Kalstein

Model YR02044

Laboratory Incubator

Instruction Manual

Thank you very much for purchasing our Laboratory Incubator Model YR02044.

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.

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.

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

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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.

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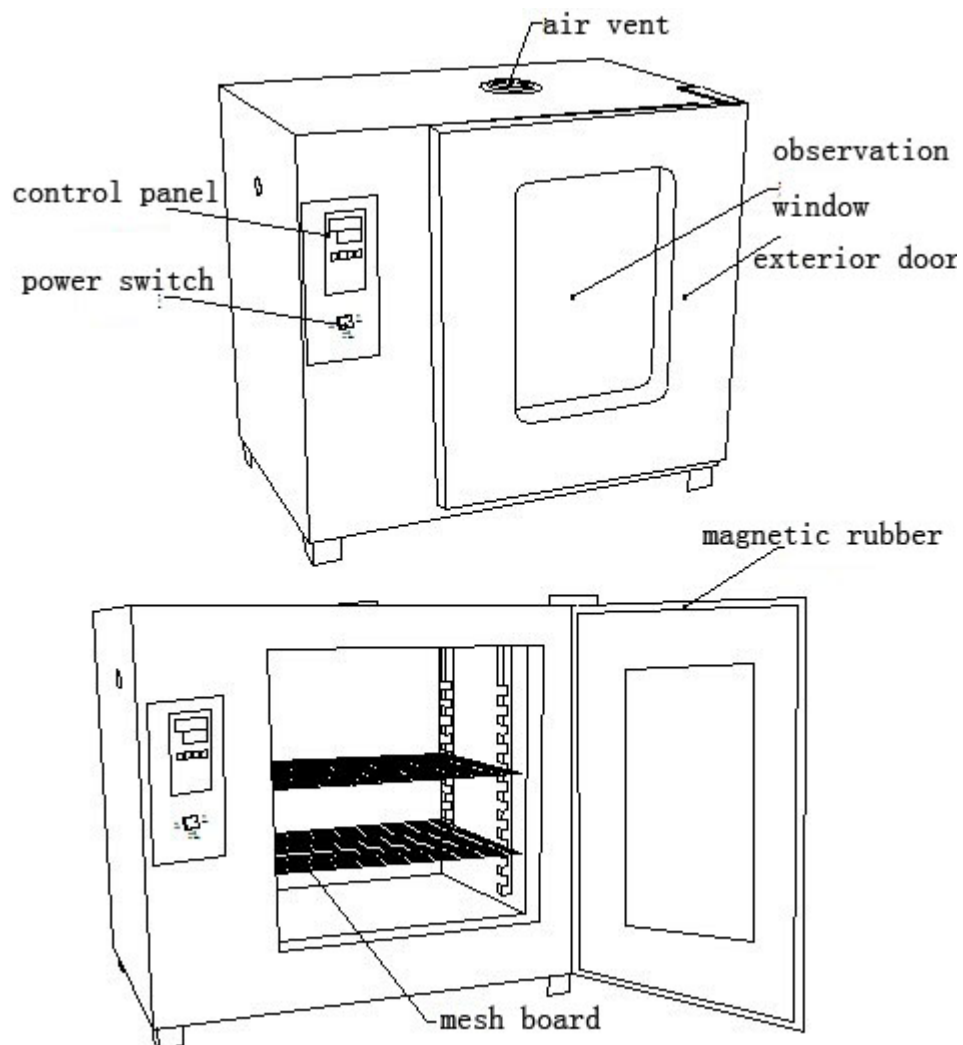
Kalstein Worldwide

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.

1.Description

The heating incubator is necessary equipment which used in medical and health, medicine, agriculture and scientific research for sample culture.

2.Product structure

3. Model and technician parameters

Model	Interior size (mm)			Exterior size (mm)			Voltage AC (V)	Power (KW)	Temperature range °C	Fluctuation °C
	H	W	D	H	W	H				
YR02044	250	250	250	480	520	400	110	0.3	Ambient temp.+5-65	±1%
YR02045	420	360	360	610	580	470	110	0.3	Ambient temp.+5-65	±1%
YR02046	500	400	400	690	620	510	110	0.3	Ambient temp.+5-65	±1%
YR02047	600	500	500	790	720	610	110	0.3	Ambient temp.+5-65	±1%

4.Use method

(A)operation

1) PV displayer: display test temperature, display all kinds of prompts according to controller status.

