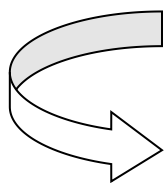


# Manual Dispenser & Shaker



## User Manual

**Foshan YiJiu Paint Tinting Equipment Co., Ltd**

Add: B2,Shizhou Section, Baichen Rd.,Guangbei Industrial Park,Chencun Town,Shunde Dist.,Foshan City,  
Guangdong Prov.,China. Zip528313

Tel : +86-757-22173297 Email:sales@fsyjiu.com

Web: [www.fsyjiu.com](http://www.fsyjiu.com)

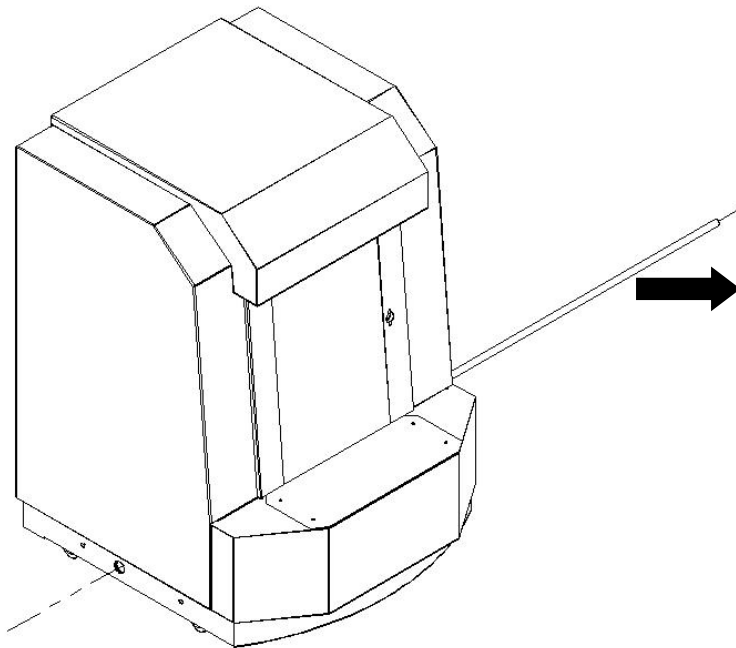
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# WARNING

## Dear users, please read below points before using the machine:

1. Take out the screw rod before running the machine. Otherwise, it will damage the machine. (See below picture).
2. When the machine need to be transported again, the screw rod must be re-install to the machine before transporting. (See below picture).
3. Avoid to operate the machine overload, the maximum load is 35KG.
4. Forbid running this machine in explosive environment.
5. This machine only can be operated by trained personnel.
6. Forbid running this machine without drum in it.
7. Make sure the drum is sealed and without leakage.
8. Make sure the machine leveled after installing or moving.
9. Check if the machine legs are leveled if there's abnormal vibration and noise.
10. For your safety, please make sure the machine is grounding reliably.



**Caution:** Take out this screw rod before running the machine. Otherwise, it will damage the machine.

# 1. USER MANUAL INTRODUCTION



Purpose and use of this manual

It is aimed at the machine operators and installers, who must have the necessary training and professional skill to use similar automatic machines.

For the safe use of the machine, it is important:

1. To familiarize yourself with the structure and content.
2. To read the safety chapter in detail and make sure you understand all the instructions.

# 2. TECHNICAL SPECIFICATIONS

## **Dispenser:**

Application Range: water based colorants

Capacity piston pump: 60 ml

Minimum dispensing: 1/384 Y or 0.077 ml

Canister capacity: 2L

## **Shaker:**

Time of Shaking: 1min-9min

Size of Shaking can: 0.5~20L

Load of Shaking can: 1~30KG

Frequency of shaking: 710 times/min

Height of Shaking can: 80~380mm

Power Supply: 220V±10% 50HZ

Rated Power: 750W

### 3. TERMS OF WARRANTY

Limited Warranty: We offer a period of one year warranty for each equipment. Within guarantee period, we can help you judge the fault according to the failure phenomenon by E-mail. and send replacement part to you. If the fault has been caused by mis-use or abnormal conditions of operation, repairs will be billed at a normal cost in this case. An estimate will be submitted before repair work is started in case requested.

