BIOBASE

Medicine Stability Test Chamber
BJPX-MS250/300/400
User Manual

BIOBASE GROUP

Version 2020.08

Preface

Thank you for purchasing Medicine Stability Test Chamber.

Intended use

The instrument for quantitative analysis of human serum, plasma, urine, cerebration fluid and other samples of the clinical chemical composition. Do not use for other purposes.

Using object

This manual is intended for the clinical laboratory technologists operating this instrument. Before using the product, please carefully read this manual. Keep this manual in a safe place for easy reference. If you do not follow the precautions described in this manual, we will not guarantee the maintenance.

Statement

Jinan Biobase Biotech Co., Ltd(hereinafter referred to as "Biobase") has the final interpretation of this manual.

The Company shall be responsible for the safety, reliability and performance of the product only if all of the following requirements happened:

1.Assembly operations, expansion, re-adjustment, improvement and repair by the Company recognized professionals.

2.All repairs involving replacement parts and supporting the use of accessories, supplies are original of the Company (original) or approved by the Company.

3.The related electrical equipment is according to national standards and the use of the manual requirements.

4.Product operation is carried out according to the instruction manual.

Disclaimer

Biobase shall not be liable for any equipment failure or damage, or for any direct or indirect damage that may occur during the use of the equipment.

1.Malfunction or damage due to violation of the instructions, precautions, and intended use of this manual.

2.Malfunction or damage caused by repair or alteration of the other company.

3.Malfunction or damage caused by use instruments of other company at the same time .

4.Malfunction or damage caused by operating environment not corresponding to the specified operating environment (power conditions, installation environment, etc).

5.Malfunction or damage caused by natural disasters such as earthquakes and floods.

6.Malfunction or damage caused by the company unaware of the movement or transfer (transport) after installation.

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I. Application:

BJPX-MS series is medicine stability test chamber is suitable for plant growth and tissue culture, seed germination, seedling, culture testing of microorganism, feeding of insects and small animals, BOD testing of water-quality monitor, aging and usage life testing of medical material, timber and building materials, and illumination for other purposes, and it is the special experimental equipment of constant temperature and humidity.

II. Features:

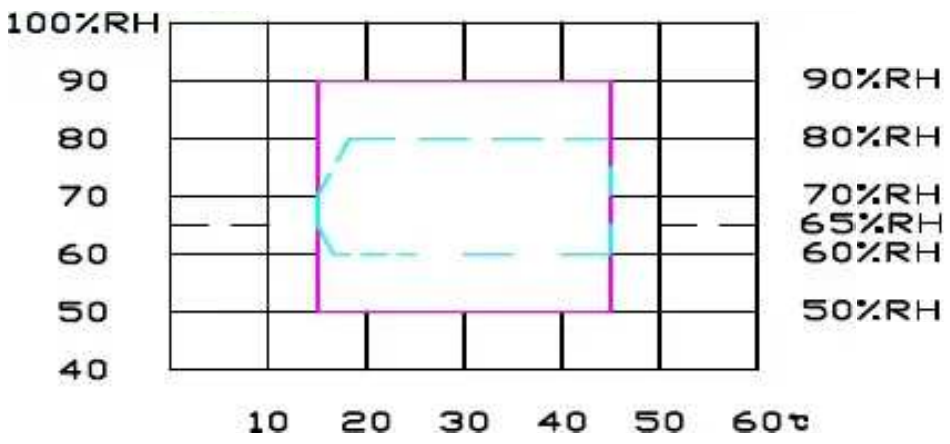
1. It is the high accuracy equipment of heating and cooling and constant temperature, with functions of illumination and humidifying.
2. Adopts advanced microcomputer programmable technology for temperature controlling, and can set various kinds of parameters (including temperature, humidity, and illumination) to simulate the nature climate.
3. Touch adjustment switch, light and flexible. LCD display, multi-mode control adjustable, is easy for operation
4. There are high brightness fluorescents of the same power installed on three sides-front, left, right. Both the inside door and two sides of work chamber adopts multi-layer coated glasses of good moisture retention and transparency, which not only meets the requirements of the various parameters of the sample in the work chamber, but is also convenient for observing the changes of the sample inside the work chamber.
5. To improve the reliability and stability of every index of the chamber, this equipment adopts high performance U shaped heating pipe.
6. There is a fan inside the equipment to form forced convection, for achieving better temperature uniformity in the work chamber.
7. The equipment body adopts high-quality steel plate, and the surface is plastic spraying. The work chamber is made of high-quality stainless steel.
8. The outside door adopts magnetic door seal, which is of good sealing performance, and is easy for closing.
9. The appearance of the chamber is aesthetic and elegant. The chamber is of low noise and is convenient for repair.

