

OMRON

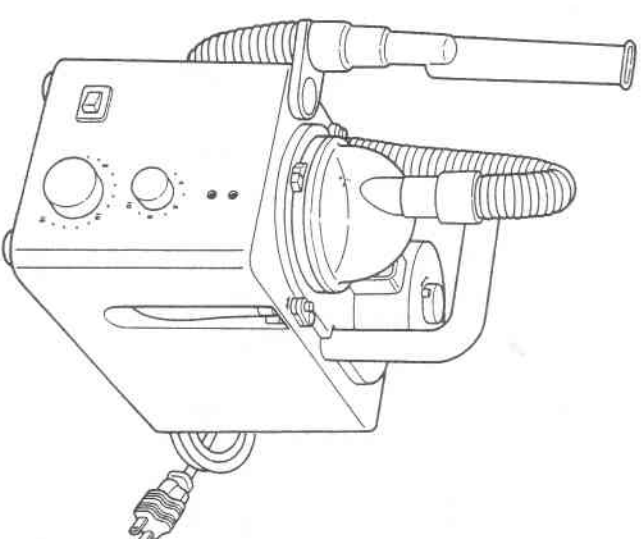
OPERATION MANUAL

ULTRASONIC NEBULIZER

Model **NE-U12**

- Please read this manual carefully before you begin to use the Nebulizer.
- Be sure to keep this manual after you have carefully read it.

OMRON



Contents

Name of Each Part	2
Correct Operation	4
Correct Use	8
Precautions for Use	14
Before Requesting a Repair Service	16
Specifications	18

Printed in Japan
0679596-4 A

OMRON Corporation
3-4-10, Toranomon, Minato-ku,
Tokyo 105, Japan
Phone: 03-3436-7094, Fax: 03-3436-7084
Telex: 242-4087 OMRONT J

Copyright © 1992 OMRON Corporation

OMRON uses Recycled Paper for the preservation of our natural resources.

