



Electric Powder Curing Oven Operation Manual



CAUTION

Read rules for safe
operation and
instructions
carefully!



Hangzhou Color Powder Coating Equipment Co.,Ltd

Phone: (86) 8819 4898 - Fax: (86) 85335616

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

1. PRODUCTS INTRODUCTION	3
1.1 APPLICATION.....	3
1.2 COMPOSITION AND DIAGRAMS.....	3
1.3 TECHNICAL PARAMETERS	4
2. INSTALLATION AND PRECAUTIONS	6
2.1 INSTALLATION SITE REQUIREMENT.....	6
2.2 INSTALLATION SPACE REQUIREMENT	7
2.3 INSTALLATION AND COMMISSIONING	7
2.3 INSTALLATION AND PRECAUTION	8
3. OPERATION AND PRECAUTIONS	8
3.1 OPERATION PROCESS.....	8
3.2 TEMPERATURE SETTING	9
3.3 OPERATION AND PRECAUTION	11
4. ROUTINE MAINTENANCE	13
5. COMMON TROUBLESHOOTING	错误！未定义书签。
6. OVEN CIRCUIT SCHEMATICS:	16

Recommendation:This operating manual includes the use of this equipment,repairs and maintenace of a detailed description.To ensure your personal and property safyty,installation and before the initial start,please read the entire contents of this operating manual !

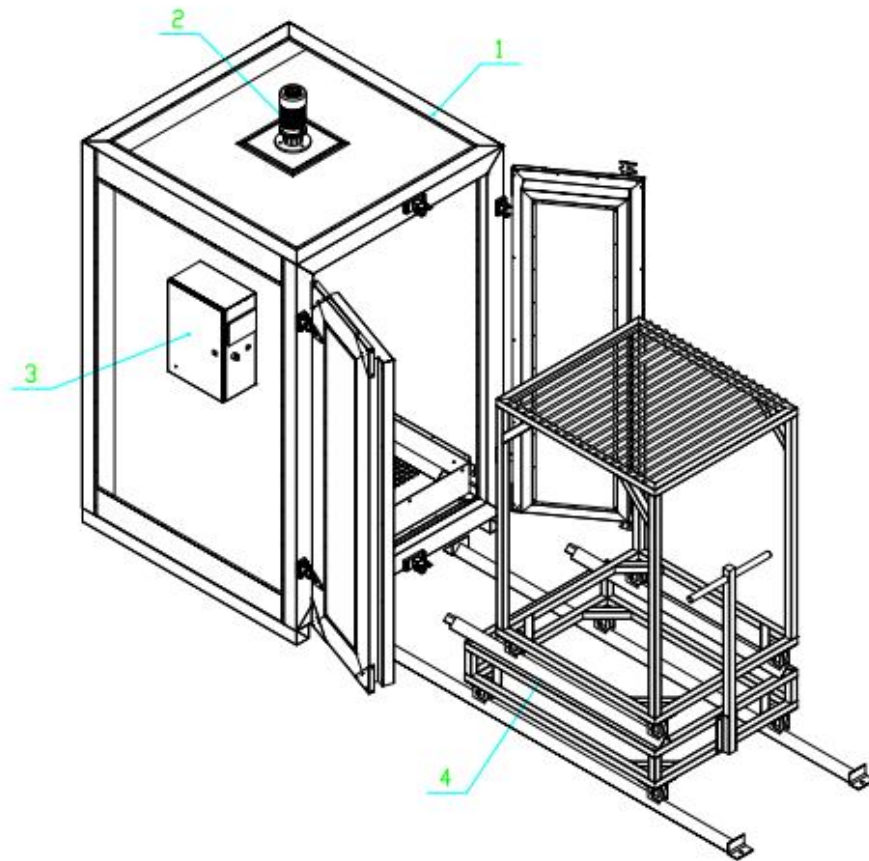
1. PRODUCT DESCRIPTION

1.1 APPLICATION

Oven is mainly used in the production process of the powder curing process .the completed powder coating work-pieces placed inside the oven ,the powder coating under curing temperature conditions,chemical reactions,and cross-linked cured film,become a certain physical and mechanical properties,chemical resistance is also very good polymer compound coating.

