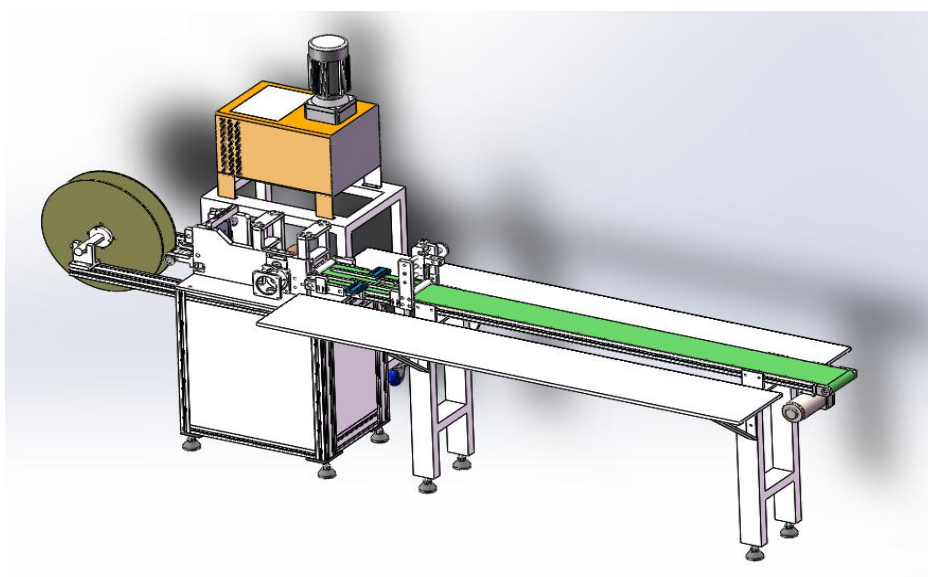




INSTRUCTION MANUAL

**MODEL: PLLG-1Semi-automatic side
bonding machine for air-conditioning**

(Please read this manual carefully before using the equipment, thank you!)



PLM FILTER SOLUTION

catalogue

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ChapterI: preface

Welcome to use PLLG-1 semi-automatic air-conditioning side bonding machine produced by Hebei Leiman Filter Material CO., LTD.

Our company is one of the earliest factory to make filter equipment in China. After 20 years' development, now we have already invented more than 50 categories and nearly 70 kinds of filter equipment, filtration equipment and detection equipment. We produce 80 sets of filter equipment and 800 sets of filtration equipment every year. Most of them have passed CE certification. Our products are exported to Europe and the United States and Southeast Asia and win the unanimous praise of customer. We own a capable of design and producing technician team, and build up a high quality after-sale service. Our equipments will fully support your business by it's high quality. Your satisfactory is always our goal.

PLLG-1 semi-automatic air-conditioning grid side bonding machine is a production equipment developed by our company's technicians after years of exploration and development for the strip-shaped non-woven fabric coating on both sides of the air filter element. The equipment is simple to operate and easy to adjust. After the strips of non-woven fabric are glued on both sides of the filter element, it can ensure that the filter element is under greater air pressure, which can prevent the filter paper from causing no gap between the paper fold and the paper fold after being compressed, causing excessive resistance; also ensuring that the filter element is not easy Deformation and better filtering effect; this equipment has won unanimous recognition and praise from users.

Only the correct operation can bring the best performance and produce high quality product. Please read this manual thoroughly and fully understand, make sure the machine has run under the best status, and get the best result. Please also pay attention to the safety during operation.

When you read this manual, you are already our customer. We will offer you the technical support, please find the following contact information:

TEL: 008615131850885

Email: info@mfiltersolution.com

Website: www.mfiltersolution.com

The serial number of our company's side bonding machine is as follows:

PLLG-XXX

PLLG: stands for side bonding machine with 1 station

Please note that the specifications of the delivered machines are sometimes different from those written in this manual due to design change or other special reasons.

If any product problem caused by machine itself or anywhere needs to improve, please kindly let us know, so that we can correct it.

We also can make according to customer's special demand.

If there is any problem caused by inappropriate operation or changing any machine spare parts, we will not take any responsibility.

ChapterII:security requirements

一、 Machine overview

PLLG-1 semi-automatic air-conditioning grid side bonding machine is suitable for gluing the strip-shaped non-woven fabric on both sides of the air filter element.

PLLG-1 semi-automatic air-conditioning side bonding machine is composed of glue injection head mechanism, conveying mechanism and hot melt glue machine.

The device is simple and convenient to operate. After sticking strips of non-woven fabric on both sides of the filter element, it can ensure that the filter element is under greater air pressure and can prevent the filter paper from causing no gap between the paper fold and the paper fold after being compressed, causing excessive resistance. It also ensures that the filter element is not easily deformed and has a better filtering effect; the equipment has the advantages of simple and convenient operation, compact and reasonable structure, convenient adjustment, and stable operation; the equipment has won unanimous recognition and praise from users.

PLLG-1 semi-automatic air-conditioning side bonding machine uses electricity and compressed air as power sources.

