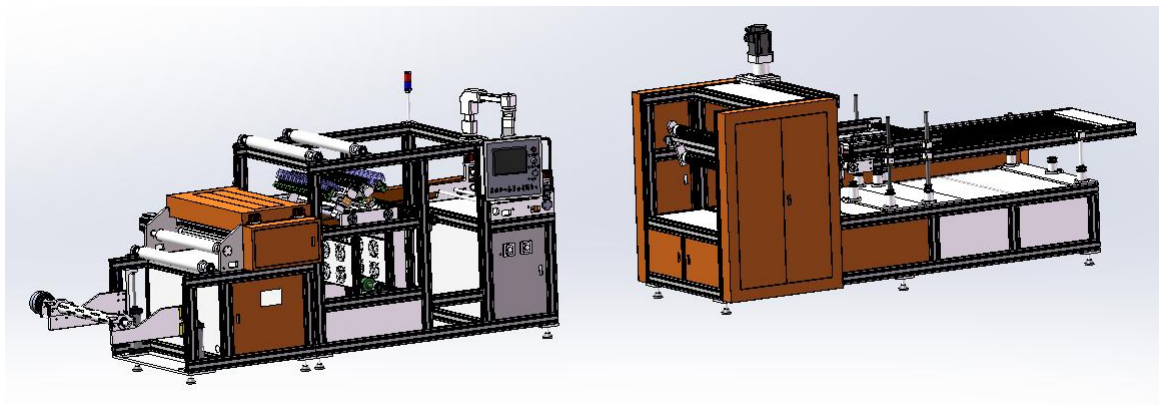




## Equipment Operating Manual

MODEL : LTWG-300-700

Full Auto CNC HEPA Filter Pleating Production Line



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## Chapter one: Preface

Bengbu Leitai Filter Equipment Co.,Ltd is specialized in producing Primary/Middle/High efficiency filter machine for air/fuel/oil filter,hydraulic filter, water filter. After years development, it has been the most modern company among the competitors because of its high technical employees, high quality machines and perfect management.With yearly output 800 sets of filter making machine and 80 sets filtering equipment and we have developed over 70 kinds filter pleating machine and testing machine.Our main products including full auto HEPA air filter pleating production line and separated HEPA air filter pleating production line, full auto knife/rotary filter pleating machine.Some of our equipment pass through CE certification,far export to European countries, Southeast Asia countries etc....

Since the establishment, it has pursued the quality policy “ Innovative design and elaborate, one promise and full service” persistently.

Welcome all clients to visit our factory to start co-operation between each other and create the brilliant future.

LTWG-300-700II Full auto CNC HEPA filter Pleating Production Line, is a new type of air filter production equipment developed by our technical staff after years of exploration, by indentation parts, gluing parts, conveying parts of three parts. The line operating system uses a touch screen interface to make operation intuitive and simple. Moreover, the production line has a modern monitoring system, the servo motor drive makes the product folding height adjustable (20-300mm), the product size produced by the production line is accurate, flat and consistent, the thickness of the rubber line is consistent, the production line has won the unanimous recognition and praise of the majority of users.

The correct operation can give full play to the performance of the machine and produce high-quality products. Therefore, the relevant personnel who use the machine must read this manual carefully and fully understand this manual to make the machine operate in the best condition and obtain the greatest benefits. At the same time, be sure to pay attention to the safe use of the machine.

When you read this manual, you have become our user or service object, we have the responsibility to provide you with technical help on the use of the machine, Once you read the manual, you have become our user or service object, we will be responsible for providing you the technical help during using the machine. Our contact details as following:

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The number of the production line is as follows:

LTWG -XXX -YYYY

LTWG: represents the separator air filter origami glue series products

XXX: represents the highest folding height

YYYY: Represents the widest fold width

For example, LTWG-300-700II indicates maximum fold height 300mm and widest fold width 700mm

There are some differences between the specific specifications of the delivery machine and those prepared in this manual due to design changes or other special reasons. When using this production line, if you find any quality problems and other improvement suggestions caused by manufacturing, please contact us timely for correction. If users have special specifications of product requirements, they can contact our company, and our company can carry out special design and manufacture for you. Our company shall not be responsible for the reason or injury caused by failing to follow the instructions in the operation manual or refitting the machine parts without authorization.

## **Chapter Two: Safety Requirements**

### **I. Summary of the machine**

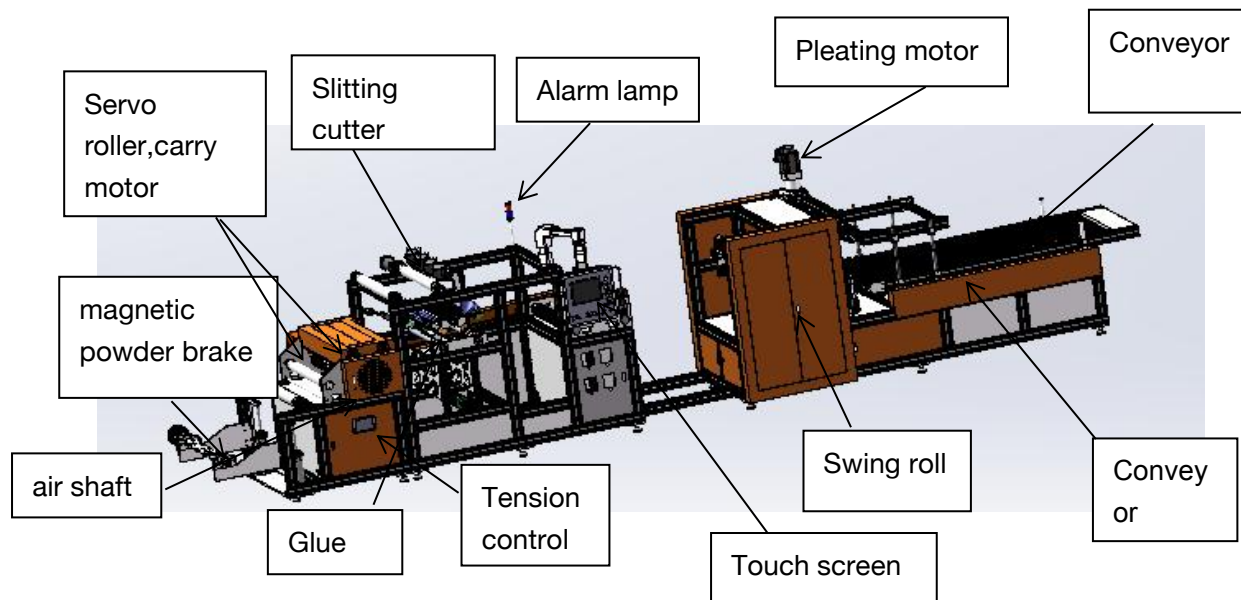
LTWG-300-700II is Full auto CNC HEPA filter Pleating Production Line is suitable for folding and gluing of glass fiber materials and paper filter elements of air filters.

The production line is composed of eight parts of the material tensioning mechanism, the indentation mechanism, the edge scuttling mechanism, the gluing mechanism, the cooling mechanism, the wave absorbing mechanism, the conveying mechanism and the touch screen control mechanism. The drum roll filter material is passed through the air expansion shaft and tightened, placed on the material rack, passed through the front tensioning roller after the impression roller and the traction roller, passed through the cutting mechanism after the cutting edge is vertically passed between the two spraying mechanisms, the sprayed filter material is passed through the cooling mechanism to the wave collecting mechanism, the wave collecting mechanism is formed, and finally through the conveying mechanism and then naturally cooled and formed after the output machine. To complete the folding and gluing process of the filter element.

The production line adopts imported scuttling knife, scuttling end face is flat, no rough edge; The production line is driven by high precision servo motor to ensure the superior performance of the equipment. By using the speed difference between the two sets of rollers, the folding height can be adjusted (20-300mm) without changing the roller, which improves the working efficiency. Each head has an independent control valve, which can be continuously injected and intermittently injected to adapt to different specifications and different models of products (up to 700mm wide). PLC program control and touch screen operation make the operation easy to understand. The production line is equipped with a cooling system to make the glue solidify immediately after the product is injected, which is convenient for cutting the product. The longer conveyor mechanism is suitable for cutting products of different lengths. At the same time, the machine has single side

gluing, break number of gluing, staggered gluing, edge gluing and other gluing modes. The parts of the glue spraying mechanism are precisely machined to make the thickness of the glue line consistent. This production line is the first choice equipment for purifier production enterprises to fold high filter element folding glue.

The production line uses electricity and compressed air as power sources.



## II. Safety rules for use of machine

### 1. Safety Precautions

- 1.1 Read and understand fully for this manual.
- 1.2 Please make sure that there are no unsafe factors around before staring up the machine. Close the protective cover, otherwise the machine can not work.
- 1.3 The total power should be cut off on the condition of maintaining and adjusting. Do not do these work on the condition that the machine starting up.
- 1.4 Please turn off the power supply once operator leaves temporarily or power off.
- 1.5 Don't open the movable doors and protective covers once machine starts working.
- 1.6 The electrical technicians are requested to operate the work related on electrical equipment. Please wait 15 seconds after the power supply turned off to prevent residual voltage.
- 1.7 The maintenance working should be waiting the fully cool of heating machine.
- 1.8 No smoking and No fireworks in the workplace.

## 2. Safety Sign:

2.1 The necessary places should be posted the safety signs to prevent accidents, please make sure to comply with the signs of attention.

2.2 Safety signs for the machine as following:



2.4 The meanings of safety marks are as follows:

Risk: risk of death if this requirement is not complied with;

Warning: Failure to comply with this requirement may result in serious injury;

Note: Failure to comply with this requirement may result in injury or damage to the machine.

3. Safety rules related to the operator:

3.1 The operation and maintenance of the machine must be carried out by professionally trained or practical personnel;

3.2 In order to prevent long hair from getting involved in the running part of the machine, please put the long hair into the working cap;

3.3 When cleaning the machine, turn off the power supply. Do not use solvents to wipe electrical parts, clean machine shell components with neutral soap, and wipe machine metal components with No.10 oil;

3.4 If you find any unsafe factors affecting the boot before the boot, do not force the boot, and then start the boot after the unsafe factors are excluded. During the operation of the machine, if there is an abnormal sound, it should be shut down immediately, notify the maintenance personnel to find the cause, and start again after troubleshooting.