Name of Each Part

Component Parts of The Equipment

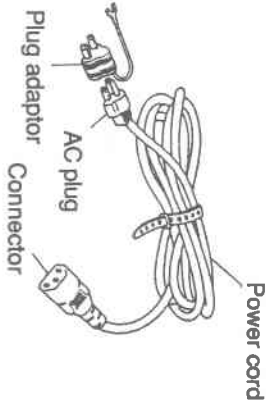
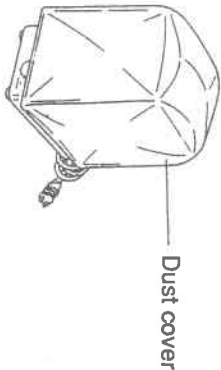
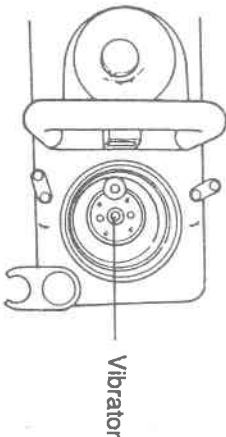
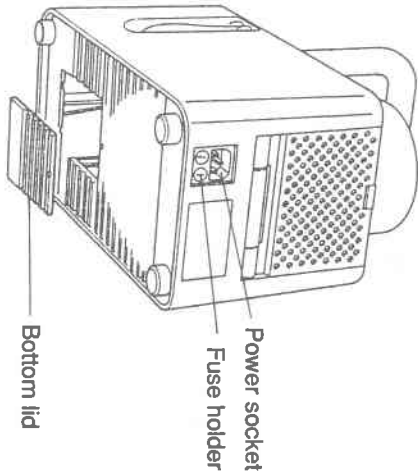
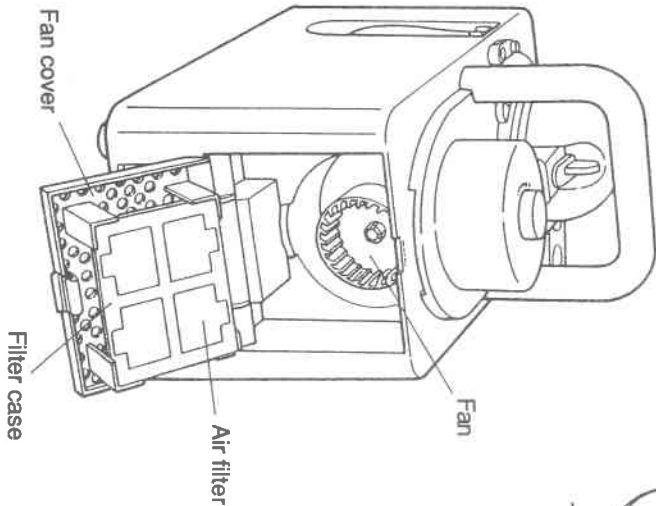
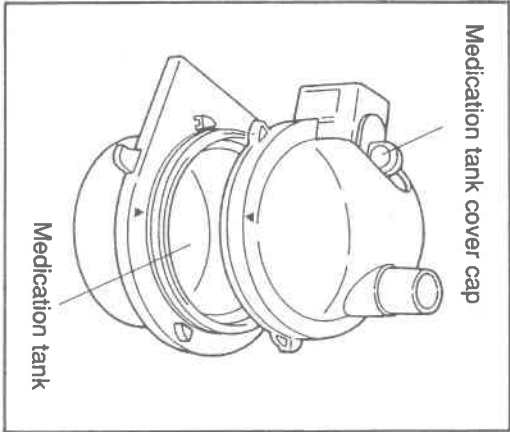
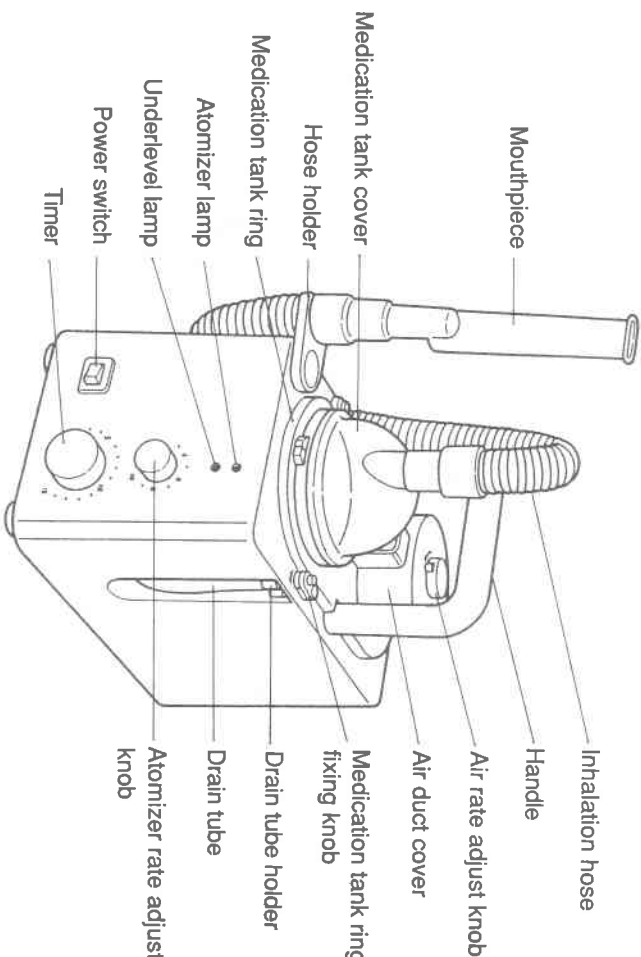
The equipment consists of the following components.

- Main unit 1 pc
 - Medication tank 1 pc
 - Medication tank ring 1 pc
 - Medication tank cover 1 pc
 - Air duct cover 1 pc

- Air filter 1 pc
 - Filter case 1 pc
 - Inhalation hose 1 pc
 - Mouthpiece set 1 set
 - Power cord 1 pc
 - Plug adaptor 1 pc

(Accessories)

