Model BellTM-T24J

TABLE TOP STEAM STERILIZER

INSTRUNCTION MANUAL OF OPERATION

USER'S MANUAL

CONTENTS

I.OUTLINE

BellTM-T24J Desktop Fast Pressurized Steam Sterilizer is a mini medical sterilizing device. The sterilizer uses electric heater to heat the pure water, which was put in advance in the sterilization chamber. The pressurized steam generated meets the sterilization requirement and sterilizes the objects needing sterilization. The sterilizer is equipped with a pressure controller which can be pmutekey at within the working pressure range of 0.07Mpa-0.2Mpa(10Psi~30Psi), the temperature could be 115℃~134℃(239℉-274℉). The sterilizer is also equipped with a timer to control the sterilization time. It can be pmutekey at within 0~ 60 minutes according to sterilization requirement, also with the function of drying, and has heater overload protection and sterilization ending buzzer alarm functions. The sterilizer can be easily operated and is safe and reliable. The waste steam in sterilization chamber and safety valve is discharged into water tank of the sterilizer to ensure a clean and dry working environment.

This product is widely used in antisepsis and sterilization for medical dressing utensil, medicine, medical instruments, and etc. It is especially suitable for prompt sterilization of various kinds of operation instruments in urgent need as prompt supplementary to operation room of medical unit. It also can be used by enterprises and scientific research units as an idea device to carry out asepsis experiment.

The working environment and condition of the product:

1) environment temperature: 5~40℃
2) Relative humidity: ≤80%
3) Atmospheric pressure range: 86~106 KPa
4) Power supply:

AC220V±22V, 50Hz±1Hz (should have ground lead)

Transport and storage environment and condition:

1) environment temperature: -10~50℃
2) Relative humidity: 10%~90%
3) Atmospheric pressure range: 50~106 KPa

This product equipped with safety valve, and will auto release when steam pressure over 0.22Mpa, when the temperature over 140℃(284℉), the power auto be cut-off double safety protection. It also equipped with water-off overheat protection, current overload power cut-off protection, and the sterilizer's door safety interlock device, is a safe and reliable product.

II. Structure & Working principle

1. General structure

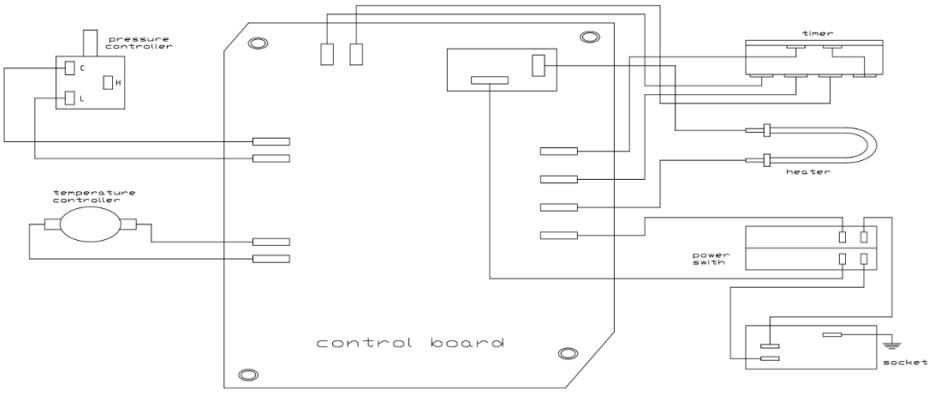
This product buildup by sterilize chamber, instrument plate, water tank and control system (fig.1)

1. Safety valve 2. Exhaust valve
3. Handle 4. Sterilization chamber
5. Door of sterilization chamber
6.Rotate handle
7.Opening handle
8.Instrument pla 9. Clip
10.Pressure meter 11.Control system

(fig.1)

2. Working principle

The sterilizer is designed by using gravity type pressurized steam sterilization principle. Put 0.6liter of distilled water into sterilization chamber, use electric heater to heat directly to produce pressurized steam. The pressurized steam act with microorganism on the objects to be sterilized to destroy its structure and reach the purpose of sterilization.



diagram

Electric diagram (Figure 2)

. III. SPECIFICATION

, 1) Maximum working pressure: 0.2Mpa(30Psi),

2) Maximum working temperature: 134℃(274℉)

3)Sterilization pressure(temperature) choice:0.07~0.2Mpa(10Psi-30Psi)

115~134℃ (239℉-274℉)

4) Timer range: 0~60min;

5) Valid vo1ume of the sterilizer: 24L (Φ270X430mm)

6) Dimension of the instrument plate: 12" with holes 340mm×200mm×30mm (3 件),

7) Power supply: l.5KW/AC220V, 50Hz

IV. Dimension & Weight:

1) Dimension: 650X350X 500mm (25L)

2) weight:18Kg.

