EASTY limited

# Small Format Multifunctional Rotary Heat Press

# Eurotec EST-1221(1721/1821) Lite/H

# User Manual

Revised on Jan 3, 2019

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# 1. Preface

EST is small format model of Eurotec series, which is designed and upgraded by Europe technical team, all production is according to CE rules.

With feedback from end users and market requirements, it absorbs the most advanced technology of cotton cold transferring. It is capable of flat transfer for clothes pieces, transfer in roll to roll and cold transfer for cotton materials.

Moreover, Easty machine occupies small workplace. It reduces expenses in terms of power and labor.

There are many merits of EST series machine as below.

1.1 Most of shafts of the machine were processed by CNC laser cutting system precisely, which means all shafts are equipping at parallel. It enables the ultra-long transfer without deflection. It also adopt air expansion shaft on small format machine, which is more professional for mass production.

1.2 The drum use hard chrome material, Strong hardness, Water proof, Anti-sticking, making machine more durable and also better in transfer heat energy. High blanket coverage saves more energy comparing with other similar machines.

1.3 The balance shafts in 87mm diameter made with CNC technique which keeps it rigid and prevents it from deforming. Thus, transfer paper doesn't curl and ripple pattern doesn't appear on media.

1.4 Air pressure system helps transfer with vivid color and definitely as good as the heat pressing transfer machine. It also has high productivity of roll to roll system.

1.5 Feeding materials from upper position, which keeps fabric feeding precisely and lower the fault rate in process. Speed can run 60 - 120 m/hour.

1.6 With advanced technology, cool down would be efficient

1.7 Blanket adopts DuPont material, durable and good finishing

## 2. Safety Instruction

Before the operation, please read the safety instruction carefully to fully understand the machine's primary structure, function, and operation method. If conditions permit, the training to the operators is required, and only qualified operators are allowed to operate and maintain.

During the operation, please pay attention to the equipment's warning signs which improved the safety awareness to prevent the accidents and to guarantee operator's personnel safety.

### 2.1 Safety parts

***Heat switch and Power switch***

Heat switch and Power switch both are on the control panel. Turn off the heating switch can stop the heating immediately. Turn off the power button; the machine cannot get the power for heating, but the machine can get power for revolving the motor.

***Separating-blanket Switch***

When the heat transfer finished and after equipment stops heating, spins the hand wheel to make blanket belt separating from the heating roller to prevent the blanket from burning.

***Heating Roller***

The surface temperature of the heating roller could be up to over 240°C. While it is heating, please don't touch the roller surface with any part of the body to avoid crushing or burning. And the operators shall be present to avoid the roller damages or the fire due to the overheating.

### 2.2 Warning Sign

Please pay attention to the following warning signs. The cases shown in the signs can cause machine damages or injuries of the operators.

***Anti-grinding***

This sign indicated the junction of the upper and lower drive rollers, respectively at the both sides of the machine front. The rubber roller in operation is relative dangerous. Please don't let your hand, clothes, hair or other parts of your body touch it to avoid incident.

***High Voltage***

This sign indicated the inner flank of the box. High Voltage! Don't touch to avoid electric shock.

***Chain***

This sign indicated the inner flank of the left box. Please don't let your hand, clothes, hair or other parts of your body touch the chain in operation to avoid injury.

***Burning Prevention***

This sign indicated the heating roller of the box. Heating roller is the heating component, so don't touch it.

When the power is off, roller requires enough time for heat output. Don't touch it immediately to avoid burning incident.

**2.3 Safety Tips**

1) The electrical power source, used for the equipment must be in line with the type, designated by the nameplate. The earthling must be accurate and reliable (equipment with three-terminal polarized plus plug not allowed to change the function of the earth electrode freely).

2) When the equipment is operating normally, the surface temperature of the heating roller is very high, and please don't touch it with you hand.

3) When open the box to exam and fix of the equipment, the power must be shut off to avoid electric shock or mechanical wounding incidents. When the transfer work has been finished the power should be cut off too.

4) Don't place the power lead on the walkway or pile up thing on the lead. Strictly prevent the power lead from rolling depression by the vehicles.

5) Mounting card and transducer in the box should be kept clean to avoid metallic conduction material such as dust falling into. Don't open the protective covering to avoid the electric shock.

6) The working place should be dry and well ventilated. Please stay away from the water or the damp place when use the equipment. Don't pile up the inflammable or explosive materials near to the equipment.

7) Don't put tools or other sundries, such as screwdriver, screw nail and nut etc. at the worktable, upper surface of the right box and other parts of the machine, to avoid falling into the rotating rollers, causing damages to the machine.

8) Don't wash the machine with water to avoid the short circuit, electric shock and the equipment corrosion.

## 3. Specifications

3.1 Specification of EST

- Oil Filled System & Chrome Drum to ensure Strict Temperature
- User Friendly Auto Switch Off Function, anti-explosion device
- Fully Blanket Separation by Handle, Selected 8mm Nomex Blanket
- EST-H = EST-Lite + Pressure Bar + Accurate Blanket Auto Alignment
- Optional Air Expansion Shaft/Tensioner & Conveyor belt(suggested)
- Optional LCD Control Panel Can Be Upgraded to EST Series

| EUROTEC EST | EST-1221 Lite / EST-1221H | EST-1721 Lite / EST-1721H | EST-1821 Lite / EST-1821H |
|---|---|---|---|
| Heating Media | 100% Oil Heating + Heating Elements | | |
| Power(KW) | 6KW, Single Phase 220V | 11KW, Single or 3 Phases | 12kw, Single or 3 Phases |
| Drum (mm) | 210mm(8.27") Hard Chrome, Oil Filled | | |
| Alignment | Lite = Manual Blanket Alignment / H = Auto Blanket & Conveyor Alignment (conveyor is optional upgrade) | | |
| Heat Element | 6pcs for oil heating (12pcs for electric heating) | | |
| Transfer width | 1.1m (43.31") | 1.6m (62.99") | 1.7m (66.93") |
| Transfer speed | 1-2m/min (39.37"-78.74"/min) | | |
| Process path | Feeding in through top of drum | | |
| Application | Roll-to-roll & Piece-by-piece | | |
| Rollers | 3 feeding by 2 feeding Roller (can be upgraded to air expansion shaft) | | |
| Table size (W*L) | 1300mm (51") | 2500mm (98") | 2500mm (98") |
| Blanket size | 1.15*1.7(2.05)m / 45" x 67"(81") | 1.65*1.7(2.05)m / 65" x 67"(81") | 1.75*1.7(2.25)m / 69" x 67"(81") |
| Machine size | 2740*2250*1850mm<br>(107.87" x 88.58" x 72.93") | 3300*2350*1224mm<br>(129.92" x 92.52" x 48.19") | 3300*2450*1224mm<br>(129.92" x 96.46" x 48.19") |
| N.W. / G.W. | 550kg(1213lb) / 650kg(1433lb) | 820kg(1808lb) / 1016kg(2240lb) | 920kg(2028lb) / 1116kg(2460lb) |
| Packing size | 2040*1100*1440mm<br>(80.31" x 43.31" x 56.69") | 2500*1150*1540mm<br>(98.42" x 45.28" x 60.63") | 2600*1150*1540mm<br>(102.36" x 45.28" x 60.63") |

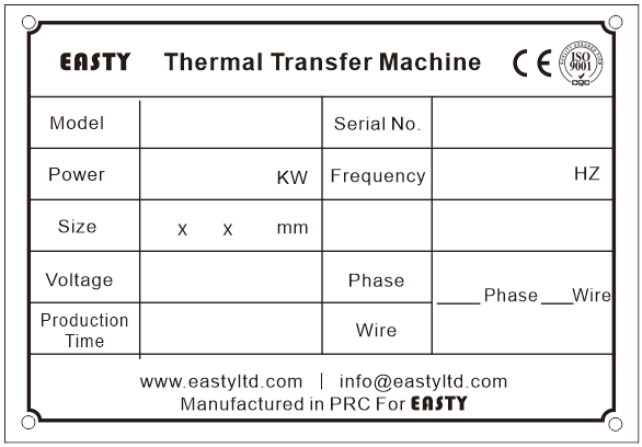
*EST-1221 model needs 22.5L, EST-1721 model needs 28L, EST-1821 model needs 30L to replace heating oil.

*EST-1221 glass: 1215mm(w)*1180mm(d); EST-1721 glass size: 1715mm(w)*1180mm(d)

(Measure actual space for glass, actual should be smaller than above engineering size, but not over 30mm)

3.2 Nameplate

The machine information will be shown on the nameplate.



## 4. Operation Guide

4.1 Turn on power switch, and press the “Start” button, machine will begin to work, then to adjust the drum speed (Notice: Machine must use appropriated and strong protection ground wire)

4.2 Adjust the thermostat to the required temperature (Usually around 200celsius degree, adjust the frequency converter to around 20HZ, Heat up time will take around 40 minutes);

Set forward or reverse to make the machine rotate, REV = reverse, FWD = forward, STOP/RESET = shutdown

(Notice: Before Setting forward and reverse for the frequency converter, please press stop first and then set forward and reverse, we have preset forward for you.

4.3 Adjust the blanket by manual: Clockwise means “loose”, Anticlockwise means “tight”.

At the beginning, The Blanket should have good contact area with roller, till the blanket can drive the roller rotate (Notice: There is not necessary to adjust blanket for new machines).

4.4 Test by small cut pieces and small sublimation paper before mass production. If fabric and sublimation are too thin or mesh, remember to use protection paper to protect blanket surface avoid affecting blanket lifetime and machine printing effect.

4.5 Please put sublimation paper and fabric evenly on working table, feeding them to have contact with blanket lightly, it will drive fabric and sublimation paper.

4.6 Successful transfer requires the right time, temperature and pressure. Clothing thickness or material and pyrography species may influence printing effect. All kinds of transfer paper need to be tested before mass production.

4.7 Shut down when at high temperature: Set time for automatic shutdown function first (Normal setting auto shutdown time for 1-2 hours), Press down “automatic shutdown” button, the machine will shot down automatic when it goes down 100 Celsius.

## 5. Operation Cautions

5.1 When machine still working, Press down “automatic shutdown “button. The machine will stop when reaches auto shut down time.

Separate the blanket from roller urgently by manual when machine stop working but temperature higher than 100 Celsius degree.

5.2 When machine heating, roller must rotates to avoid blanket burn out at still high temperature, Please be sure someone well trained to set blanket off from damage and ensure safety.

5.3 When emergency stop or power off suddenly, please loosen blanket and separate from drum in max distance first, and observe if the blanket separate from roller entirely, 5cm distance will be good.

5.4 Noise - The rollers and bearing may expand and create noise when they are heating to certain temperature. Do not worry as it is a normal phenomenon.

5.5 Cleaning - Keep clean and tidy so that there is no dirt falling into electric circuit box and transducer.

Do not open the protective shield of transformer to avoid electric shock. The roller cannot be scratched nor cleaned by acidic chemicals.

5.6 Lubricating - The bearing should be lubricated with lithium base grease, a kind of high temperature resistant grease with the flash point normally not less than 240 degree. Please remember to lubricate the alignment screw roller daily and weekly to avoid slip.

5.7 Blanket – Blanket is not a warranty part. Remind your colleagues to operate the machine with good practices. When there is power failure or after finish the daily work, stop heating and use separate hand wheel to move back the blanket from the oil drum thoroughly. It can protect blanket from burning. When the machine begins to works next time, tighten the blanket by operate hand wheel.

PS: The instruction of changing blanket will be in a separated file.

Note: Do not replace the parts yourself without consulting the engineers of our company.
The parts must be provided or approved by our company.

## 6. FAQ & Trouble Shooting

6.1 Abnormal noise: Check whether the roller drive bearing is broken;

6.2 Blanket cannot rotate normally with “ka, ka” and moaning sound: Check whether transmission is normal rotation.

Phenomenon Cause Solution

| Phenomenon | Cause | Solution |
|---|---|---|
| The temperature can not be higher or rising slowly | The solid state relay is damaged | Replace |
| | Damage of one or few sets of electric tube in heating unit | Replace the electric tube in heating unit |
| | Aging of one or few sets of electric tube in heating unit | Replace the electric tube in heating unit |
| The temperature is out of control | Breakdown of solid replay | Replace |
| | The temperature control device is out of control | Replace |
| Blanket and heating roller don’t revolve | Blanket is too loose | Adjust the tension of blanket |
| | Gear is skidding | Fasten gear screws |
| | Bearing is jammed | Check or replace the bearing |
| | Failure of frequency converter | Check frequency converter or replace |
| | Failure of motor or redactor | Check of Replace |
| Temperature is not stable | Temperature sensor is broken | Replace |
| | Aging or damage of Heating tube | Replace |
| Main switch trips | Breakdown of collector ring | 1. Replace the collector ring<br>2. Replace SSR (solid state relay) |

## 7. Equipment Warranty

Machine model: _____ Serial number: _____

### Warranty

7.1 Easty Ltd hereby represents and warrants that the Machinery is manufactured and assembled in accordance with applicable regulations.

7.2 The Machinery is guaranteed for a period of 12 months from the date on the nameplate of machine, except blanket and oil drum, When filing the each claim, the buyer must provide details of problem and serial number with clear pictures or video to certify the existence of the defect.

7.3 Under warranty obligation, Easty Ltd commits, at its choice, to repairing and/or replacing structural parts and other components of the Machinery that make it unsuitable for its intended use or that decrease appreciably its value, parts will be provided free, the buyer will be responsible for the shipping cost. Without any further refunding obligation deriving from direct and/or indirect and/or subsequent damage deriving to the Buyer or any third parties due to Machinery's defects (as an example, product losses, damage to things or people, etc.).

7.4 Only in urgent cases, when the operational safety is risked and/or when there is a fear of any disproportionate claims, which shall be immediately notify to Easty Ltd, the Buyer is entitled to remedy the defect on its own or by third parties, and it shall demand to Easty Ltd the reimbursement of expenses incurred for this purpose.