The user must keep the machine in a proper working condition. Broken parts and accessories must be replaced with original appropriate parts of the machine.

The manufacturer's warranty expires under below conditions:

Twelve months after date of invoicing;

In case of inexpert use;

In case of non-original spare parts are used;

In case of repairing/adaptation of the machine without written approval and/ or by unauthorized personnel;

In case of non-fulfillment of the maintenance, operation or other instructions reflected in this manual.

### 4. SAFETY INSTRUCTIONS

**Please read the instructions carefully before installing and operating the machine, as a personal safety measure as well as to avoid needless damage to the machine.**

#### **Safety requirements:**

Since the mis-use and wrong operation might cause accidents, the equipment should be operated and maintained by trained personnel only.

Power Supply:

110-120 VOLTAGE: When the Shaker is connected to a voltage of 110-120 Volt, the source current must be more than 32A (with the leakage current being 30mA).

220-240 VOLTAGE: When the Shaker is connected to a voltage of 220-240 Volt, the source current must be more than 16A (with the leakage current being 30mA).

#### **Safe use of the machine:**

1. The installation and maintenance of the machine must be performed by a specialized technician.
2. Please properly secure the outside panel of the machine to prevent any physical injuries.
3. Prior to any maintenance and inspection of the machine, disconnect the power cord from the outlet mains. Make sure that the machine cannot be started unexpectedly.
4. Do not leave any tools inside in the machine after maintenance.

5. Check that the environment where the machine is installed conforms to local regulations (a permit issued by local authority may be necessary) and avoid dangerous concentration of paint cans around the equipment. It's forbidden to stock inflammable materials or other materials inside the machine. It's forbidden to use free flames, incandescent objects or equipment that are able to create sparks in the local where the machine is installed.
6. It is recommended to install a ventilation system to guarantee that the concentration of dangerous vapour around all electrical components is less than 30%.
7. Take the paint can out from the machine at the end of the work. If you don't use the machine any more, cut off its power supply.
8. In the locations where the machine is installed, the prohibition symbols "No Smoking/ Burning" have to be placed at 5 meters from the machine. The equipment is constructed for the treatment of non-explosion materials. It is forbidden to use this machine with inflammable or explosion vapors.
9. Don't switch off the machine with the can inside.
10. Do not place any damaged packaging in the machine. Running the machine with damaged packaging is at "user's" risk. Already damaged packaging may cause damage to your machine. During the maintenance respect the security rules and the procedure described in its Paragraph.
11. If the paint can has a handle, make sure the handle is firm, otherwise, disconnect it.
12. Before shaking, please check whether the paint can be located at center place of the bottom plate. If it's not at the center place, adjust it to the center place.
13. Before starting the machine, please check whether there are objects that block the machine's shaking. If there are such objects, take them out of the machine before you start .

## **5. PREPARATION BEFORE USE**

Please know well the following points to make sure smooth operation after machine is installed.

1. Check if the power switch of machine is at off state before plugging in.
2. Make sure Emergency button is released, and the door is closed.
3. Canister must be well sealed and without damages. It should be placed on the centre of loading plate.

## **6. OPERATION INSTRUCTION**

### **Manual Dispenser Part**

#### **1) .STIRRING FUNCTION INTRODUCTION**

This dispenser offers both automatic stirring and manual stirring functions. If you use automatic stirring function, please turn on the power, micro-computer timer will stir every 4 hours automatically, and the stirring time is 5 minutes. The dispenser should be kept power on during automatic stirring. If you use manual stirring, you only need to press the power button, After 5 minutes stirring, it will stop automatically.

**NOTICE : if the canisters was filled with colorants or haven't be used for a long time, the colorants should be stirred two times a day or need to discharge all the colorants and clean the canisters and the pums.**

The measuring unit of canister gauge is divided into two categories, one is US unit "Y" (1 "Y" is approximately equal to 1 ounce), and the other is metric unit "ml" (1 "ml" is approximately equal to 1 millilitre).

## **2) HOW TO READ CANISTER GAUGES**

If the bottom of black gauge marks "31.25/48", i.e. "1Y=48cells=31.25ml", then the measurement method is as follows: the weight at black gauge reticle "28" equals  $28 \times 31.25/48$ .

