

TABLE TOP STEAM STERILIZER

User Manual



Please read operating manual before installation and operation.

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Safety precautions:

Please read this safety warnings and precautions provided by this user guide to ensure that you are safe to use Steam Sterilizer.

1. Please use separate protection three 220V/10A power socket grounding, make sure grounding protection was connected.
2. Please put plug fully inserted into the power socket, please don't use the specified outside power Source.
3. Do not use wet hands to pulling plug.
4. No damaged, modified, pull, excessive bending or twisting power cord, also do not put heavy objects on the power Source line.
5. Please don't place the sterilizer on the worktable of instability, such as tables, shake or slant Position of vibration.
6. Please do not obstruct or cover the sterilizer door, vent or radiating window.
7. Please don't put anything on the sterilizer.
8. If you found sterilizer with odor or abnormal noise (not including the pump or vacuum pump working)during use period , should immediately cut off the power supply, then contact with the local dealer or our after sales Service Department .
9. Please disconnect from the power outlet and take out the battery on motherboard if you won't use sterilizer in a period of time.
10. Equipment should not be placed near the heat source.
11. The equipment in use if there is interference in the power grid, there may be the phenomenon of white screen LCD screen,User can be equipped with a voltage regulator, can solve the above problems.
12. Sterilization package (or products) must be accompanied by a chemical indicator (tube).
13. This is not applicable to sterilization the sealed liquid, high temperature and high pressure resistant articles.
14. Equipment failure, should be promptly cut off the power supply, Maintenance by technical personnel.

Thank you for choosing our company sterilizer.

Please read the instructions carefully before use.

Safety tips

In order to correct operation of the sterilizer, please carefully read the safety logo appears.



This symbol represents an electrical caution - ground protection.



This label is carefully burned warning

Remind the operator and other people to be careful with burns.



Important safety information.

This symbol represents a warning for extra caution.

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1. General

Desktop sterilizer mainly consists of sterilization room, instrument tray, water tank, control system and power system etc., the material of the inner SUS304 or SUS316L stainless steel.

Sterilizer in sterilization process, Error temperature between the highest temperature in sterilization room with preset sterilization temperature is 0 ~ 3 °C; timing error is less than 10% of preset value; sterilizer should have 121 °C or 134 °C set procedures.

The product has good sealing performance, good sterilization effect. The electrical safety performance of the product conforms to the requirements of the technical requirements of registered products in Appendix A;

Sterilization chamber (pressure vessel) must be in compliance with GB 150 and national legal pressure vessel regulations.

This product does not produce strong electromagnetic wave, but to ensure the normal use of other medical devices, as far as possible to avoid the use of highly sensitive equipment and other equipment, so as to avoid interference with the electromagnetic source equipment.

Classification

Classification according to the type of anti electric shock: I equipment;

Equipment application part: none;

Equipment non AP or APG type equipment

According to the operation mode classification: continuous operation.

2.Scope of application

The sterilizer described in this manual is intended for the sterilization for Medical auxiliary materials, utensils, surgical instruments fields.

Product taboo: No.

3.Symbol



HOT



Ground protection



WARNING



CAUTION:For safe operation, please pay close attention to the alert symbols below which can be found throughout this manual.

Please carefully read and understand the contents of this manual prior to operating this instrument.

4. Technical specifications

- 1) The rated working pressure is not more than 0.22MPa.
- 2) Rated voltage: AC220V + 22V, 50 + 1Hz
- 3) Input power:<2200VA
- 4) Sterilization temperature: 121 /134℃
- 5) Noise:<70db
- 6) The normal use of the environment
 - Humidity: <85%
 - Atmospheric pressure: 70kPa - 106kPa
 - Temperature: 5 ~ 40℃

5. Safety Devices

- 1) Network power fuse: when the main circuit due to short circuit and other reasons cause the current or temperature is too large, automatically disconnect the circuit.
- 2) Safety valve: when the pressure in the chamber of the sterilizer is too high, the pressure will be automatically released.
- 3) Door locking device: when the door is closed, the sterilizer can start to operate, and the door should not be opened during operation. At THE BEGINNING OF THE CYCLE OPERATION, IF THE PRESSURE IN THE sterilization ROOM IS NOT COMPLETELY RELEASED when the fault and fault indication occur, the door should not be opened when the interlocking device should be locked, and there should be a synchronous fault alarm.
- 4) Fault indication system: when the value change of sterilization cycle exceeds the prescribed range, or the medium supply causes the failure to fully achieve the prescribed change, provide fault indication and audio signal prompt.

6. Packing list

No.	Item	Quantity
1	Instrument tray	3
2	Instrument tray rack	1
3	Silicone gloves	1
4	Door adjustment tool	1
5	Exhaust water pipe	1
6	Water inlet pipe	1
7	Instruction manual	1
8	Door seal	1
9	Filter	1

7. Installation

- 1) Ensure that the sterilizer is installed with 10cm ventilation space on sides and behind of the sterilizer, and 20cm on top side. The clearance required to open the door is 50cm.
- 2) The sterilizer must be installed in the ventilation environment on both sides and behind the heat radiating window must not be blocked.
- 3) The sterilizer should be placed on a level worktable.
- 4) The sterilizer should not be placed in Where is radiation
- 5) Do not install the sterilizer near a sink or in a location where it is likely to be splashed.
- 6) Do not install the sterilizer nearby a heat source.
- 7) Placed in the table where easy put on and off the power.

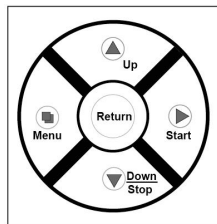
8. Operation

8.1 Preparation work

8.1.1 Open the door of the sterilizer. (if it is first time use, please remove all the packaging in the sterilizer, take out the outer packing of instrument tray, instrument tray rack, then put them inside the sterilizer.

8.1.2 connect the power

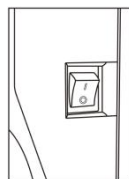
Button is shown as follows(pic 1):



pic 1

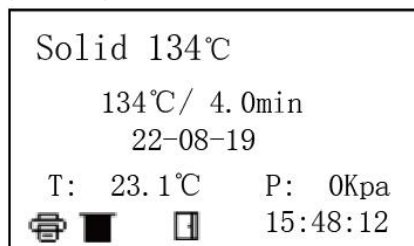
8.1.3 turn on the power

Connect the power cord to an outlet of the appropriate voltage



pic 2

After switching on, the machine turns on the LCD and shows the door position, water level, working program, date, time and etc.