7.5 This warranty shall only be valid on condition that the Buyer sends to Easty Ltd a written notification within 10 days from the time of discovery as well as on condition that the Buyer expressly requires an intervention under warranty.

7.6 If the machine is not under warranty, both parts and shipping cost will be charged.

7.7 If onsite training, installation and commissioning or maintenance is required, air ticket, accommodation and meal shall be on the expense of Buyer.

7.8 When you received machine, please kindly register your information on our
Website: http://www.eastyltd.com

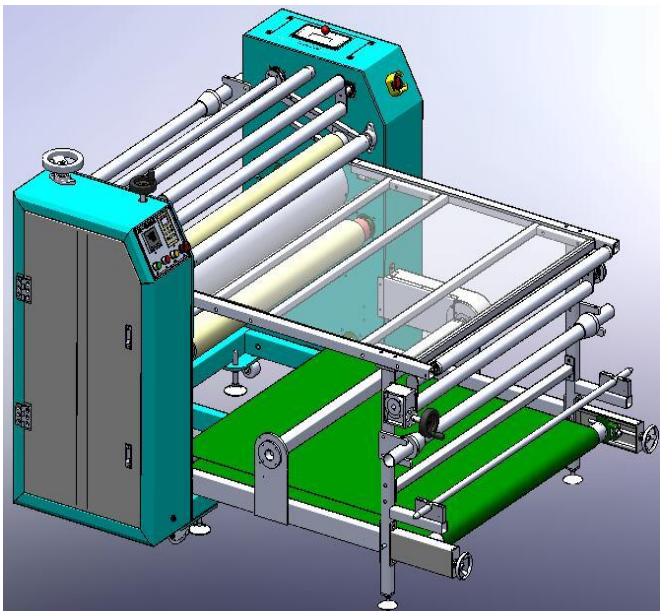
## Limitation of liability

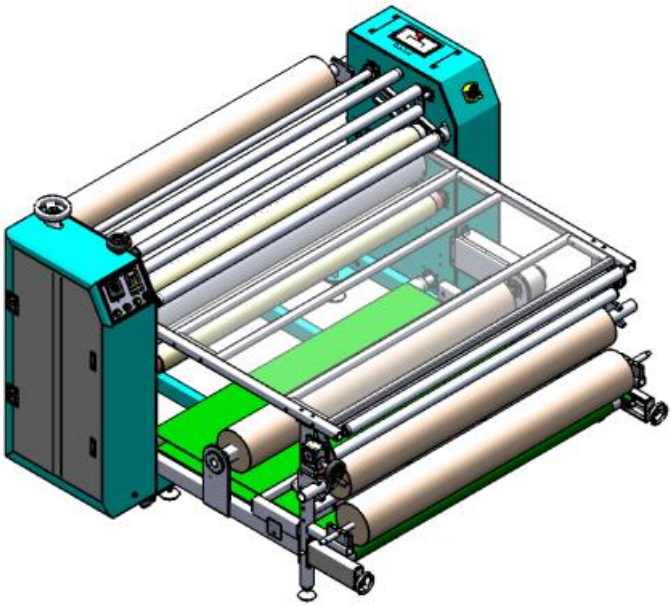
7.9 Easty Ltd is not liable for any damaging consequences resulting from the execution of repairs on the Machinery without its prior approval, executed by the Buyer or by a third party.

7.10 The warranty does not apply, for example but not limited to: to parts subject to normal wear; to damages caused by improper or inadequate maintenance, incorrect positioning, incorrect operations of the Buyer's personnel, use of incorrect raw materials, faulty or careless treatment, overexploitation of the devices; to use in any application other than that for which it was intended; to subject to misuse, abuse, accidental damage, modification, improper wiring; to damages or deterioration caused or aggravated by missed interruption of use of the machinery in case of technical problems or sudden change in voltage or in processing temperature or excessive humidity power or any other cause which does not relate to Easty Ltd.

7.11 The warranty loses all its effects when any equipment or devices or supplies not provided by Easty Ltd is installed on the Machinery, when the Machinery is modified without the prior written approval of Easty Ltd.

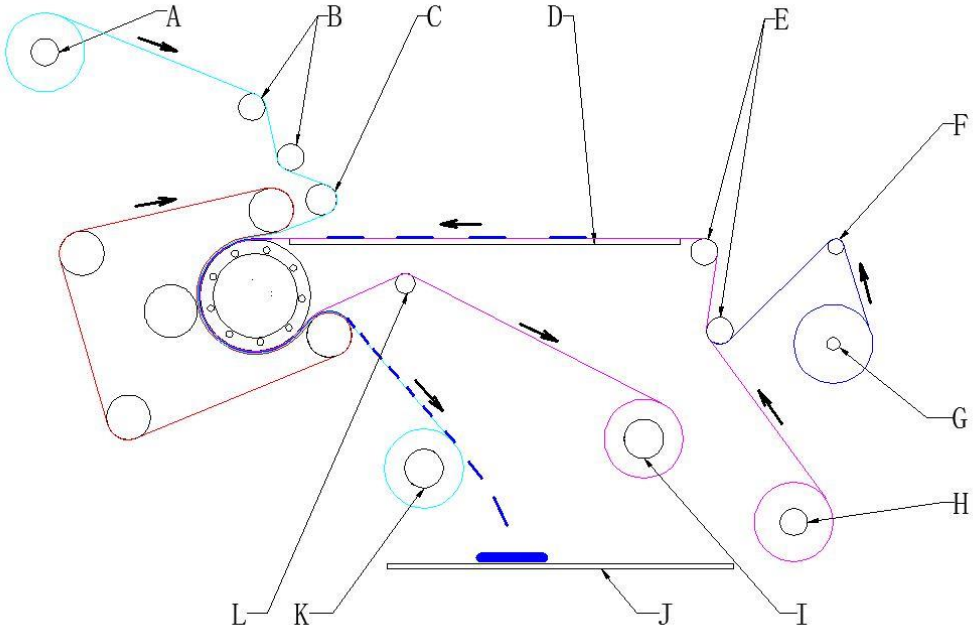
## 8. Outline





Over Size Drawing for EST-1221 and EST-1721

Notice: The machine adopts three feeding two collecting shafts, as shown in the figure below: cloth, cut pieces (Blue), paper (Magenta), Paper (Cyan).

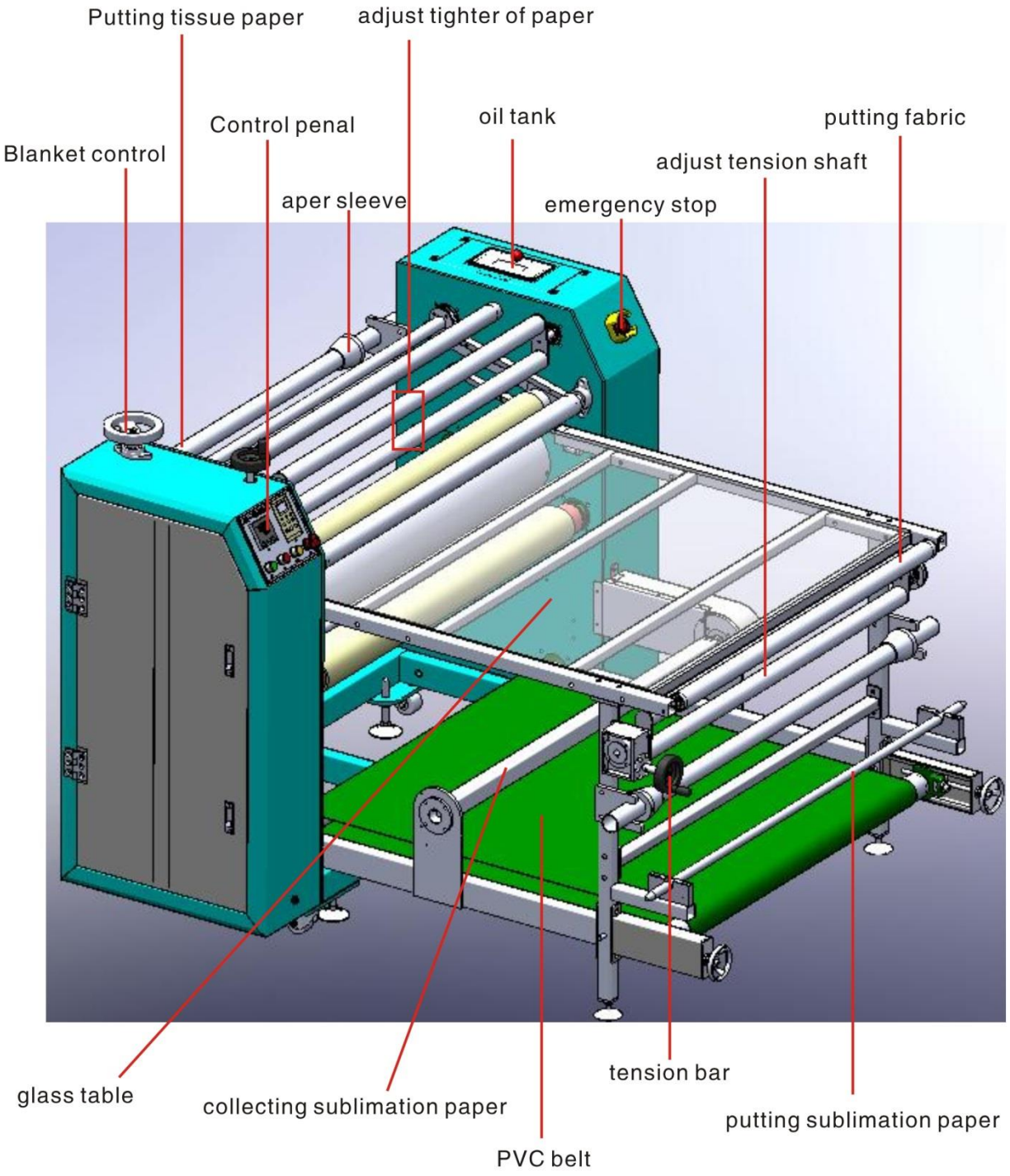



Description:

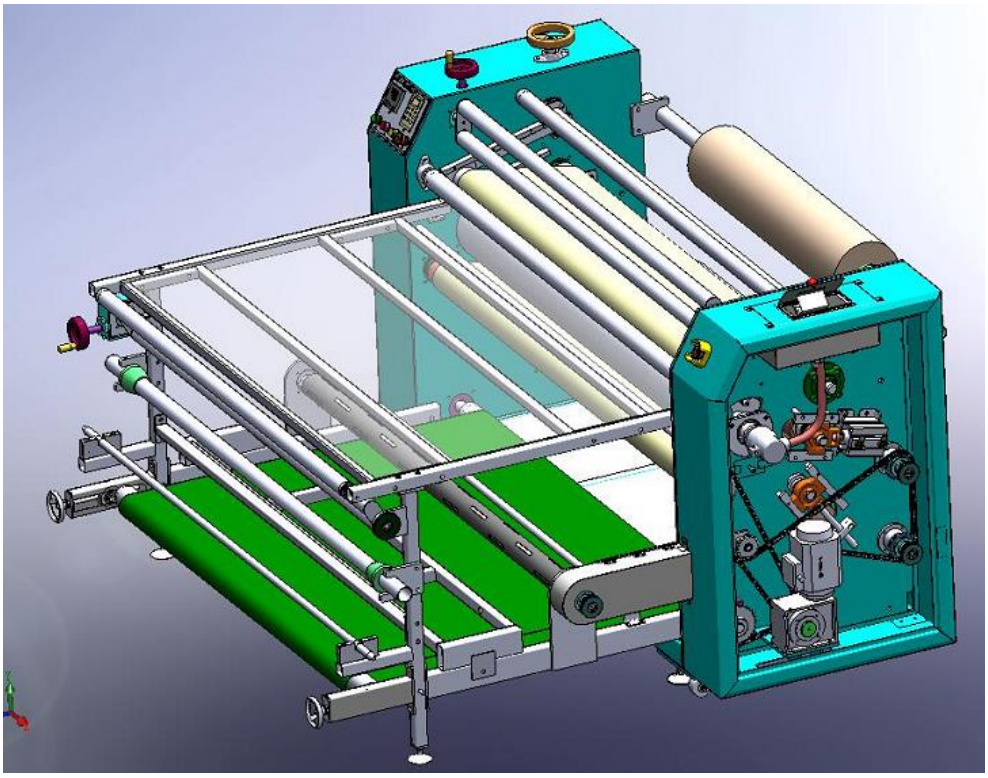
A-Protection paper shaft; B-steady paper shaft; C-protect paper around roller;
D-glass table; E-sublimation paper around shaft; F-fabric around shaft;
G-fabric shaft; H-sublimation paper shaft; I-used sublimation paper shaft;
J-working table; K-Used protect paper shaft; L-sublimation paper around roller 2

