PACKING LIST

No.	Item	Qty.	Remarks
1	Main unit	1 set	
2	Shelf plate	2 pcs	
3	User manual	1 copy	
4	Product certificate	1 copy	

AFTER-SALES SERVICE TERMS

(1) Three-year free warranty after sale (one-year warranty for consumable parts: motor, temperature controller, relay), with lifetime technical service. The warranty period is based on the date of the sales receipt; please be sure to keep the sales receipt properly.

(2) Products modified or disassembled by the customer without authorization are not covered by the free warranty.

(3) Faults or damage caused by improper use by the customer are not covered by the free warranty.

(4) For products beyond the warranty period or not covered by the free warranty, only the corresponding service cost will be charged.



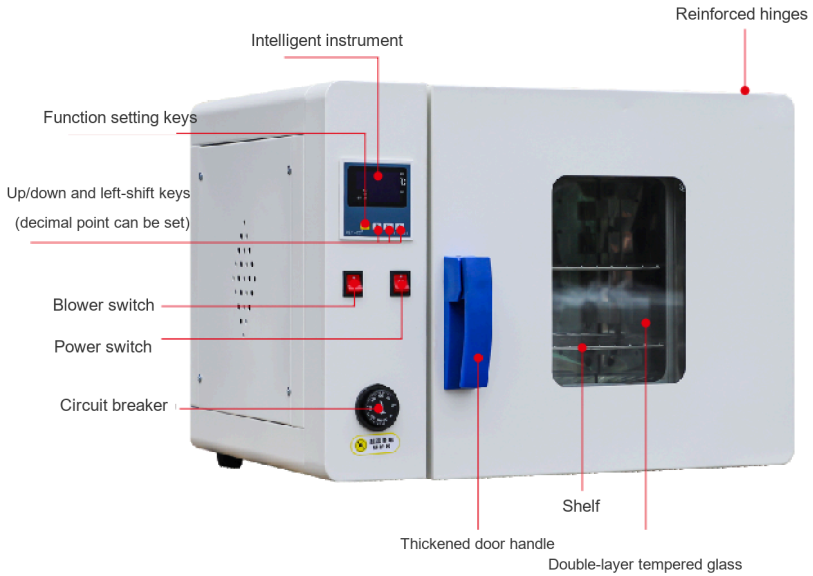
GF series blast drying oven

(GF) Series User Manual

Please read the manual carefully before use ▶

OUTSTANDING DETAILS, BEYOND THIS

BECAUSE OF CONCENTRATION IS SPECIALTY



Before starting your electric heating drying oven, please read this user manual carefully; we believe it will help your oven give its best performance. After reading this manual, please keep it properly for future reference.

Version: 2023-1

1. Scope of Application

The equipment is suitable for drying, heat treatment and heating of test samples in constant-temperature environments for various products, materials, electrical appliances, instruments, components, electronics, electrical and automotive, aviation, communication, plastics, machinery, chemical, food and hardware-tool industries, as well as agriculture, scientific research, medical and health-care institutions and other laboratories. It is not suitable for drying volatile or flammable items, so as to avoid explosion.

2. Product Features

This product is equipped with a graphene carbon-crystal high-temperature heating plate installed in the working chamber of the oven. The heating-plate element is suitable for various occasions requiring hot air, such as hot-box heating, oven heating, dry/wet heating and electronic-product baking. Compared with ordinary elements, the graphene heating plate has a larger heat-dissipation area. Under the same power condition, it offers advantages such as faster heating, more uniform heating, better heat dissipation, higher efficiency and longer service life. A reasonable design has been adopted to meet the requirements of different applications, and the product has been widely used in machinery manufacturing, automotive, textile, food, household-appliance and other industries. A high-temperature- resistant fan is installed inside; with a more reasonable air duct, the hot-air circulation in the chamber is faster and the temperature uniformity is better. The fan is insulated from the hot air inside the chamber, and the blast is controlled by a separate switch, which extends the service life of the fan. The temperature-control system provides constant temperature and a fixed set value. The hot air generated during heating is discharged outward through the heat-dissipation holes on the top. An additional thermal-insulation layer is arranged between the working chamber and the outer shell. The outer shell is made of cold-rolled steel plate with spray-paint finish, and the working chamber is made of 201 stainless steel.

