

*Saltair*

Home Salt Therapy

# ULTRASONIC AIR SALINIZER

## Owner's Manual

**Declaration of Conformity:**

*This device was manufactured and controlled by ISO 9001 Certified Management System and conform to all aspects of the agreed specification. This device complies with the essential requirements and provisions of Council Directive MDD 93/42/EEC for **Medical Device Class I** and conform to standards:*

**IEC60601-1: 2005/EN 60601-1: 2006, IEC/EN 60601-1-2: 2007, CE Marking.**

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Congratulations on your purchase of the *Saltair - Home Salt Therapy* ultrasonic air salinizer!

*Saltair* is an ultrasonic particles dispenser using ultrasonic frequency vibration theory to transform the saline solution into 1-5 microns salt particles. These particles are able to penetrate deep into the lungs, to alveoli, and help to clear secretions, fight bacteria, viruses and fungus, reduce inflammation, improve bloodstream oxygenation and humidify the entire respiratory tract.

Salt therapy has been successfully used in the treatment of *chronic and acute respiratory diseases*, as well in prevention. It helps to reduce inflammation, unclog blockages, clean the respiratory system and improve breathing. It also prevents the development of respiratory diseases, and protects against cold and flu viruses by maintaining a good hygiene throughout the entire respiratory system.

Salt therapy is safe for all people and ages, including infants and pregnant women. It does not interact with any salt free diet, medication or medical condition including high blood pressure. The tiny particles of salt deposit on the respiratory mucosa and come off with mucus. Salt therapy can also be used for respiratory problems in pets.

*Saltair* air salinizer comes with an electric adaptor, instruction manual, cleaning kit and *free three months supply of natural rock salt* for the saline solution. This device is easy to use. Just plug-in and use it over night. Place the device close to your bed, same level with your body, on a night table and enjoy the wonderful effect of natural salt therapy. The *Saltair* device is very quiet and will not disturb your sleep. For best results, we recommend continuous use.

## OPERATING INSTRUCTIONS

1. This device consists of two main components: the Base and the Water Tank. The water tank is made of transparent green plastic. Put the device on a level, stable, and dry surface where it will be used (nightstand). Carefully hold the base and lift the water tank in order to fill it with saline solution (fig. 1).
2. In order to fill the water tank, **turn it upside down**, there is a tank cap approximately 1 inch diameter. The cap is threaded; rotate it counter-clock wise in order to unscrew it. Once the cap is off the tank is open and you can fill it with water. If the tap water is hard or contains chlorine it is better to use bottled water.
3. Once the tank is full, add  $\frac{1}{4}$  *teaspoon* of the natural rock salt provided, through the same opening used to fill the tank with water. Start with  $\frac{1}{4}$  *teaspoon* of rock salt and increase the amount if needed, at the next refill. Screw the cap back on and shake the tank until salt is completely dissolved. Wipe dry the water tank using a paper towel and make sure there is no water left in the water tank's groove (fig.1 – 7).
4. Setting the unit: Gently put the filled tank back on the base wiping off any drops of water around the area where the water tank meets the base to prevent leaking (use a paper towel). Some air bubbles may enter the tank as the ultrasonic chamber fills with saline solution – this is normal.
5. Plug in the electric adaptor.
6. Push the power button. The power LED turns 'On' and the device will start to work. The microscopic salt particles come out of the device through the top white lid (6). **Mist is not visible; this is normal!** Only a light air stream will be felt coming out of the device.

The device stops automatically when there is no more saline solution in the tank; the LED will still be 'On'. **Expect the tank to empty in about 5-9 nights of use.** To continue to use, refill the tank with saline solution.



**FIG.1**

- |                         |  |
|-------------------------|--|
| 1. Saline solution tank | 6. Salt aerosol outlet   |
| 2. Base                 | 7. Water tank groove   |
| 3. Tank cap             | 8. Air stream outlet ( <b>avoid water entering this hole when cleaning the base!</b> ) |
| 4. Ultrasonic cell      | 9. Empty shut-off sensor ( <b>do not unscrew for cleaning!</b> )                       |
| 5. ON/OFF button.       |  |

**Do not use essential oil with Saltair air salinizer!!! It will damage the device!**

## Maintenance, cleaning and storage

Make sure to unplug the device before any cleaning, maintenance or filling with saline solution.

