

Shanghai SKILT Machinery Equipment Co.,LTD.



PTC-KZJ Operation Manual

【Auto 1+2 type flat face masks making production line】

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1. Instructions for equipment operation

Operating Instruction

In order to improve the performance of the equipment, please read the product instructions carefully before operation, observe the safety precautions, access the power supply and gas source strictly according to the specification requirements, set up the technical parameters and operation equipment strictly according to the specification requirements, any questions please contact us in time we will serve you wholeheartedly.



Please keep the instruction manual well and related technical information properly for your reference.

- **Danger:**
- * The reliable ground wire must be used separately, otherwise there is the danger of being hit by leakage and static electricity.
- * Don't adjust or touch the mechanical parts when machine running, otherwise there is a danger of getting involved, crushing and cutting off.
- * Don't touch the high temperature parts (such as ultrasonic platform) after power on, otherwise there is a danger of scalding.

1.1. Security defence:

1.1.1. Mechanical safety:

- Wearing the suitable labour suit.
- Don't wear ties, necklaces, or loose clothes when operating or maintaining equipment
- Wear necessary protective devices such as dust-free caps, masks, etc.
- When adjusting in manual mode, confirm that no part impact is possible.

1.1.2. Electrical Safety

- Electrical hazards are always present in the power panels and terminals of the equipment. In order to avoid any contact or death accidents, the main power supply should be cut off during the maintenance of the equipment, and only qualified or trained maintenance personnel should repair the equipment.
- Before doing any maintenance in the electric box, turn off the power supply first, strictly forbid the live maintenanc.
- Standard safety procedures should be strictly enforced for any operation or maintenance of the equipment/system to avoid any unnecessary accidents.

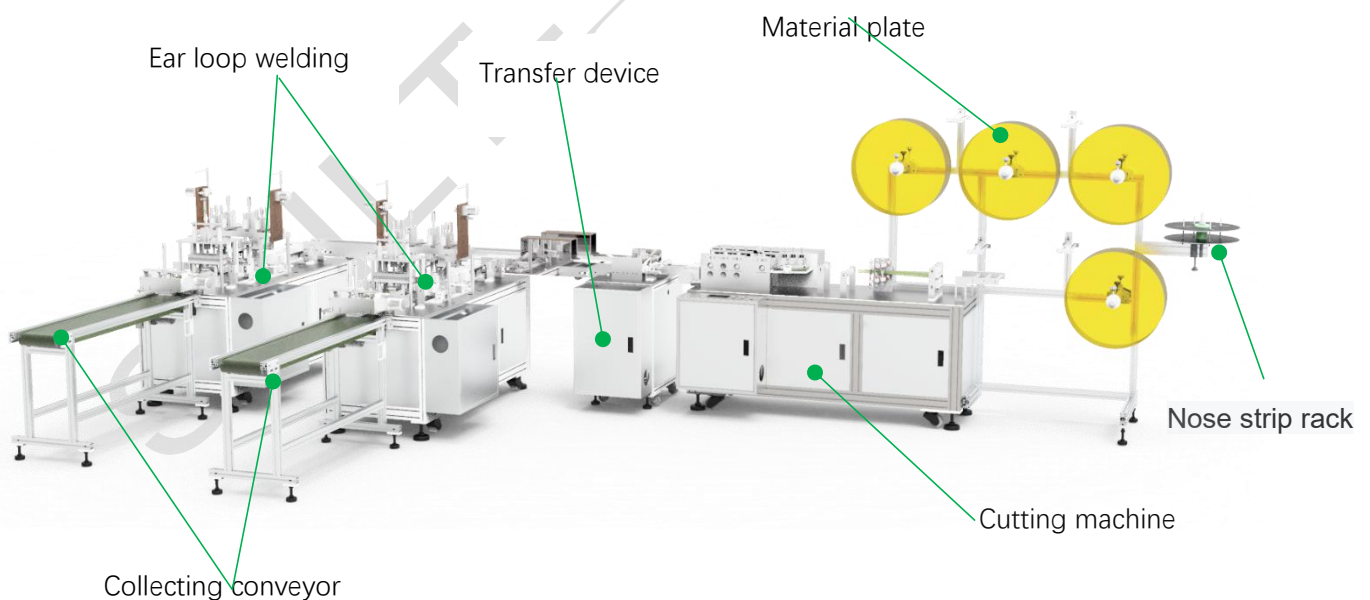
Voltage: AC220V Air supply: 0.4-0.8Mpa

2. Equipment profile

The flat face mask production line developed by Shanghai Hennessy Machinery Equipment Co. Ltd. is an efficient integrated equipment. It is mainly used for automatic production of flat face mask with no inner / outer ear band at four layers.

This equipment adopts one drag and two structure, using ultrasonic welding technology, it has the characteristics of advanced technology, reasonable structure, stable operation and convenient maintenance.

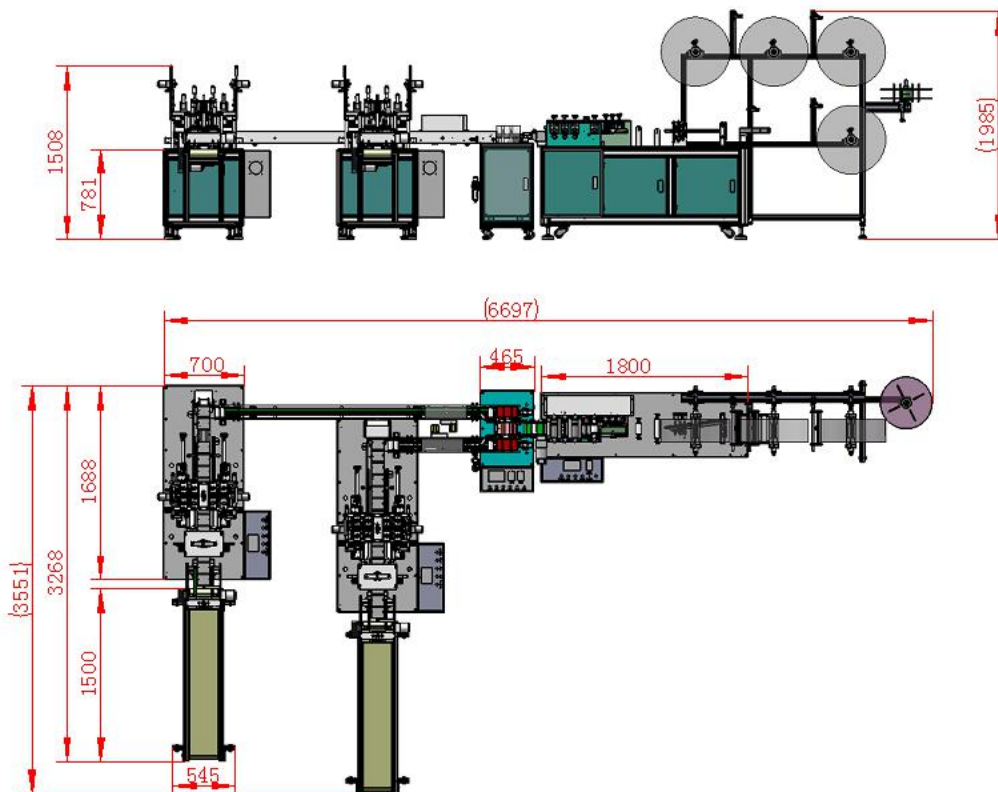
Applicable materials: Non-woven fabric, Melt blown fabric, ultra-thin polypropylene fabric, sanitary gauze, calendering cloth, activated carbon cloth, filter paper and other non-woven materials can be used for mask production.