3.5 During the operation of the machine, please do not place your hand on the moving parts or heating parts to prevent hand injury;

3.6 No irrelevant things can be placed on the workbench and all platforms of the machine to prevent injury or sliding interfere with the normal operation of the machine;

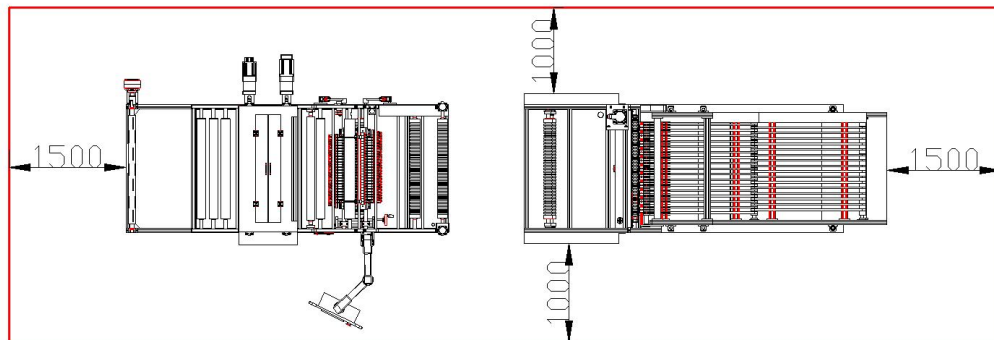
4. Rules related to maintenance operations:

4.1 When repairing or cleaning the machine, it should stop and turn off the power.

4.2 Please be sure to restore the cover and cover plate removed during maintenance before starting up and running;

4.3 When replacing electrical parts, the power supply must be cut off, and the same kind of parts or parts of the same specification must be used;

5. Equipment operator's working area location:



6. Safety rules for equipment installation:

6.1 The installation ground must be smooth;

6.2 The power supply line should match the power of the machine, and the power cord should be fixed;

6.3 The machine must be grounded protection, the ground wire can be connected to the installation bolt of the machine foot, the neutral wire can not be used as the ground wire shell;

6.4 Ensure that the road at the installation location is unobstructed, and prepare a forklift with more than one ton for handling the machine;

6.5 On both sides of the machine installation position, the distance from the wall should be greater than one meter, and the front and back should be greater than 1.5 meters;

6.6 The machine is fixed with foot bolts, or the machine can be placed on the ground mat with rubber cushion to prevent slip;

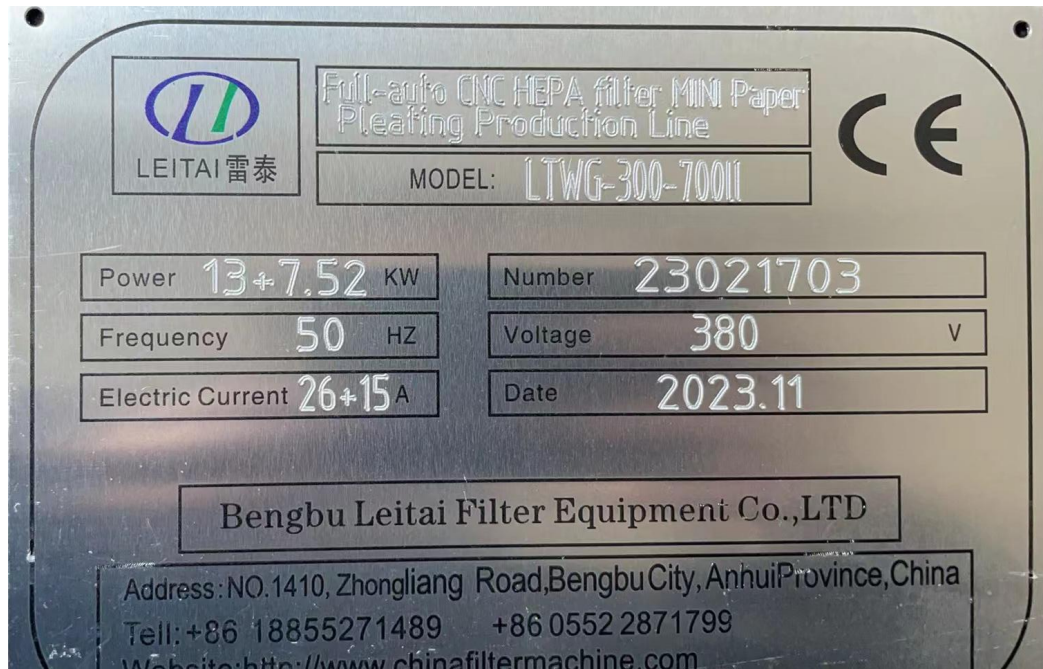
6.7 The machine adopts 380V/50Hz power supply. Install the safety device and switch with appropriate capacity before the external power wipe seat of the machine.



## Chapter Three: Parameters and Installation

### I. Nameplate:

LTWG-300-700II Full Auto CNC HEPA filter Pleating Production Line is manufactured by Bengbu Leitai filter Equipment Co., LTD., and there is a nameplate of our company on the production line.

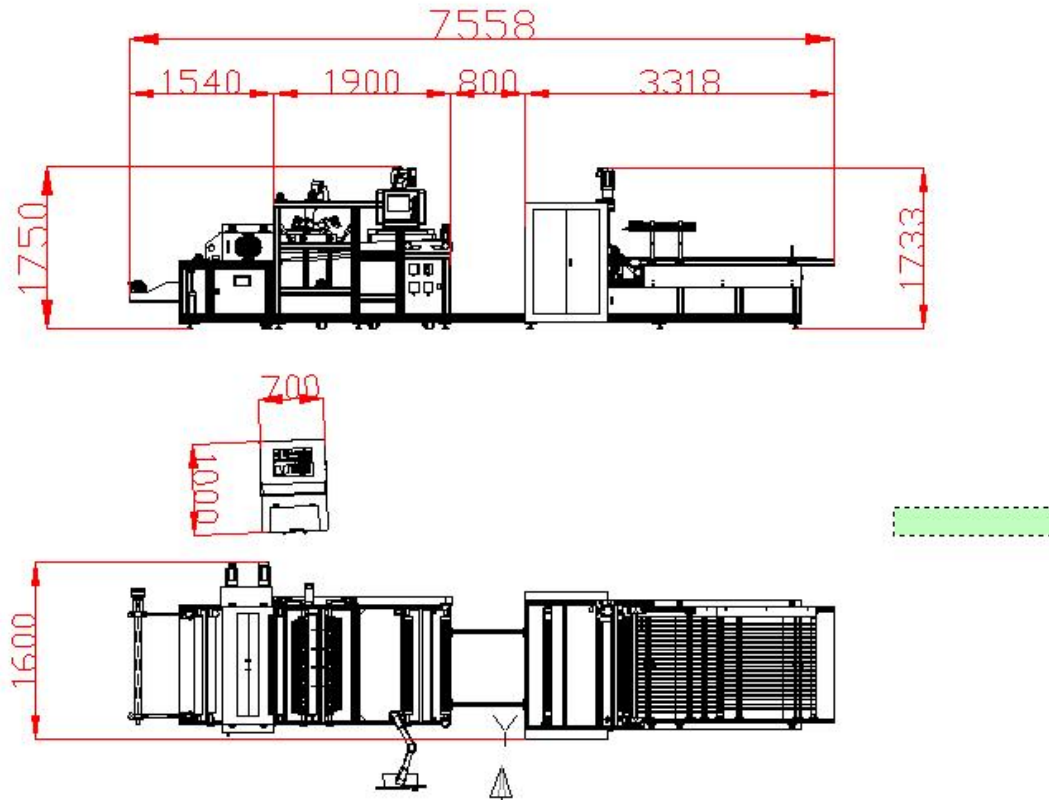


### II. Parameters

Feed speed :	0.5m/min — 12m/min
Pleating height :	20mm — 300mm
Filter maximum width:	750mm
Filter element maximum width:	700mm
Total production power::	20.35KW
Hot melt glue tank power:	15KW
Motor power :	5.35kw
Air source pressure:	0.6MPa
Power supply voltage:	400V/50Hz
Nozzle lines :	26pcs*2(total 52pcs)
Nozzle distance:	25.4mm

### III. Appearance and Dimension:

1. Production line L×W×H (length × width × height) 7558mm×1750mm×1733mm
2. Hot melt glue machine L×W×H (length × width × height) 700mm×1000mm×1300mm



### IV. Installation

The machine should be placed in a suitable work site or a suitable position of the filter assembly line;

Draw the equipment installation center line according to the installation position in the workshop;

After removing the packing box and dust film, use a forklift to put the machine in a fixed position, or the installation position of the production line, the side distance from the wall must be greater than one meter, and the front and back must be greater than 1.5 meters. The distance between the front and rear machines should be 0.7m-1.2m and kept flat, on a Central Line, to calibrate the machine level.

### V. Connect Power supply:

The input of the power cord should match the power of the machine. The power supply adopts 380V/50Hz power supply. Please check whether the power supply configuration conforms to the specification.

The machine must be grounded protection, the ground can be connected to the machine foot mounting bolt.

Before using the machine, please check whether the cables of each machine are properly connected, whether the emergency buttons are reset, and whether the protective cover door is closed. Otherwise, the machine cannot be started under protection.

#### VI. Connect Air Supply

When connecting the air source, check whether the air source meets the requirements of the machine. The air source used by the machine is 0.6MPa air pressure.

## **Chapter Four: How to Adjust/Operate the machine**

### **I. Working principle and process**

LTWG-300-700II Full auto CNC HEPA filter MINI Paper Pleating Production Line uses the speed difference between the indentation roller and the traction roller to realize the folding height can be adjusted (20-300mm); Folding a higher set of rollers than the traditional one not only reduces the cost, but also improves the production efficiency. The magnetic powder brake is used to control the tension, so that the filter material is not easy to be pulled off, and it will not slack off and fall into contact with the ground.

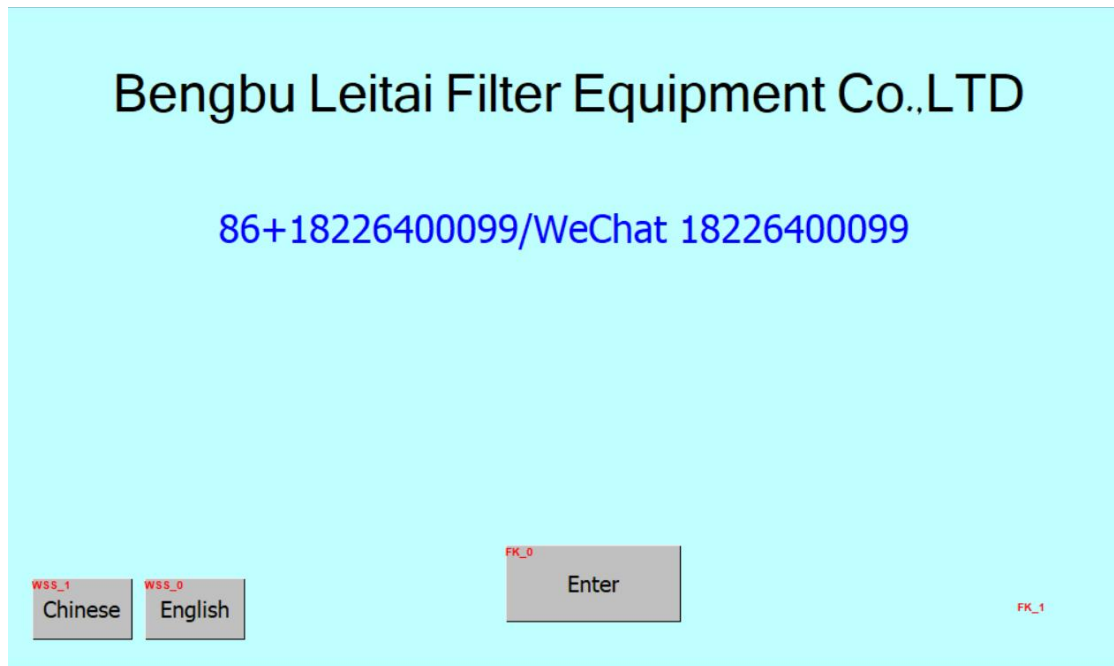
Each spray head has an independent control valve, which can be continuously injected and intermittently injected to adapt to different specifications and different models of products (up to 700mm wide). PLC program control and touch screen operation make the operation easy to understand. The production line is equipped with a cooling system to make the glue solidify immediately after the product is injected, which is convenient for cutting the product. The longer conveyor mechanism is suitable for cutting products of different lengths.

