Drying Oven
(User Manual)

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Thanks for purchasing the equipment, please carefully read the manual before operating.

Note：

1. The drying oven must be good grounded to ensure safe.

2. The drying oven should be placed in a room with good ventilation conditions and no inflammable and explosive materials or toxic substances around it.

3. There is no explosion-proof device in the drying oven, don't put inflammable and explosive materials into it for drying.

4. Do not overcrowd the objects in the oven, especially around the temperature sensor, make room for hot air circulation.

5. Do not wipe the machine surface with acid or alkali or corrosive substances.The inside and outside of the drying oven should be kept clean. If it is not used for a long time, cover it correctly and put in a dry room. If any abnormality in use, please cut off the power supply and contact us in time.

6.Be careful of scalding when using in high temperature.

I：Application

It's widely used for drying, baking, melting wax and sterilization in factories, mines, universities, scientific research and laboratories.

II. Technical Specifications

Model	9030A	9070A	9140A	9240A	9420A	9620A
Voltage	AC220V ,60Hz				AC380V ,60Hz	
Temp. Range	RT+5℃～200℃					
Display Resolution	0.1℃					
Temp. Fluctuation	±1.0℃					
Power Rating	700W	1000W	1600W	2000W	2600W	3600W
Chamber Size (cm)	30×30×35	40×40×45	45×55×55	50×60×75	60×55×130	80×60×130
Exterior Size(cm)	45×47×70	55×60×80	64×73×90	88×72×93	78×71×178	98×80×178

Model	9036A	9076A	9146A	9246A	9426A	9626A
Voltage	AC220V ,60Hz				AC380V ,60Hz	
Temp. Range	RT+5℃～300℃					
Display Resolution	0.1℃					
Temp. Fluctuation	±1.0℃					
Power Rating	950W	1400W	2000W	2600W	3500W	5700W
Chamber Size (cm)	30×30×35	40×40×45	45×55×55	50×60×75	60×55×130	80×60×130
Exterior Size(cm)	45×47×70	55×60×80	64×73×90	88×72×93	78×71×178	98×80×178

III: Temperature controller instruction

Indicator definition:

1.Lock：it‘s lighted on in the lock screen state, otherwise it’s off.

2. [At] : It flashes during temperature self-tuning, otherwise it’s off.

3. [Alarm] :It’s lighted when there is a temperature deviation or abnormal temperature measurement. When there is a low temperature deviation, this light flashes. Under normal conditions, the light is off.

4. [Heating]: It‘s lighted when there is heating output, otherwise it is off.

5. [A] : It‘s lighted when there is timing reservation, otherwise it is off.

6. [Run / Stop] : Only stop lighted after timingfinished,in normal status, Run is on.

7. [↑ / → / ↓] : Flashes during temperature rise, keep constant temperature and temperature drop.

Key definition:

SET: In the display of main interface, press this key to enter the temperature and time setting state, long press this key for 3 seconds to enter the internal parameter setting state.

【◄/AT】: Press this key in the setting state to shift and modify to set value.
In the display of main interface, long press this key for 6 seconds to enter the temperature self-tuning state.

▼/RES : In the setting state, click or long press this key to decrease the set value.
at the end of operation main interface, long press this key for 3 seconds to restart operation.

:Add / lock the screen: Click or long press this key in the setting state to increase the set value,If the screen lock function is selected, click this key to lock or unlock the screen at main interface .

IV. Operation Method

【▲/🔒】

1. General information for use

1) Put the sample to be dried into the drying oven and close the door.

2)Set the required working temperature and working time according to the operating instructions of the temperature controller.

3)The equipment will automatically work under the settings. When drying process finished, turn off the power and take out the articles.

If the operating temperature is too high (higher than 70 ℃), please wait until the equipment is cooled before taking out the articles.

2. Setting for temperature and time

1) Temperatue set without timing function:

Press "Set" key to enter the temperature setting state, the upper PV row shows the current actual temp. and the lower SV row displays the temperature setting value, modify to the required setting value by AT, increase and decrease key; then press the "Set" key again,keep”0000” at time zone, press set key agin to exit the setting state and the modified temp.setting value will be saved automatically.

2）With timing function:

Press "Set" key to enter the temperature setting state, the upper PV row shows the current actual temp. and the lower SV row displays the temperature setting value, modify to the required setting value by AT, increase and decrease key; then press the "Set" key again to enter the time setting state, the TIME zone displays “0000”,modify to the required time by AT, increase and decrease key. After time setting,press "Set" key again to exit the setting state, the modified setting value will be automatically saved.

When the time is set as "0000", it means there is no timing function and the instrument runs continuously and the temperature setting value is displayed in the lower row. When the setting time is not "0000", the operation time is displayed in the lower row, when the timing finished, the instrument stops working, "End" will displayed on the screen and the buzzer sounds. After the timing operation, long press the "decrease/RES" key for 3 seconds to restart the operation.

3) Abnormal temperature measurement alarm

If "----" is displayed on the upper PV zone, it means that the temperature sensor is faulty or the temperature exceeds the measuring range or the instrument itself is faulty, the instrument automatically stops heating, the buzzer continuously sounds and the alarm light is always on. Please carefully check the temperature sensor and its cables.

