

Electric pressurized steam sterilizer

Operation Manual



Please read carefully this instruction before you install and use this product.

Please always take good care of this instruction and treat it as an important component part of this product.

Please take good care of the invoice and warranty card after purchasing this product.

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Dear Customer:

Thank you for purchasing our instrument, please take your time to read carefully the instructions before starting to use this Electric pressurized steam sterilizer, please also pay **special attention to those letters in bold**, which can be very useful for maximizing the functions of the instruments. Please take good care of this instrument after reading it for future use.

I . Security considerations

- 1.The operator should always be there to observe the running condition of the instrument until the whole process is finished, make sure the pressure has to be released and the power be turned off before leaving.
2. It is strictly prohibited that the instruments working beyond the service pressure, things which are easy to explode when contacts the steam or boost abruptly are also both strictly prohibited.
3. The safety valve and Pressure gauge on the instrument should be sent to qualified organization for examination regularly.
4. The instrument must be adequately grounded to prevent having an accident because of the electrified case.

II . Application of product

Electric pressure steam sterilizer is used by medical institutions to sterilize various surgical instruments, dressings, glassware, injection equipment and other high-temperature and moisture resistant articles. It is not applicable to laboratories with Grade III or Grade IV biosafety protection level or other places with equivalent biosafety protection.

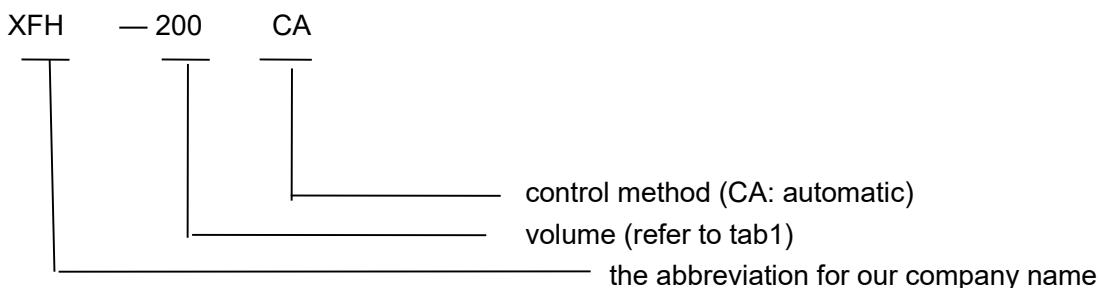
III. Security classification of product

Mobile equipment

IV. Classification and model of the products

1.Classification of the products:

A. product name description



B. Please refer to the above Classification and your model of the products, choose the following different instructions with different degree of automation to operate the instrument.

2、 The model of the product

Product name	Model	Volume	Power/Frequency	power	Rated working pressure	Rated operating temperature
Electric pressure steam sterilizer	XFH—200CA	0.2m ³	220V / 60Hz	8.0 KVA	0—0.21MPa	100—134℃
Electric pressure steam sterilizer	XFH—250CA	0.25m ³	220V / 60Hz	8.0 KVA	0—0.21MPa	100—134℃

NOTES: Based on the model C (automatic) in the list, you can also add the following optional functions:

1. Automatic flooding and exhausting function.
2. Electric heating tube with drying function
3. Print With the effect of F0 value sterilization

V. Structure of the products

The product consists of: pressure tank and cover, pressure gauge, valve, electrical control parts, electric heating tube and shell.

VI. Technical parameters

1. Working pressure: 0—0.21MPa, working temperature:100-134degree. For self control type, please use the pressure switch to control. For automatic type, you are free to set the working temperature, but please take note that the temperature can not more than 134℃.
2. working voltage: 220V 60Hz

VII. Application procedure

Please refer to your model of the products and above(4. Classification of the products) to confirm the degree of automation, choose the following different instructions to operate the instrument.

