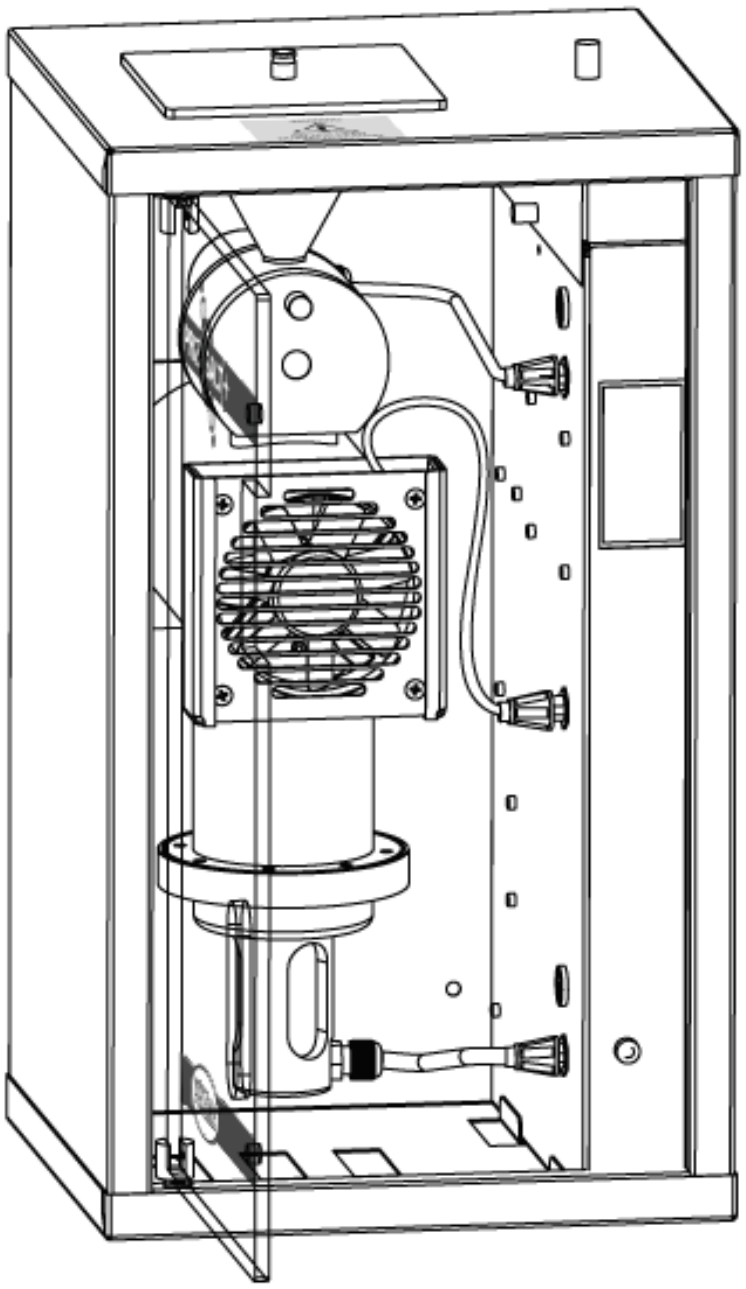
Dear customer,



Thank you for purchasing a PRIZMA halogenerator. Read all instructions thoroughly before installing and operating the unit. Please keep this instruction manual for future reference. This manual is designed to provide important information and ensure safe and proper installation, operation, maintenance and troubleshooting of the halogenerator.

Failure to follow these instructiopns may void the warranty

Index

Document revisions

Version	Date:	Description of changes:
1.0	Dec 2015.	Initial version
2.0	Jun 2017.	Section “Installation”

Exemptions from liability

Please understand that PRIZMA is not liable for the following:

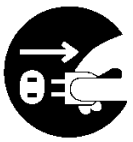
1. Any trouble and/or damage caused by the maintenance and/or repair conducted by other than PRIZMA or PRIZMA's authorized dealer.
2. Trouble and/or damage of PRIZMA's product caused by the product of other manufacturer not delivered by PRIZMA.
3. Trouble and/or damage caused by maintenance and/or repair using the repair part(s) not authorized by PRIZMA.
4. Trouble and/or damage caused as a result of not observing the Notes on Safety or operating method mentioned in this Instruction manual.
5. Deviation from the operating conditions of the product mentioned in this Instruction manual including the power source and installation environment.
6. Trouble and/or damage caused as a result of modifying and/or improper repair of the product.
7. Trouble and/or damage caused by natural disasters such as fire, earthquake, flood or lightning.

1. The content of this Instruction Manual are subject to change without notice.
2. The content of this Instruction Manual has been prepared with care and attention. If you find any omission or error, please inform your local PRIZMA representative or dealer.
3. It is prohibited to copy all or a part of this Instruction manual without receiving written permission from PRIZMA. Other than personal (corporate) use, this Instruction manual may not be used it without PRIZMA's permission in accordance with the Copyright Act.

- The warning symbols and the sample icons shown here are listed for you to use this product safely and correctly as well as to prevent the risk of injury to you and others.
- The icons and meanings are as follows:

Warning sign	Contents
Warning	Indicates situations in which the possibility of death or severe body injury may arise as a result of incorrect handling.
Caution	Indicates situations in which body injury or material damage* may arise as a result of incorrect handling.

* Material damage refers to a wide range of damage s including building, property, household goods, domestic animals and pets.

Examples of signs		
The △ icon indicates caution (including warning and danger). Situations involving actual caution are indicated by statements or pictures in or near △.	Indicates:  "Risk of Fire"	Indicates:  "Risk of Electrical Shock"
The ⃠ icon indicates prohibitions (what you cannot do). Matters involving specific prohibitions are indicated by text or pictures shown in or near ⃠.	Indicates:  "Do Not Disassemble"	Indicates:  "General Prohibition"
The ● icon indicates something that is compulsory (must be observed at any time). Situations involving specific compulsory actions are indicated by statements or pictures shown in or near ●.	Indicates:  "General Notice"	Indicates:  "Disconnect power plug before proceeding"

⚠ Warning

Use only salt approved for medical purposes.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Clean the device after use.

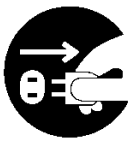
- Salt is deposited inside the device while in operation. Salt is a corrosive substance. Corrosion can occur and damage some parts of the device.

In case of a problem with this device please, contact your local PRIZMA service representative (address on/ inside package).

Notes on safety

Do not use this device in the vicinity of flammable gases or in areas with high risk of explosion. Only salt approved for medical purposes can be used. Do not disassemble the device while plugged into an electric outlet. • You may suffer an electric shock or injure yourself.	
Do not operate the device with wet hands. • You may suffer an electric shock or injure yourself. Do not wash the device with water, or pour water over it. • You may suffer an electric shock in the event of a short circuit.	

⚠ Warning	
The device is intented for operation with dry salt NaCl. • If you use other substances, malfunction may occur or the device may be damaged. Relative humidity in the salt room and halogenerator envrioment must be **lower than 40%.** • If the device is used at higher relative humidity, the degradation of its performance may occur. If the product parts have already become dirty before using the device, clean them first before use. • If salt remains in the device degradation of the unit's performance may occur. Disposal of this device should be carried out in accordance with national regulations for disposal of electronic products.	

⚠ Warning	
Unplug the halogenerator prior to leaving it unattended for extended amounts of time. • You may suffer an electric shock or the device may ignite due to electric leakage. Be sure to turn off the power and unplug power supply when you install, remove, clean, disassemble or repair the device. • You may suffer an electric shock or injure yourself. This equipment must be connected only to a grounded power supply. • You may suffer an electric shock or injure yourself. The power cord is considered a disconnecting device. Power supply outlet used for connection of the halogenerator to the mains should be easily reachable to the operator.	
Do not look into the output air flow during operation. • Large amounts of salt can reach your eyes and cause damage. Do not fill the tank with any substances other than pure dry salt approved for medical use. • Damage to the device or performace degradation may occur. Do not use the power cord or plug if it is damaged, do not plug into a loose electric outlet.	

• You may suffer an electric shock or short circuit may occur and cause ignition. Do not scratch, tear, modify, bend strongly, pull, twist, or bundle the power cord. Do not place heavy objects on the power cord. Keep power cord away from heated or hot surfaces. • You may suffer an electric shock or the device may ignite due to short circuit caused by deteriorated insulation.	
Do not disassemble, repair or modify the device • It may cause malfunction of the device or human injury. • There are no parts serviceable by user inside the device. Contact your nearest PRIZMA service representative.	
Do not use a power cord other than the supplied one. • The device may ignite or you may suffer an electric shock. Be sure to use the specified power source. • The device may ignite or you may suffer an electric shock. Do not share the electrical socket with other electrical devices. • The device may ignite or you may suffer an electric shock. Do not pull on the power cord to disconnect the device, unit must be unplugged by gripping the power plug. • The power cord may become damaged, short circuit may cause fire, or you may suffer electric shock.	
Do not open the door of the halogenerator when session session is in progress. • There are rotating parts inside the halogenerator. They can cause human injury.	