4) The instrument will alarm when over temperature, the buzzer beeps, "ALM" light is always on and stop heating. When lower temperature deviation, the buzzer beeps and "ALM" light flashes. If over temperature alarm caused due to change of temperature setting value, the "ALM" lights on, but the buzzer does not sound.

5)When the buzzer sounds, press any key to silence.

6) “Shift" key: Press this key in the setting state to make the set value shift for modification; long press this key for 6 seconds to enter the temperature self-tuning selection state in the normal display state.

7) "Dec" key: Press this key to decrease the setting value in the setting state, long press this key for continuous decrease the setting value. In the normal display state, when the timing operation is finished, long press this key for 3 seconds to restart the operation.

8) "Inc" key: Press this key to increase the setting value in the setting state step by step, long press this key to make the setting value continuously increase. Press this key to turn on or off the backlight of the LCD screen in the normal display state.

V: System self-tuning

When the temperature control effect is not ideal, the system can be self-tuning. In the process of self-tuning, the temperature will have a large overshoot. Please carefully consider this before the user carries out the system self-tuning.

Long press the "shift" key for 6 seconds in the non setting state to enter the system self-tuning selection state. The upper row displays “AT, the lower row displays “OFF”, can select the display to "on" or "off" by increase or decrease key. When "on" is displayed, press "Set" key to enter the system self-tuning state ,【AT】 indicator flashes and the self-tuning is performed. When self-tuning completed, 【AT】indicator stops flashing, the controller will get a better set of PID parameters and the parameters will be automatically saved. Long press the "shift" key for 6 seconds to stop the self-tuning.

In the process of system self-tuning, if there is upper deviation over temperature alarm, "ALM" light is not on and the buzzer does not sound, but the heating alarm relay will be automatically disconnected. The "set" key is invalid during system self-tuning. In the process of system self-tuning, whether there is constant temperature time setting or not, the lower row always displays the temperature setting value.

VI. Setting for temperature parameters

Long press the setting key for 3 seconds, the password prompt "LC" will be displayed on the upper row and the password will be displayed on the lower row. Modify to the required password through the increase, decrease and shift keys, then press setting key again, if the password is not correct, the instrument will automatically return to the normal display state. If the password is correct ,will enter the internal temperature parameter setting state. Click the setting key again to modify each parameter in turn. Long press the setting key for 3 seconds to exit the state and the setting parameters will be saved automatically. See the table below for details:

Internal parameter table

Symbol	Name	Description	Factory set value
Lc	Password Lock	The parameter value can be viewed and modified when "LC = 3"	0
ALH	Over temperature alarm	when "temperature measurement value ＞ temperature setting value + HAL, there will be upper deviation overtemperature alarm	(0～100.0℃) 20.0
ALL	Lower deviation temperature alarm	When the temperature measurement value ＜ temperature setting value - ALL, there is a lower deviation temperature alarm	(0～100.0℃) 0
P	Proportional	Time proportional function adjustment.	Note 1
I	Integral time	Integral action adjustment.	(1～2000 seconds) 200
d	Differential time	Differential action regulation	(0～1000 seconds) 200
T	Control time	Heating control time	(1～60 seconds) Note 2

Pb	Correction of temperature measurement deviation	It is usually used to correct the error in low temperature measurement.	(-50.0～50.0℃) 0
PL	Temperature measurement slope correction	It is usually used to correct the error in high temperature measurement. PL = 1000 * (actual temperature value - instrument measurement value) ÷ instrument measurement value	(-999～999) 0
Addr	Communication	Reservation, invalid.	(1～32) 1
Loc	Setting Lock	0: the temperature or time setting value can be modified;	(0～1) 0

Note 1: CU50 type: (0.1-100.0 ℃) 20.0; others: (0.1-300.0 ℃) 35.0

Note 2: the factory default value of the relay output control cycle is 20 seconds, others are 5 seconds.

VII:Failure handling methods：

Problems	Causes	Solution
No power supply	Socket without power	Change socket
	Not plugged or wire broken	Plug well or connect wire well
	Fuse is open	Change fuse
	Power switch not on	Switch on.
No temperature increasing	Setting temperature is too low	Adjust setting temperature
	Electric heater is broken	Change electric heater
	Temperature sensor is broken	Change temperature sensor
	Temperature sensor loose	Tighten the sensor connecting wire

Big deviation of temperature	Temperature sensor is broken	Change temperature sensor
Temperature out of control	Temperature sensor detached	Fix the sensor
	Controller broken or thyristor broken	Change controller or thyristor.

Note: Maintenance operations shall be carried out by qualified personnel. Please turn off the power supply before repairing.

VIII:After-sales service

The warranty for the drying oven is 12 months from delivery (except for the heating elements). If damaged due to non-human factors or can not work normally during warranty period, our company is responsible for free repair or replacement of product parts. Beyond the warranty, we try our best to provide convenience for users.

IX: Packing List

Item	Name	Category	Qty.	Remark
1	Drying Oven	Machine	1 Set	
2	User Manual	Document	1 pc	
3	Fuse	Spare parts	1pc	
4	Power cord	Part	1pc	
5	Shelves	Part	According to configuration	
6	This packing list	Document	1 pc	

We reserve the right to change the data in the manual without prior notice. The company has the final interpretation right.