

Published by **SJE Corporation, Ltd.** ©2022 by SJE Corporation, Ltd.

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Manufactured by SJE Corporation, Ltd.



User's Manual

Model: OPTIMA SEII Ver. G2.3

Distributor's Contact Information:

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Introduction

The Optima Steamer continues to pursue environmentally friendly and effective cleaning solutions. Optima Steamer which is safe, durable and easy to use will support your cleaning operations for many years to come.

Applications

The Optima Steamer is capable of generating continuous, super-heated vapor steam. The Optima Steamer is specifically used for various cleaning applications including cleaning machinery & components, washing vehicle exteriors, interiors, engine compartment, glass, metal surfaces, windows, wheel wells, vents, deodorizing bad odors, sanitizing hazardous food-borne bacteria from food processing equipment, removing weeds and more.

Product Specifications

OPTIMA SEII

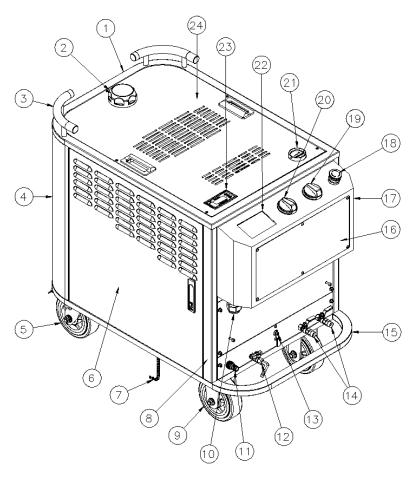
Model Name	Optima SEII					
	18	3K	27	7K	42	2K
Working Pressure	0.85MPa	(8.5bar) / Ma	x 0.90MPa(9	.0bar) (99~1	20.8 psi / Ma	x 128 psi)
Steam Temperature		174℃ / n	nax. 180℃	(345.2°F / M	ax 356°F)	
Preheating Time	9~10 n	ninutes	9~10 n	ninutes	10~11 ו	minutes
Electrical Power	18.2	2kW	27.2	2kW	42.2	2kW
Voltage	3-phase 200 / 208 / 230 / 380 / 415 / 440 / 460 / 480 / 600 (custom config. available)		•	se 380 / 415 / 440 / 460 / 480 / 600 (custom config. available)		
Water Consumption*		0.3	~ 1.2 l/min.	(0.08~0.32gp	om)	
Water Tank Capacity			38	3 L		
	STANDARD				ASME	
Net Weight(kgs/lbs)	103 kgs	110 kgs	119 kgs	115.5 kgs	124.5 kgs	136.5 kgs
	227 lbs	242.5 lbs	262.5 lbs	254.6 lbs	274.5 lbs	301 lbs
Dimensions [L] x [W] x [H]	910 x 560 x 870 mm (35.8 x 22 x 34.2 inch)					

^{*} Water consumption can be different depending on the use of the Moisture Control Valve. (See page 12, "Moisture Control")



★ For user's safety, DO NOT modify factory settings for steam pressure and temperature.

Exterior Descriptions



4	T	c
	IOD	frame

2. Tank cap

3. Handles

4. Front frame

5. Rotary caster

6. Side door

7. Grounding chain

8. Rear frame

9. Rear wheel

10. Electrical cable holder

11. Quick plug for feed-water

12. Drain valve

13. Moisture control valve

14. Steam outlet valves

15. Chassis frame

16. Control box cover

17. Control box

18. Emergency switch

19. Steam switch

20. Power switch

21. Pressure gauge

22. LCD

23. TDS Meter (OPTIONAL)

24. Top cover

Safety Precautions

Visual Symbols



To ensure correct and safe usage with a full understanding of this product's performance, please be sure to read through this User's Manual completely and store it in a safe location. The contents of this User's Manual and the specifications of this product are subject to change without prior notice.

	specifications of this product are subject to change without phor notice.			
<u>^</u>	Caution		Warning!	
4	Risk of Electric shock		Risk of Burns	
	Risk of Suffocation		Slippery Surface	
	DO NOT operate on an incline		Wear appropriate protective gloves (Goggles, ear plugs)	



The manufacturer assumes no responsibility for any consequential losses or damages including but not limited to injury of persons, loss of business or properties which may occur through use of this product without consulting the User's Manual, regardless of any failure to perform on the part of this product.

GENERAL SAFETY RULES

- DO NOT direct air or discharge the steam jet at itself, persons, animals or live electricity.
- Use and store the machine on a level ground (surface) only.
- DO NOT use the machine if any parts, power cord, safety devices, hoses or spray guns are visually damaged or suspected of being damaged.
- DO NOT use the machine in a rainy or snowy weather outdoors. The machine is not weather-proof or water-proof.
- NEVER leave the machine unattended while operating.
- Make sure to comply with safety rules in the event of operating in a danger area.
- NEVER use the machine in an area where a fire and explosion hazard exists.
- WARNING Always switch off the mains disconnecting switch when leaving the machine unattended.
- DO NOT use the machine below 0°C (32°F) or in extremely cold weather.
- DO NOT allow water sit in the water pipes and steam vessel if leaving the machine nonoperational in cold weather.
- Store the machine at a room temperature (See page 18, "Freeze Prevention")
- Heavy object! Be cautious when carrying or lifting. (See page 2, "Product Specifications")
- Unplug the machine from its power source and release steam pressure from the machine before carrying.

