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.

Online Inductions and Trainings

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

Quick Response

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

#Letsgivemore 💚

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

Technical Support

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

Delivery Logistics

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

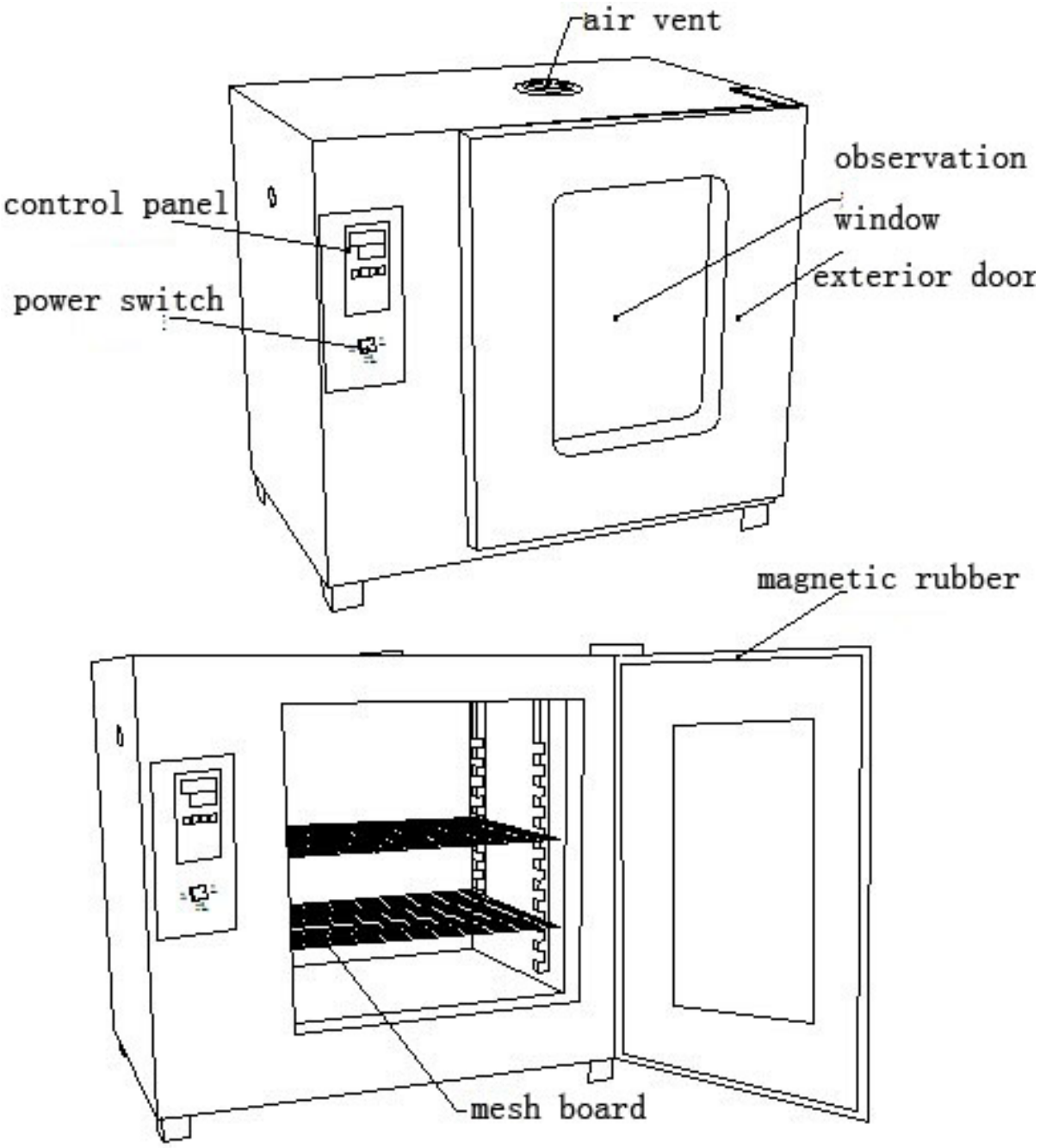
Kalstein Worldwide

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

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



Shell is made of steel plate, and spray paint treatment. Inner chamber is made of zinc-plating or stainless steel. the observation window is double tempered glass

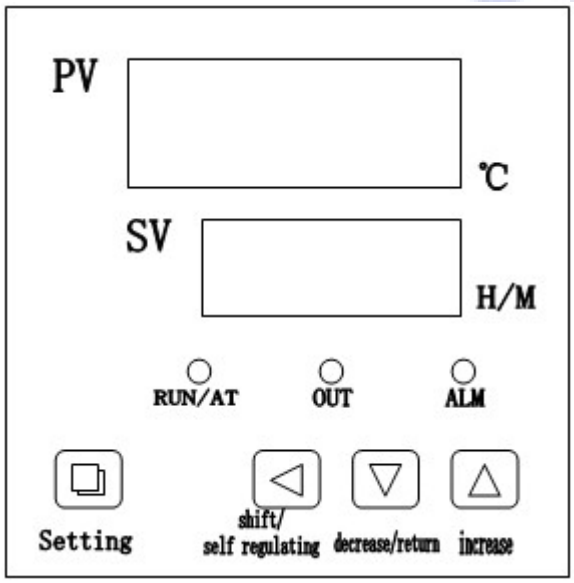
3. Models and technical parameters

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	220	1.0	RT+5~65	±1%
YR02045	420	360	360	610	580	470	220	1.6	RT+5~65	±1%
YR02046	500	400	400	690	620	510	220	1.6	RT+5~65	±1%
YR02047	600	500	500	790	720	610	220	1.6	RT+5~65	±1%

