

Product Manual



Portable High-pressure Steam Sterilizer



18 (L)

24 (L)

30 (L)

Thank you for using our products.

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Chapter 1: Operation Instruction

Please refer to chapter 7 Installation Requirements before operating the sterilizer.

1 Open the lid

Turn the lid counterclockwise. After separate the top and bottom handles completely (see Fig.1), please remove the lid and lay it down on a flat surface (see Fig.2). When placing the lid, the direction of pressure gauge shall be upward, so as not to impact the shell and cause deformation, thus resulting in error of pressure gauge pointer.

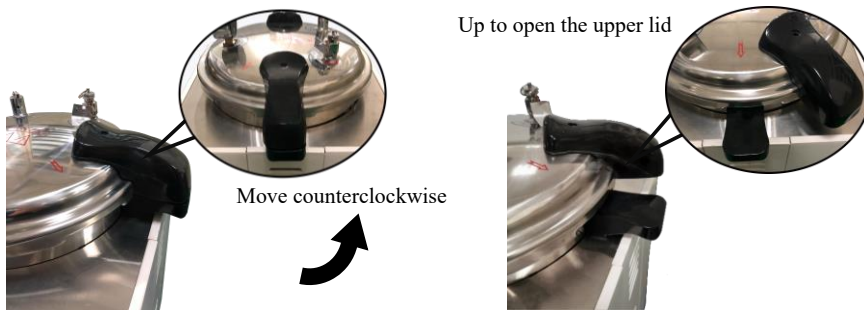


Fig. 1



Fig. 2



2 Power Supply

Please connect external power supply with AC 220V±10%, 50Hz±1Hz, and power ≥2KW and insert the special power socket of the sterilizer. Then turn on the power switch to the ON position (see Fig.3) and set the required Settings on the control panel (there is an electromagnetic switch in the handle of the pot body. The heater will not work when the pot body is not closed or there is water shortage). When the water level indicator is on, it indicates water shortage in the sterilization pot (see Fig.4). The water level indicator on the control plate is on, it indicates water shortage in the pot (see Fig.4). The display window appears interface means the current temperature in the pot.



Fig. 3

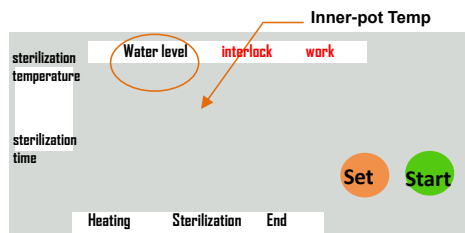


Fig. 4

3 Supply Water

Take out the inner cylinder, and fill the domestic water into the pot directly until the water level indicator on the control panel is always on (see Fig.5). If there is too much water in the pot, open the drain valve (see Fig.6) to drain the excess water. The standard water level shall be at the bottom edge of the 3 brackets in the pot (see Fig.7). After the water level is determined, set the drain knob to the OFF position (see Fig.8).

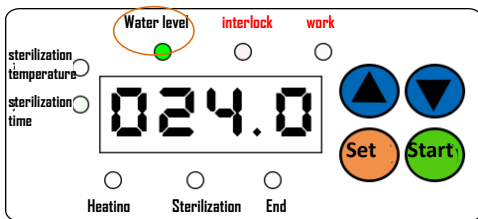


Fig. 5

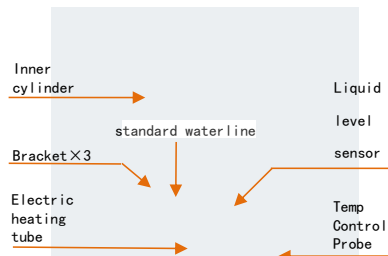


Fig. 6



Fig. 7

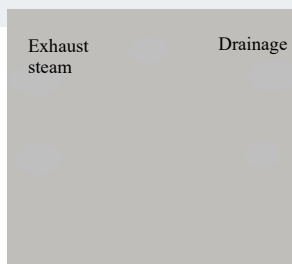


Fig. 8

4 Set Sterilization Temperature and Time

There is a data memory function in the control system of the console, which can store the last sterilization temperature and time for the future application. For the first time of use or adjust the sterilization temperature and time, you can adjust them according to the following steps:

① Set the sterilization temperature: press the setting key **SET** (Fig.9) on the control panel, and the sterilization temperature indicator lights up. When SP (Fig.10) appears on the display screen, press the up and down movement keys **▲** **▼** (Fig.11) to adjust. After the adjustment of the required sterilization temperature value, press the setting key twice in succession to confirm the new sterilization temperature data storage (Fig.12).