2.1. Equipment composition and function introduction:

Material plate	Installation of mask non-woven fabric rolls and nose bar rolls.
Cutting machine	Auto mask feeding&nose strip&cutting produce mask main part
Transfer device	Assign mask body to next station
Ear loop welding machine	Welding ear loop on the mask body
Collecting device	Finished masks collecting

2.2 Diagram of equipment layout



3. Operational readiness

3.1. Materials feeding

Install the fabric rolls on the rack in sequence, 4 rolls at most.

Install nose bridge roll on the matched rack plat.

Installed Material Roll Specifications:

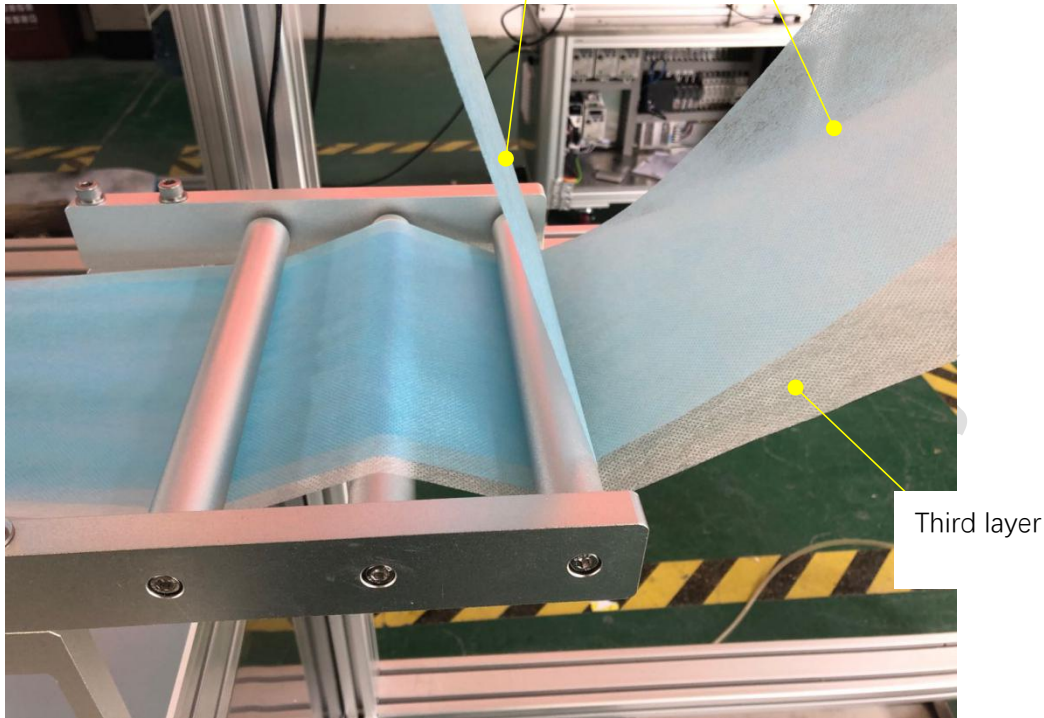
- Fabric: outer diameter $\phi 600\sim 800\text{mm}$ inner diameter $\phi 76.2\text{mm}$
- Nose bridge: outer diameter $\phi 450\text{mm}$ inner diameter $\phi 110\sim 250\text{mm}$

Installation effect as below:

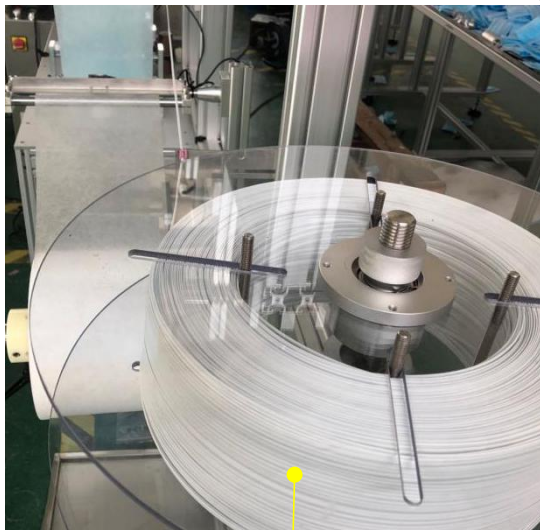


First layer

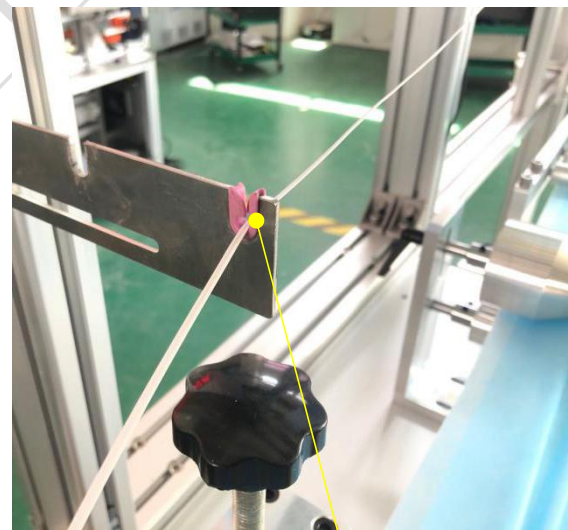
Middle layer



Third layer



Nose bridge



Trench of nose bridge

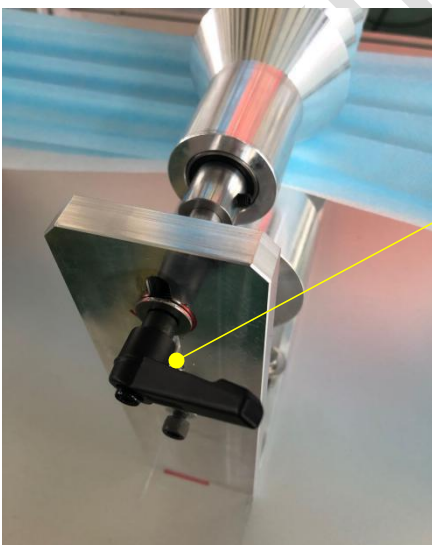
3.2. Put on raw material

After layering three layers of fabric in order, it passes through the fold mechanism, folding mechanism, guide wheel and other mechanisms in sequence until it reaches the end of the machine.

3.2.1. Folding mechanism and folding mechanism

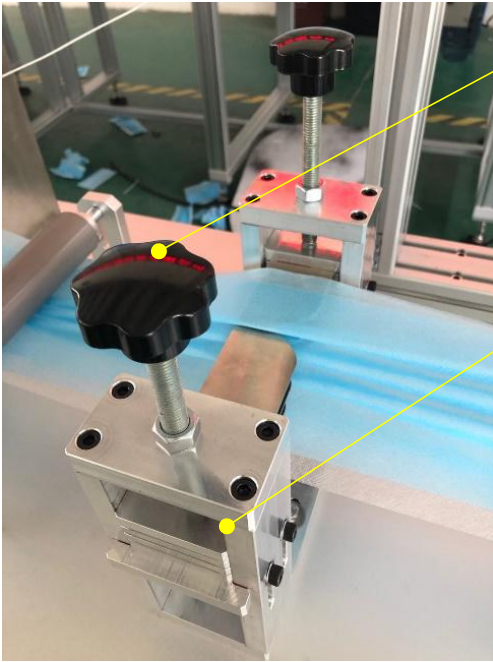
*When the equipment leaves the factory, the positions of the fold mechanism and folding mechanism are calibrated and marked, so do not disassemble the base or move it .

*When the equipment leaves the factory, the worn fabric will be left in the body machine. It is recommended that the user glue the new material with tape to quickly wear the material. And every time the equipment is used up, it is recommended to glue the material.



Turn counterclockwise (both sides) to loosen the upper half of the fold mechanism,

Raise the upper half of the fold mechanism, and after the laminated fabric passes through, lower the upper half of the fold mechanism to ensure that there is no direct contact between the upper and lower parts of the intersection, and the height of 3-5mm is reserved.

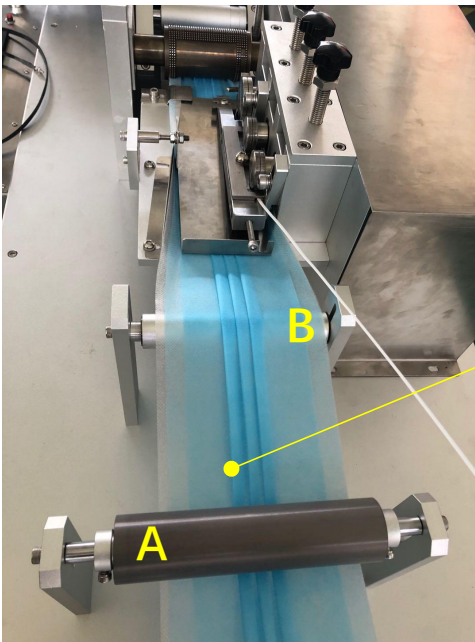


① Rotate counterclockwise (single side) to loosen the folding mechanism

② Withdraw one side of the folding mechanism, push through the fabric, and slowly push in to recover, you can adjust the folding in this way

③ After the operation is completed, be sure to lock.

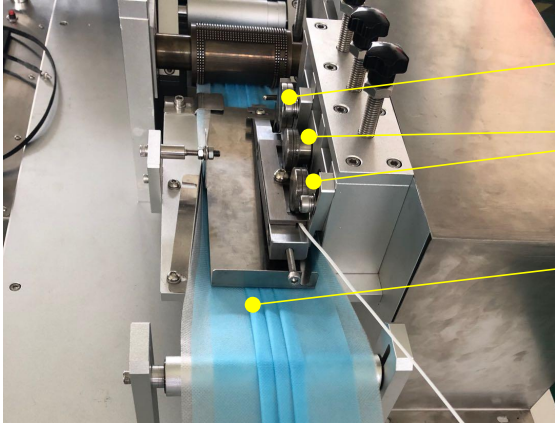
3.2.2. guide wheel



The fabric should be below the A guide wheel and above the B guide wheel

3.2.3. Flanging, nose bridge leading-in

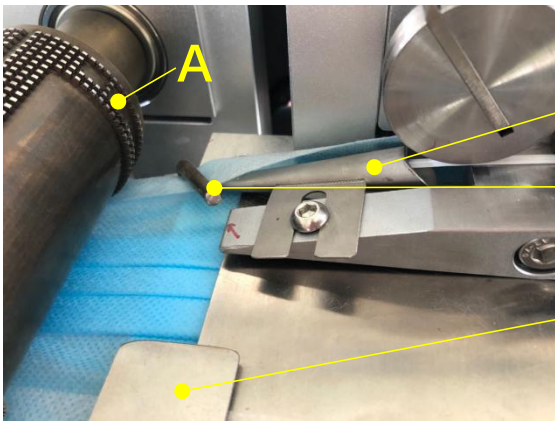
****Mask width can be adjusted by flanging***



Nose bridge cutter (dangerous / wearable parts)

Nose bridge feeding roller

The cloth passes under the stainless steel pressure plate



The nose bridge guide bucket ensures that the nose bridge enters the matching position A of the tooth mold when discharging.