III. Main technical parameters:

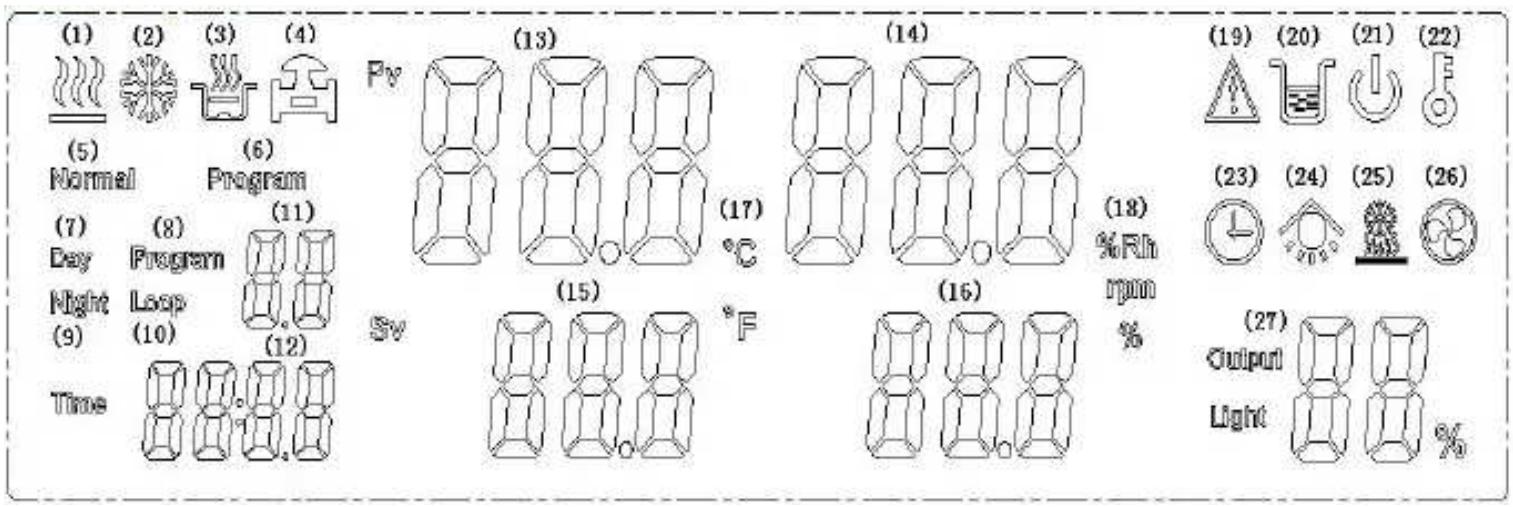
Model / Mo / Item	BJPX-MS250	BJPX-MS300	BJPX-MS400
Display	5.7 inches LCD display		
Internal volume(L)	248	290	402
Temperature range(℃)	0℃ ~ +65℃		
Temperature fluctuation(℃)	±0.5		
Temperature uniformity(℃)	±2		
Humidity Control Range	40% ~ 95%RH(Depends on temperature,beyond 10℃)		
Humidity Fluctuation	±5%~±8%RH		
Illuminance	6000Lux,5 level adjustable,1-side illumination		
Rated power(W)	2400	2900	3400
Power Supply	Standard:220V±10%,50/60Hz;Optional:110V±10%,60Hz		
Chamber Size (W*D*H)	470×449×1178mm	490×464×1278mm	560×600×1198mm
External Size(W*D*H)	672×892×1825mm	691×907×1925mm	764×1032×1860mm
Packing Size(W*D*H)	800*1010*1990mm	790*1040*2090mm	870*1140*2040mm
Gross Weight	158kg	178kg	200kg

Temperature and humidity integrated area diagram(When the environment temperature is 30℃)
The dotted line area is the range of the temperature and humidity integrated area when the illumination is on

The real line area is the range of temperature and humidity integrated area when the illumination is off


100%RH
90
80
70
60
50
40
10
20
30
40
50
60℃
90%RH
80%RH
70%RH
65%RH
60%RH
50%RH

IV. Panel instruction



Display instruction:

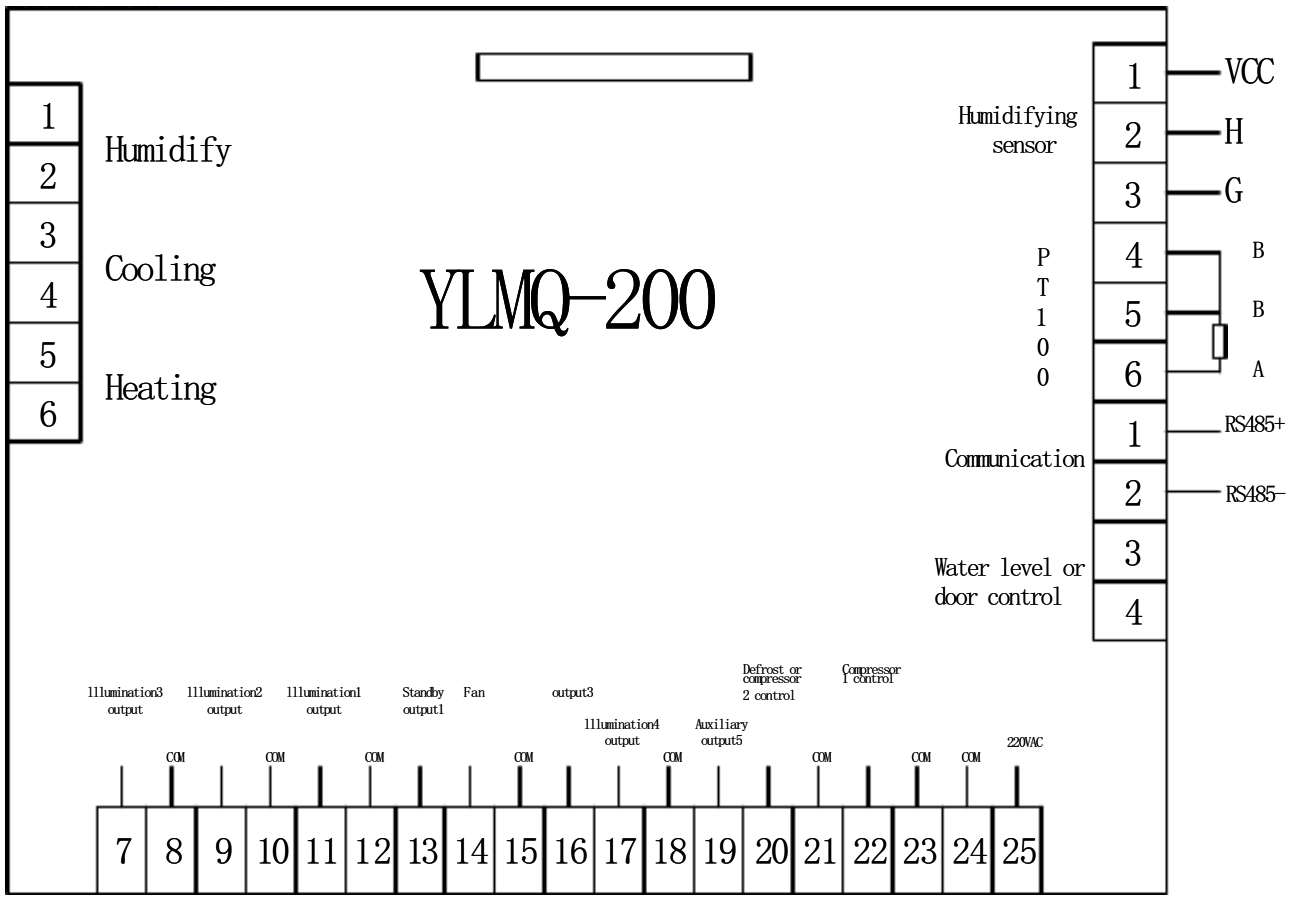
1) Heating indicator: It is light when equipment is heating
2) Cooling indicator: it is light when equipment is cooling, and it flashes when compressor delayed cooling.
3) Humidify light： It is light when equipment is humidifying,
4) Auxiliary output indicator: It is light when there is auxiliary output.
5) Normal indicator: it is light when the controller is set as fixed value, or set as day- night.
6) Program indicator: it is light, when the controller is set as 24 segment program controlling
7) Day indicator: it flashes when setting day parameter, it is light, when equipment is running during Day mode .
8) Program indicator: It flashes during setting the segment, or it is bright when displaying the present working segment.
9) Night indicator: it flashes when set night-mode parameter, it is bright when equipment is running at night-mode.
10) Loop indicator: it is bright, when it switches to check cycle.
11) Segment or cycle display or display parameter code.
12) Running time display or parameter set value display or preset time display or it displays End when equipment stops.
13) Display temperature measured value
14) Display humidity measured value(Note: display '----' when there is no humidity)
15) Display temperature set value
16) Display humidity set value(Note: display '----' when there is no humidity)
17) ℃ is light when temperature unit is degrees Celsius, °F is light when is degrees Fahrenheit.
18) %RH is humidity unit indication
19) Alarm indicator: it flashes when equipment stops or there is abnormal.
20) Water level alarm indicator: it is light, when water level alarm occurs.
21) Power indicator: it is bright, after pressing Power key, and controller starts working.
22) Lock keyboard indicator: it is light when keyboard is locked(At this time, it couldn't carry out