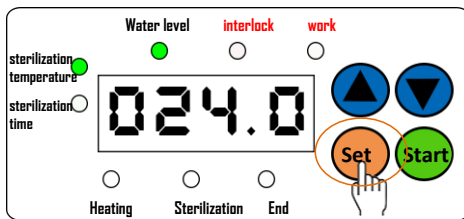


Fig. 9

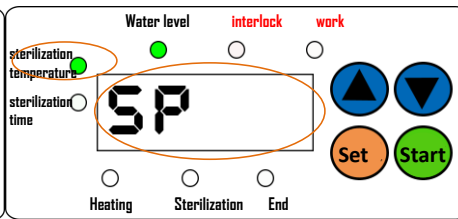


Fig. 10

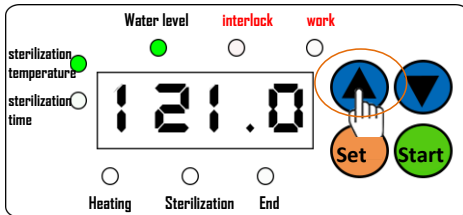


Fig. 11

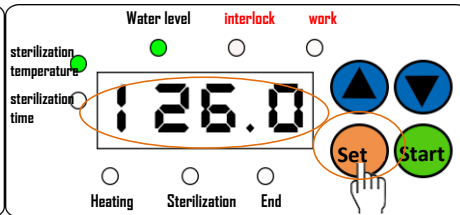


Fig. 12

② Set the sterilization time: press the setting key (SET) on the control panel (see Fig.13) to turn on the sterilization time indicator. When ST (see Fig.14) appears in the display window, press the up and down keys (▲▼) (see Fig.15) to adjust the time. After the adjustment, press the setting key twice in succession to confirm the storage of new sterilization time data (see Fig.16).

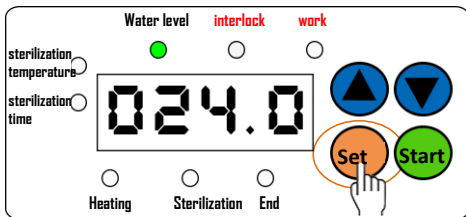


Fig. 13

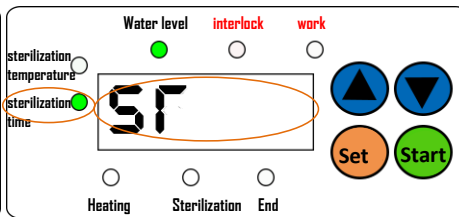


Fig. 14

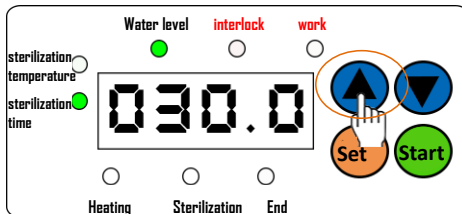


Fig. 15

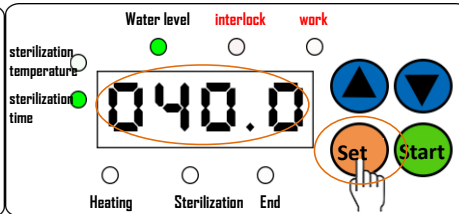


Fig. 16

5 Place the sterilized items

Please wrap the required sterilization items properly and pile them in the sterilization pot in sequence (see Fig.17-1). Please don't put items which prone to expand or unpacked granular line items into the sterilization pot. When stacking sterilized items, let out the steam vents such as safety valve and steam vent valve (see Fig.17-2) to avoid unsafe accidents caused by the block of the steam vents.

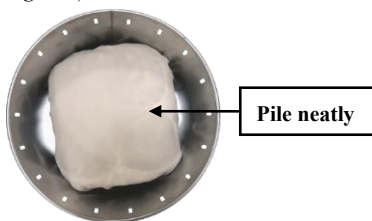


Fig. 17-1

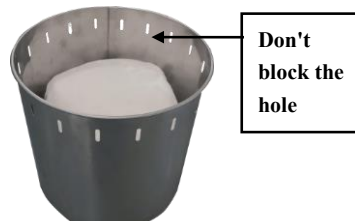


Fig. 17-2

6 Run the device

After confirming the sterilization temperature and time, please fasten the lid to the pot body. Turn the lid clockwise until the upper and lower handles are all closed (see Fig.18), the interlock indicator flashes. Then press the start key on the control panel to start the heater inside the sterilizer, the work indicator lights up.



Fig. 18

7 Heating to increase pressure

When the heater starts to work, the sterilization temperature light, and heating light on the control panel are on, indicating that the sterilizer has entered the position of heating and increasing pressure (see Fig.19). When the temperature in the pot rises to about 102°C, the interlock indicator will flash (see Fig.20).

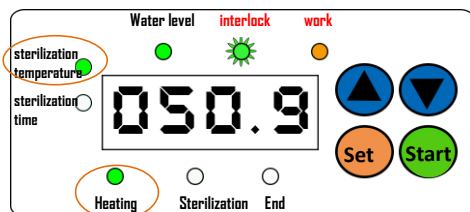


Fig. 19

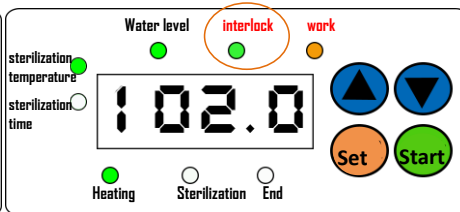


Fig. 20

ⓘ In order to ensure the sterilization effect, during the heating, pressure increasing and sterilization process, the lower exhaust valve knob shall be turned to the minute exhaust state (see Fig.21), letting small amount of steam discharged from the pot continuously to make even temperature in the pot.



