disinfect the nebulization set, inhalation hose, and mouthpiece after each use.
- When the product is being used by different people, clean and disinfect the nebulization set, inhalation hose, and mouthpiece after each person's use.
- Follow the antiseptic manufacturer's instructions and make sure there is no antiseptic left on the product after disinfecting it.
- Allow the product's parts to dry after cleaning and disinfecting before reassembling the product and store in a clean location so that the product will not become contaminated.
- The medication cup is a consumable part. If the cup is damaged or misshapen, replace it with a new cup before use.
- When assembling the product, do not directly touch parts through which the medication or aerosol will pass.
- The main unit and the power cord are not waterproof. Do not spill water or other liquids on these parts.

⚠Caution: Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury or physical damage.

(Usage)
- Make sure there is no medication left in the inhalation hose.
- Add fresh water to the removable water tank before each use.
- Close supervision should be provided by a parent or caregiver when this device is used by, on, or near children or disabled individuals.
- Make sure the water tank contact and main unit contact are not contaminated.
- Make sure that the air filter is correctly attached.
- To avoid the medication residue on the face, be sure to wipe the face after removing the mask.
- Do not get nebulized medication in your eyes.
- Do not operate the nebulizer with the medication cup empty.
- Approved for human use only.
- Use only OMRON original and optional accessories specified for this device.
- Do not add more than 150 ml of medication to the medication cup.
- Do not subject the device to any strong shocks such as dropping on the floor.
- Do not insert fingers or objects inside the main unit.
- Do not affix the removable water tank to the main unit while it is wet on the outside.
- Do not cover the main unit with a blanket, towel, or any other type of cover during use.
- Do not disassemble or attempt to repair the main unit or power cord.
- The mask and mouthpiece may reach 47 °C. Remove them immediately after you are finished using the product.

(Power source)
- Use only the original power cord.
- Fully insert the power plug into the outlet.
- Wipe the dust off from the power plug.
- When handling the power cord, take care not to do the following:

Do not damage.	Do not break it.
Do not tamper with it.	Do not forcibly bend or pull.
Do not twist.	Do not bundle during use.
Do not pinch.	Do not place under heavy objects.

- When disconnecting the power plug from the outlet, do not pull the power cord.
  Be sure to pull from the power plug safely.
- Unplug the product if it will not be used for an extended period of time.
- If you experience a power outage during use, immediately turn off the power button and unplug the product.
- Always remove the power cord from the device before cleaning.
- Do not place the product near walls.
  Be sure to place the product 10 cm or more from the walls.

(Cleaning and disinfecting)
- Discard the water in the removable water tank after each use.
- Wipe away any medication that gets on the fan installation axis.
- Grip the main unit securely by the handle or carry the main unit itself.
- Do not use a microwave oven to boil or dry parts.
- Do not use a hair dryer to dry parts.
- Do not use a dishwasher to wash or dry parts.
- When cleaning the product's contacts, exercise care not to touch the patient.

General Safety Precautions
- Do not put any liquid other than tap water inside the removable water tank. It may damage or degrade the vibrator.
- Do not place the main unit higher than your head during inhalation. It may cause the medication to drip onto your face or clothing.
- Do not carry or leave the main unit while the medication cup contains medication. It may cause the medication to spill, damaging the main unit or soiling the area around it.
- Do not use the product for any purpose other than inhalation.
- When cleaning the removable water tank, exercise care not to damage the vibrator.
- When sterilizing in an autoclave, exercise care so that no parts come into contact with metal parts that are in contact with the sterilizer heater or heater. Because the heater becomes hot, any parts that come into contact with it may melt or become misshapen.
- Never clean with benzene or thinner.
- When disposing of or recycling the main unit, its accessories, and any optional accessories, treat them as medical waste in accordance with methods prescribed by your local government.

Important Safety Precautions

Inspecting the product

Inspect the device before each use, and check that there are no problems.

Troubleshooting

If a device error (E1, E3, or E4) occurs, immediately follow the procedure described below. (☞ Page 22)

(1) Unplug the product and ensure that it cannot be used.
(2) Keep others from using the product by labeling it as broken.
(3) Contact the distributor from which you purchased the product or an authorised OMRON retail outlet.

Exemptions

OMRON is not liable for any of the following:

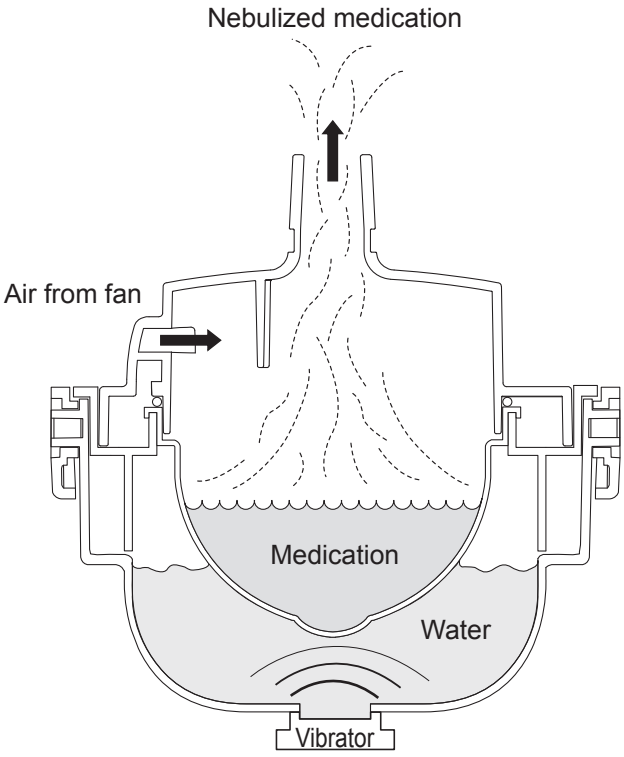
1. Product failure or damage resulting from maintenance or repair work carried out by any business other than OMRON or its designated agents
2. Product failure or damage caused by another company's product
3. Product failure or damage resulting from maintenance or repair work using service parts other than those designated by OMRON
4. Product failure or damage or accidents involving the product resulting from a failure to adhere to the safety precautions and operating instructions described in this manual
5. Product failure or damage resulting from a failure to adhere to the product's operating conditions, for example concerning its power source and installation environment, as described in this manual
6. Product failure or damage resulting from modification of the product or unauthorised repairs to the product
7. Product failure or damage caused by a fire, earthquake, flood, lightning strike, or other natural disaster

1. The contents of this manual are subject to change without notice.
2. Although we have made every effort in compiling this manual to include accurate information, we would request that you contact OMRON in the event that you discover a shortcoming or error.
3. Unauthorised duplication of this manual, either in whole or in part, is prohibited. The Copyright Act prohibits use of this manual for any purpose other than personal (corporate) use without the express consent of OMRON.

NE-U780 principles of operation

1. **Energy from ultrasonic vibration is transferred to the water from the vibrator at the bottom of the removable water tank.**
2. **The energy from the ultrasonic vibration is transferred to the medication in the medication cup via the water in the removable water tank.**
3. **Medication in the medication cup is nebulized and dispersed by means of the ultrasonic vibrations.**
4. **The fan blows a stream of air containing atomized medication outside the product in a process known as nebulization.**

Notes:
- Atomization: The process by which the medication becomes an aerosol.
- Nebulization: The process by which the atomized medication is expelled by the product.



Product features

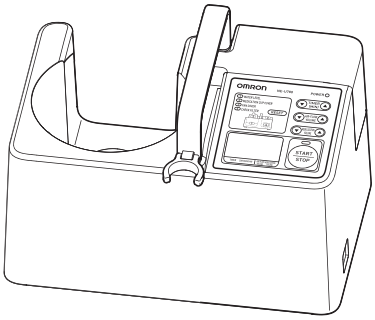
A professional ultrasonic nebulizer with a removable tank

REMOVABLE TANK

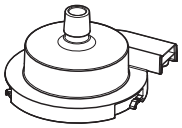
The OMRON NE-U780 Ultrasonic Nebulizer features a removable water tank that can be submerged in liquid for disinfection and cleaning purposes.

1. Smooth shape for easy cleaning
   The main unit is easy to clean and disinfect by using sheet switches and air pathways that can be easily wiped clean and disinfected.
2. Autoclave-safe attachments
   The medication cup cover, inhalation hose, mouthpiece, and inhalation mask (optional) can be disinfected using either an autoclave or sterilizing liquid.
3. Large, easy-to-see LCD display
   The product features a large LCD display that lets you identify timer, air-flow volume, and nebulization volume settings at a glance. A backlight ensures the display is visible in dark locations, too.
4. Audible Alarm
   The product warns you with an audible alarm when an error has occurred or when the set time has elapsed. Error LEDs indicate where an error has occurred.

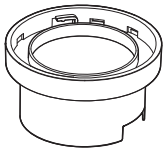
Packaging Contents



■ Main unit
Note: Air filter already attached.

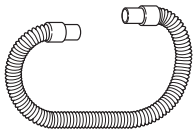


■ Medication cup cover
Note: Includes silicon packing (Washer).

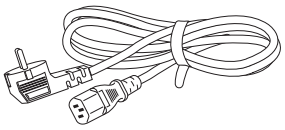


■ Medication cup holder

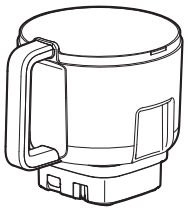
■ Mouthpiece



■ Inhalation hose M



■ Power cord
Note: This product provides Class I protection against electric shock. Use only with the grounded power cord that is provided.