- Use only "Clean" and "Soft" water in the machine.
- Use of a water softener is recommended to prevent scale build-up
- Using any kind of boiler water treatment (solution) can help decrease scale build-up.
- DO NOT add detergent, wax or any cleaning additives in the water tank or steam vessel.
- DO NOT use distilled water or filtered water below 15 ppm.
- Connect to electrical power according to the product specifications. (See page 2, "Product Specifications")
- The electric supply connection is to be made by a qualified electrician and comply with IEC 60364-1.
- Be cautious of the risk of electric shock in the event of connecting to electrical power.
- Ensure the ground connection of Grounding Chain and Ground Wire attached on the machine to prevent the risk of damage from Electro Static Discharge.
- Users about to use the machine should carry out a visual check for insecure cable at entry to a plug, evidence of poor wire connections or evidence of appliance or plug overheating.
- Make sure that all the switches on the machine are off before plug-in power cables.
- In the event of using extension wire/extension cord, ensure that both ends of electric wires are securely attached and properly insulated.
- Make sure to use right extension cord depending on the electrical parameters and the length of extension cord. (Contact manufacturer or local distributors)
- Machines shall not be used by children. Children should be supervised to ensure that they do not play with the machine.
- Children shall not play with the appliance.
- Cleaning and user maintenance shall not be made by children without supervision
- WARNING Do not use the machine within range of persons unless they wear protective clothing.
- Noise can be reached to 95 decibel(dB) but subject to differ depending on steam pressure.
- DO NOT use the machine within the range of persons who are not wearing any protective gear.
- HOT SURFACE. DO NOT touch steam vessel, steam valves, steam hoses and guns in operation.
- The new hose-sets supplied with the appliance are to be used and that old hose-sets should not be reused
- Replace steam hoses immediately if ruptured.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Unplug the machine from its power source and allow it to cool before carrying out any maintenance.
- NEVER disable sensors in order to bypass an alarm signal.
- Open the drain valve and release all remaining water from the steam vessel after users shut down the machine completely. (See page 13, "Shutdown Operation")
- NEVER spray steam over cleaning hazardous materials or surfaces containing hazardous substance including asbestos.

Included Items and Accessories

	OPTIMA SEII (18K/27K/42K)				
Steam Gun with nozzle 3.5 1EA (OPTIMA SEII18K&27K)	Steam Gun with Quick Coupler 1EA	Steam Gun with nozzle 5.5 1EA (OPTIMA SEII42K Only)			
Steam hose 10m 1EA (OPTIMA SEII18K&27K)	Power steam hose 10m 1EA (OPTIMA SEII42K Only)	Rubber steam hose 10m 1EA			
	OR OR				
Steam Nozzle 1EA Silent Nozzle 1EA	Couplings D. 1/2-5/8 PTC 1EA OR Garden hose adapter 3/4 1EA (US Only)	L-wrench 4.0mm 1EA			
T-Box wrench 10mm 1EA T-Box wrench 12mm 1EA T-Box wrench 14mm 1EA	Screwdriver 1EA	Water probe sensor 3EA			
Fuse 4A 2EA	Water Filter 1EA	Microfiber Towel 3EA			



* Included items and accessories are subject to change without prior notice.

Pre-Start Procedure



Wear appropriate protective gloves before using the product.

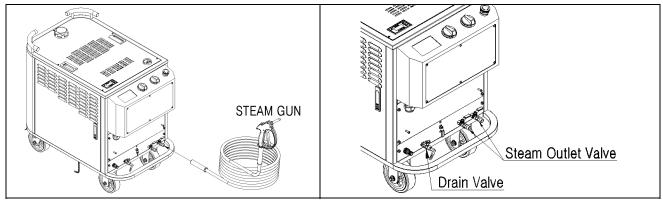


Surface of exhaust flue and valves may be hot.

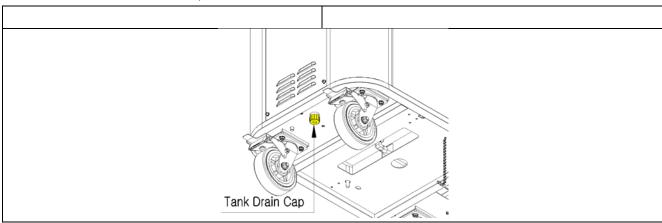
Take precautions when users resume operations.

Steps:

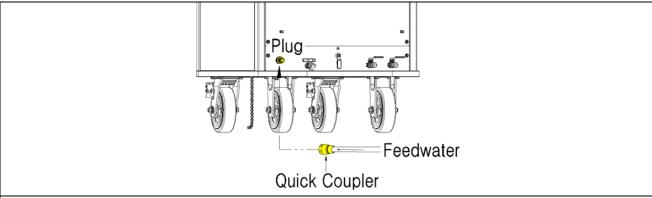
- 1. Connect steam hoses and guns to the steam outlet valves. Ensure a tight connection using appropriate tools.
- 2. Ensure that valves including drain valve, steam outlet valves are fully closed.



3. Ensure that tank drain cap are well-connected. (See illustrations below)



4. Fill the water tank with clean water. When tap water or hard water is used, use of a water softener is recommended to prevent scale build-up.



Continuous Water Supply

In the event of using continuous water supply, connect water hose attached with Quick Coupler to the Plug of the product.



Water pressure needs to be below 2 kgf/cm²(28.4 psi) from the tap for Floater to run effectively.