1.2 Composition and diagrams

Electric coating oven mainly consist of 4 parts:oven body,electric control unit ,fan motor,inside and outside trolley.by the use of the electric heating generates heat oven to improve the internal temperature of the oven by the motor fan circulation the air inside and outside use and transport carts hung work-piece.



ITEM	PARTS	QUANT ITY
1	Oven body	1
2	Fan motor	1
3	Electric Control unit	1
4	Inside and outside trolley	1

1.3TECHINCAL PARAMETERS

a) Oven internal working dimensions : 1100×1800×1200mm

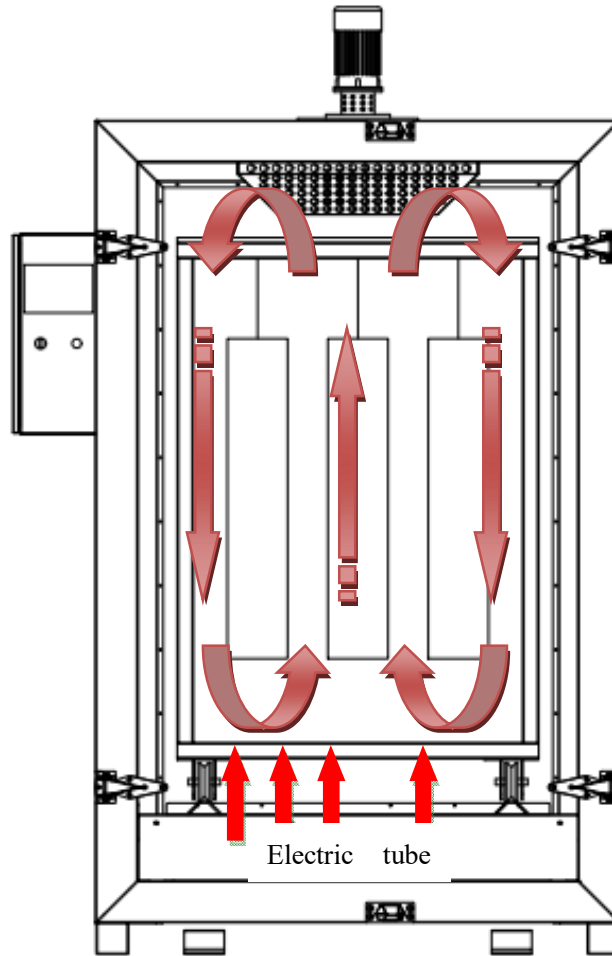
(W×H×D)

b) Operating temperature: Room temperature -250°C

- c) Temperature uniformity: $\pm 5^{\circ}\text{C}$
- d) Temperature accuracy: $\pm 1^{\circ}\text{C}$
- e) Fan power: 0.75kW (Multi-wing low noise centrifugal fan)
- f) Heating element : material is Cr20Ni80 (1.5kw electric heating tube)
- g) Inside and outside carts driven approach:Manual
- h) Door type: Double door, asbestos press the seal.
- i) Power switchboard: 13.5Kw; input voltage: 3 phrase 380V, 50-60Hz

1.4 The working principle and diagrams

Electric oven forms a closed space with the rock wool insulation board. By the bottom of the oven when working electric heating generates heat to raise the internal temperature of the oven by the fan, mounted on the top of the oven, so that the internal forced air convection oven to improve the uniformity of the internal temperature.



2. Installation and precautions



suggestions: Before installation and initial start-up, familiar with the corresponding operating manual

2.1 Installation site requirements

- a) The ground must be smooth.
- b) Ventilated, little dirty and dust.
- c) Don't install in wet areas.
- d) Don't install in flammable and corrosive gases.
- e) Ambient temperature keep 0--40°C is better.

