DSP-600 DTF Powder Shaking Machine Operation Manual

S9 (version)

The contents in the manual will help you how to use and maintain our products safely and reasonably, so as to avoid or reduce the damage to the machine caused by human factors as far as possible, so that it can better serve you. In addition, we will provide you with complete technical support and spare parts supply according to your needs. No matter what problems you encounter, please contact us and we are always ready to serve you.

Content

Chapter I Instructions of Machine Operation

1.1 SafetyWarning

1. Power Supply: Single-phase AC, Voltage 208-220V Power: 6kw.
Do not exceed 220V

2. Only the type of power supply identified in the label of the printer can be used. Depending on the country and region, 110V or 220V AC power supply may be selected.

3. Connect all equipment to a properly grounded outlet and avoid using outlets with those that switch frequently between on and off (such as copiers, air conditioning systems) in the same circuit.

4. Avoid using outlets that are controlled by wall switches or automatic timers.

5. Keep your computer system away from potential sources of electro magnetic interference, such as speakers or cordless phone stands.

6. Do not use damaged or broken power cords.

7. If using an additional power cord, remember that the total amperage of the equipment plugged in to that additional power cord should not exceed the amperage rating of that power source. In addition, remember that the total amperage of all equipment plugged into the wall should not exceed the amperage rating of the wall outlet.

8. Do not try to repair machine problems by yourself, please seek printer repair technicians timely.

9. For the safety of people and machines, please be sure to connect the ground wire and the specific requirements of the installation will be informed by staff.

10. Do not unplug the print line and power cord when connected with electricity, otherwise it will cause damage to the main board.

11. Ensure that the power supply voltage matches the power cord and machine name plate voltage.

12. When moving the machine, please pay attention to pulling out the power supply plug.

13. The machine table must ensure that it can bear the weight and not swing when working.

14. Please make sure the machine is grounded properly.

15. Please do not use the machine in thunderstorm weather to avoid lightning strike.

1.2 Installation Location and Environment Precautions

1. Please place the powder shaking machine on a level, stable and larger than the plane of the powder shaking machine. If the shaking machine is tilted or has a certain angle, the machine may not be able to work normally.

2. Leave enough space around the powder shaking machine to ensure normal ventilation.

3. Place the powder shaking machine close to the wall socket so that the plug can be easily inserted and removed.

4. Avoid using the printer in places where the temperature and humidity are likely to change dramatically. Avoid direct sunlight, bright light or heat sources to the printer.

5. The machine should be kept away from strong interference radiation sources.

6. The temperature set for powder shaking machine: 18-26 degrees celsius; humidity: 38%-65%. In order to keep the machine in its best condition, please equip the room with an air conditioner and a humidity meter.

Chapter II Machine Installation

2.1 Installation Steps of the Take-up Roller

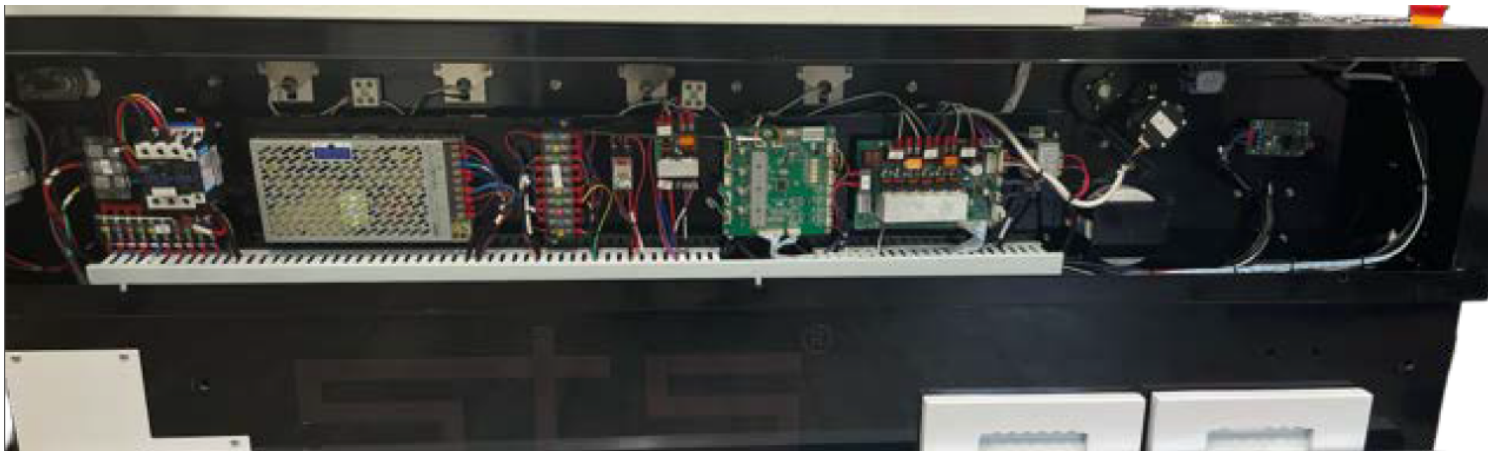
Install the take-up roller:

First slide the paper roller onto the reel,, then fasten the roller and finally place it on the take-up brackets.

Please see the pictures below:

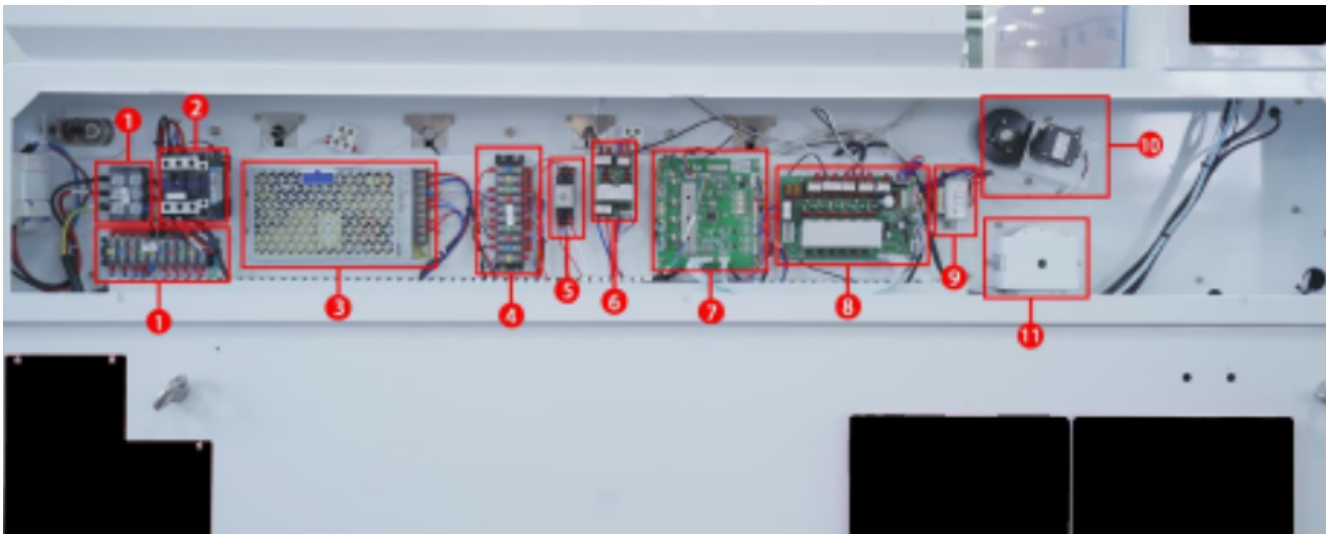
2.2 Overall View of the Whole Machine

Side Board End of the Machine



Chapter III Introduction to Main Internal Parts and Wirings of Powder Shaking Machine

3.1 Introduction to the Internal Parts of the Powder Shaking Machine



(1) Terminal (220V): It is used to realize electrical connection and make wire connection more convenient for application.