At the same time, the machine has single side gluing, break number of gluing, staggered gluing, edge gluing and other gluing modes. The parts of the glue spraying mechanism are precisely machined to make the thickness of the glue line consistent.

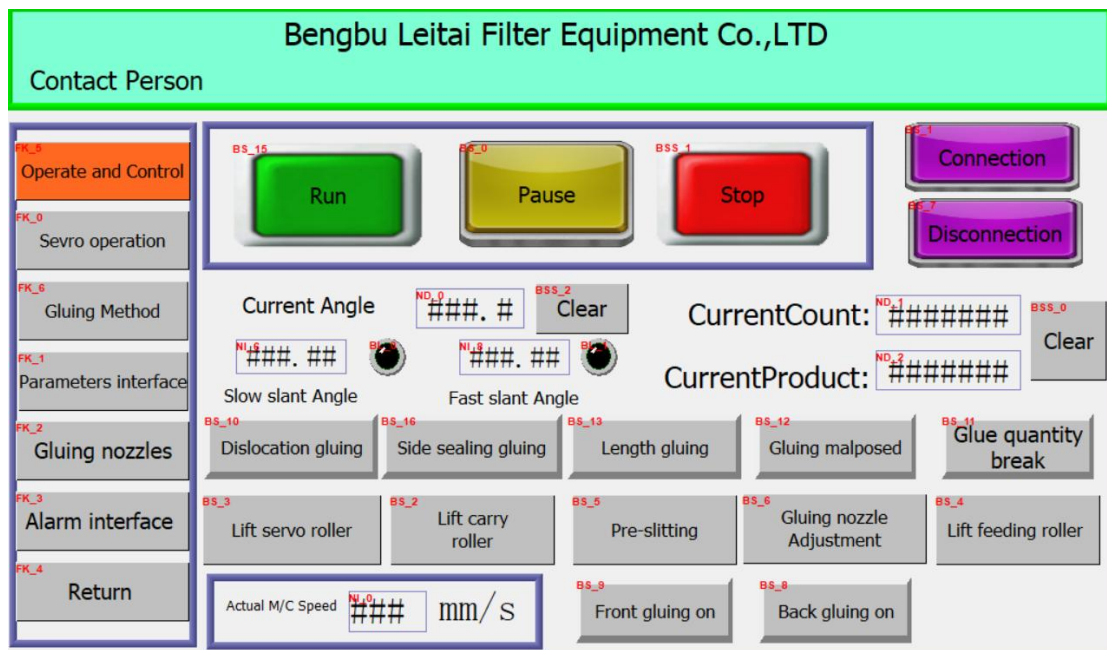
Remove the air expansion shaft and exhaust the gas, put the drum material through the appropriate position of the air expansion shaft and inflate, so that the air expansion shaft tenses the material. Lift the air expansion shaft loaded with filter material onto the material rack, and pull the filter material head through the front tensioning roller, the indentation roller, the traction roller to the tensioning roller and the cutting roller at the upper end of the machine, and then vertically through the two glue heads, and down through the slotted tensioning roller and the cooling system to the absorbing roller. At this time, the upper and lower absorbing roller should be in a separate state, and the material will close the upper and lower absorbing roller after passing through the absorbing roller. Adjust the speed ratio between the indentation roller and the traction roller according to the bending height of the product, and adjust the distance between the upper and lower receivers. Open the glue head and start injecting glue, block the material behind the receiver roller with the object, so that the object is removed after the material is folded and formed, and the machine starts to run automatically.

## II. How to operate


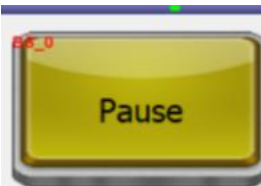

1. Close the protective cover door, reset all emergency stop buttons, close the main power switch, turn on the power control switch, and the power indicator is on.
2. After the system is powered on, the screen as shown in the following figure will appear on the touch screen, and the system can be selected in Chinese and English.




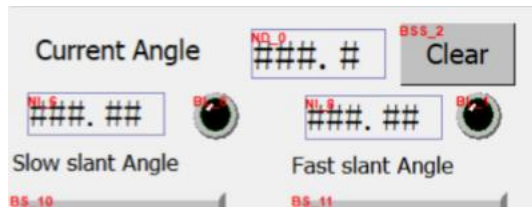
This is the boot screen. Click English button switch to English display, Click here Chinese button to the Chinese display. Click enter button enter the following interface.



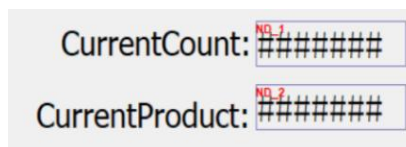
This screen is the main operation interface, which can complete the operation of the device and the setting of some parameters. The functions of each part are described as follows:

Click  button, the machine will run; Click  the machine pauses; Click  machine will stop running, do not click the button if not necessary, it will cause the machine to reset when starting again, affecting production efficiency.

 connection and disconnection are used to couple and uncouple the servo motor of the up and down collection wave axis. Please note when coupling or decoupling up and down collection wave axis servo motor, the device must be suspended.



This part of the parameters are the swing bar parameters in operation. The current Angle of the pendulum is the Angle of the pendulum during operation. The following two parameters slow slant Angle and fast slant Angle are set for the operating range of the pendulum rod. There are two indicators, used to indicate the current device paper output speed and set the speed of the deviation, the left indicator light indicates that the paper is slow, the right indicator light indicates that the paper is fast.



Current count is show the pleats quantity when running machine. Current product is show how many products have produced by machine.



These five buttons can manually operate the corresponding five cylinders on the equipment, the cylinder is compressed by default, when the corresponding button is pressed, the corresponding cylinder will be lifted, and then pressed again, the cylinder will return;

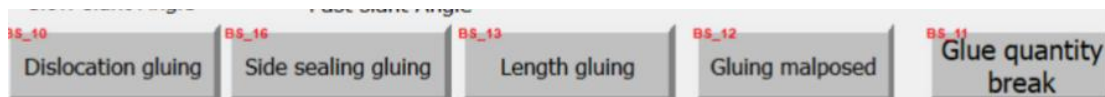
Lift servo click it the embossed roller down to embossed the material paper crease.

Lifit carry roller is upper carry feed axis lift then upper and down carry feed axis have interval then can put the material through, then click again the axis down. Help to feed the material.

Pre-slitting click can slitting balde decline and cut the material width click it again the slitting balde lift.

Gluing nozzle adjustment click left right nozzle close click again left right nozzle open.

Lift feeding roller click it lift puller axis lift then axis have interval then can pull the material through, then click again the axis down.



These four buttons are used to set the different injection modes of the device; The default is continuous gluing, continuous gluing is also good.

Dislocation gluing: before is normal gluing then click it can change to gluing malposed pattern.

Side sealing gluing : glue the edge of the origami filter material.

Length gluing: Input the length of gluing, gluing reaches the preset value, gluing work

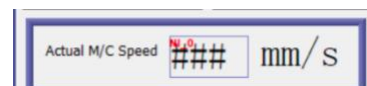
stops.

Gluing maplosed: the upper and lower lengths are staggered gluing, so as to save glue, and the length of the glue is set according to the folding height.

Glue quantity break:how many breaks are broken, how many breaks are entered into the number of breaks, and how many breaks are entered into the number of breaks without glue.



These two buttons are used to open or close the upper and lower set valves overall, and are closed by default.



This parameter is the actual running speed.

**Click Servo operation will enter to above interface:**



This interface is a manual interface. Do not operate the servo in the running state.

Feeding roller: click it the feed axis can move and also can set point move speed in bellow.

Servo roller:click it emboss roller can turn and emboss on material paper and also can set point move speed in bellow.

Pleating roller up:click it the collect wave axis will lift move.

Pleating roller down:click it the collect wave axis will down move.

Pleating roller: click it collect wave axis roll and can collect the material paper and also can set point move speed in bellow.

Conveyor: click it delivery coveryor belt can be move and also can set point move speed in bellow.

Return original:click it all the mechanical action will return to its original point of origin and also can set point move speed in bellow.



Click to Gluing method button then enter to bellow interface:

Side sealing gluing	Length gluing	Gluing malposed	Glue quantity break
<div>Front gluing on</div> <div>Back gluing on</div>	A glue length <input type="text" value="0.0"/> B glue length for the length gluing <input type="text" value="0.0"/>	A glue length <input type="text" value="0.0"/> B glue length <input type="text" value="0.0"/>	Pleating quantity gluing <input type="text" value="0"/> Break quantity <input type="text" value="0"/>
<div>Upper single side pleats interrupted glue</div> <div>Lower single side pleats interrupted glue</div> <div>Return</div>			

Side sealing gluing : glue the edge of the origami filter material;

Length gluing:Input the length of gluing, gluing reaches the preset value, gluing work stops;

Gluing malposed: the upper and lower lengths are staggered gluing, so as to save glue, and the length of the glue is set according to the folding height.

Quantity break:how many breaks are broken, how many breaks are entered into the number of breaks, and how many breaks are entered into the number of breaks without glue.

A glue length: can set paper in front glue line length.

Pleating quantity glue:can set how many pleats not glue.

Break quantity: can set quantity about continue gluing after break a few pleats.

Front gluing on click it left glue nozzles on click again glue nozzles close.

Back gluing on click it right glue nozzles on click again glue nozzles close.

Upper single side pleats interrupted glue click it front side glue can interrupted and back side glue not interrupted.

Lower single side pleats interrupted glue click it back side glue can interrupted and front side glue not interrupted.