1. Clean the saline solution tank with every refill. Take off the saline solution tank using same procedure as for refill. Flush the interior of the tank with clean water. If there are deposits inside – let it soak in water with double strength cleaning vinegar (3 to 1 part water); empty half and shake it well. Rinse well with clean water. Use a soft cloth for exterior, if needed. Do not use petroleum, paint thinner or other chemicals for cleaning.

2. Clean the ultrasonic cell (Fig.1-4) (the penny size white round piece), using only a soft cloth and clean water. The chemical solution provided for cleaning should be used on the ultrasonic cell only every 2-3 months or when there are visible deposits. Put 2-3 drops on the ultrasonic cell and let the solution work for 2-3 minutes. Use the little brush and clear water to rinse.

***VERY IMPORTANT:*** Use only a soft cloth to clean the ultrasonic cell (4). Never touch it with sharp or hard objects. NEVER immerse the base into water and avoid water getting inside of the base through the air stream outlet (8) or other openings. DO NOT move the device from one place to another once it is filled. Always take the tank off and empty the water from the base before moving it to another location.

3. For storage, clean the device carefully as instructed. After it is dry, put the device in its original packaging and keep it in a cool, dry place.

**Transport and storage environment:** -20°C to 55°C, humidity ≤95%, pressure 70-106 kPa.

**Working environment:** 5- 40°C, humidity 30-80%, pressure from 80kPa to 106kPa.

### Technical data

Model	Input voltage	Power	Tank capacity	Noise
Saltair ST-618	DC 11V	8W	0.6 L	<35dB
Adapter: Input 100-240V~ 50/60Hz, 500mA Output 11V ,1000mA Adaptor model NO. : HS18-1101000US or HS18-1101000EU				
Protection against electric shock		Class II (with adapter)		
Applied part		No applied part		
Mode of operation		Continuous operation		
Protection against harmful ingress of water or particulate matter		IPX0		
Note: Not intended to be sterilized. Not for use in an OXYGEN RICH ENVIRONMENT.				

### Safety Cautions

- To reduce the risk of fire or electric shock, do not immerse this device in water; for assistance refer to qualified personnel only; never attempt to repair the device yourself.
- Adapter is part of the equipment. Put the device near the socket. If an extension cord is used it must be suitable to the power consumption of the device, otherwise overheating will occur.
- The adapter insulate the device from the mains supply. Do not use in a place where it is difficult to disconnect from the mains supply.
- Do not place this device close to other electric devices which may be damaged or cause electric hazard in case of an accidental saline solution spill.

- Do not fill the water tank with water over 40°C to avoid discoloration or deformation.
- When the ambient temperature is below 0°C pour out the water from the device.
- Keep the device away from direct sunlight and heat sources.
- The device must be placed on a hard surface to assure proper air flow underneath.
- Do not unplug with wet hand.
- If there is an accidental spill, unplug the device first.
- Do not touch the ultrasonic cell while the device is working.
- Do not touch adapter output when the device is working.
- Do not overbalance the device over 10 degree while it is in use or transportation. To move it, take off the water tank and empty the water from the base before resetting it.
- This device is not intended for use by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the device by a person responsible for their safety.
- Never allow it to be used by handicapped children or disabled individuals.
- Push the power button 'OFF' and unplug the adapter from the mains supply to safely terminate the operation.

## TROUBLESHOOTING

If the **DEVICE** is not working correctly, please check the following causes:

TROUBLE	PROBABLE CAUSE	SOLUTION
DEVICE does not operate	Power cable not plugged in	Plug in power cable
The power light is ON, but there is no salt aerosol released	The water tank is empty	Fill tank with saline solution
Aerosol with unpleasant smell	New machine	Open the water tank and leave it for 12 hours in a cool, dry place
	Saline solution left in the tank for too long time, without use	Clean the water tank and make new saline solution
The power light is ON, but the DEVICE does not work	Too much saline solution in the base	Pour out saline solution from the base and reset the unit. <b>Do not move the DEVICE from one place to another or remove water tank once is filled!</b>
The power light is blinking and the DEVICE does not work	Saline solution got inside of the base	Clean the device and let it dry for 12 hours in a cool, dry place
Abnormal noise	The DEVICE is on unstable surface	Move the DEVICE to a stable, perfect level surface
	The saline solution got inside of the base over the fan	The DEVICE needs repair
Salt crystallized around midline or slowly leakage	The outside surface of the water tank remained wet or there was water in the tank's groove after refill and through capillarity, slowly, the saline solution is pulled from the base	Wipe the DEVICE dry after refill and make sure there are no drops of water around mid-line.
DEVICE is leaking heavily	Water tank is cracked or the cap is broken; the device is not on a level surface	Change the water tank or cap; make sure it is set on a level surface

The **Saltair** comes with one year warranty. Halosense Inc. repairs or replaces equipment that proves to be defective during the warranty period. Warranty includes parts and labor.

Manufacturer will provide circuit diagrams, component part lists, descriptions, calibration instructions to assist service in parts repair.

The warranty provided herein does not cover equipment subjected to abuse, misuse, accident, alteration, neglect, or unauthorized repair or installation. Halosense Inc determines if the cause of defect is due to a manufacturing malfunction or customer misuse. **Note:** The device has to be used only with our provided rock salt for the warranty to be in effect. Using a different kind of salt will **void** the warranty, as it can affect negatively the lifetime of the device and the health results!

EXCEPT AS SPECIFIED HEREIN, HALOSENSE INC. MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, AND SPECIFICALLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. CUSTOMER’S RIGHT TO RECOVER DAMAGES CAUSED BY FAULT OR NEGLIGENCE ON THE PART OF HALOSENSE INC. WILL BE LIMITED TO THE AMOUNT PAID BY THE CUSTOMER. HALOSENSE INC. WILL NOT BE LIABLE FOR DAMAGES RESULTING FROM LOSS OF DATA, PROFITS, USE OF PRODUCTS, OR INCIDENTAL AND CONSEQUENTIAL DAMAGES.

Symbols that we used here:

Signs	Notes on the signs
	Class II equipment
	Indoor use only
	Consult instructions for use
	International Recycling Symbol shows that these materials can be changed into new products to prevent waste of potential useful materials.
	Symbol for CE Mark. This symbol certifies that a product has met European Union consumer safety, health or environmental requirements.
	<p>Where you see either symbol on any of our electrical products, batteries or packaging, it indicates that the relevant electrical product or battery should not be disposed of as general household waste in Europe. To ensure the correct waste treatment of the product and battery, please dispose them in accordance with any applicable local laws or requirements for disposal of electrical equipment/batteries.</p> <p>In so doing, you will help to conserve natural resources and improve standards of environmental protection in treatment and disposal of electrical waste.</p>

### EMC declaration

This product needs special precautions regarding EMC and needs to be installed and put into service according to the EMC information provided, and this unit can be affected by portable and mobile RF communications equipment.

1) Do not use a mobile phone or other devices that emit electromagnetic fields, near the unit. This may result in incorrect operation of the unit.

- 2) Caution: This unit has been thoroughly tested and inspected to assure proper performance and operation!
- 3) Caution: this machine should not be used adjacent to or stacked with other equipment and that if adjacent or stacked use is necessary, this machine should be observed to verify normal operation in the configuration in which it will be used
- 4) Warning: The use of ACCESSORIES, transducers and cables other than those specified, with the exception of transducers and cables sold by the MANUFACTURER of the COMPRESSOR NEBULIZER as replacement parts for internal components, may result in increased EMISSIONS or decreased IMMUNITY of the ME EQUIPMENT or ME SYSTEM.

