

# Guide to Troubleshooting and Repairing the Cotton Candy VX machine.



# Cotton Candy VX Troubleshooting and Repair

Document created by Jason Lopez. Information here was obtained from work performed on the machine by Avi, Jesse Lewis, Gary and Jason Lopez. This document should be constantly updated with any new relevant information that pertains to the repair of the Cotton Candy VX (4 or 6 Sugar) machines.

## Sugar Making Issues

No.	Issue	Reason	Solution
1	After the sugar is made, the stove still produces silk	The stove temperature for making sugar is too low	Enter the management background, click the parameter setting; adjust the sugar temperature of the furnace head
2	There are very few silks produced during the sugar making process, and there are flying flocs	The temperature of the stove head is too high	Enter the management background, click the parameter setting; adjust the sugar temperature of the furnace head
3	During the sugar making process, the silk produced is particularly frizzy and the sugar silk is relatively thick and shapeless	Stove cover gap clogged	Replace or clean the burner cover
4	The stick can't roll the sugar, the sugar shreds nest on the stove	Circulation air inlet is blocked	Take out the filter above the burner, wash it with clean water, and then reinstall it.
5	There was sugar on the paper stick during crafting, but the paper stick fell into the crafting chamber	The roller of the utility knife was not cleaned, it was stuck by sugar and could not move	Clean the utility knife with a dampened cloth
6	The inner door cannot be opened after the crafting is completed	The motor of the lifting rod is wrong, or the wire rope is off	Check if the inner door wire rope has fallen off, if so; put it back on the roller position
7	The outer door cannot be opened after the crafting is completed	The motor of the lifting rod is wrong, or the wire rope is off	Check if the outer door wire rope has fallen off, if so; put it back on the roller position
After trying the above methods, but still can't solve it, please contact the staff			

Error Code	Reason	Solution	Remarks
402003 402017 402006	Up and down motor running up timeout	Check whether the motor driver line at the back of the machine is loose; whether the power lights of the upper and lower motor drivers are on	See Figure 1 for the position of the upper and lower motor drivers
402004	Up and Down Motor Run Sensor Position Timeout	Check whether the circuit of the lower photocell is loose, if not, replace the spare photocell. (Kit contains spare light eye)	See Figure 2 for the location of the lower light eye
402008 402019	Left and right motors run right to sensor position timeout	Check whether the left and right photocell lines are loose, if not, replace the spare photocell. (Kit contains spare light eye)	The position of the left and right optical eyes is shown in Figure 2
402010 402018	Spinning rod motor reverse running overtime	Check whether the line of the post motor and the motor driver line at the rear of the machine are loose;  Is the power indicator of the device on?	See Figure 1 for the position of the adapter motor driver
402011	Spindle motor run clockwise to sensor position timeout	Check whether the light eye circuit of the post motor is loose, and replace the spare light eye if there is no looseness. (Toolkit with spare photocells inside)	See the figure for the position of the optical eye of the post motor two

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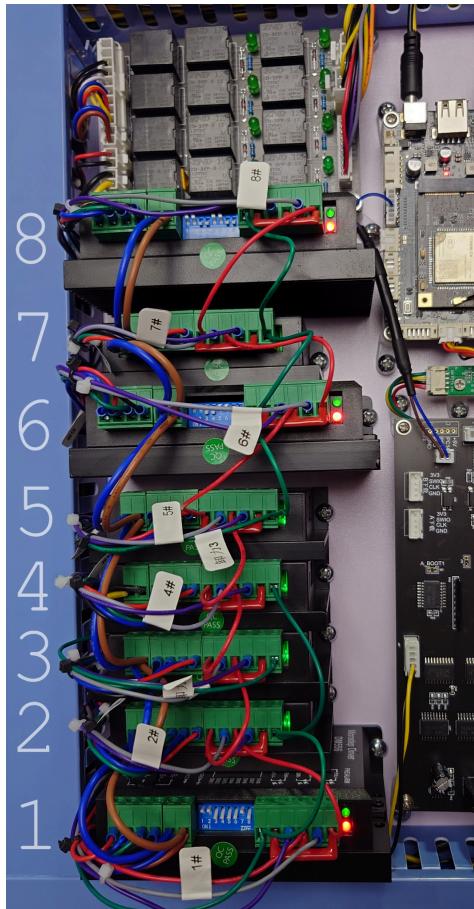
402007 - The left and right motors run to the left overtime  402014 - Left and right motors move right  402016 - row timeout	Check whether the motor driver circuit at the rear of the machine is loose; whether the left and right motor driver power lights are on	The position of the left and right motor drivers is shown in Figure 1
402020	Up and down motor Travel down to post port sensor position timed out	Check whether the waiting light eye circuit is loose, if not, replace the spare light eye. (Kit contains spare light eye)
After trying the above methods, but still can't solve it, please contact the staff		

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## Stepper Controller Drivers

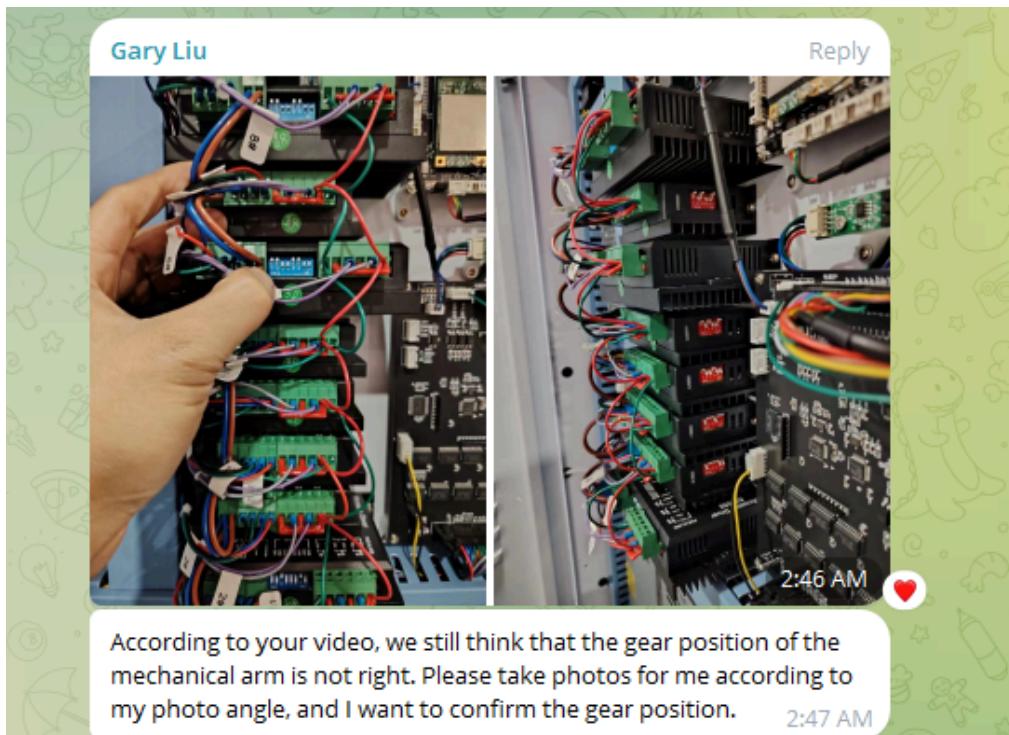
These are the stepper driver locations and use.

**FIGURE 1**



Driver #	Control
1	Arm Motor #1
2	Arm Motor #2
3	Arm Motor #3
4	Arm Motor #4
5	Rod Ejector Motor
6	Motor of the rod up and down
7	Left and right motors of the lever
8	Rod out rod motor

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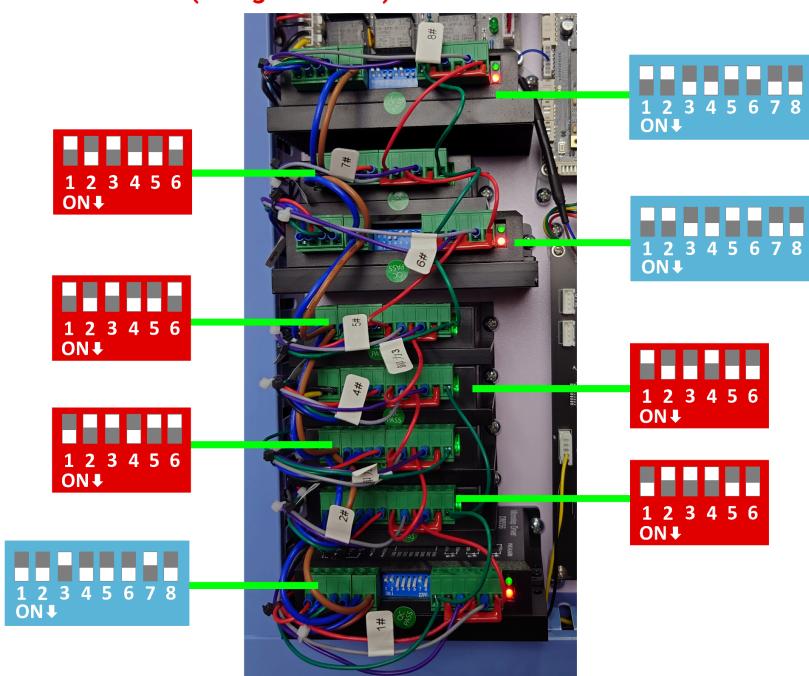
## Dip switch Settings to adjust Arm movement

These settings control the steps and other movement for each arm.

**Note:**

Blue Switches are visible in front view (image below)

Red Switches are not visible because they are located on the right side of the driver. (image above)

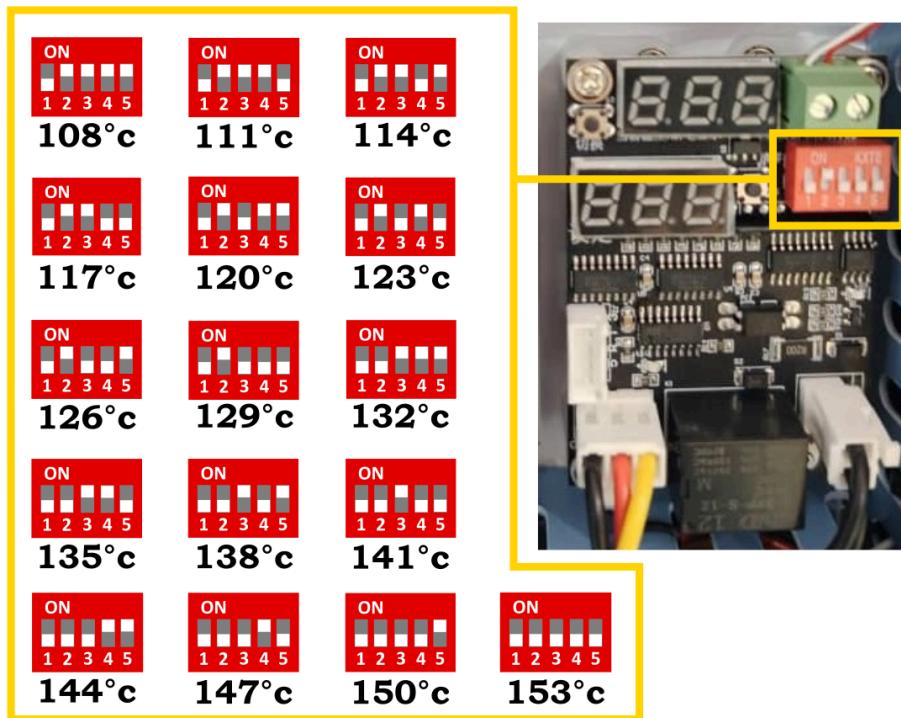


# Cotton Candy VX Troubleshooting and Repair

## Setting of the Coil Max Allowed Temp

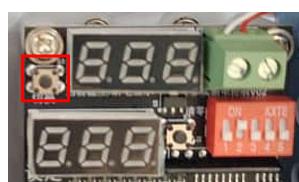
### Furnace Heating Error ( 4011 )

Use this DIP switch to control the max allowed temperature for the burner coil. This is the coil used to induce heat in the burner. The coil should not reach over 153°C itself.



#### TOP LEFT BUTTON:

Use this button to switch between viewing the Current Set Temperature and the Failure Count.



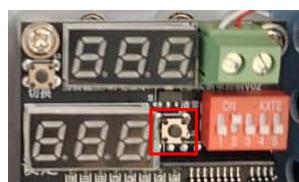
#### THERMOCOUPLE:

If the left and right positions of the heating wire are incorrect, the actual display screen above will not receive the signal



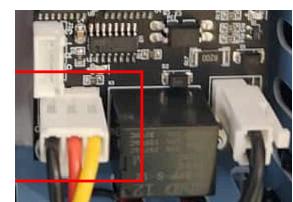
#### MIDDLE BUTTON:

After long pressing for 5 seconds, a horizontal line appears on the display screen, and the Failure Count will reset to zero



#### POWER SUPPLY:

The circuit board uses 12V and 5V power supplies



#### BLUE LED:

When the temperature of the heating wire exceeds the set value, the blue light will light up and the relay will disconnect. When the temperature returns to normal, the blue light will turn



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off and the relay will resume.

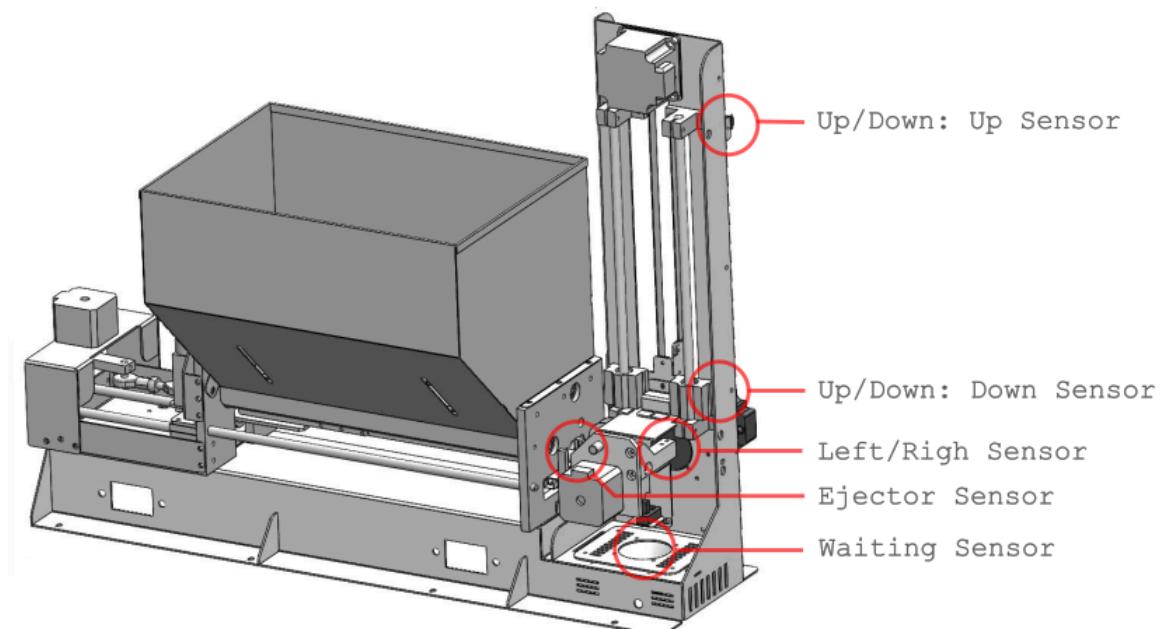
## Furnace Board

This is the Furnace Board; it provides power to the furnace heater coil. If the coil is not heating up this may be a source of inspection as it controls the furnace.



## Stick/Pole System

### Rod/Stick Output Device: 5 Sensors



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Ejector and wait sensor.  
(Spare parts included in kit)



Left and right motors, up and down motors, post motor sensors  
(Spare parts included in kit)

## No Sugar Expelled

Step 1: Test 4 colors of sugar separately to confirm that no cotton candy can be produced from a single color or all colors; if no cotton candy can be produced from a single color, please see (step 1.1); if no sugar can be produced from all colors, please see step 2.

Step 2: Check whether there is sugar or blockage in the sugar bowl, and whether the lid of the sugar bowl is tightly closed; confirm that there is sugar, close the lid of the sugar bowl tightly before proceeding to the next step.

Step 3: Pull out the sugar delivery tube of the sugar discharge device (see the figure below for the position); check whether there is water backflow after pulling out; if there is water, please see (3.1); if there is no water in the sugar discharge device, please see step 4 .



Unscrew the screw and pull out the sugar tube to check whether there is backwater

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Step 4: Pull out the sugar tube and enter "Device Test"; find "White Sugar Motor", "Blue Sugar Motor", "Yellow Sugar Motor" and "Brown Sugar Motor" and adjust the "Action Duration" to 5000; after adjusting to 5000, click the play button Test separately; check whether the "sugar blower" is working and check whether there is sugar blowing out from the position of the sugar delivery pipe. If the sugar blowing fan works but no sugar is blowing out, please see step 5.

Step 5: Connect and short-circuit the wind pressure switch wire under the sugar blowing motor; the problem of sugar production can be solved after the connection.

Step 1.1 No sugar in a single color:

Step 1: Remove the sugar bowl of the corresponding color to reveal the motor gear.  
(For example: white sugar does not come out, only disassemble the white sugar canister)

Step 2: Enter the equipment test; find the sugar motor of the corresponding color (if the white sugar does not come out, test the white sugar motor); adjust the action duration to 5000 and then to 5000 Then click the play button; check whether the motor gear rotates and works. If the gear rotation works, empty the sugar bowl sugar and reinstall new sugar to solve it; if the motor gear does not work, please see step 3.

Step 3: After confirming that the motor gear is not working, check whether the motor circuit behind the sugar dispenser is loose. If it is loose, please re-insert the motor circuit; if it is not loose, replace the motor.

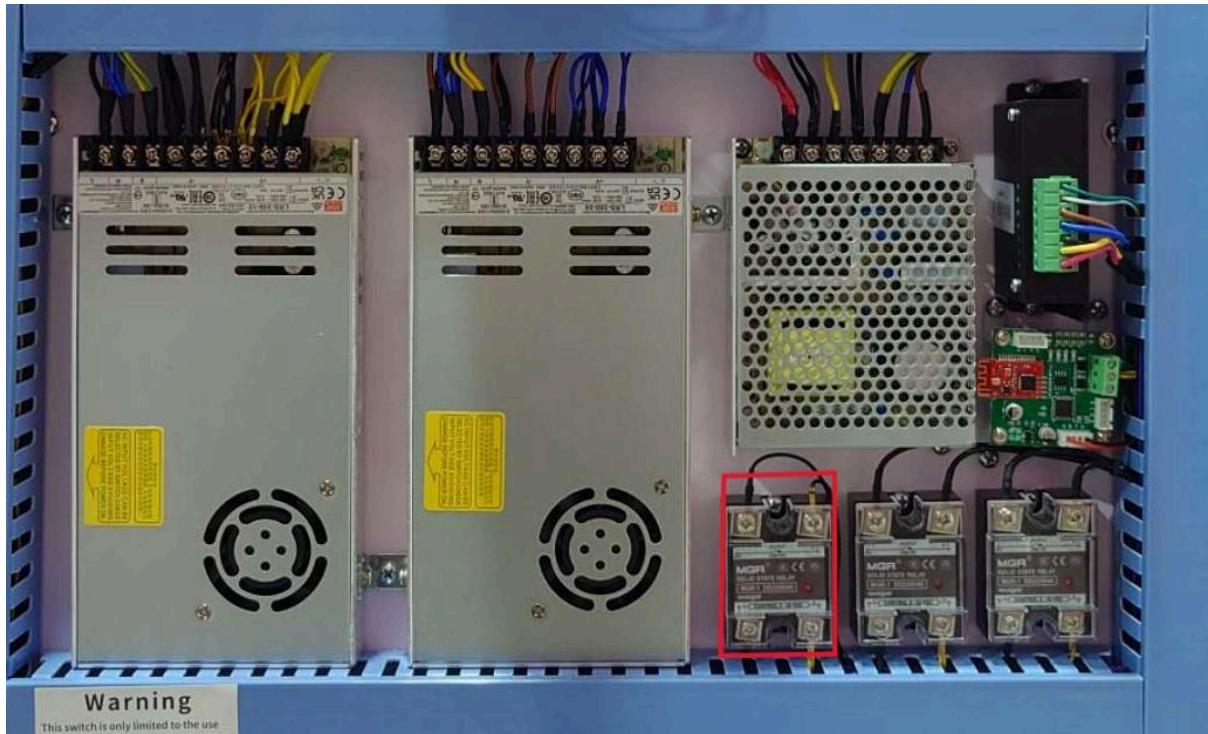
3.1 There is water backflow in the sugar delivery pipe

Step 1: Enter the device test; find "sugar blower" and adjust the action time to 30000; after adjusting to 30000, click the play button;

Step 2: Check whether the sugar blower is working and whether there is wind blowing out of the sugar pipe; Sugar fan not working see step 3

Step 3: Open the back door of the machine and enter the device test; find the "sugar blower" and adjust the action time to 30000; after adjusting to 30000, click the play button; click the play button to check whether there is a red light after clicking the sugar blowing button. If the red light is not on, the relay needs to be replaced; if the red light is on, the sugar blowing motor needs to be replaced.

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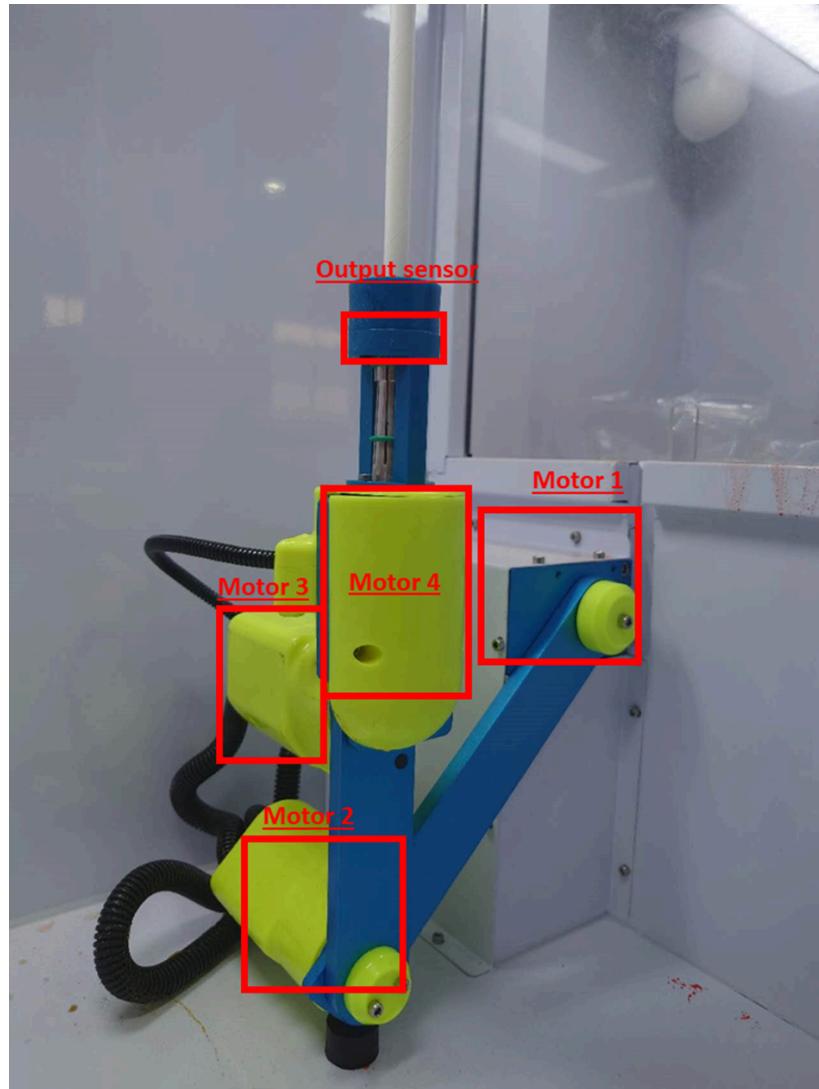


The position of the red box is the position of the sugar blowing motor relay

## Failed To Take Stick

Error Code	Reason	Solution	Remark
405003	Arm sensor detection timeout	Check whether there is a paper stick inserted into the arm, and if so, enter "Device Test" and click "Arm Insertion Sensor" to detect "None", then replace the arm insertion sensor. If "Yes" is displayed, restart the device, and try again.	See Figure 1 below for the position of the arm insertion rod sensor
405004 405006	No. 1 motor down run timeout	Check whether the motor driver line at the rear of the machine is loose; the power light of the No. 1 motor driver	The location of the motor driver is marked in Figure 1 of the previous page "rod failure"
405009	No. 3 motor down run timeout	Check whether the motor driver line at the rear of the machine is loose; the power light of the No. 3 motor driver	The location of the motor driver is marked in Figure 1 of the previous page "rod failure"
405010	No. 2 motor running up timeout	Check whether the motor driver line at the rear of the machine is loose; the power light of the No. 2 motor driver	The location of the motor driver is marked in Figure 1 of the previous page "rod failure"
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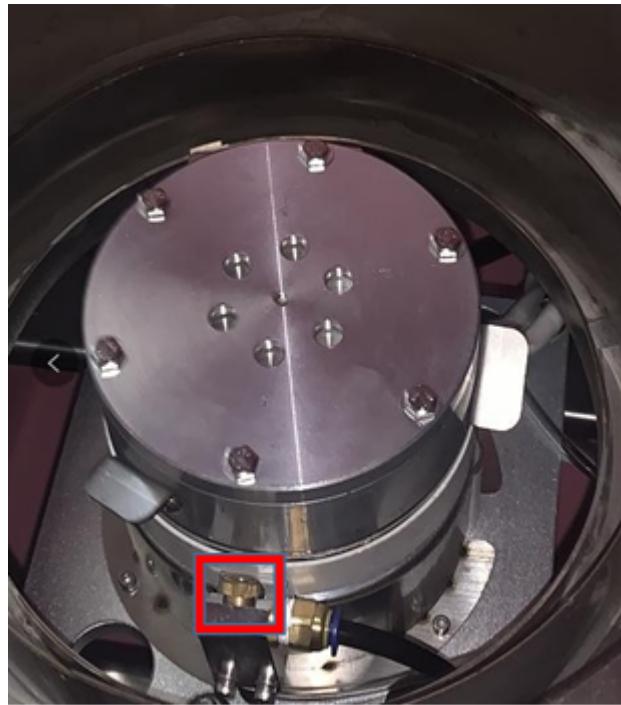


## Fault code: 4012 Humidification Fault

Troubleshooting and solutions:

1. Remove the "sprinkler" next to the burner.
2. After removing the "spray head", enter the "device test" interface of the management background; click "humidifier".
3. Click "Humidifier" and check whether the humidification component sprays water.
  - 3.1. If there is water spray: if the nozzle is blocked, open the tool kit and replace it with a new "nozzle".
  - 3.2. If there is no water spray: check whether the water level in the bucket is too low or the suction pipe is not put in the bottom; check whether the humidifier pump line is loose.

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The location of the "sprinkler"

## Fault code: 402012/402013 Ejector overtime

Troubleshooting and solutions:

1. Check whether there is a stick in the paper stick storage bin;
2. If there is a stick; enter the management background; click "Device Test" to find "Roller Motor"; adjust the action duration to "5000"; then click the play button to start, and check whether the roller under the stick device is working after startup.

If the roller rotates: Empty the sticks in the paper stick storage bin and put them in again. If the roller does not rotate: use a multimeter to check whether the roller motor has 24V current input



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## Fault code: 4003 Arm Reset Failed

Troubleshooting and solutions:

1. Set the arm to standby and restart the machine



Standby state of the arm

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## Fault code: 4010 Furnace Motor Faulty

**IMPORTANT:**

***Do not rotate the furnace with your hands as it may be hot.***

1. If this fault occurs, determine whether the furnace head is rotating? If so, restart the machine and check whether the fault is removed
2. If the furnace head does not rotate, or is in the jitter state, shut down and take a tool to turn the furnace head to see if there is resistance, no resistance, check whether the furnace head drive line is loose
3. If there is resistance during rotation, open the stove head cover to check whether there is syrup attached to the center pipe, if so, it is necessary to clean up the remaining syrup and ensure it rotates smoothly.

## Motor Failure

Some customers have come to us with motor failures. As an example a customer had a Motor 2 failure where the motor would not move at all. Another customer had an issue where the Motor 1 would move only a bit. Even though both failures had different solutions there should be a couple of things to check before reaching our team in China.

1. In system settings page press repair. This will determine and fix any software issue as it did without Motor 1 issue above.
2. Check wiring. The connectors may be defective and / or wiring loose. This option Fixed Motor 2 issue.
3. Replace the Micro Stepper Driver (customers should have spare)
4. Contact China – Should be our last resort.

## Coin Operation

- Please fill up the machine with quarters. The sensors should be covered in order to dispense change. Need at Least 150 coins