Click to Parameters interface to enter the bellow interface:

Bengbu Leitai Filter Equipment Co.,LTD			
Contact Person		Xiao 18226400099	
FK_5 Operate and Control	Pleating height	NI_0 ###. ##	MM
FK_0 Sevro operation	Compensation Value	NI_2 #. ####	MM
FK_1 Parameters interface	Pleating thickness	NI_3 ##. ##	MM
FK_7 Gluing Method	up/Down Zero point Offset	NI_5 ###. ##	MM
FK_2 Gluing nozzles			
FK_3 Alarm interface			
FK_4 Return			
	Main Axis Acc	NI_6 ####	MM/S2
	Main Axis Dec	NI_7 ####	MM/S2
	Gluing idle Freq	NI_9 ##. ##	Hz
	Gluing operation freq	NI_10 ##. ##	Hz
	Rotary Cut Zero Offset	NI_14 ###. ##	MM
	A Gluing Offset	NI_1 ##. ##	MM
	B Gluing Offset	NI_4 ##. ##	MM

Pleating height: This parameter is the height of the set product.

Compensation value: This parameter is the set compensation value when the paper speed mismatch is detected. This value cannot be set too large.

Up/down zero point offset: This parameter is generally set to half the fold height.

Main axis acc: This parameter is the acceleration of the device during operation.

Main axis dec: This parameter is the deceleration when the equipment is stopped.

Gluing idle Freq: This parameter is the pressure holding frequency of the glue machine.

Gluing operation Freq: This parameter is the operating frequency of the glue machine.

Rotary cut zero offset: When the machine emboss paper, emboss paper location has an error between the origin and the origin you want to set. You can set the value to reduce the error.

A gluing offset: A front gluing paper has an error between you want to set, you can set the value to reduce the error.

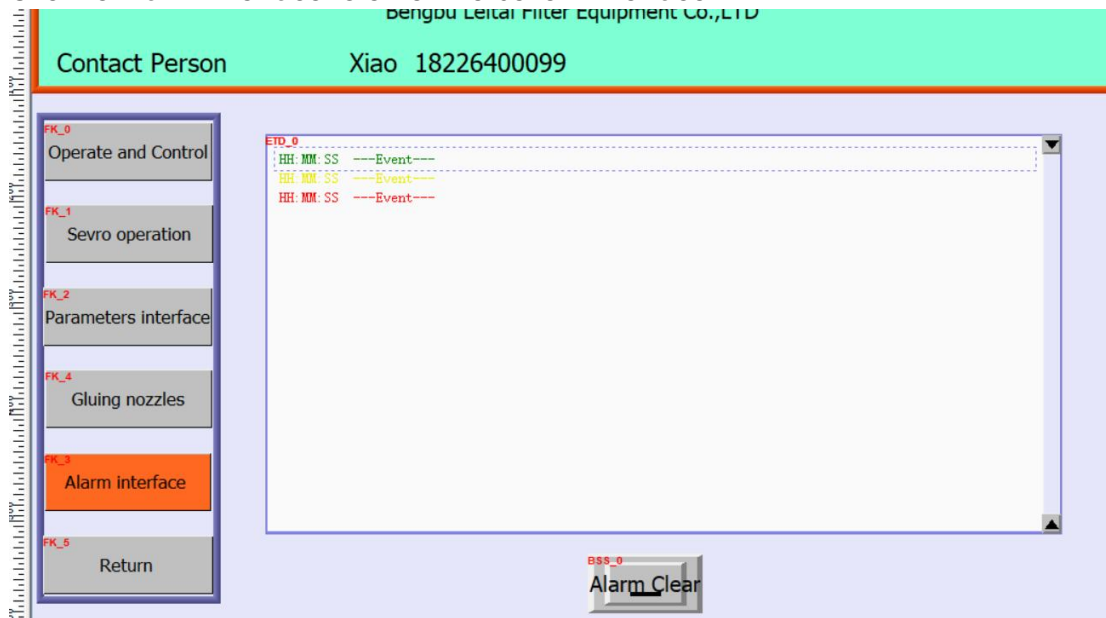
B gluing offset: B back side paper gluing has an error between you want to set, you can set the value to reduce the error.

**Click to Gluing nozzles to enter the bellow sureface:**



This interface is the glue head selection interface, the default is that all the glue heads are not open, only when the corresponding valve number is pressed, it means that the valve of this number is selected, when the set of valve switch is opened, the selected valve will work when the paper.

**Click to Alarm interface to enter the bellow interface:**



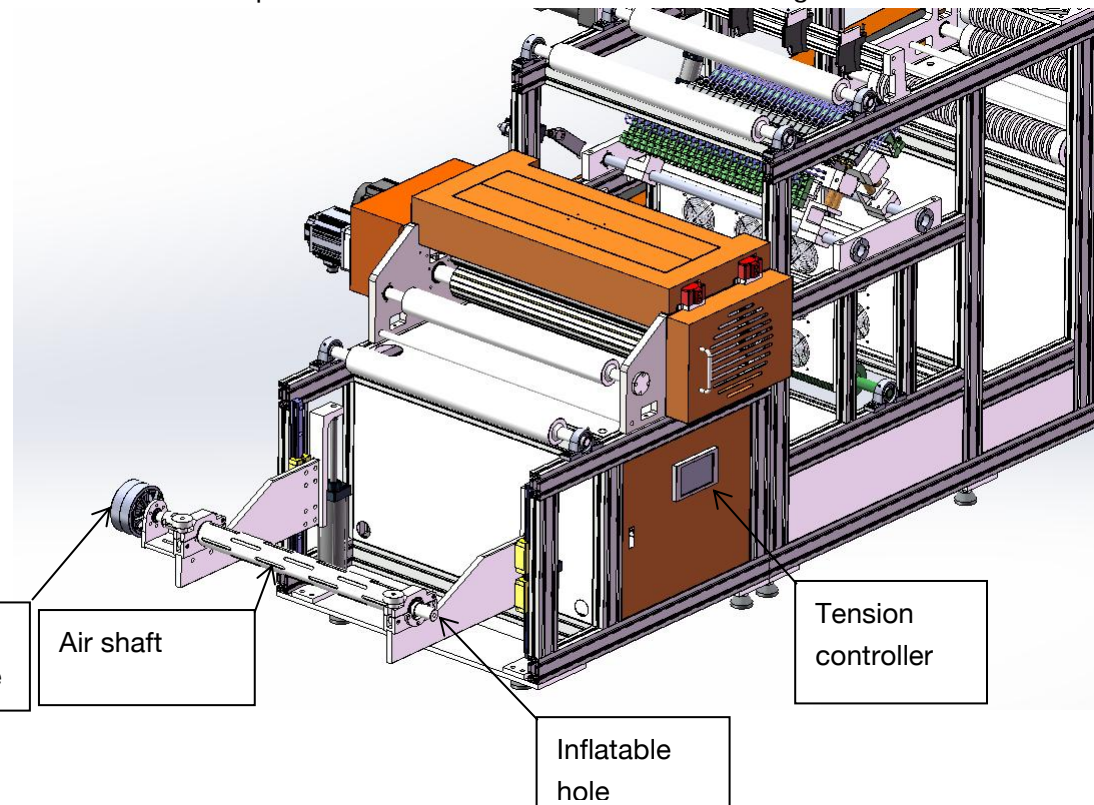
This interface is show about the alarm when machine have problems.Click to return button you will go back to initial interface.

### III. Operating process:

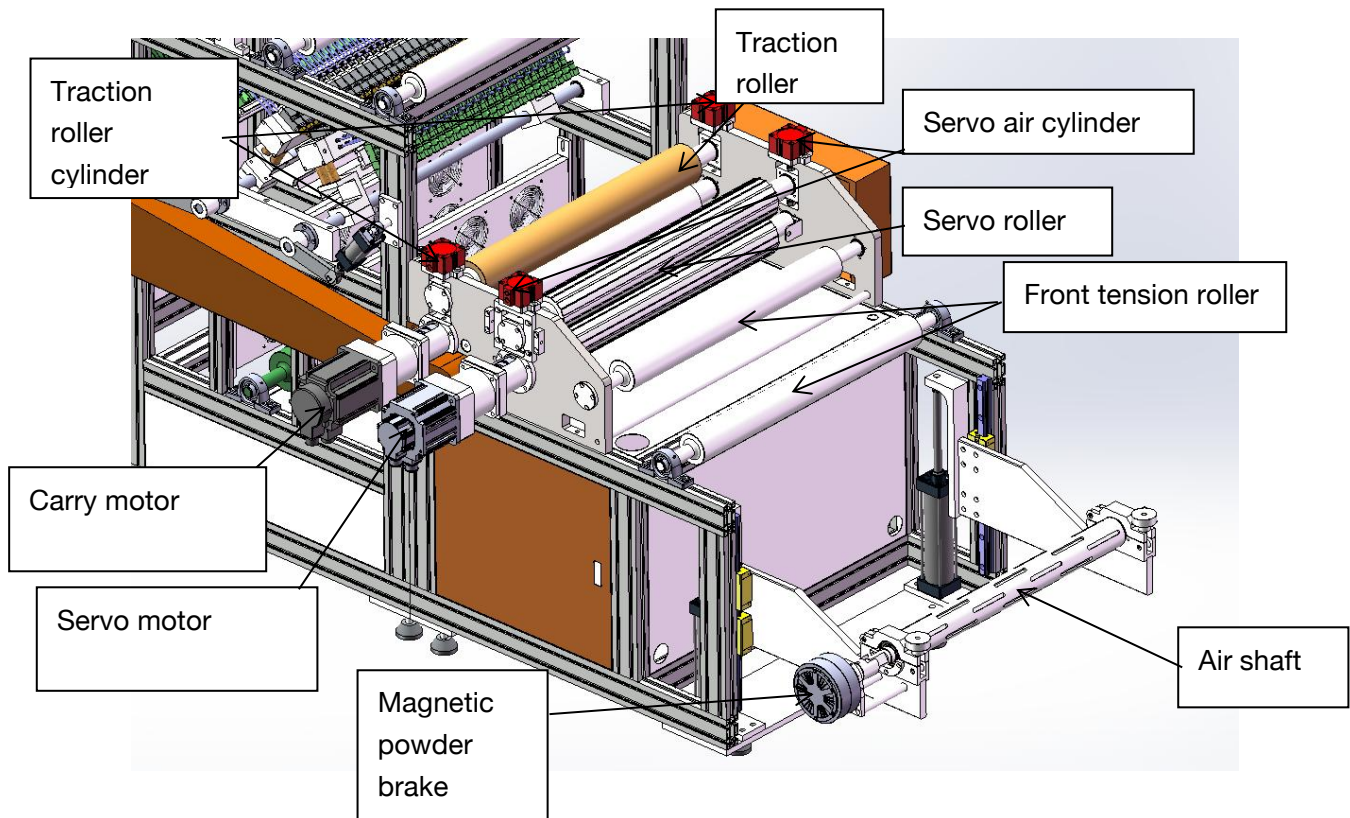
3.1 The machine must be connected before use, and the air pressure shall not be less than 0.6MPa, otherwise it cannot meet the needs of the machine.

3.2 Turn on the power switch until the touch screen is stable, press the corresponding function key of the touch screen to enter the main control screen, and the machine can make a series of adjustment Settings.