 - Medication tank 2pcs
 - Operation Manual 1 vol
 - Dust cover 1 pc

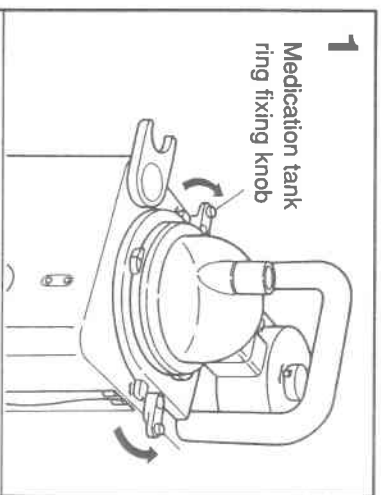
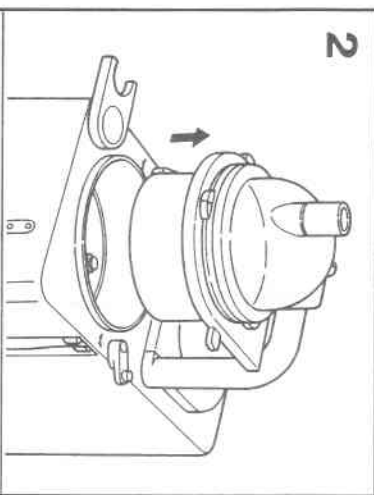
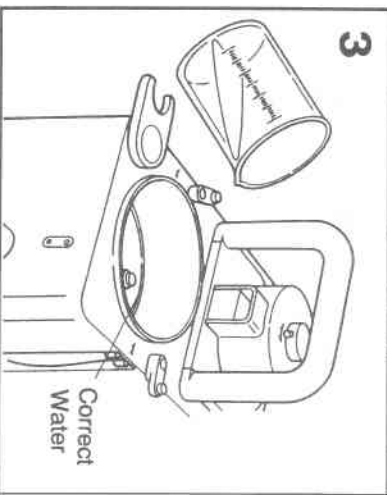


Correct Operation

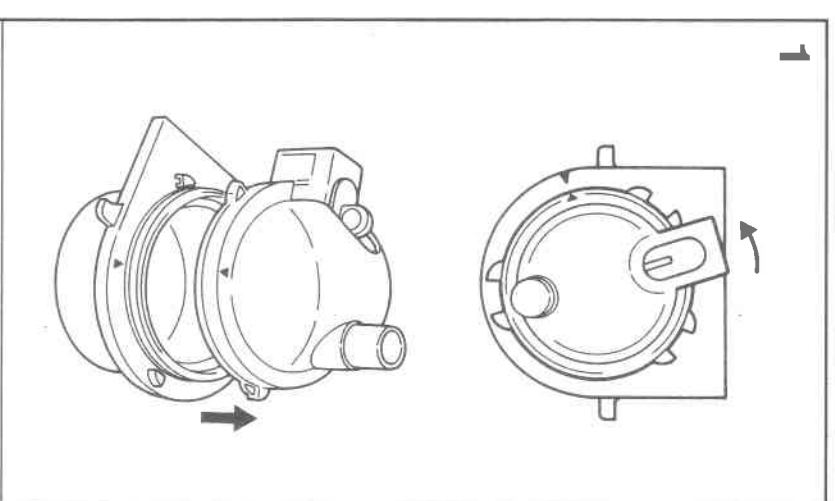
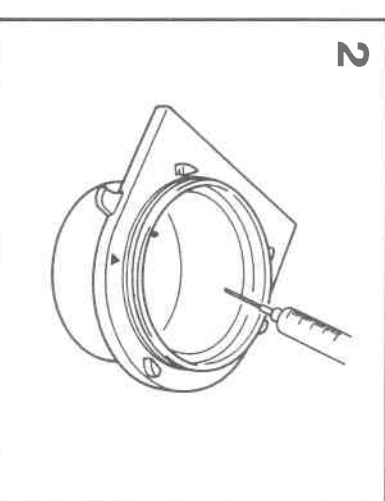
1. Preparation

Before charging cooling water or medication, be sure to check that the power switch is "OFF."

1. How to Charge Cooling Water

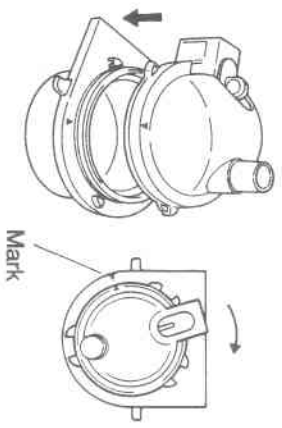
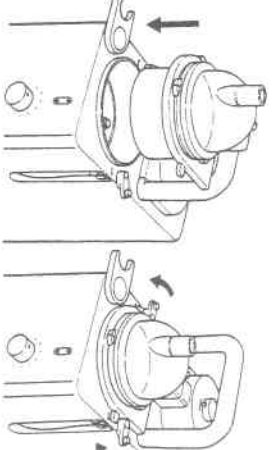
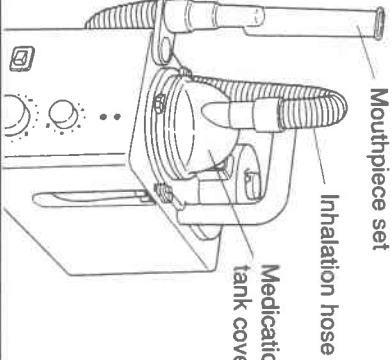
1 Medication tank ring fixing knob 	Rotate the medication tank ring fixing knobs outwardly to disengage the knobs from the hooks of the ring.
2 	Lift the medication tank ring together with the medication tank cover and remove them from the main unit. * The medication tank cover cannot be removed still with the medication tank ring attached to the main unit.
3  Correct Water	Charge tap water or distilled water up to the normal water level (step) of the water tank in the main unit. * The volume of water at the normal water level is about 250ml.