any set)
23) Preset time indicator: it is bright, when equipment is running according to the preset time.
24) Illumination or ultraviolet lamp indicator: it is bright, when illumination or ultraviolet lamp is ON.
25) Defrost indicator: it is light during defrosting.
26) Fan indicator: it is light when fan is rotating.
27) Illumination degree display(if there is illumination, Light indicator is ON), or heating output percentage is displaying(If there is no illumination, Output indicator is ON)

Keyboard instruction:

A. Power key: it can switchover between ON/OFF controller.
B. Lock keyboard key/Shift Key: Press it for 2 seconds, can lock keyboard/unlock keyboard, other key is ineffective after the locking. Relative lock keyboard indicator is on or off. Or combination with other key to realize operation of different function.
C. Run/Stop key: Press for 2 seconds start running or stop. Together with Shift Key can enter into next segment.
D. Illuminance or UV key: it can start or stop illuminance or UV lamp.
E. SET key: enter into parameter setting or press over 2 seconds to enter into LK or exit parameter setting, together with Shift key can switches over between process and fixed value.
F. Move key: move digital position during revising parameter, or together with Shift key to check the remaining working cycle.
G. Minus key ∨:revise parameter value, or revise running time, or together with Shift key to start/stop humidifying self-adjusting
H. Add key∧: Revise parameter value or revise running time or together with Shift key to Start/Stop temperature self-adjusting

V. Wiring Diagram



Note:

Illumination grade 1：Illumination 1 works,
Illumination grade 2：Illumination 2 works,
Illumination grade 3：Illumination 1 and 2 work,
Illumination grade 4：Illumination 2 and 3 work,
Illumination grade 5：Illumination 1, 2 and 3 work,

VI. Operation instruction:

1. Pull out the water tank drawer on the lower-left on the front side of the equipment, manually fill the water in the water tank, not let the equipment lack of water during the process of temperature and humidity test, to avoid the water level lower than liquid float switch, and the equipment automatically starts the humidifying protection function, stops humidifying, at this period, the temperature maintains the same.

(The maximum water consumption is 1.62L/hour, if adopt the function of automatically filling the water, please keep supplying the water flow≥2L/hour, and keep the supplied water pressure≥2kgf/cm^2, the port for automatically supplying the water is on the back of the equipment)

2. Turn on the green power switch on the side of the equipment, the water supply system begins to work, water pump will work intermittently, till the water level reaches to the safety water level(exceed the heater); When the equipment is running for the first time, please don't press Power key and Run key on the control panel, before the humidifying system completes the water supply

3. Press power switch on the operation panel, the controller is power on, and after self-test, the upper row of LCD displays temperature and humidity measured value, lower row displays temperature, humidity and illumination set value, this status is standard status.

*****Before running the parameters, please firstly confirm icon(22) of lock keyboard indicator(first one on up-right corner) if it is light when keyborad is lock, when it is light the keyboard is lock, when it is off, the keyboard is unlock, long-time press LOCK/SHIFT key can lock or unlock!!!**

4. (Fixed value or program running)

In standard and unlock status, press SET key,

A. The lower row of LCD display PROGRAM 1 and Program 1 running time, which flashes alternatively.

Press MOVE key, Up key, Down key to set required running time, press SET key for confirm.

B. The lower row of LCD displays PROGRAM 1 and Program 1 set temperature, which is flashing.

Press MOVE key, Up key, Down key to set required running temperature, press SET key for confirm

C. The lower row of LCD displays PROGRAM 1 and Program 1 set humidity, which is flashing.

Press MOVE key, Up key, Down key to set required running humidity, press SET key for confirm

D. The lower row of LCD displays PROGRAM 1 and Program 1 set illumination intensity, which is flashing. Press MOVE key, Up key, Down key to set required illumination intensity, press SET key for confirm

If PROGRAM 1 time set as 0, after step D, display picture backs to standard status.

Press RUN/STOP key, start or stop set PROGRAM 1 running parameter.

If only set PROGRAM1 running parameter, and PROGRAM 1 time is as 0, equipment will continues running(fixed value mode) after startsup.