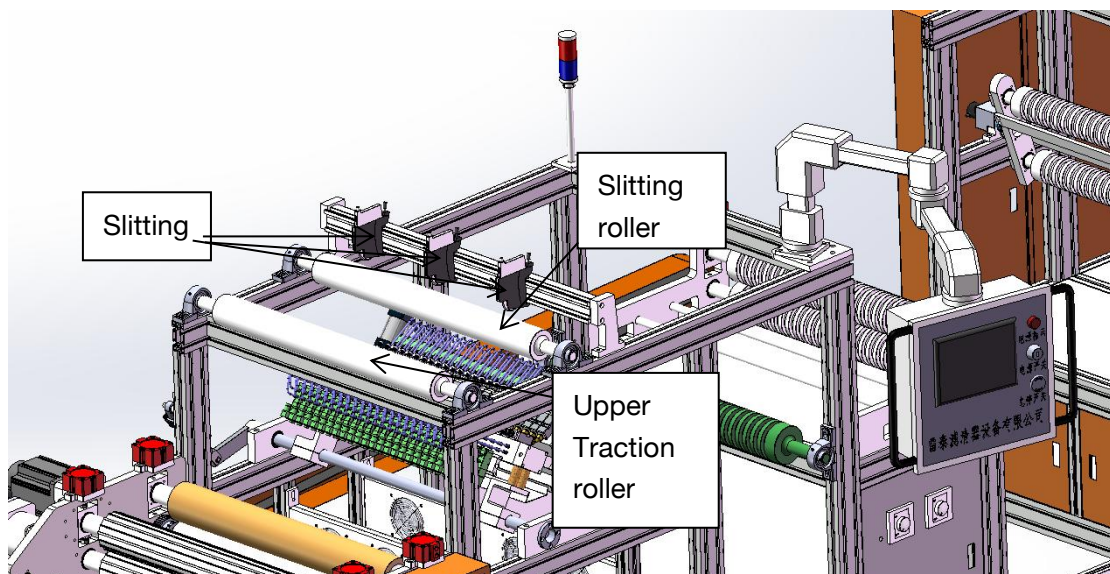
3.3 Take off the air shaft and discharge the gas, inflation the drum material to the appropriate position of the air shaft, make the air shaft tighten the material, and lift the air shaft loaded with the filter material on the material frame. Set the tension of the magnetic powder brake according to the tensile strength of the filter material, so that the filter material will not be pulled off or the filter material contacts the ground.



3.4 Lift the air expansion shaft with the filter material installed on the material rack, and pull the filter material head through the front tension roller, impression roller, and traction roller.

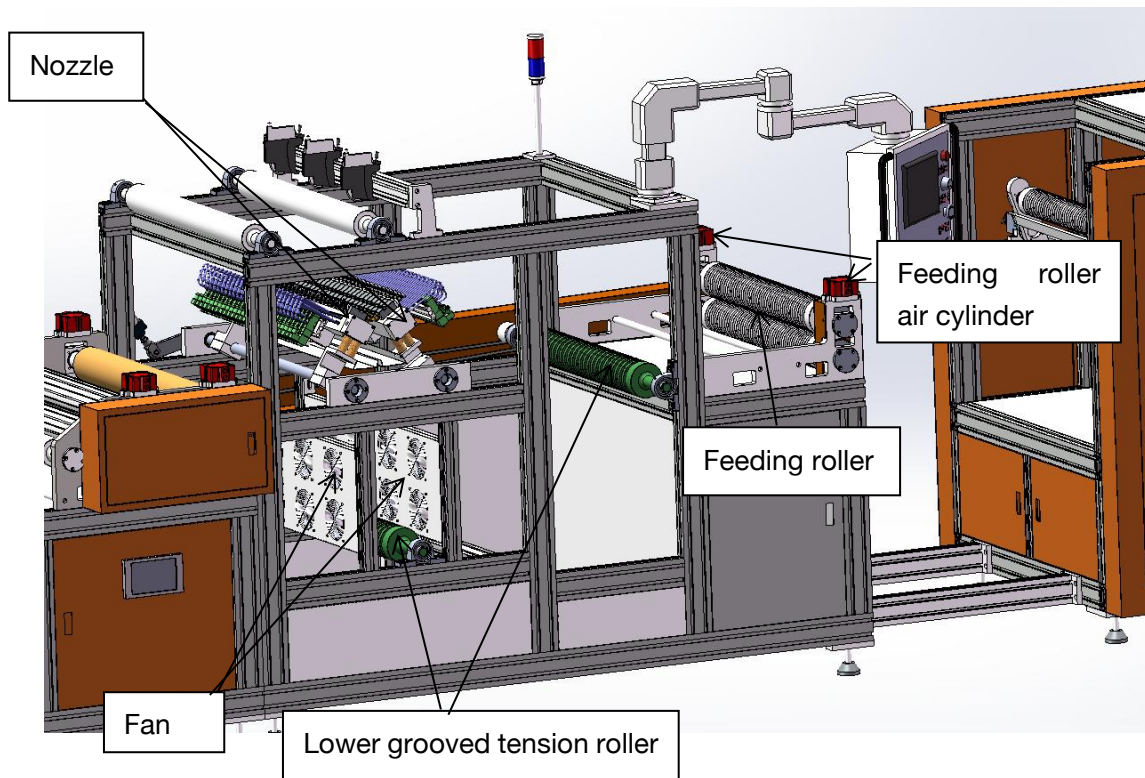


3.5 Pass the filter material pulled from the traction roller through the tension roller to the tension roller and slitting roller at the upper end of the machine, and adjust the distance between the slitting knives according to the width of the product.

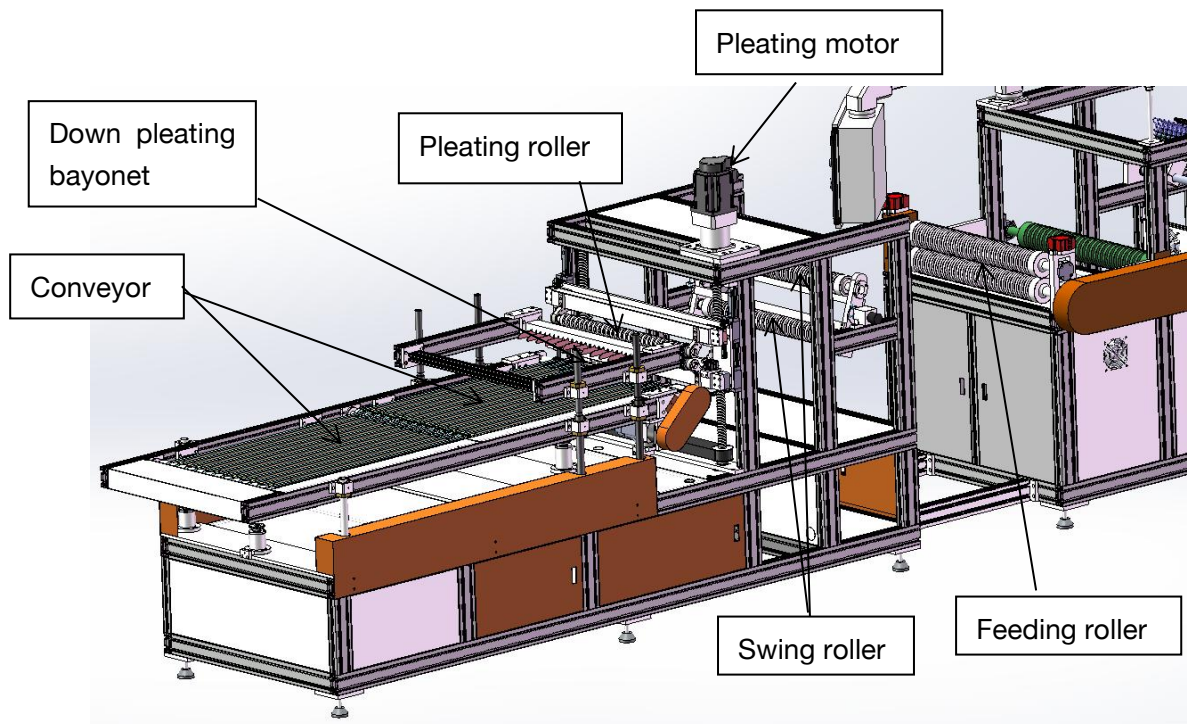




3.6 Pass the cut remaining filter material vertically between the two glue spraying heads to the lower grooved tension roller, and then pass through the feed roller; the glue line on the filter material must be in the groove of the grooved tension roller and feed roller , to prevent the grooved tension roller and feed roller from being stained with glue and damaging the filter material.



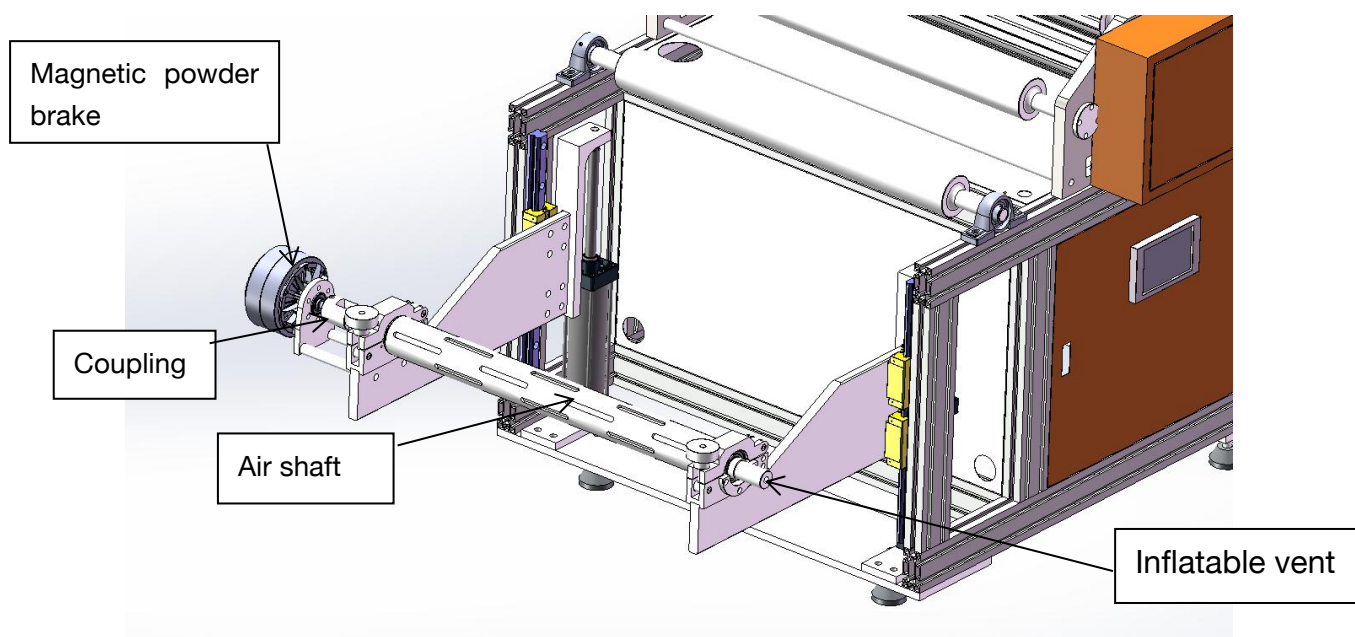
3.7 Pass the filter material transported from the feeding roller through the suspended tension roller to the wave collecting roller, and adjust the distance between the upper and lower wave collecting spines according to the folding height of the product.