General advice
Do not use the product for the purpose other than for producing dry salt NaCl aerosol generation. Do not use any parts other than the accessories or optional parts listed in this Instruction Manual. Do not fill the tank with more than 150g of dry salt. Do not block the air ventilation holes at the bottom side of the device. Do not operate if the deflector plate is removed. • Large amount of salt can reach your skin or eyes. After cleaning the parts, ensure they are completely dry before re-assembling. Do not clean the door with alcohol. Do not clean the device with volatile chemicals, such as benzene or thinners. Although this device fulfils the provisions of the EMC (Electromagnetic Compatibility) directive, the use of it should be avoided in direct vicinity of other electric devices. Do not allow unsupervised children or infirm persons to use the device. This appliance shall be installed and in accordance with the National Electrical Code. This appliance shall not be accessible to general public.

Maintenance

Before using the device, verify that the device operates normally and safely.

How to deal with faults or accidents

If an error occurs, immediately take the following measures:
1) Turn power to the unit OFF and unplug from the electrical outlet.
2) Place a notice on the device “Faulty-Do not use”.
3) Contact the store where you purchased the product or the nearest PRIZMA dealer.

Device features

1 All mechanical parts and electronics are located inside one cabinet. Device is powered from the mains, via power cord.

2 Touch screen displays program number, salt dispensing mode during session, fan speed, remaining time of session and indication of problems during session. The back-light illuminates the display in darkness.

3 There is a touch-sensitive surface on the display. It allows easy interactive device operation. The unit has a notification buzzer. The buzzer makes a sound when some of the commands on display are touched.

4 This device operates in the unlicensed ISM band at 2.4GHz, using BLUETOOTH communication. In case this product is used nearby other wireless devices, including microwave and wireless LAN, operating in the same frequency band, there is a possibility that interference occurs between this product and such other devices. If interference occurs, please stop the operation of other devices.

Principles of operation

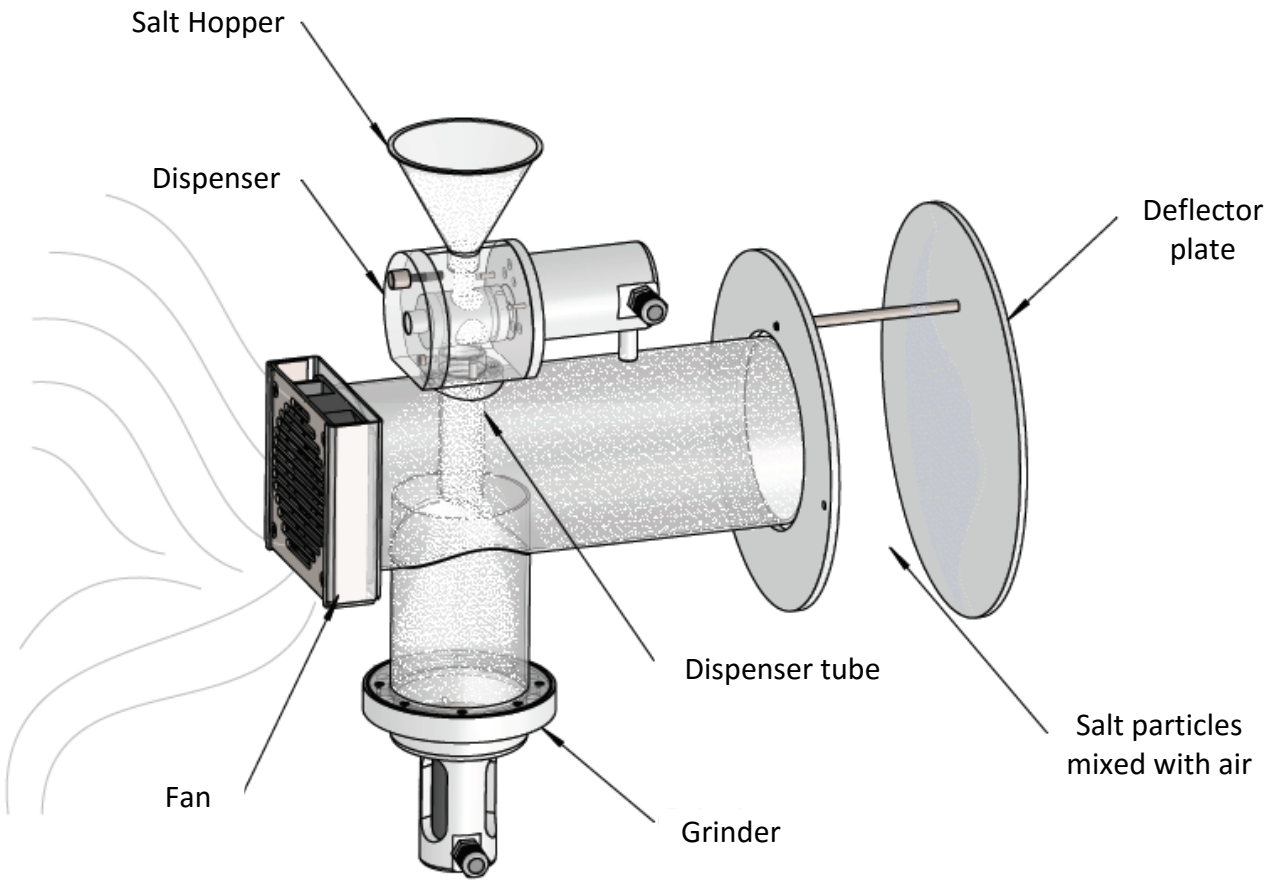
1) The dispenser works in programmed time intervals and drops small amounts of salt from the salt hopper down to grinder.

2) Grinder breaks salt grains into salt dust particles of various sizes, from few microns to parts of millimeter.

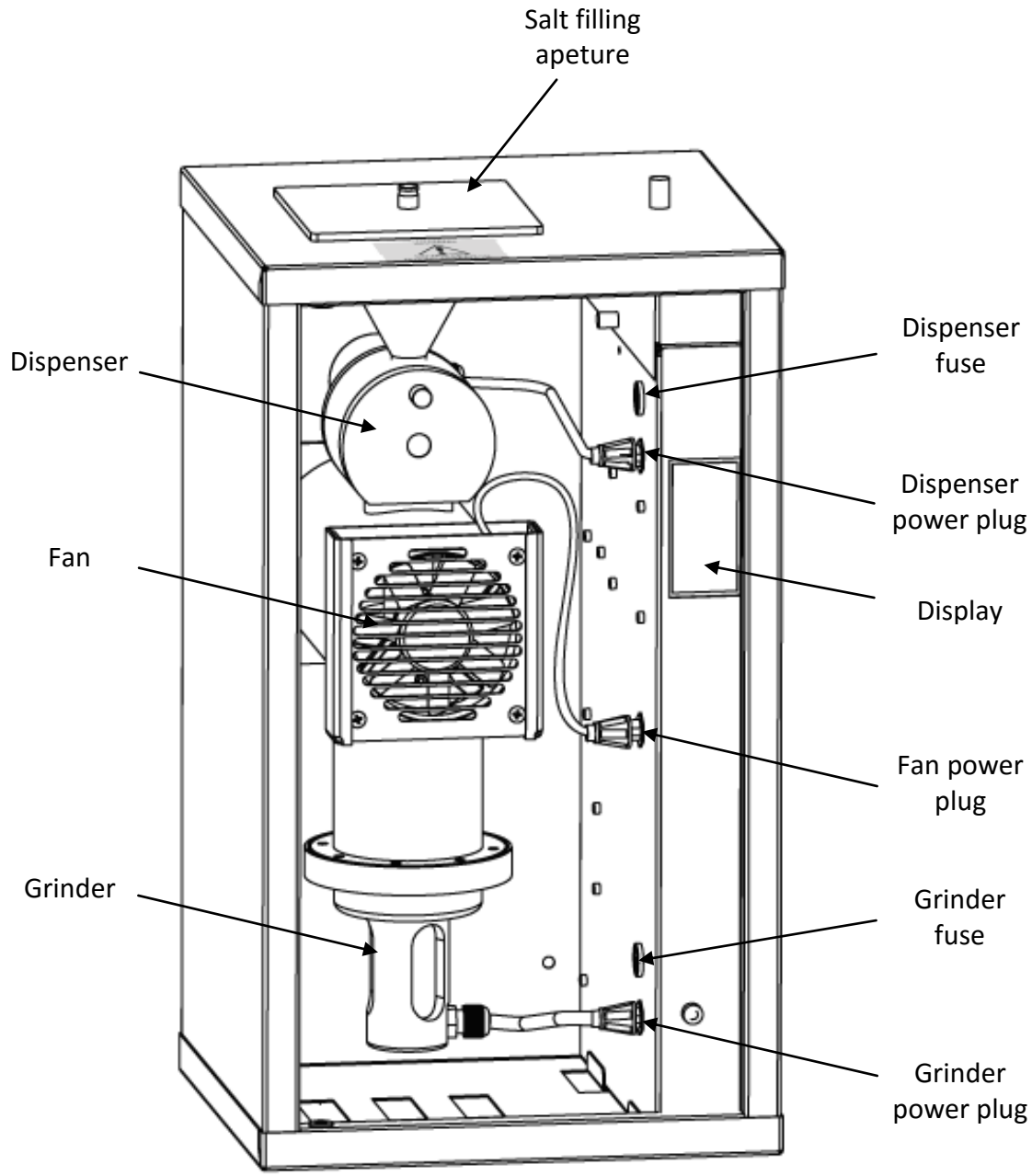
3) Air flow pulls small and light salt particles from the grinder and blows them out.