Water Quality Matters!

Water quality can greatly affect the product's life span and performance. It is important to use SOFT WATER. If tap water or hard water is used, use of a water softener is recommended in order to prevent scale build-up.

DO NOT use distilled water.

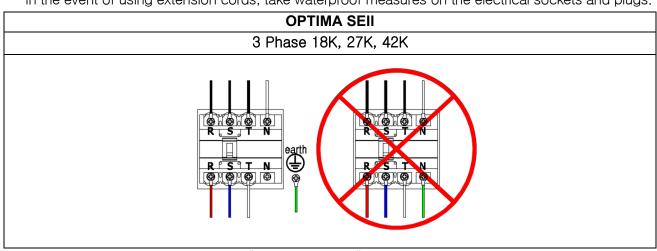


DO NOT add any detergent, wax or cleaning additives into the water tank or steam vessel.

The use of water temperature above 5℃ (40°F) recommended. Use filtered water above 15 ppm.

6. Check for electrical specifications before connecting to electrical power outlet.

In the event of using extension cords, take waterproof measures on the electrical sockets and plugs.



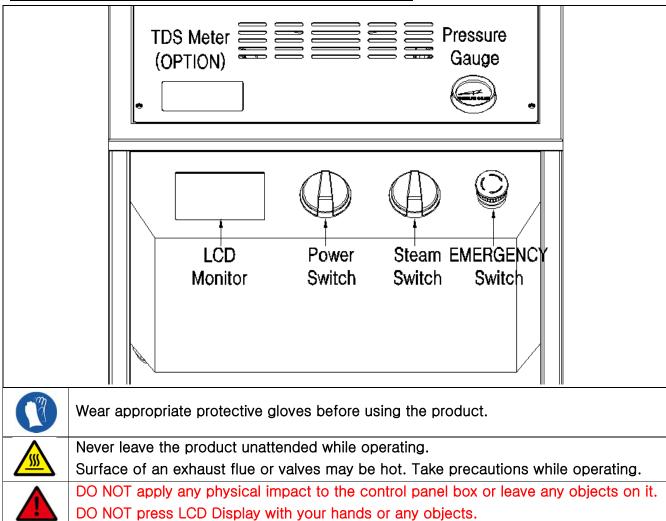


* Alert users to the presence of "dangerous voltage" inside the product that might cause bodily harm or electric shock.

For the use of OPTIMA XE, make sure to connect the GROUND WIRE(G) to GROUND TERMINAL. Never connect GROUND WIRE to NEUTRAL(N) TERMINAL.

Standard Operating Procedure

Make sure to advance the steps of Pre-Start Procedure before users follow Standard Operating Procedure. (See page 7, "Pre-Start Procedure")