#### IV. Machine adjustment:

##### 4.1 Adjustment of loading:

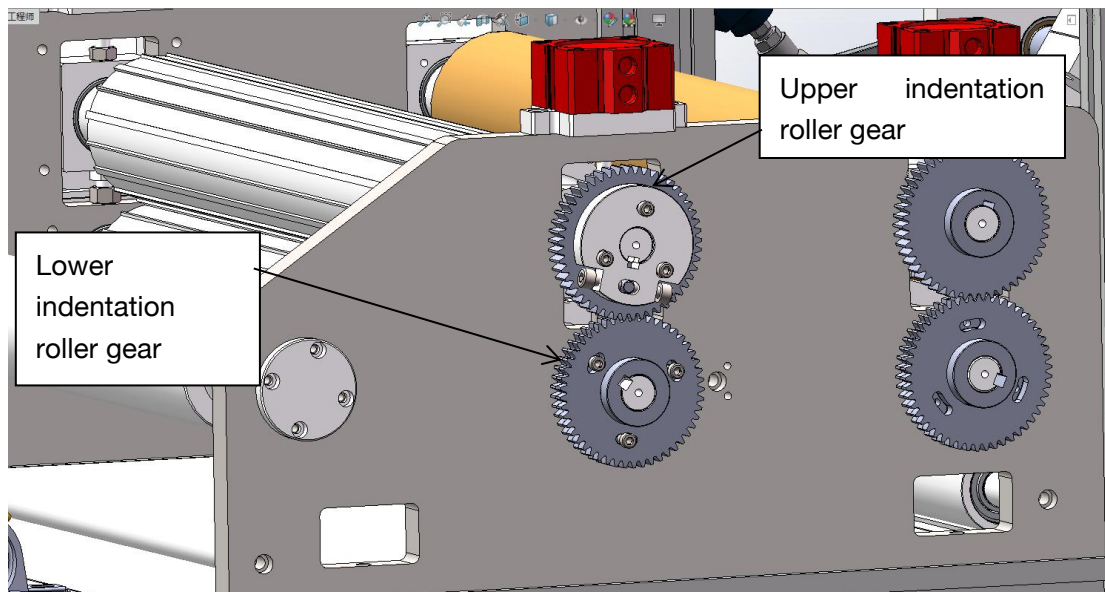
Remove the air expansion shaft and drain out the gas. Thread the drum filter material to the appropriate position of the air expansion shaft and flush the air to tighten it. Lift the air-expansion shaft with the filter material installed onto the material rack, and connect one end of the air-expansion shaft to the magnetic powder brake, otherwise the magnetic powder brake will not function as a tensioner.



##### 4.2 Adjustment of the gear gap of the creasing roller:

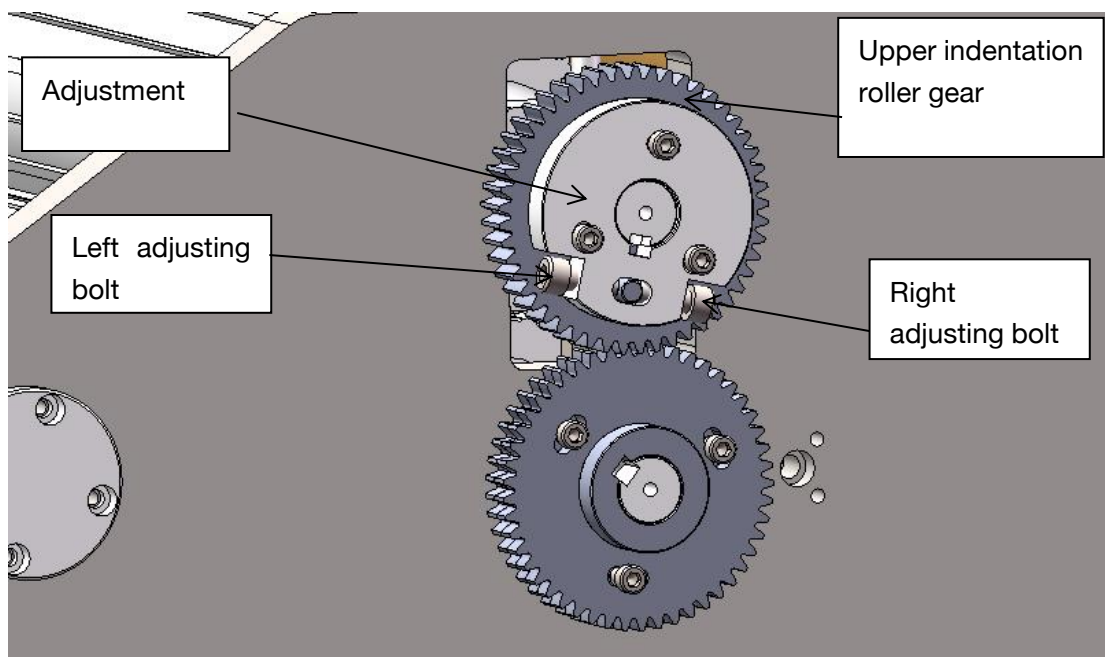
Loosen the fixing bolts on the lower creasing roller gear and rotate the internal gear so

that the inner and outer gears are slightly staggered and mesh with the upper creasing roller gear without any gap. Under normal circumstances, it has been adjusted before leaving the factory.



#### 4.3 Adjustment for uneven product end face:

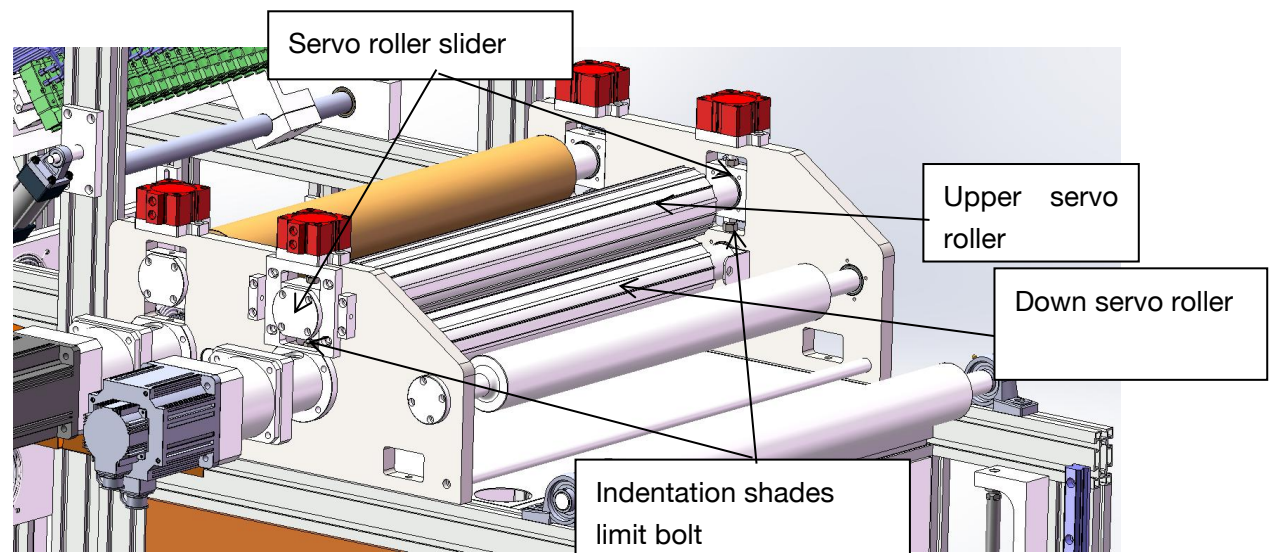
The non-parallel creasing blades of the upper and lower creasing rollers are the main reason for the uneven end face. The adjustment method is to tilt to the left and adjust the right end of the adjusting bolt on the upper creasing roller gear clockwise and the left end counterclockwise; turn to the right Tilt and adjust the left end of the adjustment bolt clockwise and the right end counterclockwise. When adjusting, the adjustment range should not be too large. Adjust and press a section of filter material, and fold it with your hands to see the effect until it is flat.





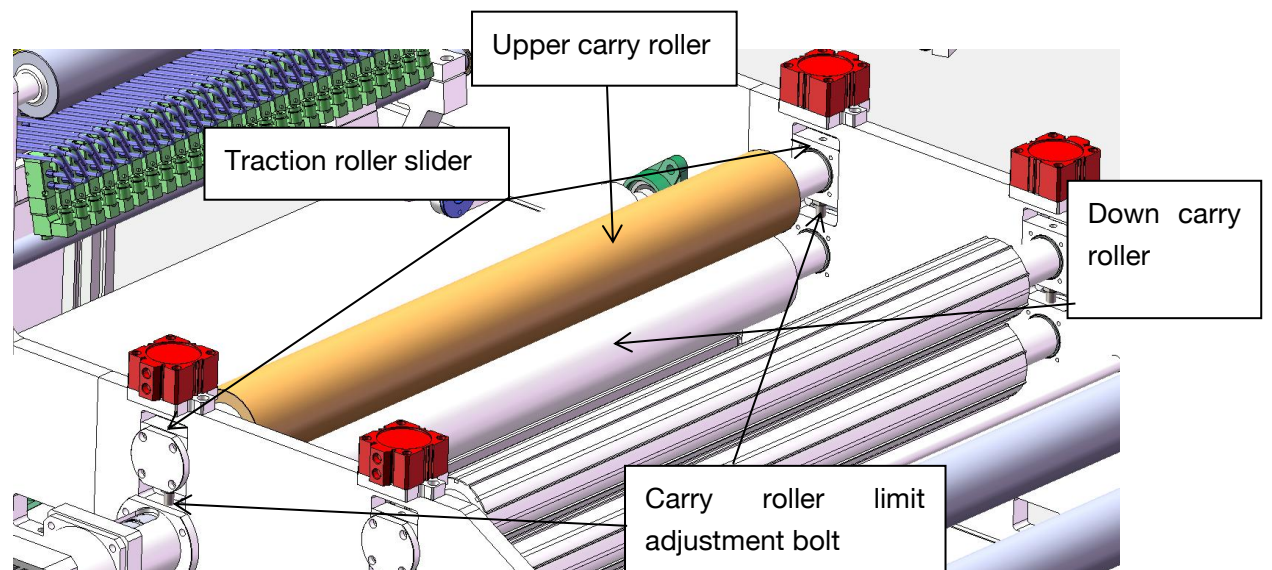
#### 4.4 Adjustment of indentation depth:

An indentation that is too shallow will result in poor wave collection in subsequent processes and an unsightly product surface; an indentation that is too deep will break the filter material. The adjustment method is: adjust the limit bolts under the indentation slider. If the indentation is too deep, adjust the limit bolts at the left and right ends counterclockwise; if the indentation is too shallow, adjust the limit bolts counterclockwise until the indentation is suitable. The depth of the indentation on the left and right ends is consistent.