3. Product Models and Technical Parameters

Model	Working chamber (mm)			Working voltage AC (V)	Power (kW)	Working temp. (℃)	Temp. control resolution (℃)
	W	D	H				
GF-00B	350	350	350	220	0.8	RT+10-250	0.1
GF-1B	450	350	450	220	1.5	RT+10-300	0.1
GF-2B	550	450	550	220	2	RT+10-300	0.1
GF-3B	600	500	750	220	2.5	RT+10-300	0.1

4. How to Use

Controller operation instructions

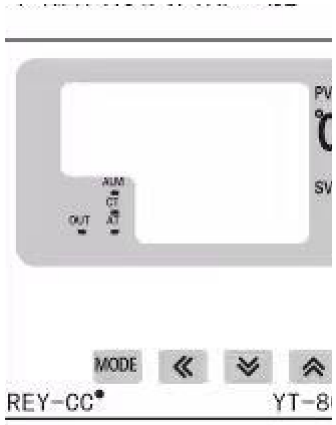
- Please read this user manual carefully before use and keep it properly.
- Do not use this product in environments with excessive temperature/humidity or with strongly corrosive gases.
- Before connecting to the power supply, please confirm that the supply voltage and load capacity are within the rated range.

Main functions

The YT-800 temperature controller adopts a brand-new design; it has a beautiful appearance, complete functions and simple operation.

Overview: the YT-800 series intelligent temperature controller is a multi-function regulating instrument using a microprocessor. It applies advanced design and manufacturing technology, so the instrument is exquisite and compact with reliable performance. Its unique intelligent control function enables the operator to obtain good results through simple operations.

⊛ Panel Names and Functions of Each Part



Panel	Description
Upper display	Actual temperature in the oven
Lower display	Set temperature value or time
OUT indicator	Oven temperature is low, heater is heating
ALM indicator	Abnormal temperature in the oven
CT indicator	Oven temperature reaches the set temperature
AT indicator	PID parameters are being auto-tuned
MODE	Parameter setting key
«	Shift key
∧	Increase key
∨	Decrease key

⊛ Operation and Use of the Instrument

Temperature setting method:
Press the MODE key to directly enter the temperature setting state; the upper row displays **So**. Press ▲ to increase the set temperature and ▼ to decrease it. Press **«** to move the decimal point to set the ones, tens or hundreds digit. As shown below:



Time setting method:
Press and hold MODE for 3-5 s; the upper row displays **ST**. Press **«** to move the decimal point to set minutes or hours. As shown below:

Press MODE again; the upper row displays **LCK** and the lower row displays **0**. Adjust the lower row from 0 to 2, then press MODE; the upper row displays **AL**. This page is used to set the over-temperature alarm value. For example, if the lower-row value is set to 10 and the actual temperature exceeds your set temperature by 10 ℃, the alarm buzzer will sound.

For instruments with a timing function: after timing starts, the lower row displays the holding time; when the time is up, the output is turned off and the lower row displays **oFF**. If the timing time is set to 0, the timing function is turned off and the equipment stays at a constant temperature.

Note: the timing function can only assist workers in on-site operations and must not be used in completely unattended occasions, so as to avoid accidents in the event of a fault.

Parameter setting method:
Incorrect parameter settings may affect normal operation; please read the notes below before modifying. Press the setting key for 3 s; the upper row displays **ST**. Press it again and change **LCK** to **1**; press the setting key to enter **IT**. For **Po**, reasonable settings reduce overshoot and speed up stabilization: if overshoot is large, increase the IT value; if the temperature rises very slowly near the set value, decrease it.