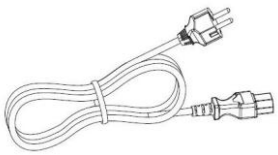
4) Output airflow containing salt particles hits the deflector plate. Coarse and heavy salt particles are not able to follow sudden change of airlow, they hit the deflector plate and drop down. Fine and light particles can follow the airflow, past the deflector plate and into the salt room.

5) It is assumed that the device is mounted outside the salt room, with client being inside and operator in the vicinity of the device.



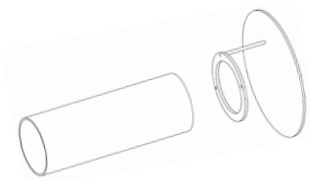
Parts of the device





Power cord

Brush
4 pcs

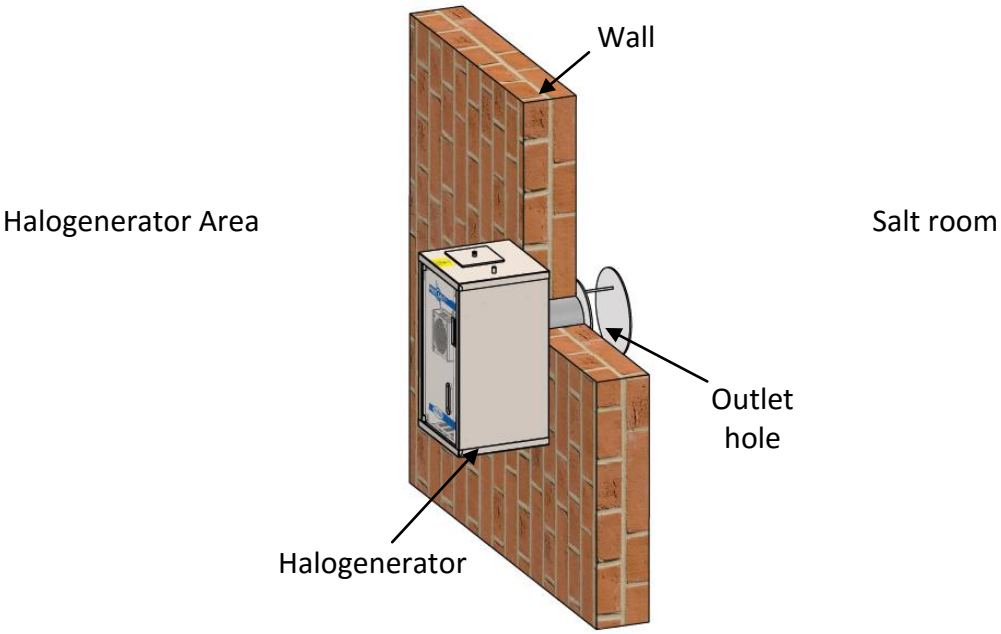


Extension sleeve

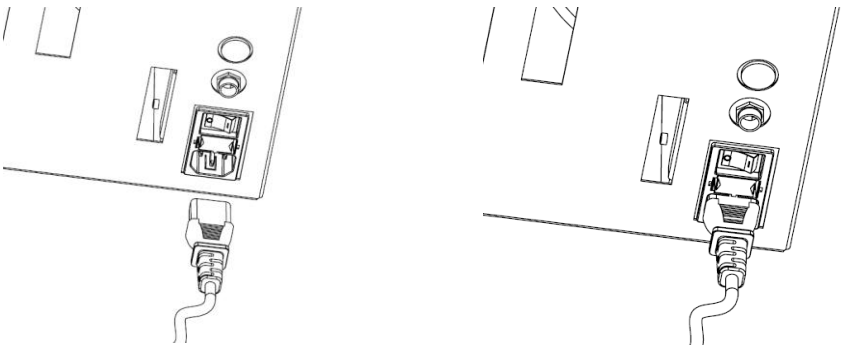
Deflector

Installation

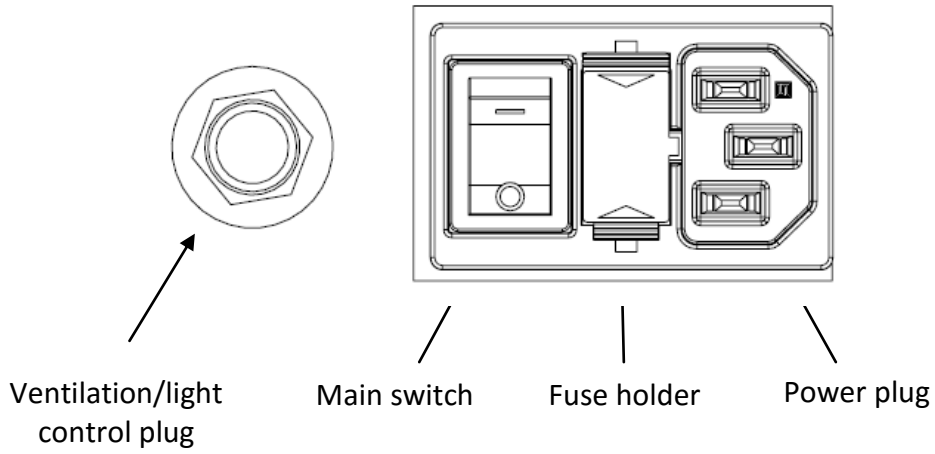
1. Choose appropriate position for halogenerator on wall between halogenerator area and salt room. Center of the outlet hole should be about 1m above floor level.



2. Drill a 110 mm diameter hole for outlet in the wall, between clean room and salt room.
3. Put halogenerator against drilled 110 mm hole. Mark 4 holes for anchors (holes are at rear side of halogenerator case) and remove halogenerator from the wall.
4. Drill four 8mm diameter holes for nylon anchors, and insert the anchors into the holes.
5. Mount the halogenerator on the wall selecting four 5.5x60mm-DIN7997 metal screws.
6. Insert power cable to power plug and connect to grounded mains power inlet.

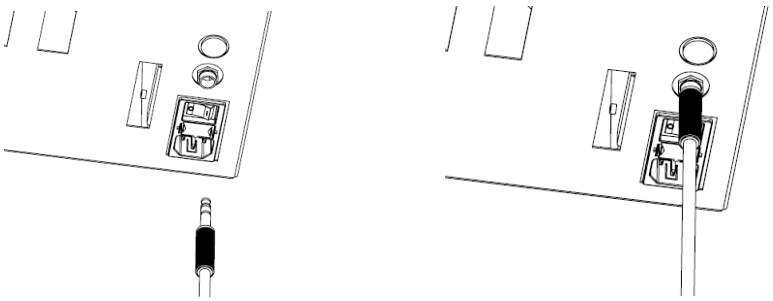


Note: Power plug is on the bottom side of the halogenerator.



Note: Mains plug is considered a disconnecting device. Mains power outlet used for connection of the halogenerator to the mains should be easily reachable to the operator.

7. If you use an external circuitry for ventilation and light control, insert jack in plug for control of external circuitry (central jack conductor always carry +24VDC, shield is connected to 0V when session is in progress, and disconnected when session is not in progress. Plug can carry current for one control relay operating on 24VDC (max 100mA).