(2) Ac contactor: Ac contactor is a kind of electrical apparatus suitable for connecting and disconnecting circuits and AC motors at a distance. It is mainly used to control the start, stop, reverse and speed regulation of the AC contactor, and can be combined with thermal relays or other appropriate protective devices to protect the motor from possible overload or phase break, and can also be used to control other electrical loads such as: electric heaters， electric lighting, welding machine, capacitor bank, etc.

(3) Power Box: The voltage is adjustable, can be set for different regions 115V-230V.

(4)Terminal (24V): It is used to realize electrical connection and make wire connection more convenient for application.

(5) Relay: It is used for automatic regulation, safety protection and circuit conversion.

(6) Two-way Board: It is used to enhance performance.

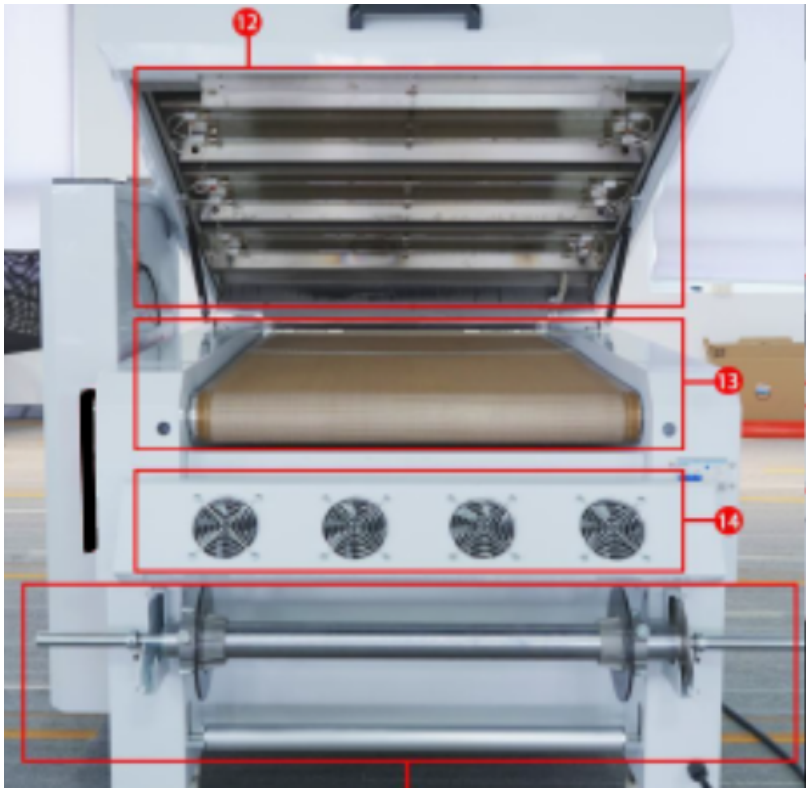
(7) Main Board: The main function of the main board is to transmit various electronic signals. Each component is connected through the main board, and the control of other I/O devices must be completed through the main board during normal operation.

(8) Five-way Board: It is used to enhance performance.

(9) Transformer（220V-24V）: It ensures the safety of electricity, meet the needs of different electrical voltages, and can effectively change the current and impedance.

(10) Conduction Band Generator: Generate driving torque and work as the power source for electrical appliances or various machinery.

(11) Powder Shaking Generator: The powder material is shaken out of the hopper by vibration and then sent to the target location through the conveying pipe.



(12) Heating lamp: It ensures that the hot melt powder and design pattern can be melted and dried at the set temperature.

(13) Guide tape: It is used to transfer PET film.