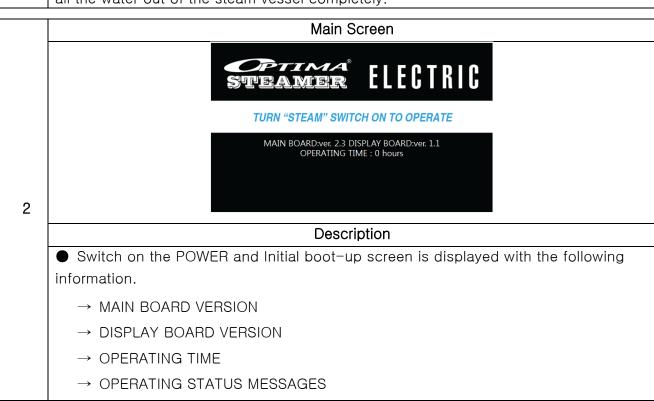


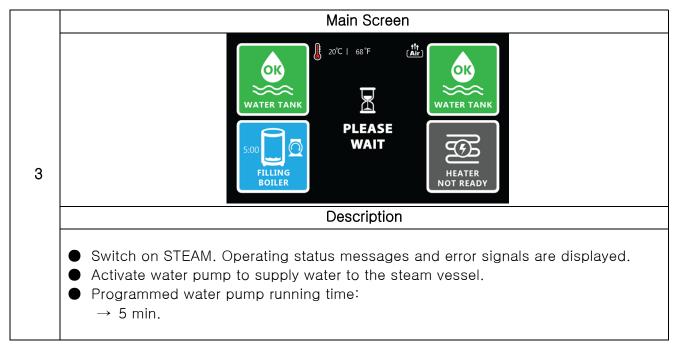
LCD ICON DESCRIPTION

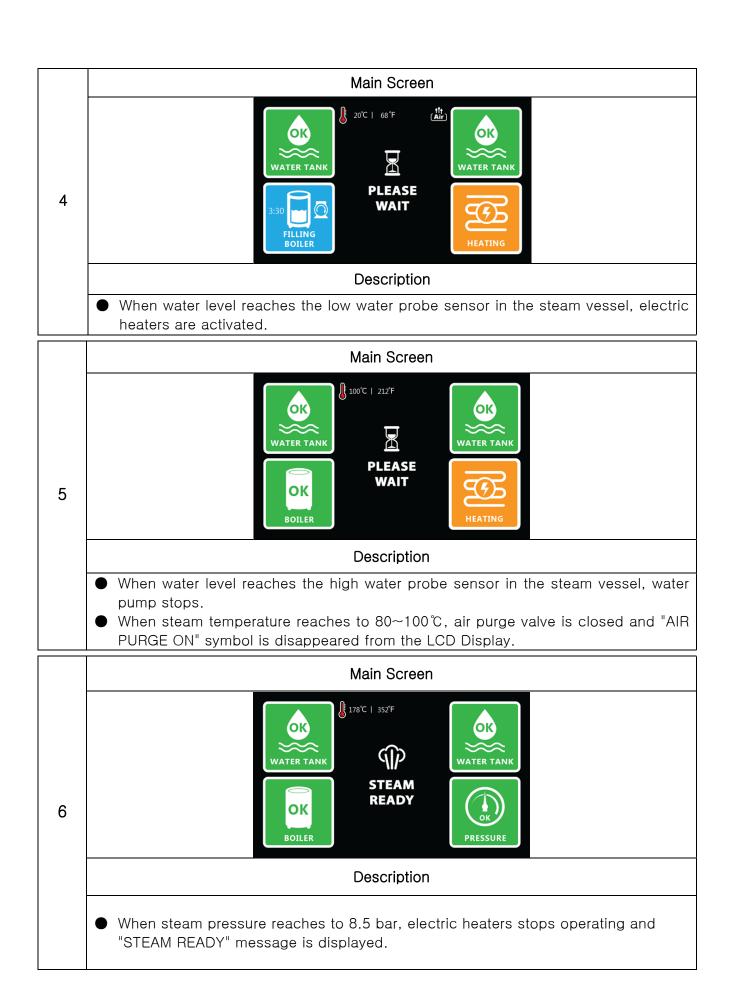
	WATER	90	HEATING
	STEAM VESSEL		WATER PUMP
①	PRESSURE GAUGE	(1)	STEAM READY
	TEMPERATURE	††† (Air)	AIR PURGE

OPERATING PROCEDURE

Step	
4	Switch on the POWER and Initial boot-up screen is displayed. Switch on STEAM and alarm signal goes off once initiating LCD Display and beginning to run the product according to programming.
1	Note! "OPERATING PROCEDURE" is repeated if users resume the operation after draining all the water out of the steam vessel completely.





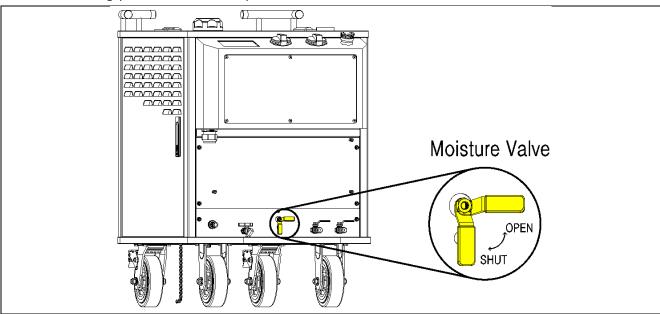


Moisture Control

Users can spray moisturized steam (wet steam) by opening the moisture control valve. In the event of cleaning interior surfaces or water sensitive areas, ensure that the moisture control valve is fully closed to minimize surface moisture.

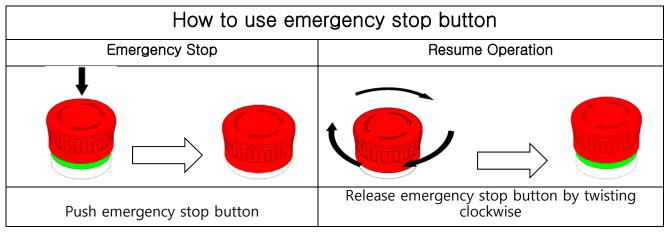


Using two steam guns with the moisture control valve open continuously may consume steam faster than what can be replenished. Open the moisture control valve by 1/3 allowing pressure to build up.



Emergency stop

- 1. In case of a failure in the product or an emergent situation occurred, push the emergency stop button in.
- 2. Overhaul the failure, take necessary measures and resume the emergency stop button.





Emergency stop button will shut off all electrical power sequences inside the main power enclosure.

Pause operation

- 1. Switch off the STEAM.
- 2. Close the steam outlet valves and release all the remaining steam from the hoses by pulling the gun trigger. It prevents remaining of condensed water residue in the steam hoses afterwards and increases the life span of the steam hoses and guns.

Shutdown operation

- 1. Switch off the STEAM.
- 2. Switch off the POWER.
- 3. Release steam from the steam vessel by pulling the gun trigger until the pressure drops down to $1\sim2~kgf/cm^2(28.4~psi)$.
- 4. Close the steam outlet valves and release all the remaining steam from the hoses by pulling the gun trigger.
- 5. Release remaining steam from the steam vessel by opening the drain valve.



Keep drain valve open for the next operation



DANGER. Burn hazard! Hot steam. Keep hands clear.

6. In cold weather, take precautionary measures to keep water pipes from freezing and bursting. (See page 18, "Freeze Prevention").

Maintenance

Before to check product

	Must cool down the product.
	Must get rid of pressure in the product.
	Wear appropriate protective gloves.
4	Unplug to shut down the power.
<u></u>	Caution of burn
<u>^</u>	Keep the below maintenance schedule.