If the bottom of red gauge marks "31.25/384", i.e.  $31.25/384=1$  red cell=0.08ml, then the measurement method is as follows: the weight of red gauge "1"= $8$  red cells= $8 \times 31.25/384$ .

If the bottom of black gauge marks "6ml", i.e. "1cells=1ml", then the measurement method is as follows: 10cells=10ml at black gauge.

If the bottom of red gauge marks "7ml", then the measurement method is as follows: the weight of red gauge "1"=10 red cells=1 ml, 1 red cell=0.1ml.

Note: When you operate with double pumps double gauges, please use black gauge in even number for those gauge numbers above "6" and use red gauge in odd number for those gauge numbers below "6".

## **3) EVACUATION BEFORE USE**

1. Manually stir all kinds of colorants and pour into each canister, and then put on color stickers. Cover the canisters with lids. Note: For new machines, please must evacuate before pouring colorants. You don't need to evacuate again for future use. If you do evacuation incorrectly, air might flow in. For example, if the valve is not closed when you draw the red handle up, air would come in. You need to re-do evacuation when any air comes in.
2. Unfold the supporting plate, and move up the plate to proper height.
3. Fix the position of canister that you want to evacuate: press the red ball handle on the left of dispenser case, slightly push the turntable, and then release the hand pressing red ball handle. Operating rod will lock the position hole and you can see the canister that you want to evacuate is now right in front of you, in the middle of supporting plate.
4. Put container onto the supporting plate, let the nozzle of canister point to the opening of container.
5. keep pressing inward the black button with your thumb, and draw the black gauge up to "1" Y position. release the black button. Then the black gauge will automatically lock at "1" Y. Slowly draw the red handle up to top, and slowly press down. Repeat 6~7 times. After that, hold the black gauge with right hand, and use left thumb to press inward the black button. Then slowly put down the gauge on right hand and release the left thumb. Then the black gauge return to "0" position.
6. Keep pressing inward the red button with your thumb, and draw the red gauge up to "6" position. release the red button. The red gauge will automatically lock at "6". Then slowly draw the red handle

up to top, and slowly press down. Repeat 2~3 times. After that, hold the red gauge with right hand and use left thumb to press inward the red button. Slightly put down the red gauge and release the left thumb. Then the red gauge return to "0" position.

7. Make sure the canister nozzle is pointing to the opening of container. Press the black button, draw the black gauge up to "1" Y, and release the black button. Then the gauge will be locked at "1" Y. Draw the red handle up to top and turn the valve handle with right hand to the maximum position, i.e. the handle should be almost at the same straight line with nozzle. Then slowly press down the red handle and observe if the running colorant is continuous. If the colorant is running discontinuously, it means there is air inside the pump. In this case, please release the handle, slowly press down until the colorant runs continuously. After operation is finished, please be sure to return the gauges back to "0" position.

8. Inspect the evacuation status: Turn the valve handle to the maximum counterclockwise without any other operations. If the nozzle doesn't have any leak of colorants, it means that evacuation is done. If any leaks, then just repeat the evacuation steps until it is fully evacuated. Now, you can start to follow the formula to mix the color.

#### **4) FORMULA DISPENSING**

1. Get the formula for expected color, including colorant types and amount.

2. Put the primer container on its supporting plate, press down the red ball handle on the left of dispenser case, and push the turntable to make sure the wanted colorant canister nozzle is right above the primer container. Then release the red ball handle, and lock the turntable. Now the wanted colorant canister is in front of you.

3. Choose black gauge or red gauge according to the weight of formula. Choose black gauge for numbers over "6", and choose red gauge for numbers below "6".

4. Operation of colorant measurement: please press the black or red button, draw the black or red gauge up, and make sure the needed reticle is aligned to the red handle surface. Then release the black or red button, and make sure it is locked on the needed reticle.

5. To make sure the measurement is correct, please slowly draw the handle up to the top and hold for 3~5 seconds. Then turn the valve handle, slowly press down the colorant. The valve handle will return automatically because of the built-in torsion spring. Put back the gauges to "0" position. Repeat the above steps until all the colorants are fully poured into the primer container. Now the formula color matching is done.

6. In case some colorant dispensing needs both black gauge and red gauge, please operate separately. That means to operate black gauge first, return black gauge to "0", and then start to operate the red gauge.

