

# NaOClean®

Disinfectant Generator NaOClean – Manual

Strong Disinfecting · Deodorizing Power  
Prevent Disease such as Food poisoning  
Harmless and Environment Friendly Product  
Safe to Human Body  
Almost No Residual Chlorine



[www.naoclean.com](http://www.naoclean.com)

Please read the manual before installing or using the device.



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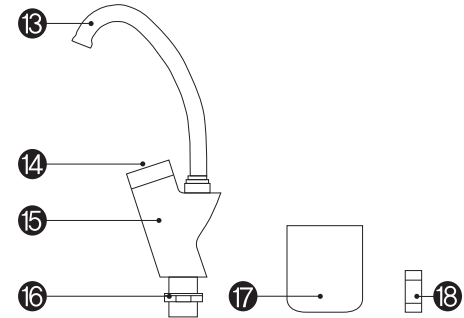
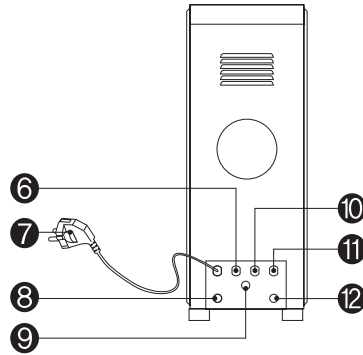
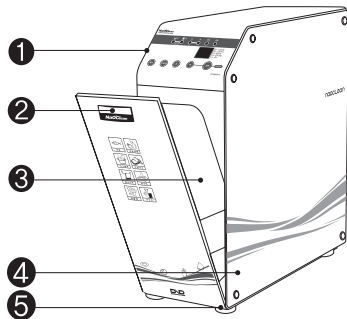
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# 1. About product > **Components** / Specification & Features / Operation procedure

• Model: DES-P450



① Main control panel

⑤ Rubber legs

⑨ Flow control valve

⑬ Water tap

⑯ Faucet fixture (Nut)

② Handle

⑥ Fuse (Electrical)

⑩ Signal connector

⑭ Power button

⑰ Salt measuring cup

③ Saline tank

⑦ Power cord

⑪ Water output port

⑮ Body of Faucet

⑱ Electrical fuse (Spare)

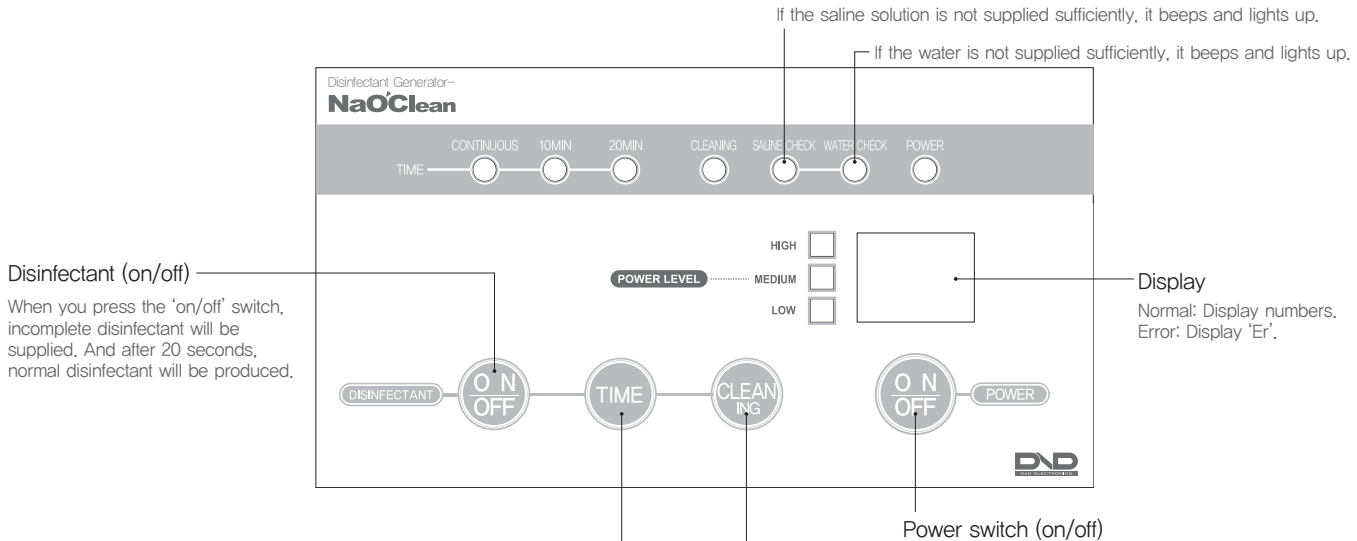
④ Body (STS tempered glass)

