



# NACECARE

S O L U T I O N S

## HT1800 Owners Manual



## **Safety instructions (read carefully)**

Every electrical device must be used only for the function it is intended for, respecting the manufacturer's instructions. Failure to follow the instructions could result in serious bodily injury to the operator (electric shock, electrocution, etc.). Irresponsible use may put people in serious danger. Carefully read the following points and be sure to understand everything before using the machine.

Before connecting the plug to the electrical outlet, check that the voltage available at the socket is the same indicated on the label of the machine.

- Be sure that the electrical system is well grounded.
- Verify that the plug is the same configuration as the wall outlet.
- Do not use adapters or multiple sockets.
- This heater is not recommended for use with extension cords. If an extension cord must be used, ensure that the extension cord has the correct gauge of wire.
- If the cable becomes damaged (tears, exposed wires), it must be replaced with a new one.
- Do not pull the machine by the cable. Also, do not pull the plug out of the wall by the cable
- Do not handle the plug with wet hands.
- Do not spray water near the outlets. Do not use the machine to spray or to suck corrosive liquids (acids or bases), explosive or inflammable liquids (gasoline, kerosene, solvents, etc.) or dust.
- Do not use the device in an explosive atmosphere.
- Do not let the device to be used by children and persons unable to understand the danger connected with the use of electrical power.
- If the machine does not function correctly, switch off the machine and pull out the plug.
- After using, store the machine, well cleaned, in a dry and enclosed place.
- Only qualified personnel may perform service to this machine.

**IMPORTANT NOTE: This heater must be used on a different power supply to the carpet extractor. Using the same power supply will cause the circuit breaker to trip if used on the same power supply (For 15A and 20A services). If 2 outlets are not available, follow the steps indicated below.**

1. See page 7 for instructions on pre-heating the water. Pre-heat the water in the solution tank to the desired temperature
2. Unplug the heater and use the hot water in the solution tank for Carpet extraction.
3. Refill the solution tank and follow steps 1 and 2 as necessary.

This way you will still be able to heat the water without having 2 separate electrical services.

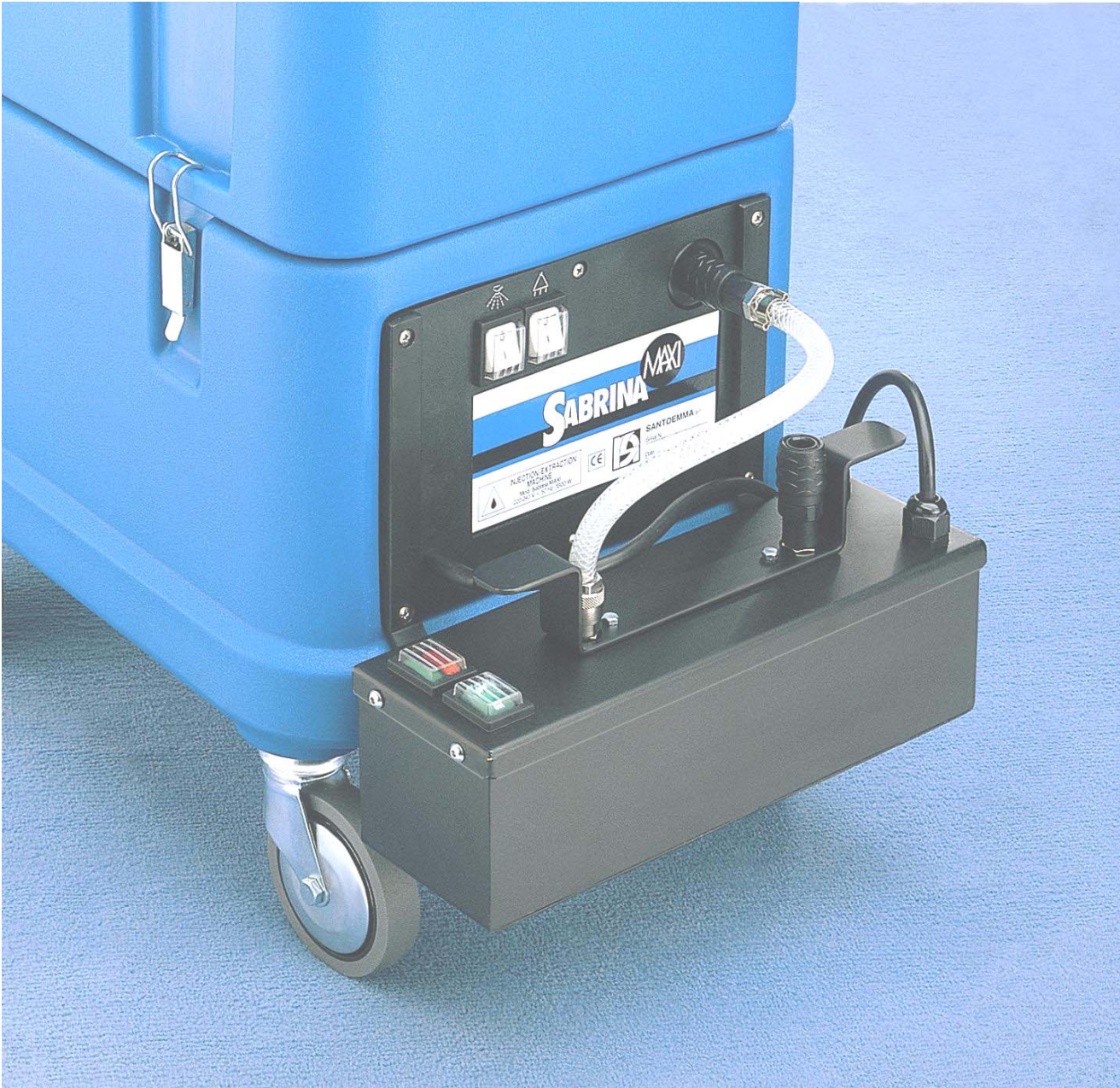
### **Parts provided with the heater**

Provided with the heater you find the following parts, necessary to fix the heater on a Santoemma machine:

- 2 metal brackets, to mount the heater on the machines with model# TP8X, TP12QX, and TP18SX/DX.
- 1 metal bracket, to mount the heater on the machines with model AV12QX, and AV18AX.
- 2 6mm lock nuts, to mount the metal brackets to the heater.
- 4 screws (M4 x 20mm), used to mount the brackets to the control panel of the machine.

### **Mounting for models TP8X, TP12QX, and TP18SX/DX**

1. Unscrew the 4 corner screws in each corner of the control panel cover. Mount the 2 metal brackets on the control panel of the machine, using the 4 screws M4x20 provided in the kit.
2. Hang the heater on the 2 brackets, by inserting the screws coming out from the rear side of the heater into the holes of the 2 metal brackets, and tightening them with the 2 6mm lock nuts. See the picture on the next page for reference.





### **Mounting for models AV12QX, and AV18AX**

To mount the heater to the AV12QX, or AV18AX, Follow these instructions:

1. Mount the 2 metal brackets on the control panel as indicated in the picture, by using the 2 screws (M4x20) provided.
2. Mount the heater to the 2 metal brackets, vertically, as indicated in the picture. Hang the heater on the bracket by inserting the screws coming out of the rear side of the heater into the holes of the brackets. Lock the heater using the 2 x 6mm lock nuts.



## Preparation for Use

1. Mount the heater to the machine as indicated above.
2. Ensure the switch for the heater is in the "OFF" position.
3. Connect the outlet of the carpet extractor to the inlet of the heater.
4. Connect the outlet of the heater to the cleaning accessory, by using the solution hose provided.
5. Switch the pump on and be sure that the solution is sprayed normally through the accessory.
6. Insert the plug of the heater into a grounded electrical socket. **Note: Must be a separate circuit to the carpet extractor.**
7. Switch the heater on. The green light will be switched on also the 2 lights (red and green) for the 2 thermal protectors will be switched on as well.
8. Spray water for approximately 30 seconds to achieve a temperature rise. The water will reach a steady temperature after 1 minute.

In normal conditions, both the green and red light of the thermal protectors are illuminated.

The red light "ON" indicates the heating element inside the heater is on. The red light will shut off if you release the spray trigger for more than 30-40 seconds. Once you resume use, the red light will turn on again, indicating that the element is heating.

The green light is connected to the high limit switch situated inside the heater. The high limit switch will shut the heater down at 70°C (158°F) +/- 4° (39°F). The high limit switch will shut down the heating element for 2 reasons:

1. The water inside the heater has become hotter than 70°C (158°F).
2. The main thermostat has failed and the unit now requires service.

### ATTENTION:

- If you want to stop spraying water for more than 30-40 seconds, you should switch the heater off. This will cause less stress to the thermostat.
- **Do not** let the heater work without water.
- Do not open the cover of the heater for any reason. The heating element and other parts are very hot and can cause severe burns.
- Do not try to service the heater yourself.
- Repairs may be made by qualified personnel only!

## Pre-heating water

You may pre-heat the water in the solution tank by letting the warm water coming from the heater flow going into the solution tank of the machine. After recirculation, the water in the solution tank becomes warm. This way, you may obtain water at a higher temperature at the outlet of the heater.

In order to perform the recirculation, do the following:

**Using 15689PE male fitting** insert into the female quick disconnect fitting at the accessory end of the solution hose.(This step is necessary as the female fitting at the end of the hose has a check valve inside of it).

2. Insert the end of the solution hose into the solution tank of the machine.
3. Switch the water pump and the heater on. This will pre-heat the water and discharge it back into the solution tank.
4. Let the water re-circulate in the solution tank. After 10 minutes you can have 6.6 gallons of water increasing in temperature by 10 °C (50°F).

**Example:** If the water in your solution tank is 50°F and you re-circulate the water for 10 minutes before use, the water in your solution tank will be approximately 100°F.

## Maintenance operations

Over time, you will develop a build up of lime and calcium inside the heating coil which will greatly reduce the efficiency of the heater. To clean the inside of the heating coil, follow these instructions:

1. Add 2 gallons of clean water into the solution tank.
2. Add 1 quart of a deliming chemical into the solution tank.
- 3. Do not turn the heater on for this process**
4. Re-circulate the water and deliming chemical in the solution for approximately 30 minutes, or until the chemical stops reacting with the lime. (Use the same process as pre-heating the water in the solution tank)
5. Empty the solution tank and refill with clean water
6. Spray the clean water out of the solution tank into a drain or bucket. This will clean out the pump, water lines and heating coil.



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