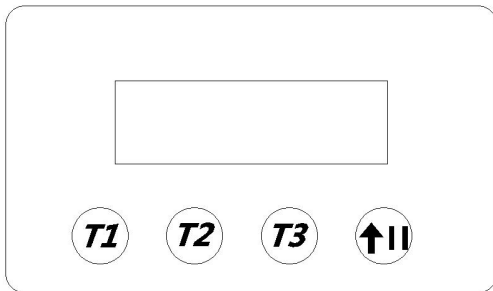
7. After using, both black gauge and red gauge should be returned to "0" position. That means the red handle surface should be aligned to the "0" reticle.

8. The red gauge serves as a precise gauge. When you press the black or red button to "0", never allow free falling of the gauges, which will cause damage of the gauges. Please make sure you use one hand to press the button and the other hand slightly put back the gauges to "0".



# Shaker Part

## 1). CONTROL PANEL INTRODUCTION



**T1 button (1 min button)** : press this button, the clamping plate automatically clamps the canister, and finish appointed 1 minute mixing.

**T2 button (3 min button)** : press this button, the clamping plate automatically clamps the canister, and finish appointed 3 minutes mixing.

**T3 button (5 min button)** : press this button, the clamping plate automatically clamps the canister, and finish appointed 5 minutes mixing.

**T1+T2:** Press T1+T2 at the same time , clamping plate automatically clamps the canister, and finish appointed 4 minutes time mixing.

**T1+T3:** Press T1+T3 at the same time , clamping plate automatically clamps the canister, and finish appointed 6 minutes time mixing.

**T2+T3:** Press T2+T3 at the same time , clamping plate automatically clamps the canister, and finish appointed 8 minutes time mixing.

**T1+T2+T3:** Press T1+T2+T3 at the same time , clamping plate automatically clamps the canister, and finish appointed 9 minutes time mixing.


 **Button (Stop, lift button)** :

A). When machine is in the state of "Mixing" or "Clamping", LCD shows "Mixing" or "Clamping". At this time, press this button, machine will stop mixing or clamping and lift the clamping plate.

B). When machine is in the "ready" state, LCD shows "Ready". At this time, press this button, the clamping plate will lift up, and stop when you release the button.

### Attention:

The timer buttons are only available for setting when the machine is under state of "Ready".

 **Button:** Emergency button:

Press this button to stop machine if some abnormality happened. Turn clockwise this button to reinitialize machine to let the clamping plate move up to initial place.

## 2) OPERATION INSTRUCTION



The machine applies fully automatic intelligent control, which is easy to operate. Here are the operation details.

1. Plug in and switch on the power at back of the machine. LCD will show the serial no. Of the machine, and start to initialize. After initialization, LCD shows "Ready". It means the machine is ready for working.
2. Open the transparent door, place the canister onto the plate, and push to the centre of loading plate. If the canister has handle, then use spring hook to draw the handle. Then shut the door.
3. According to the mixing time needed, press the time button to set up the time. Now, the clamping plate automatically moves downwards. LCD shows "Clamping" & "Mixing time". After the canister clamps for 2~3 seconds, the machines starts high speed shaking mixing. LCD shows "Mixing" & the balance mixing time (counting down).
4. When time is up, the machine stops mixing. After 3 seconds, the clamping plate automatically lift up and loosen the canister. LCD shows "Pls wait", and the plate will lift up to a initial height.
- 5.The LCD shows "finish mixing", open the door and take out the pail of paint.  
(**Attention:** if need to mix one more time, you need to open the door then close again, otherwise, it won't mix)
- 6.Everyday after use, please clean the dirty things or spilled paints. keep the inside machine and screw rods clean.

### NOTICE:

1. No mixing with empty load!
2. Frequent start the machine is forbidden. The machine could not be started over 20 times within one hour.
3. Please press "Emergency" button in case there is any accidental noise. Find out the reasons, and solve the trouble. After this, you can restart again.
4. If you come across any failure during initialization or clamping, please press "Emergency" button to reinitialize the machine.

## 3) PARAMETER SETTING INSTRUCTION

1. Press the button  and turn on the power in the same time until the LCD shows "big can pressure", then release the button and press "T3" button to choose the parameter you want to set.
2. When you press "T1" button, the number will add "1" each click. If you don't release the "T1" button, the number will increase continuous automaticall; When you press "T2" button, the number will reduce "1" each click. If you don't release the "T2" button, the number will decrease continuous automaticall; pess  to save the parameter when finish setting.