二、 Safety rules for using the machine

1、 Safety Precautions:

1.1 Read and understand all the contents of this manual;

1.2 Before starting the machine, it is necessary to make sure there are no unsafe factors around it and close the protective cover;

1.3 The power supply shall be cut off regardless of the maintenance or adjustment of the machine. Do not adjust the machine on power up;

1.4 Power should be switched off when the power is out or temporarily out of the machine;

1.5 When the machine is in working condition, the movable door and protective cover on the machine can not be opened;

1.6 Electrical equipment should be operated by electrical technicians. And after the power off, wait 15 seconds to repair to prevent the residual voltage;

1.7 No smoking in the workplace, no fireworks.

2、 Safety Sign:

2.1 Safety signs against accidents have been posted on the machine where necessary. Be sure to observe the precautions in the sign;

2.2 Classification of safety signs: danger, warning, attention.

2.3 The meaning of safety signs is as follows:

Danger: if you do not comply with the requirement, there is a possibility of death;

Warning: if you do not comply with the requirement, you may be seriously injured;

Note: if you do not comply with this requirement, there is a possibility of injury or damage to the machine.

3. Safety rules related to operators:

3.1 The operation and maintenance of the machine must be performed by professionally trained or actual personnel;

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

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

3.4 If you find any unsafe factors that affect the start-up before starting up, please do not force the start-up, remove the unsafe factors before starting up. During the operation of the machine, if you hear abnormal noises, you should shut it down immediately, notify the maintenance personnel to find out the cause, and restart the machine after troubleshooting.

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

3.6 Do not place any irrelevant objects on the workbench and all platforms of the machine, in order to prevent slipping and hurt people or hinder the normal operation of the machine;

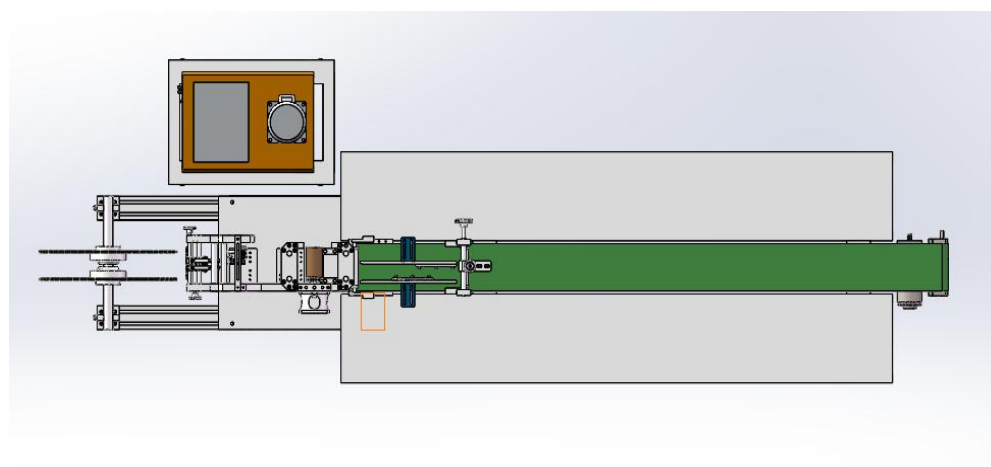
4. Rules related to maintenance operations:

4.1 When repairing or cleaning the machine, shut down and turn off the power;

4.2 Please be sure to restore the guards, covers, etc. that were removed during maintenance before starting operation;

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

5. The location of the area where equipment operators work:



6. Safety rules for equipment installation:

- 6.1 The installation ground should be level;
- 6.2 The power supply line should match the machine power, and the power supply line should be fixed;
- 6.3 The machine must be grounded, the ground wire can be connected to the machine foot mounting bolt, and the neutral wire cannot be used as a ground wire to connect to the shell;
- 6.4 Please ensure that the road at the installation location is unobstructed, and prepare a forklift of more than one ton for handling the machine;
- 6.5 The right and back of the machine installation position should be no less than one meter from the wall, and the left and front should be no less than 1.5 meters;
- 6.6 The machine is fixed with anchor bolts, and the machine can also be placed on the ground pad with anti-skid rubber pad;
- 6.7 The machine adopts 380V/50Hz power supply, and a safety device and switch with appropriate capacity are installed before the external power supply of the machine is wiped.

Chapter III: Specifications and installation

一、Machine nameplate:

PLL-G-1 semi-automatic air-conditioning side bonding machine is manufactured by Wenzhou Pulan Filter Equipment Co., Ltd., and a nameplate of our company is attached to the machine.

二、Technical parameters of PLL-G-1 semi-automatic air-conditioning side bonding machine:

Production capacity: 10 pieces/min

Workpiece length: $\leq 500\text{mm}$

Motor power: 0.55kw

Hot melt glue machine capacity: 10kg

Hot melt glue machine power: 4kw

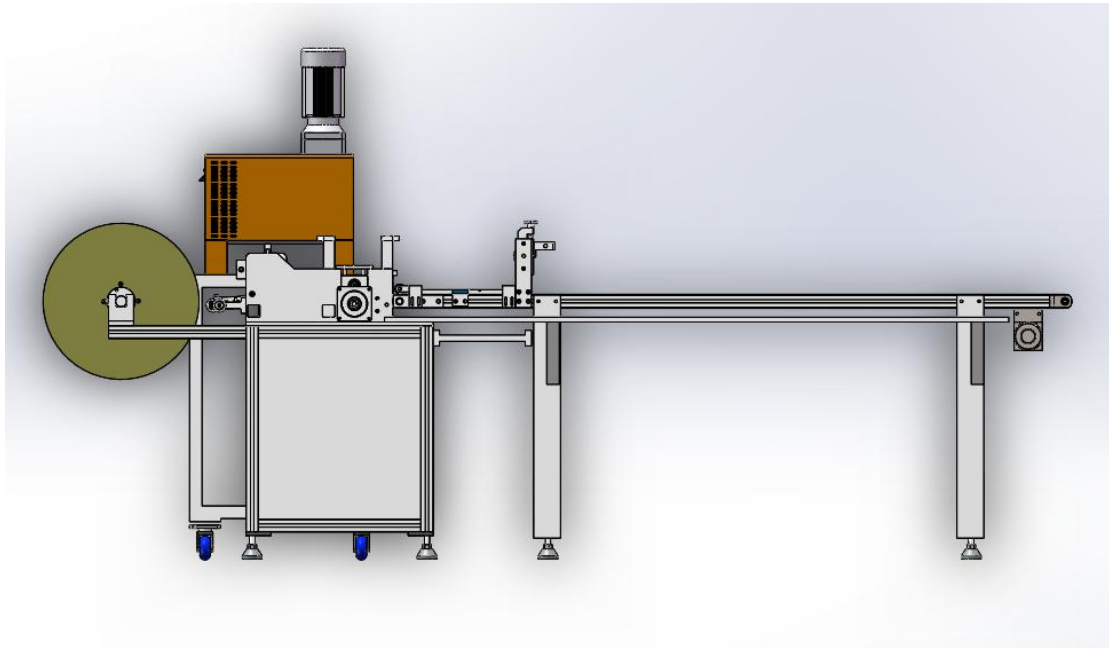
Air source pressure: 0.6MPa

Power supply voltage: 380V/50Hz

三、The appearance and installation dimensions of the machine:

Host	L×W×H (长×宽×高)	3000mm×620mm×1285mm
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Glue machine	L×W×H (长×宽×高)	600mm×780mm×1325mm
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四、 Machine installation:

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

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

After removing the packing box and the dust-proof film, use a forklift to put the machine in a fixed position or the position where the production line is installed. The distance between the right and the back of the wall should be no less than one meter, and the left and front should be no less than 1.5 meters.

Install and fix the machine and calibrate the level of the machine.

The ground where the machine is placed should be level, clean, and well ventilated; do not place the machine in an environment with high temperature and dust;

五、 Power supply:

The incoming line of the power cord must match the power of the machine. The power supply is powered by 380V/50Hz. Please check whether the power supply configuration is consistent with the specifications in the manual.

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

Before using the machine, please check whether the cables are well connected, whether the emergency buttons are reset, and whether the protective cover door is closed.

六、 Access to air source:

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

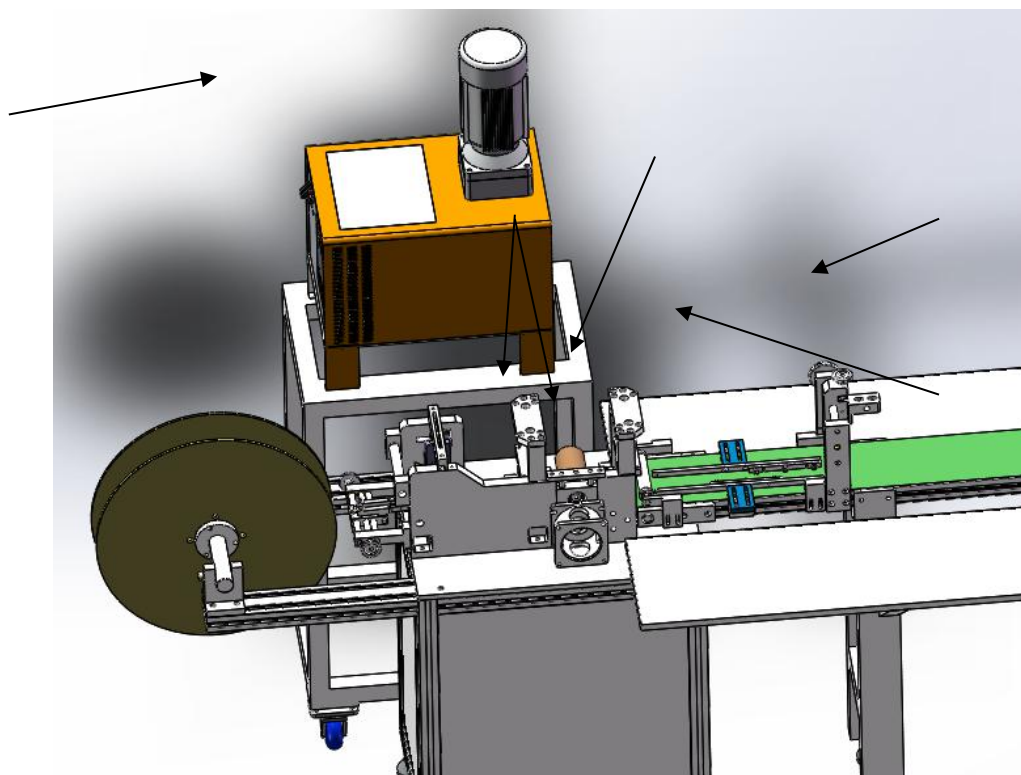
ChapterIV: Adjust and operate the machine

一、 The basic principle of the machine and the production process:

PLLG-1 Use conveyor rollers and flat belts to convey the strip-shaped non-woven fabric, the strip-shaped non-woven fabric passes under the glue injection head, and the sensor is used to control the glue injection head; when the strip non-woven fabric approaches the glue injection head, the induction The sensor signals the glue injection head, and the glue injection head starts to inject glue; when the strip-shaped non-woven fabric passes through the glue injection head, the sensor gives the glue injection head a break signal, and the glue injection head stops the glue injection;

According to the width of the strip-shaped non-woven fabric, adjust the spacing between the bars on the front workbench, so that the strip-shaped non-woven fabric can easily pass through; adjust the gap between the upper and lower conveyor rollers, and the gap between the upper and lower conveyor rollers The balance should be adjusted, otherwise the belt-like non-woven fabric will deviate when conveying the belt-like non-woven fabric.