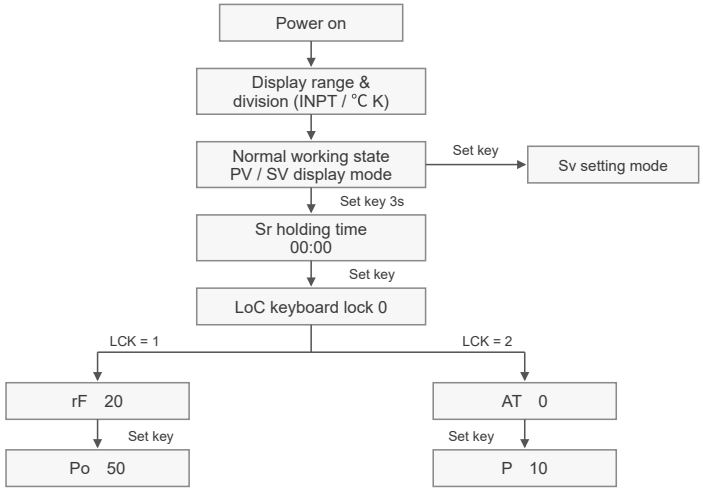
Po is the average heating power percentage when the oven temperature is constant. You can observe and set the time percentage of heating when the temperature is constant (press the key while the instrument is in the working state; SV displays the heating power percentage).

If the difference between the instrument reading and the ambient temperature is large at startup, the **Sc** value can be modified. For example, if the actual temperature is 26 ℃ but the instrument displays 28 ℃, set Sc to -2. **Sm** is used to correct the error at high temperature, in percentage. For example, if the actual temperature is 200 ℃ but the instrument displays 196 ℃, the error is 2%, so set Sm to 2.0; if the actual temperature is 200 ℃ but the instrument displays 202 ℃, the error is -1%, so set Sm to -1.0.

Control Parameter Functions

Symbol	Name	Description	Setting range	Factory value	Group
ST	Timing time	00:00 = no timing function	0-99 h 59 min	0	
LCK	Keyboard lock	Value for entering parameter setting	0-9999	0	
IT	Overshoot suppression	Increase if overshoot is large; decrease if the value is not reached	1-100	20	LCK 1
Po	Constant-temp. power	Power percentage for constant oven temperature	0-100	50	
AL	Alarm value		Full range	20	LCK 2
AT	Auto-tuning	Sets IT, Po and PID parameters automatically	0-1	0	
P	Proportional band	(P = 0 gives on/off control)	0-200	10	
I	Integral time (s)		0-3600	360	
D	Derivative time (s)		0-3600	120	
T	Output cycle (s)		1-100	40	
HY	Hysteresis width	(i.e. switching difference)	0.1-10.0	3.0	
Sc	Zero correction	Corrects the cold-junction error	-100-100	0	
Sm	Full-scale correction	Corrects the error at high temperature	-50.0-50.0	0	

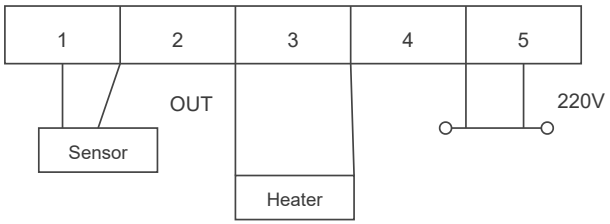
Operation Flow



Common Troubleshooting

When the instrument displays **HHH**, check whether the sensor and the connecting wire are broken.
When the instrument displays **LLL**, check whether the sensor and the connecting wire are short-circuited or reversed.
When the upper row of the instrument displays normally but the oven does not heat and the heating indicator is off, check whether the set temperature is normal.
If the heating indicator is on, check whether there is power on the heater. If there is power on the heater, the heater is faulty; if there is no power on the heater, replace the instrument.
If the heating indicator is off but the heater is still heating (when heating has just stopped, the heater remains hot for a while due to residual heat), check whether the instrument, AC contactor or solid-state relay is damaged.
If the instrument shows no display at all, check whether there is a 220 V power supply on the terminals. If there is no power, check whether the external power supply is normal, whether the wiring is loose and whether the fuse is blown. If there is 220 V power on the terminals, replace the instrument.