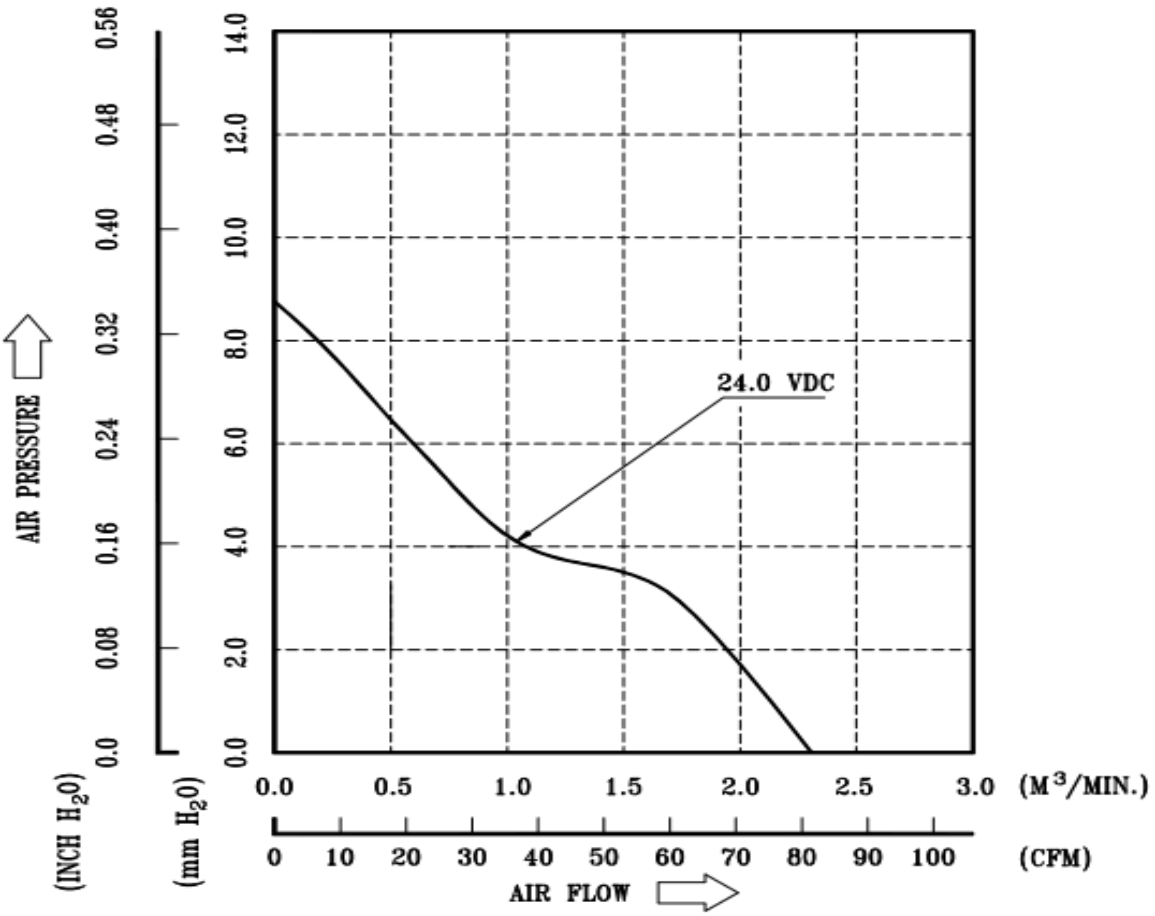
Note: Plug for control of external circuitry is on the bottom side of the halogenerator.

Instruction for positioning of the halogenerator in salt room

For proper operation of the halogenerator and salt room essential influence has:

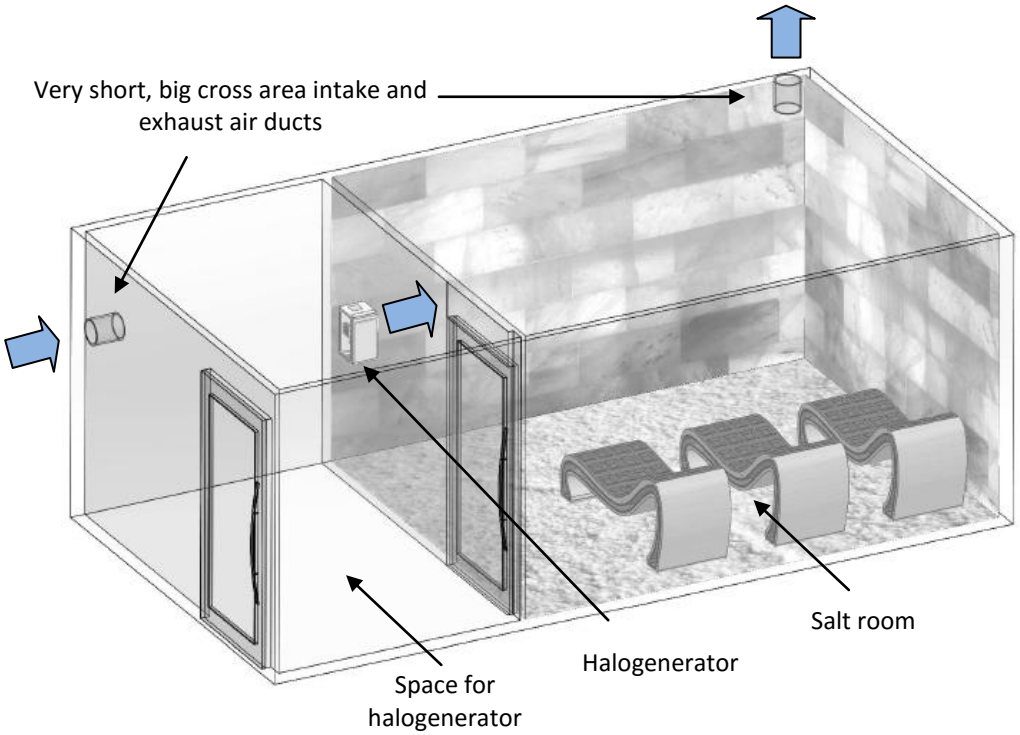
- Position of the halogenerator.
- Supply of non-salted air to the halogenerator.
- Position of exhaust ventilation aperture.
- Air exhaust from salt room.
- Humidity of air.

On a basic level, halogenerator creates salt dust and mix it with air. Salt dust is generated inside grinder of halogenerator. Air flow for mixing of salt with air is generated by the halogenerator fan. Flow of air created by fan strongly depends on difference of air pressure before halogenerator and air pressure inside salt room. A decrease in the size of ventilation apetures, decrease in the cross section of ventilation ducts, increase of length of ventilation ducts will all result in increase of air pressure difference and decrease of air flow. If air flow is not sufficient, salt dust will not go to salt room and will deposit inside the halogenerator.

