

Apollo

re Roller

Operator's Manual



1. Summarize

Apollo Pre Roller adopts our automatic rotary operation mode, loading cone manually (multiple cones stacked together).

The main stations of the Apollo Pre Roller are: Cone Feeder, Cone Checker, Filling, Vibrating, Twist, Cutter, Flap top and discharge.

The Apollo is a user friendly machine. The general staff can work it as long as they are familiar with the functions of the equipment.

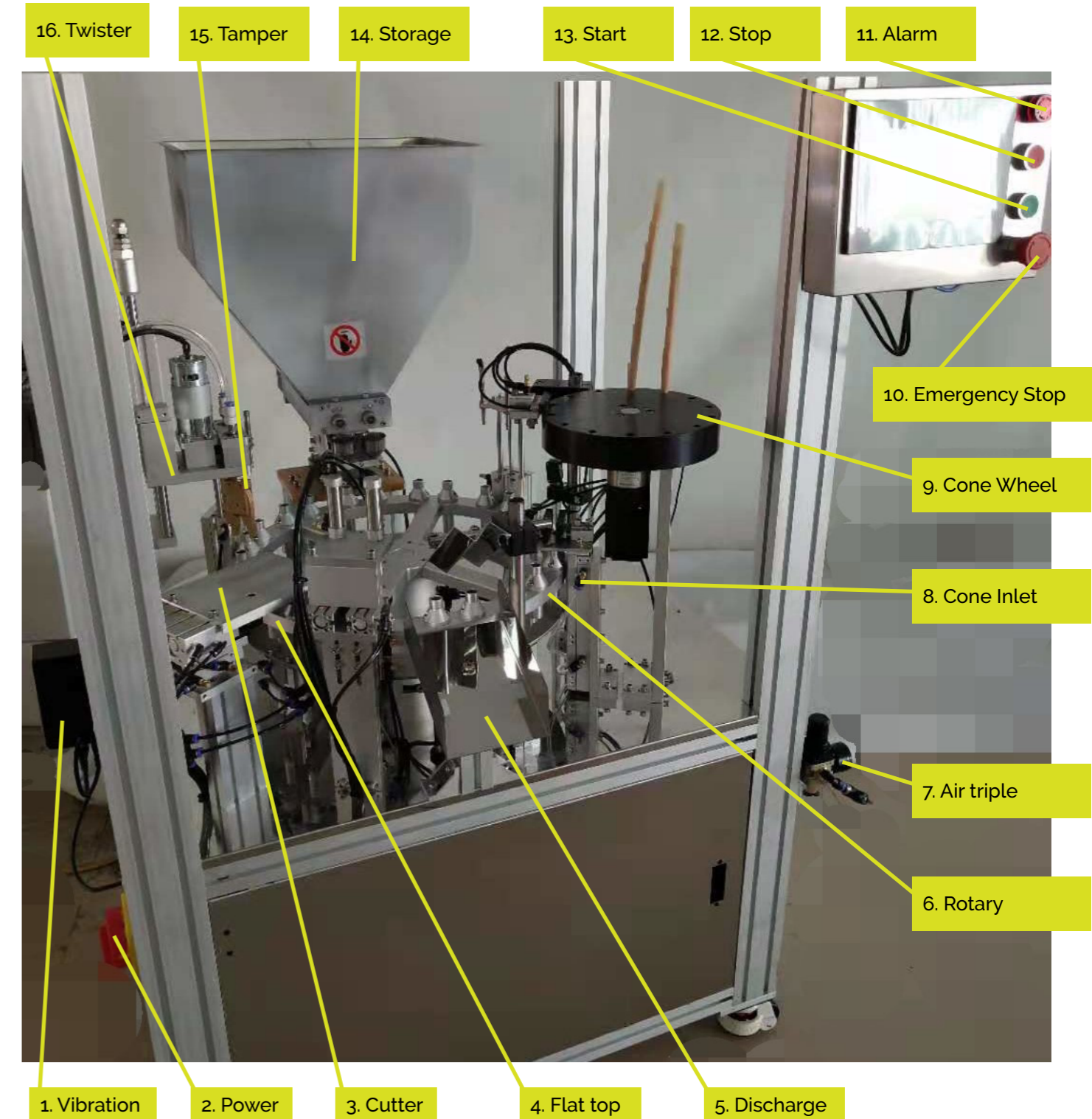
Applicable products: 84 and 109mm cone.

2. Performance parameters

| | |
|---------------------------------|------------------------|
| Inlet air pressure | 0.4Mpa - 0.8Mpa; |
| Operating air pressure | 0.4Mpa - 0.5Mpa; |
| Cone range | 0.2g-1.8g |
| Accuracy | ±0.1g; |
| Capacity | 14-18 pcs/m |
| Input voltage | AC110V ±10% 50-60Hz |
| Power | ≤2kW |
| Working environment temperature | 10-40°C |
| Working environment humidity | 20-90% |
| Machine size | L*W*H=1000*900*1450mm |
| Packing box size | L*W*H=1105*1015*1550mm |
| Weight | About 300kg |

3. Product structure and installation

3.1 Product structure



Picture 1: Front view of the machine

3.2 Installation

3.2.1 Place the machine on a leveled floor (clean and sanitary).

3.2.2 Turn the four legs of the machine for wheel locking (adjust the red dial to the right).

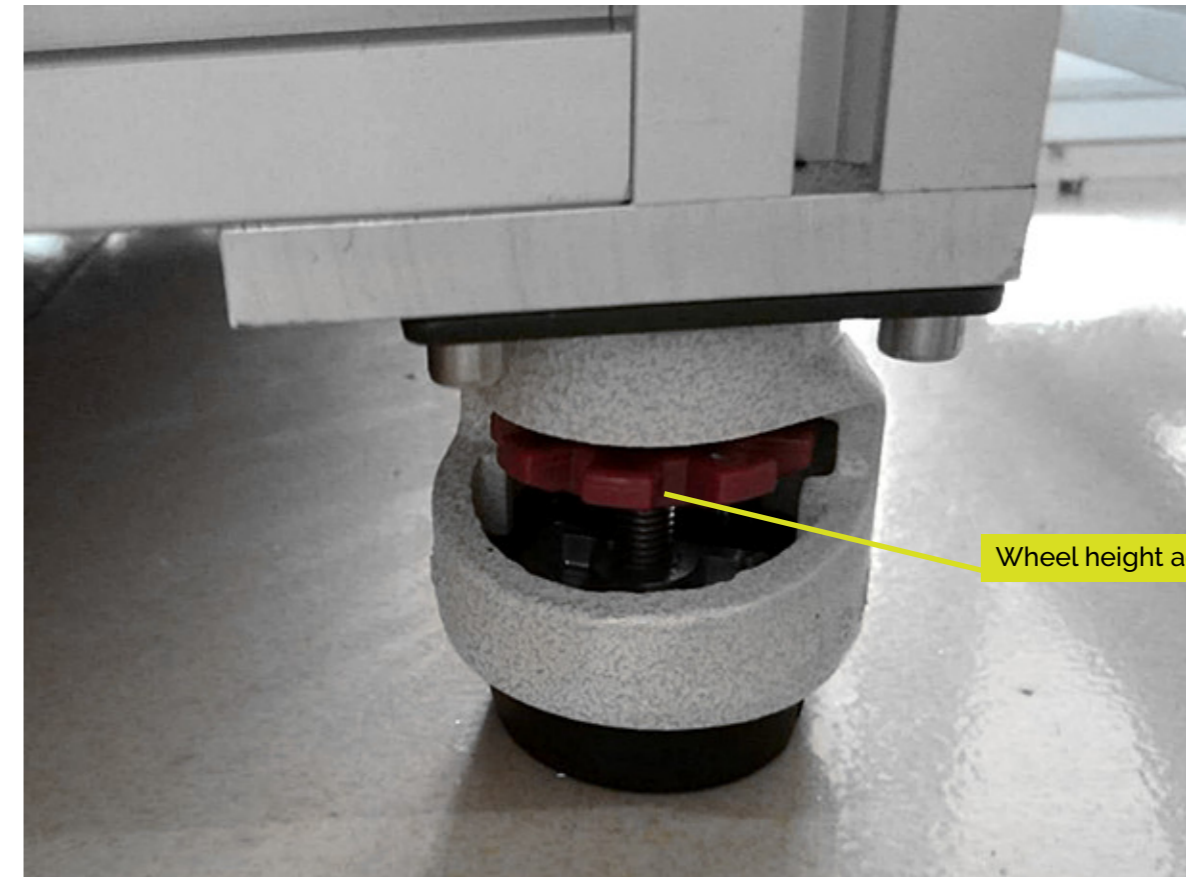


17. Twister speed adjustment

18. Cone Check

19. Vibration adjustment

Picture 2: Machine rear view



Wheel height adjustment knobs

Picture 3: Wheel height adjustment

4. Normal Work

4.1 Preparation

4.1.1 Check that the machine desktop is in a horizontal position and smooth.

4.1.2 Verify the power supply, vibration power supply and air supply are all connected.

4.1.3 Add grounded (2mm grind) cannabis or hemp flower into storage tank.

4.2 Normal work



Picture 4: Power switch

4.2.1 Machine boot up: Turn right to turn on the power switch (Picture4)

4.2.2 Manual mode: press augers 1# or 2# in "manual mode" to dispense flower.

4.2.3 Output setting: enter output base on "Preset output". Press [Clear] key to clear the original output data.

4.2.4 Press [Reset] and wait for the machine ready.

4.2.5 Press the [Start] button for normal production (during normal production, the touch screen interface button should be in [Automatic] and [Normal Operation]).

4.2 Normal working routine alarm and elimination method

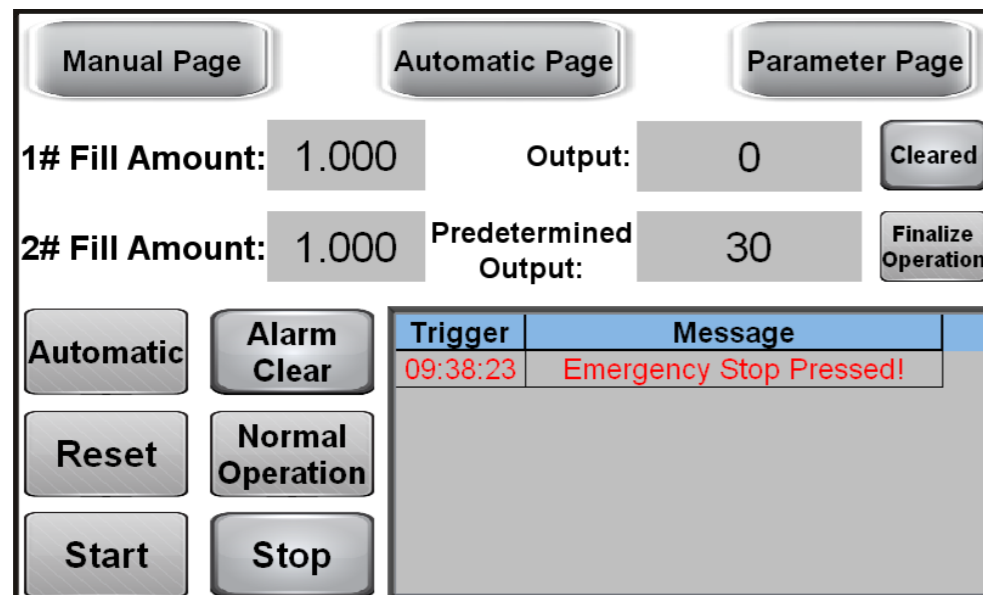
| Fault phenomenon | Cause of the problem | Solution |
|--|---|--|
| No empty cylinder alarms | If the cone wheel empty is detected, it will automatically rotate about 360° and then stop and alarm | After loading the cone, press the [Start] button to continue operation |
| No leaf alarm | | Add leaf to storage tank |
| Output reach | | Press [Clear] key to clear output value; |
| Emergency stop pressed!! | Press the emergency stop to stop the machine and turn off the alarm; | Release [emergency stop] to the right |
| Inlet cone upper limit alarm | <ol style="list-style-type: none"> 1. Check whether the air source is connected 2. Check whether the upper sensor lights up when the cylinder stretches out, and no sensor is damaged 3. The sensor is damaged | <ol style="list-style-type: none"> 1. Switch on the air pressure to 0.4-0.5Mpa 2. The up and down adjuster can make it light up 3. Replace the sensor |
| Lower limit of entering dry leaf alarm!! | Same as above | Same as above |
| Shaping upper limit alarm | Same as above | Same as above |
| Shaping lower limit alarm | Same as above | Same as above |
| Twister alarm | Same as above | Same as above |
| Discharge lower limit alarm | Same as above | Same as above |

5. Touch screen interface description

5.1 Boot interface:(picture 5)

5.1.1 After starting the machine, the main interface will be displayed and the automatic interface will be entered.

5.2 Automatic mode interface:(picture 6)



Picture 9: Automatic interface

5.2.1 After each boot into the system, the first thing to do is to confirm the amount of leaf filling amount. Press [Reset] button to let the machine ready and then press [Run] button to start operation. Before the machine starts running, the tools and other objects on the rotary should be cleared. The touch screen interface should be in [Continuous] and [Automatic]. When stopping, press the "Stop" button or the "Emergency Stop" button. When restart, release the "Emergency Stop" if you press the "Emergency Stop" at last operation, otherwise press the "Reset" button first, then press the "start" button after the cone wheel is reset.

[Emergency stop] button is used for emergency stop or temporary stop. Press the button and the machine will stop working. The touch screen will indicate that the machine will continue to work as long as the emergency stop is released (turn the emergency stop button to the right to release the emergency stop).

5.2.2 [Manual page]: Enter the manual interface for testing each function of the machine.

5.2.3 [Automatic Page]: the normal operation interface.

5.2.4 [Parameter Page]: Set various parameters of the machine.

5.2.5 Filling volume of dry leaves: Adjust the filling amount according to the product size, unit: volume amount.

5.2.6 Output: the completed output. Counts each cone filled by the machine. When the count is equal to the "preset output", the machine will stop running and alarm. Press [Cleared] key to clear the current output, then start the machine again let it continue to run.

5.2.7 Preset output: Plan the output that needs to be completed and enter the output that you want to complete.

5.2.8 [Cleared] key: the production quantity has been completed, erase this value.

5.2.9 [Finalize Operation] button: If the operation needs to be stopped before the preset output is reached, press the [Finalize Operation] button to complete the products that have entered the rotary (if the [Stop] button is pressed, the [Finalize Operation] button will not work).

5.2.10 [Automatic Mode] / [Manual Mode]: In normal production, it shall be in [Automatic Mode]. [Normal Operation] / [Single Action]: Normal production shall be in [Normal Operation]. Test the machine with [manual mode] and [single action].

5.2.11 Alarm status display window and [Alarm Clear]: display the fault name. After troubleshooting, press [Alarm Clearance] or [Start] to continue normal operation.

5.2.12 [Reset] button: In order to ensure accurate working, should press [Reset] first after the

[stop] button pressed.

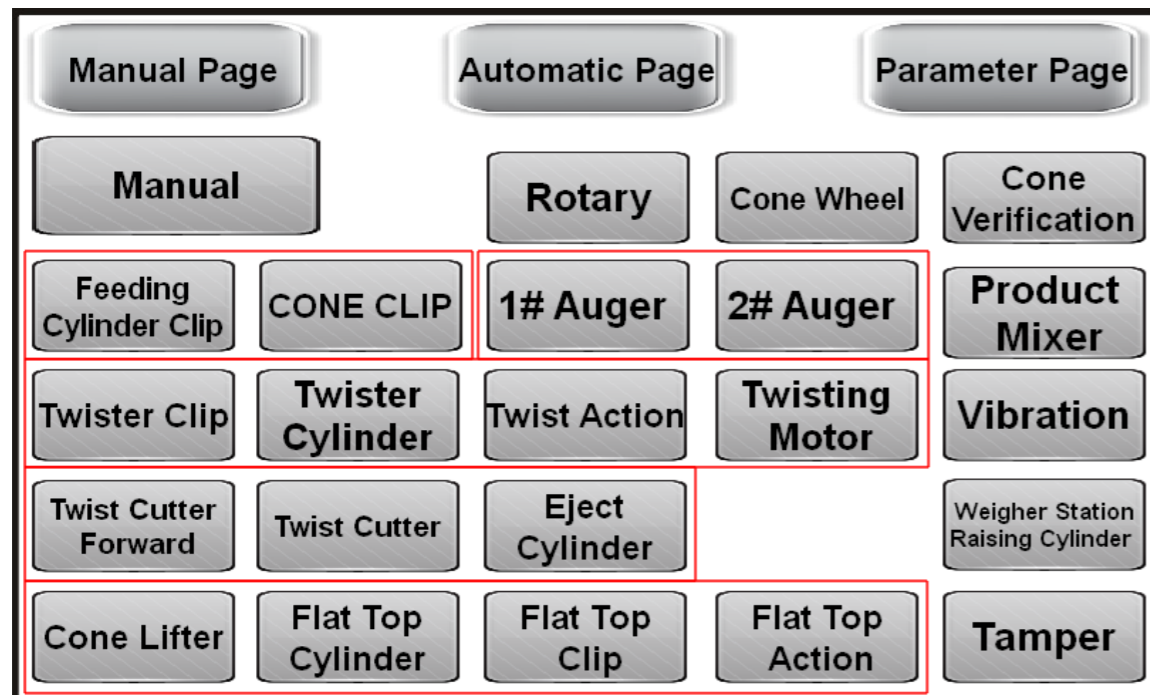
5.2.13 [Start] button:

a: shall press [Reset] and then start the machine before running.

b: When the automatic screen has alarm information, clear the fault and press the [Start] button to continue operation.

5.2.14 [Stop] button: Press [Stop] button when want to completely stop the machine. (Machine will then start from zero)

5.2 Manual mode interface:(Picture 7)



Picture 7: Manual interface

5.2.1 Manual mode interface is to test whether each part of the machine is work.

5.2.2 [Automatic Model]/ [Manual Mode]: The switch button of the automatic/manual machine state; the manual mode interface needs to be in the state of [manual mode] and all the buttons can be used when the emergency stop is not pressed.

5.2.3 [Rotary]: the rotary rotates one station each time you press it.

5.2.4 [Cone wheel]: the cone wheel rotates 2 stations each time you press it.

5.2.5 [Shaping]: Check and test the lifting cylinder of shaping.

5.2.6 [Feeding Cylinder Clip]: Check and test the cone feeding cylinder (up and down).

5.2.7 [Cone clip]: Check and test the cone clip cylinder.

5.2.8 [1#Auger]: Check whether the 1# auger feed the leaf.

5.2.9 [2# Auger]: Check whether the 2# auger feed the leaf.

5.2.10 [Product Mixer]: Check and test the vibration/mixer of the storage tank.

5.2.11 [Twist Action]: Check and test the positioning cylinder of twister.

5.2.12 [Twister Cylinder]: Check and test the lifting twister cylinder.

5.2.13 Twister Clip: Check and test the twister clip cylinder.

5.2.14 [Twisting Motor]: Check and test the twister motor.

5.2.15 [Vibration]: Check and test vibration on tamper station.

5.2.16 [Twist Cutter]: Check and test the cutter cylinder.

5.2.17 [Twist Cutter Forward]: Check and test cutter forward cylinder.

5.2.18 [Eject Cylinder]: Check and test the eject cylinder.

5.2.19 [Weigher Station Raising Cylinder]: Check and test the weigher raise cylinder (it's option function).

5.2.20 [Cone Lifter]: Check and test the cone lifter cylinder.

5.2.21 [Cone Lifter]: Check and test cone lifter cylinder.

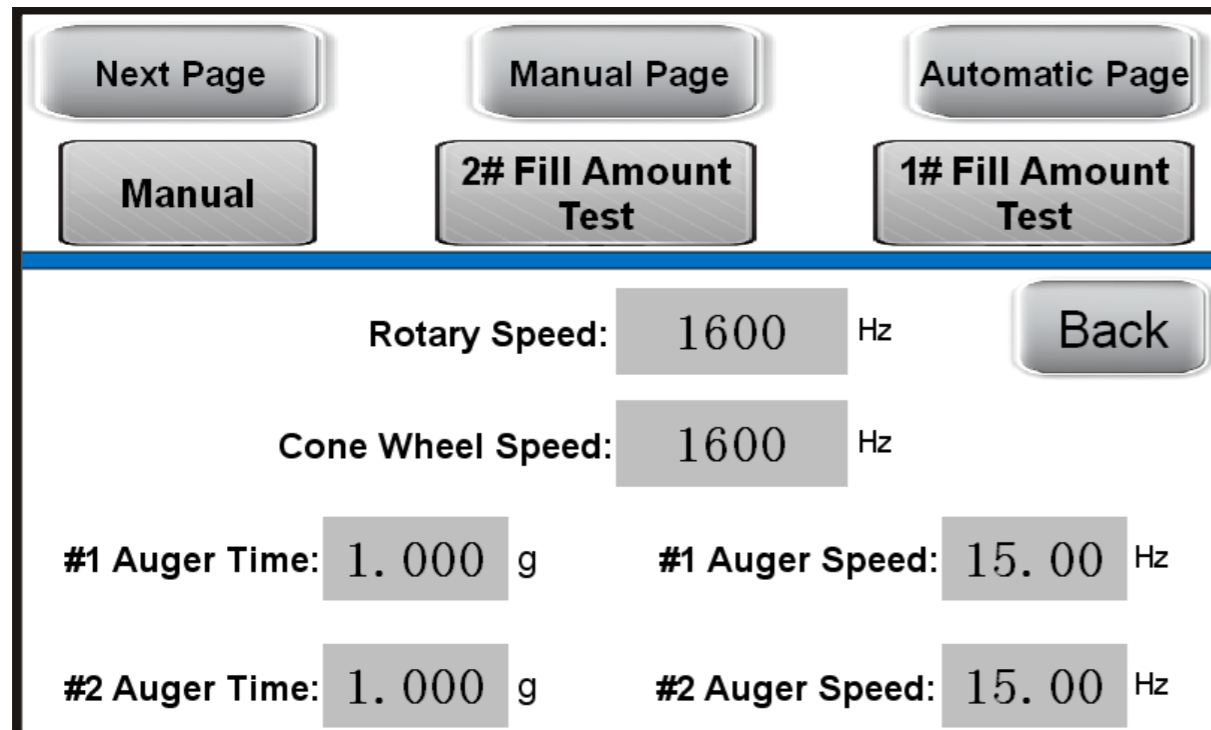
5.2.22 [Flat Top Cylinder]: Check and test the flat top cylinder.

5.2.23 [Flat Top Clip]: Check and test the cone flat top clip cylinder.

5.2.24 [Flat Top Action]: Check and test the cone flat top action cylinder.

5.2.25 [Tamper]: Check and test the tamper cylinder.

5.3 Parameter setting interface (P8 P9 P10)



Picture 8: Parameter interface one

5.3.1 1#, 2# Fill amount test: test the set leaf quantity, unit: g.

5.3.2 Rotary Speed: setting of the rotary speed.

5.3.3 Cone Wheel Speed: setting the cone wheel speed of the cone feeding rotary.

5.3.4 1#, 2# Auger Time: set quantity of leaf filled.

5.3.5 1#, 2# Auger Speed: set the speed of auger.

◆ Feeding Disk Station:

5.3.6 Cone clip Delay: Delay of clip time after the cylinder lifting.

5.3.7 Feeding Clip Time: Time of clip.

5.3.8 Feeding Clip Release Delay: Delay time of release when load into the rotary.

◆ Verification/Tamper Station:

5.3.9 Cone Verification Delay: Delay time of shaping when cone move onto the shaping station.

5.3.10 Tamper delay: Delay time of tamper.

5.3.11 Tamping Times: Setting the times of tamper.

◆ Weigh Station:

5.3.12 Weigh Cone Raise Time: in order to reduce the friction with the fixture, the time for the cone to rise and maintain during weighing.

5.3.13 Weigh Cone Delay Fall: Setting of the delay time of falling down after the weighing is completed.

◆ Twister Station:

5.3.14 Twister Clip: Twister locating time.

5.3.15 Twister Fall: Delay time of the twister fall cylinder.

5.3.16 Twister Clip Time: clip time of cylinder.

5.3.17 Twisting Time: cone twisting time.

5.3.18 Twister Lift Delay: After the lifting cylinder rises, the locating cylinder retreats with a delay.

◆ Cutter Station:

5.3.19 Cutter Open Delay: delay cutting after the cutters are in place.

5.3.20 Cutter Close Delay: delay open of the cutter after cutting.

◆ Auxiliary Delays:

5.3.21 Cone Turning Delay: After the rotary in place, the cone wheel delay work.

5.3.22 Rotary Delay: the interval time of rotary turning.

5.3.23 Eject Delay: delay time of the eject cylinder working.

5.3.24 Product Mixer Time: the time of each vibration/mixer of the storage tank motor.

◆ **Flattening Station:**

5.3.25 Cone Raise Delay At Flattening Station: After the rotary in place, the delay time of raise cylinder when flat top.

5.3.26 Cone Fall Delay At Flattening Station: the delay time of fall cylinder when flat top.

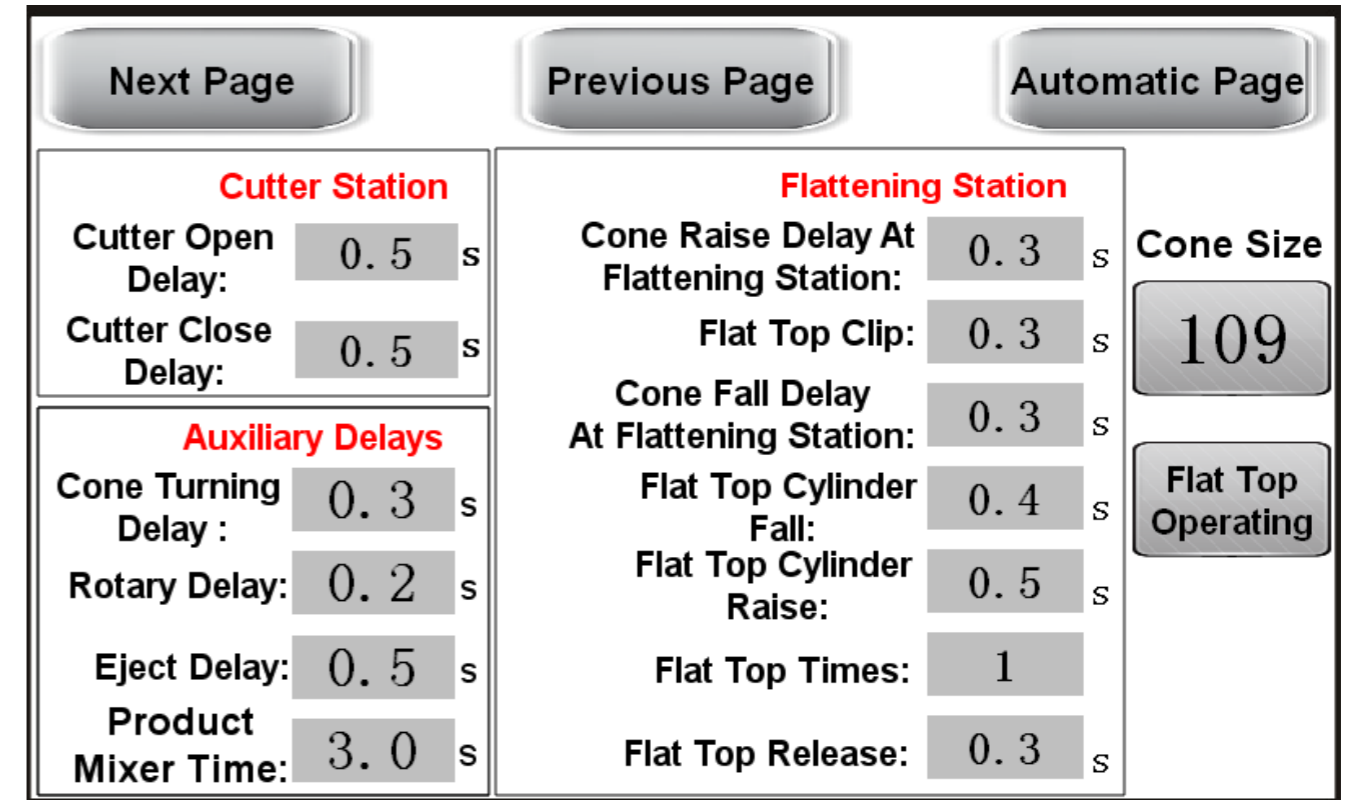
5.3.27 Flat Top Clip: After the cone rises, the clip time of finger cylinder.

5.3.28 Flat Top Cylinder Fall: delay time of the flat top cylinder fall down.

5.3.29 T Flat Top Cylinder Rise: delay time of the flat top cylinder raise up after flat.

5.3.30 Flat Top Time: the flat time of the flat function.

5.3.31 Flat Top Release: the delay time of the finger cylinder released.

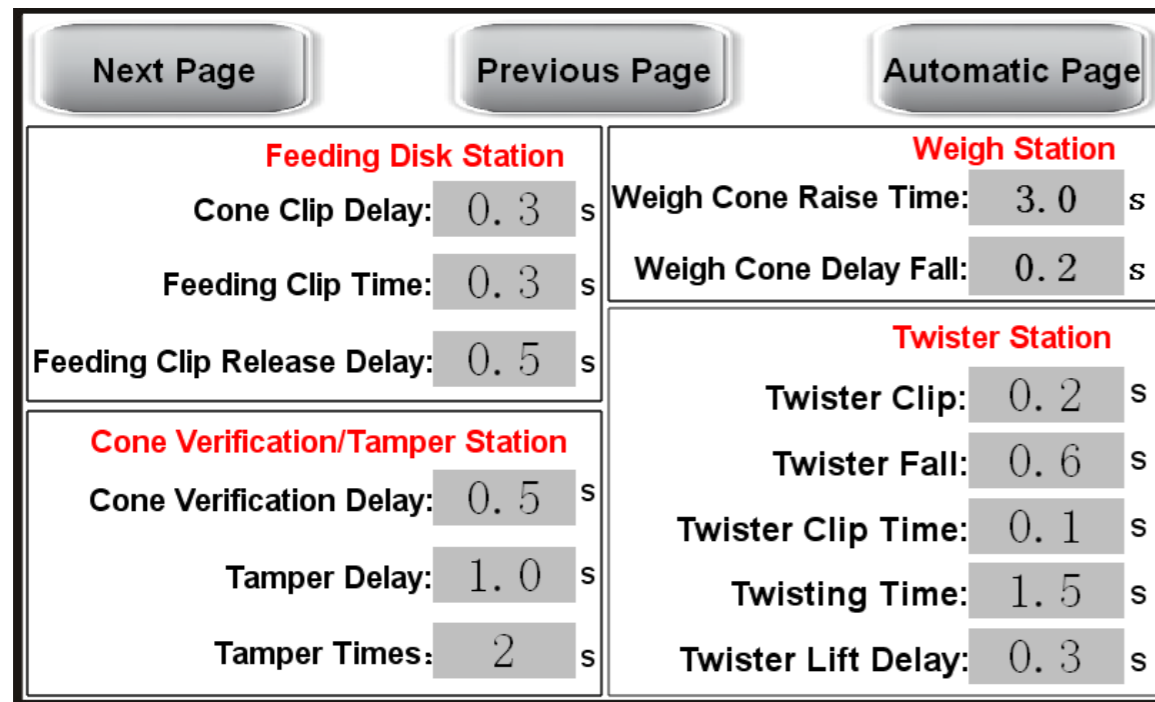


Picture 10: Parameter interface three

5.3.32 Pulse per revolution of the rotary: The driver is subdivided and cannot be modified.

5.3.33 Stroke per revolution of the rotary: it cannot be modified.

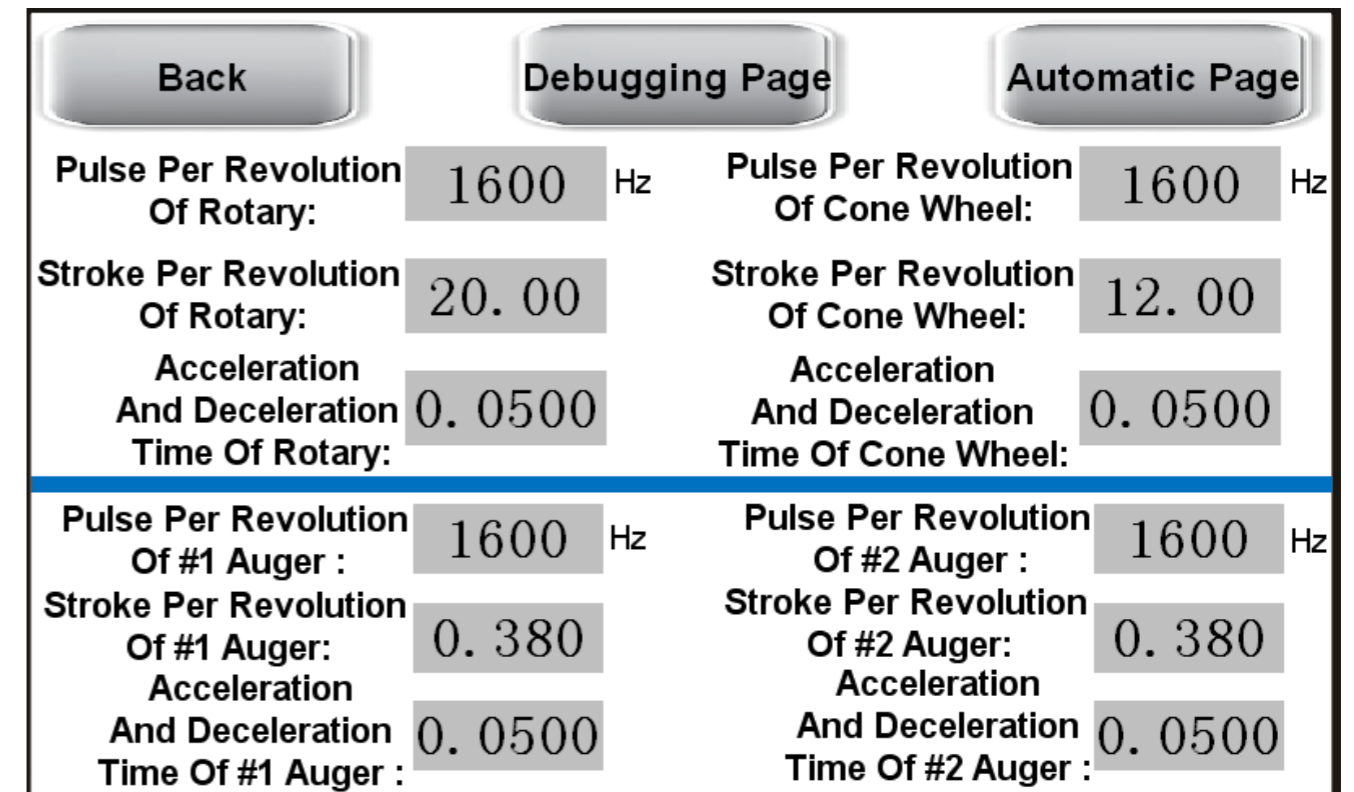
5.3.34 Acceleration and deceleration time of rotary: it cannot be modified.



Picture 9: Parameter interface two

◆ Select the length of the cone size: select 109 or 84 according to the length of the cone.

◆ The Flattening Station is open/The Flattening Station is closed: you can choose the station open or close according your wishes.



Picture 11: System parameter interface

5.3.35 Pulse per revolution of the cone wheel: The driver is subdivided and cannot be modified.

5.3.36 Stroke per revolution of the cone wheel: it cannot be modified.

5.3.37 Acceleration and deceleration time of cone wheel: it cannot be modified.

5.3.38 Pulse per revolution of 1# (2#) Auger: the driver is subdivided and cannot be modified.

5.3.39 Stroke per revolution of 1# (2#) Auger: if the actual leaf amount is not match the amount on the automatic running, it can be adjusted (the smaller the value, the more the leaf amount).

5.3.40 Acceleration and deceleration time of 1# (2#) Auger: it cannot be modified.

Note:

The parameter data cannot be changed at will, it can be adjusted according to the proficiency of the product and the operator, and make a backup!!

6. General problems and solving

| Fault phenomenon | Cause of the problem | Solution |
|------------------------|--|---|
| No power | <ol style="list-style-type: none"> The switch is not turned on. The fuse is blown out. The switch power indicator is off. | <ol style="list-style-type: none"> Open the cabinet door and the power switch in the distribution box. Change the fuse in the distribution box, the specification is 500V/10A. Replace the switching power supply. |
| Cylinder does not work | <ol style="list-style-type: none"> The air pressure is not turned on or the air pressure is too low. | <ol style="list-style-type: none"> Turn on the air pressure and adjust to 0.4-0.5MPa. |
| Cone wheel not working | <ol style="list-style-type: none"> The sensor does not sense the cone The sensor should not emit light (no signal output), and the sensor is damaged | <ol style="list-style-type: none"> <ol style="list-style-type: none"> Adjust the sensor direction to enable the cone to be detected Adjust the signal strength so that the sensor can sense the cone and emit light Replace the sensor |
| Auger not working | <ol style="list-style-type: none"> The sensor does not sense the cone The sensor should not emit light (no signal output), and the sensor is damaged The auger is stuck | <ol style="list-style-type: none"> <ol style="list-style-type: none"> Adjust the sensor direction to enable the cone to be sensed Adjust the signal strength so that the sensor can sense the cone and emit light Replace the sensor In manual interface, press 1# or 2# to return auger to work |
| Not tightened | <ol style="list-style-type: none"> The position of the upper and lower cylinders of the twist position is high The clip cylinder not clip the cone The twist time is not enough | <ol style="list-style-type: none"> Adjust the nut on the twister cylinder <ol style="list-style-type: none"> Check whether the air pipe or connection is leaking Adjust the joint on the twist locating cylinder to increase the air pressure Extend the twisting time |

7.0 Machine maintenance

7.1 The machine should be used in a dust-free indoor environment.

7.2 Add lubricating grease once a month to the walking guide rail and the lubricating screw.

7.3 The machine mainly fills and tighten the leaf.

7.4 Don't blindly pursue too fast speed. Exceeding the limit of processing speed will affect the precision. Excessive speed will also accelerate the wear of the machine, and cause the shake of the body, which is not good for safety.

8. Other

8.1 Warning

8.1.1 Ensure that the machine is reliably grounded, and the grounding resistance is less than 4Ω (the middle insert of the power cord is marked with a grounding symbol).

8.1.2 Ensure that the power supply of the machine is 110V±10%, and the frequency is 50Hz/60Hz.

8.1.3 Ensure that the machine input clean air source, the air pressure is not less than 0.5MPa.

8.1.4 It is strictly forbidden to touch the moving parts by hand when the machine is running.

8.2 Before operating the machine, please check the processing speed and processed products of the machine.

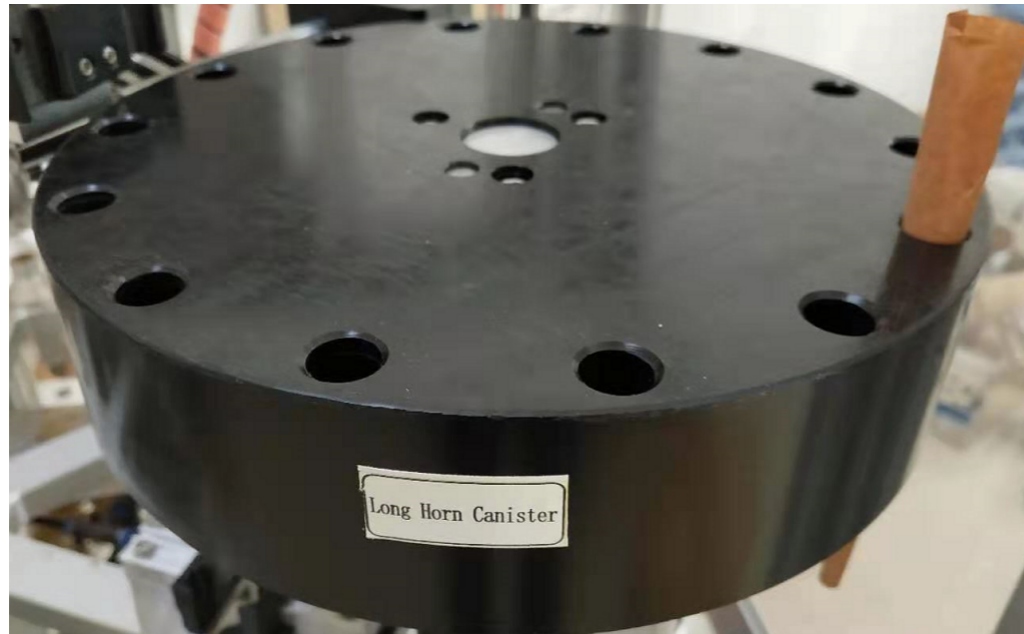
8.3 Please carry out safety training for the operating staff before machine operation.

8.4 When repairing or moving the machine, please shut down and unplug the power cord.

Instruction Of Compatible With Different Sizes

1. The accessories need to be exchanged for different sizes:

1.1 Replacement of the cone wheel: corresponding the 109 cone to Long Horn Canister, corresponding the 84 cone to Short Horn canister;



F1: 109 cone



F2: 84 cone

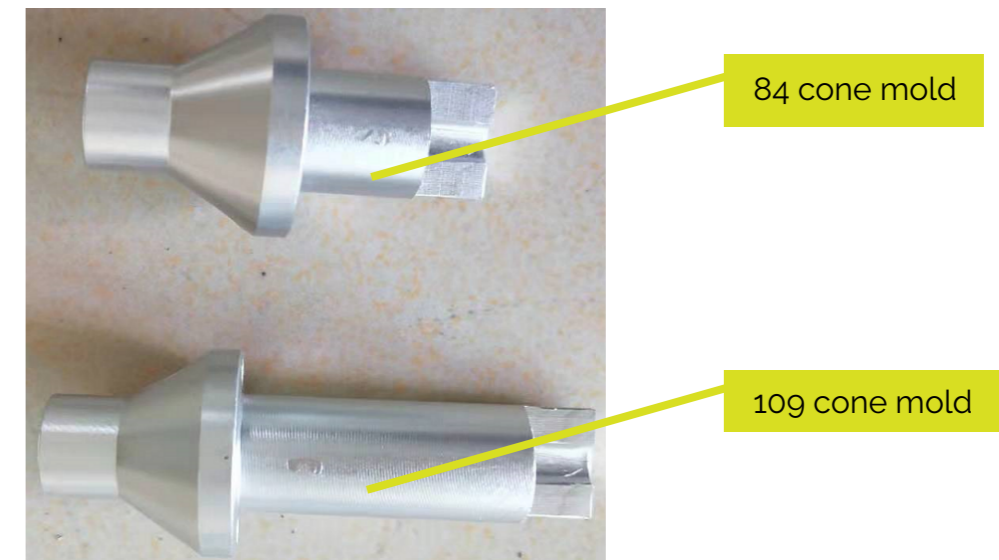
2. Adjustment of disk under vibration:



When changing the product, adjust the vibration block to be higher than the left $\geq 1\text{mm}$

When changing product, adjust the vibration block to be lower than the right $\geq 1\text{mm}$

F3: Disc adjustment under vibration



F4: Cone mold