2.2 Installation interval requirements

A)The oven front and back should be about 1meter away from the wall in order to normal operation。

B)Between the machines should be separated away 1 meter,in order to facilitate air circulation and personal overhaul.

2.3 Installation and commission

According the request of 2.1and 2.2 to install and fix the oven .

a)cabinet as shown in the following figure to connect the power cord according to the circuit diagram (reference)

b)Referring Procedure Turn on the power and set the heating temperature and holding time

c)Check whether the oven into the internal heat pipe and fan can work

d)If the fan rotation is incorrect, please L1 and L2 two FireWire swap



Fans correct direction of rotation

2.3 Installation precautions

a) Please follow the predetermined electrical specifications (three-phase 380V) to supply power

b) the voltage variation rate must be controlled in the rating $\pm 10V$.

c) Detecting whether the 3phase power phase, the device can not be broken phase operation.

d) The ground should not be connected to gas pipes or water pipes

e) Must not be equipped with this device electric leakage circuit breaker connected in common with the neutral line, otherwise lead to leakage switch trip, the machine does not work



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

3. Operation and precautions

3.1 Operating procedures

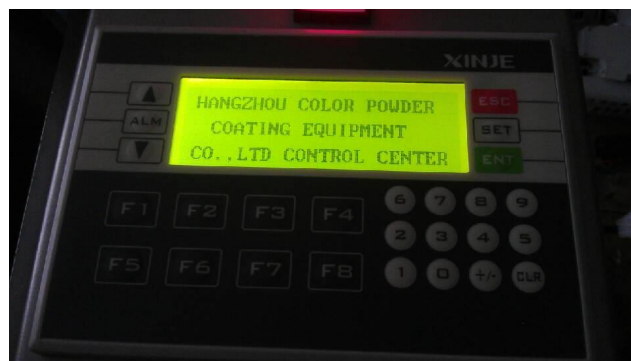
Press the specification requirements "2. Installation and Precautions" and plugged the number of phases and phase, installed power, according to

the following manner below the power to confirm correct installation of state power:

- 1) Open the door, put the workpiece material installed vehicle propulsion furnace, shut the door, careful not to collide thermocouple.
- 2) Press the start switch, and power light is lit and the display panel shows the boot screen
- 3) Through the operation panel to set the desired temperature and holding time, and turn on the heating and the fan (see 3.2 temperature settings)
- 4) the temperature reached after we set a good value, the time will begin to change. (You do not need to operate, it is automatically changed)
- 5) Time to turn off after pressing, high temperature gloves will have to bring the cured workpieces exit. Push the next batch, again to repeat the operation according to the above process.
- 6) during operation of the oven in case of emergency press the emergency stop button, the exclusion of the emergency reset the emergency button.

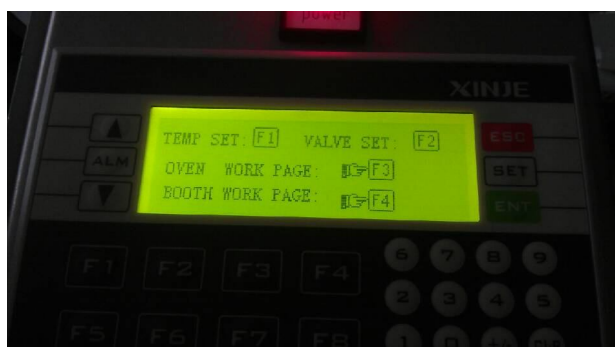
3.2 Temperature setting

3.2.1. Turn the power switch into the boot page



Then press  or  button, Enter the main interface

Operation Home Page Display:



F1 F1:Oven TEMP set

F2 F2:Spray booth vlave set

F3 F3: oven work page

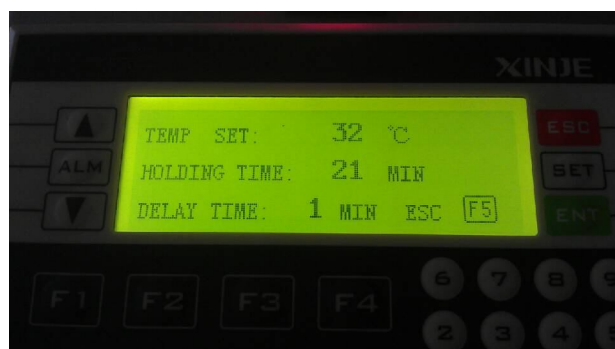
F4 F4: spray booth work page

Press **ESC** ESC to exit the home page

3.2.2.Oven TEMP set

Press **F1** F1:enter the Oven TEMP set page

Display:




Set:


1. Press **SET** set button, then set the temp you need, then press **ENT** confirm button to store in system.

2. Press **SET** set button, then set the holding time you need, then press

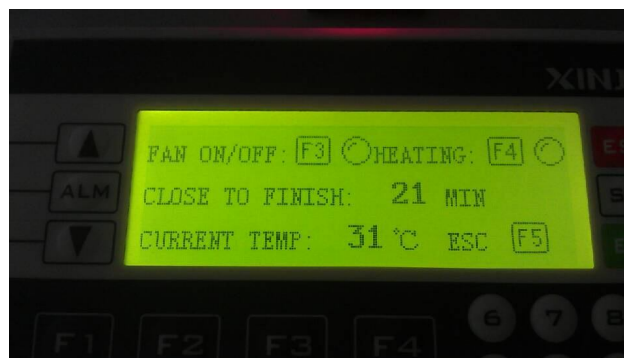
 confirm button to store in system.

3. After setting , press  back to last page(the home page)









3.2.3.Oven work page set

Press  F3: enter the oven work page

Display:



Set:

1. Press  button, then the light sign is break , fan is on.
Press  button again, then the light sign is white , fan is off
2. Press  button, then the light sign is break , heating is on. then when the temprature is up to the required temp, then the light sign is white .you can't turn off the heating by manual when you start the heating.
3. Press  back to last page

3.3 Operation precautions

- 1) Never connect the explosives, pressurized container placed in an electric furnace or combustibile materials, combustibile materials include:

flammable, oxides, igniters and flammable gas, as this may result in an explosion caused serious industrial disasters.

2) The maximum furnace temperature 250 °C, over-temperature use is strictly prohibited.

3) When an electric furnace operating at high temperatures, should be carefully, carefully check the door is closed, to prevent the hot-air blowing injuring the operator.

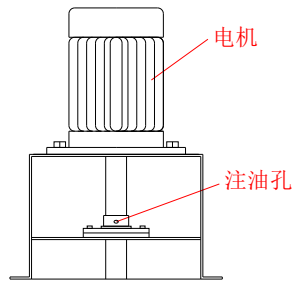
4) We must ensure that the equipment is properly grounded

5) When servicing non-powered operation, it must cut off the power supply before maintenance

6) The oven should be used in a personal care, attention should be next to the fire and flammable and explosive materials

4.Daily maintenance

ITEM	Content	Maintenance cycle
Electric oven	Keep the oven clean	whenever
Ventilation mesh plate	Keep the vent clear	whenever
Ground wire	Holding ground state	whenever
Temperature sensing wire	Determining the induction line did not fall off	whenever
Mounted-bearing	Lubricating regularly	weekly