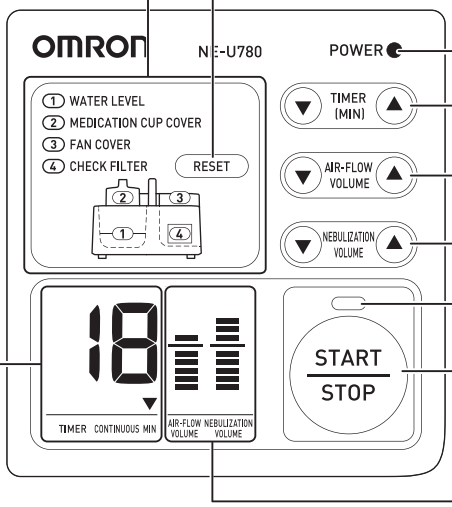
■ Removable water tank
Note: Includes handle cover.

■ Medication cup × 2

■ Instruction manual
(including product warranty)

For more information about optional accessories, see the “Optional Medical Accessories”. (☞ Page 25)

Display



ERROR display
The locations of any errors are indicated by the Error LEDs. (☞ Page 22)

Timer display and Internal error display

■ When using the timer
Indicates the remaining nebulization time. The time can be set from 1 to 30 min.

■ During continuous nebulization
The digital portion of the display cycles through a simple animation. (☞ Page 13)

■ When an internal error has occurred
Indicated with a display such as “E1”. (☞ Page 22)

Reset button (☞ Page 19)

Power LED
Lights up when the power button is in the “ON” position.

Timer button (☞ Page 13)

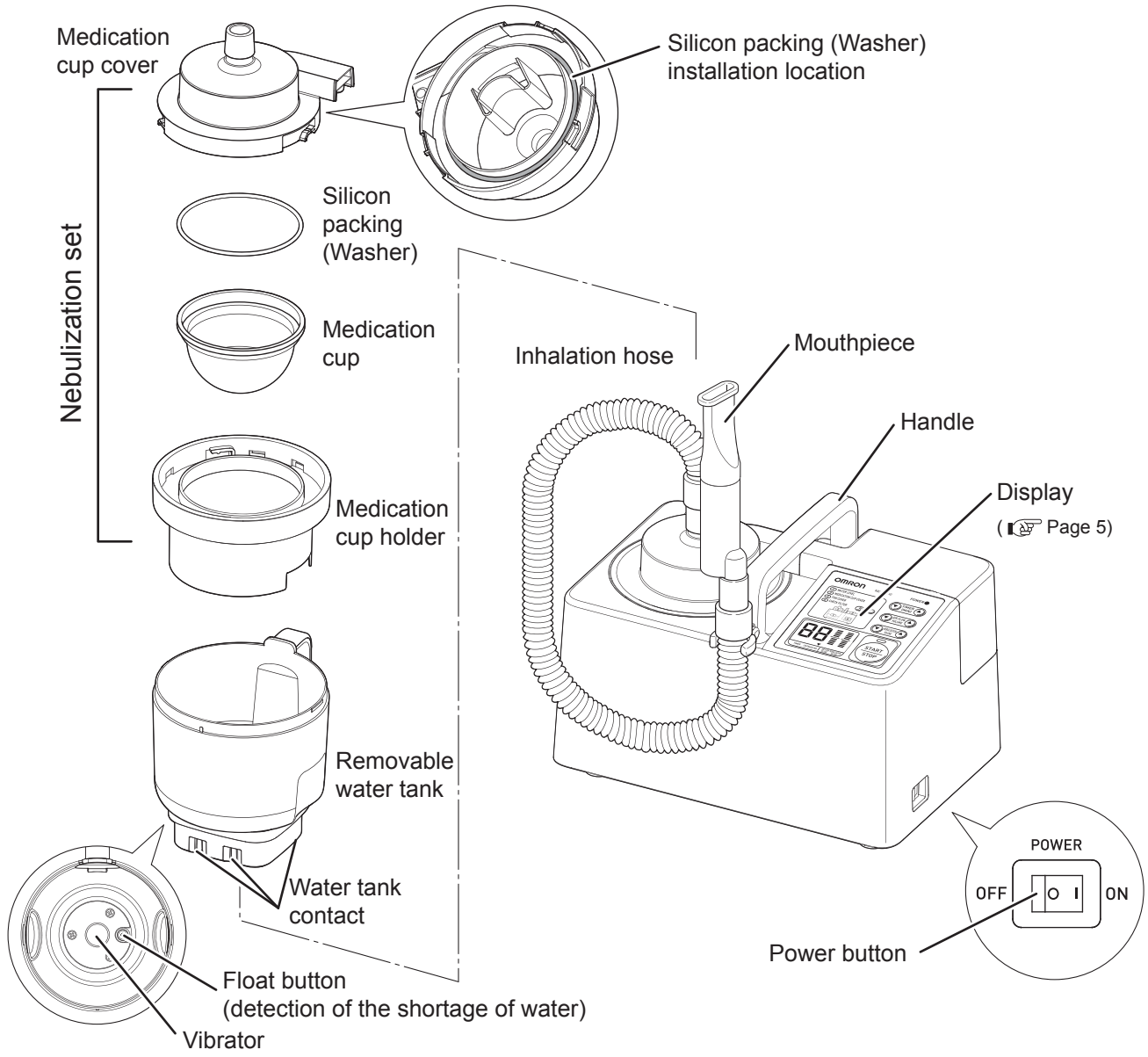
Air-flow volume adjustment button (☞ Page 13)

Nebulization volume adjustment button (☞ Page 13)

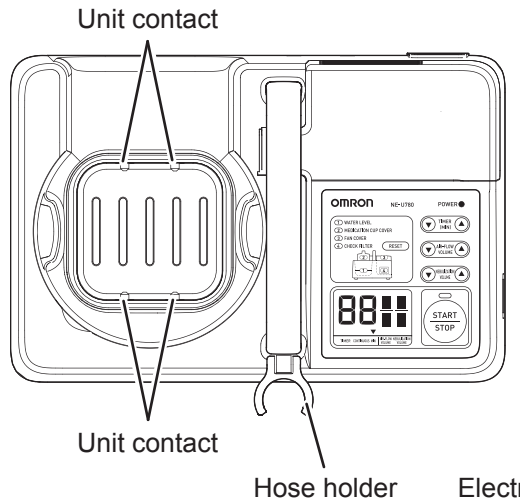
START/STOP LED
Lights up when starting nebulization.

START/STOP button (☞ Page 14)

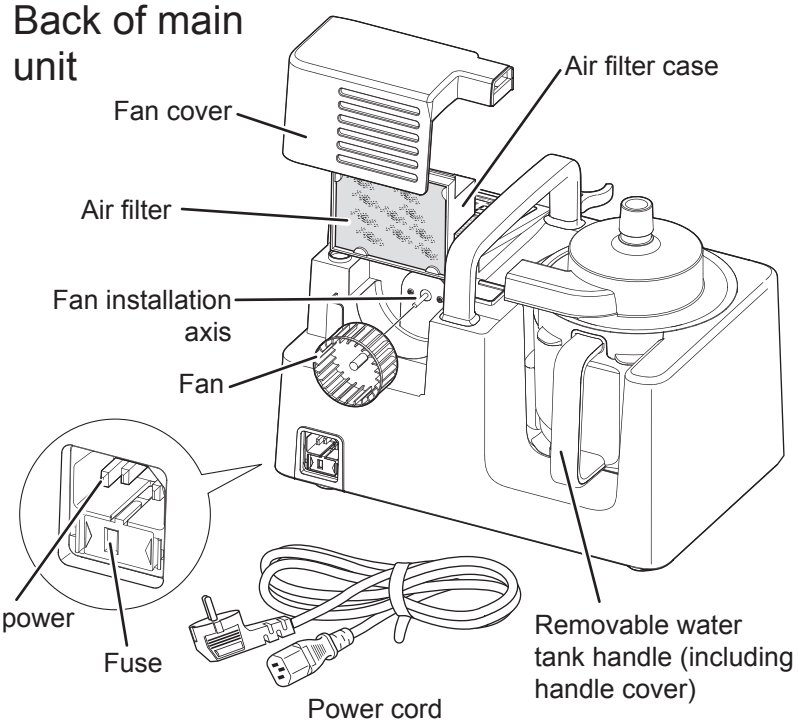
Level display
Indicates the air-flow volume and nebulization volume. (☞ Page 13)



■ Top of main unit



■ Back of main unit



Clean and disinfect the product's parts before each use. Clean and disinfect the product’s parts before using the product for the first time and after the product has not been used for an extended period of time.

“Maintenance” (☞ Page 19)

Disinfecting

Disinfecting the main unit

● Sterilization with an EOG sterilizer

Only the main unit can be sterilized with an EOG sterilizer. Do not attempt to sterilize the removable water tank or other parts with an EOG sterilizer. Refer to the sterilizer’s instruction manual and contact the EOG sterilizer manufacturer for more information.

Note: Ethylene oxide gas (EOG) will remain on the nebulizer’s rubber and plastic parts. Perform aeration (air replacement) for an adequate interval after sterilization as determined in consultation with the EOG sterilizer manufacturer until the parts are safe for use by humans.

● Sterilization with a low-temperature plasma sterilizer

Only the main unit can be sterilized with a low-temperature plasma sterilizer. Do not attempt to sterilize the removable water tank or other parts with a low-temperature plasma sterilizer. Refer to the sterilizer’s instruction manual and precautionary information for more information.

Disinfecting parts

⚠ Warning

Allow the product’s parts to dry after cleaning and disinfecting before reassembling the product and store in a clean location so that the product will not become contaminated.

Different parts must be disinfected using different methods. See the “Disinfection chart”. (☞ Page 8 and Page 9)

● Disinfection using boiling water

Parts should generally be immersed in boiling water for about 10 to 30 minutes.