.V. Installment & Adjustment

l) The Sterilizer should be put on a horizontal working table with all four supporting feet contacting the table surface evenly;

2) Check to see whether the power supply condition conforms

to the product specifications.

.VI. OPERATION

l) The preparation and inspection before use

1.l Inspection the power supply

l.1.2 Power supply data conform to product requirement. Single phase (AC220V, 50Hz).

l.1,3 Connecting to the power supply;

l.1.4 Make a reliable earth connection

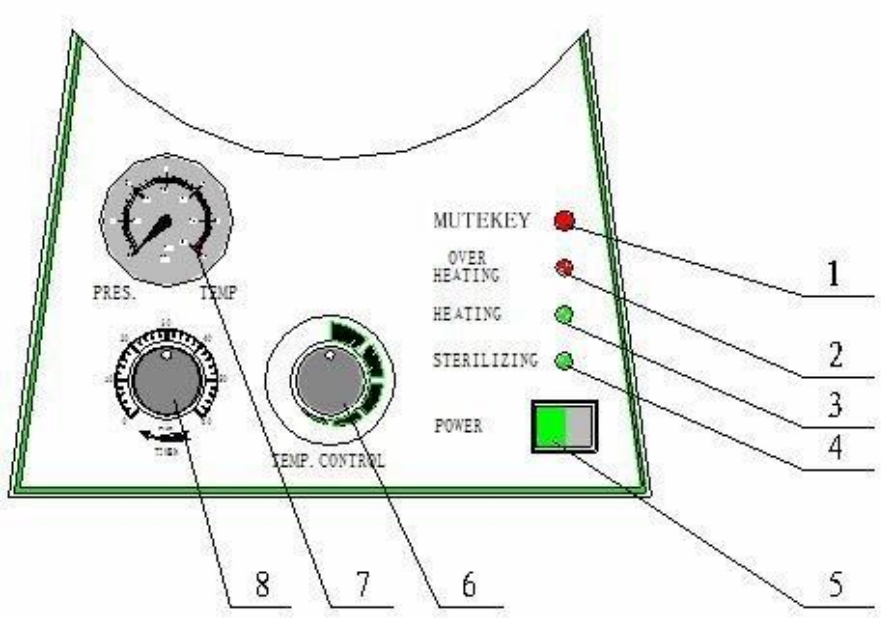
1.2 Prepare 0.2-0.3 liters of distilled water.

l.3 The binding of dressing and textile can not be too tight

1.4 Certain amount of sterilization indicator (chemical indicating piece or biologic indicating piece)'

1.5 The instruction of operating key, indicating lamps, switches and relevant marks.

2.l Operating panel (See Figure 4)



1.Mutekey switch 2. water-lack indicator 3.heat indicator 4. sterilizing indicator

5.power switch (with indicator) 6. temp./pressure controller 7.pressure meter 8. timer switch

fig.4

2.l .l Pressure gauge

Mpa(Psi) display the inner pressure of the sterilizer, ℃ (℉) display the inner temperature

2.l .2 Knob

2.1.2.1 TEMP.CONTROL setting sterilizing pressure (temperature)

Use for setting sterilizing pressure 0.07~0.2Mpa(10~30Psi), corresponding temperature 115~134℃ (239~274℉)

2.1.2.2 TIMER setting sterilizing time

Use for setting sterilizing time you can choose according to different sterilizing objects, the range 0~60min.

2.l.3 Indicating lamp

2.l.3.l POWER

Light when connected to power source, indicating the sterilizer is powered on..

2.1.3.2 HEATING

Lighting. indicating the sterilizer is heating.

2.1.3.3 OVERHEATING

Lighting indicating that sterilizer is over-heated trouble

2.1.3.4 STERILIZING

115~134℃ (239-274℉) is sterilize temperature, lightened means the temperature in the room be reached.

2.1.4 MUTEKEY

When water be cut off and over heat in sterilize room and start machine again, you must push this switch, renew the operation will be effective.

2.1.5 Power Switch

It keeps light when the unit be turned on.

3) Sterilizing operation

3.l Fill water to water tank (see fig.5)

Open the door of sterilizer and fill 0.6 liters of distilled water into the tank. After the distilled water enters the sterilization chamber completely, please watch the water flow out at the water level mark.

3.2 Load the objects to be sterilized

Load the objects to be sterilized in instrument plate. covering the cover then open the exhaust holes of the plate, After loading the objects to be sterilized, close the door of sterilizer.

(Closing the sterilizing door please attention: first push the opening handle into the hole, then rotating the door's handle clockwise. (see fig.6)

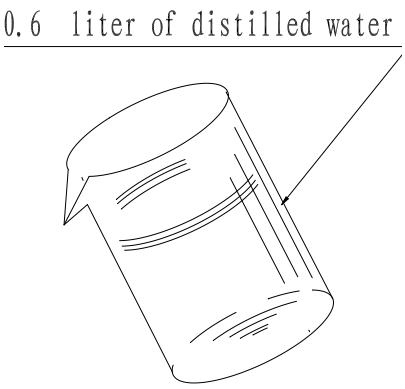


fig.5

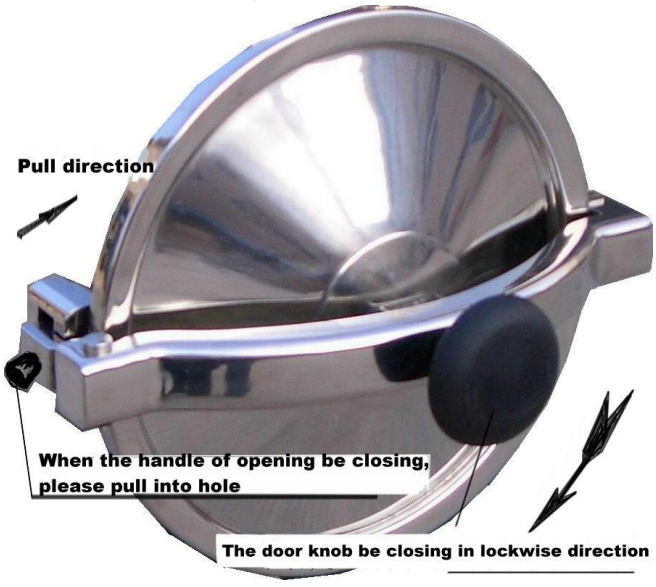
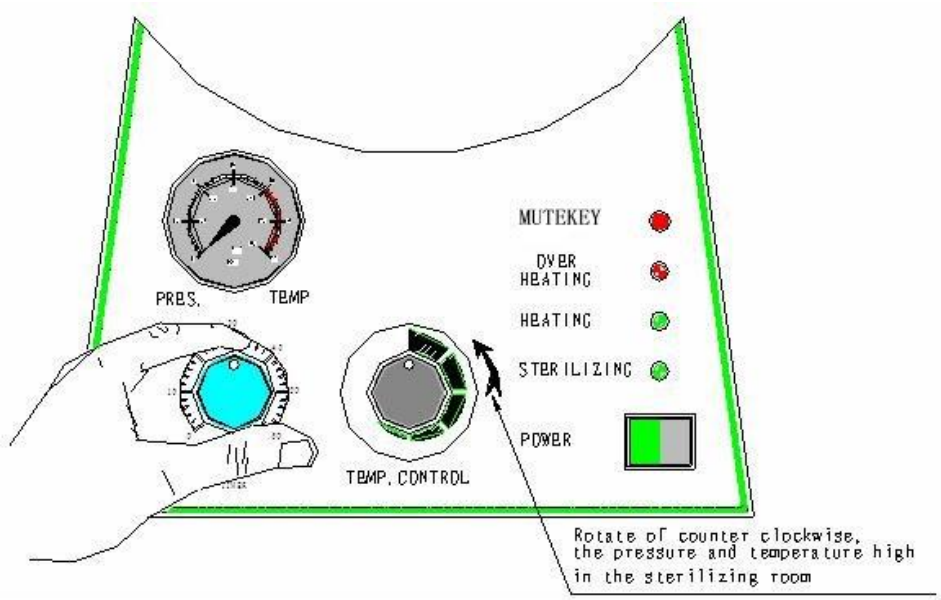


fig.6

3.3 Set sterilization temperature

Set the sterilize pressure 0.07~0.2 (10-30Psi), related temperature 115~134℃(239-274℉)(see fig.7)



3.4 Start the device

Turn on the power switch, the lamps of power be lighten, the machine enter the standby state. Buzzer alarm means you can pmutekey sterilizing time.

3.6 Set sterilization time

Set sterilize time (according to different objects, you can choose related time, the range is 0-60min.), then the buzzer alarm stop, HEATING be lighten, start to heating automatically. **(meanwhile please open exhaust valve, make the cooling air in the container get out automatically, until the cooling air be exhaust out then close the exhaust valve, thus the temperature is equal inner, and make the pressure go up quickly.)**

3.7 Pressure gauge

The data of the pressure gauge is for user to reference.