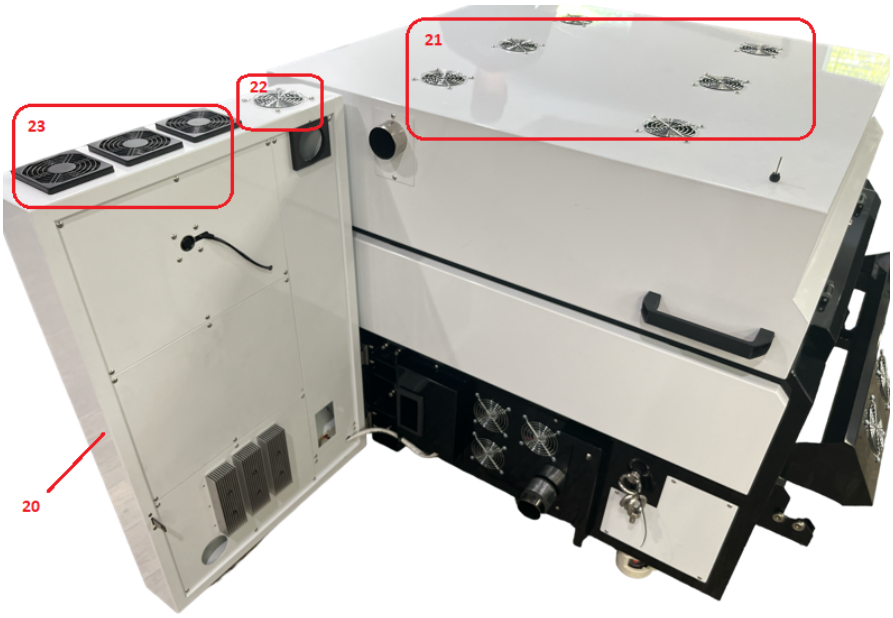
(14) Cooling Fan: It is used for cooling and drying.

(15) Take-up System: It is used to collect paper automatically.

(16)PLC Touch Screen: It is used for relevant parameter setting and temperature adjustment control

(17) Powder Spreading Box: It is used for placing hot melt powder.

(18) Pre-heating Fan: It is used to fix the PET film and prevent the PET film from buckling and curling.



(19) Emergency Stop Button: It is used to prevent problems in the operation process. In case of emergencies, an emergency stop button is set on each side.

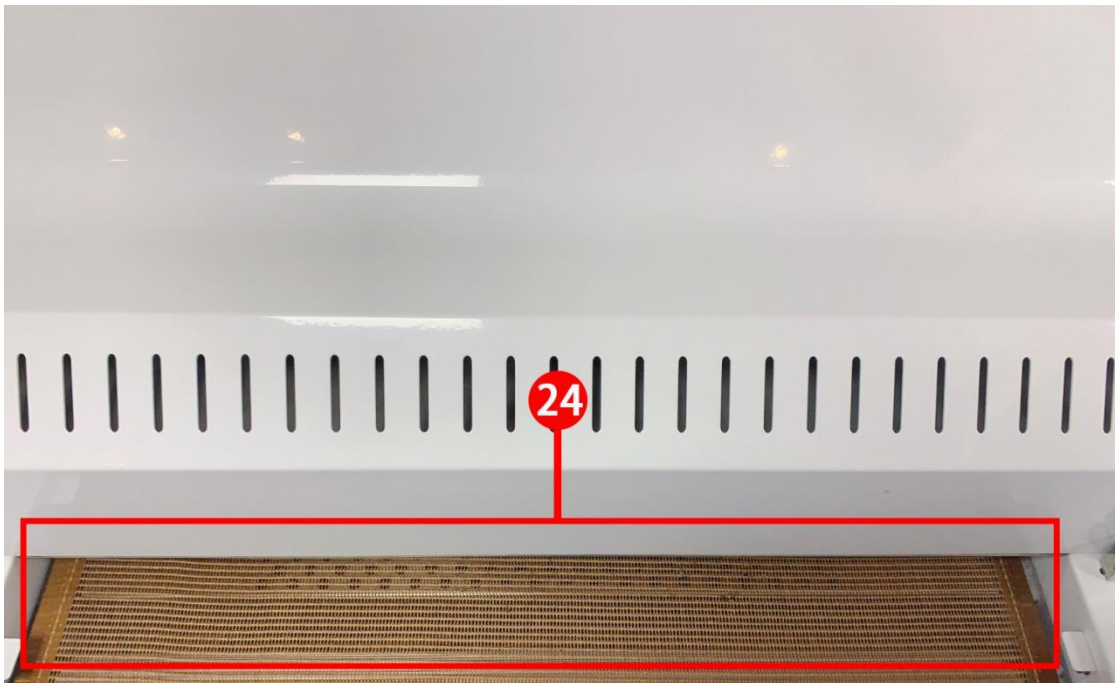
(20) Purifier: It is used to purify the dust of shaking powder machine during the operation process and it is environmentally friendly.