## 9. Machine Diagram & Maintenance

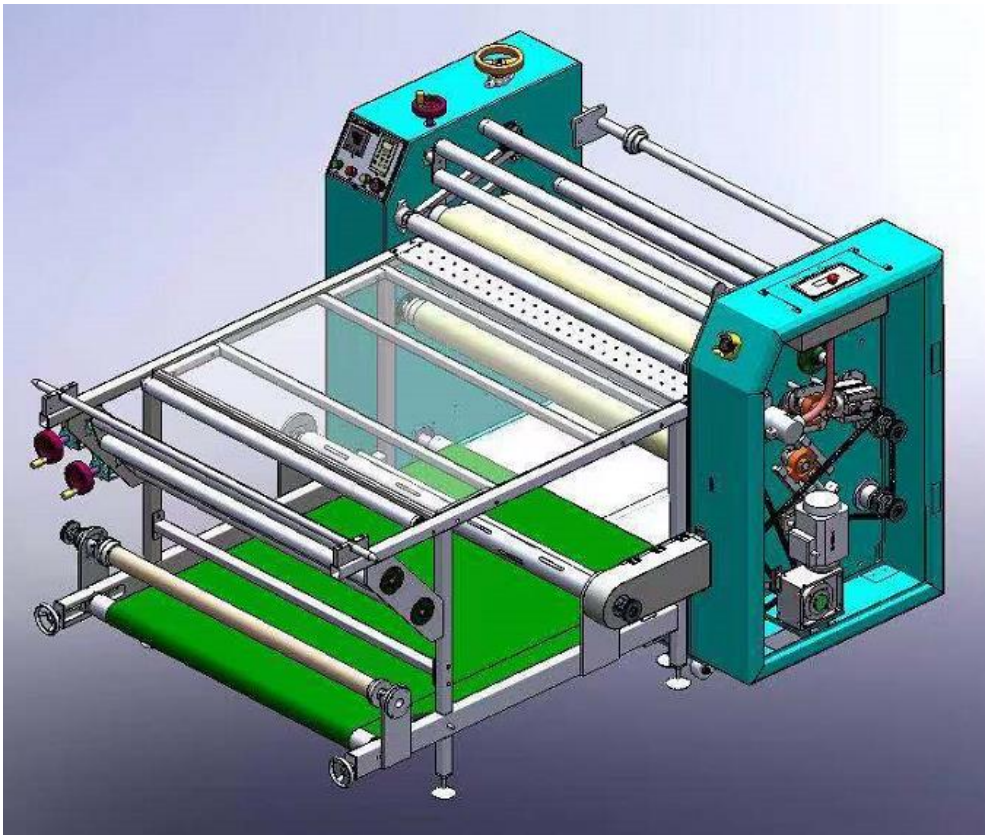
Complete Machine Parts Indicator




We have two types of working table design: Standard & Upgraded tensioner model

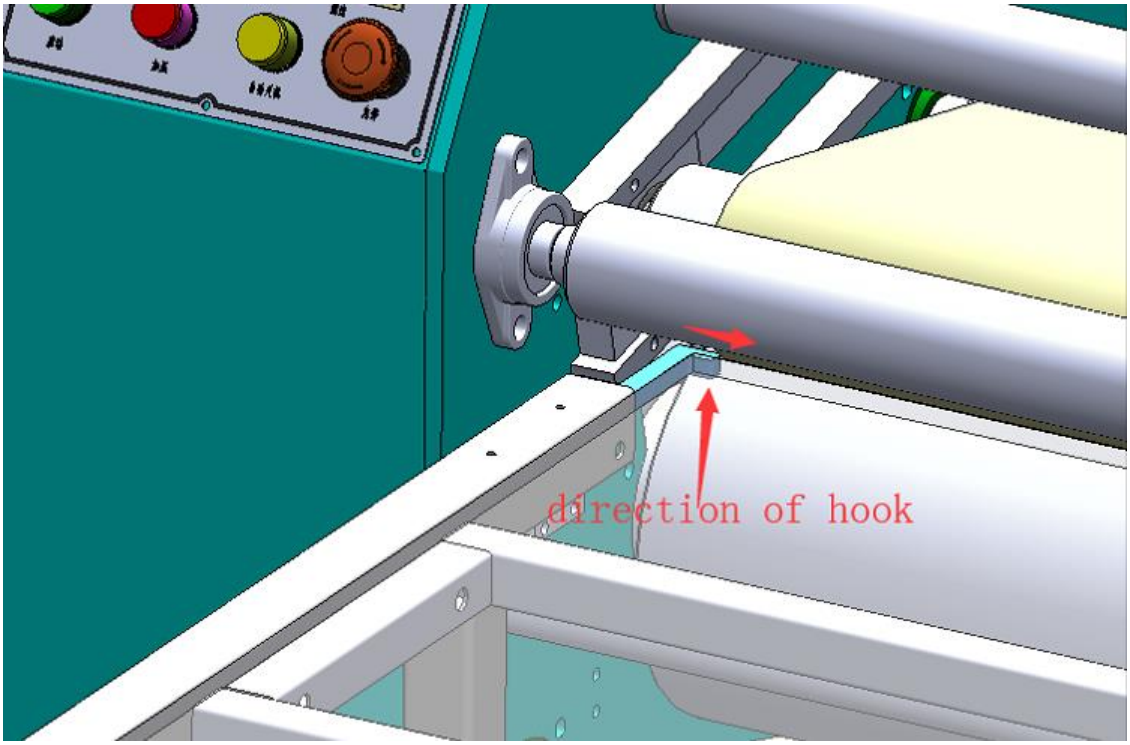


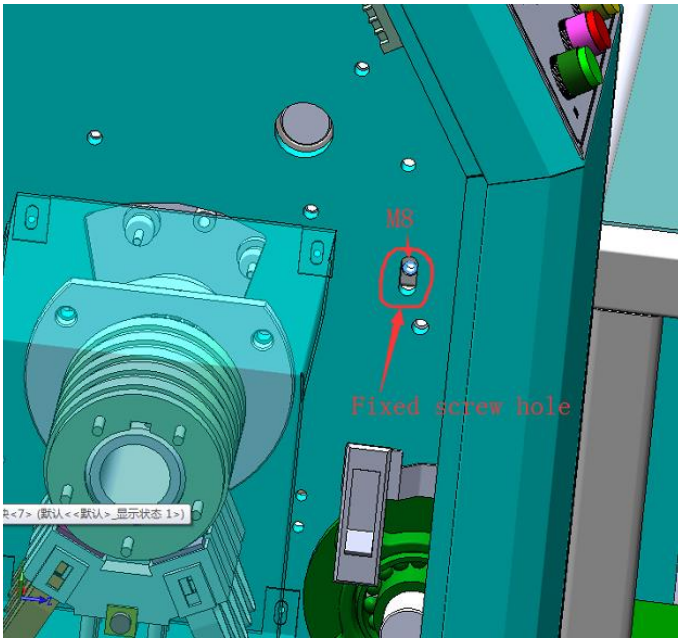
Standard Design with conveyor belt (conveyor belt is 2.6m length for this version)

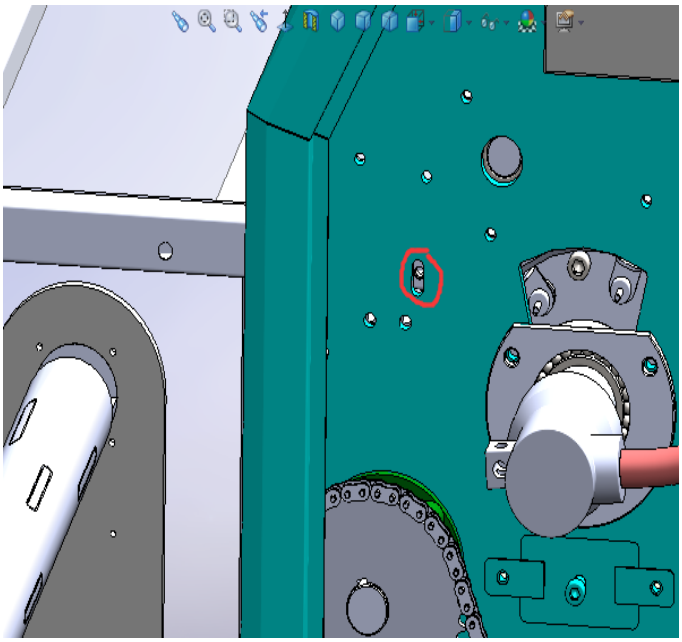


Upgraded Tensioner model with conveyor belt (conveyor belt is 3.0m length for this version)

EST Table design is also available for two versions,

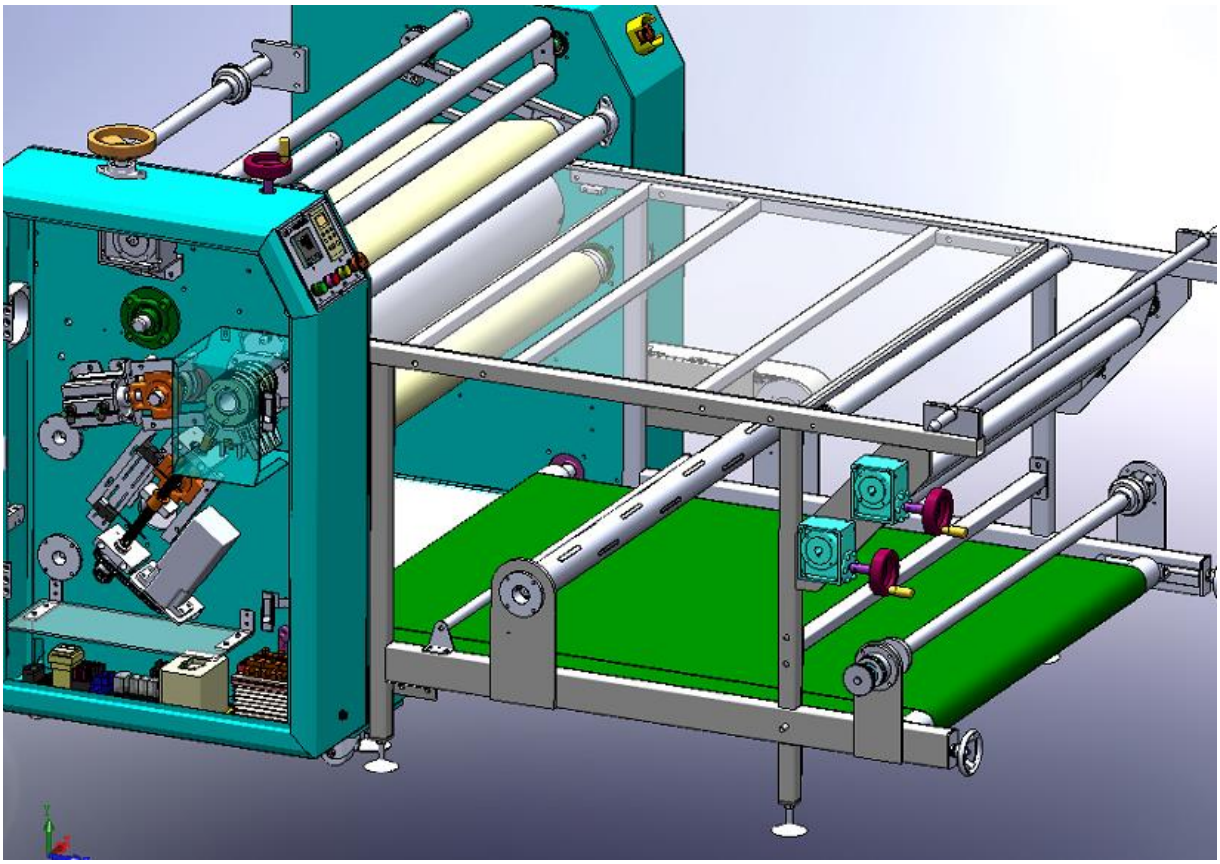


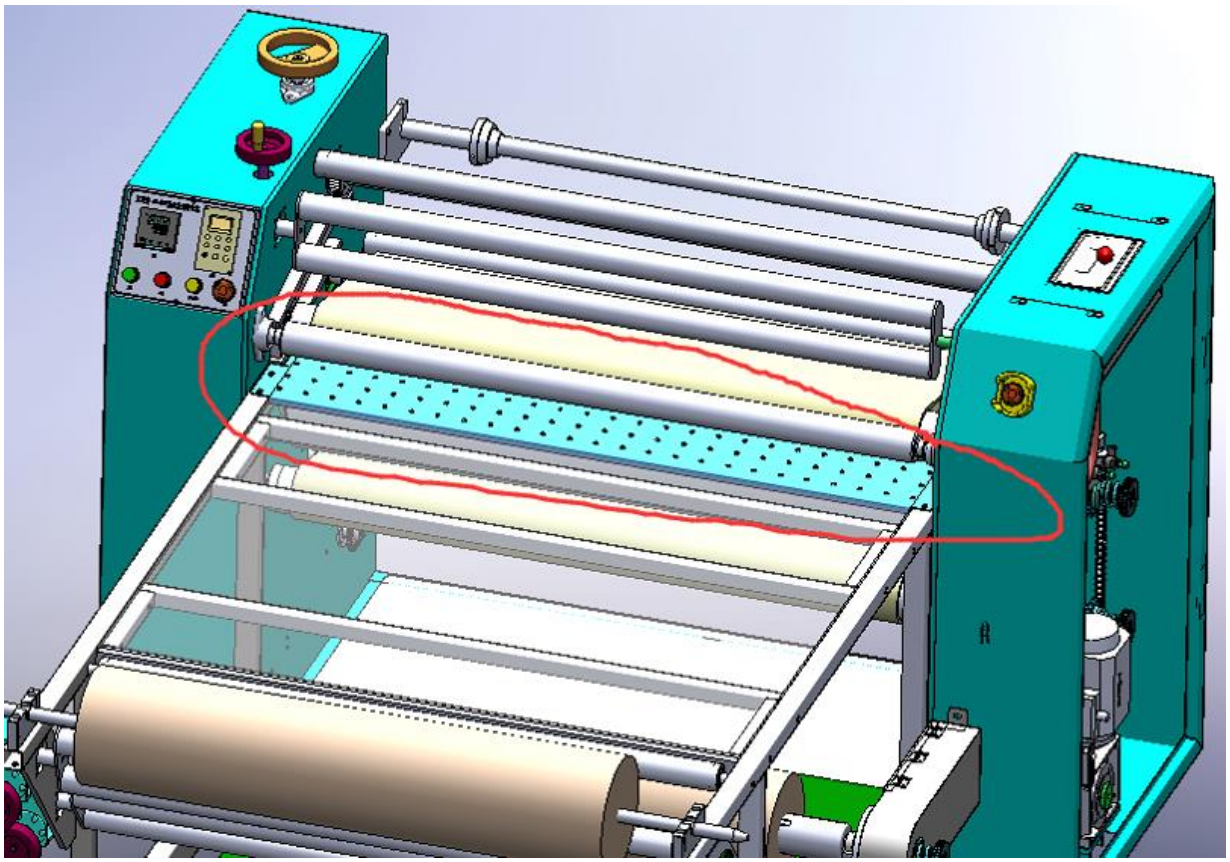



A version is without feeding metal plate (as red arrow above), EST-1721 glass size is 1180 x 1715 x 10mm