Maintenance Schedule

	Maintenance items	Daily	Monthly
Α	Drain boiler	√	
В	Drain Water Tank		√
С	Replace filters		√
D	Check probes / clean or replace if		./
	necessary		Y

A. Drain boiler

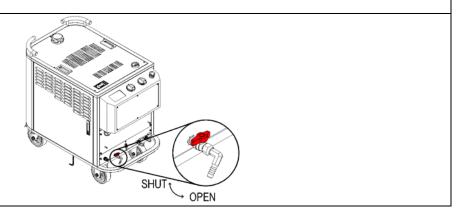
- 1. Reduce pressure below 2 kgf/cm²(28.4 psi)
- 2. Open the drain valve until water drained out.
- 3. Leave drain valve open until the next use.



Wear appropriate protective gloves for hands because steam is very hot.



Leave drain valve open until the next use.

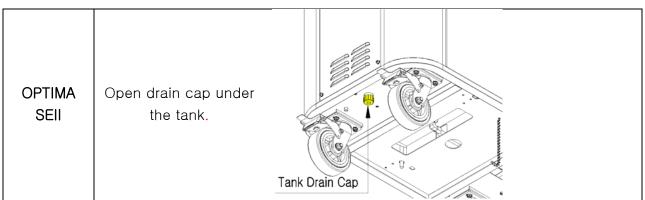


B. Drain Water tank

Open drain cap under the tank.

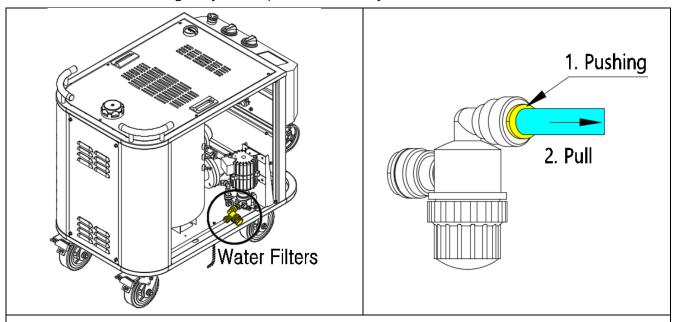


Caution: Slippery when wet



C. Replace filters

Check the water filter regularly and replace if necessary.

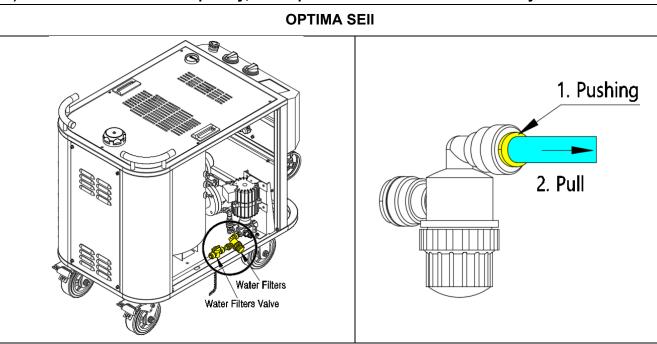


How to replace the water filter

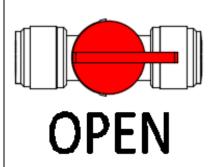
- 1. Drain out all water from the water tank. (Refer P. 15)
- 2. Push the water filter fitting (yellow part) and pull out the water tube(blue part).
- 3. Replace with a New filter.
- 4. Push the water tube to filter until it is unable to be pulled out by hand.

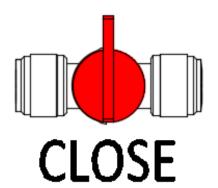
C-a. Replace filters (US VERSION)

1) Check the water filter frequently, and replace it with a new filter if it's dirty.



1. Close the Water filter shut off valve..





- 2. Push the water filter fitting(yellow part) and pull out the water tube(blue part).
- 3. Replace with a New filter
- 4. Push the water tube to the filter until it is unable to be pulled out by hand.
- 5. Open the Water filter shut off valve. (Most important Step!)



Be careful with the filter installation direction. (See above images)



*** CAUTION ***

You must keep the valve opened during machine operation. If you damage the machine with this issue, it will not be covered under warranty.

D. How to check and clean water probes

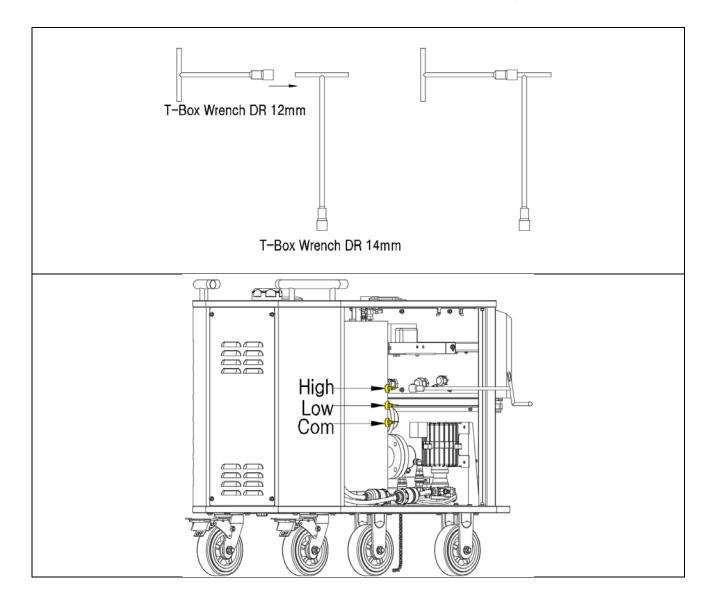
There are 3 water probes (high/common/low).