(21) Fan: It is used to dissipate heat.

(22) Smoke Exhaust Fan: It is used to exhaust the smoke generated during the operation process.

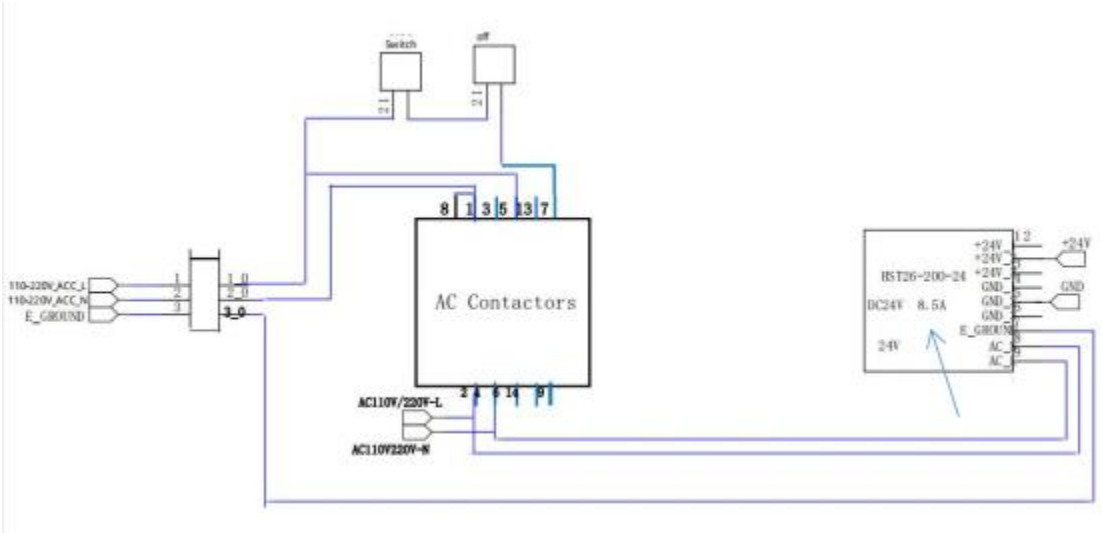
(23) Purifier Area: It is used to purify smoke.

(24)Suction Platform: It ensures the smooth PET film absorption on the platform and stable paper movement.



3.2 Introduction of the Circuit Board & Wiring Diagram

(1 Example Diagram of a Contactor.



As shown in the picture, the blue arrow points to: 24Vpowerbox.

(2) Five-way Board1

In the figure below, from left to right.

Heat 5: Standby Heating

Heat 1: Heating

Heat 3: Heating

Air Suction: Standby Heating

Heat 4: Upper Oven Heating 2

Heat 3: Purified Centrifugal Fan

(3) Themainboardcircuitryandthefive-wayboard2explainthefollowing:

Heat Sensor 1: Preheat Temperature Control

Heat Sensor 2: Sprinkling Box Temperature Control

Heat Sensor 3: Platform Temperature Control

Powder Sensor4: Powder Box Sensor

Paper Sensor5: Tension Take-up Sensor

Paper Generator: Paper Suction RollerGenerator

Generator1: Mesh Belt Generator

Generator 2: Take-up Control Generator

Generator 3: Powder Spreading Generator

Five-wayboard2 wiringdiagram explains the following:

In order from left to right:

Heat5: Standby Heating

Heat 1: Powder Spreading Heating

Heat3: Lower Oven Heating1

Air Suction: Suction Air

Heat4: Upper Oven Heating2

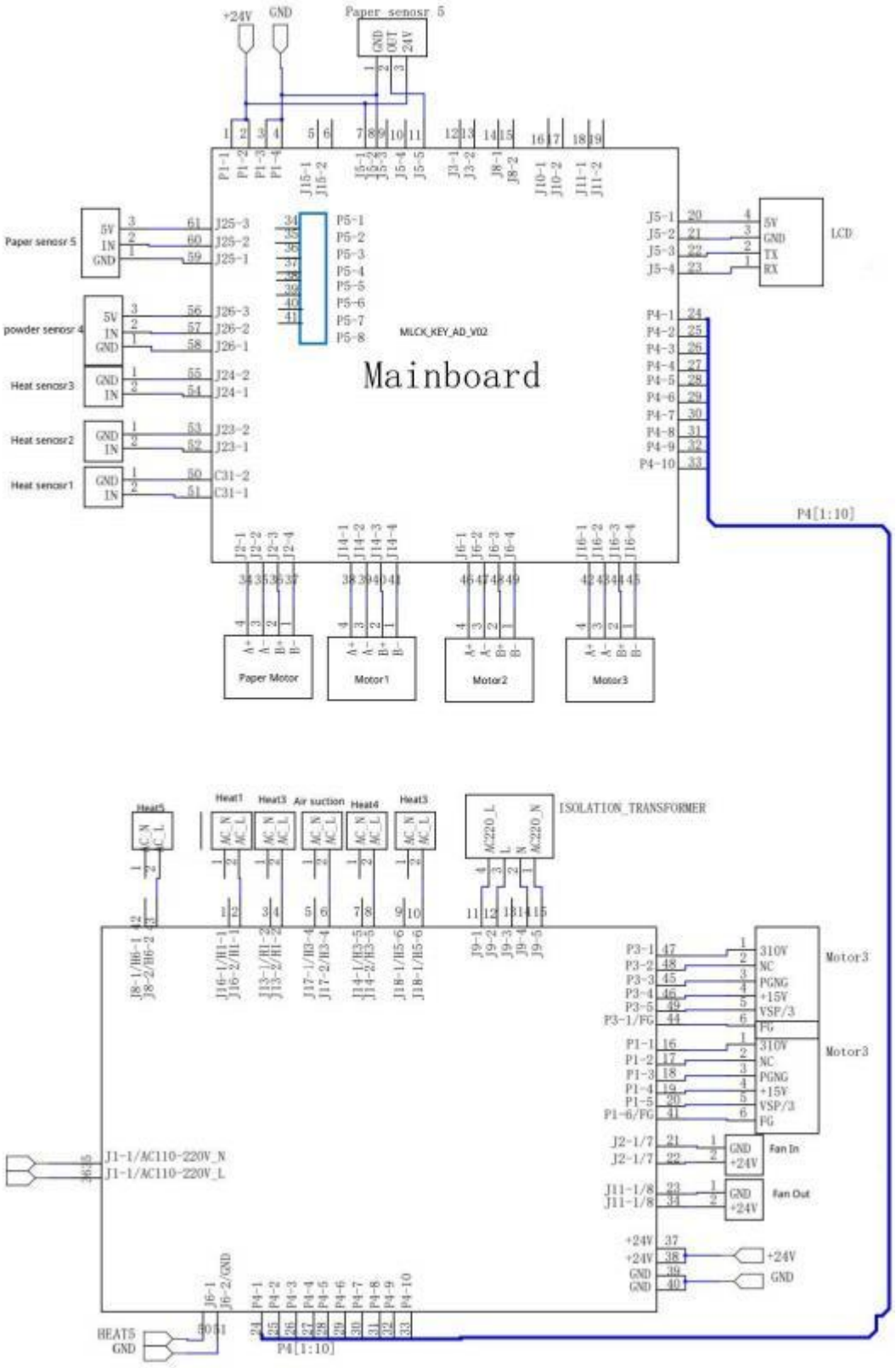
Heat3： Lower Oven Heating2

Mark 1Generator 3： Smoke Removing Generator

Mark 2 motor3：Powder Removing Generator

Fan in: Paper Delivery Fan (Paper Platform Blowing)

Fan out: Fan（Suction)