If PROGRAM 1 time is set not as 0, after step D, displaying picture enters into PROGRAM2.

Repeat step A,B,C,D,to complete setting the running parameter of PROGRAMM2. And so forth, till PROGRAM 24.

When displaying picture is in standard status, press RUN/STOP key, start or stop set running parameter from PROGRAM 1 to PROGRAM N segment.

***If during PROGRAM running, revise the running parameter, please firstly press RUN/STOP key,

in the condition when equipment stops running, after completing the set, press RUN/STOP key , start the equipment running.

5. Operation instruction(Day and night mode running)

In standard status and unlock status, long-time press SET key.

A. The lower row of LCD displays LK set value, which is flashing. Press MOVE key, Up key and Down key to set LK value as 168, then press SET key for confirm, entering into factory parameter setting.

B. The lower row of LCD displays MD set value, which is flashing. Press MOVE key, Up key and Down key to set MD value as 0, then press SET key for confirm(control system enters into running mode, of which day mode and night mode is running alternatively), then long-time press SET key to exit factory parameter setting。

C. Press SET key, the lower row of LCD displays Day and Time setting, which is flashing alternatively. Press MOVE key, Up and Down key to set required time during day mode, press SET key for confirm.

D. Press SET key, the lower row of LCD displays Day and Temperature setting, which is flashing alternatively. Press MOVE key, Up and Down key to set required temperature during day mode, press SET key for confirm.

E. Press SET key, the lower row of LCD displays Day and Humidification setting, which is flashing alternatively. Press MOVE key, Up and down key to set required humidification parameter during day mode, press SET key for confirm.

F. Press SET key, the lower row of LCD displays Day and Illumination Intensity setting, which is flashing alternatively. Press MOVE key, Up and down key to set required illumination intensity during day mode, press SET key for confirm.(There is 5 grades for setting:20%, 40%, 60%, 80%, HI, according to rated Max. illumination intensity of the purchased equipment)

G. Press SET key, the lower row of LCD displays Night and Time setting, which is flashing alternatively. Press MOVE key, Up and Down key to set required time at night mode, press SET key for confirm.

H. Press SET key, the lower row of LCD displays Night and Temperature setting, which is flashing alternatively. Press MOVE key, Up and Down key to set required temperature at night mode, press SET key for confirm.

I. Press SET key, the lower row of LCD displays Night and Humidification setting, which is flashing alternatively. Press MOVE key, Up and Down key to set required humidification at night mode, press SET key for confirm.

J. Press SET key, the lower row of LCD displays Night and Illumination Intensity setting, which is flashing alternatively. Press MOVE key, Up and Down key to set illumination intensity at night mode, press SET key for confirm.

K. Press RUN/STOP key, start or stop the set running parameters of day mode and night mode.

L. During running, when timing is positive timing, after rearching to set time, switchover.

1. User parameter setting:

In standard status, long-time press SET key, the upper row of left side of LCD displays LK, adjust LK=8, press SET entering into:

SC	Temperature sensor correction	-100-100%	SC=Temperature actual value-Present measured value of humidification（only humidification has this parameter）	0
Pb	'0' position adjustment	(-19.9～99.9)	Correction '0' degree, can correct deviation of temperature sensor during measurement. Pb=Reading value of mercurial thermometer－present measured value	0.0℃
Pk	Full scale adjustment（slope）	(-199～999)	At set temperature, when temperature deviation occurs, can adjust this value Pk=1000×[Reading value of mercurial thermometer－present measured value]÷present measured value	0
AL	Deviation alarm setting value	0.0～80.0℃	This alarm is alarm1, is upper and lower deviation alarm, when temperature exceeds（Temperature set value+AL）℃, turn off heating. When temperature is smaller than(temperature set value-AL)℃, turn off cooling. Alarm indicator is flashing, beeper is beeping.	6.0℃
Cy	Repeating times	0～99	0：keep on running；other value：after repeating running cycles , equipment stops	0
KS	Running selection after power on	0-2	0：In stop condition when power on 1：When power on, running from No.1 segment(day)；2：After power on, continue to run from last segment which is running when power off previous time.	2
KA	Preset start running selection	0-1	0：No preset to start running equipment；1：Preset startup is ON；this parameter is displayed only in stopping condition.	0

2. **Humidification and temperature controlling parameter setting:**

In standard status, long time press SET key over 2 seconds, the upper row of left side of LCD display LK, adjust LK=18, press SET key to enter into humidification and temperature setting. If there is no humidification control, parameter of AS and SL doesn't display.