Fig. 21

批注 [1]:

8 Running of sterilization

When the sterilizer is warmed up to the set temperature, the sterilization indicator and sterilization time indicator on the control panel are on, **the work indicator turns to flashing**, and the sterilization countdown appears in the display window (See Fig.22). It means that the sterilization items are being sterilized in the pot.

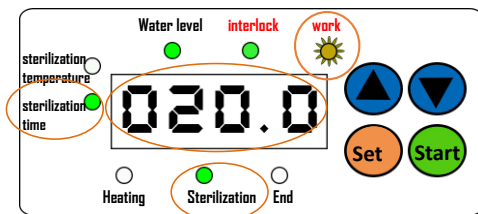


Fig. 22

9 The complete of the sterilization

At the end of the sterilization countdown, the signal of (END) appears in the display window to indicate, the END indicator on the control panel will on, **the work indicator will off** that the sterilization operation is complete (See Fig.23).

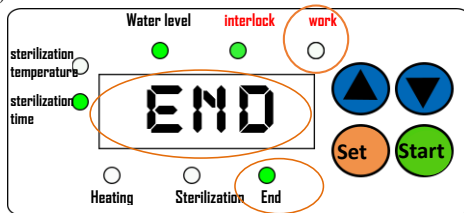


Fig. 23

10 Relief the pressure

At the end of the sterilization operation, turn the knob of the lower steam valve to the open position (see Fig.24), so that the steam in the pot is vented to release the pressure. When the temperature in the pot is lower than about 102°C, **the interlock indicator turns to flashing state** (see Fig.25), which means that the pressure in the pot is eliminated basically.



Fig. 24

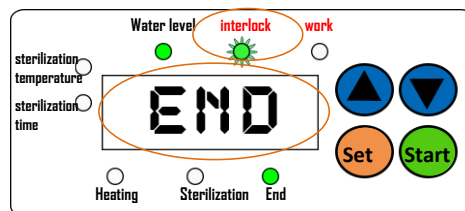


Fig. 25

11 Open the lid

After the pressure gauge pointer returns to zero (see Fig.26), turn the pot counterclockwise to separate the upper and lower handles fully (see Fig.27). Meanwhile, the interlock light goes out (see Fig.28), which indicates that the pot lid can be removed and the items can be taken out. (This picture is for reference only, please see the pressure gauge of the actual product).

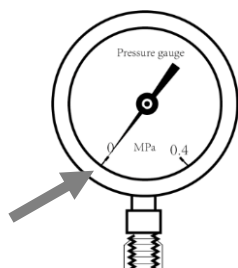


Fig. 26



Fig. 27

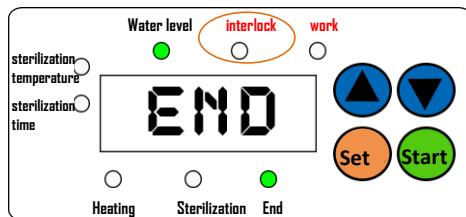


Fig. 28

Chapter 2: Safety Cautions

2.1 Within 12 months from the time of purchase, when the product fails to work if the user fully complies with the usage rules stipulated in the user manual, and the user does not change the internal structure of the product without authorization, the manufacturer shall be responsible for the repair or replacement for free.

2.2 The placement of the sterilizer must meet the requirements of this manual.

2.3 Please don't place strong acid-base items, bulk particles, heat-swelled items, flammable and explosive items, closed containers (especially glassware), non-high-temperature items, volatile, toxic, polluting, and items that are not suitable for steam in the pot for sterilization.

2.4 Since the sterilizer is a quick-opening pressure vessel, please don't open the sterilizer cover before the sterilization cycle is completed.

2.5 The main body of the sterilizer is equipped with a steam generator. The water quality for the steam generator shall meet the requirements of 14.1 Supply Water Quality Index in this manual.

2.6 The load of sterilized materials in the sterilizer must not exceed 80% of the volume of the sterilization chamber. Please don't block the safety valve discharge port and the outlets of steam and drainage to ensure that the air is unobstructed to avoid accidents.

2.7 Safety valve safety warning

2.7.1 The sterilizer is equipped with safety valves and pressure gauges, and should be sent to the national supervisory and inspection agency for testing and verification periodically.

2.7.2 The sterilizer operation program is controlled by microcomputer, so the safety valve cannot jump under normal working conditions.

2.7.3 Sterilizer safety valve set pressure is 0.165MPa, and the return seat pressure is ≥ 0.142 MPa.

2.7.4 The safety valve should be replaced immediately when the safety valve cannot be normally released or closed during the pressure relief process.

2.7.5 The safety valves should be calibrated at least once a year generally to prevent accidents.

2.8 The sterilizer is equipped with automatic steam release valve. When the pressure in the pot rises to 0.156mpa, the automatic steam release valve will automatically release steam.

2.9 After using the pressure gauge for a long time, the pointer of the pressure gauge cannot return to zero, and it should be repaired in time. Normally, it should be compared with the standard pressure gauge regularly. If it is abnormal, please replace it in time to prevent accidents. The pressure gauge should be checked every six months.