2. How to Charge Medication

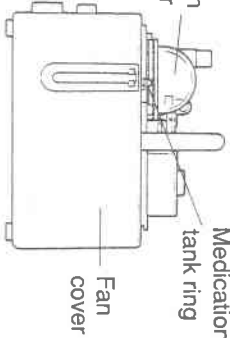
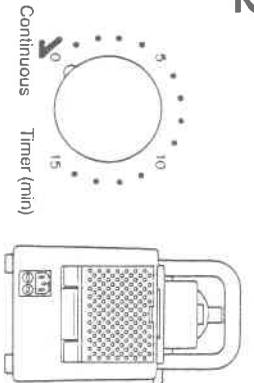
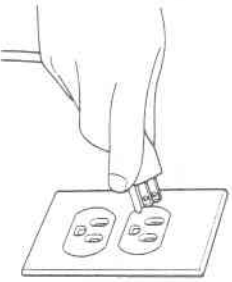

1 	Rotate the medication tank cover counter-clockwise and remove it.
2 	Charge your medication in the medication tank. * The maximum capacity of the medication tank of this model is 150ml, so do not charge medication in excess.

Correct Operation

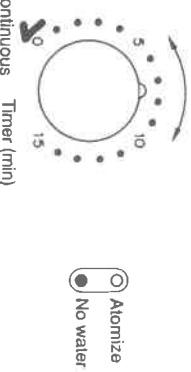
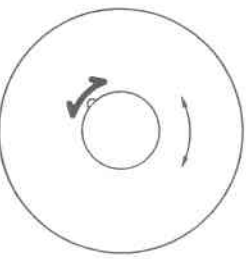
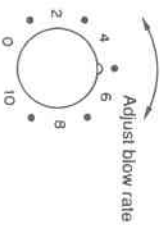
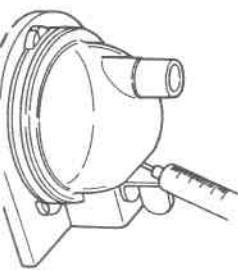
3. How to Assemble the Equipment

<p>1</p> 	<p>Mount the medication tank cover onto the medication tank ring. Mate the ▲ marks on the medication tank cover and the medication tank ring with each other and then rotate the medication tank cover clockwise.</p>
<p>2</p> 	<p>Mount the assembly of the medication tank ring and the medication tank cover, onto the water tank of the main unit and fix it by rotating the medical tank ring fixing knobs inwardly.</p>
<p>3</p>  <p>Mouthpiece set Inhalation hose Medication tank cover</p>	<p>Mount the inhalation hose and the mouthpiece set.</p>

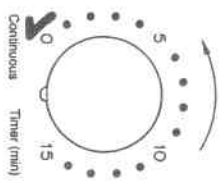
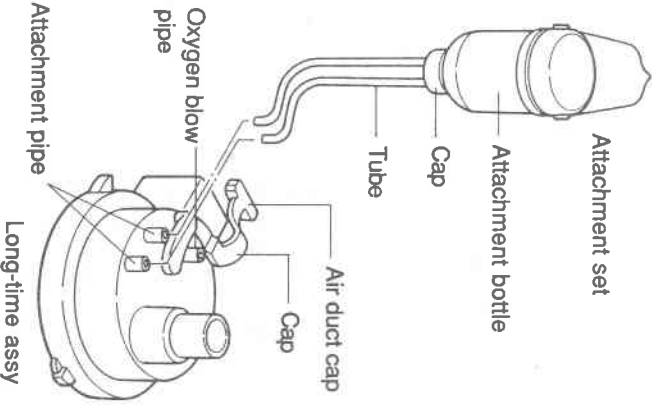
2. Inhalation Methods