Pic 3


In the screen:

Solid 121°C-----Selected program


121°C/20.0min-----Selected Sterilization temperature and time


2016-02-19-----Current date


T: 13.3°C P: 0KPa-----Current sterilization room temperature and pressure

---Displays this icon when the printer is connected, otherwise it does not display

 --- Display this icon when the steam generator is full

 --- Display this icon when the steam generator is empty(automatic filling water)

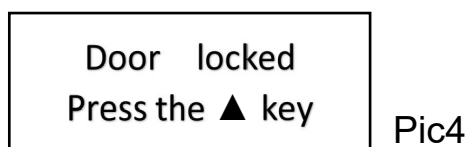
 ---Display this icon when the door be opened

 ---Display this icon when the door be closed

11:42:35-----current time

Note: A: in preparation for the picture, if the chamber temperature, interlayer temperature, evaporator temperature more than 250°C, the pressure is more than 300kPa than alarm.

B:In the preparation of the picture, if more than 15 minutes without operating equipment, then the door solenoid valve is automatically closed, at this time, can not open the door of the device. At the same time display the picture as follows:



Now you can press ▲ open the door, or shut down the power start again.

8.1.4 Filling the distilled water

The equipment is automatic water inlet, insert the random silica gel tube into the water inlet joint, the other end into the random filter, and then put into the pure bucket (can not be directly connected to the tap or any water source with pressure).

8.2 Preparation of sterilization materials

For the most effective sterilization and to preserve the sample, please follow below:

- * Arrange the samples of different materials on different trays or put detached.
- * make sure the materials not stacking

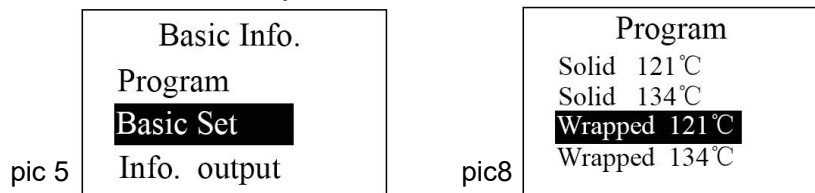
- * To arrange the position of the cutting instruments (such as scissors, surgical knives) in order to prevent them from being exposed to each other during the sterilization process. Better to pack them with gauze or sterile bags, to better separate them and protect them.
- * Arrange the containers (glasses, cups, test-tubes, etc) on one side or inverted position, avoiding possible water stagnation.
- * Don't overload the trays over the stated limit (see appendix 2)
- * Don't take the instrument plate stacked together, or will the instrument plate directly on the inner surface of the sterilizer. Instrument panel shall be placed on the instrument panel and placed on the instrument panel.
- * place and take out the Instrument panel, please use Instrument tray handle.
- * Wrap the samples one by one or, if more tools have to be set in the same bag, verify that these are made of the same material.



Warning: cotton dressing product or easy to decompose items before sterilization must sealing sterilization bags, or loaded with special instrument box, otherwise it will cause sterilizer internal pipeline blockage, affect the life of the machine.

8.3 Select sterilization program

In the preparation of the screen, press the **menu** button, the screen shows the following:

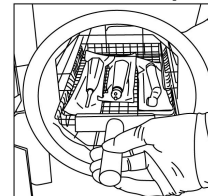


Press ▲ or ▼ select the program, press MENU button () to confirm, and

back to select screen. press Return button () to cancel.


8.4 Running the sterilization program.

After selecting program, the materials to be sterilized can now be placed on the tray placed inside the chamber using the tray handle.



Note: Preparation of sterilization materials please see 8.2


8.4.1 You can close the door after the tray is placed well.





Rotate the door handle clockwise to the right position. The lock sign () will light up on the LCD screen



Caution: You must turn the door handle to the maximum position, otherwise the machine will alarm and prevent starting the cycle.

8.4.2 Start the sterilization process

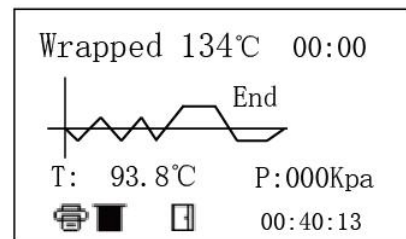
Press Start button  , the machine will begin the cycle automatically. It will take 30-75 minutes (see appendix 2)


 Caution: When you press the START button  if the machine can't start, please see the door lock sign  on the LCD, only the door completely close and door lock sign show  ,then stark key will be working. Position and press START button again.

8.4.3 Sterilization cycle completion

After cycle is completed, The sterilizer will give a prompt tone, and the LCD screen will show the END, the printer will be activated and print out a report of the cycle settings (if the optional printer has been connected) or save the report in the USB drive (optional).

If the sterilization process temperature or pressure abnormalities, there will be a warning tone, the screen shows the alarm code.



 When the pressure drops to 0, you can open the door, door handle counter clockwise rotation, remove the instrument tray with instrument tray holding. Always use the tray handle to load or unload the tray into the sterilizer in order to avoid scald.


9. Water drain connect using method

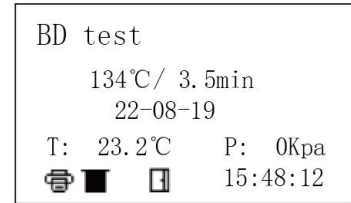
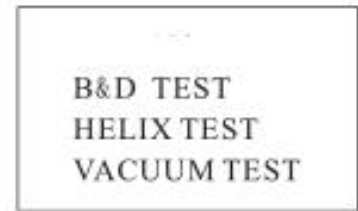
Insert the random silica gel tube into the drain, and the other end into the container for collecting wastewater (silica gel tube shall not be immersed in water, otherwise water will be sucked back to the sterilization room)



10. Programs setting

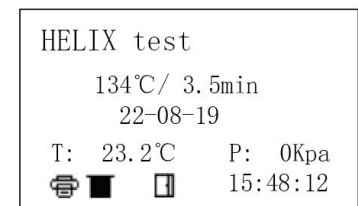
10.1 “B&D” Test

- 10.1.1 Press MENU button  , select the “B&D” Test.
- 10.1.2 Put the Bowie-Dick packing in to the chamber.
- 10.1.3 Close the door and press START button.
- 10.1.4 After finish the cycle can open the door and take out the Bowie-Dick packing, checking the result.



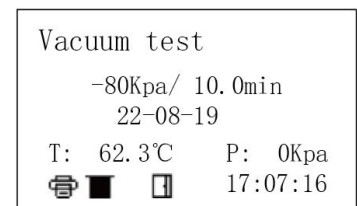
10.2 “Helix” Test

- 10.2.1 select Helix test program.
- 10.2.2 Put the indicator paper in the capsule.
- 10.2.3 Put the Helix test tube into the camber, then close the door and press START button .
- 10.2.4 After finish the cycle can open the door and take out the Helix test tube, checking the result.