⑧ Water input port

⑫ Drainage hole

## 1. About product > Components / Specification & Features / Operation procedure

### • Control Panel



**Time** When the machine is operating, you can choose the time '10min,' '20min,' or 'continuation' switch. (After that time, it turned off automatically.)

**Cleaning** When you press the 'cleaning' switch, water is supplied for 2 minutes and clean inside the machine automatically. After cleaning, the water will be stopped. When cleaning, any other switches except on the power switch is not operating.

## 1. About product > Components / **Specification & Features** / Operation procedure

### •Specification

Model	DES-P450
Dimensions	W180 X D486 X H463mm
Rated Voltage	AC 100~240V free / about 330W
Weight	About 17kg
Saline tank	4L
Generating	About 3L/min. (Automatic)
Electrolysis method	Without membrane
pH	7.0~7.5pH
Additive	Salt
Condition of use	Ambient temperature 5~40°C Water temperature 5~30°C Humidity less than 95% RH
Accessories	Faucet / Hose (2m) / Measuring cup / Faucet adaptor

### •Features

#### **A strong disinfecting & deodorizing power**

NaoClean generates one of the three most powerful disinfecting waters, where high oxidation potential causing radicals are created by electrolysis. This disinfecting water can fully sterilize bacteria and deodorize in a shorter time at lower concentrations than traditional chemical disinfectants.

#### **Safe for human**

NaOClean guarantees both the safety of users and a health-risk-free user experience. NaOClean is safer on your skin than other chemical disinfectants. It leaves almost no residual chlorine, thanks to a quick dissolution of active chlorine.

#### **Zero pollution**

Discharging untreated electrolyzed disinfecting water directly into the sewage system will not damage the environment or the system. Nor is it a violation of any sewerage acts. NaOClean generates safe and clean electrolyzed disinfecting water without producing a toxic smells and ensures good working conditions.

#### **Cost effective**

The cost of using NaoClean is significantly lower than conventional disinfectants. The cost of producing electrolyzed disinfecting water is also very low. Since NaOClean can effectively kill a wide variety of bacteria, it can replace expensive chemicals. Workers may enjoy shorter working hours and procedures by using the machine.

## 1. About product > Components / Specification & Features / Operation procedure

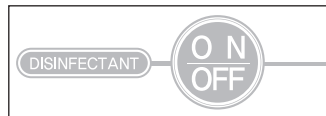
### • Operation procedure

01.



Press the 'Power (ON/OFF)' switch. (The power lamp will turn on and be in standby mode)

02.



Press the 'Disinfectant (ON/OFF)' switch. Then water will be supplied and normal disinfectant will be produced after 20 seconds.

03.



If you want to set the timer, select the 'Time' switch and choose the time '10min', '20min' or 'continuous'.

04.



After using the disinfectant, you have to press 'Cleaning' switch to clean inside the machine. (It will stop automatically after 2 minutes.)

※ When it is not used for a long time, fill the Saline tank with tap water and operate the device few times to rinse off the saline solution inside the device (pump).