A. self-control type; B Automatic type;

A. Self-control type(-M)

1. Confirm that the power supply specification is consistent with the power supply type required by the equipment, and reliable grounding is required before plugging in the power supply.
2. Open the equipment cover, take out the cylinder in the sterilization room, and you can see the heating electric heating tube.
3. Turn the steam exhaust and drainage knob at the bottom of the left side of the equipment to the steam exhaust position (so that the cold air in the sterilization room can be discharged during the heating process of the equipment), and turn on the power switch of the equipment. At this time, the power indicator light and water level indicator light are on, and the buzzer can be heard to remind the user that it is in a state of water shortage and require the user to add water.
4. Remove the round cover at the bottom of the inner cylinder, connect the plastic tube, and slowly add water until the water level indicator is off. At this time, the working indicator should be on.
5. Install the bladder in the sterilization room, and wrap up the articles to be sterilized (with a volume of 200mm × 200mm × 100mm) shall be stacked in the bladder in the sterilization room in turn, and the space shall be reserved during stacking to facilitate steam penetration and improve sterilization effect. The steam holes of safety valve, steam release valve and pressure control switch shall not be blocked, and the lid shall be tightly closed.
6. After the equipment is started normally, the working indicator light is on. When the pressure gauge indicates about 102 ℃, turn off the steam exhaust and drainage knob at the bottom of the left side of the equipment. (For sterilized articles with high requirements for temperature consistency at upper, middle and lower points of the sterilization room, the main steam exhaust and drainage valve can be turned to the left to open a little during sterilization, so that a small amount of steam can be continuously discharged, which can meet the requirements for temperature balance in the sterilization room.) When the pressure in the sterilization chamber reaches the control pressure of the pressure switch, the pressure control switch will automatically disconnect the heating control signal, and then the manual sterilization timing can be started (when the pressure in the sterilization chamber exceeds the pressure range controlled by the pressure control switch, the safety valve can automatically jump to relieve the pressure). In the process of manual sterilization timing, as the pressure of the sterilization chamber falls back to the pressure controlled by the pressure control switch, the heating will continue automatically. In this way, the heating

will be interrupted repeatedly until the manual sterilization timing.

7. After sterilization, please turn off the power switch of the equipment. Open the steam exhaust and drainage knob at the bottom of the left side to the steam exhaust position for pressure relief, and then open the cover to take out the articles in the sterilization chamber until the pressure gauge indication falls back to zero.

8. The automatic control type has an automatic over temperature protection device. When the temperature of the sterilization room exceeds the set temperature, the system automatically cuts off the heating power supply. When the water level of the sterilizer is lower than the preset position, the equipment can automatically cut off the heating power supply and send an alarm signal at the same time

B. Automatic type(-C)

1. Confirm that the power supply specification is consistent with the power supply type required by the equipment, and reliable grounding is required before plugging in the power supply.
2. Open the equipment cover, take out the cylinder in the sterilization room, and you can see the heating electric heating tube.
3. Turn on the steam exhaust and drainage knob at the bottom of the left side of the equipment to the steam exhaust position (so that the equipment can drain the cold air in the sterilization room during the heating process), turn on the power switch of the equipment, and the preparation indicator light on the panel will light up. Then ask the user to set the replacement temperature, sterilization temperature, and sterilization time. After the setting is completed, press the start button, and the water shortage indicator light will light up, and the buzzer can be heard to remind the user that the water shortage is now, Users are required to add water. (Note: add water until the standard indicator lights up and then press the start button.).
4. Remove the round cover at the bottom of the inner cylinder, connect the plastic pipe, and slowly add water until the water level standard indicator lights up.
5. Install the bladder in the sterilization room, and wrap up the articles to be sterilized (with a volume of 200mm × 200mm × 100mm) shall be stacked in the bladder in the sterilization room in turn, and the space shall be reserved during stacking to facilitate steam penetration and improve sterilization effect. The steam holes of safety valves, steam release valves and pressure control switches shall not be blocked. (If it is necessary to dry, put an inner cover on the sterilized substance, and leave a space between the inner cover and the sterilized substance.) Finally, close the cover.
6. When the equipment enters the temperature rise stage, the temperature rise indicator will be on. When the measured temperature reaches the set replacement temperature point, the buzzer will sound to remind the user to turn off the steam exhaust and drainage knob at the bottom of the left side of the equipment. (For sterilized articles with high requirements for temperature consistency at upper, middle and lower points of the sterilization room, the main steam exhaust and drainage valve can be turned to the left to open a little during sterilization, so that a small amount of steam can be continuously discharged, which can meet the requirements for temperature balance in the sterilization room.) When the measured temperature reaches the set sterilization temperature, the equipment enters the sterilization stage, and the countdown time is displayed in the lower row of the display window. When the countdown time is up, the sterilization is completed.
7. After sterilization, please turn off the power switch of the equipment. Open the steam exhaust and drainage knob at the bottom of the left side to the steam exhaust position for pressure relief, and then open the cover to take out the articles in the sterilization chamber until the pressure gauge indication falls back to zero.
8. The automatic type has an automatic over temperature protection device. When the temperature of the sterilization room exceeds the set temperature, the system automatically cuts off the heating power supply. When the water level of the sterilizer is lower than the preset position, the equipment can automatically cut off the heating power supply and send an alarm signal at the same time.