2.10 When the sterilization is over, if the pressure gauge pointer has returned to the zero position (the display temperature is lower than 80°C) and the cover is not easy to open, the lower steam exhaust valve can be placed in the maximum steam exhaust position to allow outside air to enter the sterilizer. After the vacuum is removed, the cover can be opened.

2.11 When stacking sterilized items, please don't block the vents of the safety valve and the vent valve. Leave a space to ensure that the air is unblocked, otherwise the safety valve and the vent valve may not work properly due to the blocked vent holes, which may cause accidents.

2.12 For different types and sterilized materials, such as dressings, do not put them together for sterilization to avoid loss.

2.13 The equipment should be kept clean and dry at ordinary times to extend its service life. The silicone sealing ring will age over time and it should be replaced regularly.

2.14 The device should be cleaned twice a month. First, disconnect the power supply and take out the inner bucket. Brush the scale covering the inner wall of the sterilization bucket with a brush and then rinse with water.

2.15 When the sterilizer is connected to the power source and it is found that the power light is off, check whether the leakage protection switch is turned off or tripped.

2.16 At the end of each sterilization cycle, when the sterilization material needs to be taken out, the temperature in the sterilization chamber must be lowered below 60°C and protective gloves must be worn before the removal. At the end of each day, turn off the power switch on the left door panel of the sterilizer, and then disconnect the main power circuit breaker on the building.


2.17 After the sterilization is over, if the pressure gauge pointer has returned to the zero position and the cover cannot be easily opened, the steam release valve can be set to the steam release position. Allow the outside air to enter the sterilizer. After the vacuum is removed, the cover can be opened.

2.18 Required electrical accessories should be purchased from our factory or purchased in the market for qualified products with a safety certification mark.

2.19 There are various warning signs on the outside of the sterilizer, and the operator should keep all warnings in mind.

2.19.1 Warning and Caution Signs

		
Caution	Caution: Hot	Ground protection

2.19.2 The meaning of 

2.19.2.1 Warning: It may cause serious injury to the human body.

If the sterilizer is used in a manner not specified in this manual, the protection provided by the sterilizer may be impaired, resulting in personal injury and hazard accident.

2.19.2.2 Please read this manual carefully and operate, maintain and repair the machine in strict accordance with the requirements of the manual.


2.19.2.3 Before opening the door of the sterilizer, confirm that the pressure in the sterilization chamber has fallen to "0MPa". If the door is opened forcibly, high-temperature and high-pressure steam will be emitted, resulting in burns and other accidents.

2.19.2.4 The sterilizer must be placed in a separate building with smooth ventilation, spacious space, bright light, and flat ground. Don't place it with other equipment and corrosive items in the same room.

2.19.2.5 The sterilizer must be placed in a position convenient to operate the disconnect device.

2.19.2.6 The heating pipe, pressure gauge, safety valve and sealing ring of the sterilizer are consumables. The sterilizer should be placed in a position to facilitate the removal and installation of these components.

2.19.2.7 The scale and sediment will be generated in the sterilizer over a long period of time. It must be placed in a position to facilitate the cleaning of the sterilizer.

2.19.3 The Meaning of 

2.19.3.1 At the end of the sterilization cycle, if the door is opened when the temperature in the sterilization room is too high, a lot of hot air will emerge from the room. Please do not place your face and hands near the sterilization room door.

2.19.3.2 Do not approach the steam exhaust port and do not block the steam exhaust port.

2.19.4 The Meaning of 

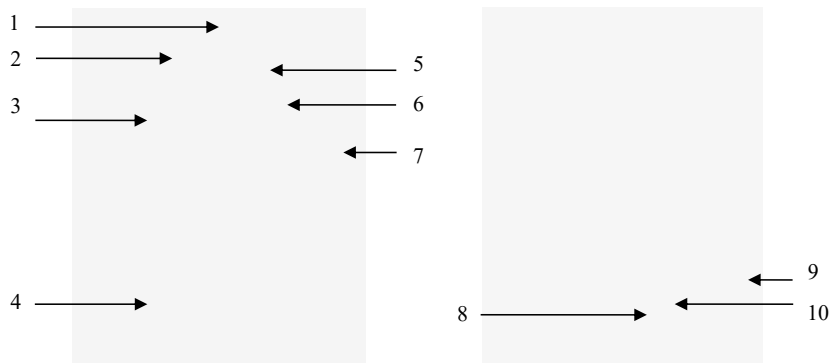
2.19.4.1 The sterilizer has a protective ground. It must be grounded to the outside world firmly and please don't connect the zero line with the grounding line.

2.20 When sterilizing liquid (boiling point is 100°C), the liquid should be filled in a heat-resistant glass bottle with the volume not more than 3/4 of it. The bottle mouth should be made of cotton gauze. Please don't use rubber or cork.

Chapter 3: Overview

This portable high-pressure steam sterilizer (hereinafter referred to as the sterilizer) is a non-medical device product, which is suitable for sterilization of medium with high temperature resistance.