Note: Some parts may become slightly discoloured over time, but this does not indicate a problem with their material properties.

● Disinfection using a chemical disinfectant

Different disinfectants target different bacteria. For more information about the efficacy of a specific disinfectant, see its instruction manual and precautionary information. Some disinfectants may trigger an allergic reaction.

Although the amount of time for which parts should be immersed varies with the disinfectant being used, a general guideline is at least 30 to 60 minutes.

Notes:

- After immersion, rinse parts thoroughly under water and dry them off quickly. Exercise care to store them so as to avoid infection.
- If a coloured disinfectant such as Hibitane is used, some parts may become slightly discoloured over time. This does not indicate a problem with their material properties.

Typical disinfectants that can be used

- Disinfecting ethanol
- Sodium hypochlorite: Milton (0.1 %), Purelox (0.1 %), or equivalent product
- Benzalkonium chloride: Osvan (0.1 %)
- Chlorhexidine: Hibitane (0.5 %), Maskin (0.5 %)
- Amphoteric Surfactant: Tego 51 (0.2 %) or equivalent product

● Using an autoclave

Refer to the sterilizer's instruction manual and precautionary information.
Parts should be placed in the autoclave for 15 minutes at a temperature of 121 °C.
Notes:

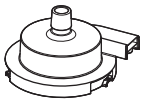
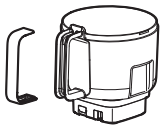
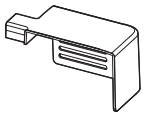
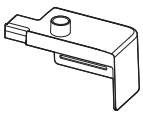
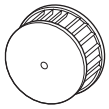
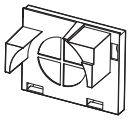
- When sterilizing in an autoclave, exercise care so that no parts come into contact with metal parts that are in contact with the sterilizer heater or heater. Because the heater becomes hot, any parts that come into contact with it may melt or become misshapen.
- Some parts may become slightly discoloured over time, but this does not indicate a problem with their material properties.

● Disinfection chart

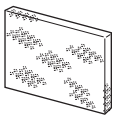
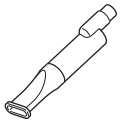
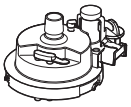
Parts can be disinfected using the methods listed in the chart below. For more information about disinfecting the main unit, see "Disinfecting the main unit". (☞ Page 7) For more information about the disinfection process, see the disinfectant's instructions and precautions.

Note: Materials are indicated by the following abbreviations:
Acrylonitrile butadiene styrene resin: ABS, Poly phenylene sulfide resin: PPS, Polyethylene resin: PE, Polycarbonate resin: PC, Polymethylpentene: PMP, Polypropylene resin: PP, Polystyrene resin: PS, Polyvinyl chloride resin: PVC, Thermoplastic elastomer: TPE

○ : applicable ×: not applicable

Parts	Materials	Boiling water	Chemical disinfectant	Autoclave
Medication cup	PP	×	○	×
Medication cup cover (with silicon packing (Washer)) 	Medication cup cover: PMP Silicon packing (Washer): Silicon rubber	○	○	○
Medication cup holder	PP	×	○	×
Removable water tank Note: Disassemble the handle cover before disinfection. 	Removable water tank: ABS/PPS Handle cover: ABS	×	○	×
Fan cover 	ABS	×	○	×
Fan cover for bacterial filter 	ABS	×	○	×
Fan 	PP	×	○	×
Air filter case 	PP	×	○	×

Before Inhalation

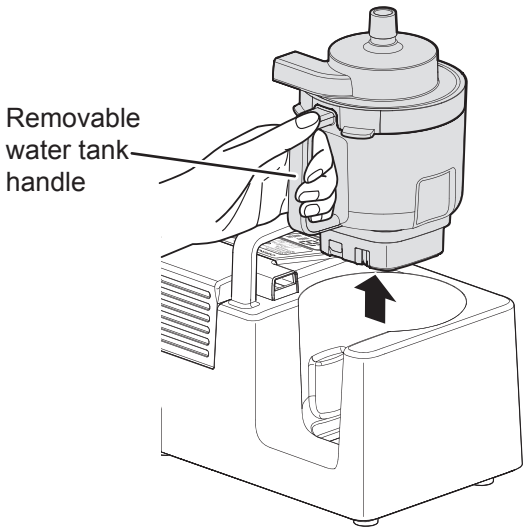
Parts	Materials	Boiling water	Chemical disinfectant	Autoclave
Air filter 	PS	×	×	×
Mouthpiece 	PP*	○	○	○
Inhalation mask (L) set	Mask: TPE String: Rubber	○ (Do not disinfect string.)	○ (Do not disinfect string.)	○ (Do not disinfect string)
Inhalation mask (S) set	Mask: TPE String: Rubber	○ (Do not disinfect string.)	○ (Do not disinfect string.)	○ (Do not disinfect string.)
Inhalation hose M Inhalation hose L	Hose: TPE Hose ends: TPE	○	○	○
Long time Nebulization set 	Cover: PMP Cap: Silicon rubber Silicon packing (Washer): Silicon rubber	○	○	○
Supply Medication set	Bottle: PP Silicon packing (Washer): Silicon rubber Tube: Silicon rubber Hanger: Stainless steel	×	○ (Do not disinfect hanger.)	×

*Heat-resistant polypropylene

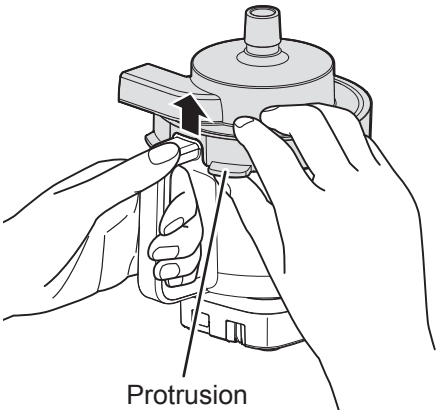
Preparation

1 Filling the removable water tank with water

1. Grip the removable water tank's handle securely and lift it up to remove it from the main unit.

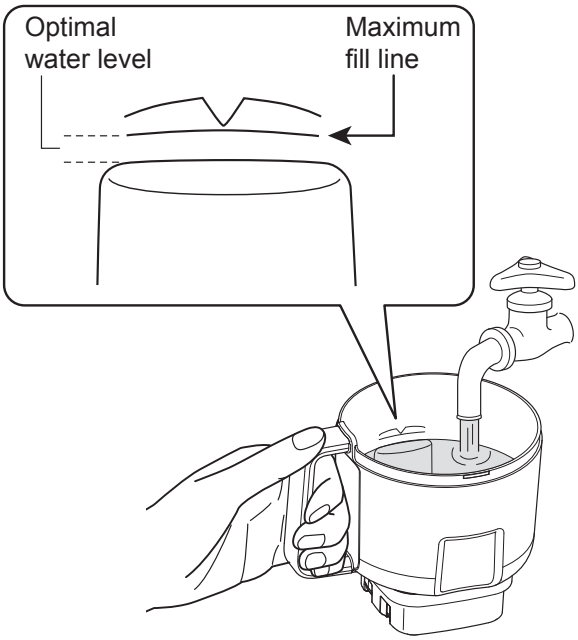


2. Placing your finger under the protrusion on the medication cup holder, remove the nebulization set.



3. Fill the removable water tank with tap water.

Fill to the optimal water level, taking care not to exceed the maximum fill line.



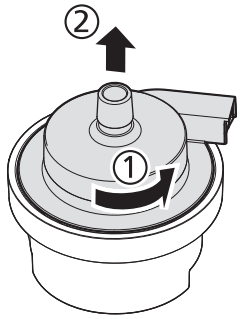
Notes:

- If there is too little water in the removable water tank, a "① WATER LEVEL" error will occur. Add water.
- If the water temperature is too low, nebulization effectiveness may decrease. (The recommended temperature is 26 °C.)
- Do not put any liquid other than tap water inside the removable water tank. It may damage or degrade the vibrator.
- Replace the water in the removable water tank after each use. When operating the product continuously for an extended period of time, replace the water at least every 24 hours. See "Using the product for extended periods of time". (☞ Page 17)

Continued

2 Adding medication to the medication cup

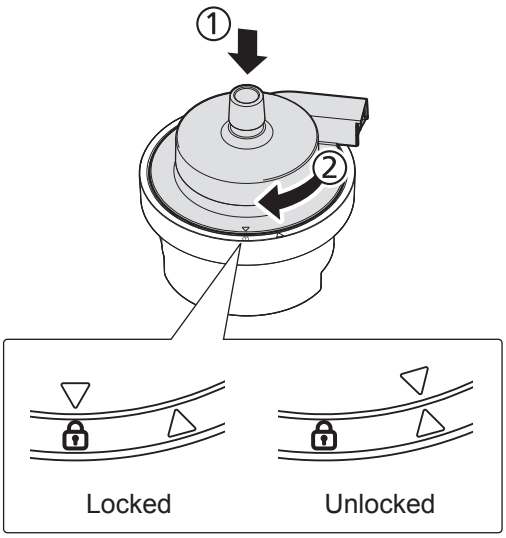
1. **Rotate the nebulization set's medication cup cover counterclockwise to remove it.**



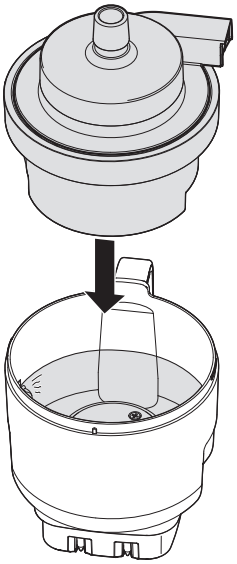
2. **Add medication to the medication cup.**

Notes:
- Before adding medication, make sure the medication cup is clean, not damaged or misshapen.
- If using a syringe, take care not to damage the medication cup with the needle.

