Kalstein

Vertical Pressure Steam Sterilizer
Model YR05687
Instruction Manual

Thank you very much for purchasing our Kalstein's Vertical Pressure Steam Sterilizer YR05687.

Please read the "Operating Instructions" and "Warranty" before operating this unit to assure proper operation. After reading these documents, be sure to store them securely together with the "Warranty" at a hand place for future reference.

 Warning: Before operating the unit, be sure to read carefully and fully understand important warnings in the operating instructions.

Kalstein

OUR SERVICES

Benefits and Support

In Kalstein France, we take care of the full satisfaction of our customers, that is why we provide value-added services of the highest level based on our experience.

Online Inductions and Trainings

In any part of the world, receive your induction or training from our specialized team of engineers

Quick Response

Our work team is always available to response all your consults or questions, in order to support you in any situation.

#Letsgivemore

Thanks to your purchase, a donation will be made to a non-profit foundation that fights against breast cancer and helps most vulnerable communities.

Technical Support

Enjoy of personalized advice for the correct preventive and corrective maintenance of your equipment, thanks to Kalstein's manuals and articles, special catalogues and video tutorials.

Delivery Logistics

We take care of all the necessary logistics for the dispatch of your goods, whether is by sea, land or air.

Kalstein Worldwide

With more than 25 years growing with our customers, Kalstein's multiformat and modern content, is now present in more than 10 countries and increasing.

Generation

Model YR05687 Vertical Cylindrical Pressure Steam Sterilizer is installed with an electrical heater, a timer, an automatically pressure-temperature controller, a safety valve, a releasing valve, a pressure-temperature indicator, an alarm bell for finished sterilization and an instrument to automatically cut off the power of heater. It has the advantages of effective sterilization, convenient operation, safe, less electricity consuming and cheap. It is ideal equipment for clinics, scientific research institutes and other organizations to sterilizer surgical instruments, fabrics, glasses, culture media etc.

Main Technical Data

1. Valid volume: 150L
2. Working pressure: 0.22MPa
3. Working temperature: 134℃
4. Heat average: ≤±1℃
5. Timer: 0 – 60 min
6. Pressure-temperature controller: 109 – 134℃, 0.04 – 0.22Mpa
7. Power: 6.0KW/220V, 50Hz
8. Overall dimension: 660mm x 640mm x 1130 mm (L x W x H)
9. Transport dimension: 730 mm x 730 mm x 1280 mm (L x W x H)
10. Weight: gross:128kg, net: 110kg

Sketch diagram

1. Housing
2. Drainage knob
3. Control board
4. Overload power switch
5. Pilot
6. Timer
7. Spanner
8. Pressure-Temperature selection knob
9. Handle
10. Releasing valve
11. Brand
12. Safety valve
13. Lid of the container
14. Tightening bolt
15. Gasket
16. Flange
17. Pressure gauge
18. Sterilization pail
19. Container
20. Water level
21. Power cable