<p>1 (Connection to receptacle)</p>  <p>Medication tank cover Fan ring Fan cover</p>	<p>Check that the medication tank ring, medication tank cover, fan cover, etc. are correctly mounted. Check also that cooling water and medication are charged correctly.</p>
<p>2</p>  <p>Continuous Timer (min)</p>	<p>Check that the power switch and the timer of the main unit are "OFF" and then plug the connector of the power cord into the socket of the main unit.</p>
<p>3</p> 	<p>Insert the plug of the power cord into a receptacle (AC110V, 220V, 240V, 50/60Hz). * Be sure to ground the earth terminal. (See Precautions for Use on Page 14.)</p>
<p>4 (Power ON)</p>  <p>OFF ON</p>	<p>Set the power switch to "ON." → Then, the switch lamp (green) lights up while actuating the fan.</p>

Correct Use

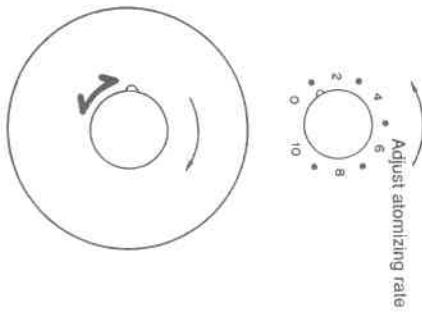
<p>5 (Atomizing)</p>  <p>Continuous Timer (min)</p>	<p>Rotate the timer knob to begin atomizing. To set time, rotate the knob clockwise (a maximum of 15 minutes). For continued operation, rotate the knob to the left extremity.</p> <p>* For a set time less than 3 minutes, rotate the knob once for longer than 3 minutes and then set at 3 minutes while returning the knob.</p> <p>→ The atomize lamp (orange) lights up.</p>
<p>6 (Adjusting)</p> 	<p>(Adjustment of blow rate)</p> <p>Blow rate is adjustable by rotating the blow rate adjustment knob equipped in the upper part of the air duct cover.</p> <p>Rotate the knob counterclockwise to increase the rate, or rotate it clockwise for smaller rate. Adjust it for your particular requirement.</p>
<p>7</p>  <p>Adjust blow rate</p>	<p>(Adjustment of atomizing rate)</p> <p>Atomizing rate is adjustable by rotating the atomizing rate adjustment knob equipped in the front side of the unit. Rotate the knob clockwise to increase atomizing rate, while decreasing it by rotating counterclockwise.</p>
<p>8 (Supplement of medication)</p> 	<p>(Supplement of medication)</p> <p>Remove the medication tank according to the procedures shown on Pages 4, 5 and supplement the medication.</p> <p>* Be sure to turn "OFF" the timer and the power switch beforehand.</p> <p>If it is required to supplement the medication while atomizing, open the rubber cap of the medication tank cover and charge it using a syringe, etc.</p>

3. How to Atomize Continuously for a Long Time

	<p>To atomize continuously for a long time, set the timer to "CONTINUOUS."</p>
	<p>For further longer atomizing, optional "Long-time Assy" and "Attachment Set" are convenient.</p> <p>(How to Use Long-time Assy and Attachment Set)</p> <ol style="list-style-type: none"> ① Assemble the equipment using the long-time assy instead of the medication tank cover according to the procedures shown on Page 6. ② At that time, remove the air duct cap to open up the port. ③ Charge the medication into the attachment bottle (no more than the maximum of 1000ml). ④ Completely close the cap of the attachment bottle. At that time, be sure to check that the packing is correctly set inside the cap. ⑤ Remove the cap of the attachment pipe in the long-time assy and connect the tube of the attachment set to it. ⑥ Hang the attachment bottle at a suitable place such as an injection cable and begin to operate it. <p>* Adjust blow rate at the maximum (by rotating the blow rate adjustment knob to the left extremity).</p> <p>* Set the atomizing rate adjustment knob at 5 or less.</p>

Correct Use

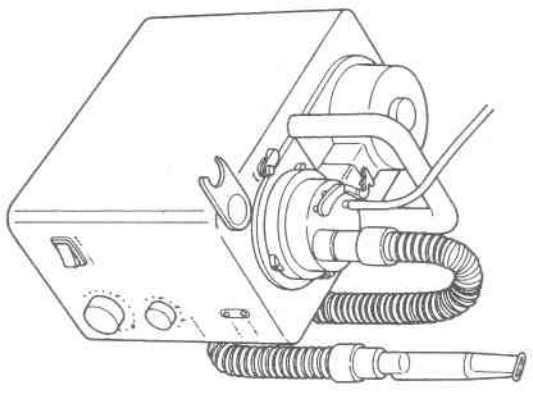
4. How to Atomize a Small Quantity of Medication



To atomize a small quantity of the medication efficiently, adjust blow rate to a minimum and atomizing rate slightly smaller.

