Kalstein®

Drying Oven

Model YR05259-1 (SS)

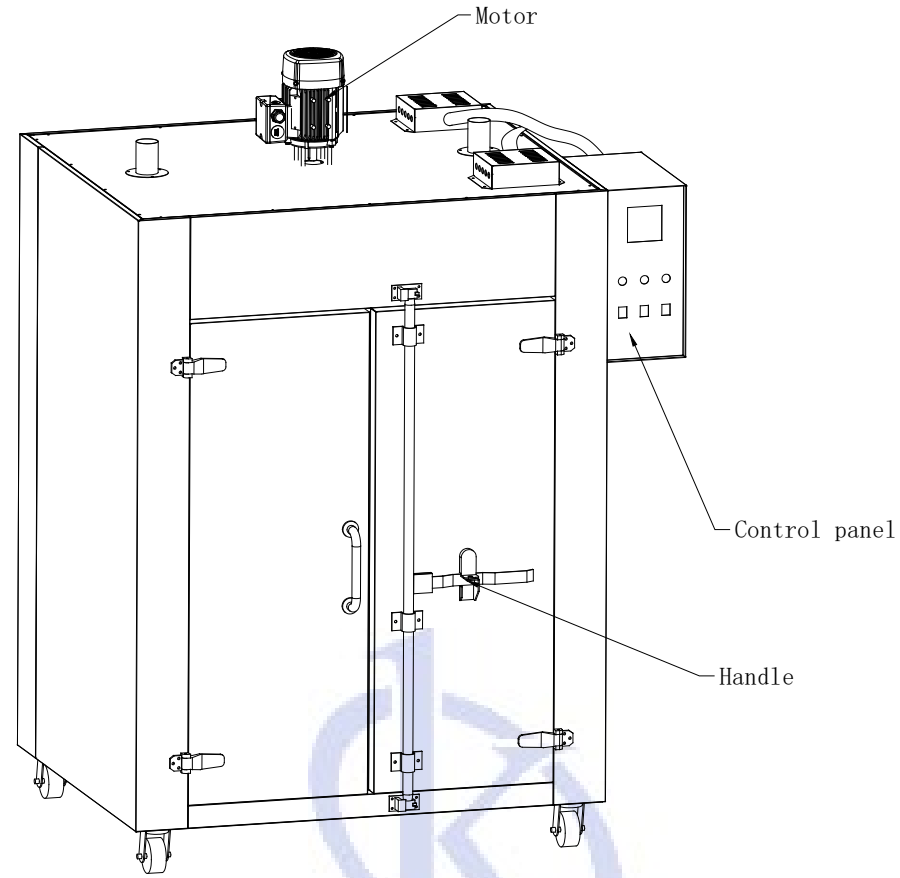
Instruction Manual

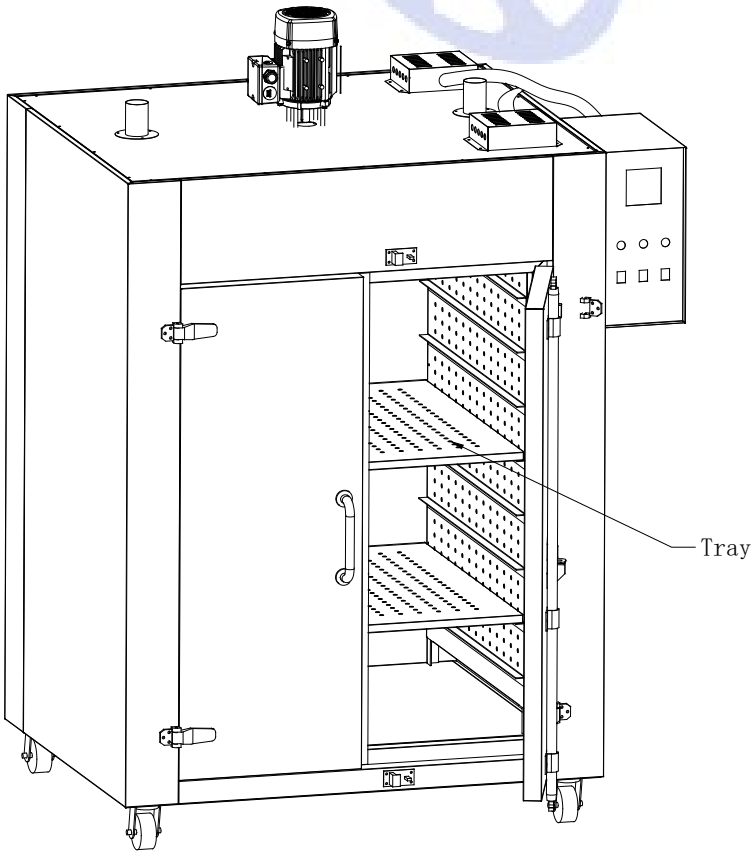
Thank you very much for purchasing our Drying Oven Model YR05259-1 (SS).