Minerals in the water or various foreign materials would be hardened and this may make water probe's malfunction.

Requires : Screwdriver(+), 14mm long box wrench or Spanner, Sand paper, Teflon tape.

Procedure:

- 1. Unplug the power plug and then remove pressure completely by opening steam valve.
- 2. Open the drain valve and drain out all water from boiler.
- 3. Detach top cover and front cover. Then detach the all wires from water probe sensors.
- 4. Disconnect water probe sensors from steam vessel by 14mm long box wrench.
- 5. Clean the water probe sensor by soft sand paper. Replace it if necessary.
- 6. Wind Teflon tape 6 times on the thread in order to prevent leakage.



Freeze Prevention



In cold climates, it is necessary to store the product in an area where a temperature is above freezing. Follow the below steps to protect your product against freezing and bursting.

Steps:

1. Drain the steam vessel

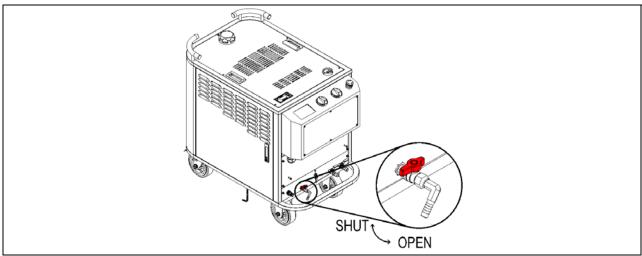
Reduce pressure under 2 kgf/cm²(28.4 psi) and then drain out water from the steam vessel by opening a drain valve. Leave the drain valve open until the next use.



Wear appropriate protective gloves for hands because steam is very hot.



Leave drain valve open until next use.

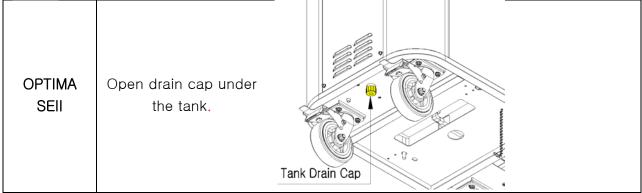


2. Drain Water tank

Open drain cap under the tank.

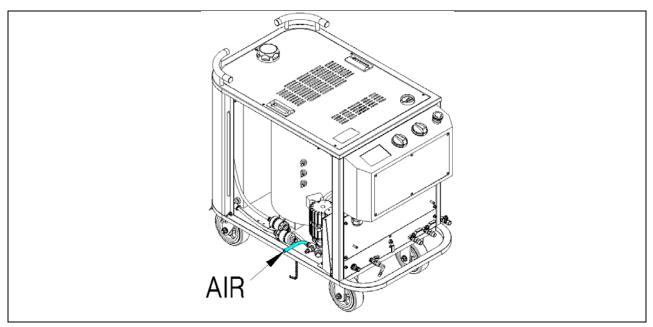


Caution: Slippery when wet.



3. Drain the water feeding lines and the water pump.

Open the drain valve, then disassemble/detach water feeding line like the below picture and drain all remaining water using compressed air. Keep drain valve open until next use.



4. Storage

Keep Product in a warm place to prevent for being frozen.



Pipe line or parts can be ruptured, if product is frozen badly. Freeze can cause malfunction. If product would be frozen, do not operate it immediately.

Put the product in warm place in order to thaw. After that, check if there is any damage.

If the machine is visually damaged or performs abnormally, immediately turn off the machine and contact your distributor or manufacturer.

Troubleshooting Guide

When a malfunction occurs, refer to the troubleshooting guide below. If the problem persists, please contact your local distributor and report the problem by referring to the ERROR CODE.