Chapter 4: Structure Diagram



1. Safety valve	2. Steam release valve
3. Handles (up and down)	4. Steam exhaust (water) valve
5. Pressure gauge	6. Upper lid
7. Operation panel	8. Power switch
9. Exhaust steam (water) interface	10. Power interface

Chapter 5: Technical Features

5.1 The working environment temperature for the sterilizer shall be between 5°C and 40°C. The relative humidity is $\leq 80\%$, the atmospheric pressure is between 70KPa and 106KPa, and the altitude is $\leq 2000\text{m}$.

5.2 The sterilizer is a portable device, so it has a single-network power plug with the external power supply. The circuit breaker shall be installed on the building with the power rate higher than the total power rate of the sterilizer.

5.3 The type, size and basic parameters of the sterilizer meet the requirements of the Special Equipment Safety Supervision Regulations.

5.4 The sterilizer adopts a quick-open door type and is equipped with a safety interlock device.

5.5 The pressure and temperature indicators of the sterilizer are analog. The dial scale is from 0MPa to 0.4MPa, while the temperature range is from 50°C to 150°C.

5.6 The control system of the sterilizer is controlled by microcomputer. It has functions of water level control, time control, temperature control, water cut off, over temperature alarm and automatic power off. There are double protection for low water level.

5.7 The sterilizer adopts digital display for sterilization temperature and time.

5.8 On the conspicuous place of the sterilizer, there are warning and reminder marks to inform the operator of the importance of mastering the operating procedures and observing safety precautions.

5.9 The sterilizer has reliable grounding wire which have obvious grounding marks.

5.10 The sterilizer is equipped with a manual steam exhaust (drain) valve, which is convenient for it to

discharge the cold air during the sterilization cycle to ensure the sterilization effect.

5.11 The sterilizer sterilize items with steam from a solution with a boiling point of 100°C.

5.12 When the water level is lower than the low water level, the sterilizer will cut off the heating power automatically and warn the operator by the warning light.

5.13 The sterilizer is equipped with a sterilization material loading basket (cylinder), which is convenient for the sterilized items to enter and exit the sterilization room.

Chapter 6: Technical Parameters

6.1 The power supply voltage of the sterilizer is AC 220V±22V, 50Hz±1Hz, and the power is 2kW±10%.

6.2 The volume, size and net weight of this series of products are as follows (see Table 1). Table 1

Effective Volume (L)	Inner Diameter of Sterilizer (mm)	Open Method	Control Method
18	Φ280	Open quickly	Digital
24	Φ280	Open quickly	Digital
30	Φ280	Open quickly	Digital

6.3 The maximum working pressure of the sterilizer is 0.142Mpa.

6.4 The sterilizer is equipped with a safety valve with the set pressure of 0.165MPa and the return pressure ≥ 0.142 Mpa. The pressure difference between the set pressure and the return pressure shall be not more than 10%.

6.5 When the temperature and pressure rise, the cold air in the sterilizer is discharged through the cold air relief valve in the handle of the upper cover automatically. When the steam pressure in the sterilizer is greater than or equal to 0.028Mpa, the cold air relief valve is closed automatically, while the small holes still emit small amount of steam, which is conducive to the discharge of cold air in the cavity of the sterilizer and achieve even temperature in the room.

6.6 The practical adjustable range of sterilization working temperature is 105°C to 126°C, and the sterilization effective time setting range is between 0min~60min.

6.7 The sterilizer should be equipped with a terminal power circuit breaker (zero line and grounding of the circuit breakers cannot be connected together) to ensure that the excess current caused by the fault can be cut off quickly.

6.8 The sterilizer is equipped with an interlocking device. When the door (cover) is locked and the steam pressure is ≥ 0.028 Mpa, the lid will be locked and cannot be opened. When the steam pressure is released and the pressure gauge pointer returns to zero, the interlock is unlocked. Then you can open the lid.

6.9 The service life of the safety interlock of the sterilizer is about 3,000 sterilization cycles (using the device for once means a cycle).

Chapter 7: Installation Requirement

7.1 The sterilizer should be placed in a well-ventilated, spacious, bright, dry, and flat independent room. It should be placed in a location that is easy for the user to operate the disconnect device. Therefore, please leave more than 50cm around it for operation and maintenance.

7.2 The grounding wire of the power plug of the sterilizer and the special socket of the network power supply must be stable and firm (Don't connect the zero line with the grounding line).

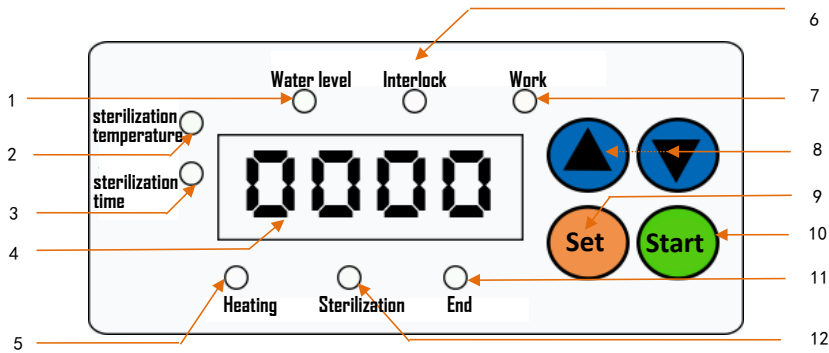
7.3 The power supply of the sterilizer is AC 220V±22V, 50Hz±1Hz, and ≥16A. The user must install a circuit breaker at a height of 1.5m of the equipment near 1 meter of it as the disconnection device for the power supply and install the socket for it with remarks such as specialized for the sterilizer.