- * With a medication volume less than 3ml, it may appear that atomizing temporarily stops. This is because the medication is splashed and adheres on the tank wall in drops because ultrasonic oscillation takes place intermittently. After drops of the medication fall down onto the tank bottom, atomizing resumes.

5. How to Moisten a Medication Gas



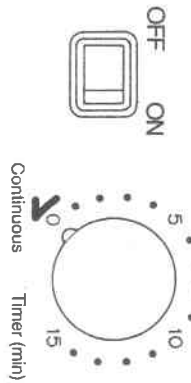
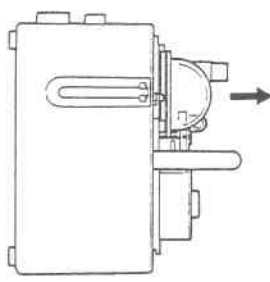
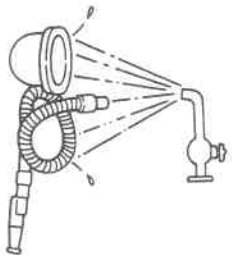
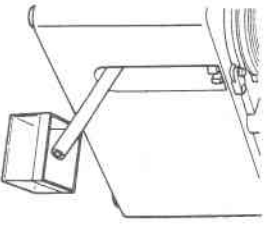
In order to apply the nebulizer to inhalation moistening for oxygen treatment or narcotizing or connect an automatic breathing equipment, connect the device in use to the oxygen pipe of the optional long-time assy (separately vended).

To stop blowing air by the fan of the unit in an oxygen treatment, etc., mount the air blow cap onto the blow port of the long-time assy.

The operation methods are the same. (For inhalation methods, see Pages 7, 8.)

- * Note that some automatic breathing machines may not be connectable to the Nebulizer.

6. Tidying up After Use

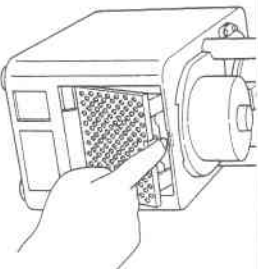
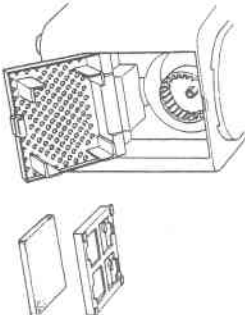
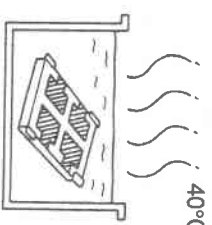
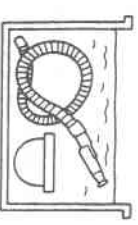
<p>1</p> 	<p>Turn "OFF" the timer and the power switch after use.</p>
<p>2</p> 	<p>Remove the medication tank cover, medication tank ring, etc. according to the procedures on Pages 5, 6.</p>
<p>3</p> 	<p>Pour out the medication in the tank and clean and sterilize the medication tank cover, ring, inhalation hose, mouthpiece set, etc. (for detailed methods, see Page 12.)</p>
<p>4</p> 	<p>Drain water in the water tank of the main unit, out of the drain tube. Completely wipe off remaining water drops using a dry cloth, etc.</p> <ul style="list-style-type: none">* Do not flau the surface of the vibrator during wiping.* After completion of draining, be sure to fix the drain tube at the drain tube holder.

Correct Use

7. How to Maintain

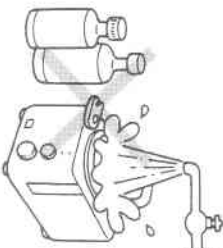
Before maintaining the equipment, be sure to turn "OFF" the power switch and disconnect the power cord out of the receptacle (do not pull the cord but hold the plug to pull).