### **You can set the parameter of item as below:**

1. Big can force: for the can with height more than 300mm
2. Middle can force: for the can with height 110-300mm
3. Small can force: for the can with height less than 110mm
4. Move-up speed: upper clamping plate move up speed
5. Move-up force: upper clamping plate move up distance
6. Move-down speed: upper clamping plate move down speed
7. Move-down force: upper clamping plate move down distance
8. Reset speed: upper clamping plate move up speed when turn on the machine
9. Reset force: upper clamping plate move up distance when turn on the machine
10. Language select: only Chinese or English can be choose

**Noted: All above parameter is relative value rather than absolute value. Please adjust the parameter according to the actual situation on site. The number bigger, the pressure bigger, the speed faster.**

## **4).DEFAULT PARAMETERS**

Big can force	50
Middle can force	50
Small can force	50
Move-up speed	90
Move-up force	60
Move-down speed	90
Move-down force	45
Reset speed	90
Reset force	55

## **7. MAINTENANCE OF MACHINE**

To safeguard the normal operation of the machine, prolong its life, utilize its economy value to the maximum, please kindly insist in the daily maintenance work.

1. Only professionals are allowed to disassemble the machine.
2. Inspect if all stirrers work during dispensing colorant;
3. Check if the nozzles get blocked;
4. Check if the rubber O-ring on valve handle of canister is lost;
5. Check the amount of canister colorant. Add in time when insufficient;
6. Inspect if the canisters get loose (if yes, please fastener with special tool);
7. Inspect if the gauge shaft get loose (if yes, please fasten with special tool. But don't be too hard during fastening to prevent sliding).
8. Clean the screw rod and guide pin with engine oil every three months.
9. Solve in time if there's any problem.