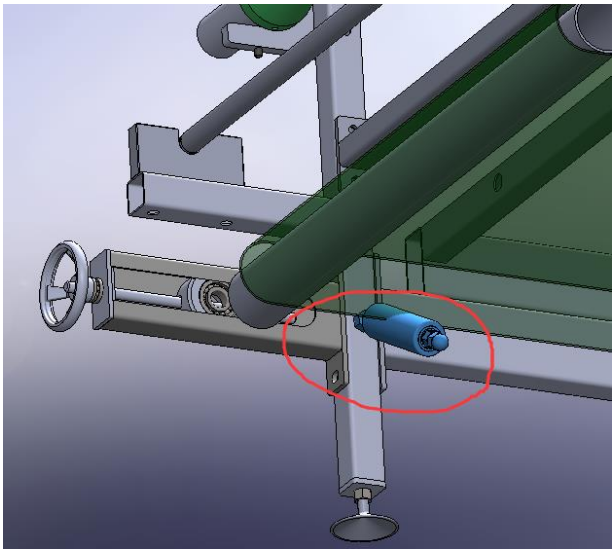
On the left and right cabinet, there are screw holes on both sides to fix the table

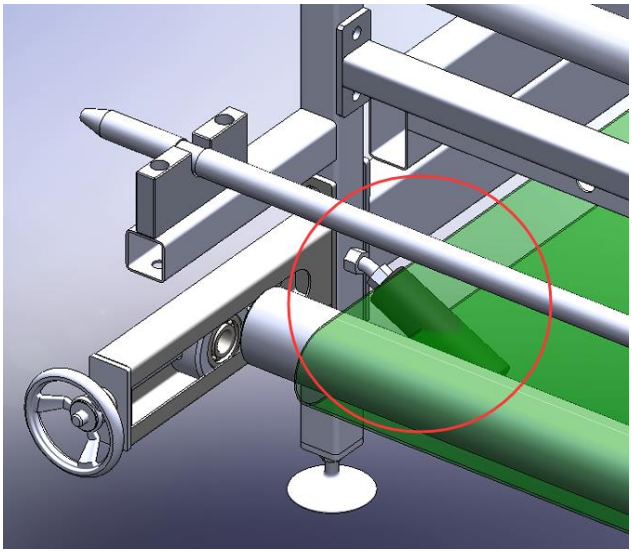




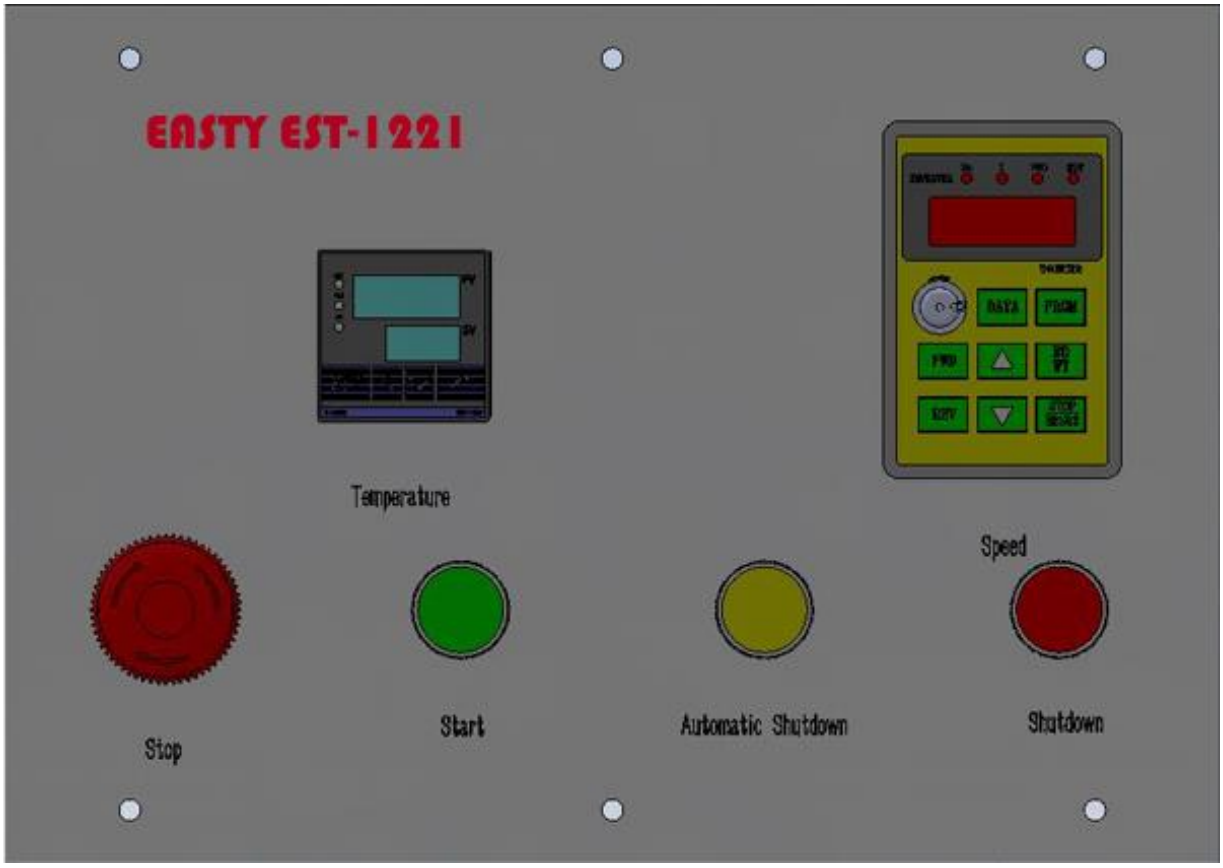
B version is with feeding metal plate (as red circle above), EST-1721 glass size is 1000 x 1715 x 10mm

Table is equipped with conveyor assistant alignment roller, please install them after adjust the balance of shaft on both side as below