1. Replacing and Cleaning of the Air Filter

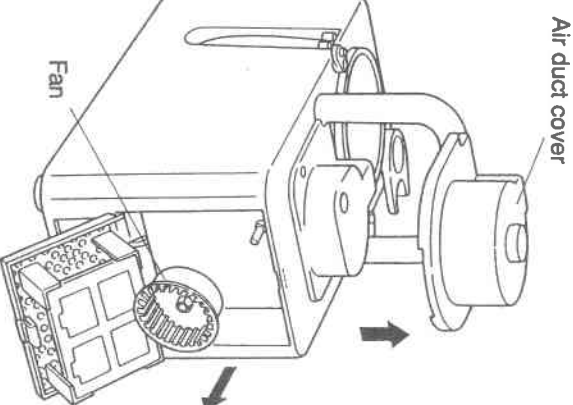
	<p>Open the fan cover while pressing the lug of the fan cover slightly downward.</p>
	<p>Remove the filter case and air filter.</p>
	<p>Wash the air filter in tepid water (40°C or less) or with diluted neutral cleanser for reuses. After washing, completely dry the filter up before attaching to the main unit. * If soiling can no longer be washed out, replace it with a separately vendored air filter set (U12-4).</p>
	<p>Clean with Hibiten, Osban, neutral cleanser, etc. the medication tank cover, ring, tank, inhalation hose and the mouthpiece set. After completion of cleaning, completely rinse them with water.</p>

2. Cleaning and Sterilizing of the Medication Tank, etc.

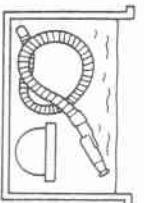


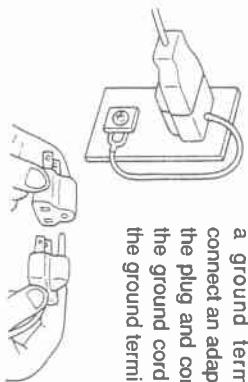
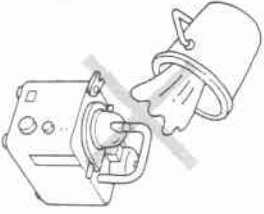
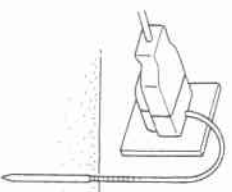
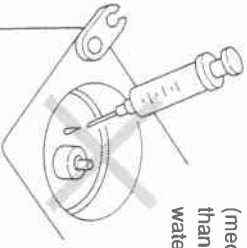
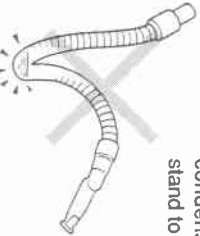
3. Maintenance of the Main Unit

	<p>Clean the main unit using a cloth moistened with water and a few drop of neutral cleanser and completely wipe off with a dry cloth, etc. * Never use benzene, thinner or a volatile chemical, or water.</p>
---	--

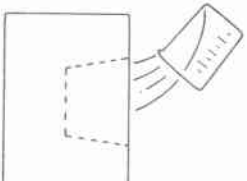
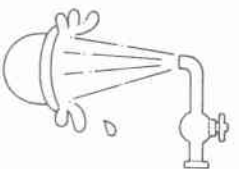

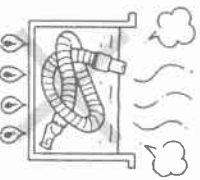
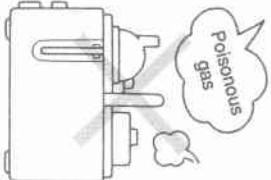
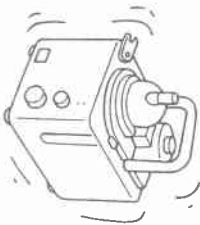
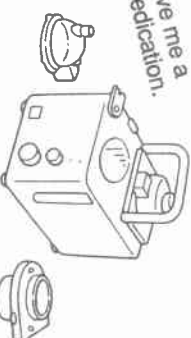

4. Maintenance of the Air Duct

	<p>(Cleaning of the fan) Open the fan cover and take the fan to your side. Clean the fan with water or diluted neutral cleanser, etc. to remove soiling. * If the medication adheres on the fan mounting shaft, clean it off. If it remains unremoved, the fan motor may overheat and stop in the extreme.</p> <p>(Cleaning of the air duct cover) First remove the chemical tank ring out of the main unit and remove the air duct cover by lifting up. Remove soiling by rinsing with water or diluted neutral cleanser, etc. * You cannot remove the air duct cover with the medication tank ring still mounted on the main unit.</p>
---	--