## 8. TOUBLE SHOOTING

### Manual Dispenser Part

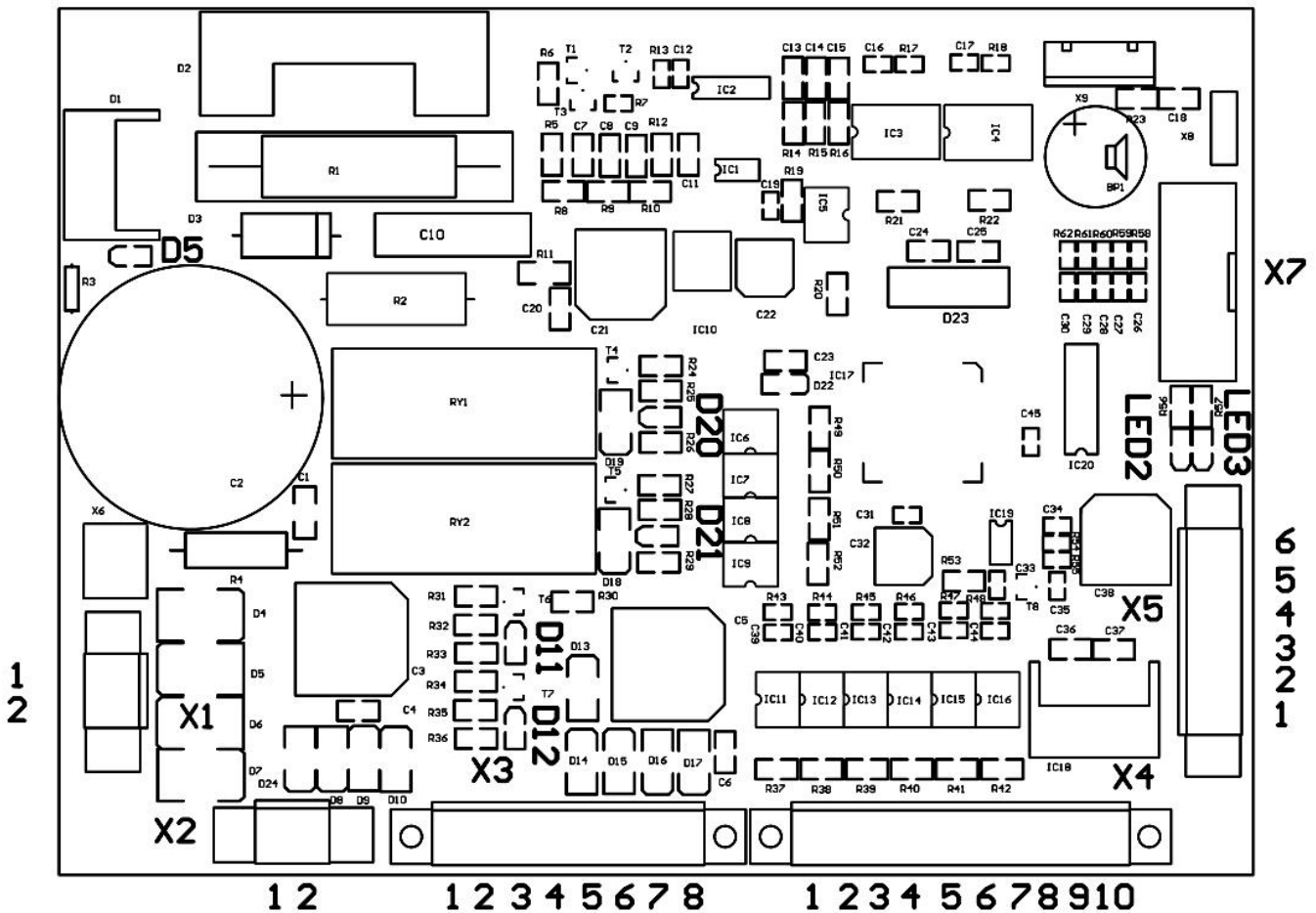
Failure	Reason analysis	Solution
Motor doesn't work	<ol style="list-style-type: none"> <li>1. Power wire is not connected.</li> <li>2. Fuse wire is burn out.</li> <li>3. Long time no stirring, so colorant subsides.</li> <li>4. Electrical terminal get loose.</li> <li>5. Motor is damaged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inspect the power wire and plug.</li> <li>2. Change fuse wire.</li> <li>3. Manually stir the colorant subsides, and then turn on power to stir again.</li> <li>4. Open the dispenser case and make the electric terminal tight.</li> <li>5. Change new motor.</li> </ol>
One or more canisters don't stir	<ol style="list-style-type: none"> <li>1. The crankshaft of canisters is not inserted into the driving table plastic hole.</li> <li>2. Canisters with motor: electric wire plug get loose or motor is damaged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Remove the screws that connect the canister with turntable, reinsert the crankshaft into the plastic holes of driving table.</li> <li>2. Plug the power wire to the circuit board socket tightly, or change new motor.</li> </ol>
The gauge cannot be locked to the needed reticle	<ol style="list-style-type: none"> <li>1. The connecting pin on needle sheath breaks off.</li> </ol>	<ol style="list-style-type: none"> <li>1. Use cross crew driver to remove the two screws beside buttons, and replace with spare needle and needle sheath. Fasten the screws to connect the needle sheath with buttons.</li> </ol>
There is colorant on the gauges	<ol style="list-style-type: none"> <li>1. Pump plunger patch is damaged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Change new plunger patch.</li> </ol>
colorant cannot run out during dispensing.	<ol style="list-style-type: none"> <li>1. The valve is not opened when pressing the handle or valve is not fully opened.</li> <li>2. The canister nozzle is blocked.</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn the valve handle counterclockwise to maximum position and slowing press down;</li> <li>2. Turn the valve handle counterclockwise; use toothpick to clean blocked nozzle, or take off the nozzle and clean it. After installation, do evacuation before operation.</li> </ol>