7.4 When the sterilizer circuit is installed, it should be operated by a professional electrician.

Chapter 8: Getting Started

8.1 Product Identification Instructions

8.1.1 Label Names on the Control Panel



1. Water level light	2. Sterilization temperature setting light
3. Sterilization time setting light	4. Digital display area
5. Heating light	6. Interlocking light
7. Working light	8. Increase/decrease key
9. Function setting key	10. Start key
11. End light	12. Sterilization light

8.1.2 Description of operation status display

[Water level light] When the water shortage/discontinuity in the sterilizer, the light always flashes, accompanied by a buzzer alarm sound. When the water is added to the standard water level, the water level light will be on for a long time.

[Sterilization temperature light] This indicator lights when the sterilization temperature is displayed.

[Sterilization time light] This light is on when the sterilization time is displayed or the countdown is entered.

[Heating light] This indicator lights up when the heater is working, and it flashes during the heat preservation process.

[Work light] When the start key is pressed, the indicator light is on when the machine starts to work.

[Interlocking light] This indicator lights up when the upper lid is closed and the upper and lower handles are turned to close.

[Sterilization light] This indicator lights up when the sterilizer reaches the set temperature (heat preservation).

[End light] This indicator lights up when the sterilization is finished.

8.1.3 Key functions

[Function setting] Press the "Set" key once to switch the running status in the display window to the temperature setting status. Double-click it to switch to the time status light, and then press it again to return to the running status. Press and hold the "Set" key for more than 5 seconds to open the hidden setting data.

[Start key] After setting the required sterilization temperature and time, close the lid and press the start key to start the sterilizer to warm up.

[Increase key] Press the "Increase" key to increase the parameter to be modified.

[Decrease key] Press "Decrease" key to decrease the parameter to be modified.

① Press and hold the "Up" or "Down" key for more than 5s to view the instant temperature during sterilization.

8.1.4 Meaning of the buzzer alarm;

(1) There is no water in the sterilizer, the water level cannot be detected, or the polarity of the water level signal line is wrong, the buzzer will sound continuously.

(2) When the whole sterilization process is over, the buzzer sounds continuously for 20s.

8.2 Operation steps of sterilizer

The operator of the sterilizer must be trained professionally to be familiar with the essentials of pressure vessel operation. He/she must operate the device in accordance with the requirements of this manual strictly. During the work of the sterilizer, a professional shall take care of it and keep a record of the operation to prevent accidental injury or accidents.

The safety valve should be tested at least once a year, and the pressure gauge should be tested at least once every six months.

8.2.1 Open the lid

① Before opening the lid, make sure that the pressure gauge returns to zero, and there is no pressure in the sterilizer (See **Fig.26**).

Turn the upper lid counterclockwise with your hands until the upper and lower handles are separated completely (see **Fig.1**). Remove the upper lid and lay it flat on the ground with the pressure gauge facing upwards, so as not to make deformation of the pressure gauge or cause inaccurate data.

8.2.2 Add water

Turn on the power and turn on the power switch (**Figure 3**). When there is no water in the sterilizer, the water level lamp flashes, the buzzer alarms, and the electric heating tube is in a power-off state. Take out the inner cylinder and input about 2 kg of purified water or purified domestic water into the sterilizer. For the specifications of the water supply, please refer to 14.1. It is advisable to add water to the lower edge of the three liner brackets, as shown in Fig.7. At this time, the water level light is always on, the buzzer stops alarming, and the heating light is on, but the electric heating tube is still in a power off state.

① Before each sterilization, the above water level must be made up to avoid burning the heating pipe and causing accidents.

8.2.3 The pile of sterilized items

8.2.3.1 Pack the sterilized items first (the volume should not exceed 20cm×20cm×10cm generally).

There should be a gap between each package to facilitate the penetration of steam and improve the sterilization effect. The inner cylinder with piled items shall be lifted into the sterilization chamber for sterilization.

8.2.3.2 Packaged granular, linear, or swell-able items after heating shall not be put into the sterilizer for sterilization. Otherwise, it is easy to block the safety valve air hole and cause the pressure control device to fail, leading pot burst accidents.

8.2.3.3 Volatile, toxic, polluting and unsuitable items for steam sterilization are prohibited to the cylinder.

8.2.3.4 When sterilizing packs are stacked, there should be a gap in the vent hole of the safety valve to ensure that the steam is unblocked, so as to prevent the steam valve blockage of the safety valve from failing to release the pressure and causing sterilizer burst accidents.

8.2.4 Setting (Before closing the sterilizer lid)

Users can choose the required sterilization temperature and time for operation according to different sterilization items.

When the operator sets the temperature and time, press the function setting key on the control panel, the sterilization temperature light will be on, and then press the up and down keys (SET), the temperature light will be on for a long time. Set the required sterilization temperature value. Press the function setting key again to enter the sterilization time setting state, the sterilization time light is on. Press the up and down keys (▲) (▼) to set the required sterilization time value, and press the function after the setting is completed. Confirm by setting key. Press and hold the function setting key for more than 5 seconds to view the sterilization temperature and sterilization time value.