Prompt	Name	Setting range	Instruction	Initial value
AS	Humidifying condition	0-99.9	When set temperature is less than AS, doesn't humidify	10.0
PS	Humidification ratio	2～99%	Ratio adjustment, less PS, quicker humidification response	10
IS	Humidification integral time	1～3600S	Integral effect time constant, less IS, quicker eliminating of humidification deviation	100

dS	Humidification differential time	0～3600S	Differential effect time constant, bigger dS， less humidification over-adjustment.	25
LS	Retrain of the humidification collision	0～100%	Used for restraining humidification over-adjustment, if too small may cause the humidification not rising	100%
tS	Humidification control period	1～99 s	Control the humidification output cycle	3s
Sr	Dehumidification deviation is ON	(0～60) % RH	When humidification measured value≥humidification set value+Sr，temperature is -0.3 degrees than set temperature, and interval time between two startups of comperssor≥Ct seconds, start the dehumidification.	4% RH
SL	Cancel dehumidification deviation	(0～60) % RH	When humidification measured value≦Humidification set value+Sr-SL，cancel dehumidification	1% RH
Cr	Temperature cooling deviation is OFF	(0.0～60.0)℃	Temperature measured value≥Temperature set value+Cr℃, and interval time between two startups of compressor≥Ct seconds，cooling is ON	0.4℃
Ct	Compressor protection delay	(60～3600) S	Compressor delayed protection time，interval time between two startups≥CT seconds	120S
Pu	Heating ratio	1.0～60.0℃	Ratio effect adjusting, less P,quicker response speed	2.0
Iu	Heating integral time	1～3600 S	Integral effect time constant, less Iu, quick eliminating the temperature deviation	240
du	Heating differential time	0～3600S	Differential effect time constant, bigger du, stronger effect to prevent over temperature	60
Lu	Heating collision restrain	0～100%	For restrain temperature over adjusting， too less may cause temperature not rising	100%
tu	Heating control cycle	1～99 S	Control heating output cycle	3S

3. **Factory parameters setting:**

In standard status, long time press SET key, the upper row of left side of LCD display LK, adjust

LK=168, press SET key to enter into:

Prompt	Name	Setting range	Instruction	Initial value
md	Program control select	0-1	0：fixed value control or day-night; 1:24 segment program control	1
In	Exterior input select	0-2	0：no exterior input；1：Exterior input DISCONNECTED effective 2：Exterior input CLOSE effective	0
uA	Exterior input function select	0-1	0： water level； 1：door control	0
bG	Illumination grade select	0-1	0: 3-grade illumination 1：5-grade illumination	1
CF	Celsius and Fahrenheit select	0-1	0：Celsius 1：Fahrenheit	0
dP	Temperature decimal point select	0-1	0：no decimal point 1： with one decimal point	1
rL	Temperature lower limit setting	-60.0-99.9	Set the lower limit of measured temperature	0.0
rH	Temperature upper limit setting	-60.0-99.9	Set upper limit of measured temperature	65.0
AP	Allowable max. temperature	37.0-99.9	When measured temperature is higher than this temperature, it alarms, when higher than this temperature over 2 minutes， the equipment stops automatically	65.0
Cb	Starting point of temperature cooling	0～60.0℃	When temperature set value《=Cb, compressor keeps on working, is balance mode；If demands for start/stop mode of compressor, then set Cb as min.value	45.0 ℃
JS	Starting point of dehumidification	(0～100)% RH	When temperature set value>Cb，but humidification set value<=JS，compressor keeps on working， is balance mode；If needs start/stop mode of compressor, then set JS as min.value	100% RH
Fu	Output function of auxiliary replay select	0-4	0：When set temperature value >=bt，auxiliary output； 1：When set temperature	0

			value<=bt，auxiliary output 2：When set humidification >=HS，Auxiliary output 3：When set humidification<=HS，auxiliary output ； 4：When auxiliary output works as adding water automatically, and when it is lack of water, it adds water	
HS	Auxiliary output humidification point	0-100	When set parameter Fu as 2,3, is effective	85RH %
bt	Auxiliary output temperature point	-60.0-99.9	When set parameter Fu as 0,1, it is effective	30.0
dt	Defrost interval	1-9999 hour	After compressor continues working for dt hours, defrost starts. When set Ht as 0，dt is dual-compressors working switchover time，dt=1, means compressor 1 works ，dt=2, compressor 2 works .For other value, then after one compressor works for dt hours，automatically switchover to another compressor	1
Ht	Defrost time	0-9999 S	After defrosting for Ht seconds, defrost stops. When set as 0，then is dual compressor working mode	0

4. **Detailed operation instructions:**

4.0: Set value revise: Press SET key, corresponding setting areas of time, temperature, humidification and illumination is flashing, revise setting time, setting temperature, setting humidification and illumination in sequence. The first segment time set as 0, only running the first segment, and without timing. For multi-segment procedure, if only running 3 segments, then set 4th segment time as 0, and so forth.