3. **Align the ▽ mark on the medication cup cover with the △ mark on the medication cup holder, press them together, and rotate the cover clockwise to the position indicated by the 🔒 mark.**



4. **Attach the nebulization set to the removable water tank.**



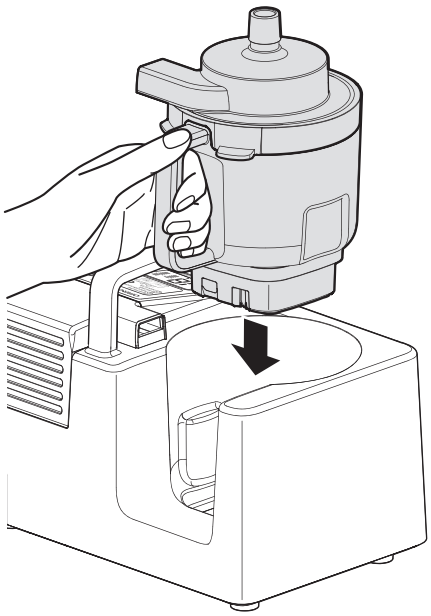
3 Assembling the main unit

1. Secure the removable water tank in the main unit.

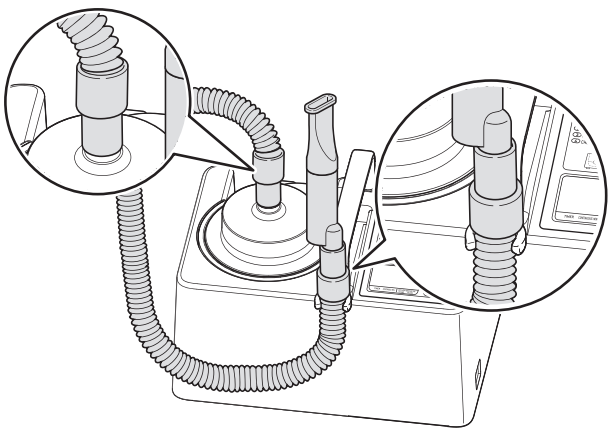
Press down on the tank until you hear it click into place.

⚠ Caution

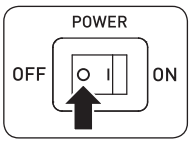
Do not affix the removable water tank to the main unit while it is wet on the outside.



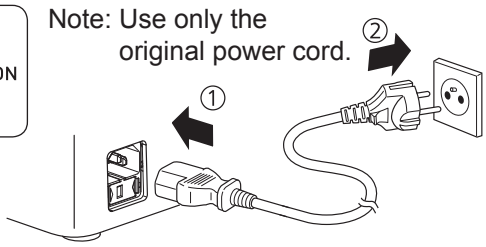
2. Firmly attach the inhalation hose, the hose holder the mouthpiece or other attachment.



3. Make sure the power button is in the “OFF” position and connect the power cord to the main unit and a wall outlet.



Note: Use only the original power cord.

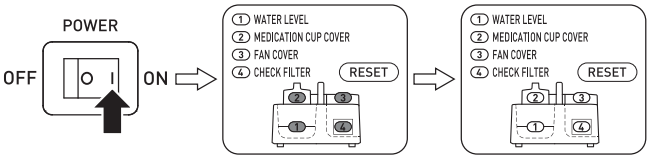


4. Turn on the power button and make sure all the Error LEDs on the error display light up and then turn back off.

If one or more of the Error LEDs remain lit, see “Troubleshooting” (☞ Page 22) for more information about where to look for the problem. The product will not operate if Error LEDs ① through ③ are lit up.

If the removable water tank is not attached properly, an audible alarm will sound when pressing the START/STOP button. Reattach the tank properly.

Note: You may hear the sound of the fans operating when the power button is turned on. This is normal and does not indicate a malfunction.



All LEDs lit No LEDs lit

5. The product is now ready for use.

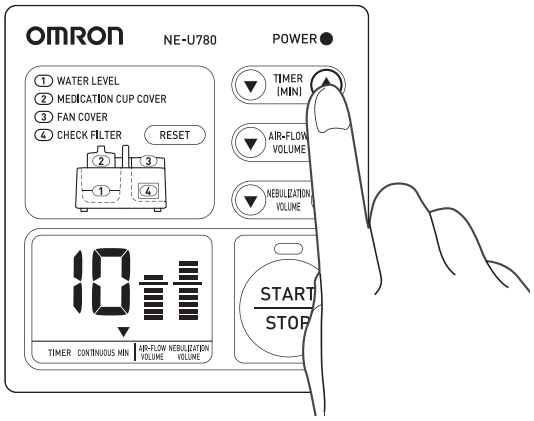
Inhalation Method

1 Setting the inhalation time

Press the TIMER(MIN) buttons ▲ ▼ to set the inhalation time.

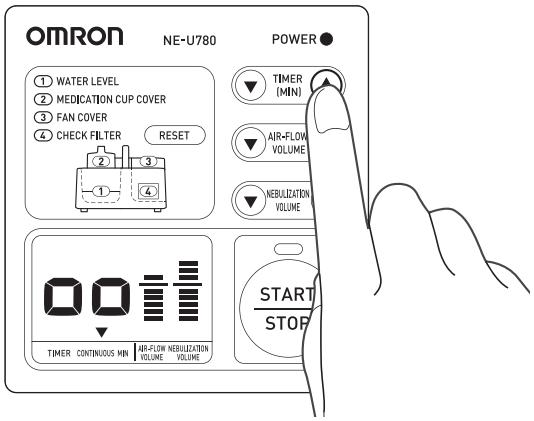
● Setting the timer

The timer can be set to an interval of up to 30 minutes in 1-minute increments. Press and hold the buttons to increase or decrease the time by 5 minutes. The ▼ indicator will flash above the “MIN” mark on the timer display.



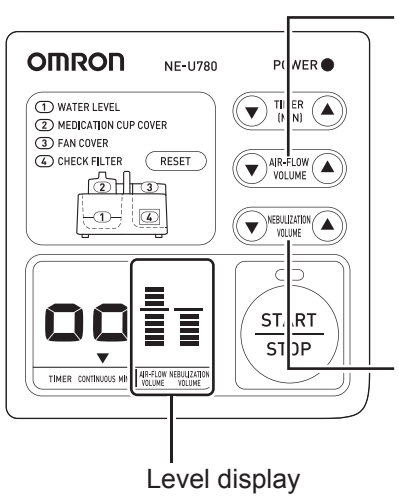
● Continuous nebulization

Select “CONTINUOUS” with the timer button ▲. “CONTINUOUS” is the next setting after “30 MIN”. The ▼ indicator will flash above “CONTINUOUS” on the timer display.



2 Setting the air-flow volume and nebulization volume

Using the AIR-FLOW VOLUME adjustment buttons ▲ ▼ and the NEBULIZATION VOLUME adjustment buttons ▲ ▼, set the air-flow volume and nebulization volume. You can check both settings with the level displays, which change to reflect the current value of each.



The air-flow volume is the amount of air that is flowing into the medication cup cover.
11 settings from 0 (no level display) to 10 (maximum level display)

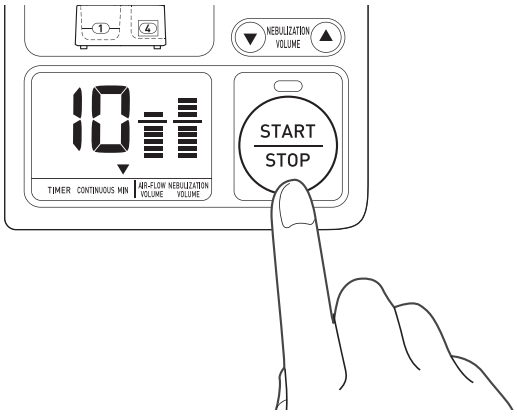
The nebulization volume is the amount of aerosol resulting from nebulization of the medication.
10 settings from 1 (minimum level display) to 10 (maximum level display)

Notes:

- Adjust the air-flow volume and nebulization volume according to the treatment.
- Depending on the type of medication being used, there may be some unevenness in how the product nebulizes the medication.
- If you start using the product with 150 ml of medication and with both the air-flow volume and nebulization volume set to “10”, nebulization may become intermittent. If this occurs, reduce the nebulization volume.

3 Pressing the START/STOP button

The START/STOP LED will light up, the fan will turn on, and nebulization will start.



● When using the timer

The display will count down one minute at a time. To change the timer setting during operation, operate the timer buttons ▲ ▼ to reset the timer and restart it from the new time.

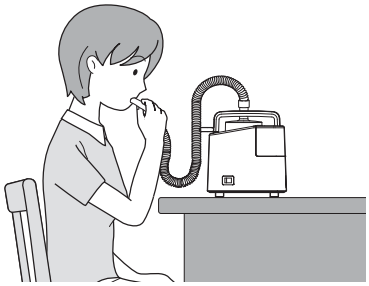
● During continuous operation

The digital portion of the timer display will cycle through a simple animation.

You can also adjust the air-flow volume and nebulization volume while observing the aerosol coming from the inhalation hose.

4 Inhaling the aerosol

<Example use>



An inhalation mask (optional) can be used instead of the mouthpiece.

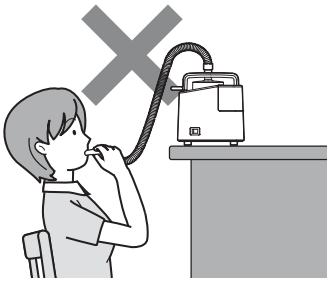
● During inhalation

Do not bend the inhalation hose or block the mouthpiece.