## 2. Using the machine › Applications / Installation

### Disinfection for fruits & vegetables

#### • Fruits › grape, strawberry, cherry, apricot, plum, apple and etc.

##### Use

- ① Wash the fruits thoroughly first.
- ② Soak them in NaOClean water for about 2 to 3 min.
- ③ Take them out and rinse once with clean water.

※Disinfect any fruits that you will eat with the skin on. And even with the fruits that normally peel the skin off, it is still hygienic to disinfect the fruits first, and then peel the skin.

#### • Vegetables › lettuce, radish, Chinese cabbage, carrot and etc.

##### Use

- ① Trim the vegetables without leaving any foreign materials, and rinse them with water.
- ② Soak them in NaOClean water for about 1 to 3 min.
- ③ Rinse once with clean water.

※It is always safe to sterilize the vegetables with NaOClean water.

#### • Fish

##### Use

- ① Raw fish: First rinse them with clean water and soak in disinfectant for 5minutes. After that, rinse them again with fresh water.
- ② Storage & Cooking later: First rinse them with clean water and soak in the disinfectant for about 5 to 10 minutes. After that, rinse again with water thoroughly and store them in the refrigerator. You just wash them again before cooking.

#### • Liver, tripe, and other innards

##### Use

- ① Raw: Immediately soak liver and tripe in NaOClean water for about 5 to 10 minutes. After that, rinse with fresh water and cook.
- ② Storage & Cooking later: Immediately soak liver, tripe, and other innards in disinfectant for 5 to 10 minutes. After that, store them in the refrigerator and rinse with fresh water again before cooking later.

※To prevent food poisoning, you must sterilize what you eat. In fish and shellfish, there are many kinds of bacteria such as Vibrio or Salmonella, which are main causes of food poisoning.

## 2. Using the machine › Applications / Installation

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### Disinfection of tableware

- **Bowl, rice bowl, spoon, chopsticks, folk, teacup and etc.**

#### Use

When you wash dishes, first wash them with detergent thoroughly, and soak them in the disinfectant for about 5 minutes. After that, rinse with clean water.

※Do not use this solution for silverware or copperware. If you use the solution on these materials, it may discolor.  
(If so, clean them with soda or toothpaste using a cloth.)

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- **Chopping board, knife, sponge, brush & kitchen towel**

#### Use

First wash them with clean water, and soak in the disinfectant for about 5 to 10 minutes, and then dry them. If the product is too big to soak in, damp a kitchen towel or brush with the disinfectant and rub the products with it.

※There are many kinds of bacteria on chopping boards and the hilt of knives. ※You can keep them hygienic with NaOClean water.

※This solution can corrode steel products, so use it cautiously.  
(Wash out with tap water to prevent the corrosion.)

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- **Sink, refrigerator & pantry**

#### Use

- ① Sink: Spray the disinfectant on the sink or brush with a kitchen towel soaked in disinfectant.
- ② Refrigerator & pantry: Every 2 to 3 days, soak a kitchen towel in the disinfectant, and clean the refrigerator or pantry thoroughly.

※NaOClean water disinfects them and gets rid of odors.

### House cleaning / Disinfection, Odor removal

- **Odor removal for bathroom & tiles**

#### Use

Dampen a rag and brush with NaOClean water. Also, you can use a spray bottle (spray gun) to spray the solution thoroughly.

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## 2. Using the machine › Applications / Installation

※NaOClean water removes unpleasant odors and an ammonia smell in the bathroom. In particular, molds grow and increase during the rainy season. So get rid of odors with NaOClean water.

### • Sterilization and deodorization for sewer, rubbish bin & garbage disposal

#### Use

- ① Sewer: Pour in the disinfectant water into the sewer, and ensure that it is applied thoroughly around the sewer.
- ② Rubbish bin: Put the disinfectant in a spray bottle or spray gun, and spray thoroughly around the bin.

※By spraying NaOClean into sewers and rubbish bins frequently, you can have a sterilized, hygienic and odor free environment.  
 ※It is a good idea to set specific dates for regular sterilization works.