3.8 Start to sterilize

When the pressure, temperature reached the setting demand, it enter the state of sterilizing, STERILIZING be lighten, meanwhile it keeps the permanent pressure in the sterilizing room, the light HEATING flash, the pressure and temperature meter display real room temperature. It

Start to back timing.

3.8.1 Sterilize

When it reached pmutekey sterilizing time, and the back timing end, the heating will be cut automatically, the light blanking, meanwhile the buzzer alarm. Means the sterilizing end. This time please turn off the switch of the circuit breaker.

3.8.2 End sterilization

Turn the control valve at EXHAUST, watch the pressure meter, after the pressure turn to zero,

It means the air and water be exhaust out, then turn the handle counter clockwise, open the door, take out the object, and the operation end.

3.9 Safety protection device

3.9.1 Water-off & over-temperature protection. When the heating element is heating without water, the power supply will be cut.

3.9.2 Over-current protection. If the current exceeds the rated value, the power broken circuit will cut power automatically.

3.9.4 Safety valve. When the pressure exceeds 0.22Mpa(34Psi), the sterilizer will automatically exhaust to drop the pressure.

Ⅶ. MAINTENANCE

l. To ensure the reliability of the sterilization effect chemical indicating piece of biologic indicating piece must be put into the sterilization chamber, together with the: objects to be sterilized. After sterilizing, the sterilization effect can be checked.

2. Safety valve and the exhaust valve are on the top, Safety valve must be checked once every year If it is in malfunction, replace it. If the safety valve is in malfunction during use and the pressure keeps increasing, the power supply must be cut to ensure a safe use.

3. The rubber seal ring is easily aged. If aging causes leakage, the seal ring should be replaced in time.

4. The pressure meter must be standardization every year.

5. The machine must be keeping clean, and protecting the incrustant occurs on the surface, often method is wash it with distilling water once a week.

6. If the overheat protector be damaged, you just take of the round cover on the bottom, and change the protector.

7. Ordinary trouble and repair

trouble	possible cause	solve method
Buzzer alarm, meantime OVER HEATING flash.	The chamber's water too little, and the heat element drying heating.	Turn control valve to FILL, fill water to chamber 1-1.2 L at least
	Over heating protector broken	Replace the protector.
Circuit switch (power switch) suddenly cut off	Over current lash.	Inspect source power net.
	Electric short circuit	Inspect sterilizer's circuit, if the burn smell occur, replace the part be burned.

The principle diagram contained herein is only for reference and subject to change without notice

8.Main electric elements

Number	Code	Name	Model/Standard	Amount
1	Z	Single Phase Three Grade Flat Plug	AC220V/10A	1
2	ZD1~3	Pilot Lamp	ZD7~11	3
3	F	Buzzer	AC220V	1
4	K1	Boat-shape switch(with lamp)	KCD2-22N74/AC250V/10 A	1
5	K3	Temperature control switch	T-0.05-0.24	1
6	K2	Sealed Dish-shape Temperature Control	140℃±3℃	1
7	K4	Button-Switch	AN4 2X2	1
8	K5	Time switch	DS60/AC220V,10A	1
9	RH	Electro-heat Tube	1.5KW/AC220V	1
10	J1	Relay	JTX-3C/AC220V	1
11	J2	Relay	JTX-3C/AC220V	1
12	J3	Electric magnetic iron	JTX/AC220V	1

13		Socket(with fuse)	3GTJE3	1

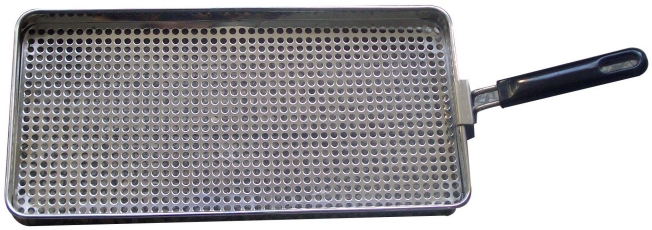
Ⅷ. NOTICE:

1. The different kinds objects and the objects that will affect each other during the process of sterilization could not be sterilized in the same sterilization chamber at the same time.
2. Sterilization spare parts;

2.1 Sterilizing plate with cover: mainly to put instruments.

2.2 Drum: use for put dresses.

2.3 Claps: use for moving sterilization plate from chamber. (see fig.8)



(fig.8 use of clap)

Ⅸ. WARNING ⚠

When the pressure exceeds 0.22Mpa(34 Psi), the sterilizer should automatically exhaust to drop the pressure. If safety valve fails and pressure keeps increasing, please cut off the power as soon

as possible. The warning mark is on the rear panel of the apparatus.