



Electric Curing Oven Operation Manual



CAUTION

Read rules for safe operation and instructions carefully!



危險



高压!

维修前切断电源!

High voltage! Cut of the power before repair!

Hangzhou Color Powder Coating Equipment Co.,Ltd
Phone: (86) 8819 4898 - Fax: (86) 85335616

www.colourspray.com - www.hi-colo.com

1. Product introduction.....	3 -
1. 1 Application.....	3 -
1. 2 Product composition and schematic drawing.....	3 -
1. 3 Maint technical data.....	4 -
1. 4 Operational principle and schematic drawing.....	4 -
2. Installation and notice.....	5 -
2. 1 Installation site requirement.....	5 -
2. 2 Installation interval requirement.....	3
2. 3 Installation and Testing.....	3
2. 4 Installation notes.....	4
3. Operation and notice.....	7 -
3. 1 Operation procedure.....	7 -
3. 2 TEMPERATURE SETTING.....	错误! 未定义书签。
3. 3 Operation notice.....	9 -
4. Daily maintenance and protection.....	10 -
5. Common troubleshooting.....	10 -



Advice: This operation manual includes the detail descriptions of how to use 、 repair and maintain the equipment. In order to ensure your personal and property safety, please read all the details of this operation manual before installation and initial startup!

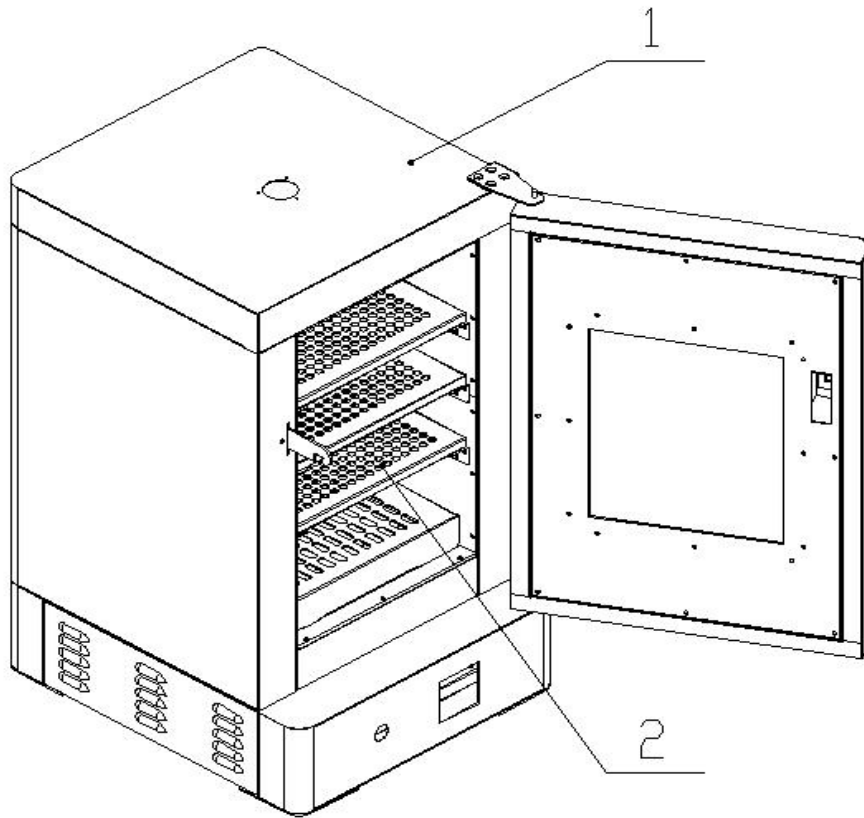
1. Product Introduction

1.1 Application

Small curing oven is mainly used in the powder curing process of some small workpiece which already have been powder coated. Place the workpiece which already finished the powder coating in the oven, When thermoset powder is exposed to elevated temperature ,it begins to melt, flows out, and then chemically reacts to form a higher molecular weight polymer in a network-like structure.

1.2 Product composition and schematic drawing

Small curing oven mainly consist of oven body、 heating tubes、 clapboard. Utilize the electric heating tubes to generate heat and raise the inside oven temperature, through the principle of hot air rising make the inside oven temperature rise uniformly, the small clapboard is able to curing various small workpiece at a time, which improved the work efficiency.



Project	Description	Quantity
1	Curing oven body	1
2	Clapboard	4

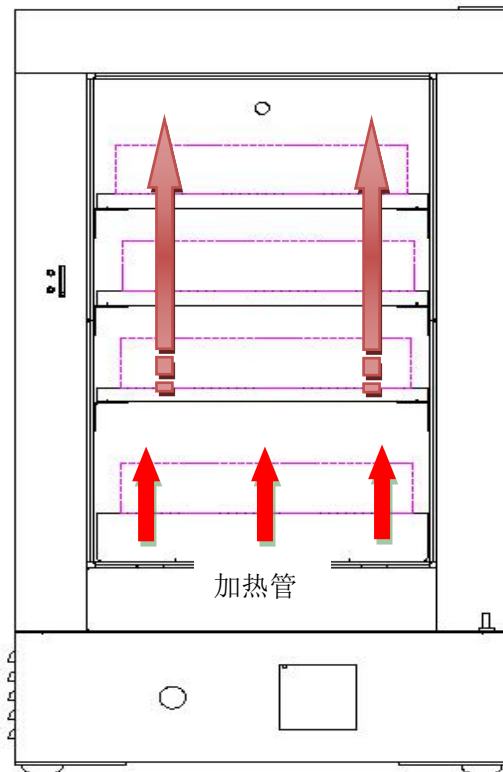
1.3 Main technical data

- a) Effective inner size of electric curing oven: 500×300×300mm (W×H×D)
- b) Working temperature: RT~250℃
- c) Temperature stability: ±1℃
- d) Heating element: material is Cr20Ni80 (1.5KW electric heating tube)
- e) Way of door open:single door,press the rubber and seal.
- f) Main motor power:1.5Kw; Input voltage:3 phase 380V, 50-60Hz