9. parameters functions and setting

Parameter	content	Functions and explanations
P—1	the temperature of displacement: usually around 102°C	when the working temperature reaches the designed temperature of displacement, it reminds the user to switch off Exhaust steam on the bottom of the left surface
P—2	the temperature of sterilization: RT+5~134°C	The suitable temperature for user is 121°C、126°C
P—3	time of sterilization: 0 ~ 9999minutes	The suitable time of sterilization should be within 45 minutes.
P—4	Time of drying:0 minutes	The suitable time of drying should be within 45minutes, it is an optional parameter
P—5	Heating proportional control: 10~10	Please don't adjust this parameter by yourself

ERR1:	The board cannot read the temperature alarm
ERR2:	Water shortage alarm
ERR3:	Overtemperature alarm
ERR4:	Overpressure alarm
OPEN:	Gated alarm

Notes: when you want to set these parameters, first press the setting key, it will display P—1 on the temperature measuring screen (on the top side) and display the value of the parameter on the bottom side of the screen, then you are free to use the “+” key or “-” key to adjust the parameter, press the setting key again to switch automatically to the next parameter, it will return to the normal automatically on the screen when you press the setting key for 5 times.

VIII、Points for attention

1. The shell of the instrument must be adequately grounded and always checked to avoid accidents.
2. The instrument must be kept in a place which is airy and dry and no inflammables & explosives.
3. The security valve and Pressure gauge should be sent to qualified organization to check regularly to ensure the safety.
4. The volume of the inner cylinder can not be more than 4/5 of the total volume of the instrument.
5. Make sure the sealing ring not contact the oil to avoid steam loss because of the broken adhesive tape.
6. Things which are easy to explode when contacts the steam or boost abruptly during the sterilization are both strictly prohibited.
7. When you want to sterilize the liquid, it is advisable that use a durus Heat resistant glass wares to put the liquid, and the volume of the liquid can not be more than 3/4 of the wares, it is prohibited to use a wrapped rubber or cork at the mouth of the wares, it is advisable to use a cotton plugs.
8. It is prohibited to put sterilized goods (wound-dressing and liquids) with different type and different sterilizing requirement together into one instrument.
9. If the pressure indicator shows not right after long time use, you should have it serviced regularly
10. The security valve should also be examined regularly to ensure the reliability, if the security valve not take off when the working pressure above 0.17MPa, then this security valve should be examined and replaced, it is easy to arise accident because the security valve can not release the pressure well and make the inside of cylinder too much of the pressure.
11. The fuses should also be examined regularly, you should also replace it after long time use, if the instrument doesn't supply well when you connected to the power, then you should check if the plug and the socket or the fuses is broken or not.
12. transport and storing environment
 - A. required temperature: $-40\sim 55^{\circ}\text{C}$
 - B. required relative humidity: $<80\%$
 - C. required atmospheric pressure: $500\sim 1060\text{hPa}$
13. operating environment
 - A. Ambient temperature: $5^{\circ}\text{C}\sim 40^{\circ}\text{C}$
 - B. Relative temperature: when the temperature is lower than 31°C , the maximum relative humidity is 80%; When the temperature is 40°C , the relative temperature decreases linearly to 50%
 - C. Atmospheric pressure: the altitude shall not exceed 2000m;
 - D. AC power supply: $220\text{V} \pm 10\%$, $60\text{Hz} \pm 1\text{Hz}$

IX. Maintenance of the product

1. Examine the sealing effectiveness of all pipes and connections regularly.
2. Please check if the instrument be adequately grounded before you start to use the machine again after stop using of the machine more than one month.
3. Examine regularly to ensure the reliability of the sealed ring and flannel not drop out locally, please put the sealed ring into the water trough promptly to avoid sudden pressure releasing accidents because of sealed ring dropped out during the process of increasing the pressure.

X. PACKING LIST

1. ONE INSTRUCTION 2. ONE STERILIZER

XI. Failure handling

ITEM	Symptom of instrument failure	analysis of causes	solution
1	The time of filling into the water level regulator significantly extended	The water level regulator is blocked up with some foreign bodies	Clear the pipes or the detector.
2	The instrument doesn't arise temperature or pressure or the shell of the instrument with electricity	1、 The power supply don't connect well. 2、 electric heating tube is broken.	1、 Examine the power taps. 2、 Replace promptly
3	There is steam in the pressure gauge.	steam leakage between The connection	Tighten the connections.
4	The security valve take off ahead of the time when the working pressure still not reach the designed pressure.	Steam leakage from the security valve or security valve broken	Replace promptly
5	The indicator on the pressure gauge not move to arise or to zero.	1、 The copper pipe in the tail of the pressure gauge screwed too tight. 2、 The pressure gauge is broken.	1、 Screw heavily the connection of the pressure gauge in the tail 2、 Replace the pressure gauge.
6	There is an over pressure alarming when you set up the instrument or even in the normal pressure ranges.	1、 The pressure control button not adjust well. 2、 The pressure control button is broken.	1、 Properly adjust the voltage control switch: anticlockwise to increase, clockwise to decrease Replace the pressure control button.

XII. After-sales services

Without violation of the Rules of storing and application, the instrument can be guaranteed for a whole year after leaving the factory. But please take note that some easily damage parts are outside the range of the guarantee. For example: the electric heating tube, 40A Solid state relay, the water level detector.