#### 4.5. Adjustment of the left and right deviation of the traction roller feeding:

The different size of the gap between the left and right ends of the upper and lower carry rollers is the main reason for the deviation of the feed; if the material is deviated to the left, adjust the limit bolt on the left end of the carry roller slide counterclockwise or adjust the limit bolt on the right end clockwise; If the material is fed to the right, adjust the right limit bolt counterclockwise or the left limit bolt clockwise.



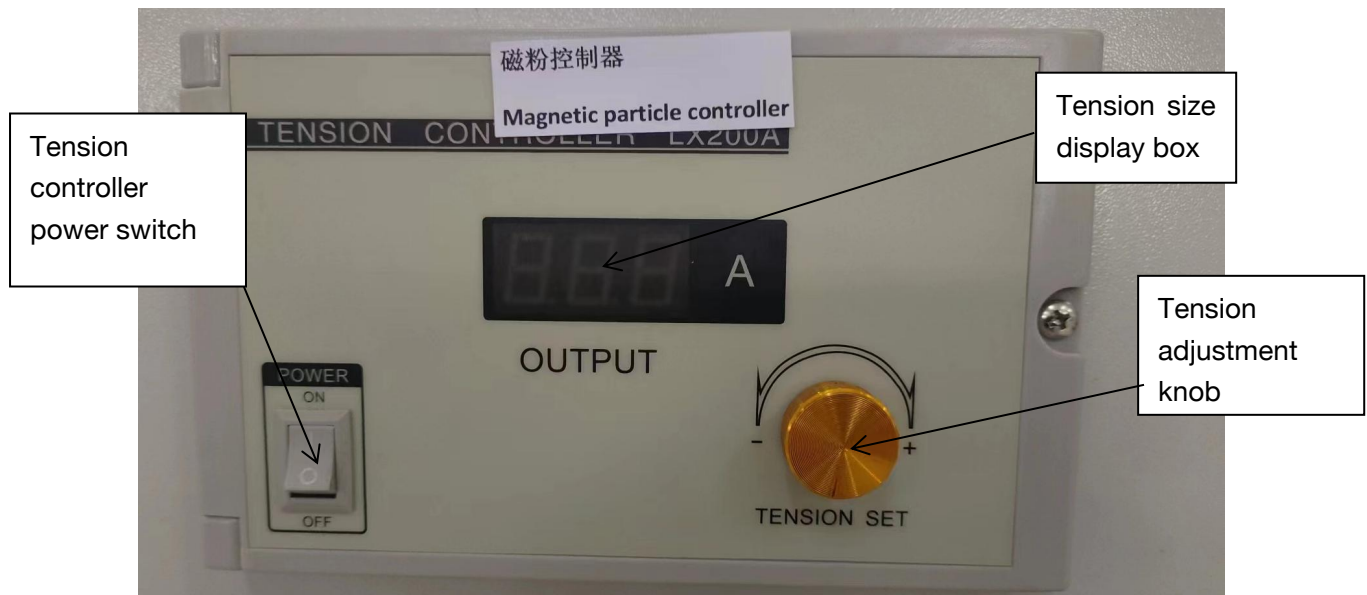


#### 4.6 Adjustment of tension controller:

Turn the adjustment knob clockwise to increase the tension; turn the adjustment knob counterclockwise to decrease the tension.

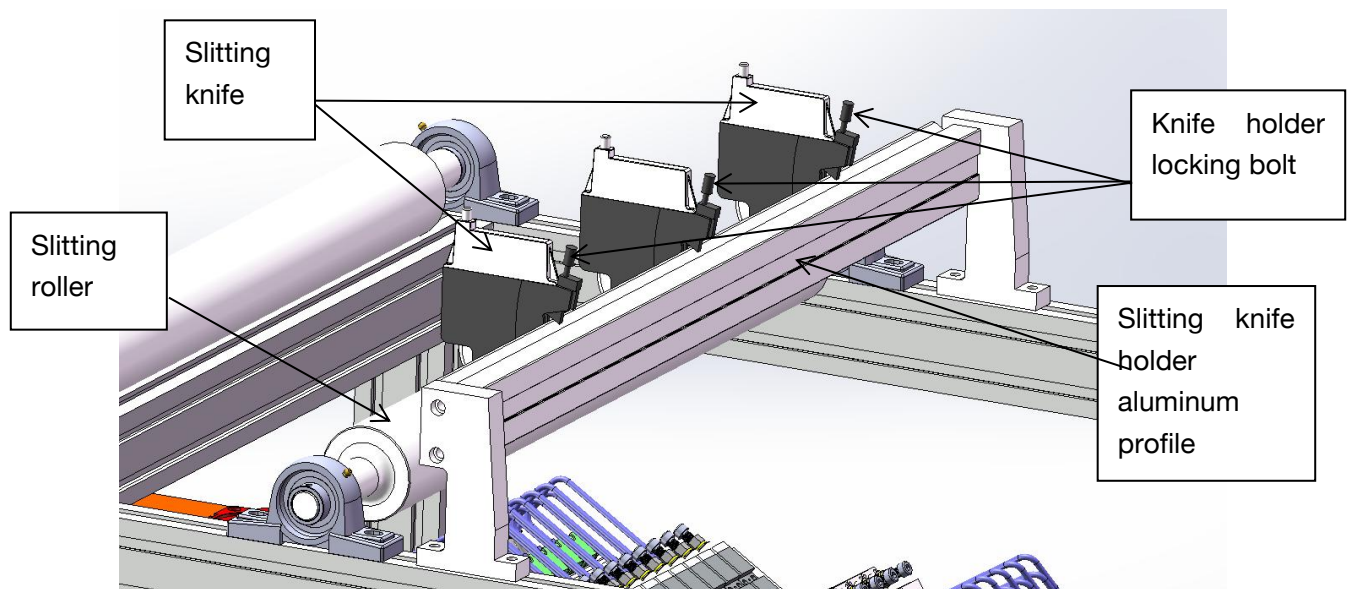
#### 3.6 Adjustment of split cutter:

Adjust the spacing between the cutters according to product width; loosen the locking bolt on the holder, adjust the cutter and tighten the locking bolt after adjustment.



#### 4.7 Adjustment of slitting knife:

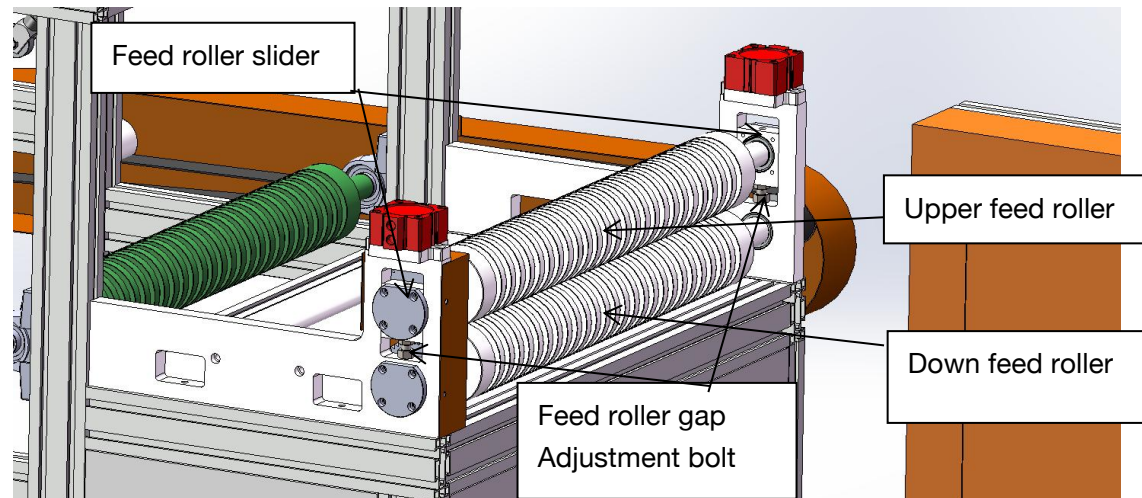
Adjust the distance between the slitting knives according to the width of the product; loosen the locking bolt on the slitting knife holder, adjust the slitting knife, and tighten the locking bolt after adjustment.



#### 4.8 Adjustment of left and right deviation of feeding roller:

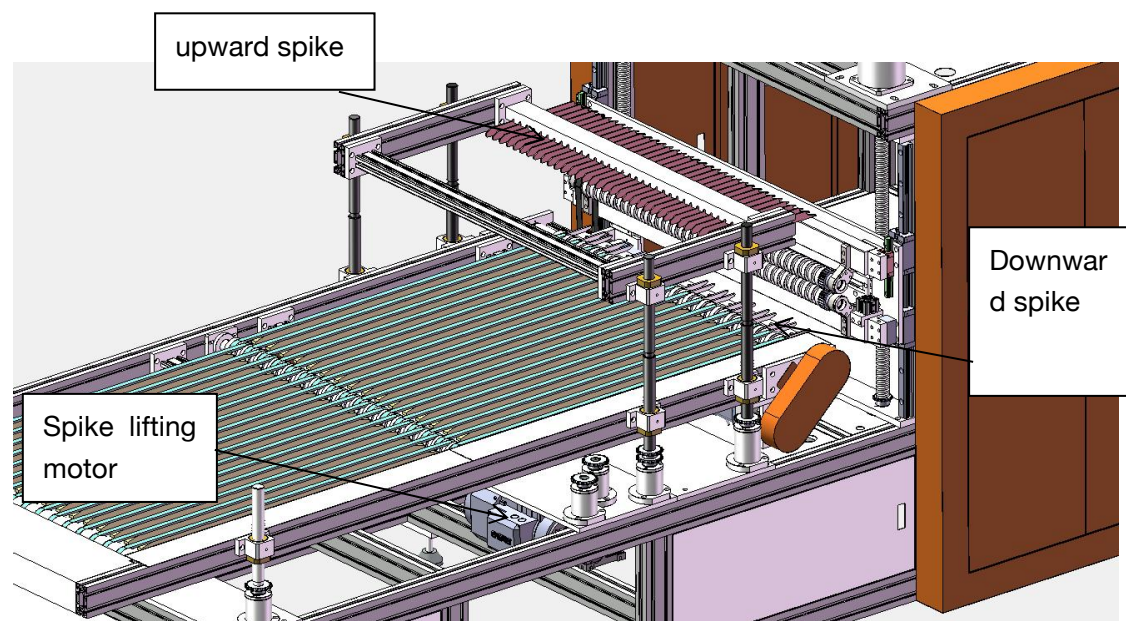
The feeding deviation of the feeding roller is mainly caused by the imbalance of the gap between the left and right ends of the feeding roller: the feeding deviation is to the left,