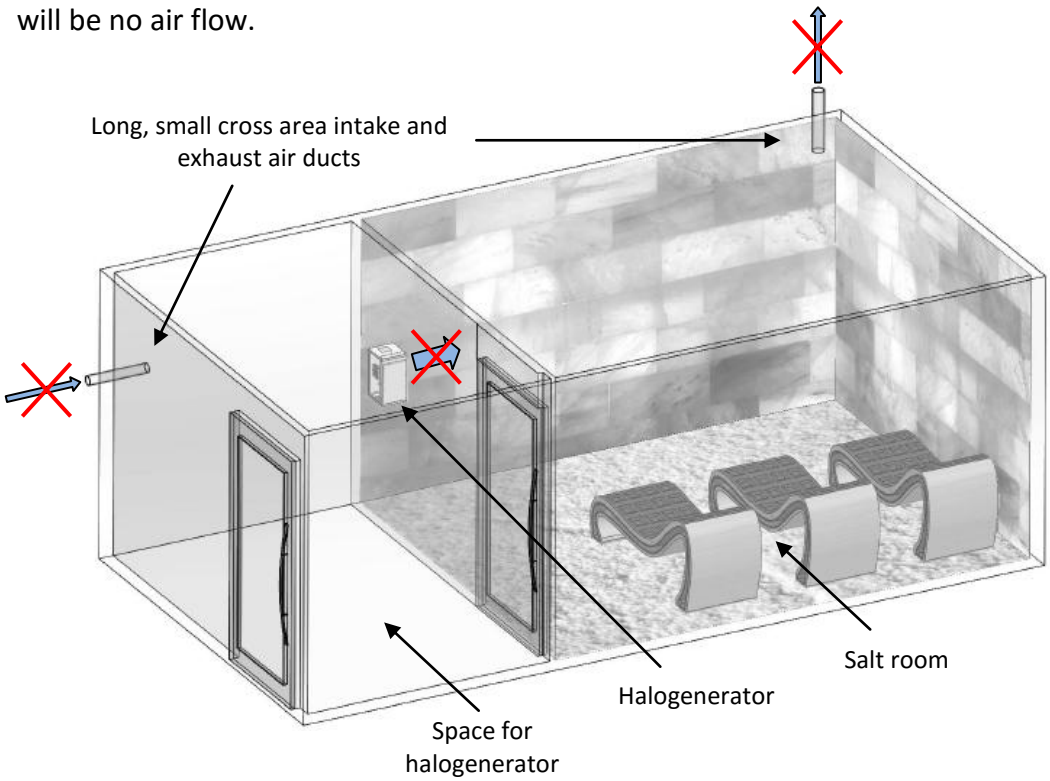


Installation examples

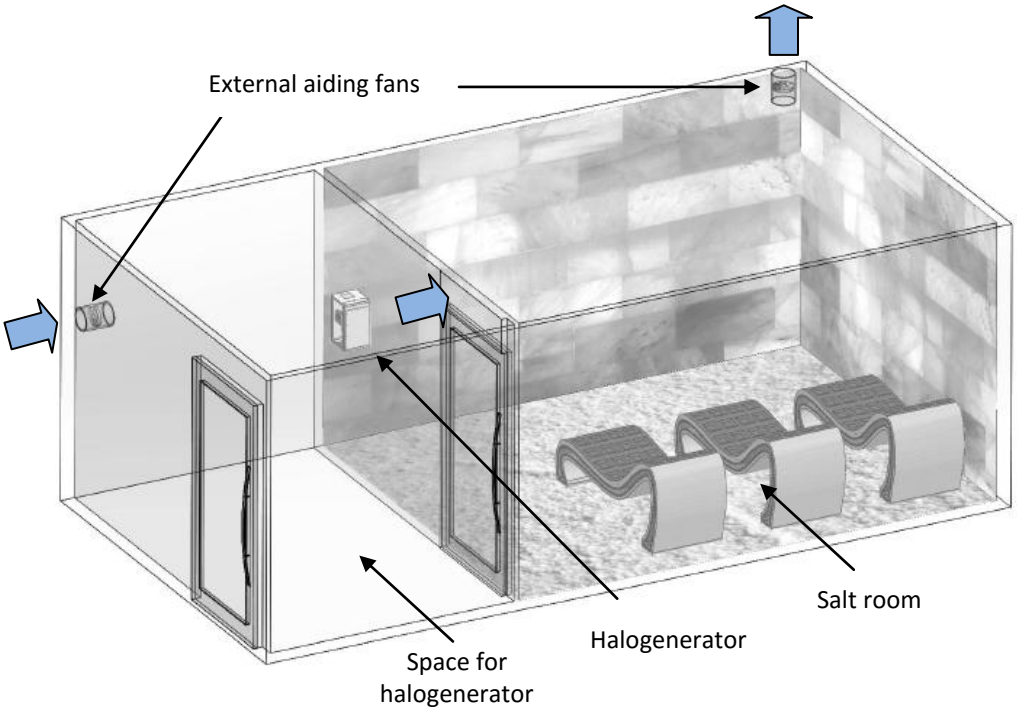
- If ventilation system is perfect, air pressure after halogenerator is 0.0 mm H_2O (0.0 inch H_2O) and the fan can produce maximum air flow of 2.3 m^3/min (80 CFM/min).



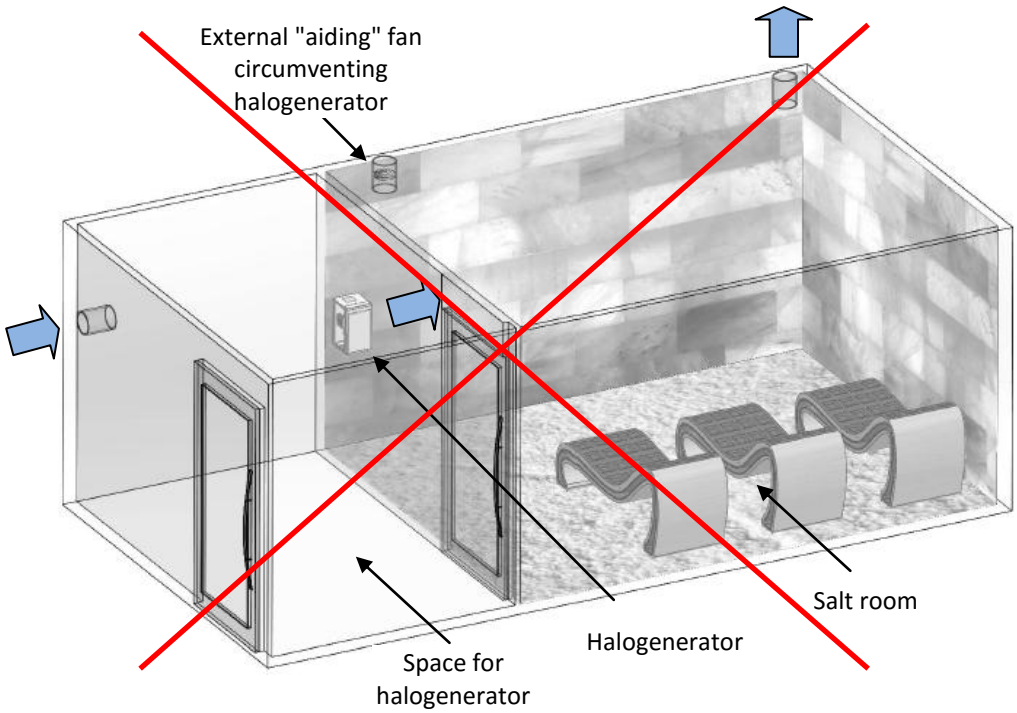
- If air pressure inside salt room is 4.0 mm H_2O (0.16 inch H_2O) higher than air pressure before halogenerator, fan can produce produce air flow of 1.0 m^3/min (35 CFM/min).
- If air pressure inside salt room is more than 8.7 mm H_2O (0.35 inch H_2O) above air pressure before halogenerator, fan will not produce air flow at all. Fan blades will rotate, but there will be no air flow.



Therefore, it is essential to have good supply of fresh air before halogenerator and good air exhaust system from the salt room.
If air supply is not good enough (meaning high air pressure drop after halogenerator), fan inside halogenerator will need help of additional fan/fans located in external air installation. It can be fan that increase supply of fresh air before halogenerator or fan that increase exhaust of air from salt room or both. Goal is to have air flow up to 3 m^3/min (110 CFM/min).



There must not be external air discharge into salt room circumventing halogenerator! If this occurs, the fan inside halogenerator must fight pressure increase created by air ducts plus pressure increase created by "aiding" fan. Effective air flow through halogenerator will be small and there will be no transport of salt dust from halogenerator to salt room. In extreme situations, if the external fan is stronger than fan inside halogenerator, air flow through halogenerator can be reversed!



To have good distribution of salt dust inside salt room, halogenerator and exhaust aperture must be distanced as much as possible. If they are close to each other, salt aerosol will mainly go to exhaust aperture, instead of saturating the salt room.

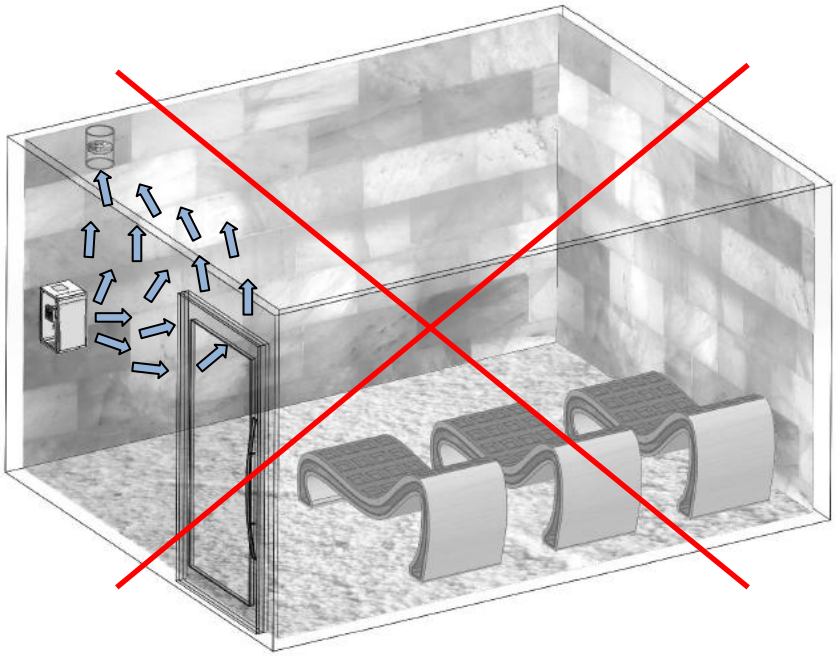
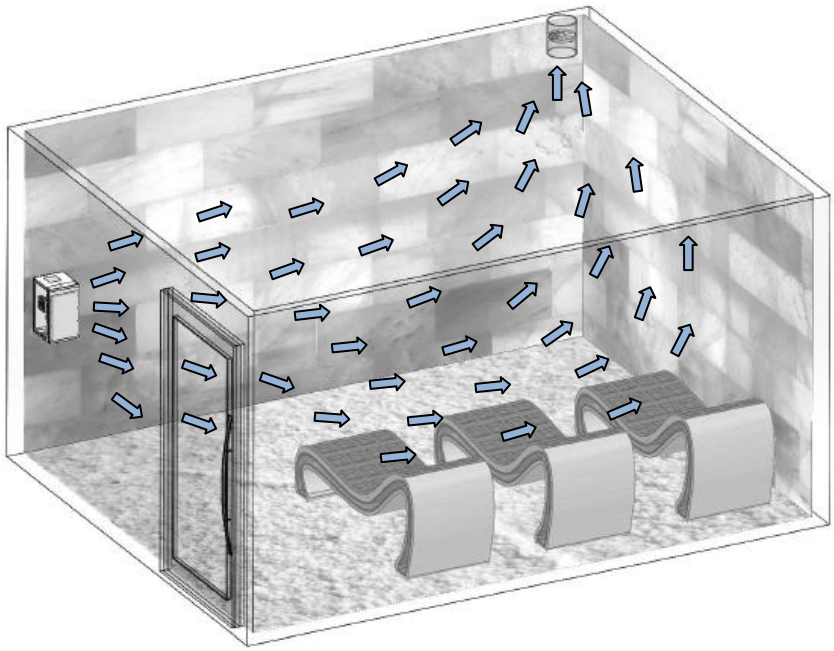
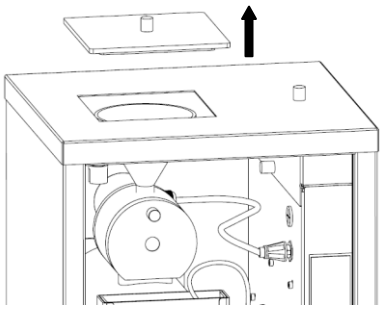


Illustration below is example of good configuration of halogenerator and exhaust apeture.