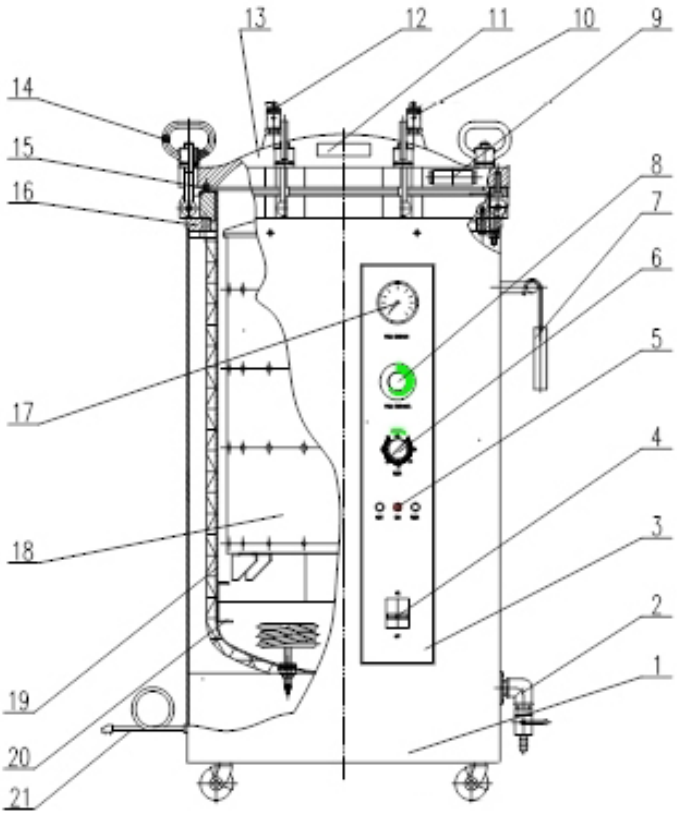


Figure 1

Structure Characteristics

1. The structure of the unit is a single layer cylindrical body. Its design, manufacture and inspection are strictly operated in accordance with the State Standards of Utilization Safety of Pressure Vessel (see the Quality Certificate for the details).
2. The main body is made of good quality stainless steel, and has the features of anti-corrosion, easy maintenance and long service life.
3. The outline of the unit is square. The displays and the control switches are centered on the controller board in

the front of the unit. It is convenient.

4. A steam pressure stabilizer is used, the range is 0.04 – 0.22MPa (equal to steam temperature range: 109 – 134℃), to sterilize different objects.
5. The unit has a timer, when the temperature is up to the point of pre-selection, the timer indicator lights. The timer will time automatically. After sterilization, it will automatically disconnect the power and then alarm.
6. The electrical-heated elements of the unit are immersion tubes (4.5kw/220v) with high heating effect. It should be grounded reliably.
7. A spring safety valve (rated pressure: 0.22MPa) is used. During normal sterilization, it is at “off” position. As soon as the pressure in the pail surpasses the working pressure, the valve will automatically jump up and release steam, until the pressure returns normal, then it closes automatically. To ensure the operation safety.
8. An overload and leakage protector (OLP) is used; it will automatically disconnect the power when over-voltage or leakage occurs.

Operation Procedure

Operation procedure:

Add Water – Pile Objects – Seal Lid – Preset Temperature – Set Sterilization Time - Heat (Exhaust cold air) – Sterilize — End.

Add water:

Open the cover, take the sterilization pail out, and pour clear soft water (about 15L) into the unit till the water reaches a marked line in the unit, not too much. During sterilization water will falls down step by step for being vaporized. If re-sterilization is needed, please re-pour water.

Pile object:

Bind the objects to be sterilized, then pile them in order on a sieve board in the pail. The suitable gap must be kept between package. Generally the volume of the package should not be larger than 20 x 20 x 10cm.

Seal lid:

Put the pail into the unit, close the cover, then turn the tightening bolts evenly to seal the cover . Don't turn too tight to prevent the rubber gasket will be damaged.

Preset sterilization time:

The customer can preset the required sterilization time (see form 1) according to following table. Turn the timer knob on the time line you wanted clockwise. When it reached the preset temperature, the pilot of time light, the timer start to count automatically.

Reference table to sterilization time and temperature (form I)

Objects	Required Heat Preservation Time (min)	Steam Pressure Mpa	Relative Steam Temperature ℃
Rubber goods	15	0.1 – 0.11	121
Surgical dressings	30 - 45	0.1 – 0.22	121– 134
Utensils	15	0.1 – 0.22	121– 134
Instruments	10	0.1 – 0.22	121– 134
Solution in flasks	20 - 40	0.1 – 0.145	121– 126