After the machine is adjusted, put the strip-shaped non-woven fabric to be injected on the front worktable, gently push the strip-shaped non-woven fabric to the conveyor roller, and the conveyor roller transports the strip-shaped non-woven fabric to the conveyor belt; When the strip-shaped non-woven fabric approaches the glue injection head, the sensor will signal the glue injection head, and the glue injection head will start to inject glue; when the strip non-woven fabric passes the glue injection head, the sensor will break the glue injection head. Glue signal, the glue injection head stops glue injection;



二、 Machine running:

1. Operation process:

1.1 The power and air supply must be connected before the machine is used. The

power supply voltage is 380V/50Hz, and the air pressure is not less than 0.6MPa, otherwise it cannot meet the needs of the machine.

1.2 Turn on the hot melt glue machine before turning on the glue, and the glue can be turned on after the temperature reaches the set temperature and the hot melt glue has melted.

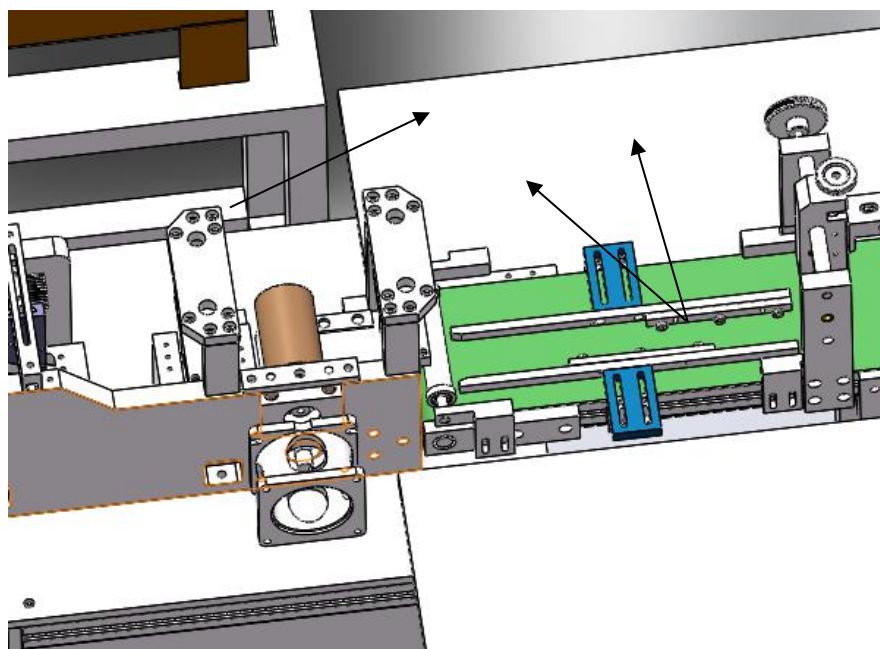
1.3 According to the width of the strip-shaped non-woven fabric, adjust the spacing between the bars on the front workbench, so that the strip-shaped non-woven fabric can easily pass through; adjust the gap between the upper and lower conveyor rollers, and the gap between the upper and lower conveyor rollers. The gap should be adjusted and balanced, otherwise the strip-shaped non-woven fabric will deviate when the conveyor roller is conveying the strip-shaped non-woven fabric.

1.4 After the machine is adjusted, put the strip-shaped non-woven fabric to be injected on the front worktable, gently push the strip-shaped non-woven fabric to the conveyor roller, and the conveyor roller conveys the strip-shaped non-woven fabric to the conveyor belt ; When the strip-shaped non-woven fabric approaches the glue injection head, the sensor will signal the glue injection head, and the glue injection head will start to inject the glue; when the strip non-woven fabric passes the glue injection head, the sensor will give the glue injection head Glue break signal, the glue injection head stops glue injection;