Turn right

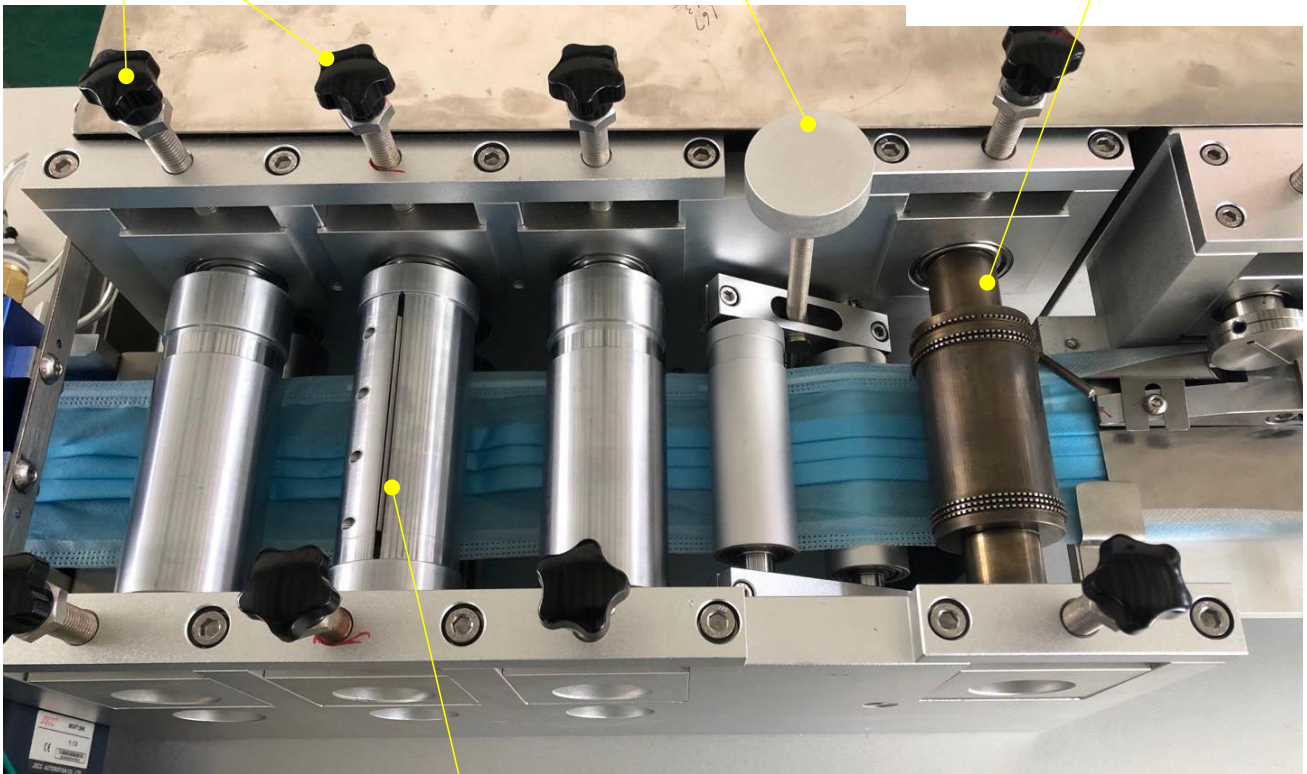
Turn left

3.2.4. Press and slice

Pressure adjusting handwheel

Fine-tune the cutting position of the cutter

Tooth mold, the cloth layer is located between the tooth mold and the ultrasonic steel mold

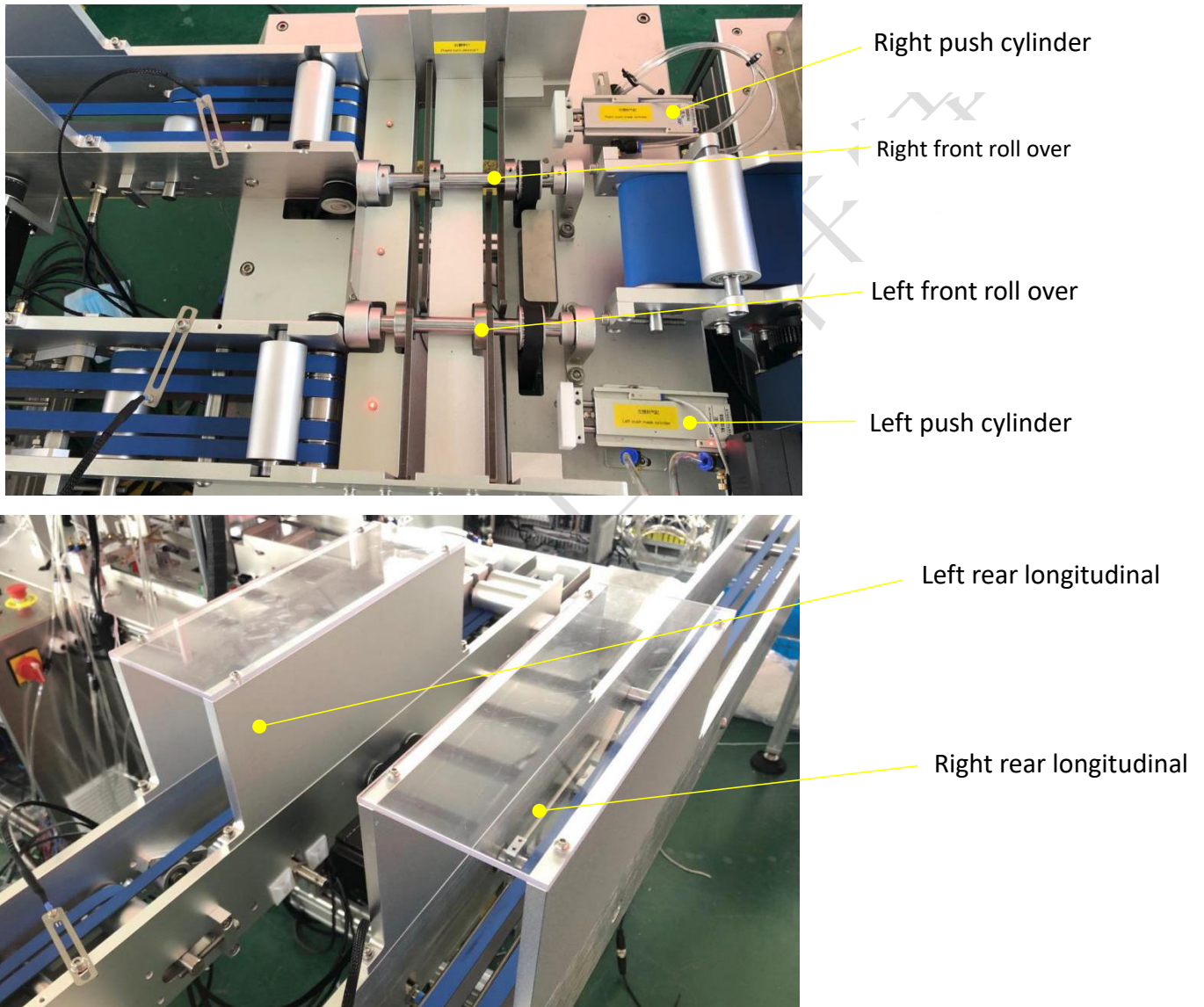


Body cutter (dangerous / wearable parts)