Operation method

Make sure the switch is in the "off" position before power on, check whether it is broke circuit or leakage, connect power, turn on power switch

Panel display



Indicator

1."RUN/AT" indicator: it is on when running, it is out when over

flashing when auto-setting

2."OUT" indicator: it is on if there is heating output, or it is out

3. "ALM" indicator: it is on when over-temperature alarming, or it is out

4. WL and WH is invalid indicator

Operation and use method

1) When power is connected, the upper screen displays "InP", the lower screen displays "scale value", it will enter normal status after 3 seconds

2) The reference and setting of temperature and soaking time

A: if no timing function

press "set" key, to access temperature setting mode, the lower screen displays "SP", the upper screen displays setting temperature (the units digit flashing first), then modify the needed setting value via shift, increase and decrease key; press "set" key again to log out setting mode, the modified setting value will be saved automatically. It will return to normal display model without pressing any key in one minute.

B: if with timing function

press "set" key, to access temperature setting mode, the lower screen displays "SP", the upper screen displays setting temperature (the units digit flashing first), then modify the needed setting value via shift, increase and decrease key ;press "set" key again, enter setting mode of soaking time, the lower screen displays "St", the upper displays soaking time setting value (the units digit flashing first), press "set" key again to log out setting

mode, the modified setting value will be saved automatically

when the soaking time is set to "0", it means without timing function, controller run continuously, the lower screen displays setting temperature ;when setting value is not "0", the lower screen displays running time or setting temperature, the last decimal point is on, after measured temperature reach to setting temperature, timer start timing, the decimal point is flashing, time is up, running stops, the lower screen display "End", with continuous beeper .after running is over, long press "decrease /restart" key to reboot

3) There is something wrong with sensor

If the upper screen displays “------“it means there is something wrong with sensor, temperature is outside of measured range or controller fails, controller will disconnect heating output automatically, and beeper keeps beeping and alarm indicator is on, please check the temperature sensor and connection.

When over-temperature alarming, beeper beeps, "ALM" alarm light is on; when lower-temperature alarming, beeper beeps, "ALM" alarm light is flashing, if change setting temperature result in over-temperature alarming, "ALM" alarm light is on, without beeper

4) Press any key to mute

5) "Shift " key: press this key to modify setting value.

6) "Decrease" key: press this key to decrease setting value, long press this key to

continuously decrease setting value

7) "Increase" key: press this key to increase setting value, long press this key to continuously increase setting value

8) in setting mode, without pressing any key within 1 min, it will return to normal mode automatically

A). Auto-setting

Please proceed with auto-setting if the control effect of temperature is not ideal. if temperature soaring seriously when auto-setting, take this factor into consideration fully before user proceed with system auto-setting

Under non-setting status, long press "shift/At" for 6 seconds to enter auto-setting, "RUN/AT" light flashing, this light stop flashing after auto-setting is over, controller will obtain a better PID parameters .and the parameters will be saved automatically. during auto-setting, long press "shift/At" for 6 seconds to stop auto-setting.

When auto-setting, if there is over-temperature, "ALM" alarm light is out, no beeper, but the heating alarm relay will be disconnected automatically. "set" key is unavailable during auto-setting. when auto-setting, no matter whether there is soaking-time setting, the lower screen always displays setting temperature.

B). Interior parameters

Long press "set" key for 3 seconds, the lower screen displays password prompt "Lc ", the upper screen displays password value, to modify the needed password value via increase, decrease and shift .press "set" key again, if the password value is incorrect, it will return to

normal mode automatically .if the password value is correct, then enter setting status of interior parameter, press "set" key again to modify parameter in turn .press "set" key for 3 seconds to log out and the parameters will be saved

Interior parameter -1

Parameter	Parameter name	Parameter function	(range） Factory default
Lc-	Password	When "Lc=3", check and modify parameter	0
ALH-	Over-temp. alarm	When test temperature > setting temperature, the alarm indicator is on, beeper beeps, disconnect heating output	(0.0～100.0℃) 20.0
ALL-	Lower-temp. alarm	When test temperature ＜ setting temperature, the alarm is on, beeper beeps, disconnect heating output	(0.0～100.0℃) 20.0
T-	Control cycle	Heating control cycle	(1 ～ 60seconds) note: 1
P-	Proportion	Time proportion adjustment	(1.0 ～ scale) 35.0
I-	Integral time	Integral action adjustment	(1-1000seconds) 200
d-	Differential time	Differential action adjustment	(0 ～ 1000seconds) 200
Pb-	Zero adjustment	Modify error margins of sensor (Low temperature) Pb=actual temp.–test temp.)	(-12.0～12.0℃) 0.0
PK-	Full scale adjustment	Modify error margins of sensor (High temperature) PK=1000*(actual temp.-test temp.) /Test temp.	(-999～999) 0