8.2.5 Close the lid

Align the positioning label on the sterilizer lid with the center of the lower handle of the sterilizer body, and turn the lid clockwise with your hand to close the upper and lower handles completely.

8.2.6 Start

When the sterilizer lid is closed, press the start key, and the heater in the sterilizer starts to work. At this time, the interlocking light, the work light, the heating light and the sterilization time indicator light are on.

8.3 Heating

The electric heating tube in the sterilizer is energized to start heating. When the temperature in the sterilizer pot reaches 102°C, the interlock light stays on and the upper lid cannot be opened.

① In order to make the sterilization effect better, before turning on the power, turn the exhaust (drain) valve to the maximum exhaust position (See Fig.24), and discharge the cold air in the pot. When the temperature rises to 102°C, exhaust the air. The valve is adjusted to the micro open state (See Fig.21).



Fig. 24



Fig. 21

8.4 Sterilization

When the temperature in the sterilization room rises to the set temperature, the sterilizer starts to enter the sterilization countdown working state, and various indicators on the operation panel will show the

current operating status.

8.5 The completion of the sterilization

① When the sterilization is completed, you must confirm that there is no pressure in the sterilization room and the pressure gauge is reset to zero with power cut off before you open the lid.

The sterilization operation program ends with a buzzer reminder. Open the steam exhaust valve (see Fig.24) to exhaust the steam pressure in the sterilizer. Please confirm that the pressure gauge pointer has returned to zero (Fig.26), and then rotate the upper cover counterclockwise and lift the lid to remove the sterilized items.

① Just after the operation is finished, please do not rush to pick up the objects after opening the upper lid. Once the lid is opened, a lot of steam will come out which can cause burns to you.

Chapter 9: Maintenance and Care

9.1 Damage and Replacement of Accessories

9.1.1 When it is necessary to replace components during troubleshooting, it must be replaced by professionally trained or factory-appointed personnel. Before operation, the circuit breaker must be disconnected to release the steam in the pot.

9.1.2 The drainage (steam) outlet connecting this device shall be connected with a metal hard pipe, and the connecting pipe shall be fixed on the wall or floor properly so that the discharged water or steam is transferred to a safe outlet, thus preventing burns caused by steam splashing.

9.2 Failure Analysis and Troubleshooting

Failure Analysis and Troubleshooting

Table 2

No.	Failures	Reasons	Solutions
1	The device does not heat up after power on	a. The power supply is abnormal;	a. Input power according to this manual;
		b. Heater is damaged;	b. Replace the electric heating tube;
		c. Water shortage and the sterilization temperature and time are not set.	c. Add water to the specified water level and reset the sterilization temperature and time.
2	There is steam from the cold air vent valve on the lid after warming up	a. The upper and lower handles are not in place; ;	a. Close the upper and lower handles correctly;
		b. The safety lock is stuck.	b. Turn the safety lock pin.
3	Safety valve does not cut off	a. Safety valve is blocked;	a. Clear the blockage;

	when the pressure exceeds 0.165MPa	b. The safety valve is malfunctioning.	b. Replace the qualified safety valve.
4	Pressure gauge does not return to zero under no pressure	a. The pressure gauge is malfunctioning.	a. Replace the qualified pressure gauge.
5	Steam leakage at the connection point of lid and the pot after the pressure increased	a. Improper installation of sealing ring;	a. Change the seal position.
		b. Seal ring is broken.	b. Replace the qualified seals.

9.3 List of Main Accessories

List of Main Accessories

Table 3

No.	Name	Specification	Quantity	Remarks
1	Power switch	250V 6A/12A	1 piece	
3	Electrical heated tube	2KW	1 piece	
4	Relief valve	0.165Mpa	1 piece	
5	Steam release valve	>0.156Mpa	1 piece	
6	Pressure gauge		1 piece	
7	Silicone seal ring		1 piece	
8	Temperature control probe	PT100 M12*1 \varnothing 7*84*350mm	1 piece	
9	Water level sensor	FAST-52LSS-2A1V	1 piece	

Chapter 10: Packing List

Packing List

Table 4

No.	Name	Quantity	Remarks
1	Portable high-pressure steam sterilizer	1 piece	
2	Product manual	1 copy	
3	Product certificate and warranty card	1 copy	
4	Loading basket (inner cylinder)	Based on the actual product	

Chapter 11: Tips

11.1 The sterilizer control system has an automatic power-off function. When the set temperature cannot be controlled according to the set value, the temperature sensing element should be replaced in time.

11.2 The sterilizer is equipped with an over-pressure safety device (safety valve). When the pressure exceeds **0.165Mpa**, the safety valve cannot release the over-pressure steam, and it should be replaced immediately. Generally, please pull the safety valve folder upwards by pliers for a few times to maintain its

sensitivity.

11.3 You should pay attention to the flexibility of the safety interlocking device. When you find severe wear, please connect the supplier for replacement or let the trained professional to replace it.

11.4 The service life of the interlocking device is about 10 years. If there is any abnormality, please contact the factory in time and replace it by the professional.