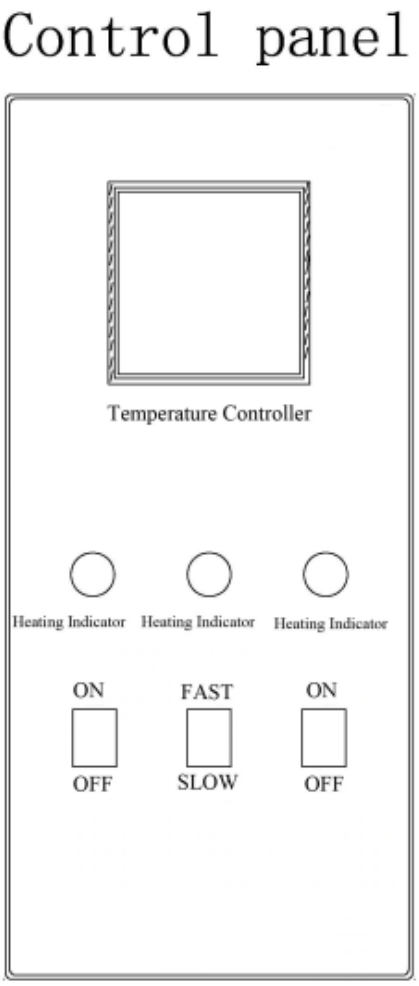
Please read the “Operating Instructions” and “Warranty” before operating this unit to assure proper operation. After reading these documents, be sure to store them securely together with the “Warranty” at a hand place for future reference.

 Warning: Before operating the unit, be sure to read carefully and fully understand important warnings in the operating instructions.

Product Structure





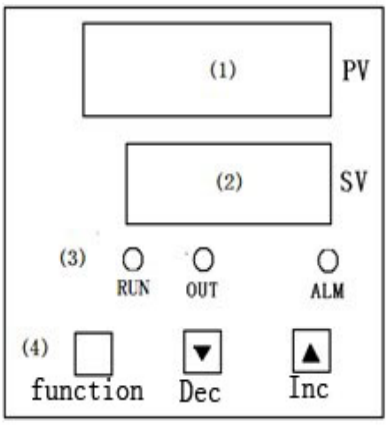


Product Summary

1. The oven has a large fan for air circulation, uniform heat distribution and so on. it is suitable for many industries, such as electroplating industry, electronics industry, alloy jewelry, shape of plastic, grain processing and so on. in order to be safe using, do not use this oven to dry volatile and flammable and explosive items.

2. There are horizontal convection and vertical convection. Smaller chamber is horizontal convection, heating tube is on the top of oven. larger chamber is vertical convection, heating tube is on the top of oven. the motor is installed on the top or back.

3. Wool rock is used as thermal insulation between chamber and shell. the shell is made of steel plate and inner chamber is made of stainless steel or zinc-plating.



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

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

(3) indicator:

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

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

*ALM（alarm output indicator）: it will be on if there is alarm output.

- Set key: for parameters, temp, timer setting
- Down key: decrease values
- Upper key: increase values

1) 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.

5.Detailed instruction

1) If displays 000, it means sensor open circuit or input signal beyond measured range
2) Change of Setting value

Press SET key, the upper row displays **SP（temperature setting）**, press ▲ or ▼ key, the lower row displays the needed setting value. press SET button, the upper row displays ▲ or ▼ key, the lower row displays the timer. press SET button again, return to standard mode.