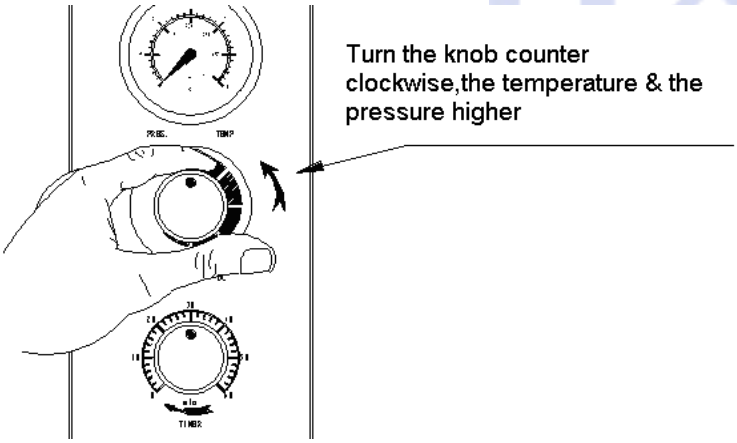


fig.2

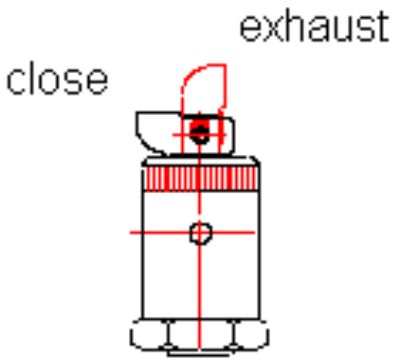


fig.3

Preset sterilization temperature

Preset sterilization temperature is used by pressure-temperature controller, the range is 109℃~134℃, the value of preset temperature reduce while turn the knob clockwise, otherwise the value increase. The full value is 134℃, the machine had been adjusted at Max. value 134℃ when it leave the factory. Users can preset freely the sterilizing temperature according to demand, (see fig.2)

Heat (Exhaust cold air):

Turn on the switch of the Overload and Leakage Protector and turn on the power switch, the power indicator lights, the unit enters working state, “Heating” pilot light . At the beginning of heating should open the exhaust valve (fig.3), after some steam get out, then close exhaust valve, this time the cooling air inner had been exhaust, so as promote effect of sterilizing.

Sterilize:

When the pressure and temperature in the pail reach the preset value, the heating indicator extinguishes, this time the value on the pressure meter just is you preset value. If you feel the value not enough you can turn the pressure-temperature controller counter-clockwise. Thus the heating pilot light, the temperature value higher then previous, until to the value you wanted. Then the machine will auto enter constant temperature control state in the range of timer. Meanwhile the timer count automatically, time pilot light until reach the preset time, then main circuit be cut off, buzzer sound and the sterilize end.

End:

Turn off the power switch. If the sterilized things are surgical dressings and utensil instruments, you can exhaust the steam in the sterilizer though the releasing valve (or open the safety valve at the same time). When the pointer of the pressure gauge returns to “Zero” position, one minute later open the cover, take the sterilization pail out.

If the sterilized things are solution, or culture media or etc, prohibit opening the releasing valve immediately after sterilization, otherwise the solution will furiously be boiling, thus the bottles will break up and the liquid will leak out because the pressure in the bottles suddenly falls down. Generally, waiting 20 to 30 minutes till the pressure in the vessel falls down to “zero” position. Then open the releasing valve and the cover, take out the pail.