<b>Guidance and manufacture's declaration – electromagnetic emission</b>		
The ULTRASONIC AIR SALINIZER is intended for use in the electromagnetic environment specified below. The customer or the user of the ULTRASONIC AIR SALINIZER should assure that it is used in such an environment.		
<b>Emission test</b>	<b>Compliance</b>	<b>Electromagnetic environment – guidance</b>
RF emissions CISPR 11	Group 1	The ULTRASONIC AIR SALINIZER use RF energy only for its internal function. Its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.  The ULTRASONIC AIR SALINIZER is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
RF emission CISPR 11	Class B	
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

<b>Guidance and manufacture's declaration – electromagnetic immunity</b>			
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<b>Immunity test</b>	<b>IEC 60601 test level</b>	<b>Compliance level</b>	<b>Electromagnetic environment - guidance</b>
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±6 kV contact ±8 kV air	Floors should be wood, concrete or ceramic tile. If floor are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient / burst IEC 61000-4-4	±2 kV for power supply lines	±2kV for power supply lines	
Surge IEC 61000-4-5	± 1 kV line(s) to line(s)	±1 kV differential mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% $U_T$ (>95% dip in $U_T$ ) for 0.5 cycle  40% $U_T$ (60% dip in $U_T$ ) for 5 cycles  70% $U_T$ (30% dip in $U_T$ ) for 25 cycles  <5% $U_T$ (>95% dip in $U_T$ ) for 5 sec	<5% $U_T$ (>95% dip in $U_T$ ) for 0.5 cycle  40% $U_T$ (60% dip in $U_T$ ) for 5 cycles  70% $U_T$ (30% dip in $U_T$ ) for 25 cycles  <5% $U_T$ (>95% dip in $U_T$ ) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the ULTRASONIC AIR SALINIZER requires continued operation during power mains interruptions, it is recommended that the ULTRASONIC AIR SALINIZER be powered from an uninterruptible power supply or a battery.
Power frequency (50Hz/60Hz) magnetic field IEC 61000-4-8	3A/m	3A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE $U_T$ is the a.c. mains voltage prior to application of the test level.			

### Guidance and manufacture's declaration – electromagnetic immunity

The ULTRASONIC AIR SALINIZER is intended for use in the electromagnetic environment specified below. The customer or the user of ULTRASONIC AIR SALINIZER should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
<p>Conducted RF IEC 61000-4-6</p> <p>Radiated RF IEC 61000-4-3</p>	<p style="text-align: center;">3 V<sub>rms</sub> 150 kHz to 80 MHz</p> <p style="text-align: center;">3 V/m 80 MHz to 2.5 GHz</p>	<p style="text-align: center;">3 V<sub>rms</sub></p> <p style="text-align: center;">3 V/m</p>	<p>Portable and mobile RF communications equipment should be used no closer to any part of the ULTRASONIC AIR SALINIZER, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</p> <p><b>Recommended separation distance</b></p> $d = 1.167\sqrt{P}$ $d = 1.167\sqrt{P} \quad 80 \text{ MHz to } 800 \text{ MHz}$ $d = 2.333\sqrt{P} \quad 800 \text{ MHz to } 2.5 \text{ GHz}$ <p>Where <i>P</i> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and <i>d</i> is the recommended separation distance in metres (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,<sup>a</sup> should be less than the compliance level in each frequency range.<sup>b</sup> Interference may occur in the vicinity of equipment marked with the following symbol: </p>

NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

<sup>a</sup> Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the ULTRASONIC AIR SALINIZER is used exceeds the applicable RF compliance level above, the ULTRASONIC AIR SALINIZER should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the SALINIZER.

<sup>b</sup> Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

### Recommended separation distances between

#### portable and mobile RF communications equipment and the ULTRASONIC AIR SALINIZER

The ULTRASONIC AIR SALINIZER is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the ULTRASONIC AIR SALINIZER can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the ULTRASONIC AIR SALINIZER as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter (W)	Separation distance according to frequency of transmitter (m)		
	150 KHz to 80 MHz $d = 1.167\sqrt{P}$	80 MHz to 800 MHz $d = 1.167\sqrt{P}$	800 MHz to 2.5 GHz $d = 2.333\sqrt{P}$
0.01	0.117	0.117	0.233
0.1	0.369	0.369	0.738
1	1.167	1.167	2.333
10	3.689	3.689	7.379
100	11.667	11.667	23.333

For transmitters rated at a maximum output power not listed above, the recommended separation distance *d* in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where *P* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.