+24V
GND
Paper senosr 5
Mainboard
MILCK_KEY_AD_V02
Paper senosr 5
powder senosr 4
Heat sensor3
Heat sensor2
Heat sensor1
LCD
Paper Motor
Motor1
Motor2
Motor3
P4[1:10]
Heat5
Heat1
Heat3
Air suction
Heat4
Heat3
ISOLATION_TRANSFORMER
J1-1/AC110-220V_N
J1-1/AC110-220V_L
Motor3
Motor3
Fan In
Fan Out
+24V
GND
HEAT5
GND
P4[1:10]

3.3 Introduction of PLC Touch Screen

Figure1:

（Note:The above data are general settings）

Automatic: Switch to Automatic Operation Mode.
(The system automatically controls the complete process of the powder spreader).

Manual: Switch to Manual Operation Mode
(The complete process is completed by manually controlling the switch of each device function of the powder spreader.)

Heating Temperature: Real-time Temperature of Heating Device.

Pre-heating Temperature: Real-time Temperature of the Front Heating Plate5.

Dusting Heating: The heating zone where the powder is applied is heated, and the powder is heated to remove moisture.

Link: Before opening in automatic mode, the sensor under the heating plate stops working, and enters the automatic operation mode, the paper shaking place draws air to open.

Heating: Heating device switch---control the opening and closing of heating function.

Dusting: Powder spreading switch---control the opening and closing of the powder spreading function.

Suction: Suction device--- control the opening and closing of the suction device.

Roll: Paper winder switch---control the operation and closing of the winding device.

Shaking: Shake powder switch---control the opening and closing of the powder shaking function.

Feed: The function of paper feeding transport.

Relay: The purifier cleans the smoke generated during the operation of the machine to prevent the dust from overflowing.

IO: Click the button to enter the monitoring interface.

Parameter Set: Click to enter the parameter setting interface.

Figure 2:

（Note:The above data are general settings）

Shaking Speed: Click to set the speed of shaking powder, the greater the value, the greater the intensity of powder removal.

Oven Temperature: Click to set the temperature of the oven, the larger the value, the higher the temperature.

Feed Speed： click to set the running speed of the heating mesh belt, the larger the value, the faster the running speed.

Pre-heating Temperature: Click to set the pre-heating temperature of the heating plate before setting (the pre-heating temperature should be changed according to the temperature. If the weather is colder, increase the temperature, and the temperature will be slightly lower).

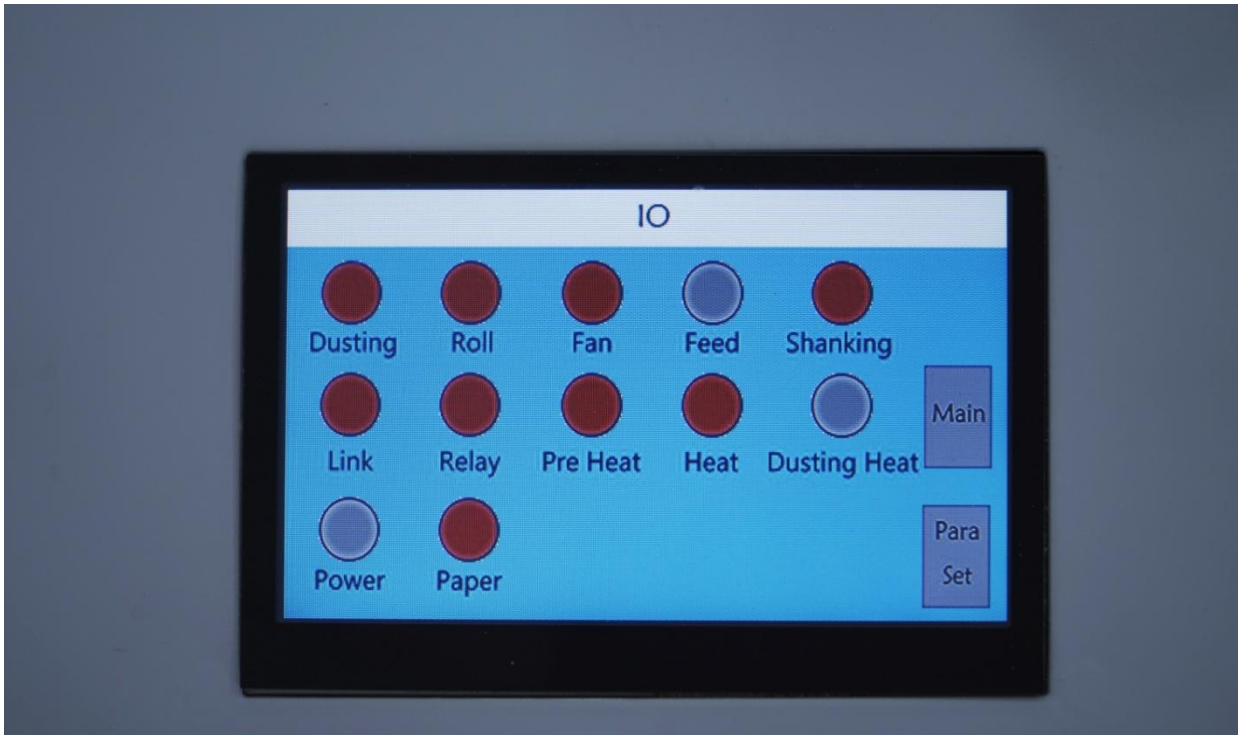
Roll Interval: Click to set the delivery interval time of the delivery device, the larger the value, the slower the delivery speed.