- It may cause medication to accumulate in the hose, reducing the nebulization volume.

Do not place the main unit higher than your head while using it.

- It may cause the medication to drip onto your face or clothing.



● The product will sound an audible alarm and stop operating if…

- The medication cup cover is removed during inhalation.
- The water level in the removable water tank falls below a certain level.
- The fan cover is removed.
- The main unit experiences an internal error.

An Error LED will light up when the audible alarm sounds, or an error message will be displayed. Press the START/STOP button to silence the audible alarm. Refer to “Troubleshooting” (☞ Page 22) and inspect the product.

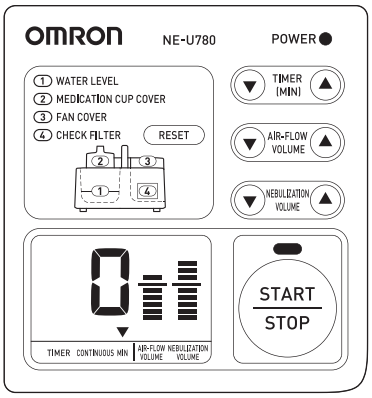
Continued

5 Stopping inhalation

● When using the timer

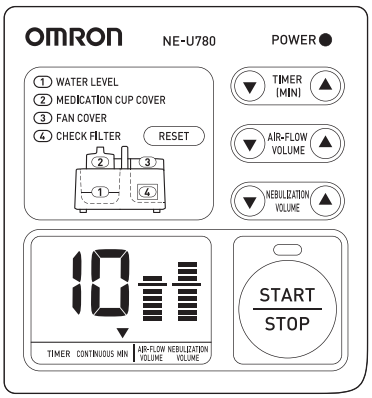
The product will sound an audible alarm and stop operation when the timer runs out. The display will show “0” when operation stops and then revert to the initial set time display after about 5 seconds.

Example display with the timer set to 10 min.



(When operation stops)

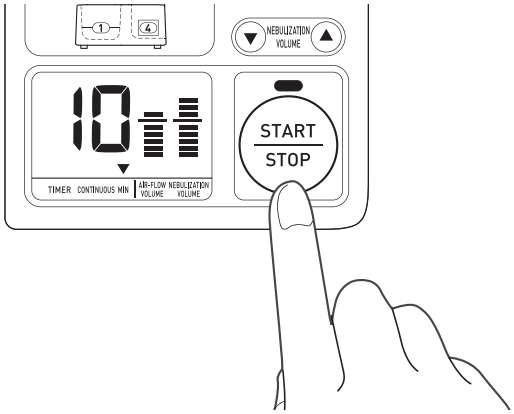
After about 5 sec.



This prepares the time for the next patient.

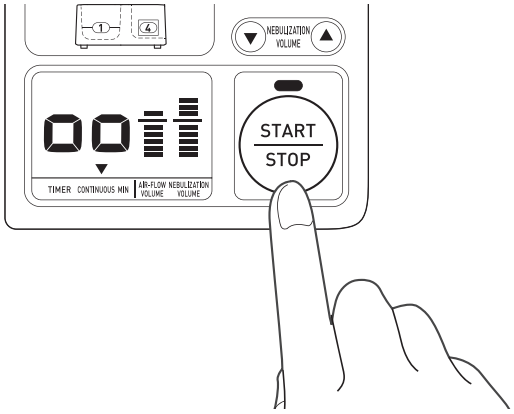
● To stop inhalation while using the timer

Press the START/STOP button to stop operation. The remaining time will be reset, and the timer will revert to the time that was set initially. To restart inhalation, press the START/STOP button.



● To cancel continuous operation

Press the START/STOP button to stop operation. To restart inhalation, start continuous operation.



When the treatment is complete, set the power button to the “OFF” position and unplug the product.

Using a bacterial filter

You can use the optional U17-2-E Bacterial Filter to generate air from which bacteria has been removed. The filter cannot be reused and should be discarded after use.

The following optional accessories are required in order to use the U17-2-E Bacterial Filter:

- Long time Nebulization set NEB-LMCC-78E
- Fan cover for bacterial filter NEB-BFC-78E
- An additional inhalation hose M NEB-HS-L70E
  Note: Required in addition to parts used for inhalation.

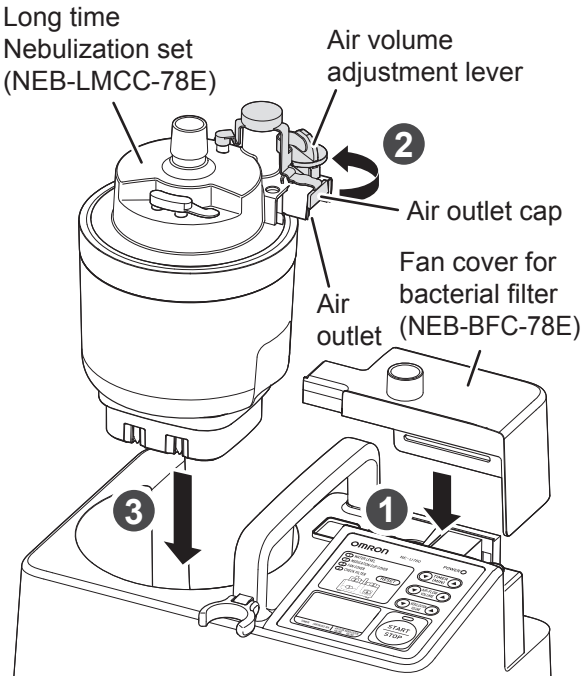
Using the optional NEB-LMCC-78E Long time Nebulization set instead of the medication cup cover, assemble the removable water tank and nebulization set just as during normal inhalation. See steps ❶ and ❷ in the “Before Inhalation” section. (☞ Page 11)

❶ Attach the fan cover for bacterial filter.

Instead of the normal fan cover, use the optional NEB-BFC-78E Fan Cover for Bacterial Filter.

❷ Remove the air volume adjustment lever on the long time nebulization set and close the air outlet with the air outlet cap.

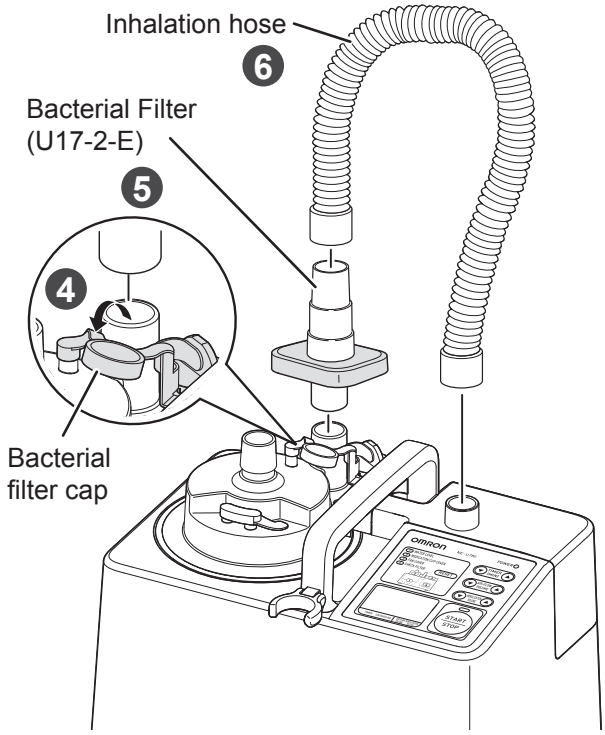
❸ Secure the removable water tank to which you have attached the long time nebulization set to the main unit.



❹ Remove the bacterial filter cap from the long time nebulization set.

❺ Attach the bacterial filter to the long time nebulization set.

❻ Attach the inhalation hose to the bacterial filter and connect the other end of the hose to the fan cover’s air outlet.



For subsequent steps, see No. 2 under Step ❸ in the “Before Inhalation” section. (☞ Page 12)

Set the air-flow volume to “10” when using the bacterial filter.

Inhalation Method (using optional accessories)

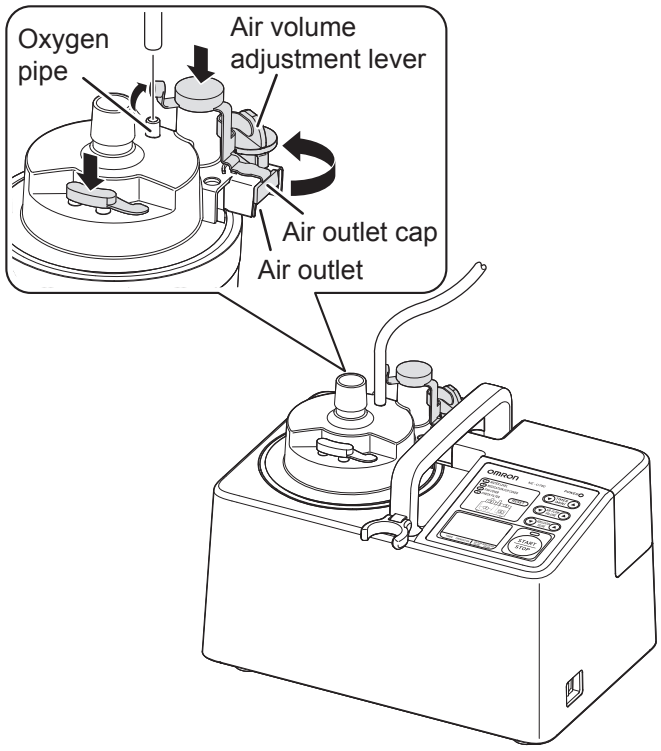
Using as a humidifier

When using as a humidifier, connect the external oxygen supply to the optional NEB-LMCC-78E Long time Nebulization set's oxygen pipe.