Wiring diagram



YT-871

5. Precautions

1. Before power-on, make sure the switch is in the "OFF" position and check for open circuit or electric leakage.
2. Slight smoke may appear during the first heating (there are welded joints inside the chamber). Therefore, before formal use it is recommended not to place samples first: close the door, unscrew the exhaust cover on the top of the oven, turn on the power switch and set the temperature controller to 100 °C; the oven then starts to heat up. When 100 °C is reached, the controller automatically keeps the temperature constant; you may then cut off the power and open the door to dissipate heat and smoke.
3. For formal use, first place the samples on the shelves, close the door, unscrew the exhaust cover on the top, connect the power supply, turn on the power switch and then set the temperature controller to the required temperature. The oven then starts to heat up until the temperature reaches the set value and stays constant.
4. When in use, samples should not be placed too crowdedly, so as not to affect the convection inside the oven. When placing the oven, connect the power supply properly as required to ensure safe use. When powered on, never touch the electrical circuit on the left side of the oven with your hands or a wet cloth.
5. This series of drying ovens is a non-explosion-proof product.
6. Do not put volatile, flammable or explosive items into the oven for heating, to prevent explosion or combustion.

6. Maintenance and Repair

Daily maintenance of the equipment:
1. The drying oven should always be kept clean. The door should be wiped with a soft cotton cloth; never wipe it with corrosive chemical solutions, so as to avoid chemical reactions.
2. If the drying oven is not used for a long time, apply neutral grease or Vaseline to the plated parts to prevent corrosion, put on a plastic dust cover, and place it in a dry room to prevent the electrical parts from getting damp and causing faults that affect use.
3. Daily repair of the equipment:
When you operate the equipment according to our manual and a fault occurs, please carry out preliminary troubleshooting with the following methods. If the problem persists, please call our company's after-sales service department, and we will wholeheartedly provide you with timely and accurate service.

Equipment fault symptoms, analysis and solutions:

Fault symptom	Fault analysis and solution
1. Plug in the power and turn on the switch, but the equipment does not respond	• Power supply problem; ask an electrician to solve it. • Heating tube burned out. Use a multimeter to measure the resistance at both ends of the heating tube: if the resistance is 0, the heating wire is short-circuited (a short circuit of the meter); if the resistance is several hundred or several thousand ohms, the heating wire is open-circuited. • The power switch is loose or has fallen off. • The power switch is off; check the control circuit board and the corresponding connecting wires.
2. Temperature does not rise	• Check whether the timing has run to the set value. Many users are unaware of this function: when the timing runs to the set value, the heating tube does not work and the fan does not turn, so the oven is not heating and the temperature does not rise. • Check the circuit control board and use a multimeter to see whether there is output.
3. Motor does not turn	• Cause: there is heat but the inner chamber does not circulate, so the temperature rises slowly. Check whether the fan is rotating. If it is faulty, use a multimeter to measure whether there is 220 V voltage at both ends of the fan lead; if there is, our company will mail the parts to solve the problem.
4. Handle damaged	• Notify our company for replacement.
5. Difference between the control-board display temperature and the mercury-thermometer measurement inside the chamber	Judgment premise: the thermometer shall be measured after passing the inspection of the inspection department. Installation position of the mercury thermometer: please suspend the thermometer in the center of the inner chamber; do not place it directly on the shelf for measurement. Please measure again after the set temperature has been constant for half an hour; at this time the temperature uniformity inside the chamber is higher.
6. Temperature display jumps or stays still, or shows an abnormal value such as "□□"	• It can be judged that the temperature sensor is faulty; replace it to solve the problem.