Symbol Description



Alarm beeps continuously



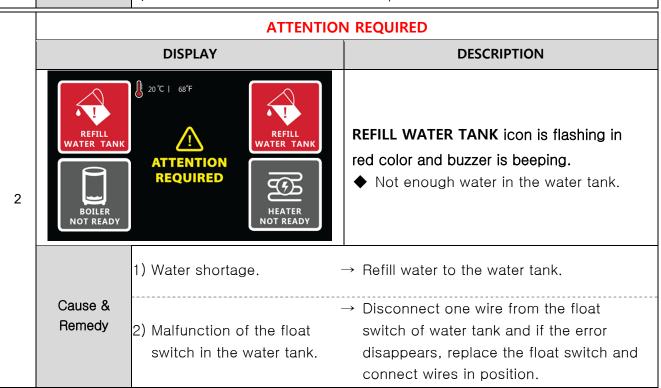
Alarm beeps once

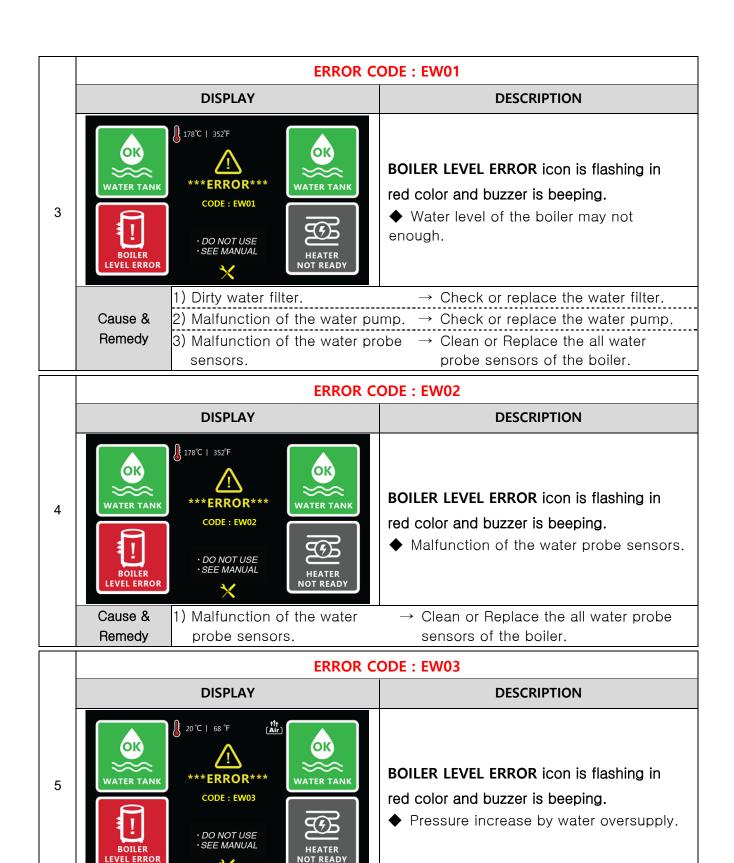


Continuous pressure increases over 9 bar (130 psi)

Error display and Solution

	Description Nothing on LCD screen and no alarm sound when POWER & STEAM			
	Description	switches are on.		
		1) No power supply.	→ Check your electrical power source.	
1	Remedy		ightarrow Check power plug connection.	
		2) Emergency Stop switch is pressed.	→ Release the Emergency Stop switch.	
		3) Fuse is blown.	→ Replace the fuse.	





→ Clean or Replace the all water probe

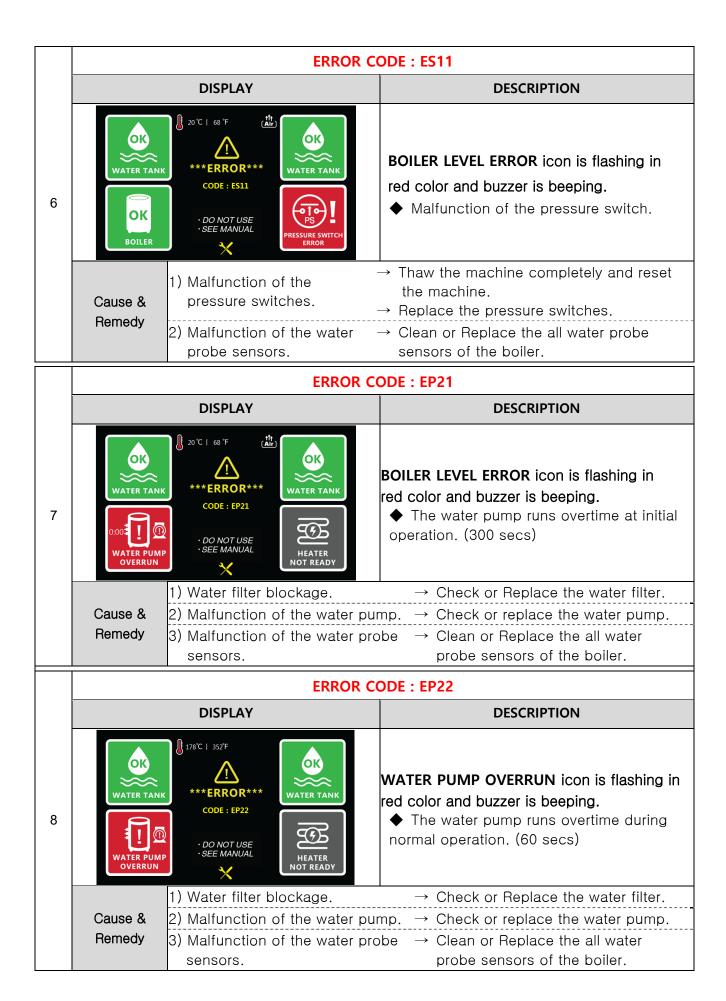
sensors of the boiler.