1.4 Operational principle and schematic drawing

Small curing oven is forming a airtight insulated space by rock wool board,Utilize the electric heating tubes to generate heat and raise the internal oven temperature,through the clapboard meshes makes the internal oven temperature uniformly.The oven door equipped with the explosion-proof glass,during work,staff

can directly through the glass and get to know the inside oven real time working conditions.



2. Installation and notes



Advice: Familiar with related operation manual before installation and initial start-up!

2.1 Installation site requirement

- a) The ground must be flat.
- b) Good ventilation and less dust place.
- c) Do not install in the wet place.
- d) Do not install in flammable or corrosive gases.

e) Ambient temperature can not be too high, preferably between 0--40.

2.2 Installation interval requirement

The booth should keep a distance of 10cm to the wall,in order to facilitate the normal operation of the machine.

Keep a foot distance between machines,in order to facilitate the air circulation,personal maintenance.

Outside dimension of spray booth:447×506.5×806mm (L×W×H)

2.3 Installation and debugging

Install and fasten the electric curing oven well by follow the requirements of 2.1 and 2.2 .

Switch on the power and set the heating temperature and time well by following the operation procedure

Check inside heating tubes whether can work properly.

2.4 Installation notice

a) Please follow the specification for electrical equipment (3 phase voltage)to supply the voltage.

b) The voltage change rate must be controlled at the rated value of + 10V

c) Check 3 phase whether loss of phase,machine can not be operated in broken phase condition.

d) Do not connect the grounding wire to the gas pipe or water pipe.

e) Do not connect the electric leakage circuit breaker electric furnace to earth line with these device.



Warning: The user must maintain the proper grounding of all system components.

3. Operation and notice

3.1 Operation procedure

Please follow the requirements of “2.Installation and notes” in this manual to plug-in the power phase number and position, install power well, after ensure the right condition of power installation can start up the machine

- 1) Open the furnace door, place the workpiece in the oven, and close the door, pay attention to not touch the thermocouple.
- 2) Press the start switch, the power light is on and the display the temperature control interface.
- 3) Set the required temperature by operating the panel (refer to 3.2 temperature setting).
- 4) After the temperature reaches the set value, the temperature will begin to change. (you do not need to operate, it is automatic change).
- 5) When the temperature is just the same as the set temperature, the oven will automatically stop working, wear the high temperature gloves and then take out the finished curing workpiece. Put in the next group workpiece, operating again by above procedure.
- 6) If emergency appeared while oven is under working, the power can be cut off directly, after troubleshooting can switch on the power again.

3.2 Temperature setting



NO	Panel notes	Content description
1	PV	Measured value / mode display value
2	SV	Set value / mode content display value
3	OUT1	Output 1 indicator light
4	OUT2	Output 2 indicator light
5	AT	PID automatic calculation indicator light
6	ALM1	Alarm 1 indicator light
7	ALM2	Alarm 2 indicator light
8	▲	Add keys
9	▼	Reduce key
10	◀	Shift key

11	SET	Set / mode key
----	-----	----------------

Temperature setting

Switch on the power,under sv/pv normally display condition,press the button “set”,make the sv indication under flash state,by pressing the button“◀ ”,find the required temperature setting number,and then press the add key or reduce key to adjust the temperature,after finishing the setting,press “set”key to automatically save the program and exit.

3.3 Operation notice

- 1) When first use of this machine,may generate a little peculiar smell or white smoke,it is because of the new product relations,when using a couple of times it will automatically disappear,it will not effect the performance of the machine.
- 2) Do not put the explosive material、 pressurization of vessel or combustible material in the oven,combustible materials include: combustible materials, oxides, ignition products and flammable gases, or may cause the explosion and then bring the serious industrial disasters.
- 3) Maximum temperature of this furnace is250°C,Over temperature is strictly prohibited.
- 4) When electric furnace is working under high temperature,staff should check carefully and the door whether closed well,in case of the hot air blows out and hurt staff.
- 5) Make sure the machine is grounded well.
- 6) Do not operating with electric while maintenance,must cut of the general power ,and then allow to maintain.
- 7) This electric curing oven should have a special care by staff when it's under working,also should pay attention to the near fire and flammable and explosive materials.

4.4. Daily maintenance and protection

Project	Contain	Time
Electric curing oven	keep oven clean	Any time
Ventilation mesh plate	Keep ventilation gate clear	Any time
Grounding wire	Keep grounding state	Any time
Temperature induction line	Make sure the induction line is connected	Any time

5.5. Common troubleshooting



Warning: Do not operating with electric while maintenance, must cut of the general power ,and then allow to repair.

Troubles	Reason analysis	Troubleshooting
Can not star up after connecting the power	1.Power does not meet the requirements of the specification 2.Maybe earth line is not connected	1.Connected the right specification power 2.Connected the earth line
The internal temperature of the furnace is not uniform and abnormally high	1.Thermocouple reaction is not sensitive 2.workpiece position is not properly 3.furnace door is not closed well	1.change thermocouple 2.Change the workpiece position 3.close well furnace door