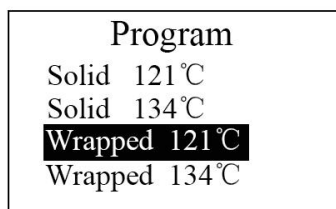
10.3 “Vacuum” Test

- 10.3.1 Select the “Vacuum” test.
- 10.3.2 Close the door and press START button.
- 10.3.3 In compliance with EN 13060, the test requires the steam leakage rate less than or equal to 0.13 kPa /min. During 10 minutes. If leakage rate is not greater 0.13, it will show Success.
- 10.3.4 If the temperature deference between the max. Temperature and the Min. is above 3°C, it will show void. That means the result of the test is void. You need run the vacuum test again after the chamber has cooled down.
- 10.3.5 After test open the door will exit to origin page.

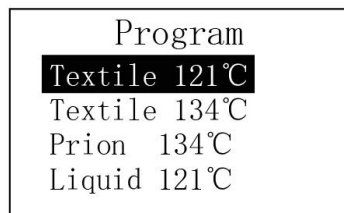


Caution: If the test results are not normal, please do not continue to use, and contact the manufacturer designated dealers or direct contact manufacturers.

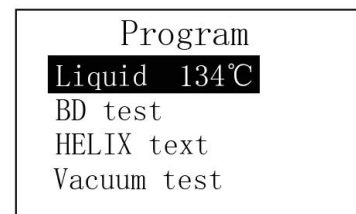
10.4 Program selection total 12, pic 8 and pic 10, pic 11, specific as follows:



Pic 8



Pic10

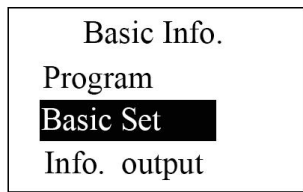


pic 11

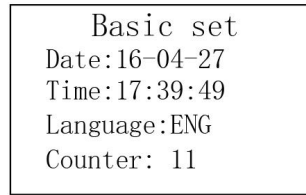
press ▲ and ▼ choose up and down , press MENU select program , Return Cancel the selected program.

10.5 Basic Set

At pic 6 press MENU , will indicated as follow:



Pic6



Pic12

In pic12 basic set can set the time, date, language, statistics on the total number of sterilization.

Press MENU、▲button、▼button, select time and date。

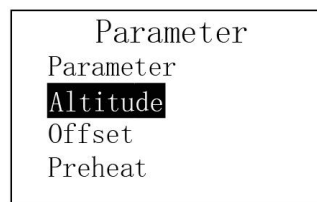
Language setting [Select ENG OR CHN]

The sterilization time [means sterilizer use times]

pic 6 [part of "info.output" is an additional feature]

10.6 lever two settings (not recommended user set by self)

Continue Press Return button 5 times, show as following:

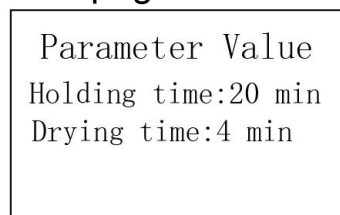


Pic20

press▼button and▲make setting, press MENU button Enter the appropriate settings.

10.6.1 Sterilization parameters

In pic 10, press MENU button, can set program by ▼and▲, if choose Solid 121°C program, press MENU, Than enter this page:



Pic 24

Press MENU button , means select number of sterilization time or drying time , adjust the number by press▼and▲。 After setting nubor, press MENU button save the data。 Not press menu button, will running previous value 。

Press Return button Return to previous menu。

There are 9 programs can select sterilization time and drying time in 12 programs as follow table:

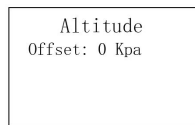
1	Solid 121°C	Sterilization time 20min	Drying time 2min
2	Solid 134°C	Sterilization time 4min	Drying time 2min
3	Wrapped 121°C	Sterilization time 20min	Drying time 4min
4	wrapped 134°C	Sterilization time 4min	Drying time 4min
5	Textile 121°C	Sterilization time 30min	Drying time 6min
6	Textile 134°C	Sterilization time 8min	Drying time 6min
7	Prion 134°C	Sterilization time 18min	Drying time 6min
8	Liquid 121°C	Sterilization time 30min	Drying time 0min
9	Liquid 134°C	Sterilization time 10min	Drying time 0min
Sterilization time and drying time with reference to the above 10.6.1 sterilization parameters setting. BD test, HELIX test, Vacuum test parameters fixed, can not be adjusted			



CAUTION: Don't recommend adjustment parameters by user self, unless the user think that's very necessary, and notify the manufacturer Or dealers that manufacturers recognized.

10.6.2 Altitude setting

Press MENU button select altitude setting, screen shows as following:



Pic27

Press MENU button, select Altitude pressure Compensation value, then press ▼ and ▲ button, the altitude pressure Compensation value Increase or decrease, reach setting value, press MENU button, Save pressure compensation value.

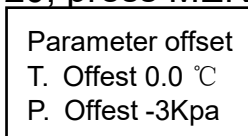
Plateau setting parameter: 1.5>h>0.5 km, 1.0;
2.5>h>1.5 km, 2.0;

Tips: The standard atmospheric pressure is 100kPa, and the air pressure decreases by 5kPa for every 0.5 km increase in altitude.

10.6.3 compensation setting

The compensation setting is using for compensate the error between the temperature pressure and the actual value in the process of the work, the specific operation is as follows:

In the picture shown in pic 20, press MENU button, will showing this page:



Pic 29



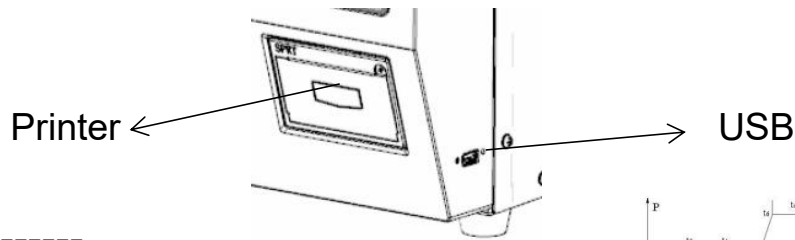
CAUTION: not recommend adjustment parameters by user self, unless the user think that's very necessary, and notify the manufacturer Or dealers that manufacturers recognized.

10.6.4 Preheat

Preheat setting is to set the boot, the evaporator can automatically heat. Set the power is turned on, the evaporator is heated, otherwise it is running after heating. Program defaults to open options.

10.7 Printer,USB flash memory

After the device runs, the printer automatically prints. If you need to save the parameters of the sterilization process, insert the USB flash drive before the process begins. The information will be recorded in a file named Device number and cycle number code.