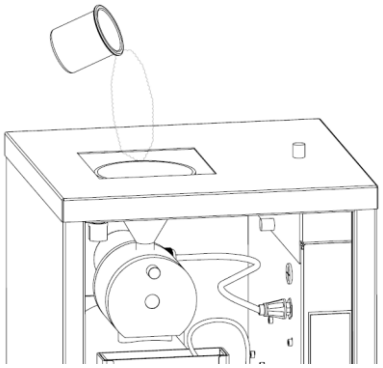


1. Salt Filling

Remove the salt hopper cover.



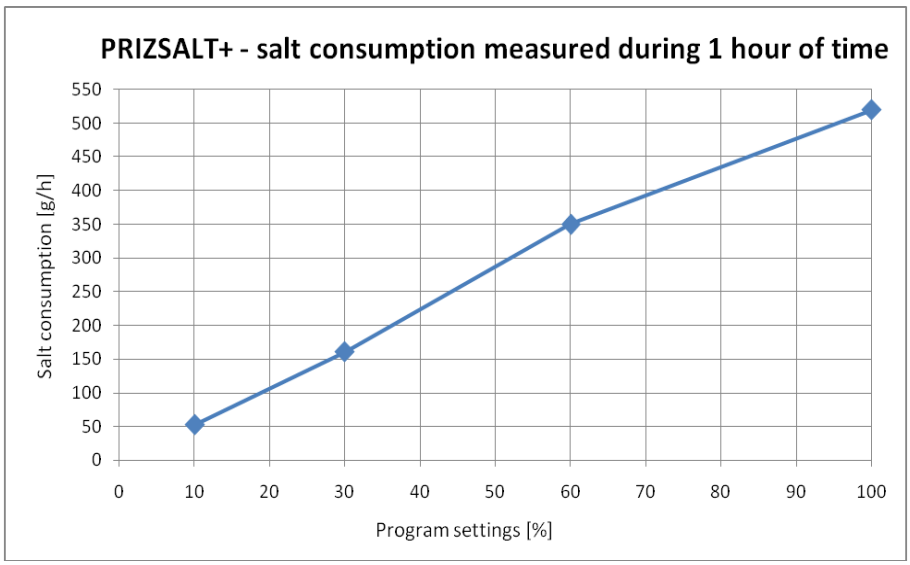
Prepare the salt for use. it is necessary to heat it up for 5-10 minutes to 80°C in order to remove moisture. Alternativly, salt may be kept constantly heated at a low temprature to ensure dryness.



Care must be taken that the salt is uncovered during heating, to allow the moisture to evapoorate.

Pour the salt into the salt tank. Maximum allowable quantity of salt is 150g.

Salt consumption

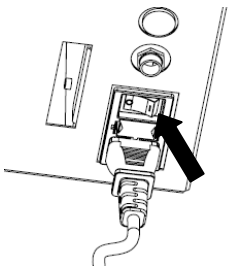


Rough estimation of salt consumption is 50g/h for each 10% of program setting, if duration of inhalation is 1 hour.
If duration of inhalation is shorter than 1 hour, dependency will be more nonlinear.

2. Turning on the device.

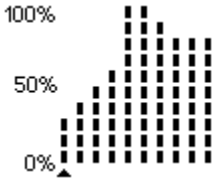
Close the door of halogenerator.
Turn the main switch on (position "1").

Note: The main switch is on the bottom of the control unit.



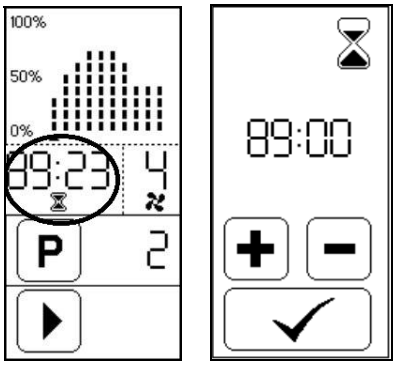
The unit is operated by pressing the command buttons on screen touch display. If you touch a command button, the unit will produce a short sound. This way, a user has both tactile and audible signs of operation.

Note: To avoid damaging the screen, please do not touch it with your fingernails or sharp objects, only with finger tip.

Description of icons on screen	
Session duration setup. Session duration is displayed next to the button.	
Program selection.	
Air volume setup.	
Choosing session steps.	
Bar graph showing salt dispensing status during session.	
Start the session.	
Pause the session.	
Quit the session.	
Increase the value of the selected parameter.	
Decrease the value of the selected parameter	
Confirm settings	

1. To set up duration of session

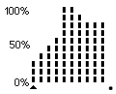
Press button ⏳ or displayed number for session duration. Device will enter session duration setup menu. Duration of session can be set by pressing ➕ or ➖. Maximum duration of session is 99 minutes. Duration of session is displayed in the middle of screen.



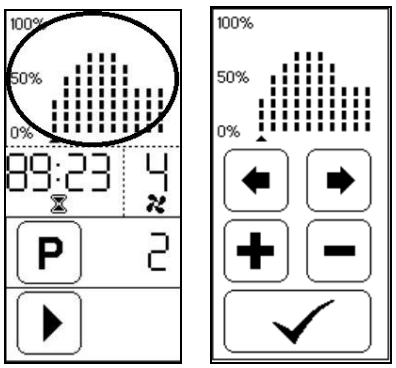
2. To set session program

Duration of session and salt dispensing mode can be stored among nine programs. Press button P to select the program. Choose a program from 1 to 9 by pressing button P. Each pressing button will advance selected program number to one, in sequence P1 - P2 - P3 - P4 - P5 - P6 - P7 - P8 - P9 - P1.

3. To set salt dispensing mode

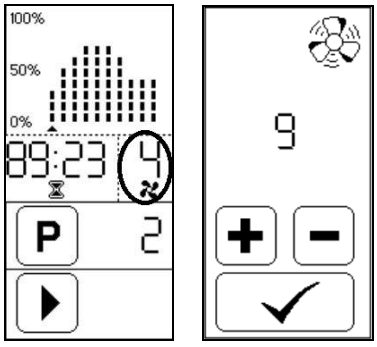
Salt dispensing mode is displayed in the bar graph 

. Duration of session is divided into 10 equal time intervals. Each time interval is assigned to a bar graph column. Amount of dispensed salt may be adjusted from 0 to 100% of the capacity separately for each time interval.
Press displayed bar graph. Cursor ▲ can be moved left or right bellow the bar graph by pressing the buttons ⬅ ➡ . Cursor must be placed bellow the bar graph whose value should be set. By pressing ➕ and ➖ it is possible to set the salt dispensing value from 0% to 100% in 10% steps. Press ✓ to confirm.



4. To set air volume

Press button or displayed number above. Device will enter air volume setup menu. Air volume can be set by pressing or . Air volume value may be adjusted from 1 to 9. Press to confirm.



5. To start up the session

Press button to start the session. It will start if the door of the halogenerator is closed and grinder is not blocked. The button will change into , and button will appear on screen. The countdown of the session starts. Cursor below the bar graph is moving during the session and shows the current step. When the time of session has expired, nebulisation will stop and notification buzzer will sound.

It is possible to adjust the salt dispensing mode and fan speed during the session. It is not possible to change the session duration if it is in progress.

If the door of the halogenerator is opened, the grinder is blocked or some of fuses are blown, the session will not start and error description symbol will be displayed on the screen.

Halogenerator door is open

Grinder is blocked

Dispenser is blocked

Dispenser fuse is blown

Grinder fuse is blown

After fixing errors press button and start the session again.

6. To pause the session

Session can be paused by pressing button . It will change into . Nebulisation and countdown will stop.