### • Remove bad smells of pet, pet basket and bird cage

#### Use

- ① Pet: NaOClean will help to clean pet's fur and remove the bad smell by spraying it.

### • Plastic toys, wooden toys & baby products

#### Use

Soak the toys in the disinfectant for about 5 to 10 minutes and rinse with water.

※Children can touch and put their toys into their mouths, so it is important to clean and sterilize toys regularly.

## Sterilization of water in vase & humidifier

### • Water in vase

#### Use

Before putting flowers into the vase, fill the vase with water, and add in a small amount of electrolyzed disinfectant.

※By adding in small amount of NaOClean into the vase, you can keep the water fresher. As the solution gets into the stems, it inhibits the growth of molds blocking the stems. So, flowers can live longer and the water will smell less foul by disinfecting the water.

## 2. Using the machine › Applications / Installation

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### • Water in humidifier

#### Use

Pour a small amount of NaOClean into the water bottle of the humidifier using a cup. It will prevent the growth of bacteria inside the bottle.

#### Remove bad odor during laundry clothes.

- **Sleeveless shirt, underwear, dress shirt, towel, handkerchief, gown, bed sheet, pillow case, white sneakers and etc.**

#### Use

- ① Hand wash: After washing the clothes, soak the clothes in NaOClean water for about 10 to 20 minutes, rinse them with clean water and then dry them.
- ② Washing machine: Add NaOClean water while rinsing the clothes. (Before putting in fabric softener.)

※After washing the clothes with laundry detergent, use the disinfectant for better results and superior disinfecting effects. In particular, people's clothes suffering from dermatitis, virginitis, and other infectious diseases have to be disinfected by soaking in the disinfectant for at least 10 minutes.

※NaOClean water can be used for white clothes, excluding wool, silk fabrics, nylon, acetate, or leather clothes.

※Avoid using the product on clothes that can be discolored, because it has bleaching effect.

#### Other uses

- Prevent athlete's foot and foot odor by soaking your feet into the NaOClean water for several days.
- Helps treat bad breath, stomatitis and mouth ulcer by gargling occasionally.
- Removes Lingering odor after perm.
- It is effective in hemostasis of the wound or after exodontias.
- Disinfects your skin suffered from allergy, atopy, etc by misting or spraying with NaOClean water.

※ Rinse well with clean tap water after disinfecting. Otherwise, you can smell a weak disinfectant.

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## 2. Using the machine > Applications / Installation

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### • Note of caution when installing



1. Do not install this device in the area where ventilation does not function properly, or in oily, smoky, humid, dusty, and water splashing places.
2. Install the device in a place with flat floor so that the device can maintain level and devoid of danger of falling.
3. Install the device in a place with surrounding temperature of 5~40°C, humidity with less than 95% RH, and protected from winter-sowing.
4. Do not connect more than one power plug to a single convenience receptacle.

- ※ If a grounded socket is not available, make sure to connect the ground wire to a grounding pole of the floor or grounding connectors (metal pipes).
- ※ Do not ground the device to a gas pipe or an antenna.
- ※ Check the disinfectant is generated when the installation is finished.

### • Water supply specifications

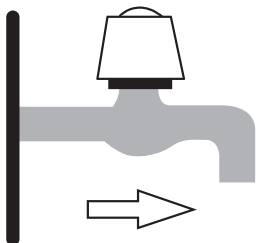
1. Only use clean water such as tap water or underground water that complies with the drinking water regulations.
2. If hard water is being used, install a water softener or a filter before use. (Contact the seller for the hardness of water)
3. Install a water softer when hard underground water is used, or install a filter for water with many impurities.
4. Used water pressure: more than 1.5kgf/cm<sup>2</sup>, less than 7.0kgf/cm<sup>2</sup>
5. Adjust the amount of water by operating the device, and set it to suit the capacity.

- ※ If water supply is low due to low-pressure, the concentration of the solution may be high. So, supply appropriate amount of water.