2. Machine adjustment:

2.1 Adjustment of front workbench stop bar:

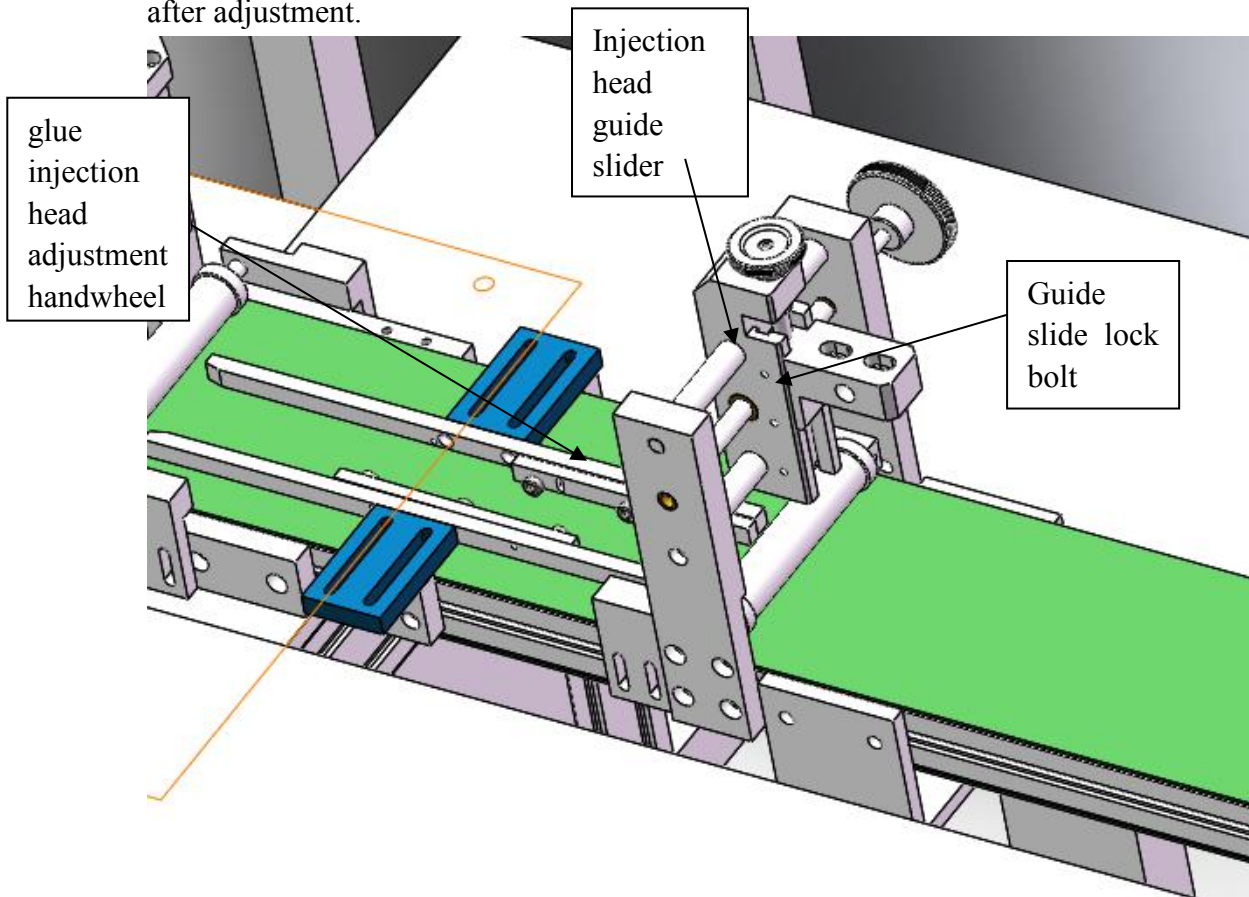
Loosen the locking bolts on the stop bars, adjust the spacing between the stop bars according to the width of the strip-shaped non-woven fabric, and tighten the bolts after adjustment.



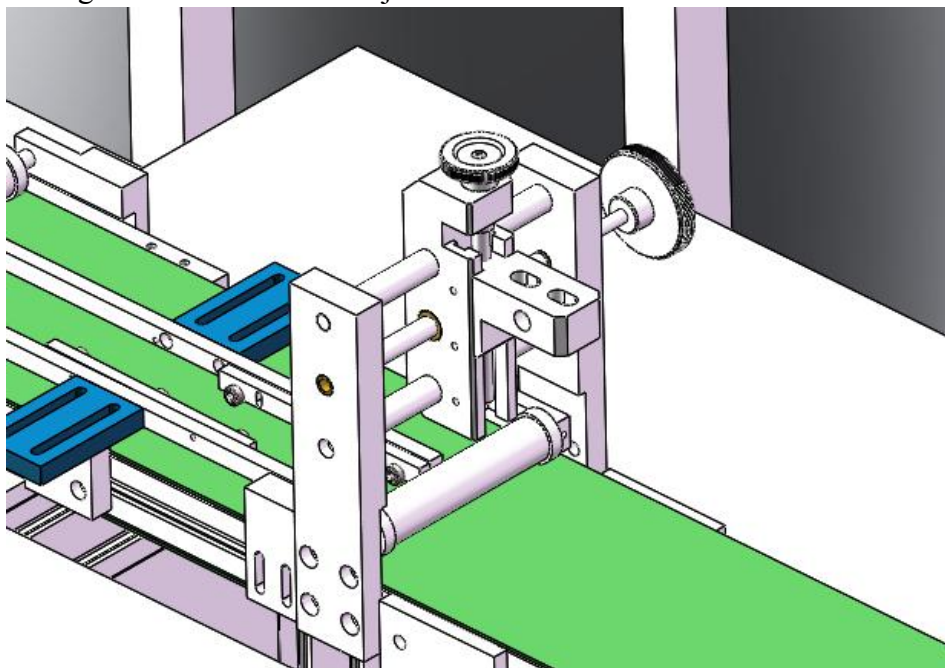
2.2 Adjustment of plastic injection head:

1) Adjust the left and right movement of the injection head, loosen the locking bolt on the guiding slider of the injection head, turn the adjustment handwheel clockwise, move the injection head to the right, rotate the adjustment handwheel

counterclockwise, and the injection head will move to the left. Move; tighten the bolts after adjustment.