Session will continue at any moment by pressing the same button. The session countdown will start from the current value.

7. To quit the session

Session can be interrupted at any moment by pressing the button . A splash screen will appear on the display. The latest settings of air volume and nebulisation rate will be displayed. Duration of session will return to the start value before the session.

Post-Salt Session

At the end of the workday:

1 Turn off the main switch (position "0").

2 Unplug the power plug from the electrical outlet.

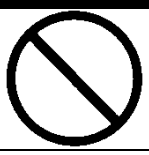
3 Clean the halogenerator.

Note: It is important that you clean the halogenerator thoroughly at the end of the work day. Otherwise, salt will deposit on parts of device and will decrease the efficacy of the session and salt aerosol concentration.

In environments with increased humidity and/or air-conditioner deposition of salt may be increased than normally. In such circumstances, it is necessary to clean the device several times during the working day.

Salt deposits can cause malfunction or defects in the device.

In extreme cases salt deposits may obstruct the dispenser, fan or grinder and may damage the product parts (dispenser motor, dispenser gearbox, fan or grinder motor).

⚠ Warning	
Before disassembly and cleaning, turn off the main switch and unplug the power cord from the electrical outlet. • You may suffer an electric shock or injure yourself.	

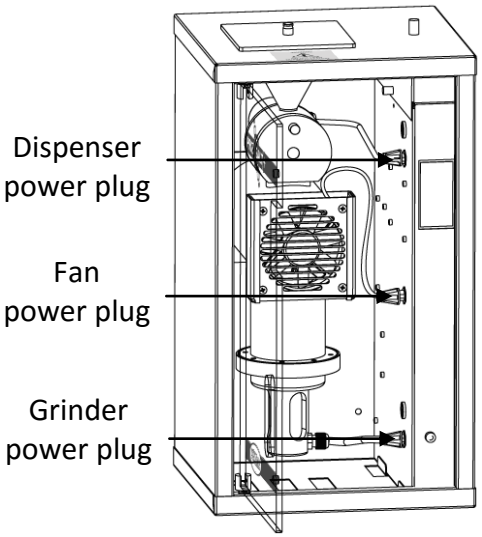
General advice
• Do not wipe the main unit with volatile chemicals, such as benzene or thinners. • Do not clean the door with alcohol.

1. Preparing for cleaning

Turn off the main switch (position "0") on the bottom side of device.

Take door by hand and open it.

Locate positions of power plugs for dispenser, fan and grinder.

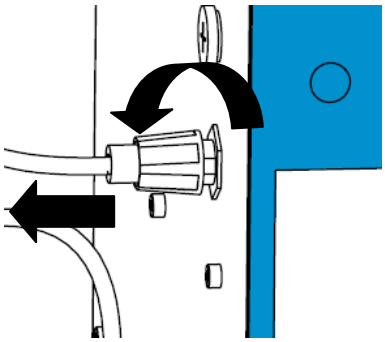


2. Disconnection of power plugs

Disconnect dispenser, fan and grinder power plugs.

Plug disconnection is a two-step process.

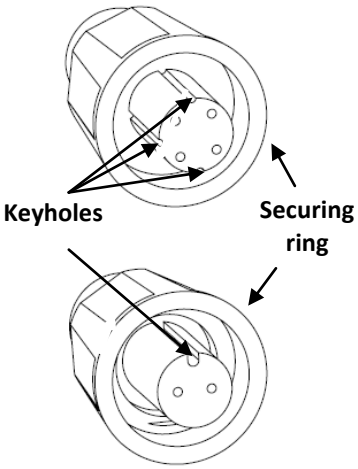
1. At the top of the plug is securing ring, preventing plug disconnection. Take securing ring by fingers and rotate it GENTLY counterclockwise until you feel resistance.
2. Pull the plug gently.



When you disconnect the plug, observe the keyhole at the top of the connector.

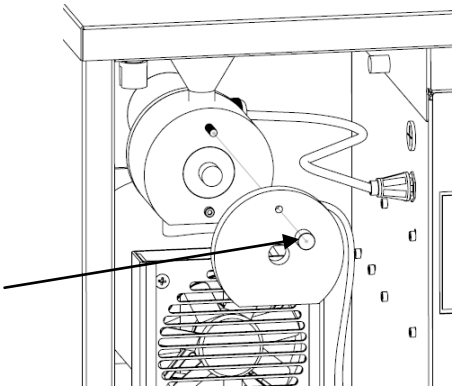
Keyhole prevents wrong assembly of the plug.

Plug assembly should be made in reverse order of disassembly. Align keyhole of plug, GENTLY push plug in place and rotate securing ring clockwise until you feel resistance.

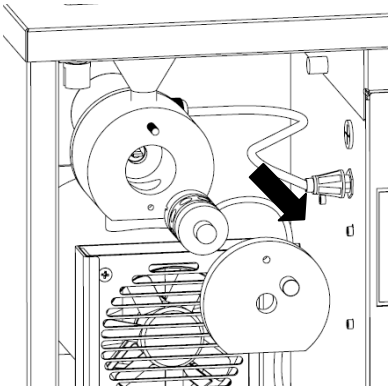


3. Dispenser cleaning

Rotate the dispenser screw nut until it is possible to pull it outside the dispenser body.



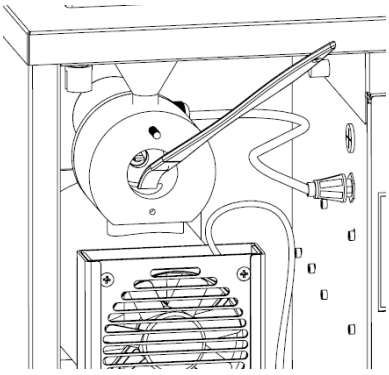
Pull the dispenser parts out of the dispenser body.



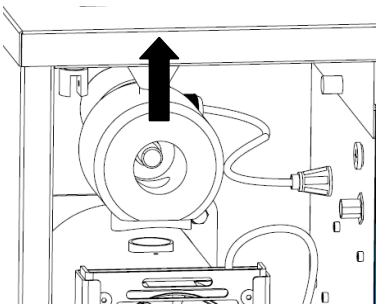
Wipe any salt remaining inside, on the surface of the salt tank.

Wipe out salt from all surfaces and blind holes of the dispenser plug.

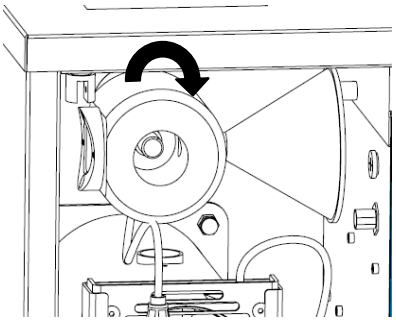
Wipe any salt on the inner surfaces of the dispenser to the dispenser tube inside body with a dry brush.



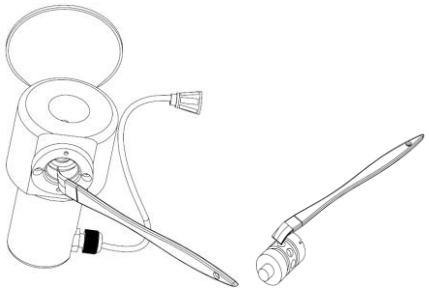
Take the dispenser by hand and move it up.



Rotate the dispenser and take it out of the halogenerator.

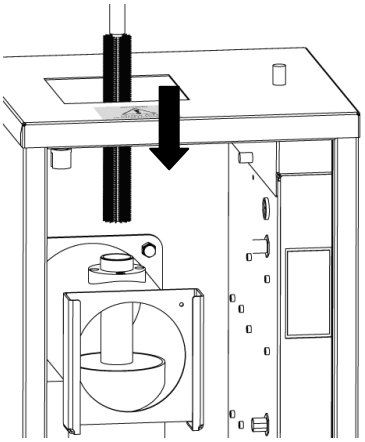


Remove the remaining salt inside the dispenser body and rotating part with a dry brush.

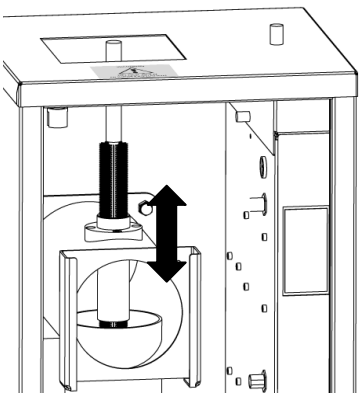


Use the bottle brush to remove the remaining salt inside the dispenser tube.

Put bottle brush inside dispenser tube, through salt filling orifice.



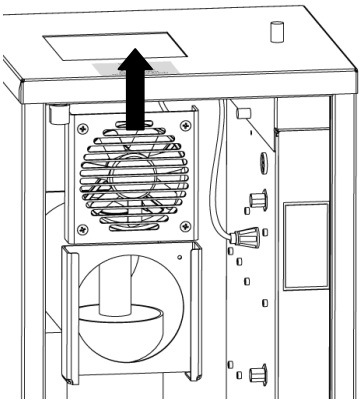
Remove the remaining salt inside the dispenser tube.