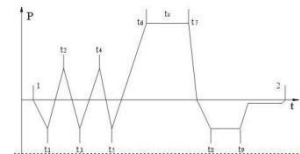
Print out style

=====

Program: WRAPPED
 Temperature: 134 °C
 Pressure: 210.0 kPa
 Vacuum Num: 3
 Dry Time: 10Min
 Ster Time: 4.0Min

 Start Time:05:38:12/88.1 °C
 T1:05:40:03/84.7 °C/-70.0kPa
 T2:05:42:23/101.8 °C/52.0kPa
 T3:05:44:15/79.4 °C/-70.0kPa
 T4:05:46:21/108.5 °C/50.3kPa
 T5:05:49:49/91.6 °C/-70.0kPa
 T6:05:57:34/134.5 °C/229.3kPa
 TS:134.5 °C/225.2kPa
 MAX • Temperature:135.0 °C
 MIN • Temperature:134.0 °C
 MAX.Pressure:230.4kPa
 MIN.Pressure:220.0kPa
 T7:06:00:10/134.5 °C/223.8kPa
 T8:06:03:36/110.7 °C/-60.2kPa
 T9:06:06:22/102.3 °C/-60.2kPa
 End Time:06:10:34/71.3 °C

 Cycle NO: 0015
 Ster Value: Success
 Date: 2018-01-17
 S/N:E00001
 Operator:



 Sterilization program: WRAPPED
 Sterilization temperature: 134 °C
 Sterilization pressure: 220kPa
 Pre vacuum times: 3 times
 Drying time: 4mins
 Sterilization time: 3 mins
 Sterilization time: 9 times

 Effective time of sterilization
 MAX temperature: 135.1 °C
 Minimum temperature: 134.1 °C
 average temperature: 134.6 °C
 maximum pressure: 220 kPa
 Lowest pressure: 208 kPa
 Average pressure: 215 kPa

 Sterilization start time: 09: 38
 Sterilization Ending time: 10: 16
 DATE: 2018-01-17
 operator: (signature)

11. Maintenance

Frequency	Operation
Daily	Clean the door seal
	Clean the external surface
weekly	Clean the sterilization chamber
Every 3 to 6 months (depending on frequency of use)	Change the bacterial filter
Every 6 months (depending on frequency of use and water quality)	Clean water float and evaporator
Every year	1, safety valve sent to qualified institutions for identification 2. Replace the door seal 3, open the side cover, check whether the internal pipeline (hose) has fallen off, aging (such as hardening, cracking), such as aging, timely replacement.

11.1 Clean the evaporator and water float

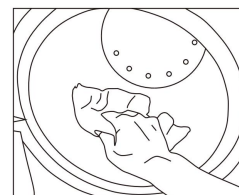
When the machine is completely cooled, open the cover plate of the machine and unscrew the fast chuck of the evaporator. Wipe the floating ball and fiber spring with a cloth dipped in alcohol

11.2 Clean the chamber.

11.2.1 Remove all trays and the tray rack from the chamber.

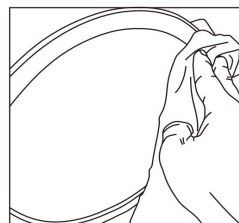
11.2.2 Clean the chamber with a smooth cloth saturated with distilled water.

11.2.3 Apply the same procedure for the trays and rack.

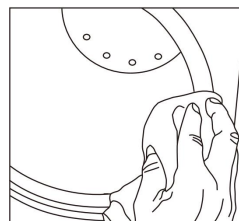


11.3 clean the door seal

11.3.1 With a lint free cloth dipped in alcohol or distilled water, Wiping the surface of the sealing ring



11.3.2 With a lint free cloth dipped in alcohol or distilled water, Wiping the edge surface of the sterilization chamber.



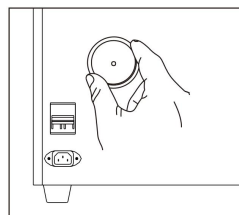
11.4 Replacement of the bacteriological filter.

11.4.1 The bacteriological filter is in the back of the sterilizer.

11.4.2 Unscrew the filter by hand anti-clockwise.

11.4.3 Place the new bacteriological filter.

11.4.4 Screw the new filter by hand clockwise.



11.5 Door adjustment

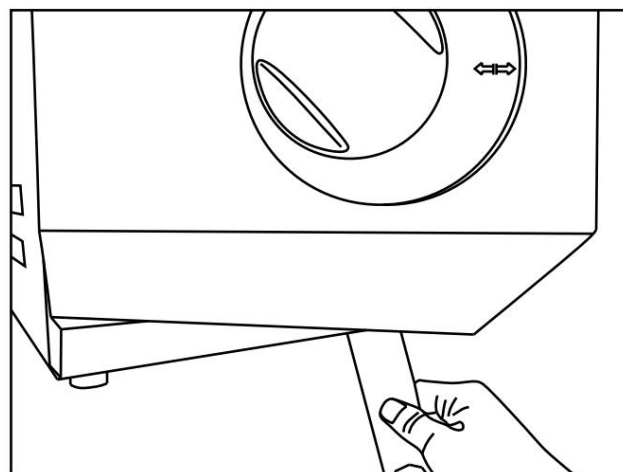
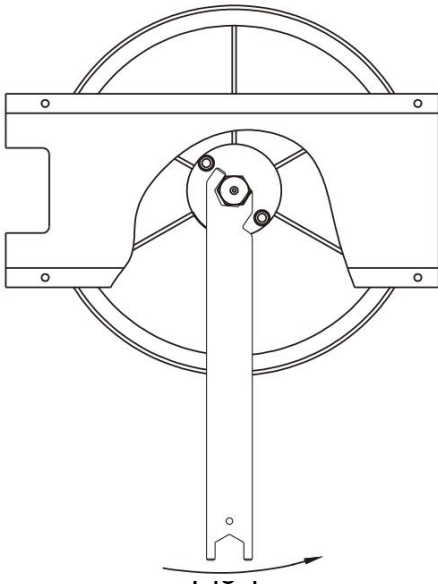
Under normal circumstances the chamber door does not require adjustments. However, if the seal fails (resulting in steam leaking from the front of the chamber), you may use the spanner tool to tighten the door seal.

11.5.1 open the door first

11.5.2 According to this way picture showing. the back door wrench from the bottom into the sealing cover. There is a six nut on the back of the sealing cover, and the wrench head just with. When an insert is inserted in the door wrench, the wrench is in the position and can not be rotated, and the other end of the wrench can be inserted.

11.5.3 As shown in picture 1 in the direction of rotation of the wrench, can tighten the sterilizer door.

11.5.4 Turn the nut until the sealing plate is tight. If the door knob is too tight, you may also turn the nut clockwise to loosen it.



pic 2



Caution: Never adjust the chamber door while the door is closed.