3) If there is timer

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

After power on ① after test temperature reaches setting temperature ,timer starts (-2 table);②timer starts .reaches ST ,heating output would be disconnected , with beeper ;if start auto-setting when timing, then timer is canceled, after auto-setting is over, restart timer ; when instrument working, allow to modify ST, the previous running time will be "remembered " and reaches to the new timing time, when the new timing time ST is less than previous running time, heating output is disconnected immediately, with beeper.

4) Press ▲ key, screen displays the already running time, hold ▲ button for more than 4 seconds, can run /stop.
5) With beeper, ①over-temperature /absolute value alarm, ② temperature is out of scale range ③ running time is up, working is over. Press any button to mute
6) Change way of control parameter

Press function button for more than 4 seconds, press function button 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 button for more than 4 seconds, return to standard mode. (it will return to standard mode automatically within 1 minute without pressing any button)

6. Auto-setting function

After pressing ▼ button for 5s, RUN light is flashing, instrument starts auto-setting , 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 ▼ button for 5s, RUN light stops flashing, auto-setting is over, instrument proceeds with controlling according to original PID parameter

7.Parameter table

Prompt	Name	Setting range	Instruction	Factory default
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	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	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	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	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	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	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	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	Decimal point (setting)	0；1	If DP=0 display resolution is 1℃; if DP=1 display resolution is 0.1℃, when it is more than 99.9, display resolution will turn into 1℃ automatically	1
rH	Scale setting	0～400℃ 0.0～400.0	Adjust rH, make the measured range of instrument is 0～rH (℃)	According to user's requirement
LK	Password lock	0～255	When LK=18，above parameters could be changed	0

Troubleshooting

Trouble	Failure analysis and solutions
1.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: Thermometer 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 to be replaced . Note : sensor adopts Pt100 platinum resistance

Product Installation & Usage

1、installation

（1)Place this oven indoors with good ventilation.

（2)Place this oven in the flat ground, distance between wall and oven is at least 10cm, in order to prolong the use life because of good heating dissipation

（3)Prohibit flammable or explosive items around the oven.

（4)In order to be safe, please connect equipment with protective conductor thermal

2、Usage

（1） Before power on, make sure the power switch is in the “off” position , then check whether it is broken circuit or leakage

（2） Connect power, and unscrew the exhaust lid, turn on the fan switch

3、. Notes

（1） Make sure to connect with protective conductor thermal. Do not touch electricity part by hand or wet cloth after power is connected

（2） Prohibit to dry volatile, flammable and explosive items .