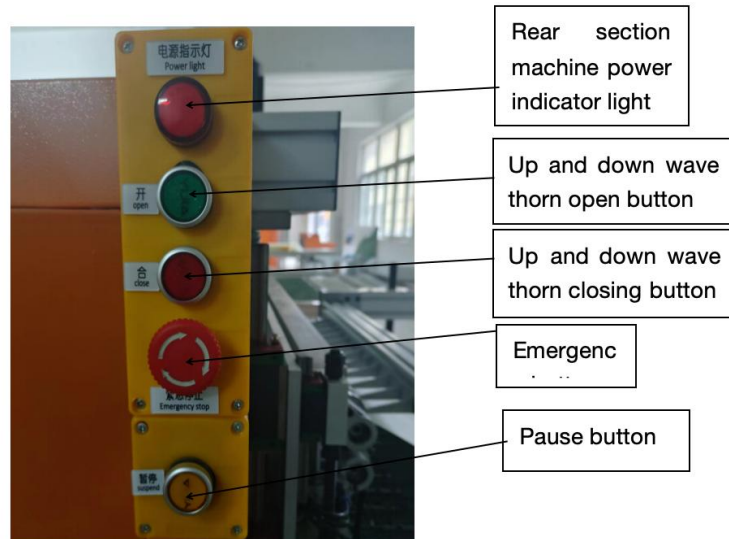
adjust the limit bolt on the left end of the feed roller slider counterclockwise or adjust the limit bolt on the right end clockwise; feeding To deflect to the right, adjust the right limit bolt counterclockwise or the left limit bolt clockwise.



#### 4.9 Adjustment of the spacing between the upper and lower receiving spurs:

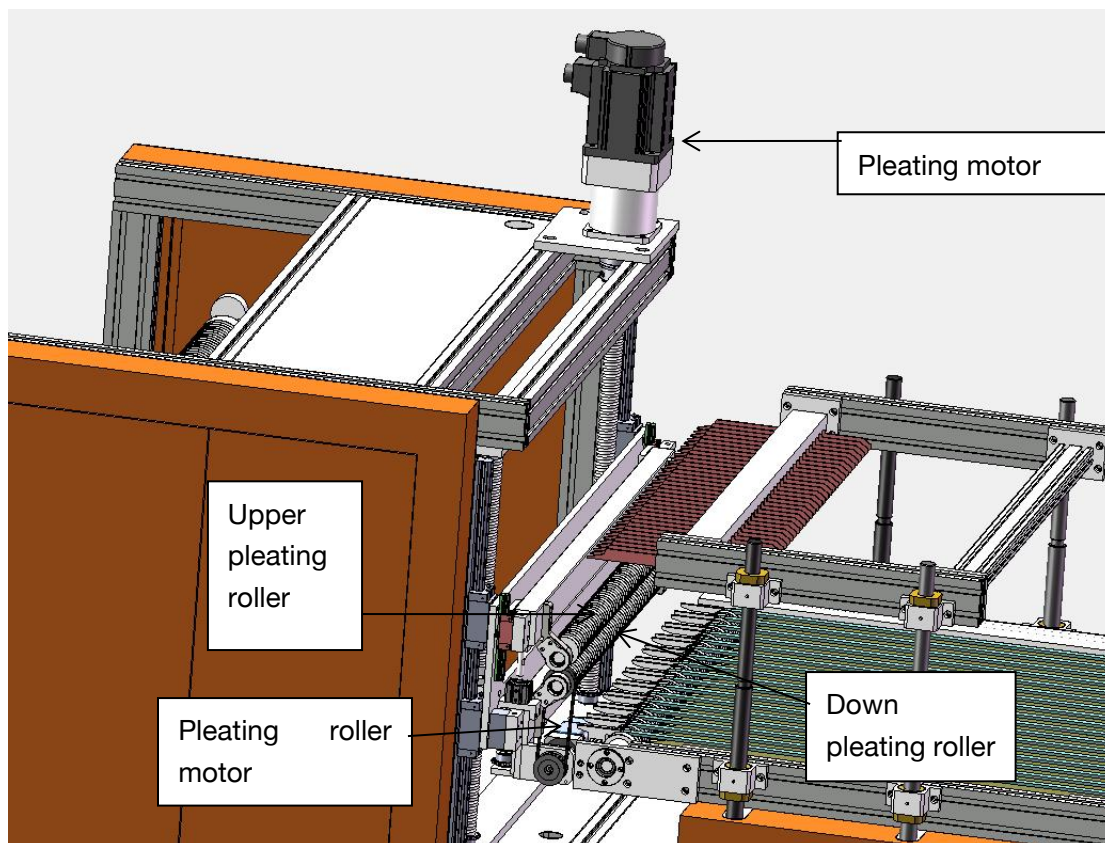
Adjust the spacing between the upper and lower corrugation thorns according to the folding height of the product. You can click the corresponding button to complete. The spacing between the upper and lower corrugating thorns is approximately higher than the folding height of the product.





#### 4.10 Adjustment of the lifting position of the wave collecting roller:

Set the lifting height of the wave collecting roller assembly according to the folding height of the product, which can be set on the corresponding interface and corresponding buttons on the touch screen.



## **V.Attention**

5.1 When folding boxes with the machine, please confirm whether the machine is in good condition and whether the accessories provided with the machine are complete. If you have any objections, please contact the seller in time.

5.2 Before starting each shift of the production line, the hot melt glue machine, hose, and glue spray head should be turned on and heated until the temperature reaches the set temperature before the production line can be started for folding and gluing processing.

5.3 When repairing heating components, you must wait until the heating components have completely cooled down before repairing. Stop the machine and turn off the power when performing any maintenance, and wait until the power indicator light goes out before repairing.

5.4 Be sure to cut off the power of the machine after each shift and do not leave until the machine power indicator light goes out.

5.5 The temperature of the hot melt glue machine, hose, and glue nozzle is very high when working. Please do not touch it to avoid burns. The temperature of the glue just sprayed from the glue nozzle is also very high. Do not touch it directly with your hands to avoid burns. .

5.6 Do not use sharp objects to operate or scratch the touch screen to avoid damaging the touch screen or affecting operation.

5.7 Hot melt glue is stuck on various parts of the equipment, especially the grooved tension roller, feeding roller, suspended tension roller and wave collecting roller. They should be removed immediately after the glue solidifies to avoid damaging the surface of the filter material and affecting the product quality or appearance. .

5.8 The lubricating oil of the parts that need lubrication should be checked every shift on the production line. If there is less lubricating oil, the corresponding lubricating oil should be added.

## **VI. Precautions for electrical installation and maintenance**

6.1 The machine adopts 400V voltage and 50Hz frequency, and the user can maintain it according to the electrical schematic diagram.

6.2 The machine must be grounded separately.

6.3 Except for cleaning, maintenance and adjustment, the door and cover of the electrical box must be closed and installed. Please do not open and remove it at will.

6.4 Check the insulation condition of the electrical box and the tightening condition of the electrical components regularly by professionals.

6.5 If there is any abnormal equipment operation, it must be repaired by professional electrical technicians or electricians.

6.6 Before operating the equipment, the operation manual and the operation manual of related electrical parts must be read in detail. Do not operate at will, and unauthorized operators cannot operate.

6.7 The parameters of the frequency converter have been set before leaving the factory, please do not change them at will. If any change is needed, the professional should read the instructions of the converter in detail.

6.8 The machine will stop running immediately after pressing the emergency stop switch.

## Chapter V: Maintenance and Troubleshooting

### I. Daily maintenance of the machine by the operator

1. Operator should stop the daily maintenance of the machine, the operation of the machine and turn off the power.
2. The height of the oil surface should be kept in the pneumatic triple piece oil cup in accordance with the requirements, and the water in the filter water cup should be discharged after reaching the specified capacity.
3. The parts that need to be lubricated should be added with the corresponding lubricating oil according to the requirements.
4. Keep the machine itself and the surrounding environment clean every day.

### II. periodic maintenance

Regular maintenance is in addition to the daily maintenance, according to the prescribed cycle, the machine to stop, planned inspection. Usually, conduct regular maintenance once a month to check the operation of each part, the wear of the moving parts, whether the fasteners are loose, etc.

#### 1. Check

- 1.1 Whether the drive belt is worn and the tightness is normal; whether the transmission chain is good;
- 1.2 Whether the transmission mechanism works well and has any abnormal sound;
- 1.3 Whether the cylinder work is stable, whether the seal is reliable, whether there is crawling or impact generation;
- 1.4 Whether the fasteners are loose or fall off, especially the fasteners of transmission parts or key parts must be checked carefully checked.

#### 2. Come on regularly

- 2.1 Gear occlusion, add lubricating grease every week;
- 2.2 At the transmission chain, brush it once for each shift;
- 2.3 Add lubricating oil to each shift at the structural activity connection;
- 2.4 The prescribed lubricating oil place shall add lubricating oil on time according to the production situation.

### III. Common faults and troubleshooting

order number	hitch	Causes	The exclusion method
1	Motor for the first use Do not start or the motor turns in the wrong direction	The power supply phase is wrong	Adjust the power phase
2	No tension	1. There is no connection between the air surge	1. Connect the air surge shaft to the magnetic



		shaft and the magnetic powder brake 2. The magnetic powder brake has no magnetic powder; 3. Tension control of the tension controller is too small 4. The magnetic particle brake is damaged	particle brake effectively 2. Add magnetic powder brake magnetic powder; 3. Adjust the tension appropriately 4. Replace the magnetic particle brake of the same model
3	The product end surface is uneven	1.The indentation blade of the upper and lower indentation rollers is not parallel 2.The indentation is too shallow to is not parallel 3.The traction roller is off	1.Adjust the adjusting gear of the upper indentation roller 2.Adjust the spacing between the upper and lower indentation rollers 3.Adjust the gap between the upper and lower traction rollers
4	Cut the edge of the end	1.The cutting knife is not sharp 2.Insufficient cutter pressure	1.Blade or replace the split cutter 2.Increase the cutter pressure
5	No spray glue head or spray glue nozzle without spray glue	1.The glue box of the hot-melt glue machine has no glue 2.The pressure of the gear pump or the rubber spray head is too small 3.The small valve body corresponding to the spray nozzle is damaged 4.The spray nozzle spray glue hole is blocked	1.Add hot melt glue 2.Increase the pressure of the gear pump or the pressure of the spray head 3.Repair or replace the small valve body corresponding to the spray nozzle 4.Clear the spray hole of the spray nozzle
6	The folding pitch of the product is too tight or too loose	1.The conveyor belt speed does not match the previous process speed 2.The spacing between the upper and lower closing tips is too large or too small	1. Adjust the conveyor belt speed to match the speed of the previous process 2. Adjust the spacing between the upper and lower receiving spurs, about higher than the product height