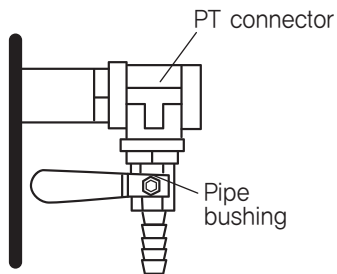
## 2. Using the machine > Applications / Installation

### • Pipe connection method

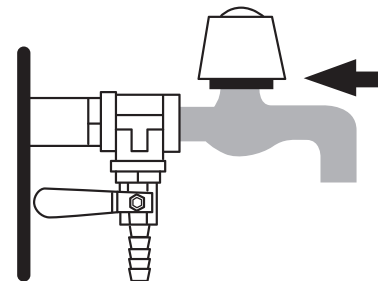
1. Remove the faucet.  
(Close the water pipe  
before this)



2. Connect the appropriate  
water pipe connector.



3. Turn the faucet to close.



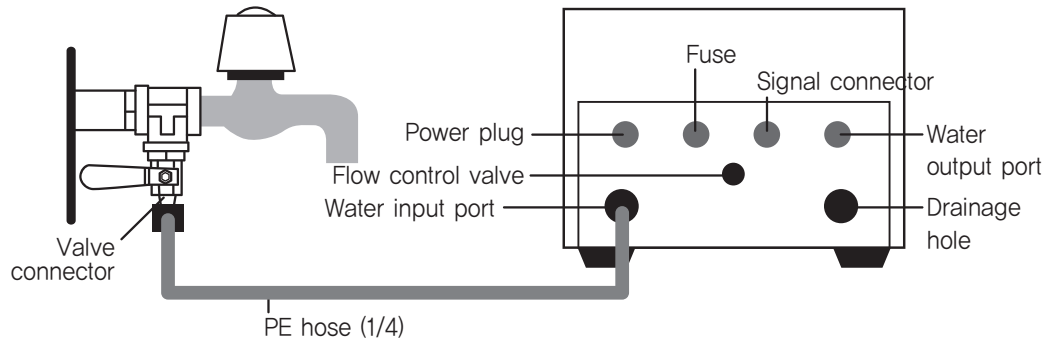
### • Note of caution when installing

During winter, open the drain cork to drain water, and seek winter-sowing prevention methods such as keeping the device warm. If not being used, remove the valve connector and completely remove water.

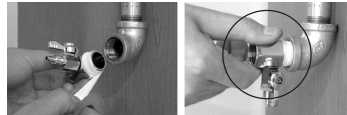
2. Using the machine > Applications / Installation

4. Connect the hose with the water pipe connection nipple and the pressure reducing valve at the back.

5. Once the work is complete, open the water pipe and the valve.

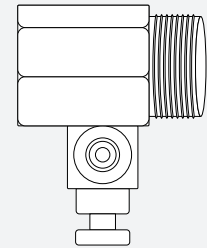


- Hose standard: PE hose (1/4)
- Pipe bushing: Water Purifier Fittings (1/4)
- Pipe P/T connector: Faucet adapter
- Valve: 1/2

