

High temperature steam sterilizer

SPECIFICATION

- Before the installation, uses in front of this product, carefully read this specification

CATALOGUE

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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 steam sterilizer, please also pay special attention to those letters in bold, which is 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. When you first use the instrument, the safety valve and Pressure gauge on the instrument should be sent to qualified organization for examination and you should also have them examined regularly.
4. The instrument must be adequately grounded to prevent having an accident because of the electrified case.

II . Application of product

ZY series high-temperature steam sterilizer is used by teaching and research institutions to sterilize various instruments, dressings, glassware and other high-temperature and moisture resistant articles.

III. Classification of product

The equipment is floor mounted.

IV. Classification of the products:

1. product name description

$\frac{ZY}{I} - \frac{60}{II} \quad \frac{SR}{III}$

- I. Product code
- II. capacity size
- III. Function code (SR)

- 2 Classification of the products and explanation:

| Model | specification | voltage | power(electric heating tube) | heating methods |
|----------|---------------|---------|------------------------------|------------------|
| ZY—60SR | 60L | 220V | 3.5KW | electric heating |
| ZY—75SR | 75L | 220V | 3.5KW | electric heating |
| ZY—90SR | 90L | 220V | 5.2KW | electric heating |
| ZY—110SR | 110L | 220V | 5.2KW | electric heating |

V. Structure of the products



VI. Technical parameters

1. Rated working pressure of the instrument: 0.110~0.21MPa, rated working temperature: 121~135℃。
2. The power of the heating electric heating tube: 35L-60L 3.5KW, 80L-100L 5.2KW
3. working voltage: 220V/50Hz

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.(Note: Please wear anti scald gloves when operating!)

(1) M1 mode: Solid state mode

1. Make sure the instrument put on a solid flat surface in order to ensure the instrument working normally.
2. Open the device cover, then take out the sterilization chamber tube, pour an appropriate amount of water onto the electric heating tube, and the water level should be higher than the electric heating tube and float switch (note: the water should not exceed the tripod). After each use, it is necessary to replenish an appropriate amount of water in a timely manner to avoid burning the electric heating tube due to water shortage.

3. Stack the prepared items to be sterilized in sequence in the sterilization room, leaving gaps between the stacked bags to facilitate steam penetration and improve sterilization efficiency. The safety valve steam hole should not be blocked, and finally align the paddle with the travel switch and cover it..
4. Confirm that the power specifications are consistent with the power type required by the equipment, and that a reliable grounding is required before plugging in the power and turning on the switch.
5. After plugging in the power, turn on the power switch, set the sterilization working parameters, and press the start button to enter the preparation state.
6. Click again to start the sterilizer and enter the heating state. The automatic exhaust port opens, automatically discharging the cold air inside the pot. When the replacement temperature is reached, the automatic exhaust port will automatically close, and then the temperature will rise to the sterilization temperature before entering the sterilization countdown. (Note: Users can set the replacement temperature according to their own requirements, and can set the pulse exhaust frequency to 0-9 times, increasing the number of cold air exhaust times)
7. After sterilization is completed, the automatic exhaust port will automatically open for air release. (Note: Before opening the cover, the user should observe whether the pressure gauge is set to 0, pull up the safety valve pull ring to observe whether there is air discharged. If the air is not completely discharged, do not open the cover.) After the air is discharged, open the cover.
8. Finally, turn off the power switch and remove the sterilized item.