Precautions for Use

 <p>Before using the equipment for the first time or after stocking it for a long time, be sure to clean and sterilize the medication tank and the hose, etc. (See Page 12.)</p> <p>Before stocking the equipment for a long time, be sure to drain the medication in the tank and water in the water tank, drain tube, hose, etc.</p>	<p>• With a 3-pole plug, directly insert the plug into a receptacle.</p> 
<p>Power requirement is AC110V, 220V, 240V, 50/60Hz. Never connect the equipment to a receptacle of other type.</p> 	<p>• For the receptacle with a ground terminal, connect an adaptor to the plug and connect the ground cord onto the ground terminal.</p> 
<p>Don't clean the equipment by splashing water. Don't touch it with a wet hand during operation. Otherwise the equipment may fail or cause current leak or electric shock.</p> 	<p>• If there is no ground terminal in the receptacle, buy a ground cord in a shop and ground it.</p> 
<p>Never charge anything (medication, etc.) other than tap water or distilled water into the water tank.</p> 	<p>Use the inhalation hose without bends. If bent, a condensed liquid may stand to block the hose.</p> 



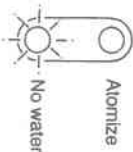


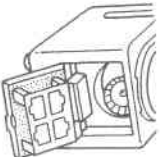

Completely earth the equipment.

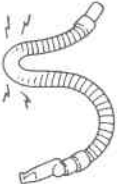







<p>When the equipment is used continuously for a long time, replace water in the water tank once every day.</p> 	<p>If a cleanser, etc. remains in the medication tank or the hose, atomizing rate may be lower. After completion of cleaning a component part, completely rinse it with water.</p> 
<p>Don't charge the medication more than 150ml. Atomizing rate may otherwise be lower.</p> 	<p>Never sterilize the hose, medication tank, etc. attached to the equipment by boiling. Use a cleanser (Hibitien, Osban, etc.). After cleaning, completely rinse it with water.</p> 
<p>Don't use the equipment in a hazardous area of poisonous gas or volatile matter.</p> 	<p>Never tilt the unit during operation.</p> 
<p>Don't operate the equipment with the chemical tank empty.</p> <p>Give me a medication.</p> 	<p>Don't operate the equipment by putting higher than your head.</p> 

(Note) Unless you exactly keep the precautions described above and any page of the Manual, the manufacturer will be exempted from liabilities.

Before Requesting a Repair Service

If you have any question on the equipment or it may fail, consult with your dealer. However, never disassemble the equipment or touch the mechanism. Before requesting a repair service, check the following points.

Symptom	Cause	Remedy
Power switch lamp doesn't light up.	① Check that the power plug is inserted completely into a receptacle. 	Correctly insert it. 
	① Check that the NO WATER lamp lights up because of under level of water in the water tank. 	Charge water up to the normal level of the water tank. (See Page 4.)
	② Check that the medication tank is set correctly onto the main unit. 	Correctly set it. (See Page 6.)
	③ Check that the timer switch is "OFF". 	Rotate the timer knob. (See Page 8.)
No atomizing	④ Check that the fan cover is open. 	Completely close it. 

Symptom	Cause	Remedy
Smaller rate of atomizing	① Check that the inhalation hose is bent with a standing liquid inside. 	Straighten the hose. 
	② Check that the lower part of the medication tank is broken. 	Replace the tank with a new one. 
	③ Check that excess medication is in the medication tank. 	Reduce the volume of the medication less than 150ml. 
	④ Check that the blow rate adjustment knob is set "small". 	Rotate the knob counter-clockwise to increase blow rate. (See Page 8.) 

Specifications

Power Source:	AC110V, 220V, 240V, 50/60 Hz
Power Consumption:	75 VA
Ultrasonic Frequency:	1.7 MHz
Atomizing Rate:	3 ml/min. Ambient temperature: 20°C Water temperature: 26°C
Atomizing Diameter:	1 ~ 5μ Medication tank quantity of water: 30 ml
Air-flow Rate:	17 l/min. (maximum)
Water Tank:	250 ml (normal)
Medication Tank:	150 ml
Dimensions:	180(W) x 300(D) x 270(H) mm
Weight:	Approx. 4.7 kg

Specifications subject to change without notice.