(2) SV displayer: display setting temperature, display all kinds of parameters according to controller status.

(3) indicator:

*RUN (running indicator): it is on when controller working, flashing when auto-setting

*OUT （heat output indicator）：it is on if there is heat output.

*ALM （alarm output indicator）：it is on if there is alarm output.
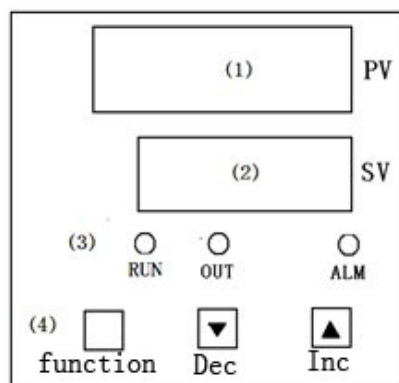
7. key：

1) Function key: for parameters callout and updating confirmation.

2) Decrease key: adjust the size of value and restart auto-setting.

3) Increase key: adjust the size of value and restart auto-setting.

5. Operation Instruction

1) If displays 000, it means sensor open circuit or input signal beyond measured range

2) Change way of Setting value

Press function key, the upper row displays SP, press ▲ or ▼ key, the lower row displays the needed setting value. press function key again, the upper row displays ▲ or ▼ key, the lower row displays the needed timing. press function key again, return to standard mode.

3) If there is timer function

When ST is 0, no timer function; when ST is not 0, with timing function, the unit of time is minute or hour.

4) Press ▲ key, screen displays the already running time, long press ▲ key for more than 4 seconds, can run /stop.

5) Change way of control parameter

Press function key for more than 4 seconds, press function key again, found the LK, press ▲ or ▼ key, the lower row displays 18, repress function key, look for the prompt of control parameter which need to be adjusted, press ▲ or ▼ key, the control parameter is the needed value. several control parameters can be adjusted by one time, repress function key for more than 4 seconds, return to standard mode. (It will return to standard mode automatically within 1 minute without pressing any key)

6. Auto PID tunning

After pressing ▼ key for 5s, RUN light is flashing, instrument starts auto-PID tunning, auto-setting is over, RUN light stops flashing, obtain new PID parameter which can overcome over-temperature, instrument proceeds with controlling according to new PID parameter. New PID parameter can be checked in instrument

When in the process of auto-setting, press ▼ key for 5s, RUN light stops flashing, PID tunning is over, instrument proceeds with controlling according to original PID parameter

7. Internal parameter

Prompt	Name	Setting range	Instruction	Factory default
AL AL	Alarm setting	0～ full scale 0.0～full scale	Alarm setting, the dead zone is 0.2 fixed value; ALM is on，with beeper ，cut off power.	3.0
P P	Proportion	0～Full scale 0.0～full scale	The larger P is, the smaller proportion action is, the lower system gain, just working in heating; p=0, stepping control	20.0
I I	Integral time （readjust time ）	10～999 seconds	Integral action time constant, the larger I am, the smaller integral action is I=0，d=0 is half a proportion control	400
d d	Differential time （pre-adjust time）	0～999 seconds	Differential action time constant, the larger d is, the smaller differential action is And can overcome and overshoot, I=0，d=0 is half a proportion control	400
Ar Ar	Overshoot inhibition (Proportion reset ）	0～100%	When two PID working, Ar is: 1.5～2 times. when the half time proportion working, Ar is :(need to modify)/ (proportion range P)	75
T T	Heating cycle	1～100 seconds	Controllable silicon output is 2～3 seconds, for the larger after-power equipment, turn up T to decrease offset which PID controls	30
Pb Pb	Zero adjustment （intercept）	-100～100 -100.0～100.0	When the zero difference is larger and the full-scale difference is smaller, adjust this value, generally Pt100 rarely adjusts this value	0
PK PK	Full scale adjustment （slope）	-199～999 seconds	When the zero difference is smaller and the full scale is larger, adjust this value. PK=4000× (rated value -actual display value)/ actual display value, generally Pt100 adjusts this value fist	0
dP dP	Decimal point (setting)	0；1	If DP=0 display resolution is 1°C; if DP=1 display resolution is 0.1°C, when it is more than 99.9, display resolution will turn into 1°C automatically	1
rH rH	Scale setting	0～400°C 0.0～400.0	Adjust rH, make the measured range of instrument is 0～rH (°C)	According to User's requirement
LK LK	Password lock	0～255	When LK=18，above parameters could be changed	0