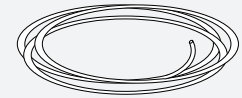


Faucet adapter

<Piping materials>



Faucet adapter



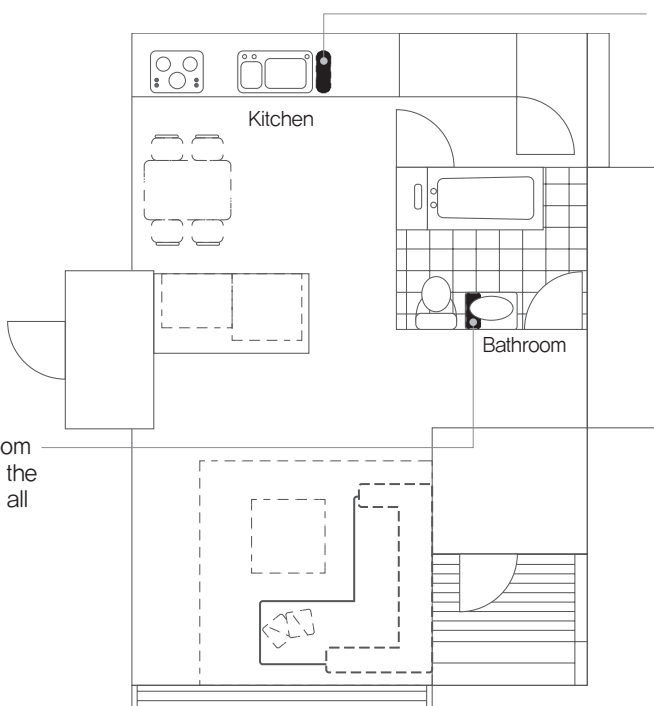
PE hose (2M)

## 2. Using the machine > Applications / Installation

### • Installation for example



Install the NaOClean in a bathroom for disinfecting the bacteria and the dirty things. Also, it can remove all kinds of bad odors.



Install the NaOClean in a kitchen for washing the vegetables, fruits and all sort of utensils.



### 3. Making saline solution

#### • Cautions before using salt

- ① Please the stipulated ratio when created the saline solution.
- ② Stir water and salt well to dissolve them completely.
- ③ Use only salt with more than 88% salinity that is refined and devoid of any impurities.
- ④ Never use table salt processed by adding citric acid or amino acid, or roasted salt.
- ⑤ Never use the salt for pickling or bay salt that have high amount of impurities.

#### • How to create saline solution

1. Pour tap water and salt inside the tank.
2. Stir water and salt well to dissolve them completely.

#### • Mix ratio

Category	Mix ratio	
Water	4 ℓ	2 ℓ
Salt	400g	200g

※ May vary upon water quality and temperature.



#### Cautions

1. If the filter inside the saline tank becomes dirty, remove it and clean it.
2. Hose being inside of saline tank should be placed down of the bottle.
3. Please the stipulated ratio when creating the saline solution.
4. Use only tap water or drinking water.

- ※ Do not discard the disinfectant after using once. You can reuse it to sterilize hygiene tools or floor.
- ※ NaOClean water can also be used in various applications to disinfect or to remove odors.

## 4. Inspection › Cautions / Error checking / Troubleshooting / Electrode replacement & Block diagram

### • Cautions when using



1. Never mix disinfecting water with other disinfectant, abstergent and chemicals.  
(But, it can be used with kitchen detergent in some case)
2. If you have sensitive skin, wear personal protective equipment such as rubber gloves.
3. Do not use this disinfectant in the cultivation of plants, animals, fish and shellfish, etc.
4. Be cautious as the solution may bleach colored textiles.
5. Disinfectant has the alteration about the right side of the table, so please wash it with tap water after sterilizing with NaOClean.
6. Do not immerse aluminum containers, steel knives in the disinfectant for a long time.
7. Be sure to wash the metal pipe with tap water after the drainage of the large disinfectant that may cause corrosion.
8. Chlorine concentration may be degraded by heat or ultraviolet rays, high temperature heating or long period of time, so don't do that.

※ The 'weak' corrosion resistance of the right side of the table can be corrosive.

※ Do not use the disinfectant in cooking and drinking water.

- An analysis table for corrosion-resistant material

Materials	Corrosion resistance		
	weak	normal	strong
ABS resin			○
polyethylene			○
acrylic			○
polypropylene			○
teflon			○
silicon			○
epoxy resin			○
urea resin			○
Butyl-rubbe, NBR			○
natural, urethane rubber			○
titanium, glass, ceramics			○
stainless steel		○	
plating, copper phosphor bronze	○		
brass	○		
aluminium alloy	○		
steel	○		



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## 4. Inspection › Cautions / Error checking / Troubleshooting / Electrode replacement & Block diagram

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### • Precautions for safe operation

※Please observe the following instructions which are precautions for safe and correct operation to prevent unexpected hazards of damage and injury.