## Shaker Part

Failure	Reason analysis	Solution
Shaking starts immediately when power is on	<ol style="list-style-type: none"> <li>1) Electronic board broken</li> <li>2) solid state relay breaks.</li> </ol>	<p>Disconnect no. 3 or 4 of solid state relay. If the machine stops shaking, means electronic board broken. If it's still shaking, means solid state relay breaks.</p>
No mixing	<ol style="list-style-type: none"> <li>1) electronic board broken</li> <li>2) solid state relay broken</li> <li>3) shaking motor broken</li> <li>4) Motor capacitance broken</li> <li>5) motor wire breaks.</li> </ol>	<ol style="list-style-type: none"> <li>1. Short circuit no. 1 and 2 of solid state relay, and see if it's shaking.               <ol style="list-style-type: none"> <li>(1) If it's not shaking, then observe if there is "buzz" noise when motor is electrified.                   <ul style="list-style-type: none"> <li>- If yes, replace the motor capacitance. And replace the motor if still not shaking after replacing the motor capacitance .</li> <li>- If no, please check wire. If it's normal, then change motor.</li> </ul> </li> <li>(2). If it's shaking, check D11 light of the electronic board when LCD shows "mixing". If D11 light is on, means no problem of the electronic board. If D11 off, means electronic board broken.</li> </ol> </li> </ol>
No display on LCD	<ol style="list-style-type: none"> <li>1) LCD broken</li> <li>2) Flat cable breaks</li> <li>3) Electronic board broken</li> <li>4). Fuse broken</li> <li>5)Transformer broken</li> </ol>	<ol style="list-style-type: none"> <li>1. Check Led 2 and D5 light on the electronic board               <ul style="list-style-type: none"> <li>- If Led 2 not twinkle and D5 off, then check the transformer and fuse.</li> <li>- If Led 2 twinkle and D5 on, and there's backlight on the LCD , then replace the LCD.</li> <li>- If Led 2 twinkle and D5 on, and there's no backlight on the LCD , then replace the flat cable. If after replacing flat cable, there still no display on LCD, then replace the electronic board.</li> </ul> </li> <li>2.Please check the transformer with multimeter.</li> </ol>
Keyboard doesn't work	<ol style="list-style-type: none"> <li>1) Buttons broken</li> <li>2) Connecting cable breaks</li> <li>3) Electronic board broken</li> </ol>	<ol style="list-style-type: none"> <li>1. If it's only a certain buttons don't work, then check if that button is broken.</li> <li>2. If all buttons don't work, then check flat cable. If flat cable no problem, then replace the electronic board.</li> </ol>
Shaking is weak	Belt loose	Adjust the belt accordingly.
Clamping system failure	<ol style="list-style-type: none"> <li>1) Clamping motor broken</li> <li>2) Electronic board broken</li> <li>3) Synchronous belt broken</li> <li>4) Parameter incorrect</li> <li>5) Sensor broken</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the carbon brush of the clamping motor.</li> <li>2. Replace the electronic board.</li> <li>3. Replace the synchronous belt.</li> <li>4. Reset the parameter</li> <li>5. Replace the sensor</li> </ol>

# 9. INDICATOR LIGHT, WIRING POSITION DIAGRAM

## Shaker Part



### Led/ indicator light instruction

D5 : Direct current motor power indicator

D11: Mixing motor working indicator, if the light is on but mixing motor not work, it's possible that the solid-state relay or the mixing motor broken.

D13: spare

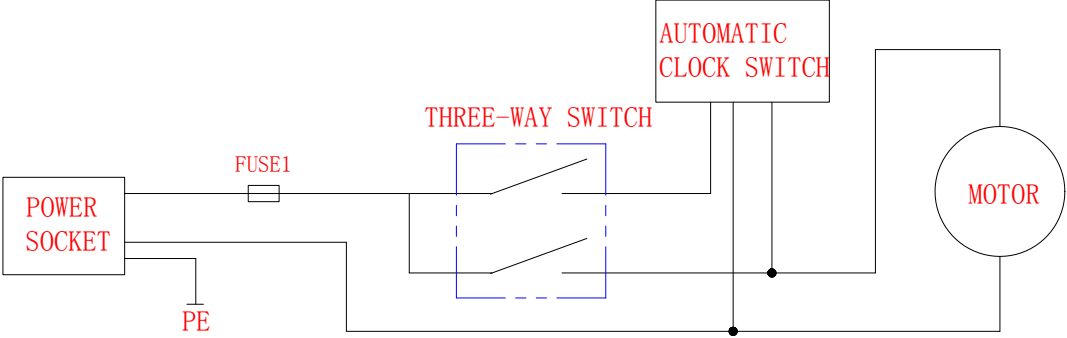
D20 : when clamping plate move down, the light is on.

D21 : When clamping plate move up,the light is on.

LED2: The light twinkle means the CPU is running. The light off, the power may have problem. The light on but not twinkle, CPU system may have problem.