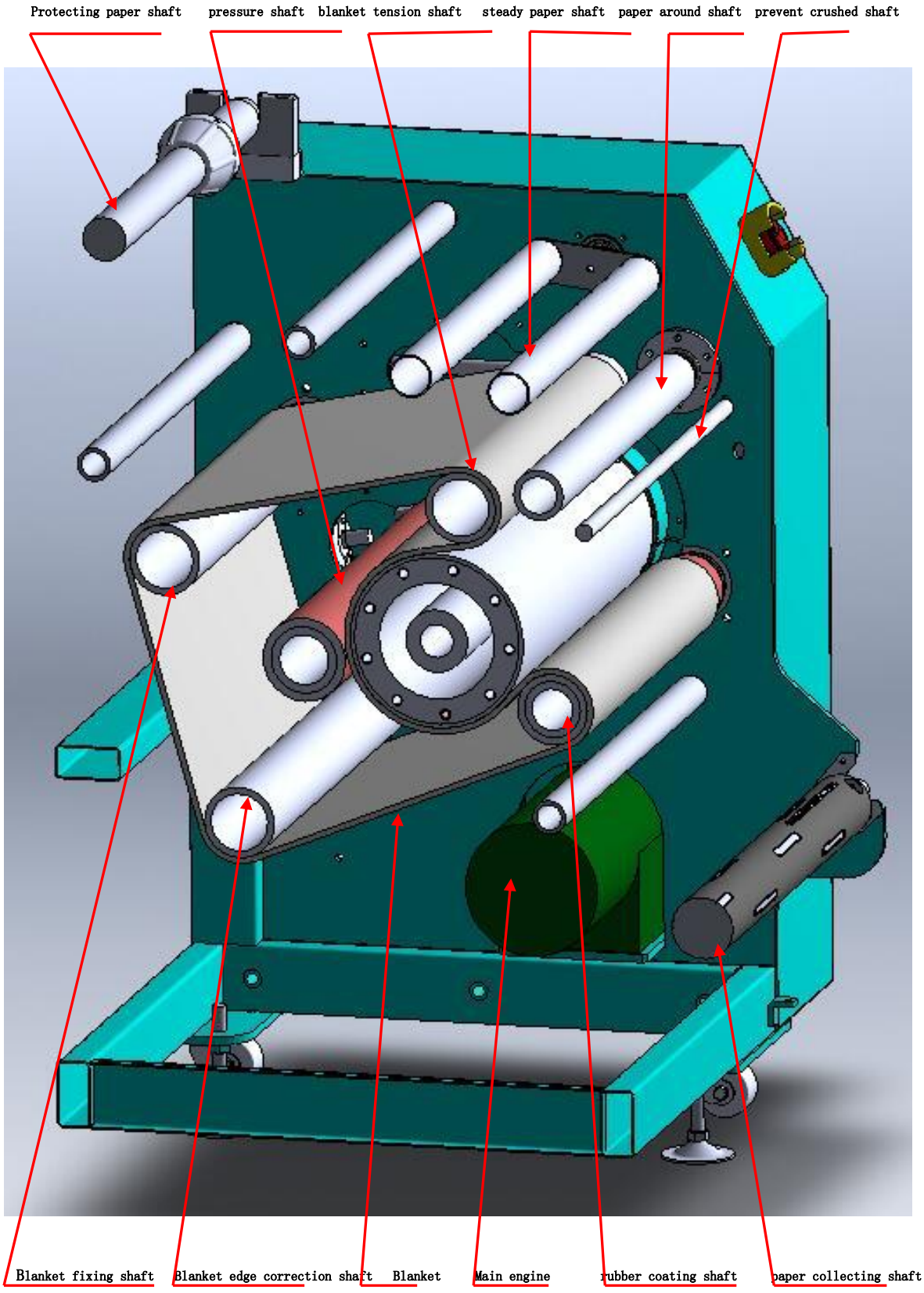




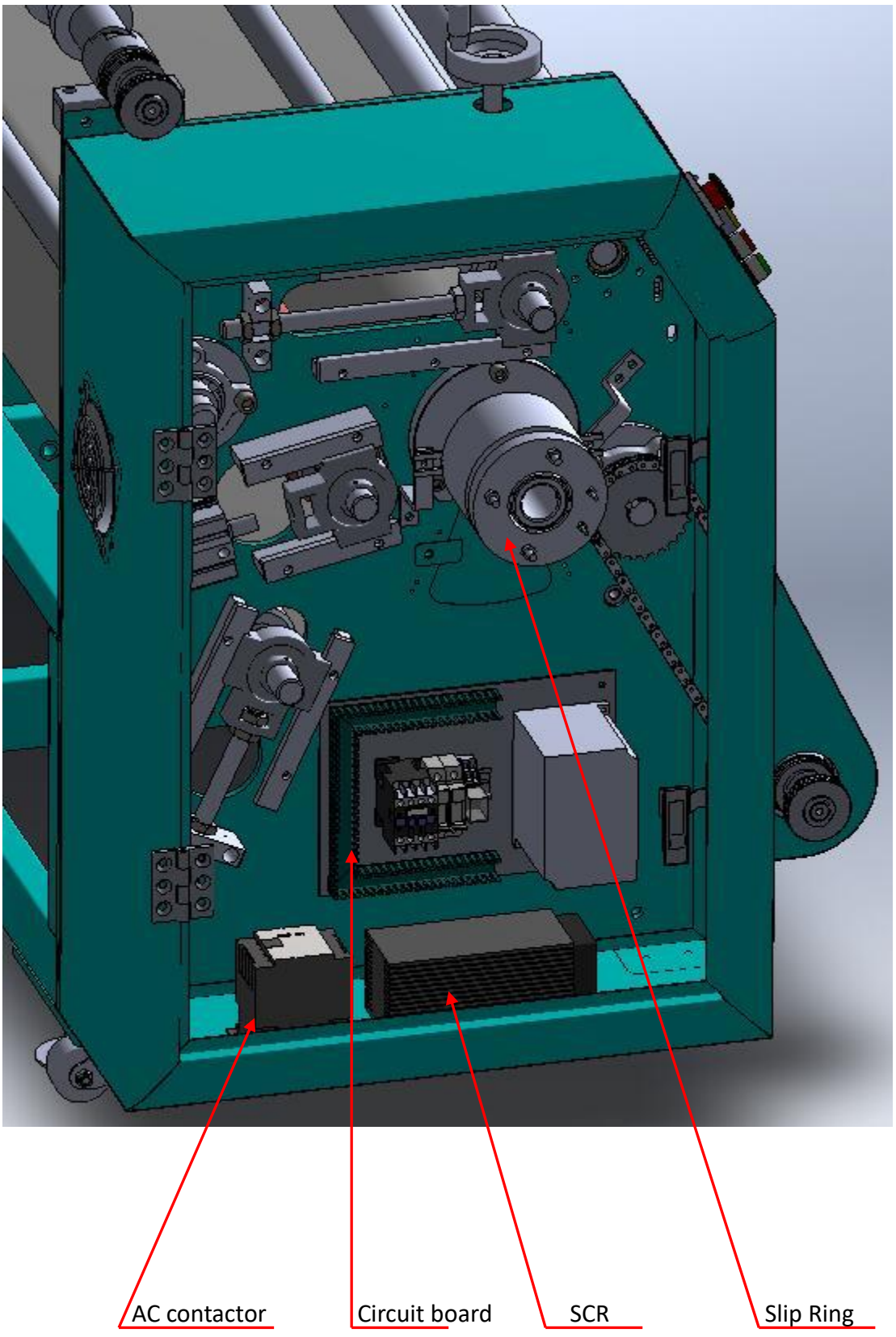
## Operation panel figure



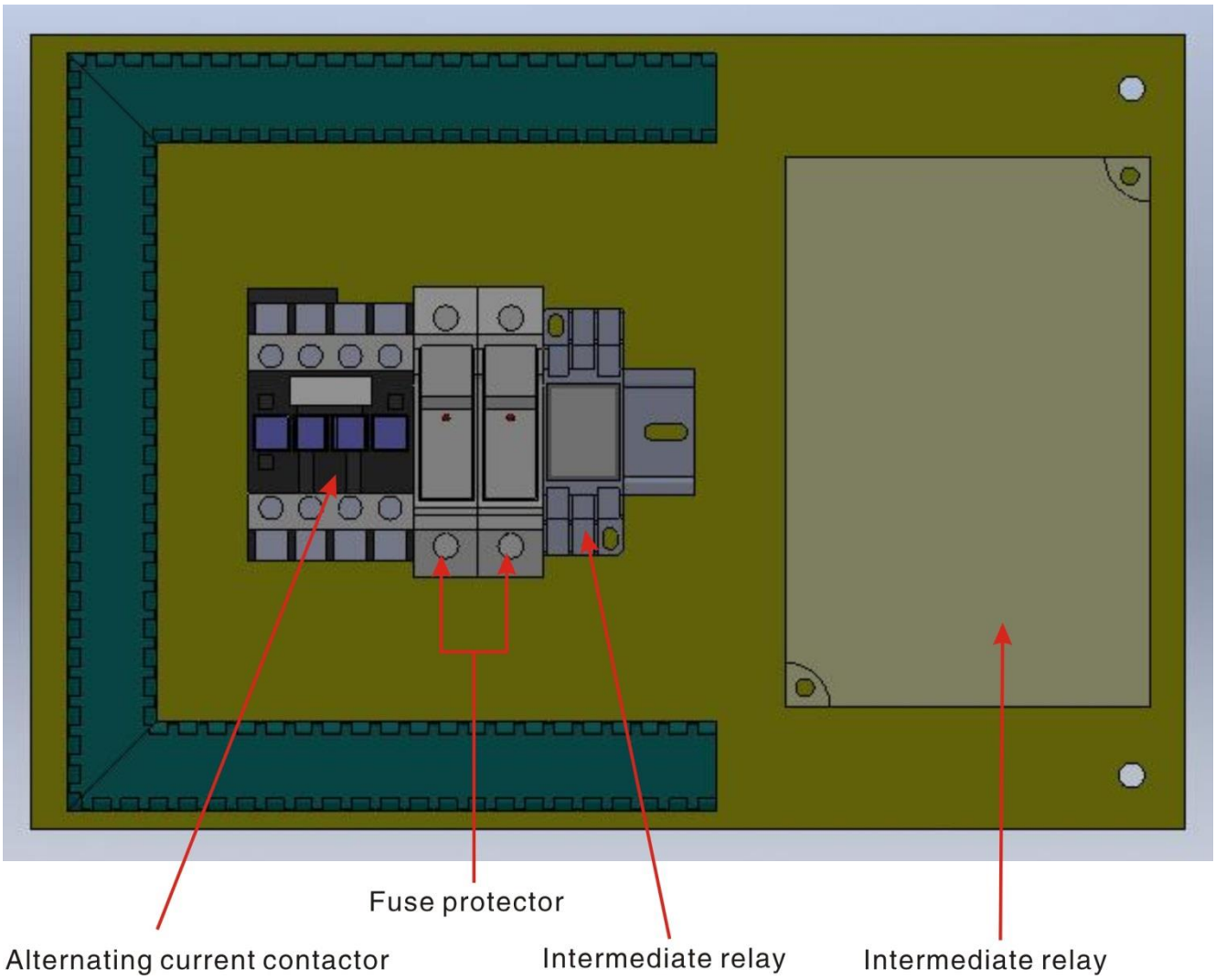

## Main engine parts labeled figure




Left main engine electrical components labeled figure

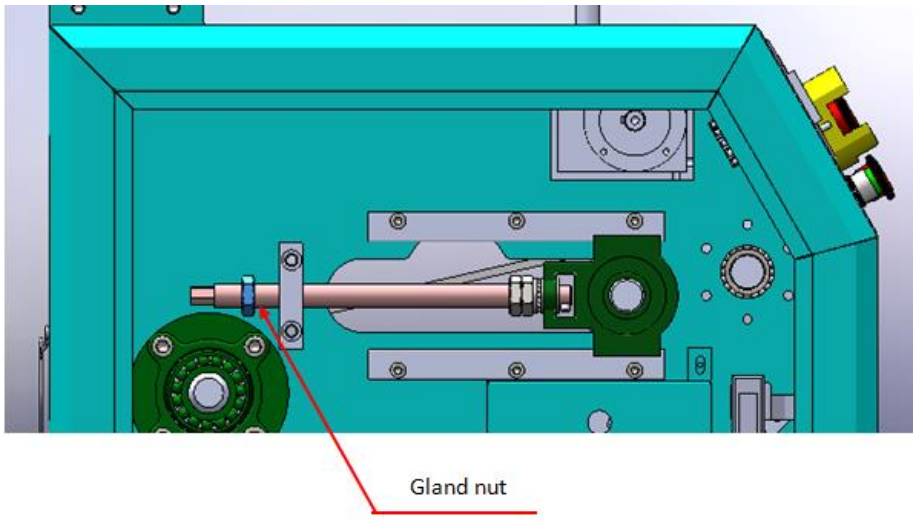



Circuit board component labeled figure

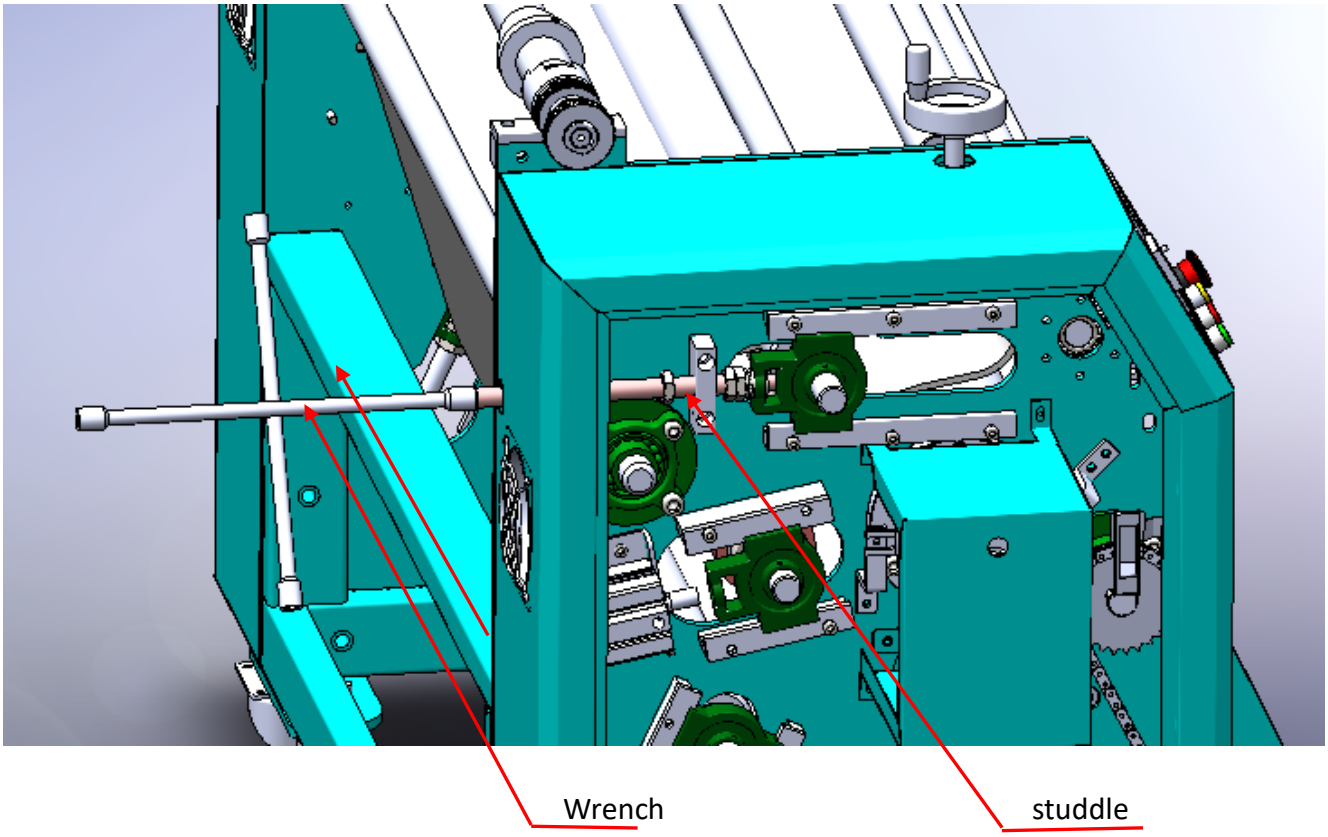



## Emergency manual blanket releasing instruction

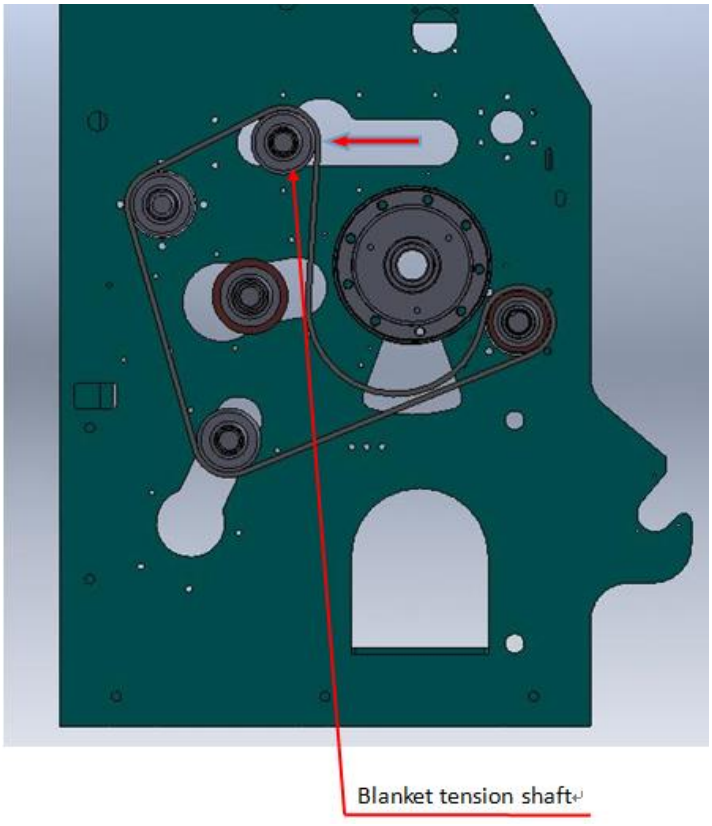
Step1: Loose gland nut



Step2: Use the wrench to drop out the studdle

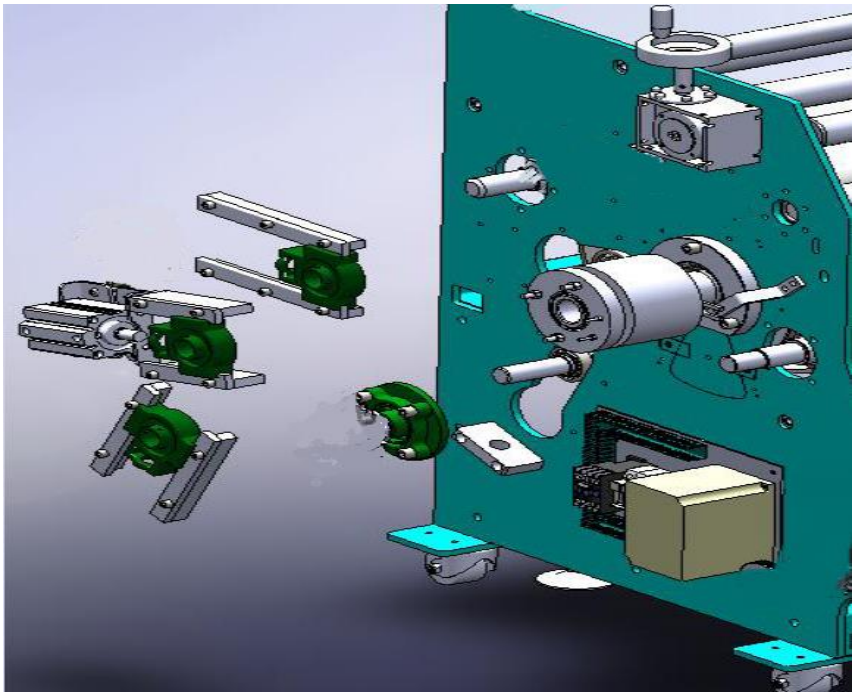



Step3: Check if the blanket separates from heating roller.

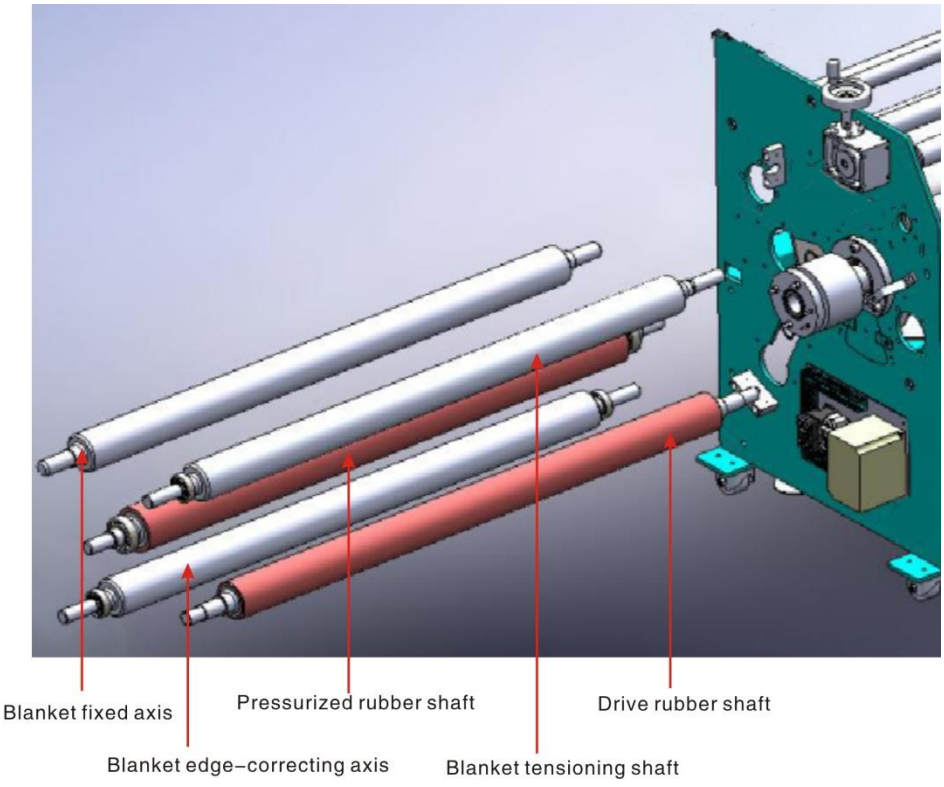


# Blanket replacing instruction

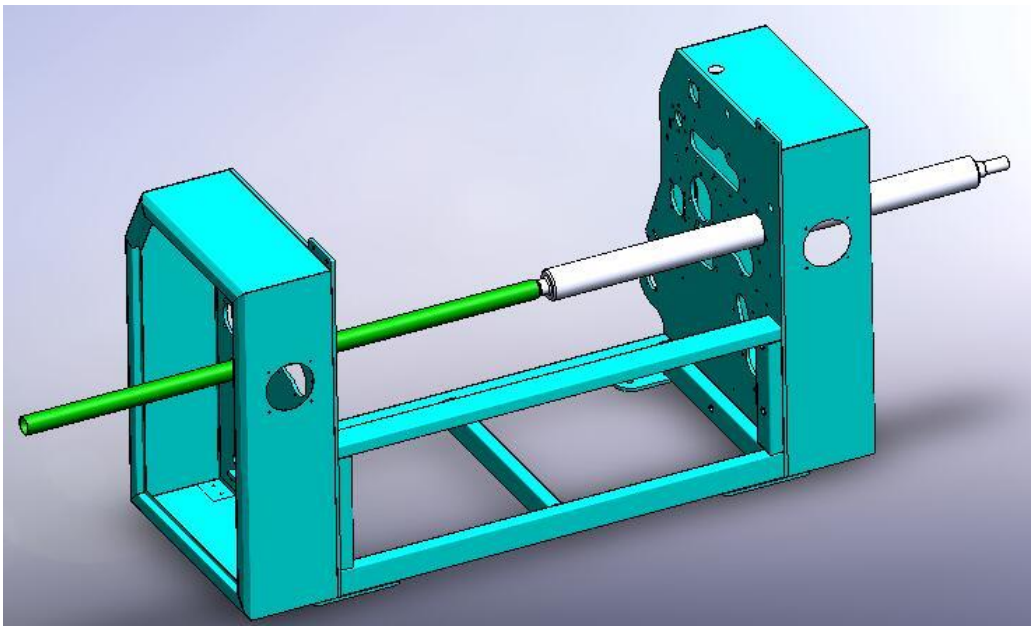
Step one: Remove bearing, cylinder, guide rail and pressure plate at any side.



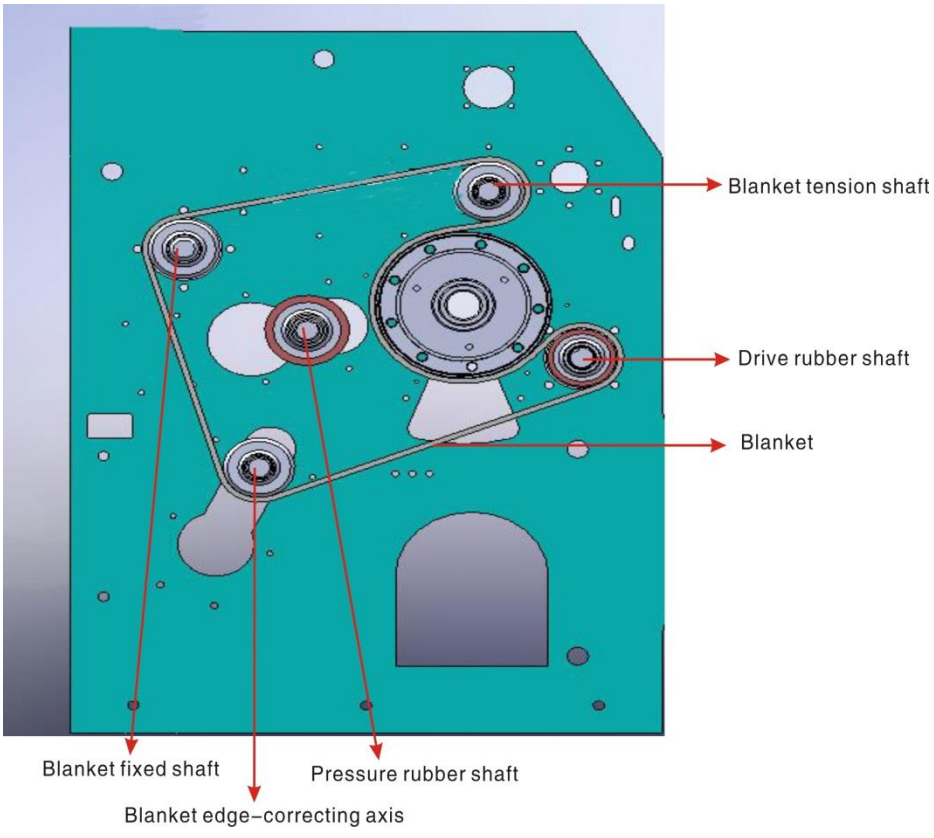
Step two: remove the relevant shaft and the old blanket.



Note: As the optical axis is longer and heavier, it is inconvenient to withdraw. When removing, better to have two persons to operate, and push out the end of the shaft with a round pipe.

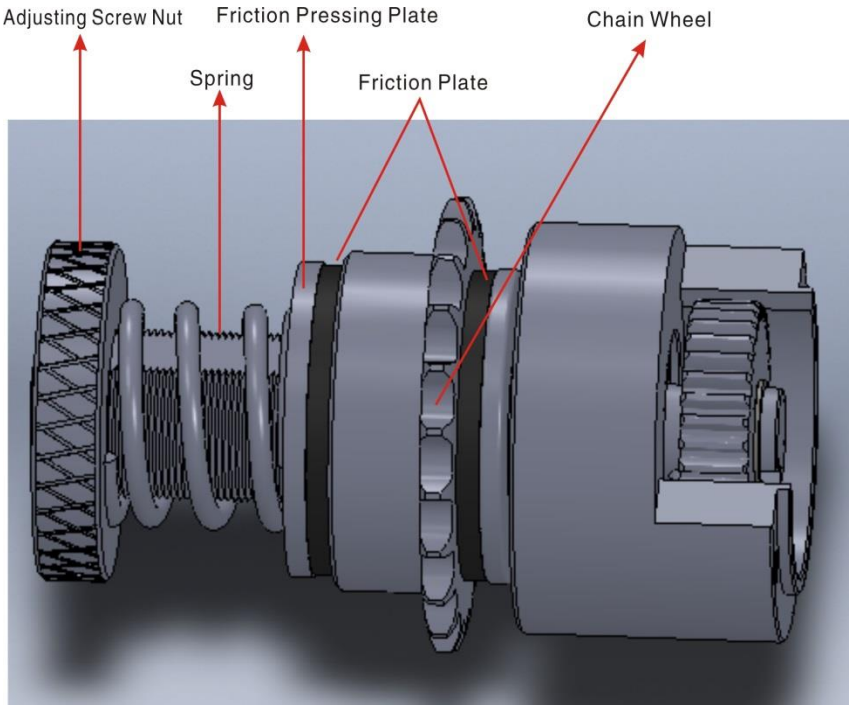


Step three: install the new blanket and relevant axle (blanket depend on actual model)
Step: ①New blanket→②Drive rubber shaft→③Felt tension shaft→④Blanket fixed shaft→⑤Rectifying side shaft of blanket→⑥Pressurized rubber shaft→⑦The relevant bearing and guide rail→⑧Adjust the blanket and adjust the running deviation.



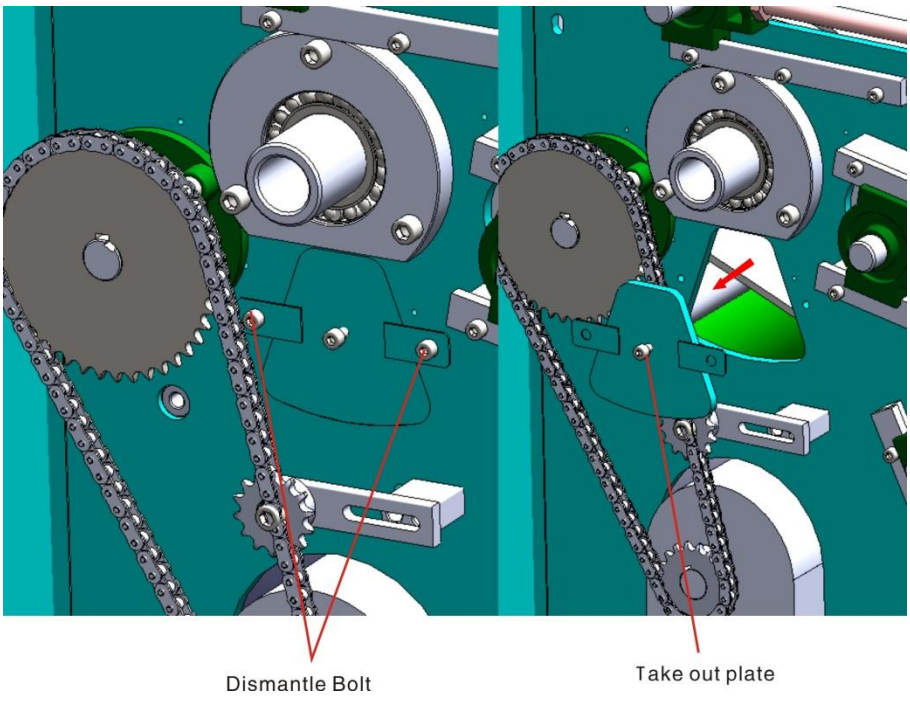
## Change of friction plate of torsion device.

Power twister fitting,

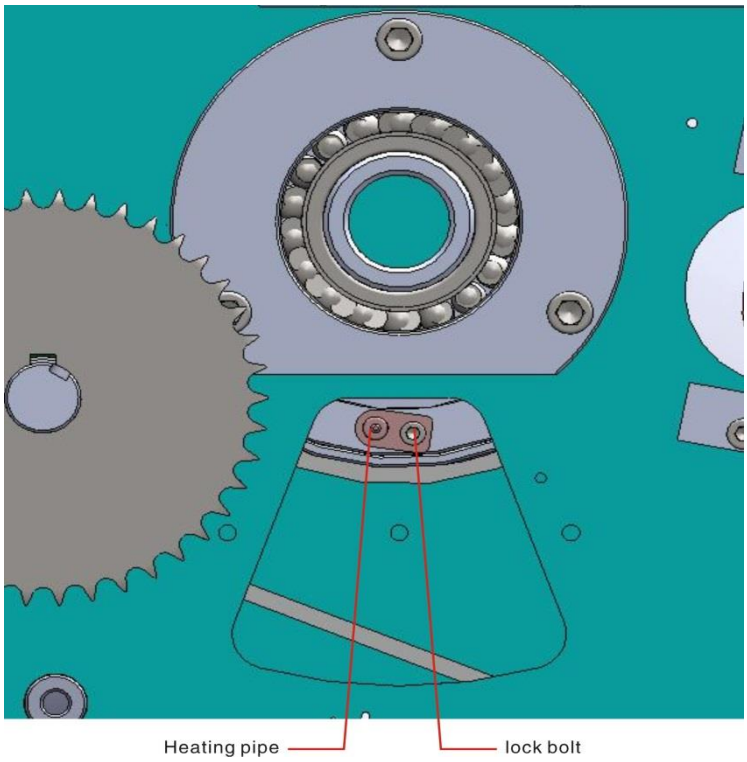



## Heating tube replacing instruction

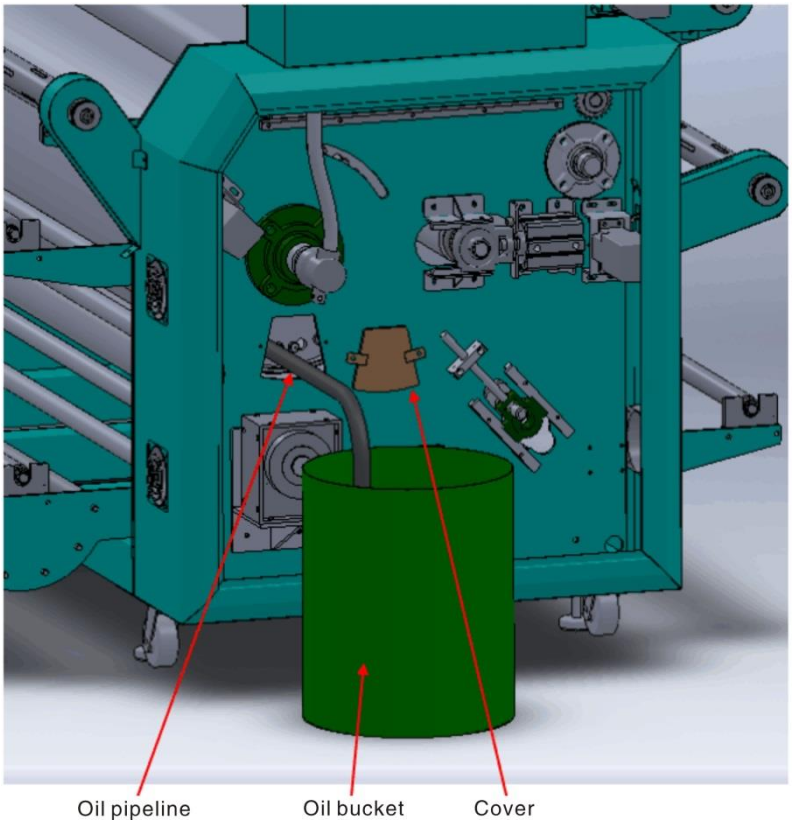
Step 1: remove the left and right wall panel bolts and remove the wall plate.



Step 2: check the heat tube and replace the new heat tube.




## Oil change figure



## 10. Installation

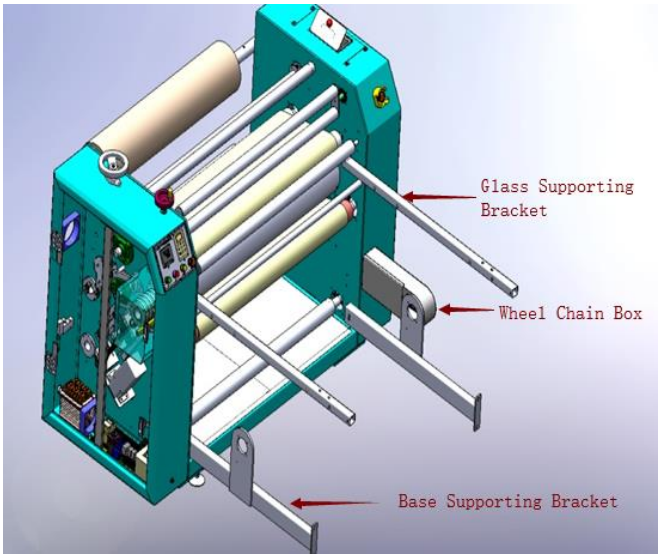
Machine should be placed in empty space with flat ground, good ventilation and dry working environment.

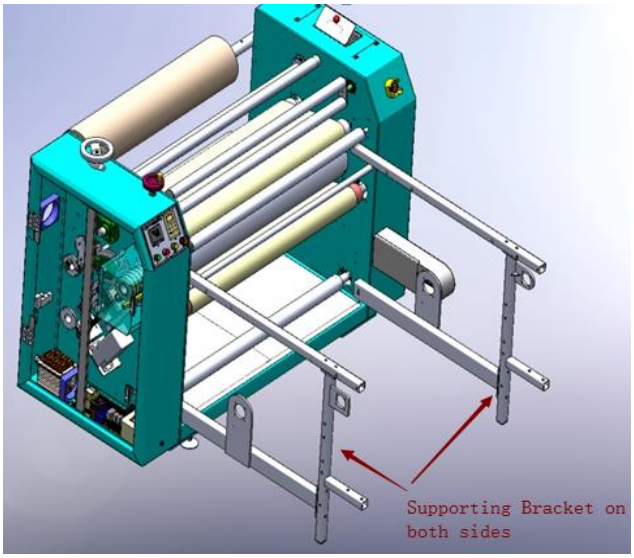
10.1 Unpacking

1) Remove the iron nail
2) Loosen the screw on the packing
3) Take away the top cover by hammer and crowbar
4) Pull down the wooden side covers
5) Take out the working table and axles
6) Use forklift to move the machine to ground.

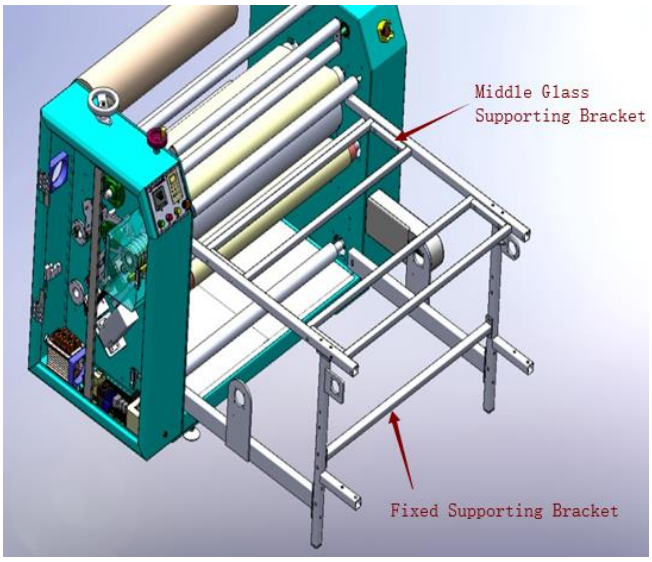
10.2 Assembling working table instruction

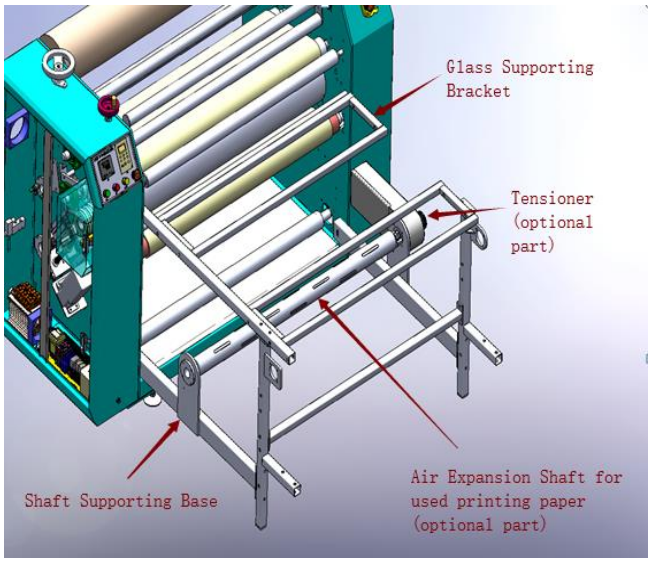
1) Connect the glass supporting bracket and base supporting bracket with machine cabinet, and install the wheel chain box
2) Install the Supporting Bracket on both front side



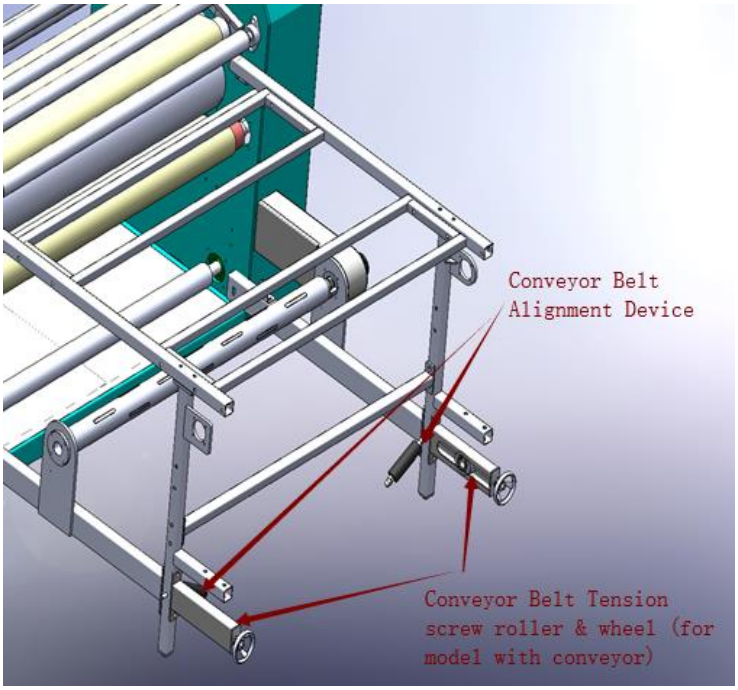




3) Install the middle glass supporting bracket and fixed supporting bracket
4) Install the Shaft supporting base and the paper collecting shaft (or air expansion shaft)

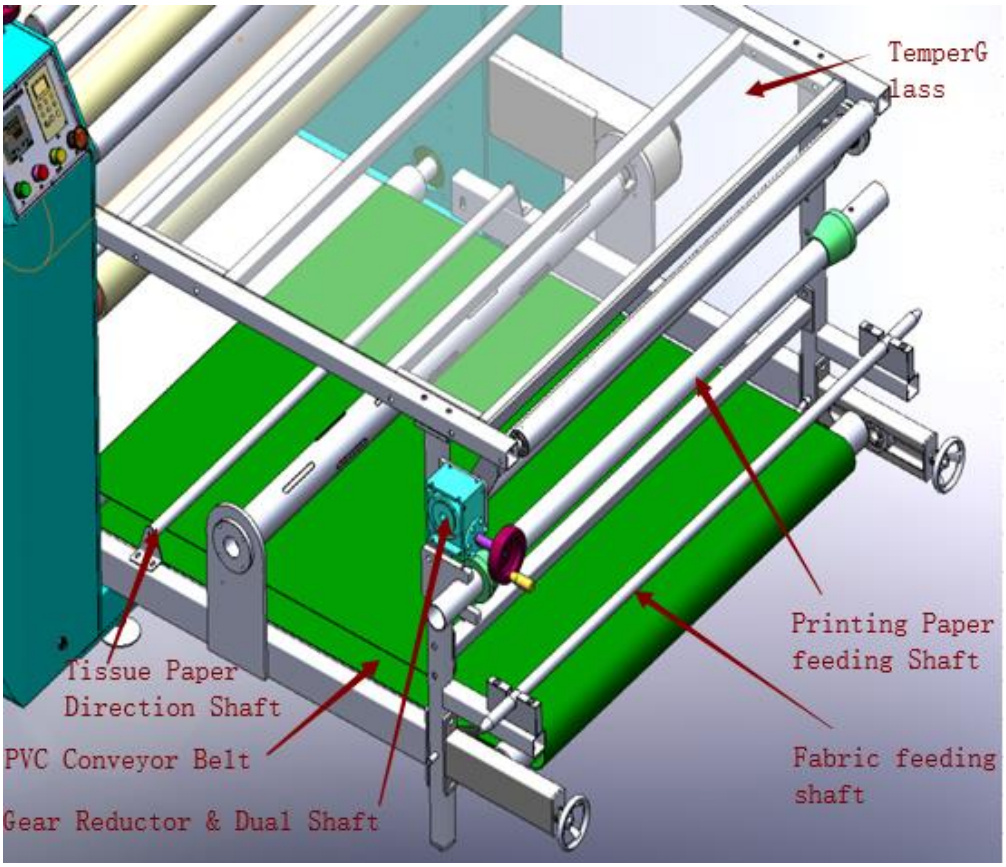



5) Install the conveyor belt tension screw roller and conveyor belt alignment device (for model with conveyor belt only)

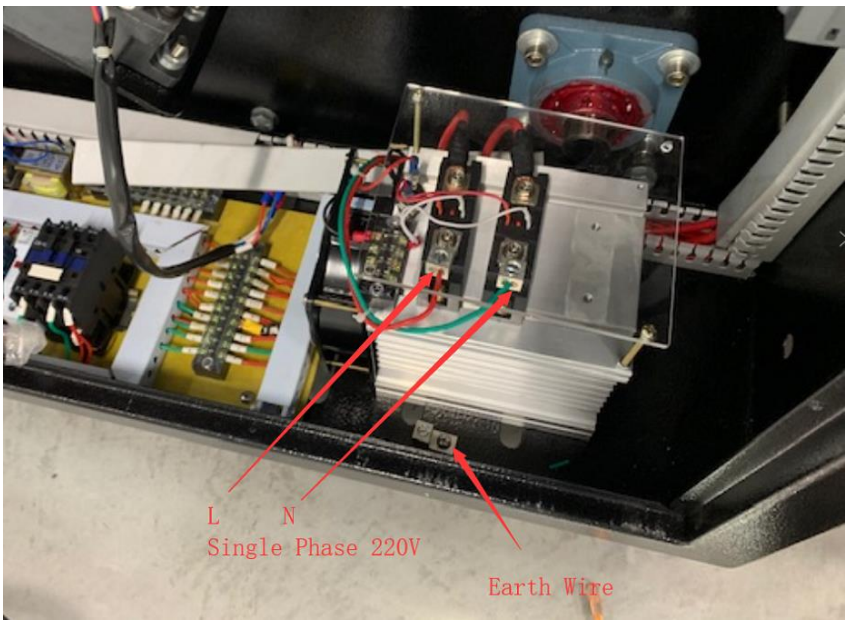



6) Install the Conveyor system (belt and the tension shaft on front side and backside), then install the Tissue paper direction roller, paper, fabric feeding shaft and the temper glass
7) Note: in order to make machine balance in both left and right, please use level device to adjust
8) Rewind/Unwind shaft can be removed by pulling to one side and take out from the other side.

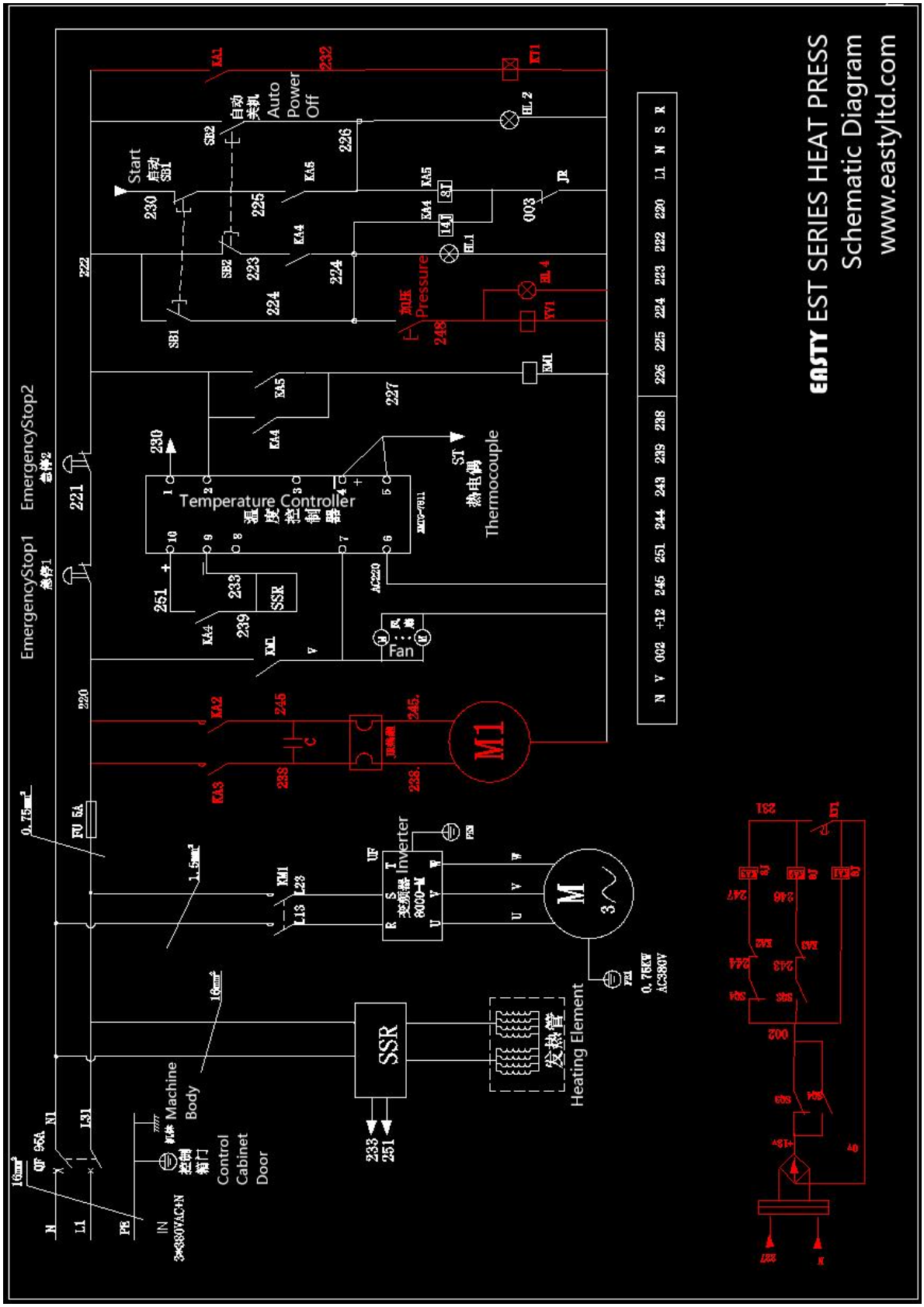



10.3 Notice

1. Check whether all screws in machine are loose or not, tighten them if loose.
2. As the equipment is heating machinery, the machine should be used at environment of ventilating, dry and noncorrosive gas. Make sure no inflammable and explosive materials around the machine.
3. The crust of machine must be grounded separately.
4. Choose power wire which has section above 6 square millimeters.
5. Keep the machine in level while installation. Use level meter to check if the machine is level.



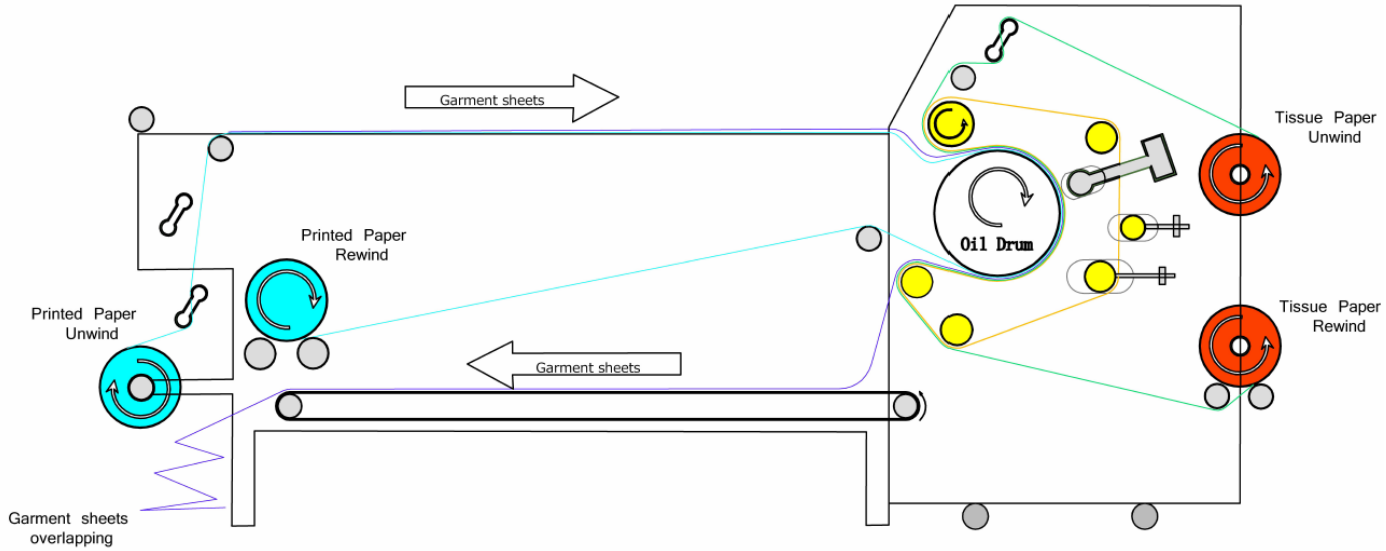
## 11. Circuit diagram



# 12. Working Process

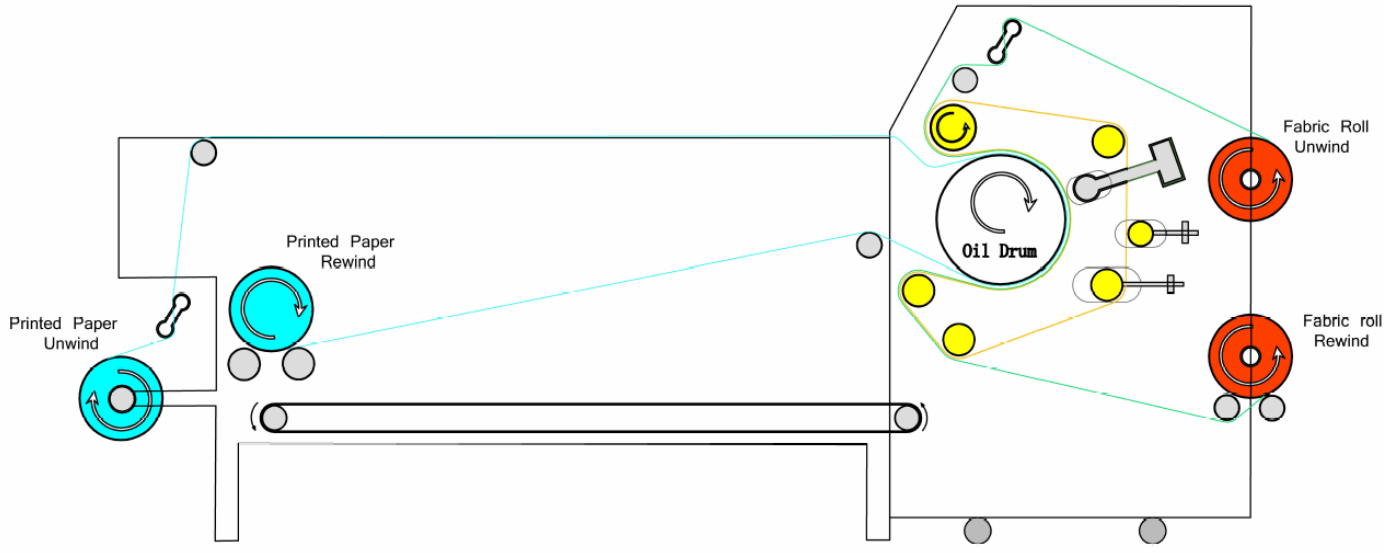
## Multifunction Heat Press (with table) Working Process Diagram

A. Roll to Piece Production



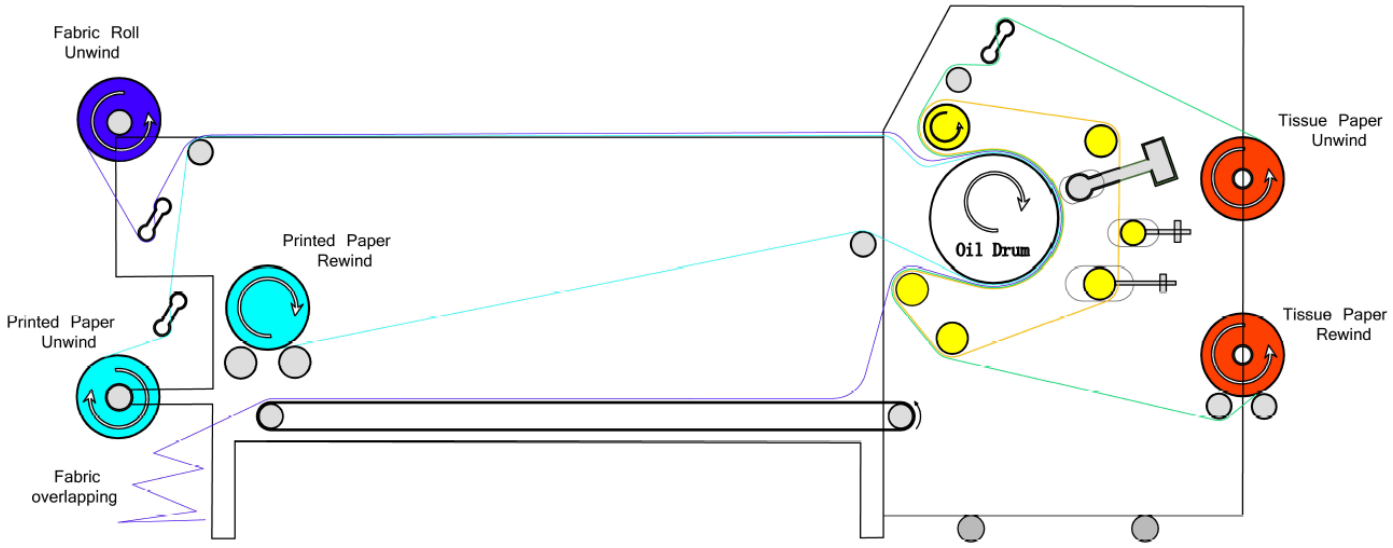

picture paper roll with Garment sheets (with tissue paper)

B. Roll to Roll Production



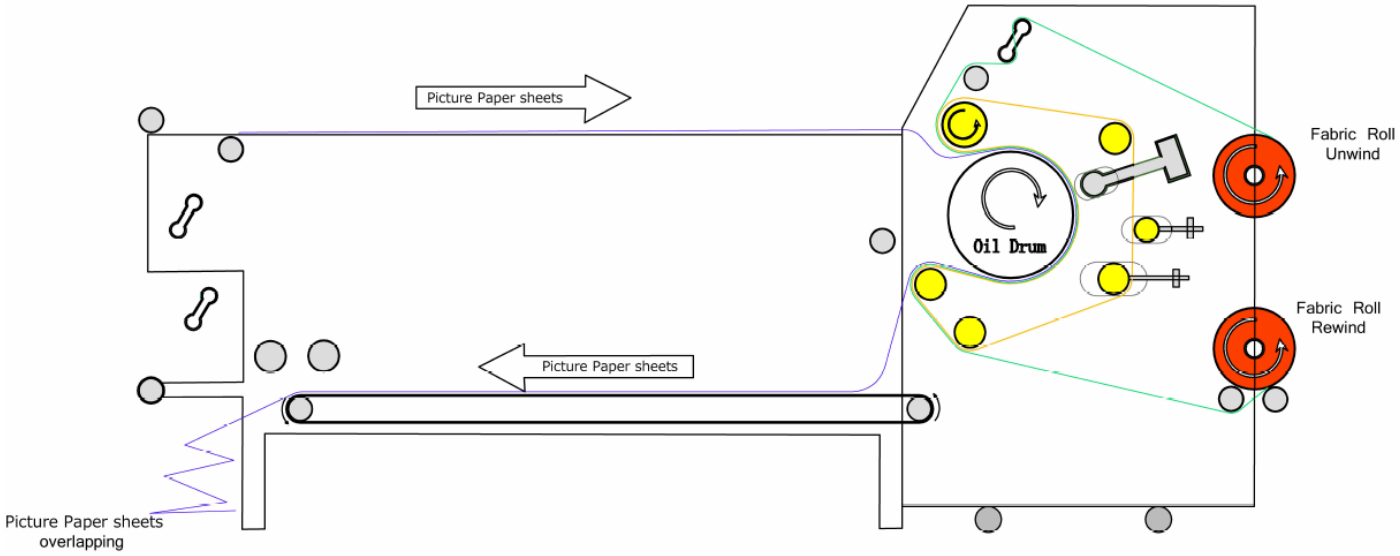

picture paper roll with fabric roll (without tissue paper)

C. Piece to Roll Production




picture paper roll with fabric roll
(with tissue paper)

D. Piece to Roll Production




picture paper sheets with Fabric Roll
(without tissue paper)

New Models EST-Lite