(2) M2 mode: liquid insulation mode

1. In order to ensure the normal operation of the sterilizer, it must be placed on a sturdy horizontal surface.
2. Open the device cover, then take out the sterilization chamber tube, pour an appropriate amount of water onto the electric heating tube, and the water level should be higher than the electric heating tube and float switch (note: the water should not exceed the tripod). After each use, it is necessary to replenish an appropriate amount of water in a timely manner to avoid burning the electric heating tube due to water shortage.
3. Stack the prepared items to be sterilized in sequence in the sterilization room. When sterilizing the liquid, the liquid should be canned in hard heat-resistant glass, with a volume not exceeding 3/4. Cotton yarn stoppers should be used at the bottle mouth, and tied rubber or wood stoppers are strictly prohibited. Do not block the steam hole of the safety valve, and finally align the paddle with the travel switch to cover it.
4. Confirm that the power supply specifications are consistent with the power supply type required by the equipment, and reliable grounding is required before plugging in the power supply.
5. After plugging in the power, turn on the power switch, set the sterilization working parameters, and press the start button to enter the preparation state.
6. Click again to start the sterilizer and enter the heating state. The automatic exhaust port opens, automatically discharging the cold air inside the pot. When the replacement temperature is reached, the automatic exhaust port will automatically close, and then the temperature will rise to the sterilization temperature before entering the sterilization countdown. (Note: Users can set the replacement temperature according to their own requirements)
7. After sterilization is completed, the automatic exhaust port will automatically open for air release (Note : If the exhaust interval time is set to 30 seconds and the exhaust time is 5 seconds, exhaust every 30 seconds for 5 seconds until the air is exhausted. If the exhaust interval time is set to 0 seconds and the exhaust time is 0 seconds, no exhaust will occur and the machine will naturally cool down)
8. When the temperature drops to the insulation temperature, the machine enters insulation mode. After the insulation is completed, open the cover (note: the user should observe whether the pressure gauge

is set to 0 before opening the cover, pull up the safety valve pull ring to observe whether there is air discharge, do not open the cover until the air has been completely discharged)

9. Finally, turn off the power switch and remove the sterilized item.

(3) M3 mode: melting insulation mode

1. In order to ensure the normal operation of the sterilizer, it must be placed on a sturdy horizontal surface.

2. Open the device cover, then take out the sterilization chamber tube, pour an appropriate amount of water onto the electric heating tube, and the water level should be higher than the electric heating tube and float switch (note: the water should not exceed the tripod). After each use, it is necessary to replenish an appropriate amount of water in a timely manner to avoid burning the electric heating tube due to water shortage.

3. Stack the prepared items in the sterilization room in sequence, leaving gaps between the stacked items to facilitate steam penetration. Do not block the steam hole of the safety valve, and finally align the paddle with the travel switch and cover it.

4. Confirm that the power supply specifications are consistent with the power supply type required by the equipment, and reliable grounding is required before plugging in the power supply.

5. After plugging in the power, turn on the power switch, set the working parameters, and press the start button to enter the ready state.

6. Click again to start the sterilizer and enter the heating state. When the heating temperature reaches the set melting temperature, the machine enters the insulation state.

7. When the temperature drops to the insulation temperature, the machine enters insulation mode. After the insulation is completed, open the cover (note: the user should observe whether the pressure gauge is set to 0 before opening the cover, pull up the safety valve pull ring to observe whether there is air discharge, do not open the cover until the air has been completely discharged)

8. Finally, turn off the power switch and remove the sterilized item.

(4) Custom mode

1. In order to ensure the normal operation of the sterilizer, it must be placed on a sturdy horizontal surface.

2. Open the device cover, then take out the sterilization chamber tube, pour an appropriate amount of water onto the electric heating tube, and the water level should be higher than the electric heating tube and float switch (note: the water should not exceed the tripod). After each use, it is necessary to replenish an appropriate amount of water in a timely manner to avoid burning the electric heating tube due to water shortage.

3. Stack the prepared items to be sterilized in sequence in the sterilization room, (1: There should be gaps between the stacked bags to facilitate steam penetration and improve sterilization effect) (2: When sterilizing liquids, the liquid should be canned in hard heat-resistant glass, with a volume not exceeding 3/4, and the bottle mouth should be filled with cotton yarn plugs), and the steam hole of the safety valve should not be blocked. Finally, align the paddle with the travel switch and cover it.

4. Confirm that the power supply specifications are consistent with the power supply type required by the equipment, and reliable grounding is required before plugging in the power supply.

5. After plugging in the power, turn on the power switch, set the sterilization working parameters, and press the start button to enter the preparation state. Click again to start the sterilizer and enter the heating state. The automatic exhaust port opens, automatically discharging the cold air inside the pot. When the replacement temperature is reached, the automatic exhaust port will automatically close, and then the temperature will rise to the sterilization temperature before entering the sterilization countdown.