To stop air from the main unit's fan, for example to allow for oxygen therapy, set the air-flow volume to "0", remove the air volume adjustment lever, and attach the air outlet cap to the long time nebulization set's air outlet.

The operation and inhalation methods are the same as during normal use. (☞ Page 13)

Note: Not all manufacturer's oxygen therapy devices can be connected to the product.



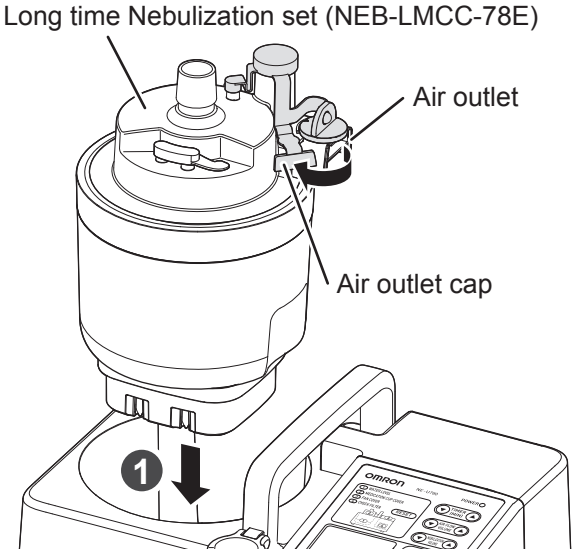
Using the product for extended periods of time

Continuous nebulization of medication volumes in excess of 150 ml can be accomplished by using the optional NEB-LMCC-78E Long time Nebulization set and U10-11-E Supply Medication Set.

Using the NEB-LMCC-78E Long time Nebulization set instead of the medication cup cover, assemble the removable water tank and nebulization set just as during normal inhalation. See steps ❶ and ❷ in the "Before Inhalation" section. (☞ Page 10)

❶ Secure the removable water tank to which you have attached the long time nebulization set to the main unit.

Note: Make sure that the air outlet has not been blocked by the air outlet cap.



Inhalation Method (using optional accessories)

2 Fill the supply medication bottle with medication.

3 Make sure that there is silicon packing (Washer) on the inside of the supply medication bottle cap and close the cap tightly.

Note: Failure to do so will allow air to leak into the bottle from the cap, causing the liquid in the supply medication bottle to overflow.

4 Remove the cap from the long time nebulization set's supply medication pipe and connect the supply medication set's tubes.

5 Hang the medication supply bottle in a suitable location, for example on an IV stand.

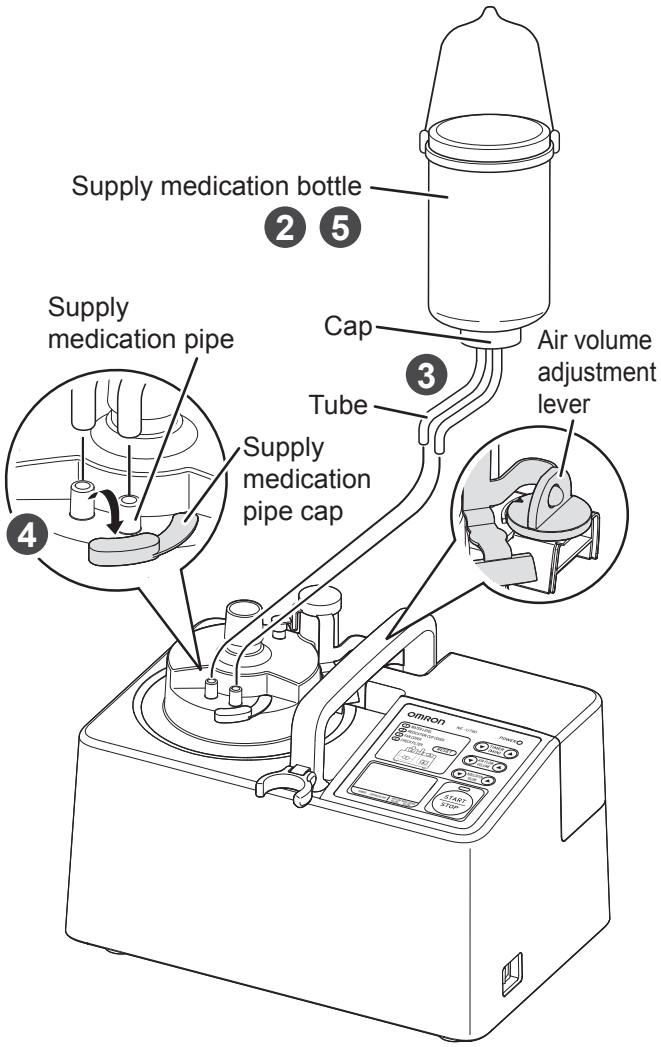
Note: Make sure that the tube is not bent. Medication will not be supplied if the tube is bent. If the tube is too long, cut it to a suitable length.

For subsequent steps, see No. 2 under Step 3 in the "Before Inhalation" section. (☞ Page 12)

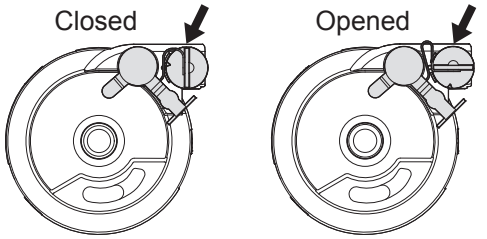
Set the timer to "CONTINUOUS" and adjust the air-flow volume as desired while observing the aerosol. Air-flow volumes can also be adjusted by opening and closing the air volume adjustment lever.

Note: During extended use, medication will accumulate in the hose, reducing the nebulization volume. If this occurs, remove the medication from the hose.

Supply medication set (U10-11-E)



Position the air volume adjustment lever vertically to cut off airflow or horizontally to allow it.

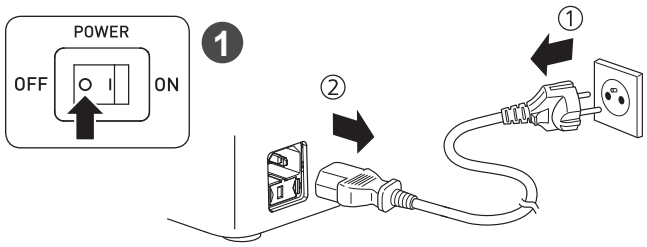


Inspecting the air filter

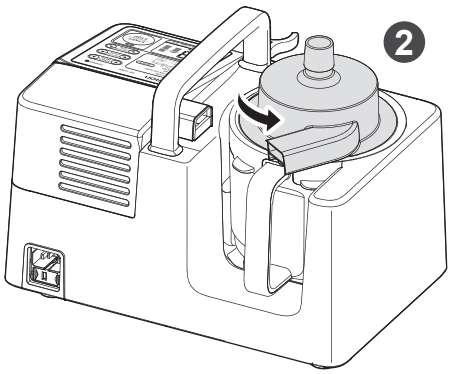
When the nebulization time has exceeded about 100 hours, the "④ CHECK FILTER" Error LED will flash. Inspect the air filter.

Note: The Air filter is designed to filter out airborne dust, not steam or vaporized medication. Use of the nebulizer in close proximity to a device that produces steam or vaporized medication may cause the filter to deteriorate faster than usual. Check the filter frequently.

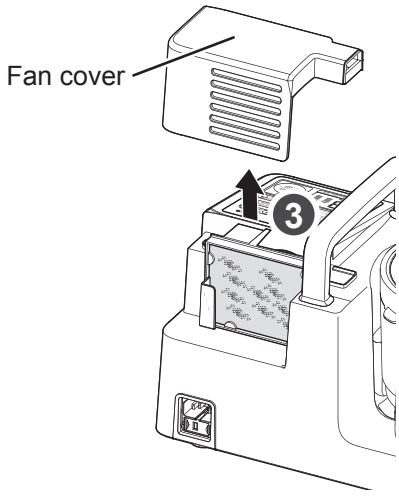
1 Turn off the power button and disconnect the power cord from both the main unit and the outlet.



2 Rotate the medication cup cover so that it is no longer connected to the fan cover.

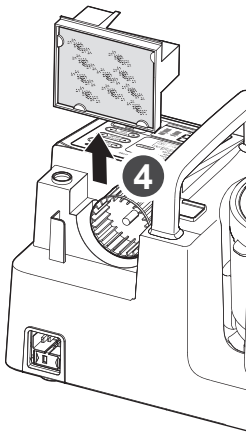


3 Remove the fan cover.



4 Remove the air filter case and make sure the air filter is not contaminated.

If the air filter is excessively contaminated, replace it with a new air filter.



5 Return the air filter case and fan cover to their original positions and align the medication cup cover so that it is once more connected to the fan cover.

6 Connect the power cord to the main unit and outlet, turn on the power button, and press and hold the reset button for 2 seconds.

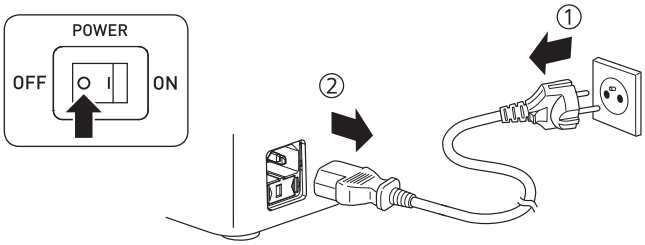
The "④ CHECK FILTER" Error LED will turn off. Even if you inspect or replace the air filter when the "④ CHECK FILTER" Error LED is not flashing, you can press and hold the reset button for 2 seconds to reset the 100-hour internal timer.