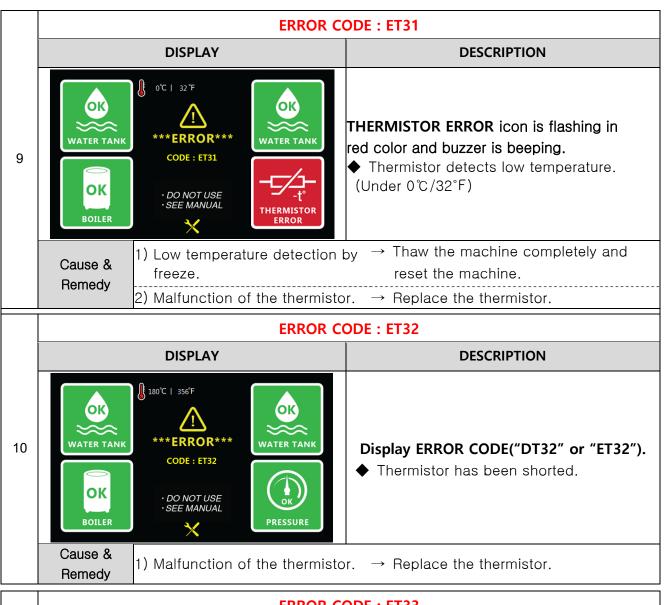
1) Malfunction of the water

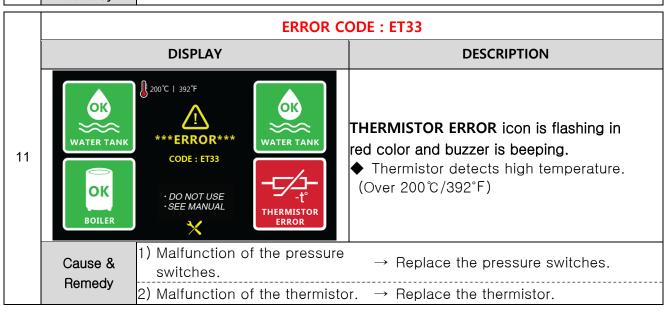
probe sensors.

Cause &

Remedy







	Description	Boiler pressure keeps incre	easing above 9 bar (130 psi).	
12	I SWITCH.		→ Replace the pressure switches.	
	Remedy	2) Malfunction of the water probe sensors.	→ Clean or Replace the all water probe sensors of the boiler.	
		3) Using distilled water	→ Use normal tap water. (above 15 ppm)	
	Description	Steam or wa	ter leaks from underneath.	
	Cause &	1) Safety valve has activated.	→ Solve the reason of abnormal pressure and replace the safety valve.	
	Remedy	2) Damaged by freeze rupture.	→ Replace a broken part.	
		3) Damaged piping line.	→ Fix or replace a broken part.	
13		STANDARD	ASME	
		Safety Valve	Safety Valve	
	Description	Water supplying tube	of water pump is hot or damaged.	
	Cause &	1) Malfunction of → Replace the non-return valves		
	Remedy	the non-return valve.	and damaged parts.	
14	Non-return Valve			
	Description	Water ta	ank is abnormally hot.	
	Cause & Remedy	\sim 11) Maltunction of the Breather valve \rightarrow Benjace the Breather valve \perp		
15	Breather valve			
	Description	Static electricity or	n the spray gun or the machine	
	Cause & Remedy	The machine is not grounded properly.	→ Ensure that the machine is grounded	
16		Ground) Chain	

Service Request



Your machine has a defect or broke down?

Simply register your service requirement by scanning here and SJE

Service center will contact you as quickly as possible to provide further information.

OPTIMA STEAMER™ Limited Warranty

SJE Corporation Ltd. hereby warrants that new Optima Steamers purchased directly from SJE Corporation Ltd., headquartered in Busan, South Korea will be free from defects in material and workmanship for the period of time stated below, subject to certain limitations.

OUR WARRANTY POLICY

This warranty is not transferable and covers replacement parts only. This warranty does not cover any consequential damages or business loss.

THE PERIOD OF WARRANTY

The warranty on your Optima Steamer is twelve(12) months (6months for authorized distributors) from the date of purchase by the original owner against defects in material and workmanship.

GENERAL EXCLUSIONS

General exclusions from this warranty shall include any failures caused by:

- a. Installation of parts, attachments or accessories that are not original to the unit or genuine Optima Steamer parts. (i.e. external aftermarket attachments such as exhaust duct extension)
- b. Abnormal strain, neglect, or abuse.
- c. Lack of proper maintenance.
- d. Accident or collision damage.
- e. Changing or altering factory settings without consulting with an authorized technician.
- f. Damage or malfunctions resulting from natural calamity, freezing, theft, accident, vandalism, abuse due to misapplication and/or improper site conditions.
- g. Water damage
- h. Electrical damage from including, but not limited to improper use of extension cords, failure to meet proper voltage requirements, incorrect or insufficient amperage circuit.
- i. Insufficient unobstructed distance on exhaust

Items not covered under warranty include:

- a. Parts replaced due to normal wear or routine maintenance including, but not limited to sensors, filters, fuses, valves, pipes, electrodes, cables and fittings (i.e. nipples, couplings, o-rings, etc)
- b. Consumable or wearing items requiring replacement as part of normal operation including, but not limited to steam hoses and guns.
- c. Any transportation or travel costs.
- d. Reimbursement for rental units while repairing warranty items.
- e. Normal maintenance items such as: draining tanks and boiler, descaling, filter and sensor changes, boiler cleaning, tightening and sealing bolts and fittings and others stated in the User Manual.
- f. Failure caused by water scale problem due to local water conditions.
- g. Warranty work completed after 30 days from discovery.
- h. Damage, problems or failure caused by factors external to the Product including, but not limited to, faulty or poor external electrical wiring, incorrect or faulty power supply, voltage fluctuations, over voltage transients or electromagnetic interference, inadequate or faulty water or fuel.

CUSTOMER'S RESPONSIBILITY

Under this warranty, the customer's responsibility shall be to:

- a. Operate and maintain the machine as specified in the instructions manual.
- b. Give notice to authorized Optima Steamer dealer or SJE Corporation Ltd. of apparent defects within seven (7) days after discovery.
- c. Provide proof of purchase, purchase date, and serial number of the warranty item(s).
- d. Make the unit available for inspection and repairs at dealer's place or service center. If shipped, transit costs should be prepaid.

For warranty service request, please e-mail tech@sjecorp.com or call +82 51 521 3200. SJE Corporation Ltd. recommends that you read the Operating Instructions, and in particular the troubleshooting guide on USER'S MANUAL before you make a Warranty service



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