Product Maintenance

Routine operation

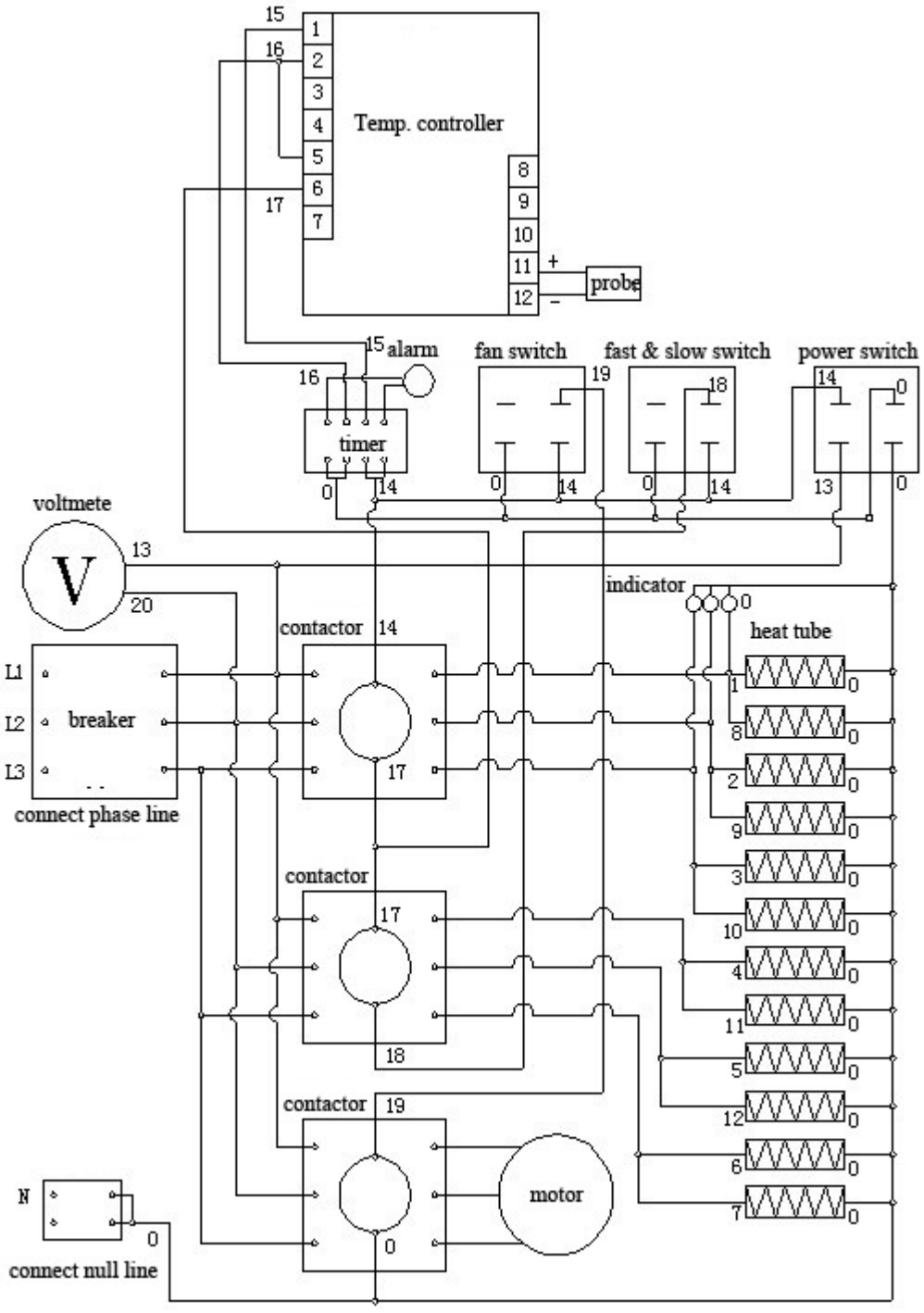
2、Keep oven clean, Do not wipe with corrosive solution cloth.

3、If set this oven aside, should apply neutral oil or petroleum jelly on the electroplating parts, and cover it with plastic film

Routine maintenance

1、When you operating the oven according to our introduction manual, but fails, please correct the error according to troubleshooting methods

Wiring layout



The diagram is about connections of product control system and control elements, which can be used to check the electric circuit.

9. Notice

1. The samples should not be placed too overloaded, so as not to affect convection inside the chamber. Please connect the oven with protective conductor terminal according to relevant regulations. in order to be safe, do not touch electrical circuit which is in the left oven with hand and wet cloth
2. Do not splash water to observation door, or it may crack
3. Do not use this kind of oven to dry inflammable, volatile and explosive substance, or it may cause explosion

10. Maintain

1. Drying oven 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 drying oven 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 oven according to our manual, if there is something wrong with this oven, please refer to below solution

Product Types &Technical parameters

Type/ Parameter	Voltage	Temp. range	Timing range	Temp. accuracy	Temp. fluctuation	Power	Internal dimensions	External dimensions
YR05259-1 (SS)	220V	Ambient Temp. +5℃~250℃	0~99	±1.℃	±2%	8~12 KW	1200*900*800	1860*1220*880
YR05258-1 (SS)	220V	Ambient Temp. +5℃~250℃	0~99	±1.℃	±2%	3-6 KW	1000*600*500	1750*1130*700

Spare Parts

No.	Name	Quantity	Remarks
1	the Oven	1	
2	shelves	8	
3	Instruction Manual	1	