轴承座加润滑油示意图

电机： Fan motor

注油孔： oil hole

轴承座加润换油示意图： Bearing lubricating schematic

5. Maintenance Troubleshooting Machine



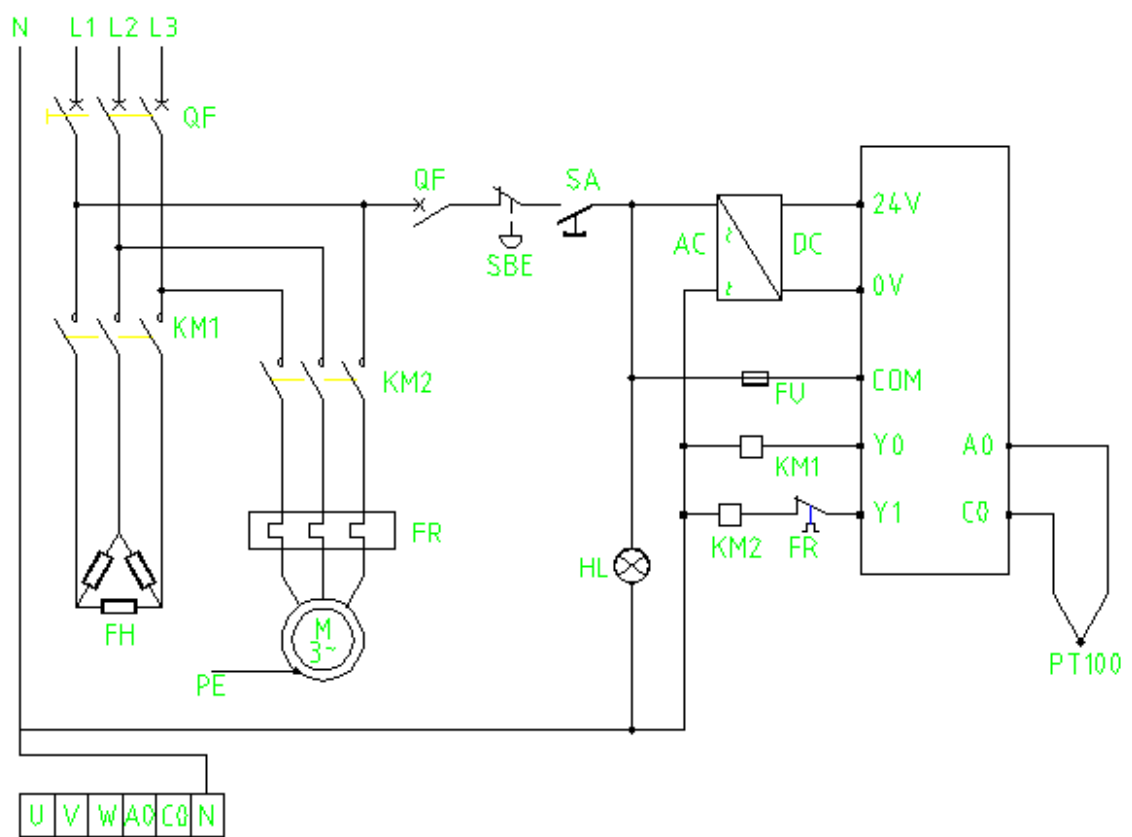
WARNING: When servicing non-powered operation, you must cut off the power supply before maintenance!

Failure phenomena	Analysis of causes	Elimination method
Cannot boot after power on	<p>1.Power does not meet the requirements of specifications</p> <p>2.There may not connected to the neutral</p>	<p>1.Power does not meet the requirements of specifications</p> <p>2.conect the neutral line</p> <hr/>

	line	
The switch is not open ,but the temperature is still rising	1.Heating AC contactor contact bonded together, can not be disconnected 。	1.replace the contactor
Furnace temperature uniform, unusually high	1.Thermocouple insensitive reaction 2.work-piece placed unreasonable 3.Door did not shut well	1.change the termocouple 2.change place method 3.close the door well。
Open the heating switch, power trip	1.Electric heating short circuit 2.The total capacity of the power brake switch is too small 3.The main power switch box installed leakage protection switch, but incorrectly wired	1.Apart around the inside of the furnace, the subject Poor heating pipe wiring and correct 2.Replace high-capacity switch 3.Check wiring and correct

--	--	--

6.Oven circuit schematics:



Warning : Please contact a qualified electrician to connect the circuit areas!