SKILT

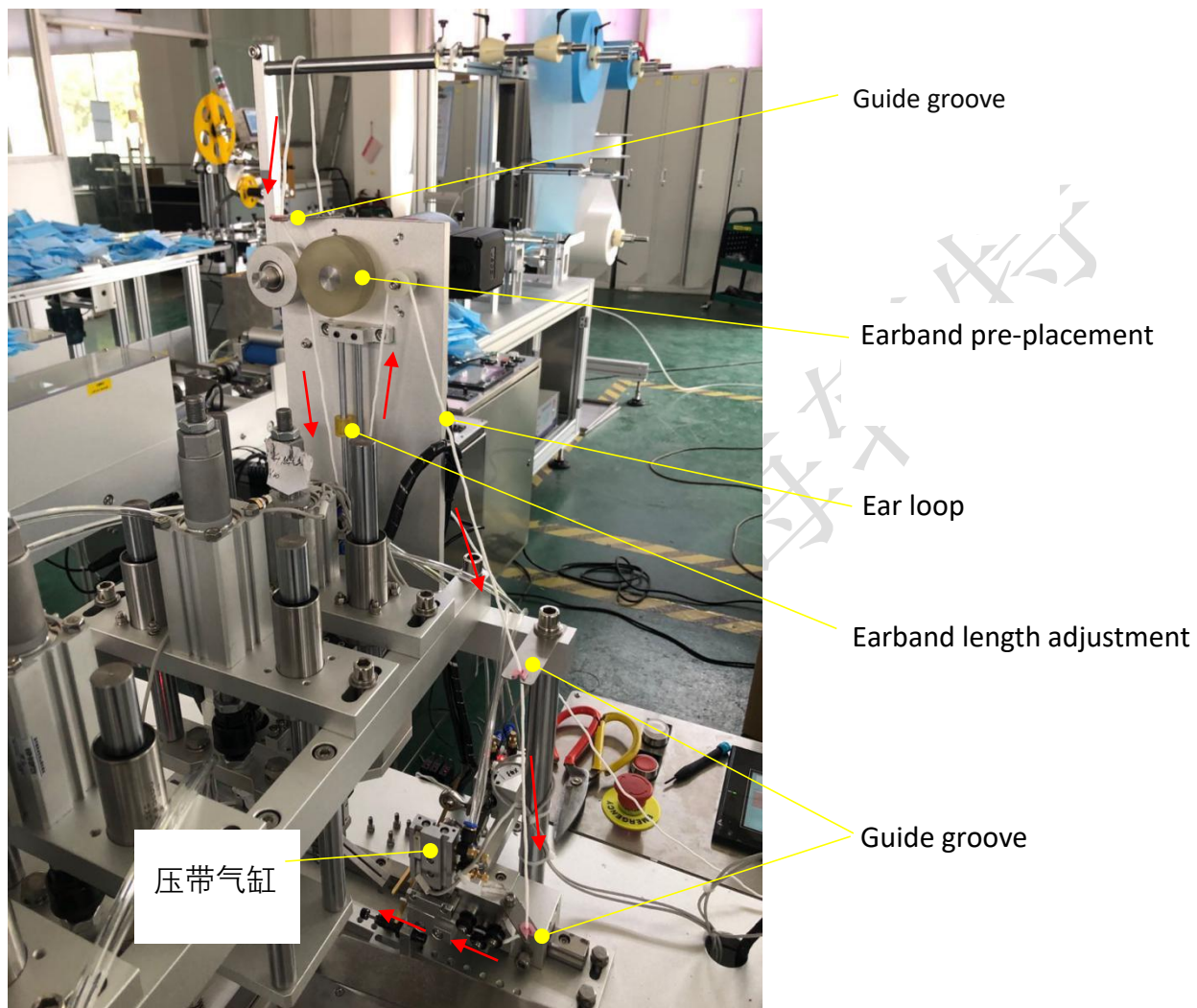
4. Film feeder, ear loop machine

4.1 Check whether the flipping mechanism of the feeder is in the zero position, it has been tested and verified at the factory, no need to adjust parameters

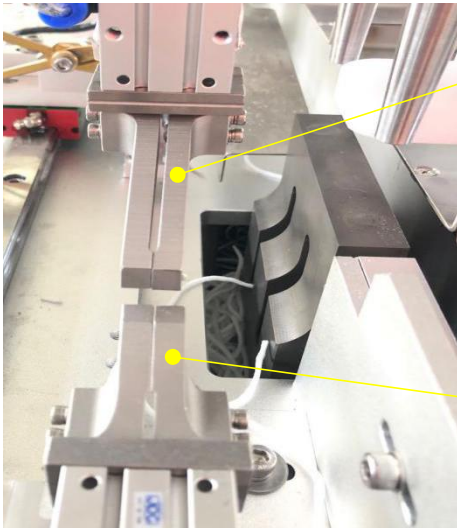


4.2 Earloop machine

4.2.1.Put on earloop

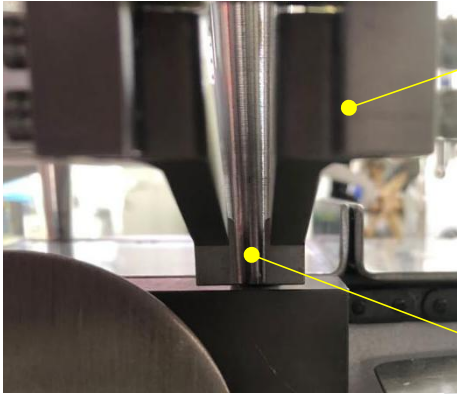


4.2.2.Mechanical position check



Ear band double clip

Make sure that the ear strap double clip and the ear strap clip are on the same line and at the same level (the ear strap double clip can be slightly higher)