Every change of function parameter may change the control effect, it will return to standard mode automatically within 1 minute without pressing ↻ key, maybe some function parameters are not changed

8. Trouble shooting and Failure analysis and solutions

| Trouble	Failure analysis and solutions
.The equipment fails to work after ower is connected	* There is something wrong with power, ask an electrician for help * Heating wire burned out, test the two-end resistance value of heat ware, if resistance value is 0, It means that the heating wire is short-circuit, it occurs switch trip; if the resistance value is hundred Kohm or infinity, it means that heat ware is open circuit power switch blade is off The power switch is on, check the control circuit board and cable
2.temperature stops rising	* Check timing whether it is timing settings. * Most users do not understand the function, when reaches timing value, the heating wire stops working, the fan fails to work, temperature stops increasing. * Check whether the fan is working, if fails (use multi-meter to test the voltage of fan pin whether it is 220V), then call us to send accessories to solve * Checking control panel with a multi-meter to see whether there is output, according to the drawing; (Drawings attached).
3.motor fails to run	Result: it is running, but the airflow is unable to circulate, lead to temperature rises slowly, then contact us
4.handle is broken	Replace and contact supplier
5.there are differences between the temperature which panel displays and mercury temp.	premise: Thermometers need to be tested whether it is qualified then to measure The installation position of mercury: hang the thermometer in the center of chamber, avoid putting on the shelf to measure Refer to the parameter adjustment table
6.temperature appears bounce or keep stationary, or abnormal "----"	* There is something wrong with temperature sensor, should be replaced. Note: sensor adopts Pt100 platinum resistance

9. Notice

1. The samples should not be placed too crowded, so as not to affect convection

   inside the chamber. Please connect the heating incubator conductor terminal

   according to relevant regulations. in order to be safe, don't touch electrical circuit

   which is in the left heating incubator with hand and wet cloth

2. Don't splash water to observation door, or it may crack

10. Maintenance

1. Heating incubator should be kept clean, please use cotton cloth to clean glass
   door,
   in order to avoid chemical reaction, do not use corrosive chemical solution to
   sweep

2. If heating incubator is not used for long period, in order to avoid corrosion, should
   be applied with neutral grease or Vaseline in the electroplating pieces. and
   placed in a dry indoors

3. Please operate this heating incubator according to our manual, if there is
   something wrong with this heating incubator, please refer to below solution

11. Wiring layout
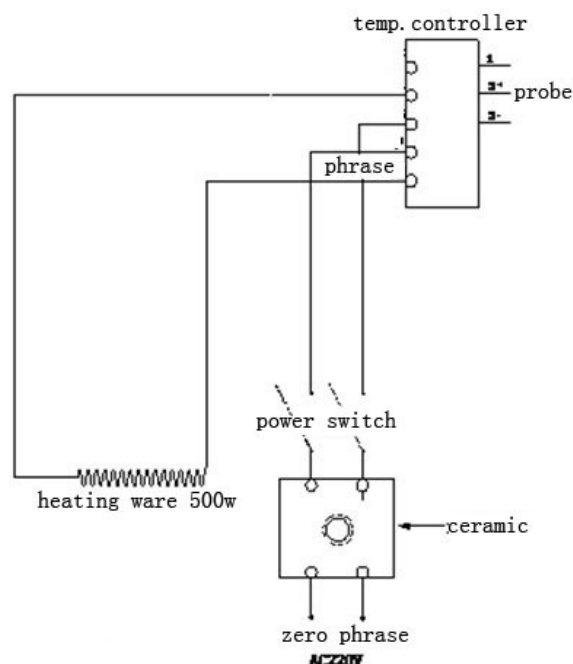
YR02044 incubator

Packing list

Number	Name	Quantity	Remarks
1	Heating incubator	1	
2	Shelf	2	
3	Manual	1	