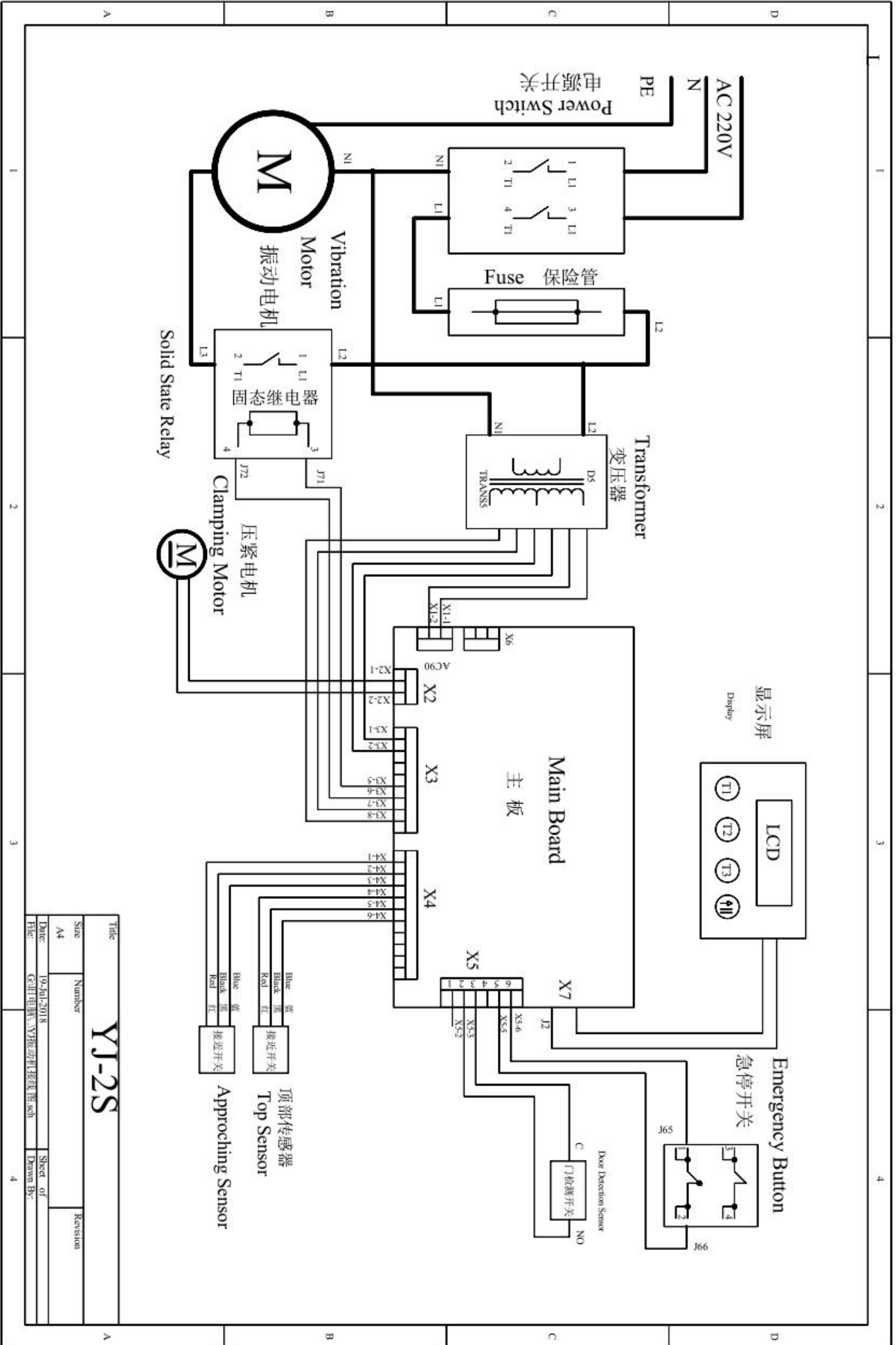
# 10. WIRING DIAGRAM

## Manual Dispenser Part



CIRCUIT DIAGRAM

# Shaker Part



Title: **YJ-2S**

Size: A4 Number: Revision:

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File: G:\11\电源\YJ振动机接线图.dwg Drawn By: