

**DW-280D(Digital: 18L/24L/30L)  
PORTABLE STEAM STERILIZER  
User Manual**



Please read operating manual before installation and operation.

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## **Warm tips**

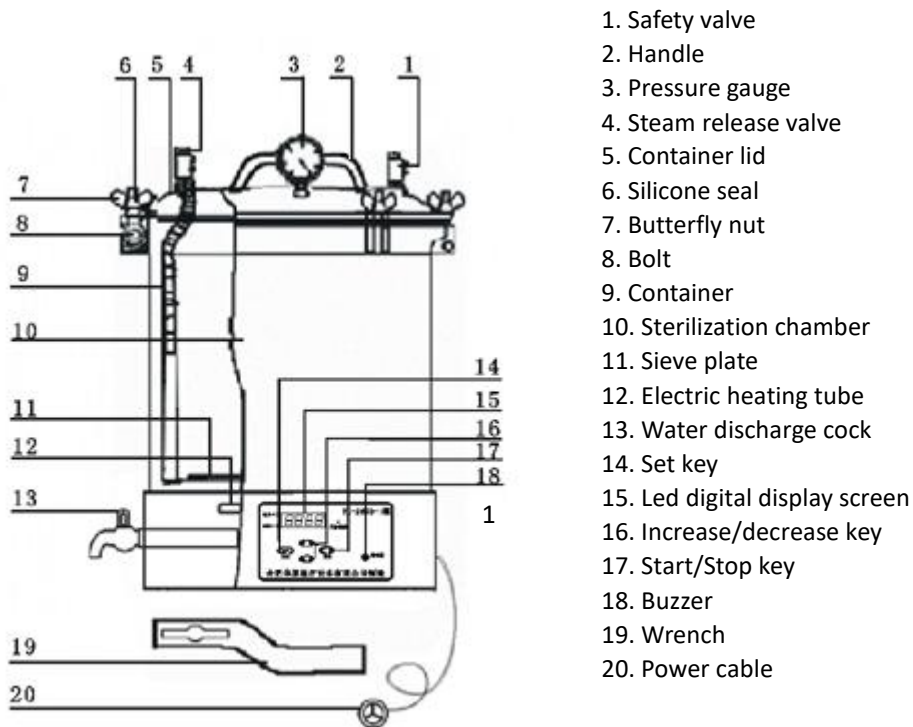
1. Please read the instruction manual carefully before operating the equipment, and make the book well-kept, so that you can make reference to and we can serve for you in the future .
2. We are not responsible for the damage and malfunction due to improper installation, operation, moving, and other contrived reasons.
3. If the safety valve doesn' t vent even when the pressure gauge pointer exceed 0.165Mpa, stop using immediately and check its sensitivity. Don' t strike the apparatus during using; never use the machine under over-high pressure condition; pressure gauge must be checked 1-2times every year to ensure its accuracy.
4. The equipment should be keep clean and dry in ordinary times, pour water out of container when finishing using, to help to prolong the life of the sterilization machine.
5. Check the sealing ring to find whether abrasion or aging occur, and change it timely, to ensure its sealing capacity.

## **Brief introduction**

The sterilization machine we produce for objects sanitation and sterilization works through saturated high-pressured steam, it has following advantages of being easy to operate, heating up quickly, sterilizing thoroughly etc. It can be used in hospitals, academies of health, health care stations, infirmaries in mineral factories, laboratories, cosmetic factories, food

factories, scientific research centers and so on. It can work on medical apparatus, dressing, glass utensils, solution, culture medium, etc. It can also be used as cook instrument in Altiplano area.

## Main body structure



## Structure characteristics

1. The main body of the container to our product is made of high—quality stainless steel with one portion of Gr, eighteen of Ni, nine of Ti. Our product is not only acid—proof, alkali—proof, but also safe and durable to consume, its life is three times longer than aluminum metal alloy product.
2. Our product heated up by immersion electric heating tube, consumes little power, while temperature goes up quickly.

3. Vary heating method available, such as liquefied gas, coal gas, coal gas stove, firewood, etc.
4. The safety valve can release over-high pressure automatically when the steam pressure exceeds 0.165MPa to insure the safety.
5. The pressure gauge is designed to have double scales, with two types of reading to show pressure and temperature clearly.

### **Technique parameters**

1. Capacity of disinfect cylinder: 0.018 m<sup>3</sup>、0.024 m<sup>3</sup>、0.030m<sup>3</sup>
2. Working pressure rating: 0.14MPa
3. Maximal safety pressure: 0.165MPa
4. Power source pressure: 220V
5. Power of electric heating tube: 2.0kW

### **Installation and debugging**

1. Take out the product from the packing box properly.
2. The apparatus must be installed on flat surface; not in rugged ground.
3. The left ,right and back sides of the apparatus should be kept away from walls by 15cm at least.
4. To be sure the power source voltage is in accordance with the demand of the apparatus, and dependable earth wire required.
5. Don' t locate the apparatus near inflammable gas sources; it should be installed in dry and ventilate environment.

## **Operating instructions**

- 1. Adding water:** it can be used when 3.5L water has been added into the container, but the water level can't exceed the three shelving plane which is under inner barrel. Water rating must be supply enough during recycle use, in order to prevent damaging the electric heating tube due to water shortage.
- 2. Heaping objects:** Put these objects needed to be sterilized on sieve plate, there should be gaps among these packed objects, to help steam to permeate and improve working quality.
- 3. Air proofing:** put the sanitizing cylinder into the container, and then insert the soft tube which is on container lid into the semicircle groove in the cylinder , screw the container lid with wing-shaped nut in container tightly, make no distance between the lid and container.
- 4. Heating:** The power cord into the electrical socket outlet, confirm the emergency stop knob turn on, open the air switch, open the control switch, digital display on the row measured barrel temperature, the next row of digital display set sterilization temperature.

(1) Press setting key, the row digital display temperature code (SP), digital display temperature value, click the Change button; adjust to the required sterilization temperature. (Onset temperature is the last set temperature)

(2) Press setting key again, the row digital display of time code (ST) and the time values, click the Change button, adjusted to required sterilization temperature, ST is "0", the controller cancel timer

function (start time set is the last time).

(3) The third time to click the set button to confirm setting parameter, the digital control to return to display the main interface

(4) Press the start /stop key, start sterilization, running lights flashing, at this time should open steam valve cap. To escape the cold air inside the sterilizer, when the steam valve ejected hot steam, (temperature is about 100° C), closed steam valve till to the end of work, buzzer alarm is on, digital display under the row show “End” .

(5) If you want to cancel the sterilization work order, press the start / stop button for 3 seconds, the controller stops working, buzzer alarm is on, press any key to stop the noise. When water is shortage, the controller automatically stops working. Alarm is on, and presses any key to stop the noise. In case of emergency, timely press the emergency stop knob. Turning on the power before solve the problems.

## **5. Cooling**

When the sterilization is finished, first, you should turn off the power, let it cool down to a pressure gauge reading zero and then back to open steam valve and the container lid, not the end of the sterilization, immediately open the exhaust valve or open the container lid, avoid boiling solution overflow, causing the accident

## **Notice the use and maintenance**

1. Sterilizer used must be operated in accordance with the contents of this note, to prevent accidents.
2. Should ensure that the water, the water level is too high, too wet dressing and a waste of power, the water level is too low the equipment will not work, so if you need to carry out disinfection and sterilization should add proper water.
3. Start heating, steam release valve must be open; to make the cold air to escape, otherwise they will not get a good sterilization effect.
4. Every time after the disinfection and sterilization must turn off the power switch.
5. Sterilization of the solution, the solution should be poured into the high temperature inside the bottle, poured into the volume of the bottle 3 / 4 of volume is appropriate, the mouth stuffed with gauze and avoid the cork with no ventilation.
6. After sterilization is finished: If the sterilized object is a solid article, the two safety value can be switched to steam let-out position and when of the pressure gauge return to “0” position, the cover of the container can be opened, if the sterilized object is a solution or culture medium, never let out steam immediately. You should first turn off the power and wait till the hand of the pressure gauge return to “ 0 ” before opening the cover of the container.
7. After sterilization, drain the water from the sterilizer while it is hot and clean the water stain in the container to improve the quality

of sterilization, save energy and prolong the service life. If there is much water stain that cannot be cleaned, the solution made up of 10Kg of water. 1kg of caustic soda and 0.25kg of kerosene can be used. Put the solution into the container and let it soak for about 10 hours. Then clean the water and finally rinse with clean water.

8. Replace the sealing washer in time as it will age after a long time of use and affect the sealing effect.

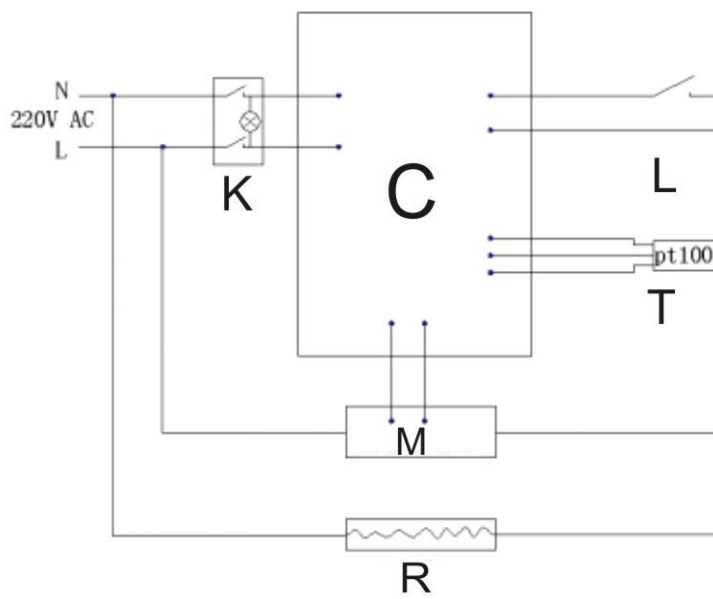
9. The pressure gauge should be tested at least once a year. If the hand of the gauge cannot return to “0” position, it should be professionally repaired or replaced, otherwise the sterilization effect and safety will be affected.

### **Different Materials Sterilization Time & Pressure & Temperature**

Object of sterilization	Time For temperature holding(min)	Steam pressure (gauge pressure)			Relative temperature of saturated steam
		Mpa	Kgt/cm <sup>2</sup>	Lbf/in <sup>2</sup>	
Rubber	15	0.1- 0.105	1 -1.05	14.3 - 15	121°C
Dressing	30 - 45	0.105 - 0.14	1.05 -1.4	15 - 20	121 - 126°C
Utensils	15	0.105 - 0.14	1.05 -1.4	15 - 20	121 - 126°C
Appliances	10	0.105 - 0.14	1.05- 1.4	15 - 20	121 - 126°C
Bottled solutions	20 -40	0.105 - 0.14	1.05 - 1.4	15 - 20	121 - 126°C

**DW-280Digital Circuit Diagram**





1. K —— Control switch
2. C —— Control panel
3. L —— Lever sensor
4. T —— Temperature sensor
5. M —— Solid-state relay
6. R —— Electric heating tube

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