4.1: Ultraviolet disinfection function: If use UV sterilamp, then set LK as 3, press Set key to enter into, revise Ut disinfection time, then set exterior input as door control input. At this time, illumination lamp works as ultraviolet disinfection output. Press LAMP key to start disinfection, after disinfecting for Ut seconds, automatically turn off UV sterilamp, Open the door during disinfection, UV lamp is off automatically, it starts disinfect again after closing the door.(it is ineffective to this equipment).

4.2: Preset power on: If it demands for power on automatically after a period of electrifying, then

start the function of preset power-on. At first, stops the controller, then set parameter KA as 1, and exit, press SET key, Time indicator is flashing, then press SET key after setting preset power-on time. In time displaying area, it displays countdown of preset power-on and END alternatively. When countdown reaches to 0, power-on automatively according to KS setting value(KS=1)

4.3: Adjust running segment and running time: When controller is working, in standard status, long-press Add key or Minus key for over 2 seconds, can revise the present running time. At the same time, press LOCK/SHIF key and RUN/STOP key, to enter into next segment. By using this method, can adjust running time to Chinese standard time synchronously.

4.4: Fixed value and 24 segment procedure switchover: In stop condition of equipment, at the same time, press LOCK/SHIFT key and SET key for 2 seconds, then can switchover between 24 segment procedure control and day-night(or fixed control). Press LOCK/SHIF key and Move key, displaying LOOP, indicating to check the remain work cycle.

4.5: Self-adjusting function: When compressor continues working, and in balance mode, if temperature and humidification control is not ideal, then start temperature and humidification self-adjusting.

① In standard status, long-time press LOCK/SHIF key and Add key for 2 seconds, starting temperature self-adjusting, at this time, ℃ is flashing, after completing self-adjusting, ℃ continues being lighting, and achieves a group of new PID temperature control parameters, which improves the temperature controlling effective greatly. For canceling temperature self-adjusting, long-time press LOCK/SHIF key and Add key for 2 seconds.

②In standard status, long-press LOCK/SHIF key and Minus key for 2 seconds, starts humidification self adjusting, at this time, %RH is flashing, %RH continues being lighting after completing self adjusting, achieves new PID humidification control parameter, which improves humidification control effect greatly. If cancel humidification self-adjusting, long-time press LOCK/SHIF key and Minus key for 2 seconds.

③ During self adjusting, only can select temperature self adjusting or humidification self adjusting, these two self-adjusting can't carry out simultaneously. And it can't humidify during temperature self adjusting.

4.6: Dual compressor work mode: In factory parameter, set Ht as 0, set dt as the time required by one compressor swichover to another one. Since electric current of compressor 1 control output and compressor 2 control output is very small, so it needs to connect to alternating current contactor to control two compressors. Two compressors connects with AC contactor individually, then connects to cooling output individually(this equipment is single compressor mode)

4.7: Varied kinds of exterior functions: by RS485 port to connecting USB controller, or miniprinter controlling panel, or mobile phone APP or software of computer for output data(this is ineffective to this equipment)

5. Control panel instruction of mini-printer of serial port

The control panel of printer is suitable to special mini-printer of serial ports, to print temperature and humidification.

A. Wiring diagram and indicators instructions

Wiring connecting instruction:

Terminal RXD, TXD, BUSY is the corresponding terminal of printer.

Indicators instruction:

Busy, printer on line indication: if it is off, means printer is on line, if it is light, means printer is error or is off line.
RUN, running indication: if it is light, means equipment is running.
Modbus, communication indication: if it is off, means communication is normal.

B. Revise and setting communication parameters of controller:
1.The communication address of the control panel of this printer is 1, baud rate is 4800
（ ， ， ）
Communication format is MODBUS-RTU ，8，N，2.
2.When the communication address of controller, which needs print , isn't 1, communication baud rate is not 4800, communication format is not MODBUS-RTU （8， N， 2）, should revise communication parameters of controller.
Find LK code in user parameters, press numeric key, set LK value as 118, then long press function key to enter into communication parameter setting.

Meaning	Parameter name	Illustration
Communication address	Ad	1
Communication baud rate	bA	2：4800
Communication format	Fo	3：MODBUS-RTU（8，N，2）

3.Find LK code in user parameter of controller, press numeric key, set LK value as 88, then long press function key to enter into printing parameter setting.

Meanings	Parameter name	Illustration
Interval of curvilinear time coordinate	Pt	Print time interval
	PL	Invalid parameter
	PH	Invalid parameter
Year	yr	Set year of time , for example：about 2011, it is yr=11，about 2018 is yr=18
Month	MH	Set month of time
Date	dy	Set date of time
Hour	Hr	Set hour of time
Minute	Mt	Set minute of time
Time write-in	on	After completing revise of the above settings, revise this parameter as 1, press Set key to exit user parameter.

C. Wiring connection instructions of short circuit
1. Short circuit connecting "Min" and mid terminal, means that the print time is calculated as minute,

short circuit connecting ‘sec’ and mid terminal, means that print time is calculated as second.
2.Short circuit connecting ‘Big’ and mid terminal, means print paper is 57mm wide type paper, short circuit onnecting ‘small’ and mid termal, means that print paper is 44mm narrow type paper.
3.Jumper ‘no sv’ and ‘sv’ is invalid.

VII. Note.

1. ⚠ On the up- left corner on the back side of the equipment, there is one group of fuse boxes. If there is no electricity after power on, firstly to check the fuses in the boxes, to see if it is good, and firstly cut off the power before replacing the fuse.

2. ⚠ When change the fluorescent, firstly cut off the power supply, then press the door lock of the right and left side light box, to open the light box to change the fluorescent.

3. ⚠ There is a fan installed in the work chamber. Note, don't insert finger or other objects into the cover, to avoid damaging the fan, and accident. Cut off the power when changing the fan.
4. Prevent the draining pipe from being blocked, and guides the waste water to the draining pipes on the site where the equipment is located.
5. To keep equipment appearance elegant, don't wipe the surface by acid, alkaline or other corrosive goods, wipe the insides by dry cloth periodically.

6. ⚠ Detailed contents of the name plate, please refer to 'III. Main technical parameter' in this instruction.
7. Turn off the power switch when stop using the equipment.
8. When stop using the equipment for a long time, drain out the water in humidifying groove and water cup, to avoid water change and ccumulated filth, affecting the normal test of water level inductor.
9. Please use pure water, distilled water for humidifying. If use other kind of water, please soften the water quality and purifying the water, to avoid accumulated filth, affecting the normal test of water level inductor..
10. When distance from water level to the bottom in the water tank is ≤5 cm, the power of heater of the humidifier will be cut off, causing the reduce of the humidity in the work chamber.

VIII. Trouble shooting

Phenomenon	Cause	Resolution
1. No power	1. No power in the socket	1. Check the socket
	2.The plug is not inserted into socket well, or the wire is broken	2.Insert the plug correctly, or change the wire
	3. The fuse is broken	3. Change the fuse of the same type
	4. The power switch is OFF	4. Turn on the power switch
2. Temperature deviation in work chamber is large	1. The sensor is damaged	1.Replace the sensor
	2.The fan is damaged	2.Replace the fan
3.Temperature in work , chamber doesn't rise or descend	1. The set temperature is not correct	1.Adjust the set temperature
	2.Temperature controller is damaged	2.Replace the temperature controller
	3.Connecting wire is loose	3. Fasten the fixed screw of the connecting wire
4. Couldn't humidify	1.The water pump doesn't work	1. Check if there is electricity
	2.No water in the water tank or water level is lower than protective height of liquid float	2.Check the water pipe if it is blocked , or infill the water into the water tank
	3.If the data is set	3.Set the data according to the requirement
	4. Heater of humidification is damaged	3.Change the heater of humidification with the same model
5.No illumination	1.Fluorescent terminal is loose or fluorescent is damaged.	1. Remove the loose, or change the fluorescent
	2.No power	2. Check power
	3. If Illumination setting is reasonable	3.Set correctly according to the instruction

IX. Transportation and Storage

Handle carefully, do not lean the chamber over 45 degree, and don't put it upside down during the transportation.
Keep the chamber indoors with good ventilation, without corrosive gas and the humidity is not over 80%

X. After sales Service

The warranty period is one year except heating components. Within this period, if there is damaged not caused by human factor, the manufacturer is responsible to exchange the components free of charge.

XI. Packing List

No.	Item	Classification	Quantity	Remark
1	Medicine stability test chamber	Main body	1 set	
2	Shelf	accessory	3 pcs	
3	Water tank	accessory	1 pc	
4	Instruction	document	1 pc	
5	Warranty card	document	1pc	
6	Product certificate	document	1 pc	
7	Packing list	document	1 pc	
8	Fuse	spare part	1 pc	

The listed items are in compliance with the objects inside the wooden box.

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