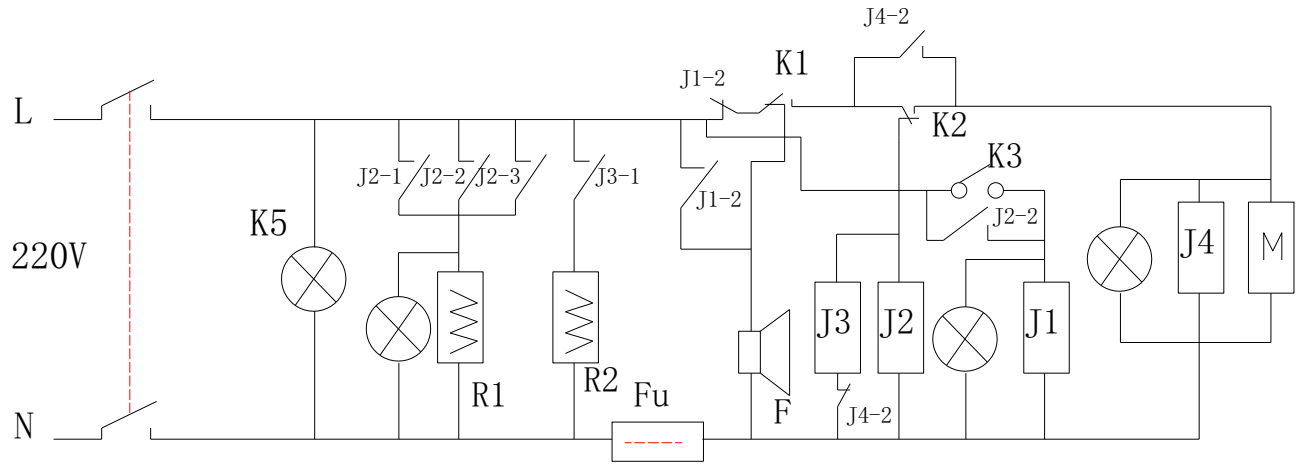
Attention and Maintenance

1. The operator of the sterilizer should have the operation knowledge and responsibility to regularly maintain the unit to prevent any accident.
2. There should be enough water (about 12L) in the unit, keep the water up to the mark of level line, but too much water will take a long time to make the surgical dressings dried.
3. At the beginning of heating, the releasing valve must be turned to “releasing” position, to exhaust cool air in

the pail.

4. Please don't sterilizing different kinds of objects at the same time, such as surgical dressings and solution, rubber goods and instruments, otherwise, it will not be result in effective sterilization.
5. The solution which will be sterilized should be filled in heat resistant flasks, but don't fill too full. 1/2 – 3/4 of the volume are good. The flasks should be plugged with absorbent gauze, in no wise with the non-pore plugs, such as rubber of cork stoppers. The flasks should be placed in a tray and then in the container in case the flasks may break up and solution will remain in the tray and will not contaminate other articles.
6. Every day after sterilization, drain the water from the sterilizer by opening the draining valve on the right bottom of the unit, dry the sterilizer and scrub the water stain, to improve the quality of sterilization and prolong the service life of the sterilizer.
7. Use a recording thermometer, sterilization indicative agent or other biological methods to check the required temperature and time, to fit a reliable sterilization effect.
8. After long time used the pressure gauge may be not precise. If the read-out is not precise or the needle fails to return to “zero” position, the gauge should be sent to a technical department for repair or replaced by a new one.
9. The gasket of the lid may become hardened after a long time used, change with a new one.
10. Generally, once the pressure-temperature selection knob is preset at a certain value, it is unnecessary to re-adjust and can repetitively be utilized. However, attention should often be paid to check if the value changes or not.
11. Open the releasing valve to exhaust steam then put down the spanner. In case a great amount of steam is leaking out, pull the spanner up and down several times, the leakage will be stopped.

⚠ Reliable, the ground wire must be connecting to earth.



No.	Code Name	Name	Amount	Model / Standard
1	J1	Relay	1	JTX-3C AC220V,10A
2	J2	Relay	1	JTX-3C AC220V,10A
3	J3	Relay	1	JTX-3C AC220V,10A
4	J4	Electric magnetic	1	JTX/AC220V
5	F	Buzzer	1	AC220V~250V
6		Pilot	3	ZD7-11
7	K1	Circuit breaker	1	30A/AC220V
8	K2	Timer	1	DS60/2.5A Normal open
9	K3	Pressure controller	1	AC220V/5A
10	RH1~RH2	Heating element	3	AC220V/2.0KW