11.6 Cleaning and the replacement of the door seal

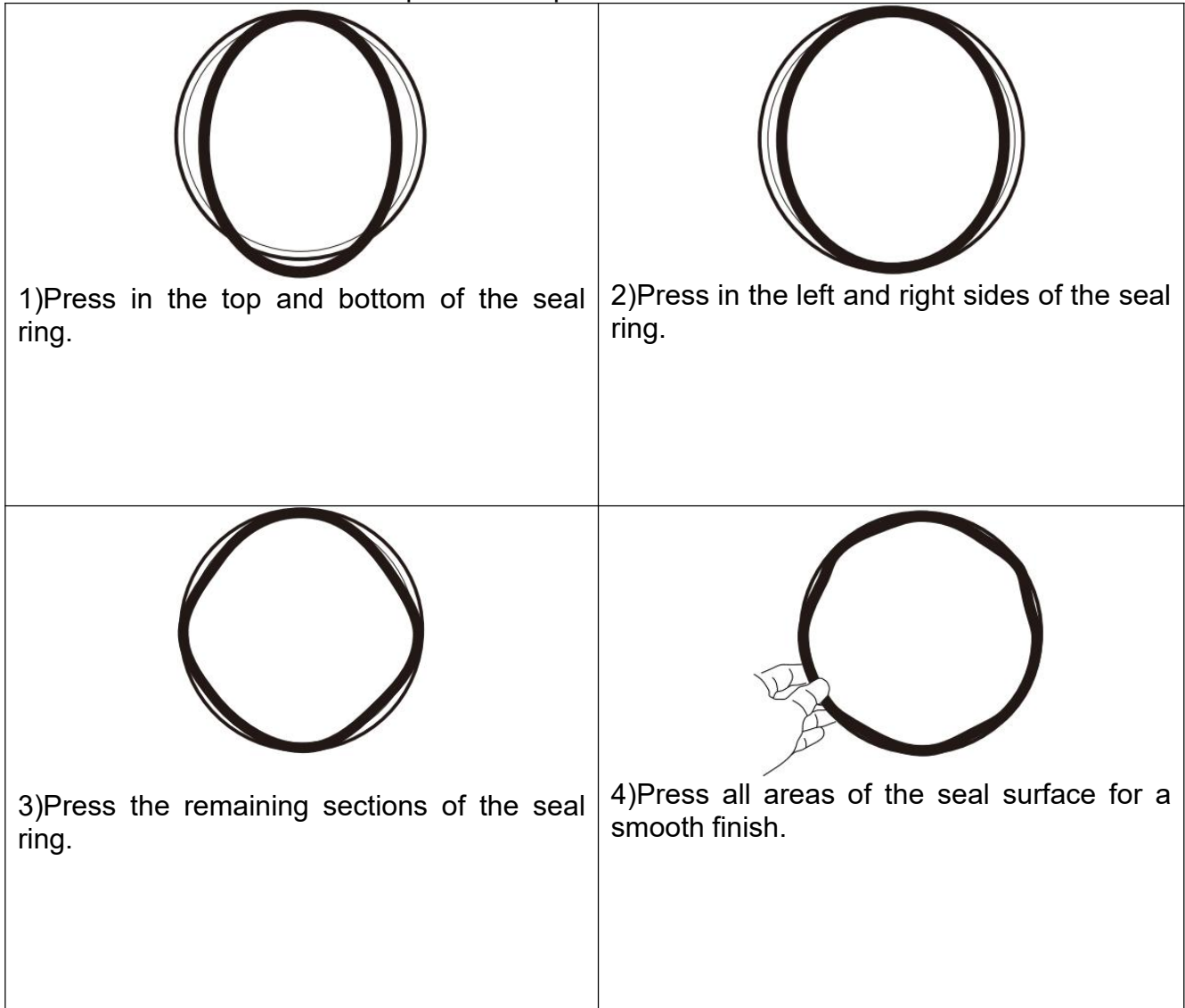
11.6.1 Open the door.

11.6.2 Remove the door seal ring carefully by hand.

11.6.3 Clean the door seal ring carefully with a smooth cloth saturated with distilled water.

11.6.4 Moisten the new seal with medical disinfectant or isopropyl alcohol.

11.6.5 Insert the new seal and press in sequence as follows:



12 Transportation and storage

12.1 Switch off the sterilizer before transportation or storage. Pull out the plug. Let the machine cool down.

12.2 Drain the distilled water tank and the used water tank.

12.3 Fix the sterilizer in packing box when transportation in order to prevent the loose or turn-over.

12.4 Conditions for transportation and storage:

Temperature: $-40^{\circ}\text{C} \sim +55^{\circ}\text{C}$

Relative humidity: $\leq 80\%$

Atmospheric pressure: $50\text{kPa} \sim 106\text{kPa}$

13 ERROR CODES

CODE	DESCRIPTIONS	Proposed solutions
E001	Steam generator temperature sensor error	Please check the temperature sensor and the connecting line
E002	Temperature sensor of the chamber wall error	Please check the temperature sensor and the connecting line
E003	Inner temperature sensor error	Please check the temperature sensor and the connecting line
E004	Fail to rise the temperature	Please check if there is a leak or if the water pump work properly
E005	Fail to rise the pressure	Please check the air release valve
E006	Door lock problem during the cycle	Make sure you have turned the door handle to the max.position or check the door switch
E009	Fail to hold the pressure	Please check if the exhaust solenoid valve work properly or if the water pump work properly
E011	Fail to preheat the steam generator	Please check if the air release valve or the water pump work properly. Please check if there is a leak
E012	Fail to preheat the chamber	Please check the temperature sensor and the connecting line
E013	Vacuum failure	Please check if the vacuum pump work properly or if there is a leak
E014	Power off unexpectedly during the cycle	Press the down key
E015	Interruption of working process	Press the down key
E017	Water refill timeout (Water level fault)	Check whether the external water source is reliable

14. Warranty

The whole machine is guaranteed by invoice for one year.

The following circumstances are not covered by free warranty:

14.1 The user causes damage due to improper transportation, installation, use and management;

14.2 Disassembling the product by itself;

14.3 Alter the invoice or do not purchase the invoice;

14.4 Failure to operate according to the instructions;

14.5 Damage caused by abnormal voltage, fire and other external reasons.

At the end of its service life (8 years) (see the production date on the product body label), the product and accessories should be voluntarily handed over to the corresponding qualified units or individuals for recycling.

APPENDIX 1

WATER PROPERTIES/CHARACTERISTICS

DESCRIPTIONS	FEED WATER	CONDENSATE
Evaporate residue	≤10 mg/l	≤1.0 mg/kg
Silicium oxide sio2	≤1 mg/l	≤0.1 mg/kg
Iron	≤0.2 mg/l	≤0.1 mg/kg
Cadmiun	≤0.005 mg/l	≤0.005 mg/kg
Lead	≤0.05 mg/l	≤0.05 mg/kg
Rest of heavy metals	≤0.1 mg/l	≤0.1 mg/kg
Chloride	≤2 mg/l	≤0.1 mg/kg
Phosphates	≤0.5 mg/l	≤0.1 mg/kg
Conductivity(20°C)	≤15µs/cm	≤3µs/cm
PH Value	5~7.5	5~7
Appearance	Colorless,Clean	Colorless,Clean
Hardness	≤0.02 mmol/l	≤0.02 mmol/l

APPENDIX 2

STERILIZATION PROGRAMS

PROGRAMS	TEMPERATURE (°C)	STERILIZATION TIME(min)	TOTAL TIME (min)	Type of sterilization load	Maximum loading
SOLID	134	4	18-40	Unwrapped solid material	5.0
	121	20	30-50		5.0
LIQUID	134	6	30-65	Liquid	5.0
	121	30	35-60		4.0
WRAPPED	134	4	45-65	Unwrapped textile material	1.25
				Single-wrapped textile material	1
				dual-wrapped textile material	0.75
	121	20	50-75	Single-wrapped hollow material	4.0
				dual-wrapped solid and hollow material	2.0
TEXTILE	134	8	50-75	Unwrapped textile material	1.25
				Single-wrapped textile material	1
				dual-wrapped textile material	0.75
	121	30	60-85	Single-wrapped hollow material	4.0
				dual-wrapped solid and hollow material	2.0
PRION	134	18	45-70	Unwrapped textile material	1.25
				Single-wrapped textile material	1.0
				dual-wrapped textile material	0.75
				Single-wrapped hollow material	4.0
				dual-wrapped solid and hollow material	2.0
VACUUM TEST	-	-	15-20	-	-
B&D/Helix	134	3.5	22-35	-	-

The max. Temperature of the 134°C sterilization cycle is 136°C;

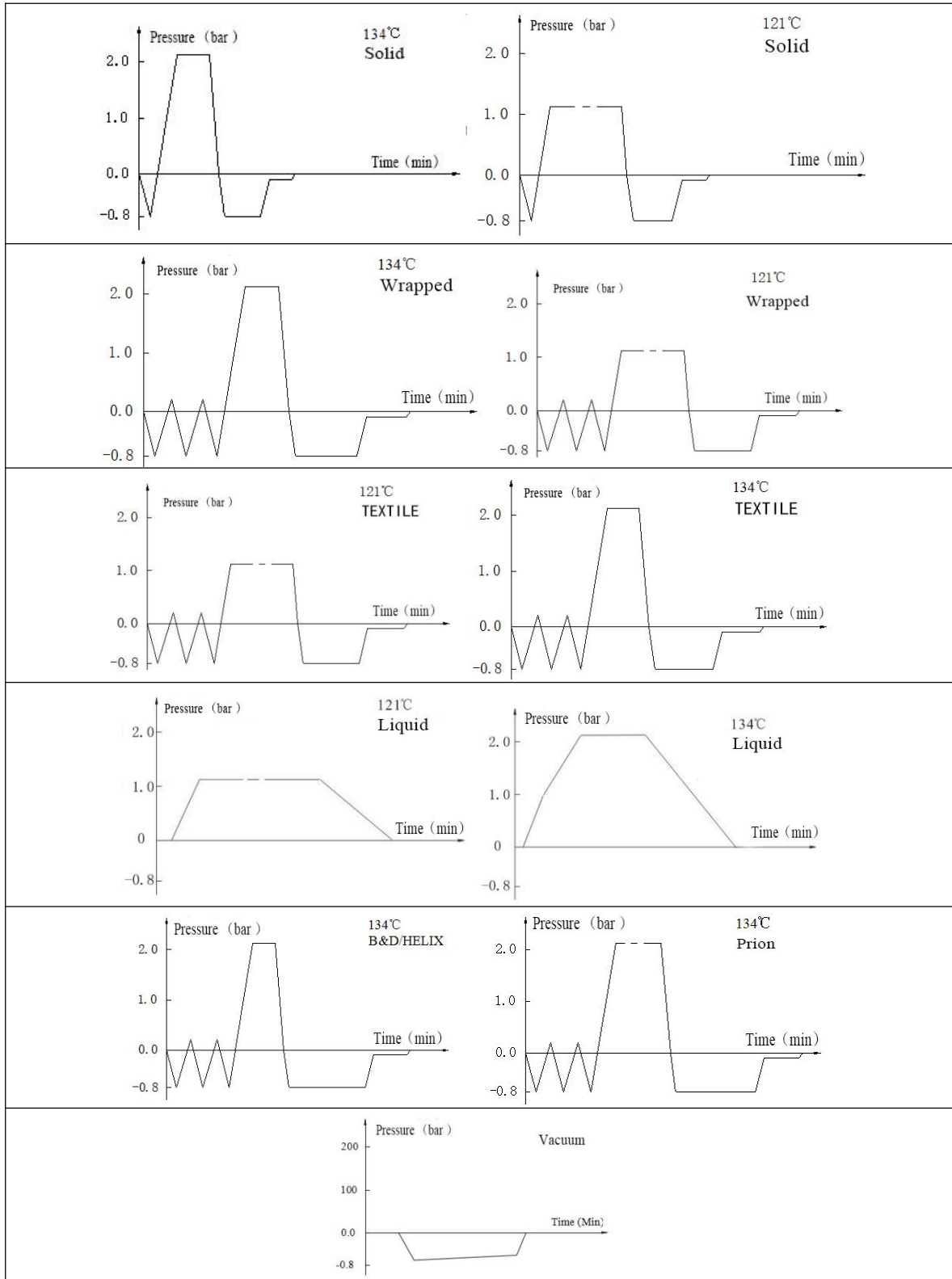
The max. Temperature of the 121°C sterilization cycle is 123°C



Warning: Please choose appropriate systems according to the sterilizing instruments. The sterilization effects of different instruments should be verified when using.