Maintaining the product's parts

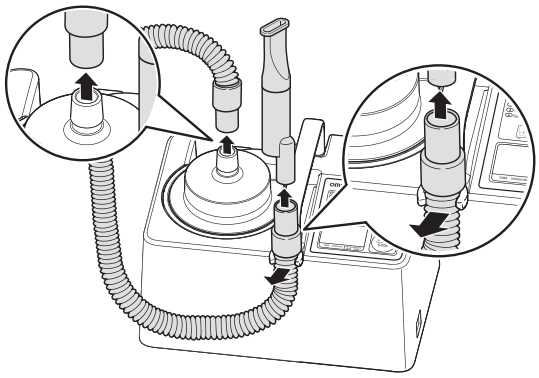
⚠ Warning

- When assembling the product, do not directly touch parts through which the medication or aerosol will pass.
- Do not touch the vibrator while the product is plugged in.

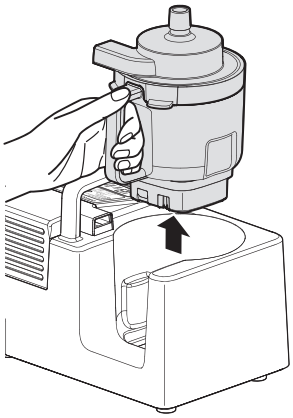
1 Turn off the power button and disconnect the power cord from both the main unit and the outlet.



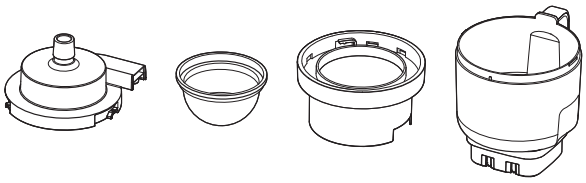
2 Disconnect the inhalation hose, mouthpiece, and other accessories from the main unit.



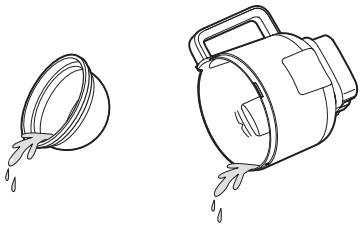
3 Remove the removable water tank from the main unit.



4 Remove the nebulization set from the removable water tank and disassemble it.

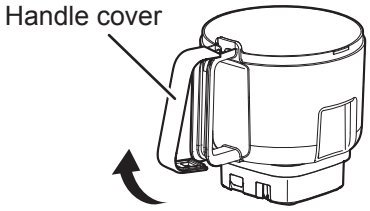


5 Dispose of any remaining medication as well as any water remaining in the removable water tank.



6 Remove the handle cover from the removable water tank.

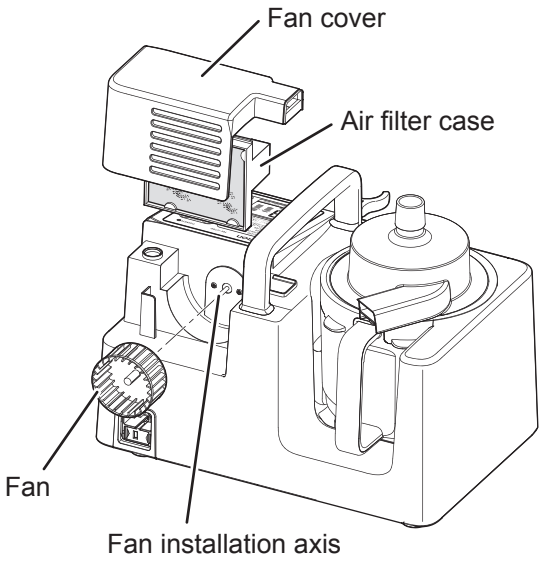
Note: If you clean and disinfect the removable water tank with the handle cover attached, the part will not dry completely, leading to bacterial growth.



Continued

Maintenance

7 Remove the fan cover and air filter case. Detach the fan.



8 Clean and disinfect each part.

Dry parts immediately after disinfecting them. For more information about how to disinfect parts, see the “Disinfecting parts” section. (☞ Page 7)

If there is any contamination on the fan installation axis, wipe it clean.

The Air filter cannot be cleaned or disinfected. Remove it from the filter case. See “Inspecting the air filter”. (☞ Page 19)

9 Reattach the fan, air filter case, and fan cover.

When reattaching the fan, push it firmly all the way onto the fan installation axis.

10 Reattach the Removable water tank to the main unit.

Main unit maintenance

Wipe away any contamination from the main unit with a cloth that has been moistened with water or sanitizing alcohol and then wrung out lightly.
Note: Never clean with benzene or thinner.

⚠ Warning

The main unit and the power plug are not waterproof. Do not spill water or other liquids on these parts.

⚠ Caution

Make sure the water tank contact and main unit contact are not contaminated.

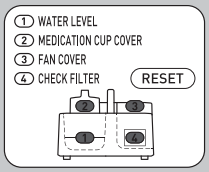
Storage

Allow parts to dry thoroughly before storage.
During storage, exercise care to avoid infection.

Do not store parts where they would be exposed to direct sunlight, high temperatures, high humidity, excessive dust, water, vibration, or mechanical shock.

Troubleshooting

Issue	Inspection location	Solution
The power LED does not light up.	Is the power cord connected correctly to a power outlet and the main unit?	Plug the product into an outlet. (☞ Page 12)
Nebulization is not functioning.	Is the "① WATER LEVEL" Error LED lit up due to there being too little water in the removable water tank?	Fill the tank with water to the optimal water level. (☞ Page 10)
	Have the medication cup and removable water tank been attached properly?	Attach the parts properly. (☞ Page 11)
	Is the fan cover open?	Close the cover tightly.
	Has the fan been attached?	Attach the fan properly. (☞ Page 21)
	Is there too much medication in the medication cup?	Reduce the amount of medication to 150 ml or less. (☞ Page 11)
	Did you add distilled or purified water to the removable water tank?	Add tap water to the tank.
	Are the contacts on the main unit or removable water tank contaminated?	Wipe away any contamination with a cloth that has been moistened with water or sanitizing alcohol and then wrung out lightly.
	Is the inhalation hose bent, causing medication to accumulate inside it?	Straighten the inhalation hose and remove any accumulated medication.
	Has the START/STOP button been turned on?	Press the START/STOP button. (☞ Page 14)
The aerosol volume is low. The nebulization capacity is low.	Is there too little medication in the medication cup?	Add more medication so that there is at least 10 ml in the cup. (☞ Page 11)
	Is the medication cup damaged or misshapen?	Replace the medication cup with a new one.
	Is there too much medication in the medication cup?	Reduce the amount of medication so that it is 150 ml or less. (☞ Page 11)
	Is the nebulization volume or air-flow volume setting too low?	Increase the setting. (☞ Page 13)
	Is the room temperature or water temperature too low?	Replace the water in the removable water tank with water whose temperature is about 26 °C.
	Is the medication cup contaminated?	Disinfect the medication cup. If unable to remove the contamination, replace the medication cup with a new one. (☞ Page 19 and Page 8)
Nebulization is inconsistent.	Is there too much medication in the medication cup?	Reduce the amount of medication so that it is 150 ml or less. (☞ Page 11)
	Does the medication cup contain 150 ml of medication, and are the maximum values for both the air-flow volume and nebulization volume settings being used?	Adjust the nebulization volume. (☞ Page 13)

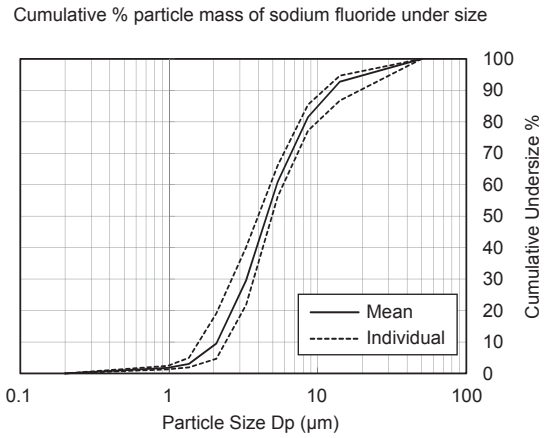
Issue		Inspection location	Solution
Error LEDs 	LED ① is lit up.	There is too little water in the removable water tank.	Fill the tank with water to the optimal water level. (☞ Page 10)
	LED ② is lit up.	The medication cup cover is open.	Close the cover tightly. (☞ Page 11)
	LED ③ is lit up.	The fan cover is open.	Close the cover tightly.
	LED ④ is flashing.	It's time to inspect the air filter. (The LED lights up after about 100 hours of nebulization.)	Inspect the air filter. If it is excessively contaminated, replace it with a new air filter. (☞ Page 19)
E1	E1 indicator	The main unit's internal fan has stopped.	Unplug the cord, label the main unit to indicate that it is broken, and contact an authorised OMRON retail outlet or distributor.
E3	E3 indicator	The main unit's internal software experienced an error.	
E4	E4 indicator	There is a short in the main unit's internal oscillation circuit.	
E5	E5 indicator	The removable water tank has not been secured properly.	Remove the removable water tank and then secure it in the main unit. (☞ Page 12)

Note: If the suggested remedy does not solve the problem, do not try to repair the device - the device is not user serviceable. Return the device to an authorised OMRON retail outlet or distributor.