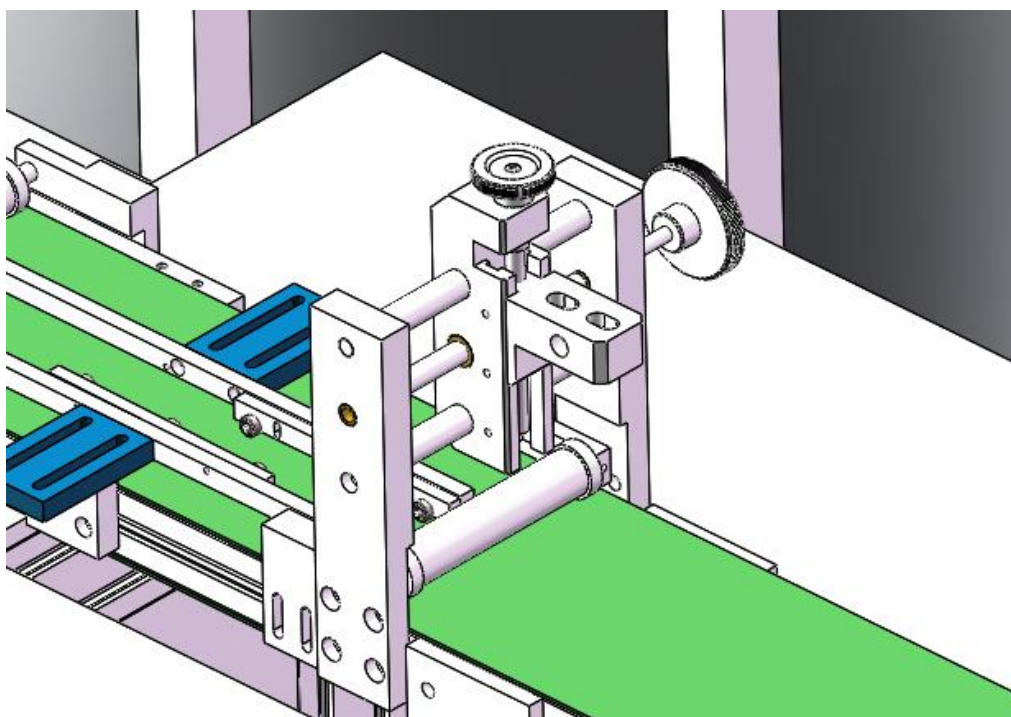


2) Adjustment of the injection head lifting (fine adjustment): Loosen the locking bolt on the injection head fixing block, move the injection head up and down as needed, and tighten the screw after adjustment.



2.3 Adjustment of the deviation of the conveyor roller conveyor belt strip non-woven fabric:

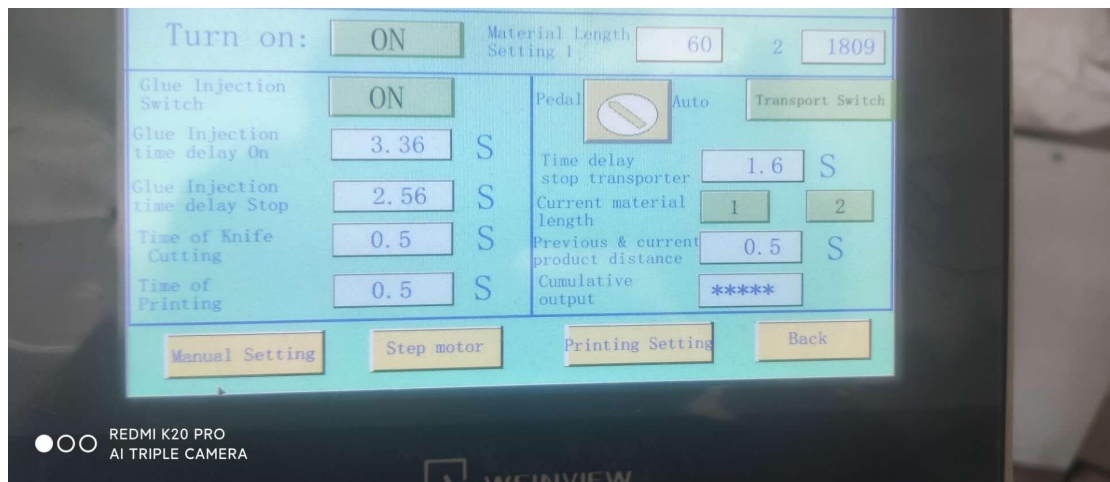
The unbalanced gap between the upper and lower conveying rollers is the reason for the deviation of the strip-shaped non-woven fabric. If the strip-shaped non-woven fabric is deviated to the left, generally rotate the adjustment handwheel at the right end of the conveying roller clockwise (or The adjustment handwheel at the left end rotates counterclockwise) to press the right end of the upper conveyor roller downward (or the left end lifts up); deviation to the right is generally to rotate the adjustment handwheel at the left end of the conveyor roller clockwise (or the adjustment handwheel at the right end) (Rotate counterclockwise), press the left end of the upper feeding roller down (or lift the right end up), so as to equalize the gap between the upper and lower feeding rollers. Tighten the nut after adjustment.