1. Do not use a damaged power cord or a loose socket.  
–Electric shock or fire may result.
2. Do not connect more than one power plug to a single socket.  
–The receptacle may overheat and result in fire.  
–If you must use an extension cord inevitably, make sure that the rated capacity is not exceeded.
3. Keep the product away from such undesired use by child or the old man.
4. Do not attempt to disassemble, repair or alter the product.  
–You may suffer from electric shock or injury.
5. Do not attempt to bend the power cord by applying excessive force or put a heavy stuff on the cord.
6. Never use the product with any chemical not described in this manual.  
–Physical injury or damage to the product may result.
7. Do not install this device in the area where ventilation does not function properly, or in oily, smoky, humid, dusty and water splashing places.  
–Its durability can be compromised due to corrosion.
8. Do not use a non-grounded receptacle or a non-standard code.  
–Electric shock due to electric leakage may result.

## 4. Inspection > **Cautions** / Error checking / Troubleshooting / Electrode replacement & Block diagram

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- **Precautions for safe operation** ※Please observe the following instructions which are precautions for safe and correct operation to prevent unexpected hazards of damage and injury.



- ※Do not storage the solution for long period.
- ※Be careful to avoid direct contact with eyes.
- ※Do not inhale the fine particles such as spray evaporation or gas.
- ※If you have sensitive skin, wear protective equipment such as rubber gloves.
- ※Do not sell the disinfectant created from the devices.
- ※Do not use the created solution directly when cooking or as drinking water.
- ※If you exceed the available chlorine concentration, rinse with tap water after disinfecting.
- ※Dilute large drainage with water after using disinfectant.
- ※Do not use the solution on sesame seeds.

### Measures

1. When the disinfectant gets into the eyes, hold eye open and rinse gently with tap water immediately.
  2. Move to the place with fresh air when you inhaled the fine particles.
  3. When consumed, drink plenty of water or milk and contact the nearest hospital and get treatment from a doctor.
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#### 4. Inspection › Cautions / **Error checking** / Troubleshooting / Electrode replacement & Block diagram

- **The cause Er message is displayed on the display panel, and actions to be taken.**

※ If any of the follow situations occur, check the cause of the problem and resolve it first, and then push the power button.

Situation	Cause	Action
The display panel cannot display more than 17 digits. (Er message, beeping sound)	Lack of salt	Turn off the power, put in more refined salt into the saline tank, dilute it, and operate again.
The display panel displays more than 23 digits (Er message, beeping sound)	Excessive amount of salt	Turn off the power, discharge a bit of saline solution from the tank, and fill in water instead.
Other beeping sounds & Er (error) message	Excessive amount of water	Adjust the flow control valve at the back to adjust the amount of flowing water.
	Water cut-off	If water supply is insufficient due to foreign materials stuck inside the water supply valve, turn off the power.
	Abnormal water supply	First check tap water flow, and if there is no problem with it, contact the A/S center.
	Abnormal water supply caused by reduced water pressure	Open the water supply valve, and fix it, so that water can flow normally.
	Abnormal water supply caused by foreign materials inside the water supply valve.	Contact the A/S center to clean or replace your water supply solenoid valve.

#### 4. Inspection > Cautions / Error checking / **Troubleshooting** / Electrode replacement & Block diagram

##### • Troubleshooting

※Do not touch, voluntarily turn handles, modify or repair the parts inside the device.

Condition	Cause	Action
Power lamp does not turn on	<ul style="list-style-type: none"> <li>-Power cord is unplugged from the socket</li> <li>-Burnt out fuse</li> </ul>	Check the cord and the fuse
Water and saline solution are normally supplied, but the number of the power meter does not increase and display error.	Abnormal SMPS power due to certain reasons or PCB circuit problem	Request a repair by contacting the seller
Abnormally low available chlorine concentration	Refer to the electrodes replacement cycle	Request a repair by contacting the seller
Leaking water	Short circuit or piping problem	Request a repair by contacting the seller
Micro electric shocks	Device is not grounded properly	Ground the device

※ In case of abnormal operation, unplug the device and turn on the power again.