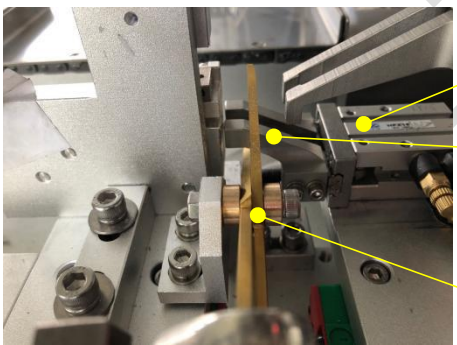


Ear band double clip

**Make sure that the ear s band double clamp rotates to the welding station and is in the same centerline as the welding head*

** Ensure that the welding head and the steel mold are in zero distance contact, and the welding head on the same side needs to be in parallel contact with the steel mold*

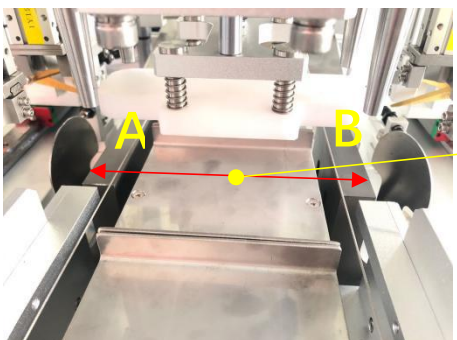
Welding head



Pull ear band with cylinder

Pull ear band clip

** Make sure that the ear band clip can extend into the back of the scissors, but not hit the base.*

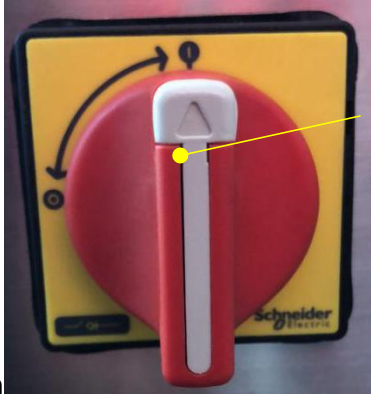


The distance between the outer edges of the steel molds on both sides is 175mm

5, Machine run

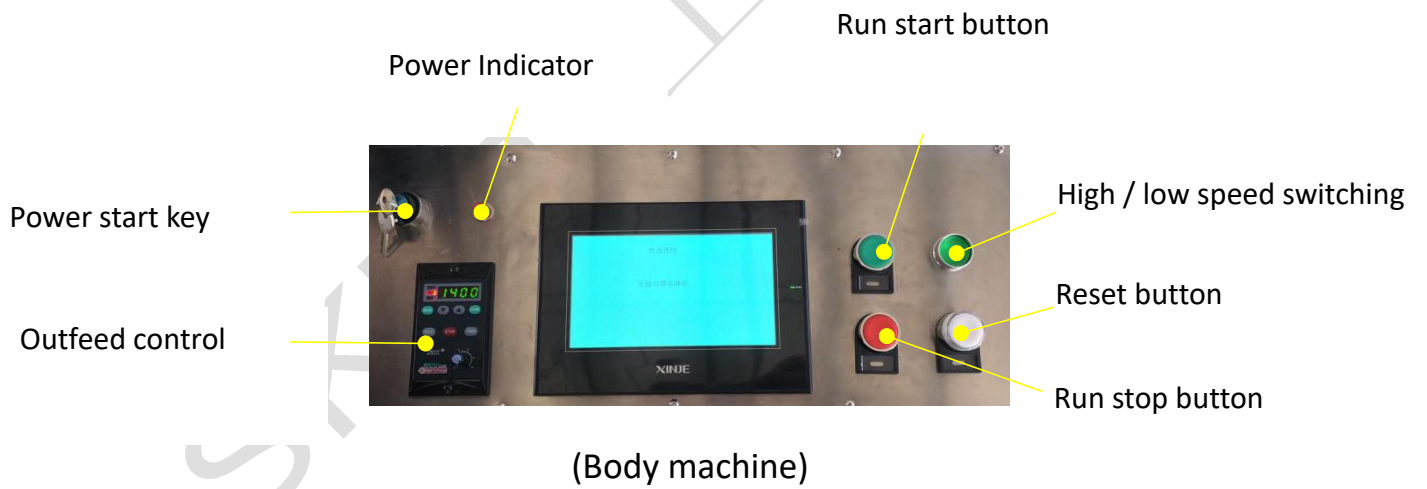
5.1.Machine with power

Please confirm whether the voltage is correct and stable before power



Find the power switch on the side of the chassis, 0-off / 1-on

on

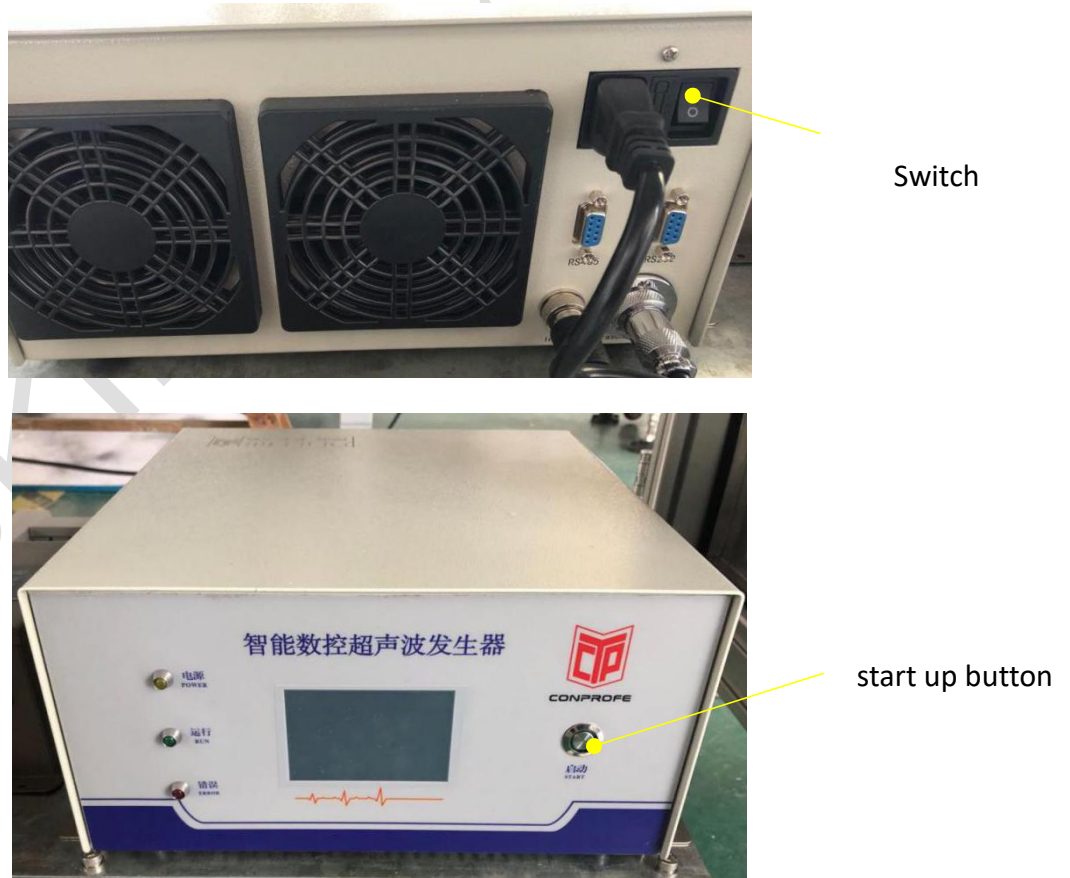




(Chip feeder & ear loop machine)

6.Ultrasonic

6.1Ultrasonic host



6.2. Transducer & Steel Die



energy conversion device



punching block

6.3. Method of setting up ultrasonic wave

**** Before the equipment leaves the factory, has been debugged to the best condition, does not have the necessary situation, the non-trained specialized personnel, does not carry on this operation easily, lest causes the equipment damage or the safety accident.***

****If you do need to do this, follow the procedure description strictly, otherwise it is easy to burn.***

6.3.2. Enter into the advanced user option setting (password :168) , set the beginning frequency :21000; end frequency :19000, max electric current: 3000; forbid to change any other parameter.;