Note 1: the controller model is PCD-2xx2 (relay output), the Factory default of heating control cycle is 20 seconds, other model is 5 seconds

Inter parameter -2

parameter	Parameter	Parameter function	（range ）

	name		Factory default
Lc-	Password	When “Lc=9” check and modify parameter	0
Co-	Turn off heating output	When test temperature ≥setting temperature +Co, Turn off heating output	(0.0～50.0℃) 5.0
Hn-	Timing way	0: minute timing ;1: hour timing	(0～1) 0
rH-	Mileage value	The maximum value of setting temperature	(0～400.0℃) 300.0

The comparison table of English name and parameter prompt

parameter prompt	SP	St	Lc	AL	T	P	I	d
english name	SP	St	Lc	AL	T	P	■	d
parameter prompt	Pb	Pt	Co	Hn	oP	rH		
english name	Pb	Pk	Co	Hn	oP	rH		

Notice: if user want to reach ideal control effect of temperature but without system auto-setting, give P、I、D initial value according to below parameters of different equipments. if still can't reach ideal control effect of temperature, please proceed with system auto-setting

p（proportion ）	（integration）	D（differential ）	Equipment style
35.0	200	200	Drying oven and oil bath equipment
15.0	200	200	Heating incubator
6.0	100	100	Water bath and water tank

9. Notice

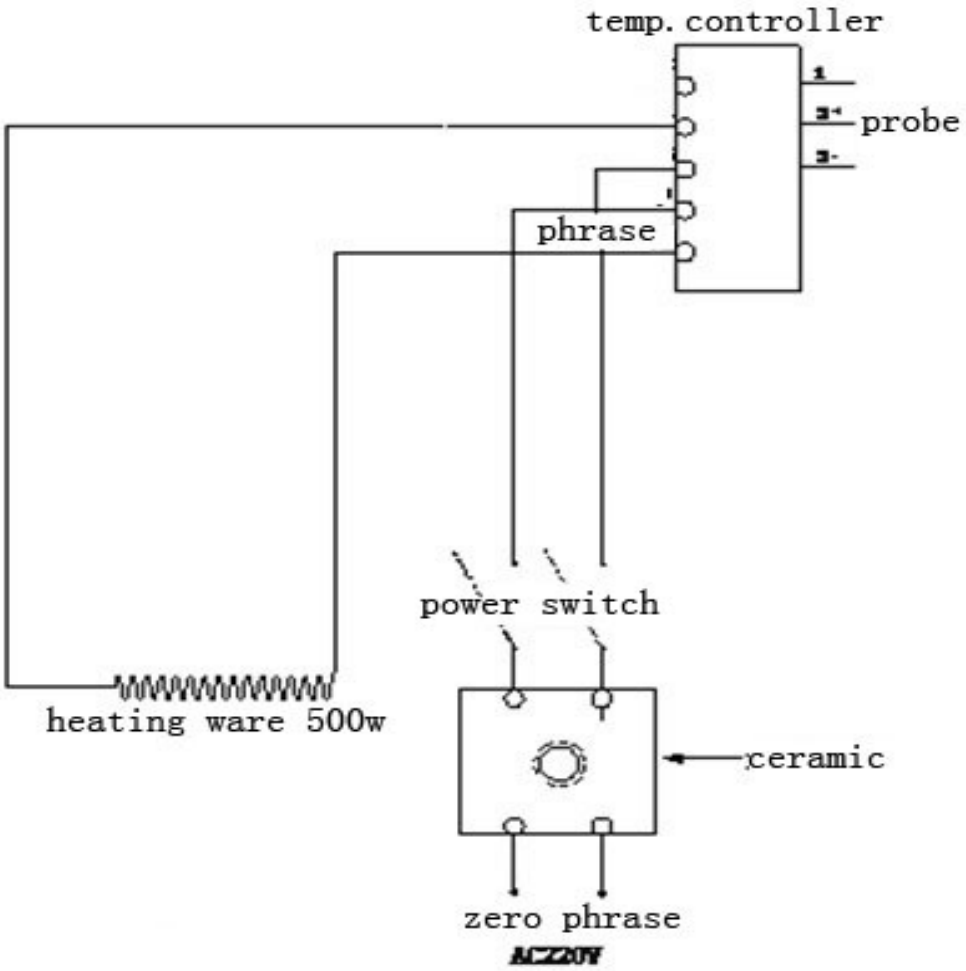
1. The samples should not be placed too crowded, so as not to affect convection inside the chamber. Please connect the heating incubator conductor terminal according to relevant regulations. in order to be safe, don't touch electrical circuit which is in the left heating incubator with hand and wet cloth
2. Don't splash water to observation door, or it may crack

10. Maintain

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 Heating incubator

Packing list

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