※ In case of water leak, close the water supply valve, push the drain button to discharge water, and contact the A/S center.

## 4. Inspection > Cautions / Error checking / Troubleshooting / Electrode replacement & Block diagram

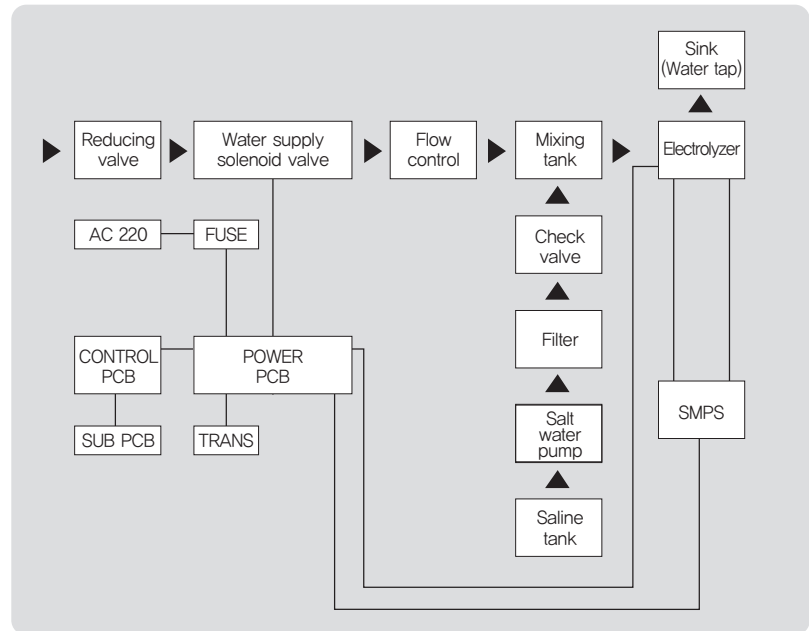
### • Electrodes replacement cycle

1. When the consumption of saline solution is significantly increasing abnormally.
2. If numbers on the front display panel inside the machine decreases during its normal operating process and 'Er' error message keeps showing up.
3. Significant decrease in the disinfectant smell.

※ The lifespan (approx. 10,000 hours) of the electrode may vary depending on water quality.

※ Request a repair in case of display of the above conditions during a normal operation condition after a prolonged use.

### • Piping and electric connection block diagram



# MEMO



# Quality Warranty

Product Name	Disinfectant Generator – NaOClean
Model	DES-P450
a license number	Food Additive Production Approval NaOClean (No. 2006-2F-0001 Issue)
Warranty Period	
Date of purchase	One (1) year from the date of purchase
Purchaser :	
address	
Point of purchase :	
address	

## • Regulations of Product Warranty

- This product was manufactured through strict quality control and inspection.
- Services arising from failure that takes place after the expiry of the warranty period will be charged for.
- During the warranty period, one year from the date of purchase, this product shall be serviced free of charge as far as manufacturing defect is concerned.
- This product is warranted in accordance with the description on the quality warranty.



**+82-1577-7544**

A/S

## • How to request for service

- If you find any abnormality or have a question while using this product, please contact a nearby distributor or our head office.
- In order to request for services, you need to present this quality warranty duly filled out. Therefore please keep it carefully. In case you get charged services, please make sure to keep the receipt carefully.

## • Consumer damages compensation

- **Free services:** For any failure related to the function and performance of the product that takes place in the course of normal operation within the warranty period.

### - Charged services

1. When the warranty period has expired;
2. During the warranty period, if failure was caused by;
  - Careless handling of the product.
  - Unauthorized repair or alteration of the product.
  - Damage during transportation due to mishandling.
  - Connection to a wrong power.

※ Please fill out the quality warranty completely and keep it carefully.



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