6.3.3. Back to the main interface , press the green button , now it back to automatic research frequency, the run button will light, the frequency will decrease continually, the research will be over when the frequency will not change any more and run light is on.;


6.3.4. Change the mode to manual mode, set the frequency as the automatic research mode stopped frequency (such as 19847) . The machine will run at the settled frequency (The machine can only run when the frequency at this automatic researched).

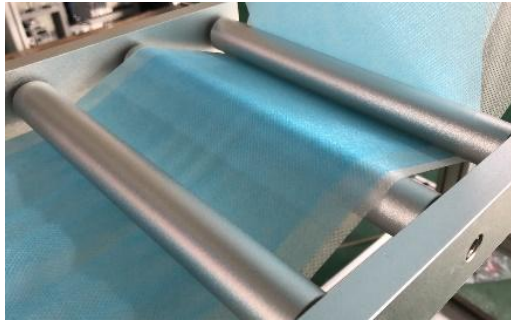
6.3.5. You have to adjust the model slowly If the groove is not deep enough, pls do not press too tightly, it will damage the main motor if you press too tightly (the main motor will be burned out).;

6.3.6. Enter into the advanced user option setting, press the right -top blank part enter into setting interface. duty cycle : 1111 (fixed number, automatic set, do not need set). Timing factor : 17/18/19/20, you can try to set one to see the welding result.

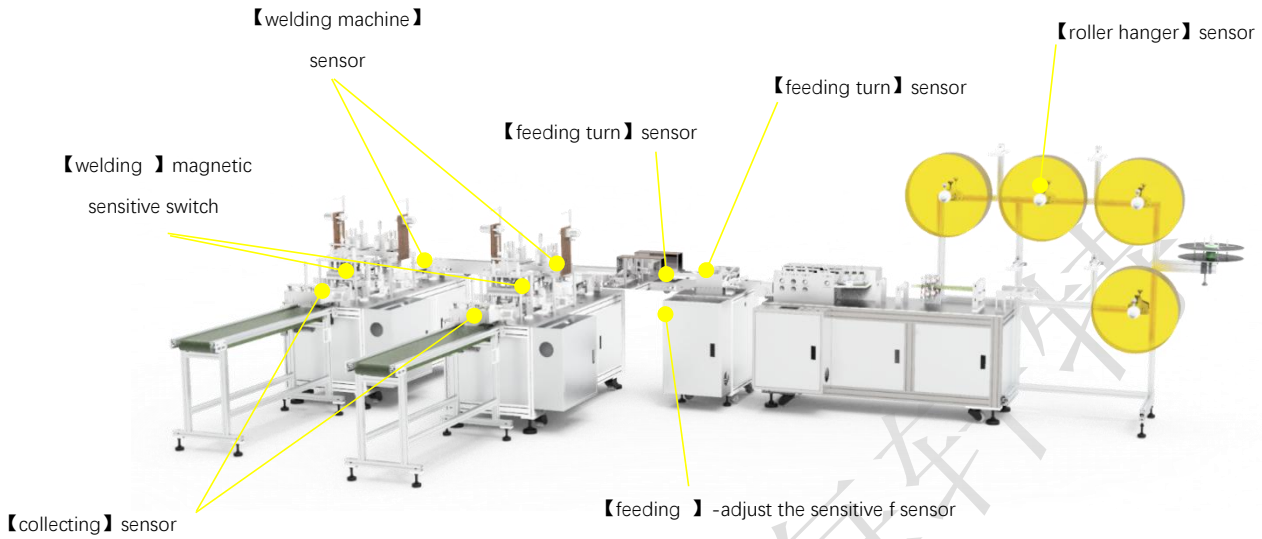
7. Breakdown maintenance

7.1. trouble shooting

Type	Method to check	Solution
Main cutting part alarm-roll run out	The machine will alarm and stop no matter which roll is run out;	Replace new roll
Cylinder alarm	Check the signal of the sensor work or not when the ultrasonic device is under manual mode.	Sensor of cylinder is magnetic sensitive switch, you should adjust the position front or back on the cylinder to ensure it can detect the magnetic of the cylinder.
Motor alarm	Check if the parts are blocked	Clear the block parts or restart.
Cloth tension		
	Adjust the screw of the roll hanger	