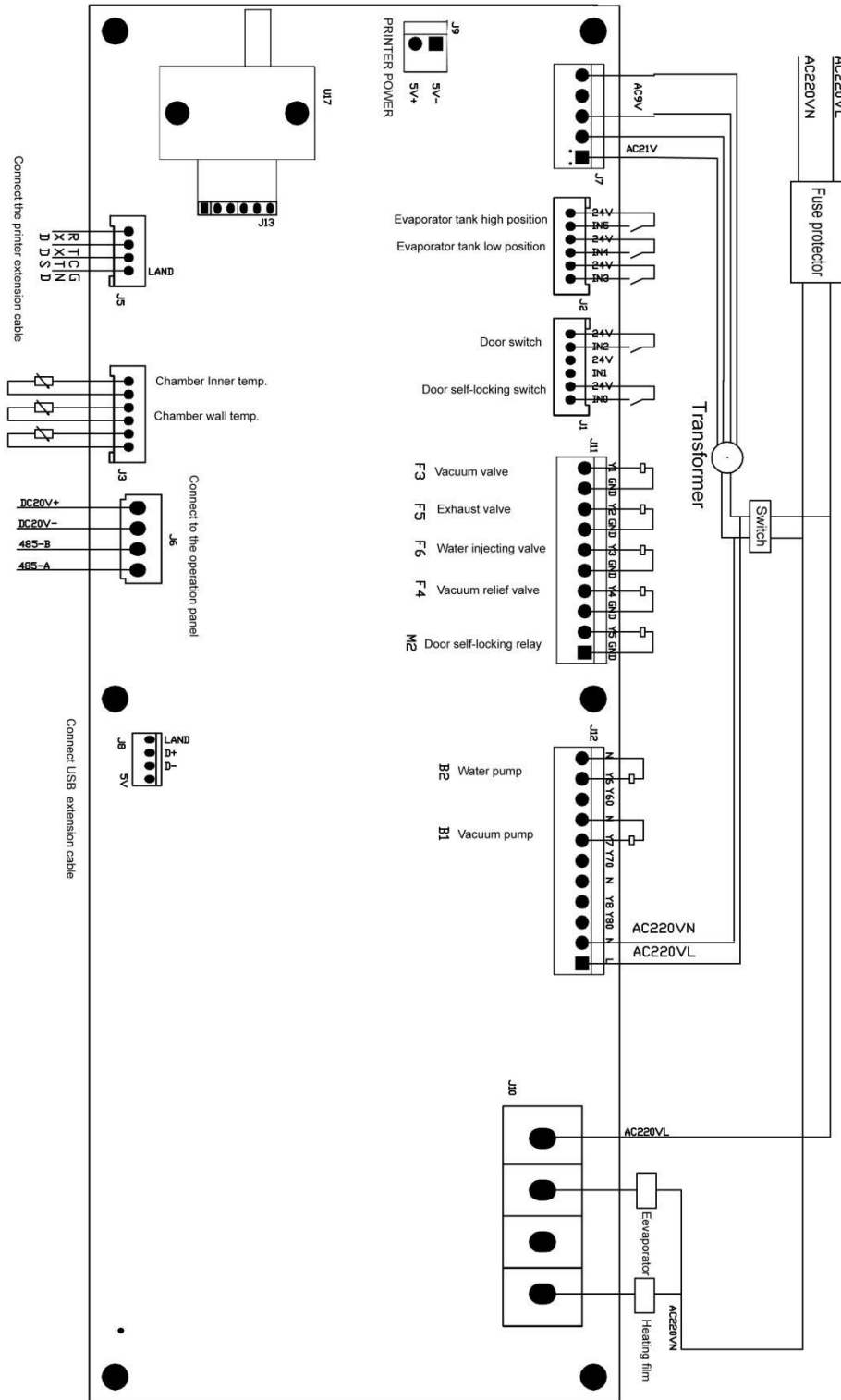
APPENDIX 3

DIAGRAMS OF THE STERILIZATION PROGRAMS



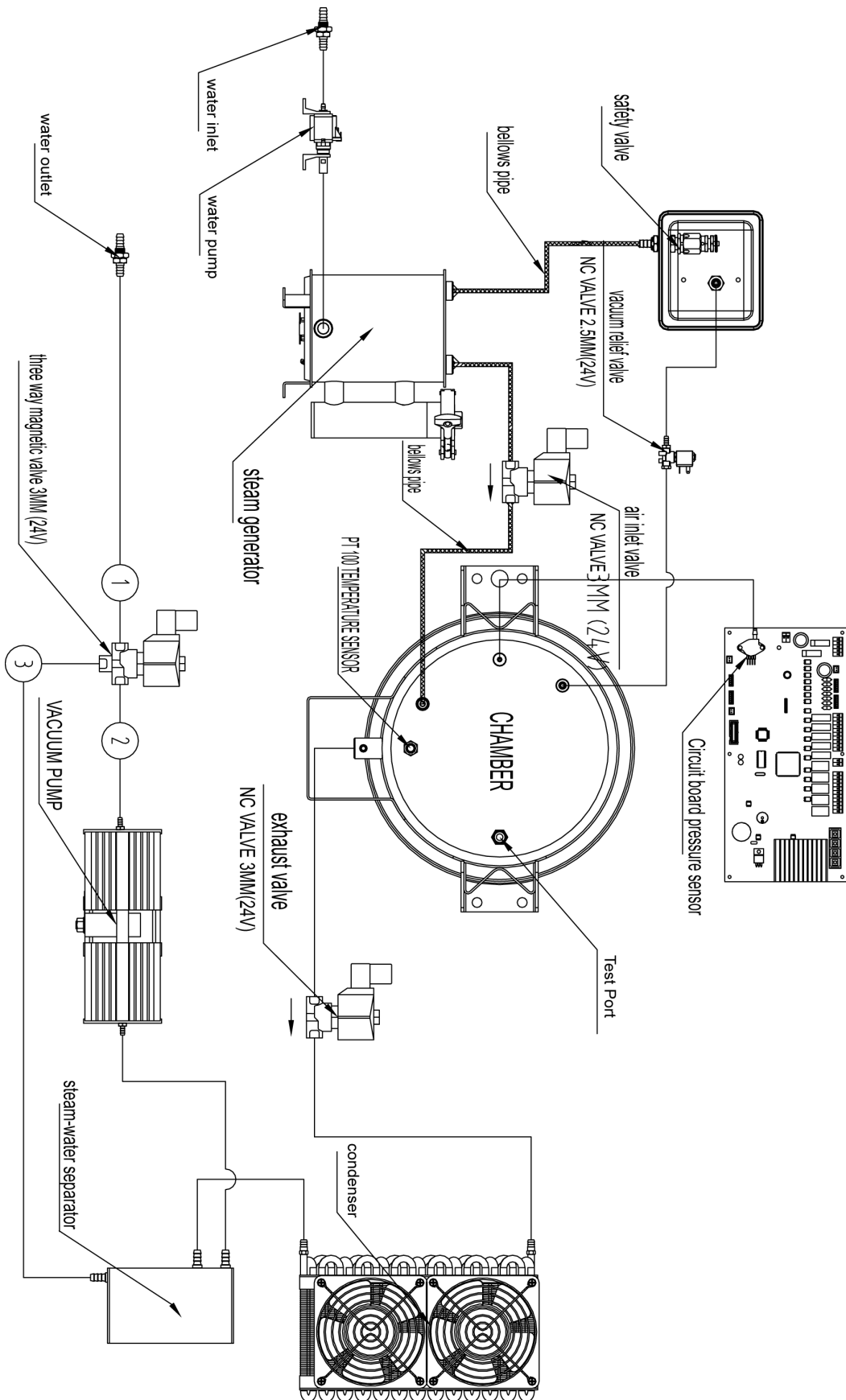
APPENDIX 4

WIRING DIRDRAMS



APPENDIX 5

HYDRAULIC DIAGRAM



Appendix VI

EMC requirements:

Table 201 Group B 1

Guide and manufacturer's statement — electromagnetic emission		
The desktop sterilizer is expected to be used in the following specified electromagnetic environment, and the purchaser or user shall ensure that it is used in such electromagnetic environment:		
Launch test	Conformity	Electromagnetic Environment — Guide
RF GB4824	Group 1	Desktop sterilizers use RF energy only for their internal functions. Therefore, its RF emission is very low and the possibility of interference with nearby electronic devices is very small
RF GB4824	B category	Desktop sterilizers are suitable for use in all facilities, including household facilities and public low-voltage power supply networks directly connected to residential homes
Harmonic Emission GB17625.1	A category	
Voltage fluctuation, flicker emission GB17625.2	Compliance	

Table 202

Guide and manufacturer's statement — electromagnetic immunity			
The desktop sterilizer is expected to be used in the following specified electromagnetic environment, and the purchaser or user shall ensure that it is used in such electromagnetic environment:			
Disturbance test	IEC60601 test level	Level of compliance	Electromagnetic Environment — Guide
Electrostatic discharge GB/T17626.2	±4 kV Contact discharge ±4 kV Air discharge	±4 kV Contact discharge ±4 kV Air discharge	The floor shall be wood, concrete or ceramic tile, and the relative humidity shall be at least 30% if the floor is covered with synthetic material
Electric Fast Instantaneous Pulse Group GB/T17626.4	±2 kV Power cord ±1 kV to input/output lines	±2 kV Power cord Not applicable	Power supply should be of typical commercial or hospital quality
Surge surge GB/T17626.5	±0.5 kV line alignment ±1 kV Line to ground	±0.5 kV line alignment ±1 kV Line to ground	Power supply should be of typical commercial or hospital quality
Voltage sag on power input line, short time interrupt and voltage change GB/T17626.11	< 5%U _T For 0.5 weeks (at U _T > 95% the temporary drop) 40% U _T 40 5 weeks (at U _T 60% the temporary drop) 70 %U _T For 25 weeks (at U _T ,30% the temporary drop) < 5U _T For 5 s (at U _T > 95 %the temporary drop)	< 5%U _T For 0.5 weeks (at U _T > 95% the temporary drop) 40% U _T 40 5 weeks (at U _T 60% the temporary drop) 70 %U _T For 25 weeks (at U _T ,30% the temporary drop) < 5U _T For 5 s (at U _T > 95 %the temporary drop)	Network power should have the quality of use in a typical commercial or hospital environment. If the user of the desktop sterilizer needs continuous operation during the power outage, it is recommended that the desktop sterilizer be powered by an uninterruptible power supply or a battery
Power frequency magnetic field 50Hz GB/T17626.8	3A/m	3A/m	The power frequency magnetic field should have the power frequency magnetic field horizontal characteristic in the typical commercial or hospital environment
Note1:U _T Refers to the AC network voltage before the test voltage is applied			

Table 204


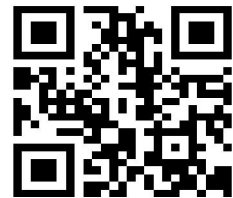
Guide and manufacturer's statement — electromagnetic immunity			
The desktop sterilizer is expected to be used in the electromagnetic environment specified below, and the purchaser or user shall ensure that it is used in this electromagnetic environment.			
Disturbance test	IEC60601 test level	Level of compliance	Electromagnetic Environment - Guide
RF conduction GB/17626.6	3V (valid values) 150 kHz ~ 80MHz	3V(valid values)	Portable and mobile RF communication equipment shall not be closer to any part of the desktop sterilizer (including cables) than the recommended isolation distance, which shall be calculated using a formula corresponding to the frequency of the transmitter. recommended isolation distance $d = 1.2\sqrt{P}$ $\sqrt{P} d = 1.2 \text{ MHz } 80\text{MHz} \sim 80 \text{ 0}$ $\sqrt{P} d = 2.3 \text{ GHz } 800\text{MHz} \sim 2.5$
Radio frequency radiation GB/17626.3	3V/m GHz 80MHz ~2.5	3V/m	The maximum output power of the transmitter, in watts (W), is P— provided by the transmitter manufacturer d--- recommended isolation distance, in meters (m); and The field strength of the fixed RF transmitter, determined by the survey of the electromagnetic field, should be lower than the conformance level in each frequency range. Interference may occur near the device that marks the following symbols. 
Note 1: the formula of higher frequency band should be used in 80 MHz and 800 MHz frequency.			
Note 2: These guidelines may not be suitable for all situations. Electromagnetic propagation is affected by the absorption and reflection of buildings, objects and human bodies.			
:: Fixed transmitters, such as radio and ground mobile radio base stations, amateur radios, AM and FM radio broadcasts and television broadcasts, whose field strength is theoretically unpredictable. In order to evaluate the electromagnetic environment of fixed RF transmitter, the survey of electromagnetic field should be considered. If the field strength of the place where the desktop sterilizer is measured is higher than the above RF conformance level, the desktop sterilizer should be observed to verify its normal operation. If abnormal performance is observed, supplementary measures may be necessary, such as readjusting the direction or location of the desktop sterilizer.			
:: The field strength should be less than 3 V/m. MHz the full frequency range of 150KHz~80MHz			

Table 206

Recommended isolation distance between portable and mobile radio frequency communications equipment and desktop sterilizers			
Desktop sterilizers are expected to be used in controlled electromagnetic environments with RF radiation disturbance. Depending on the maximum output power of the communication device, the purchaser or user of the desktop sterilizer can prevent electromagnetic interference by maintaining the minimum distance between the portable and mobile radio frequency communication equipment (transmitter) and the desktop sterilizer			
Maximum rated output power of transmitter W	Distance/ m corresponding to different frequencies of transmitter		
	150 kHz ~80 MHz $d = 1.2\sqrt{P}$	80MHz ~80 0MHz $d = 1.2\sqrt{P}$	800MHz ~2.5GHz $d = 2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	1.2	1.2	23
<p>the maximum rated output power of the transmitter not listed in the table above is recommended for isolation distance d, in meters (m), which can be determined by the formula in the corresponding transmitter frequency bar. here P is the maximum rated output power of the transmitter provided by the transmitter manufacturer in watts (W) units.</p> <p>Note 1: at 80 MHz and 800 MHz frequency points, the formula of higher frequency band should be adopted.</p> <p>Note 2: These guidelines may not be suitable for all situations. Electromagnetic propagation is affected by the absorption and reflection of buildings, objects and human bodies.</p>			

This product will not produce strong electromagnetic wave during operation, but in order to ensure the normal use of other medical devices, try to avoid the use of other highly sensitive instruments and equipment at the same time, so as to avoid the interference of the instrument and equipment by electromagnetic sources.

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