(Note: Users can set the replacement temperature according to their own requirements.) After sterilization is completed, the automatic exhaust port will automatically open for air release. If the exhaust interval is set to 30 seconds and the exhaust time is 5 seconds, the air will be discharged every 30 seconds for 5 seconds until the air is exhausted. If the exhaust interval is set to 0 seconds and the exhaust time is 0 seconds, the air will not be discharged and the machine will naturally cool down.) When the temperature drops to the insulation temperature, the machine enters the insulation mode. After the insulation is completed, open the cover (note: the user should observe whether the pressure gauge is set to 0 before opening the cover, pull up the safety valve pull ring to observe whether there is air discharge, do not open the cover until the air has been completely discharged)

6. Finally, turn off the power switch and remove the sterilized item.

Circuit board setting program

| mode | program code | Parameter content | set range | Content Description |
|--------------------------------------|--------------|---|-----------|---|
| M1 mode (Solid state mode) | H101 | Replacement temperature | 0-110℃ | When the replacement temperature is reached, the exhaust solenoid valve automatically closes |
| | H102 | sterilization temperature | 0-135℃ | Suggest users to use within 121 ℃, 126 ℃, and 132 ℃ |
| | H103 | sterilization time | 0-9999min | Suggest users to sterilize within 45 minutes |
| | H104 | Drying time (optional function) | 0-9999min | Suggest users to dry within 30 minutes |
| | H105 | Pulse exhaust frequency | 0-9times | Suggest users to adjust according to actual needs |
| | H106 | Automatic/manual water inlet (Optional function) | 0-1 | Set 0 :automatic water inlet, Set 1 :manual water inlet |
| | H107 | Dry exhaust (optional function) | 0-1 | Set 0: End of sterilization and exhaust, Set 1: No exhaust |
| M2 mode (Liquid insulation mode) | H201 | Replacement temperature | 0-110℃ | When the replacement temperature is reached, the exhaust solenoid valve automatically closes |
| | H202 | sterilization temperature | 0-135℃ | Suggest users to use within 115 ℃ |
| | H203 | sterilization time | 0-9999min | Suggest users to sterilize within 45 minutes |
| | H204 | holding temperature | 40-90℃ | After sterilization, the machine enters Set insulation temperature and time |
| | H205 | Holding time | 0-9999min | |
| | H206 | Exhaust interval time | 0-250secs | Note: Exhaust interval time 0 and exhaust time 0 refer to non exhaust and natural cooling Users can set according to their own needs |
| | H207 | Exhaust time | 0-60secs | |
| M3 mode (Melting insulation mode) | H301 | melting temperature | 60-100℃ | Agar can be heated, melted, and insulated Or preheat the sterilization chamber. |
| | H302 | Melting time | 0-9999min | |
| | H303 | holding temperature | 40-90℃ | |
| | H304 | Holding time | 0-9999min | |
| Customize | P1 | Replacement temperature | 0-110℃ | When the replacement temperature is reached, the exhaust solenoid valve automatically closes |
| | P2 | sterilization temperature | 0-135℃ | Suggest users to use within 121 ℃, 126 ℃, and 132 ℃ (Liquid sterilization is recommended for users to use within 115 ℃) |

| | | | |
|-----|---|-----------|---|
| P3 | sterilization time | 0-9999min | Suggest users to sterilize within 45 minutes |
| P4 | Drying time (optional function) | 0-9999min | Suggest users to dry within 30 minutes |
| P5 | melting temperature | 60-100℃ | Agar can be heated, melted, and insulated Or preheat the sterilization chamber.(Note: In custom mode, drying time |
| P6 | Melting time | 0-9999min | |
| P7 | holding temperature | 40-90℃ | When the setting is greater than 0, the melting and insulation temperature and time cannot be set |
| P8 | Holding time | 0-9999min | |
| P9 | Automatic/manual water inlet (optional function) | 0-1 | Set 0 :automatic water inlet, Set 1 :manual water inlet |
| P10 | Dry drainage (optional function) | 0-1 | End of sterilization, 0 drainage, 1 no drainage |
| P11 | Counter | ----- | Record the number of times the machine has been used |

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 durable 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 0.24MPa, 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. transport environment
 - A. required temperature: $-40\sim 55^{\circ}\text{C}$
 - B. required relative humidity: $<80\%$
 - C. required atmospheric pressure: $500\sim 1060\text{hPa}$
12. storing environment
 - A. required temperature: $-40\sim 55^{\circ}\text{C}$
 - B. required relative humidity: $<80\%$
 - C. required atmospheric pressure: $500\sim 1060\text{hPa}$

IX. Maintenance of the product

1. Examine the sealing effectiveness of all pipes 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.
4. cleanup scales on the instrument and the electric heating tube regularly to prolong the lifetime of the electric heating tube and the whole machine.