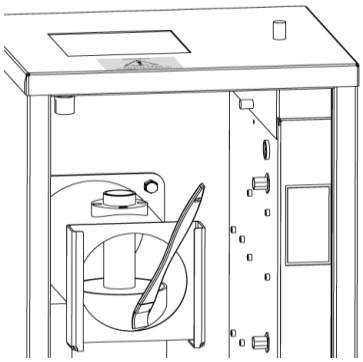
4. Fan cleaning

Take the fan cage by hand.

Pull the fan cage up and remove it from the halogenerator case.



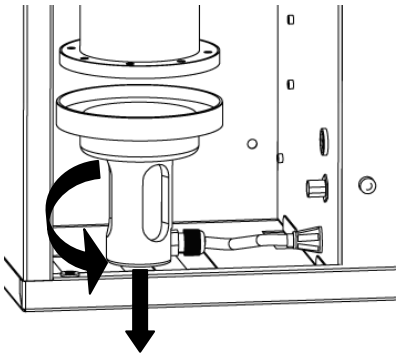
Wipe out any remaining salt on all fan surfaces with a dry brush.



5. Grinder cleaning

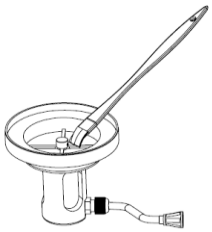
Hold the grinder flange by hand and slightly rotate the flange.

Pull the grinder down and take it out of halogenerator.

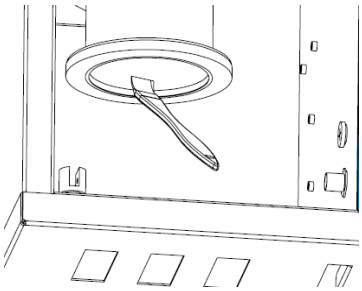


Clean all the surfaces of the grinder.

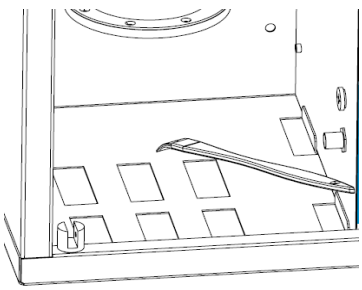
Do not forget to clean all the surfaces between the grinder and grinder flange.



Use a long-stick dry brush to get rid of the remaining salt inside the outer vertical tube.



Sweep up the salt collected on the bottom of the halogenerator case through the holes.



6. Assembly

Assemble all the parts in reverse order of disassembly.

⚠ Warning	
Dry up all metal parts immediately if they get wet during cleaning. • Metal parts may corrode. Do not clean the door with alcohol. • Alcohol may damage plastic.	
Do not wash the product with water, or let water get into the power supply. • Electrical leakage may occur in the unit or you may suffer an electric shock.	
Be sure to turn off the power and unplug the power supply when you install, remove, clean, or repair the device or take care of the parts. • You may suffer an electric shock or injure yourself. Be sure that the plug can be easily removed from a socket outlet!	

Storing

If you do not intend to use the device for a period of time:

1. Be sure salt is thoroughly cleaned from the device.
2. Put a plastic cover over the salt filling hatch
3. Close the device.

Troubleshooting the Halogenerator

Trouble	Where to inspect	How to correct
The display does not light up.	Is the power plug plugged into a socket?	Plug the device into the socket correctly.
	Is the main switch in position "1"?	Turn on the power switch (position "1").
	Have the switch fuses blown?	Replace the fuses.
Product does not produce aerosol.	Is there salt in the salt tank?	Pour salt in the salt tank.
	Is the dispenser power plug connected?	Connect the dispenser power plug.
	Is the dispenser clean?	Clean the dispenser.
	Is the fan power plug connected?	Connect the fan power plug.
	Is the grinder power plug connected?	Connect the grinder power plug.
	Is the grinder clean?	Clean the grinder.
	Is the halogenerator door open?	Close the halogenerator door.
The display shows alarm "Grinder is blocked"	Inspect salt silts around and beneath rotating part of the grinder.	Use a small brush to carefully remove salt from the grinder and salt deposits collected beneath the grinder.
The display shows alarm "Dispenser is blocked"	Is the dispenser clean?	Use a small brush to carefully remove salt from the dispenser.
The display shows alarm "Dispenser fuse is blown"	Has the dispenser fuse blown?	Replace the fuse.
The display shows alarm "Grinder fuse is blown"	Has the grinder fuse blown?	Replace the fuse.
The display shows alarm "Halogenerator door is open"	Is the halogenerator door open?	Close the halogenerator door.

- If the unit does not operate normally after the above-mentioned measures, do not touch the internal mechanism and consult the store where you purchased the device or the nearest PRIZMA dealer.

Proper disposal of electronic waste
(Waste electrical & electronic equipment)

This marking shown on the product or its labels indicates that it should not be disposed of with other household wastes at the end of its lifespan. To prevent possible damage to environment or human health from an uncontrolled waste disposal, please separate this from other types of waste and recycle it responsibly, to promote the sustainable re-use 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 take this item for environmentally safe recycling.

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

This product does not contain any hazardous substances.

Symbols

= Warning: read the instruction manual carefully

= Correct disposal of This Product

= Do not open! Session in progress!

Manufacturer : PRIZMA Kragujevac d.o.o.
Kumanovska 8
34000 Kragujevac, Serbia

CE

Specifications

Technical data

This device fulfils the provisions of the standard EN 60335-1.

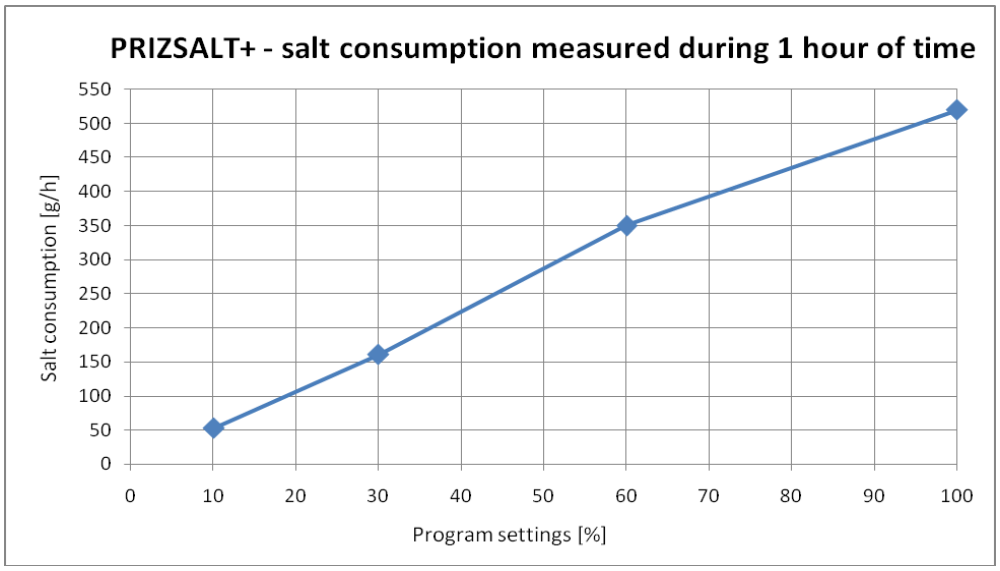
Product name	:	PRIZMA Dry Salt Aerosol Generator
Model	:	PRIZSALT+S
Power source	:	100-240 V ∿, 50-60Hz
Power consumption	:	50-55 W
Fuses	:	Switch: 2 x T2AH/250VAC; Dispenser: T0. 5AL250VAC; Grinder: T1AL250VAC
Salt consumption	:	0 - 500g/h, adjustable
Air volume	:	2.3 m^3/min (80 CFM/min)
Salt tank capacity	:	150g
External dimensions of device	:	270 (W) x 480 (H) x 260 (D) mm
Net weight	:	13,5 kg
Operating conditions	:	20 to 40°C (68 to 104°F), 15 to 40% RH, 700 to 1060 hPa
Storage and transport conditions	:	-25 to 70°C (-13 to 158°F), 20 to 93% RH
Accessories included	:	User manual (with warranty), deflector, extender sleeve, brushes (4 pcs) and power cord.

- Specifications and appearance are subject to change without prior notice

Salt consumption

Measurement description:

- Duration of measurement: 1 hour
- Program settings: Settings in all time intervals was set to the same value (10%, 30%, 60% and 100%.).



Rough estimation of salt consumption is 50g/h for each 10% of program setting, if duration of inhalation is 1 hour.
If duration of inhalation is shorter than 1 hour, dependency will be more nonlinear.

Notes