Technical data

Product Category:	Nebulizers
Product Description:	Ultrasonic Nebulizer
Model (-code):	NE-U780 (NE-U780-E)
Rating:	220 - 240 V~ 50/60 Hz
Power Consumption:	Approx. 85 VA
Fuse:	T1.25 A L250 V
Ultrasonic Frequency:	Approx. 1.63 MHz
Particle size:	**MMAD Approx. 4.6 µm (MMAD = Mass Median Aerodynamic Diameter)
Amount of cooling water:	Approx. 450 ml
Medication cup capacity:	Approx. 150 ml (min. 10 ml)
Sound:	***Less than 40 dB
Nebulization rate:	*Approx. 0.5 – 3 ml/min adjustable.
Aerosol Output:	**3.04 ml
Aerosol Output Rate:	**0.14 ml/min
Air Volume:	Max. 17 L/min.
Dimensions:	Approx. 295 (W) × 219 (H) × 196 (D) mm (main unit only)
Weight:	Approx. 2.5 kg (main unit only)
Operating Temperature/Humidity/ Air Pressure:	+10 to +40 °C / 25 to 85 %RH / 700 – 1060 hPa
Storage and Transport Temperature/Humidity/ Air Pressure:	-20 to +60 °C / 10 to 95 %RH / 700 – 1060 hPa
Package contents:	Main unit, Removable water tank, Medication cup cover, Medication cup holder, Inhalation hose M, Mouthpiece, Medication cup (2 pcs), Power cord, Instruction Manual (including product warranty).
Classifications:	Class I (Protection against electric shock), Type BF (Applied part) (Mouthpiece and Inhalation hose)

Result of cascade impactor measurements for particle size



* Representative values from internal data obtained by measuring device operation with 30 ml of saline solution at 26 °C, a room temperature of 23 °C, warm water at 26 °C in the removable water tank, and only inhalation hose M connected.

** Measured values reflect internal data obtained by NEXT GENERATION IMPACTOR (NGI), using 30 ml of NaF aqueous solution.
Measured by OMRON HEALTHCARE Co., Ltd., according to EN13544-1:2007+A1:2009.

*** Measured by OMRON HEALTHCARE Co., Ltd.

Note: Performance may vary with medication such as suspensions or high viscosity. See medication supplier's data sheet for further details.

Technical Data

Notes:
- Subject to technical modification without prior notice.
- About 10 ml of residual medication may remain in the medication cup. The exact amount varies with the medication used as well as the air-flow volume and nebulization rate adjustment.
- The nebulization capacity varies with the type of medication, the optional accessories used, and the patient's breathing.
- This OMRON product is produced under the strict quality system of OMRON HEALTHCARE Co., Ltd., Japan.
- The device may not work if the temperature and voltage conditions are different to those defined in the specifications.
- The device fulfils the provisions of the EC directive 93/42/EEC (Medical Device Directive) and the European Standard EN13544-1:2007+A1:2009, Respiratory therapy equipment - Part1: Nebulizing systems and their components.
- See website of OMRON HEALTHCARE EUROPE to update technical information.
  URL: www.omron-healthcare.com

= Type BF applied part

Read the instruction manual carefully

O = Power off

~ = Alternating Current

CE 0197

I = Power on

Important information regarding Electro Magnetic Compatibility (EMC)

With the increased number of electronic devices such as PC's and mobile (cellular) telephones, medical devices in use may be susceptible to electromagnetic interference from other devices.
Electromagnetic interference 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 (Electro Magnetic Compatibility) with the aim to prevent unsafe product situations, the EN60601-1-2:2007 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.

This medical device manufactured by OMRON HEALTHCARE conforms to this EN60601-1-2:2007 standard for both immunity and emissions.
Nevertheless, special precautions need to be observed:

- Do not use mobile (cellular) telephones and other devices, which generate strong electrical or electromagnetic fields, near the medical device. This may result in incorrect operation of the unit and create a potentially unsafe situation.
  Verify correct operation of the device in case the distance is shorter.

Further documentation in accordance with EN60601-1-2:2007 is available at OMRON HEALTHCARE EUROPE at the address mentioned in this instruction manual.
Documentation is also available at www.omron-healthcare.com.

Correct Disposal of This Product
(Waste Electrical & Electronic Equipment)

This marking shown on the product or its literature, indicates that it should not be disposed of, with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this product from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can return this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial waste for disposal.

Optional Medical Accessories
(within the scope of EC Medical Device Directive 93/42/EEC)

The following optional accessories listed below are available.
To order an optional accessory, please contact an authorised OMRON retail outlet or distributor.

Note: Materials are indicated by the following abbreviations:
Acrylonitrile butadiene styrene resin: ABS, Poly phenylene sulfide resin: PPS, Polymethylpentene: PMP, Polypropylene resin: PP, Polystyrene resin: PS, Thermoplastic elastomer: TPE

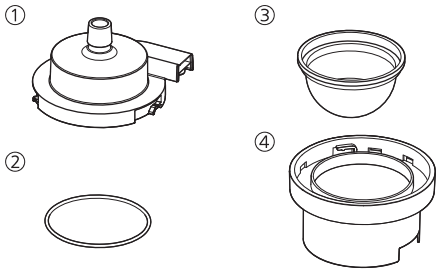
Nebulization set Materials: PMP/PP/Silicon rubber
① + ② + ③ + ④ Model: NEB-NZU-78E

Medication cup cover ①
Materials: PMP

Medication cup ③
Materials: PP
Remarks: For transferring ultrasonic vibrations. (Damage or deformation may prevent nebulization. Handle with care.)

Silicon packing (Washer) ②
Materials: Silicon rubber

Medication cup holder ④
Materials: PP

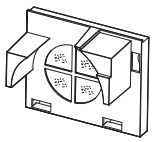


Removable water tank
Materials: ABS/PPS
Model: NEB-RWT-78E
Remarks: Includes handle cover.

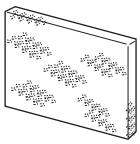
Silicon packing (Washer)
Contents: 5 pcs
Materials: Silicon rubber
Model: NEB-SP-78E

Medication cup
Contents: 5 pcs
Materials: PP
Model: U12-1-E
Remarks: For transferring ultrasonic vibrations. (Damage or deformation may prevent nebulization. Handle with care.)

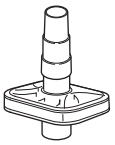
Air Filter set
Materials: PP/PS
Model: NEB-AFS-78E
Remarks: Keeps dust and other contaminants out of the airflow.



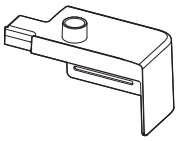
Air Filter
Contents: 5 pcs
Materials: PS
Model: U17-4P2-E
Remarks: Keeps dust and other contaminants out of the airflow.



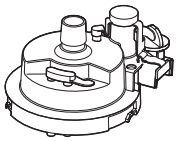
Bacterial Filter
Materials: PP/PMP
Model: U17-2-E
Remarks: Includes adapter. Used for inhalation when cleansing the respiratory tract, etc. Cannot be reused.



Fan cover for bacterial filter
Materials: ABS
Model: NEB-BFC-78E
Remarks: Used with the long time nebulization set (NEB-LMCC-78E) when using the bacterial filter (U17-2-E).



Long time Nebulization set
Materials: PMP/Silicon rubber
Model: NEB-LMCC-78E
Remarks: Used during continuous nebulization. Used with the supply medication set (U10-11-E).



Supply Medication set
Materials: PP/Silicon rubber/ Stainless steel
Model: U10-11-E
Remarks: Supplies medication so as to maintain a constant level in the medication cup. Used during extended humidification and inhalation.

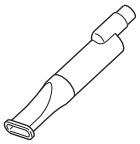
Inhalation mask (S) set
Contents: 3 pcs
Materials: TPE/Rubber
Model: NEB-MSISS-78E
Remarks: Includes strap.
Allows simultaneous inhalation via mouth and nose.

Inhalation mask (L) set
Contents: 3 pcs
Materials: TPE/Rubber
Model: NEB-MSILS-78E
Remarks: Includes strap.
Allows simultaneous inhalation via mouth and nose.

Inhalation hose M
Materials: TPE
Model: NEB-HS-L70E
Length: 700 mm

Inhalation hose L
Materials: TPE
Model: NEB-HS-L15E
Length: 1500 mm

Mouthpiece set
Contents: 5 pcs
Materials: PP
Model: NEB-MPSS-78E
Remarks: Is placed in mouth to facilitate inhalation.



Note: All optional accessories are consumables, including when supplied with the main unit.

Warranty

Thank you for buying an OMRON product. This product is constructed of high quality materials and great care has been taken in its manufacturing. It is designed to give you a high level of comfort, provided that it is properly operated and maintained as described in the instruction manual.

This product is guaranteed by OMRON for a period of 3 years after the date of purchase.
The proper construction, workmanship and materials of this product is guaranteed by OMRON. During this period of guarantee OMRON will, without charge for labour or parts, repair or replace the defect product or any defective parts.

The guarantee covers only products purchased in Europe, Russia and other CIS countries, Middle East and Africa.

The guarantee does not cover any of the following:
a. Transport costs and risks of transport.
b. Costs for repairs and / or defects resulting from repairs done by unauthorised persons.
c. Periodic check-ups and maintenance.
d. Failure or wear of accessories or other attachments other than the main device itself, unless explicitly guaranteed above.
e. Costs arising due to non-acceptance of a claim (those will be charged for).
f. Damages of any kind including personal caused accidentally or from misuse.

Should guarantee service be required please apply to the dealer whom the product was purchased from or an authorised OMRON distributor. For the address refer to the product packaging / literature or to your specialised retailer. If you have difficulties in finding OMRON customer services, visit our website (www.omron-healthcare.com) for contact information.

Repair or replacement under the guarantee does not give rise to any extension or renewal of the guarantee period.

The guarantee will be granted only if the complete product is returned together with the original invoice / cashticket issued to the consumer by the retailer. OMRON reserves the right to refuse the guarantee service if any unclear information has been given.

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