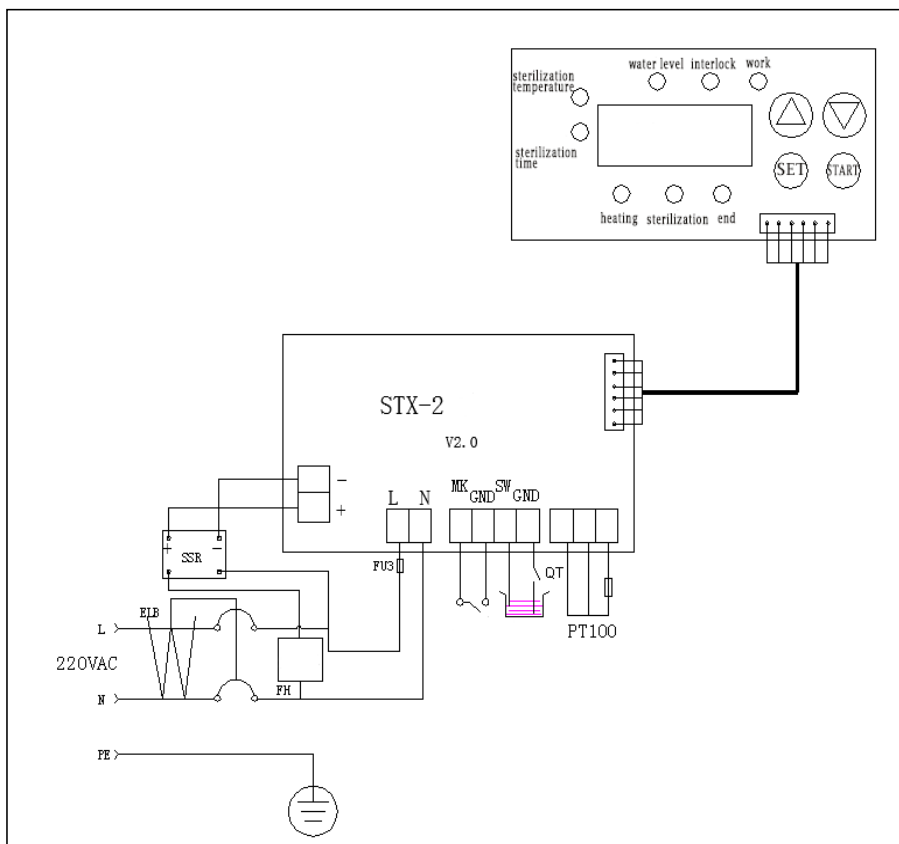
11.5 The service life of the sterilizer is about 10 years. Please refer to the product nameplate for the production date.

11.6 Fault analysis and troubleshooting (please refer to **Table 2**).

11.7 List of main accessories (please refer to **Table 3**).

11.8 Packing List (please refer to **Table 4**).

Chapter 12: Appliance Schematic



List of Electrical Components

Table 5

Symbol	Component Name	Type/Specification	Remarks
SSR	Solid state relay	GJH25W	
PT100	Temperature control probe	M12*1 \varnothing 7*84*350mm	
QT	Water level sensor	FAST-52LSS-2A1V	
MK	Interlock switch		
L N E	Power cable	2.5m 3 core 1.5 ² with plug	
K1	Retardant earthed short circuit breaker	220V 15A	
FH	Heater	220V 2KW	
ELB	Power switch	TRN-16	
STX-2	Power panel	STX-2	
	Display panel	STX-2	

Chapter 13: Annex

13.1 Quality index of water supply is shown in Table 6.

Quality Index of Water supply

Table 6

Project	Index
evaporation residue	≤ 10 mg/L
silicon chloride (SiO ₂)	≤ 1 mg/L
Iron	≤ 0.2 mg/L
Cadmium	≤ 0.005 mg/L
Lead	≤ 0.05 mg/L
Other heavy metals exclusive of iron, cadmium and lead	≤ 0.1 mg/L
Chloridion (Cl ⁻)	≤ 0.5 mg/L
phosphate (P ₂ O ₅ ⁻³)	≤ 5 μ S/L
conductivity (25 ^o C)	5~7.5
pH Value	Colorless, clean, no sediment
Appearance	≤ 0.02 mmol/L
Hardness (Total amount of alkali metal ions)	

Note: The result of consistency check shall be in accordance with regulation of known analysis method.

11.2 Quality index of steam condensate is shown in Table 7.

Quality index of steam condensate

Table 7

Project	Index
silicon chloride (SiO ₂)	≤0.1 mg/L
Iron	≤0.1 mg/L
Cadmium	≤0.005 mg/L
Lead	≤0.05 mg/L
Other heavy metals exclusive of iron, cadmium and lead	≤0.1 mg/L
Chloridion (Cl ⁻)	≤0.1 mg/L
phosphate (P ₂ O ₅ ³⁻)	≤3 μS/L
conductivity (25°C)	5~7
pH Value	Colorless, clean, no sediment
Appearance	≤0.02 mmol/L
Hardness (Total amount of alkali metal ions)	

Note: Test method for steam quality is shown in chapter 22, EN-285:2006.

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