Tension: Click to set the speed of paper collection, the larger the value, the faster the speed of paper collection.

Main: Click to enter the main menu options screen.

INIT: Initial setting of the highest and lowest values of the spreading angle, and setting of the lowest and highest positions of the take-up angle.

Figure 3:



Dusting: Whether the powder sprinkling device is working, the gray light is on when working, and the red light is not sensed.

Roll: Whether the winder is working, the gray light is on when working, and the red light is not sensed.

Fan: Adsorbed PET film, the gray light is on when working, and the red light is not sensed.

Feed: The sensor under the preheating platform lights the gray light when it senses the paper feed, and lights the red light when it does not sense the paper feed.

Shaking: The gray light is on when dusting, and the red light is not sensed.

Link: When auto mode is selected, the gray light is on when working, and the red light is not sensed.

Relay: Avoid dust overflow and smoke absorption. When working, the gray light is on, and the red light is not sensed.

Preheat： The front heating plate heats the real-time temperature, and the gray light is on when working, and the red light is not sensed.

Heat: The temperature of oven heating can be checked in time, the gray light is on when working, and the red light is not sensed.

Dusting Heat: you can check the temperature under the powder state in time, the gray light is on when working, and the red light is not sensed.

Power: Power Switch.

Paper: Paper collection function, the gray light is on when working, and the red light is not sensed.

Chapter IV Machine Maintenance

1. During daily operation of the machine, pay attention to maintaining the temperature and humidity environment in the machine parameters.

2. After running for a period of time, pay attention to the operation of the gear to see whether it is clean; When the speed of paper or powder shaking is abnormal, remember to apply lubricating oil to the gear. It is recommended to use 1-2 months to apply lubricating oil on the gear to reduce friction.

3. The consumables used by DTF shake powder machine are PET film. In the case of high temperature baking, oil will inevitably emerge, and these waste oil will leak into the designed waste oil tube, which is inside the purifier. Regular cleaning is enough.

4.The machine must be grounded; When the air is dry, the electrostatic problem can not be ignored, when using some back glue and lamp media, more electrostatic charge (especially when the paper feed speed is very fast); Electrostatic charge can cause safety damage to the machine and the board. The only way to release static electricity is to use a grounding wire. Since the human body itself is a huge static power source, when the ink head is operated with electricity, ensure that both hands have been discharged (contact the grounded metal body or wear an electrostatic bracelet), otherwise it is easy to cause damage to the board card and the nozzle.

5. Check and clean the maintenance station regularly.

6. Please do not put tools or other items on the printing platform or cover plate of the machine, so as to avoid unnecessary losses caused by insufficient cleaning before the machine is running.

7. The machine must be guarded when working. (There should be a full-time operator)