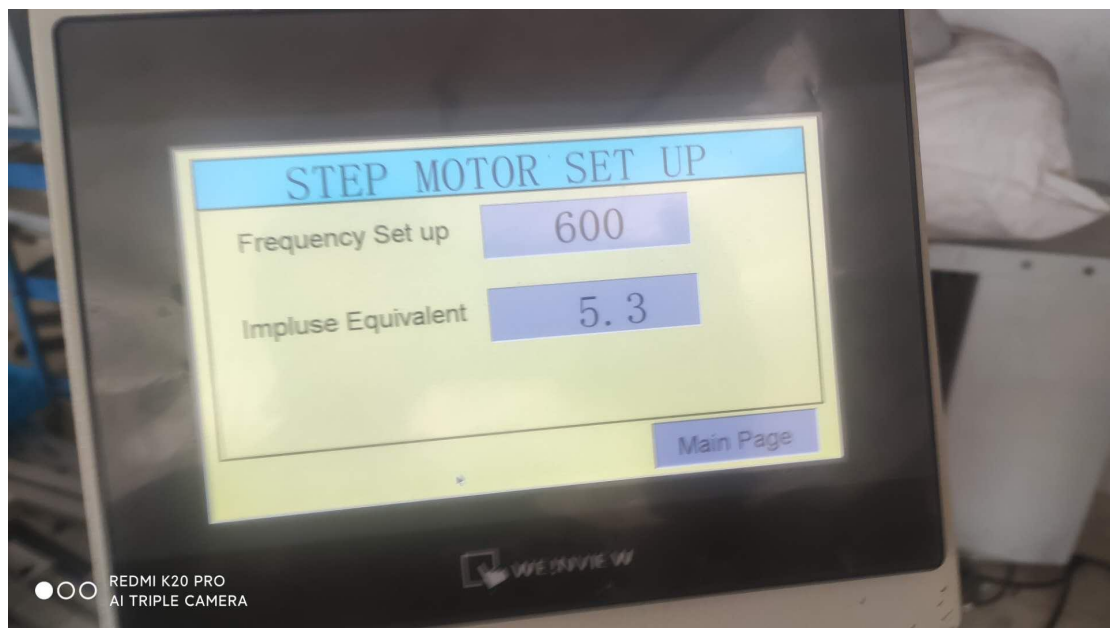
2.4 For the adjustment of the hot melt glue machine, see the hot melt glue machine manual

Man-machine interface operation instructions:

Enter the Chinese homepage, set the corresponding time and material length, confirm that the parameters are set, press the start button, if the pedal mode is selected, then the pedal will be stepped on once, and the system will stop for a cycle. If the automatic mode is selected, the system will cycle , Until the start button is pressed again, the system stops. The glue injection switch can choose whether to discharge glue, which is convenient for debugging. When the conveyor belt does not detect the material, the conveyor belt stops working when the delay time of the conveyor belt stops. The currently selected material length shows the working status of the currently selected material length.

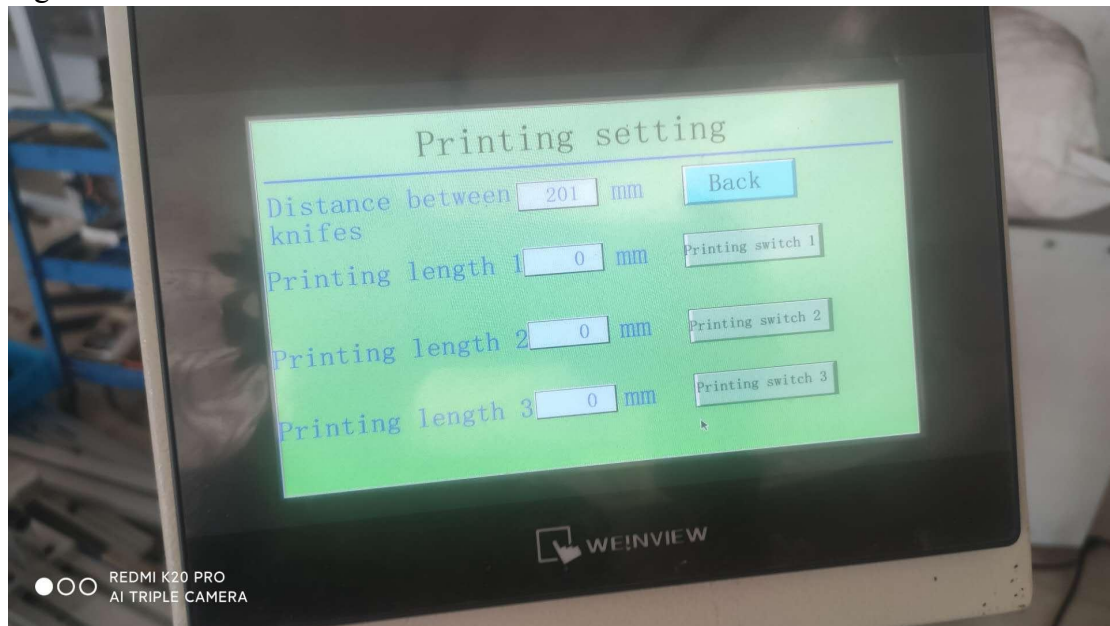


Click on the stepper motor page to set the stepper motor parameters. The frequency setting refers to the speed at which the motor runs, and the pulse equivalent is the parameter that converts stepper pulses into length:

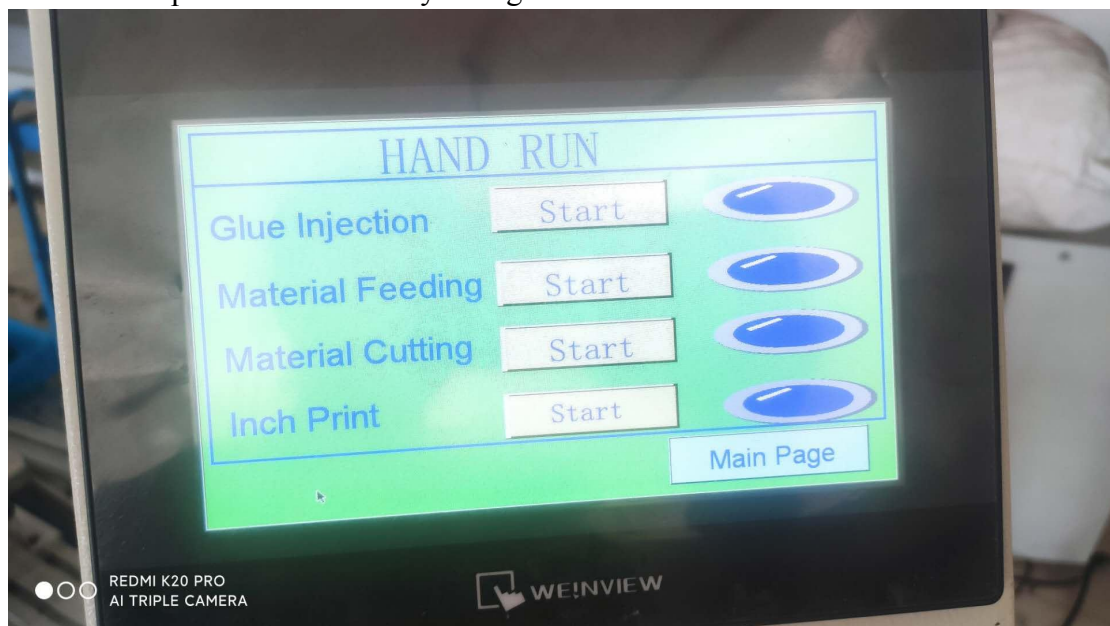


Click the print setting page to enter the print parameter setting, measure and input the distance between the two knives, set the print length, enter the corresponding distance according to the product needs and turn on the print switch, the maximum can be selected 3

segments



Click manual operation to manually debug



3. Matters needing attention:

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

3.2 Be sure to cut off the power of the machine after each shift, and leave until the power indicator of the machine goes out.

3.3 Please do not touch the moving parts during the operation of the machine to avoid danger.

3.4 When debugging the machine, use waste filter paper to pad the glue outlet of the glue injection head to prevent hot melt glue from sticking to the machine and affecting the normal operation of the machine.

4. Precautions for electrical installation and maintenance

4.1 The machine adopts 380V voltage and 50Hz frequency, and the user can perform maintenance according to the electrical schematic diagram.

4.2 The machine must be grounded separately.

4.3 Except for cleaning, maintenance and adjustment, the door and shield of the electrical box must be closed and installed, please do not open or remove at will.

4.4 Regularly check the insulation condition of the electrical box and the fastening of the electrical components by professionals.

4.6 Before operating this equipment, you must read the operating manual and the operating instructions of the related electrical components in detail. Do not operate at will, and unauthorized operators cannot perform operations.

4.7 After pressing the emergency stop switch, the machine will stop running immediately.

Chapter VI Maintenance and Troubleshooting

一、The operator's daily maintenance of the machine

1. During the daily maintenance of the machine, the operator should stop the operation of the machine and turn off the power supply.

2. All parts that need lubrication should be added with corresponding lubricating oil as required.

3. The operator should keep the machine itself and the surrounding environment clean and hygienic every day.

4. All parts of the machine with hot melt glue should be removed.

二、Regular maintenance

Regular maintenance means that in addition to daily maintenance, the machine is stopped and inspected in a planned manner according to the specified period. Regular maintenance is usually done once a month to check the operation of each part, the wear of moving parts, and whether the fasteners are loose.

1. Check

1.1 Whether the transmission belt is worn and whether the transmission chain is in good condition;

1.2 Whether the transmission mechanism works well and whether there is any abnormal sound;

1.3 Whether the fasteners are loose or fall off, especially the fasteners of transmission parts or key parts must be checked carefully.

2. Refuel regularly

2.1 At the transmission chain, apply a brush with lubricating oil every shift;

2.2 Lubricating oil shall be added to the connection of structural activities;

2.3 The specified lubrication and refueling place, add lubricating oil on time according to the production situation.

3. Common faults and troubleshooting

三、Common faults and troubleshooting

Serial NO.	malfunction	cause	elimination method
1	Does not start or the motor rotates in the wrong direction	Power phase is wrong	Adjust power phase
2	No glue from the glue gun	1. There is no hot melt glue in the glue machine 2. The gas source of the glue gun is not turned on 3. Malfunction of the melter	1. Add hot melt adhesive 2. Turn on the air source 3. Overhaul or replace the glue machine
3	Strip non-woven fabric deviation	1. The gap between the upper and lower conveyor rollers is not balanced 2. The front workbench barrier and the conveyor roller are not perpendicular	1. Adjust the gap between the upper and lower conveyor rollers 2. Adjust the vertical stop bar and conveyor roller

Chapter VI: annex

一、Circuit diagram

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Annex list

Product name	Qty
Allen wrench	1
Slotted, Phillips screwdriver	Each 1
Open wrench 17-19	1