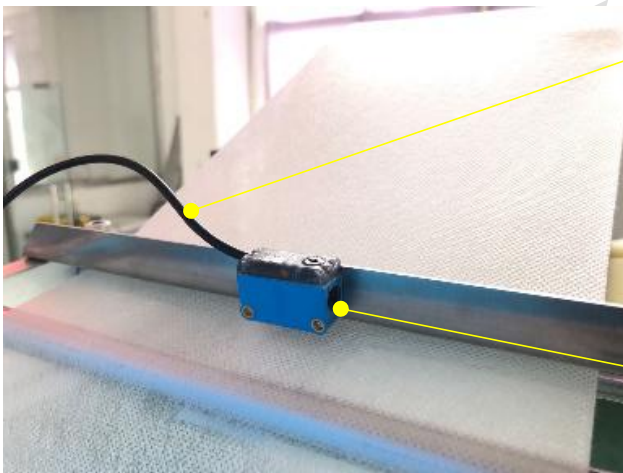
	Adjust the gap between tension of the roll	
Welding not ok(not firmly or too deeply)	Check the gap between model and tooth model,gap should be 1-2mm.	Adjust the gap and the pressure
The ear loop is too short to be caught by claw	Different materil ear loop tension are different, this is because the tension is too stressful.	Adjust the pot higher to decrease the tension
The non Welding the ear loop out too much	Tension is a little loose	Adjust the pot to increase the tension
Ear loop is not welding firmly	The welding time need set according to different raw material	Adjust the welding time
Please do not open the electric cabinet or operate the machine part where remarks dangerous when the machine alarm or broken down.		

7.2. Sensor

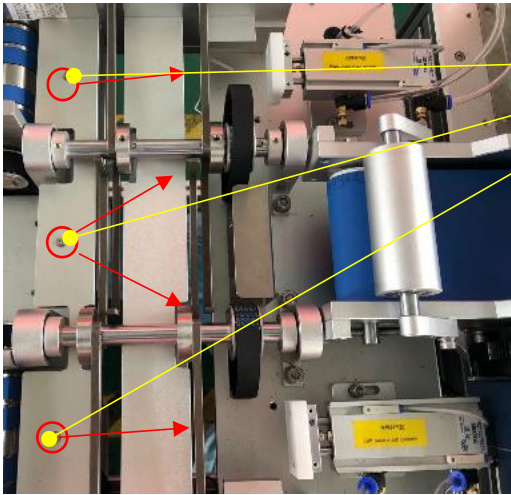


【roller hanger】 machine will stop if run out

* **【 RUN 】** Sensor will be light with material; Sensor will be off when without material



Button of adjust the magnetic



【Feeding】 Turn and push sensor (Red arrow is for action direction)



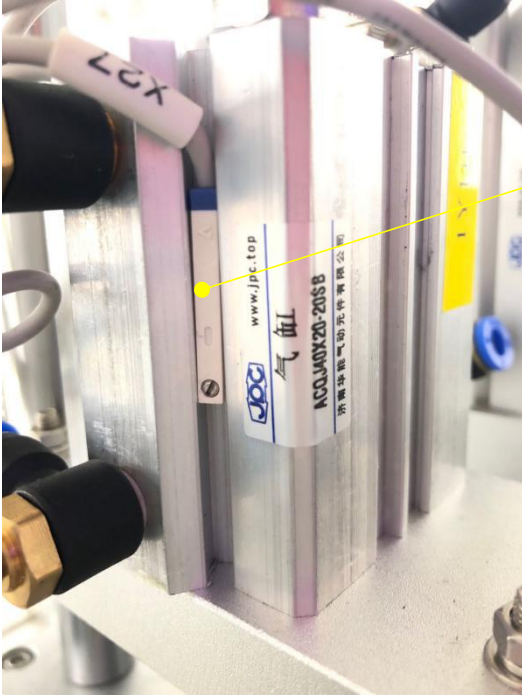
【Feeding】 sensor,adjust the sensitive of the sensor

**Run,light on;stop light off*



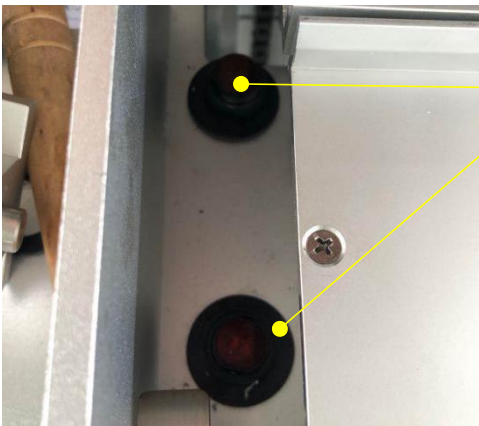
**cylinder put out A will light;Back ,B will light.pls*

adjust the position if AB off in same time



【welding machine】 magnetic sensitive switch of cylinder

***WORK** : cylinder will act up/down or open/close, the light will on when it up or open



【welding machine】 gong control sensor

***work** : power on, without material green light on; with materials the orange yellow light on



【welding machine】 gang control sensor/welding sensor/collecting sensor and push sensor

***Work:** power on, without material green light on; with materials the orange yellow light on

***Not work** , put the mask under sensor , press T button with 3 seconds, sensor will detect the mask.

8.Prevention and inspection

Daily maintenance check list									
Check area	Project	Method	Standard (workable)	Frequency					Time request (min)
				Daily	Weekly	Monthly	Quarter	yearly	
Machine part	Clean	Clean varia and odds	clean	<input type="checkbox"/>					5
	Spare parts	Rag and elasticity	Tighten with tool				<input type="checkbox"/>		10
	Ultrasonic device	Function check	Function correct	<input type="checkbox"/>					5
	Motor system	Add lubricating oli	Function correct			<input type="checkbox"/>			5
Electric part	relay	Function check	Correct			<input type="checkbox"/>			10
	Switch	Function check	correct		<input type="checkbox"/>				10
	sensor	Surface clear、sensitivity、function check	correct		<input type="checkbox"/>				10
Cylinder part	Air pipe	check: join loose or not; broken; label or remark on or not	correct			<input type="checkbox"/>			10
	Cylinder	Function check	correct				<input type="checkbox"/>		5
	Solenoid value	Function check	correct				<input type="checkbox"/>		10
	Regulator	Air pressure	Under correct range			<input type="checkbox"/>			5