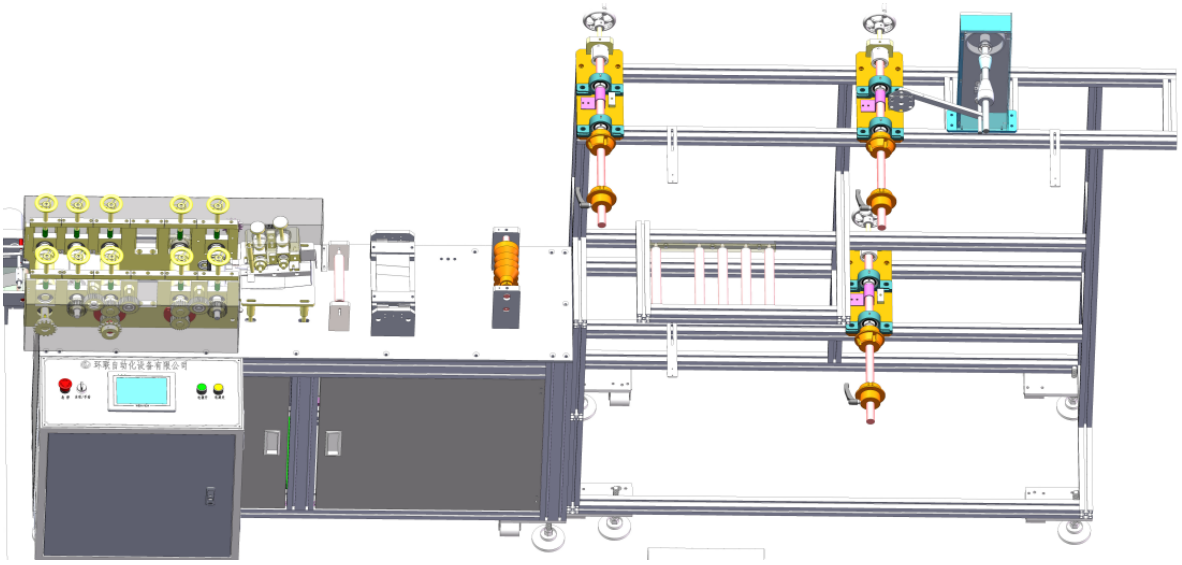
PART I

FMM Operating Manual for Main Machine



Name: Mask machine--body machine

Model: TR175V-FMM

Part I solemnly declare

I. General matters

1. The operation of this mask machine must be performed by a technician trained in operation.

2. Operation of this equipment needs to be performed according to the instructions in the manual, or under the guidance of our technicians.

3. This technical manual is dedicated to the operation of the flat mask machine (hereinafter referred to as the mask machine). The purpose is to ensure the professional use and adjustment of the device.

Manufacturer's authority

The company reserves the following rights:

1. Changes and upgrades of mechanical components, electronic control components, and software, including the specifications and brands of components used to maintain the advanced technology of the product, but do not promise to make changes to previously delivered products for free.

2. Our company has the authority to guarantee the integrity of the equipment. IN the absence of guidance from the manufacturer's technicians, it is not allowed to modify the mechanical structure or electrical components of the equipment without authorization. If the violation of this regulation is caused by the modification party is responsible.

3. Our company has intellectual property rights to this equipment and this operating manual. If it is plagiarized, it must bear legal responsibility.

Third, safety matters

1, Danger! Be sure to use it with a ground wire to prevent electric shock.

2, Danger! Make sure that the voltage is not overloaded.

3, be vigilant! The electrical box part and the wiring part can be operated under the guidance of an electrician.

4, vigilance! Special attention should be paid to the rotating parts to prevent crushing.

Fourth, operation authority

Ensure that only trained and authorized persons operate, arrange and maintain the equipment.

Only qualified people, professionals, and equipment engineers are allowed to complete the layout.

Operation of the machine needs to ensure:

-The operating individual must be able to work independently and safely;

-The operating individual is able to repair minor errors that occur during the operation himself;

-At least two people must be skilled in operating the machine in the use of the equipment;

Five, operating environment

Do not use in the following environments:

• Places with drastic temperature changes

Places where dew is generated due to high humidity

Places subject to strong vibration or shock

• Dusty places

Places subject to splashes of water, oil, and chemicals

Places with explosive and flammable dangerous goods

Product introduction

First, the action process analysis:

The upper mask rolls the fabric, and the nose line comes to detect the material. The fabric pulls and pulls the stamper to ultrasonically weld the sliced products and send them out-in this cycle.

1， Rolled incoming material enters the conveyor belt from the right;

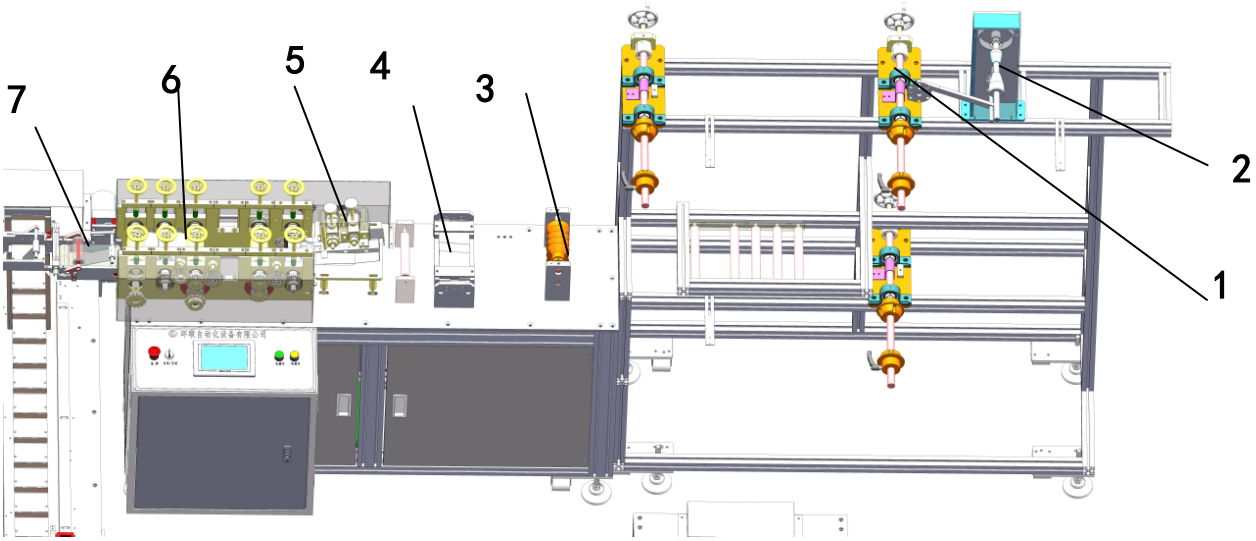
2， The roll mask moves with the transfer to the welding ear area;

3， During the exercise, the mask is stamped and sliced out;

Follow the loop to continuously solder the ear wire.

Part III Institutional Part

First, the general view



1 Cloth tray: place the roll mask fabric.

2 Nose line tray: Place rolled nose line material.

3 Initial forming mechanism: The fabric is initially folded into a mask shape.

4 Molding mechanism: Reshape the masks that are initially molded.

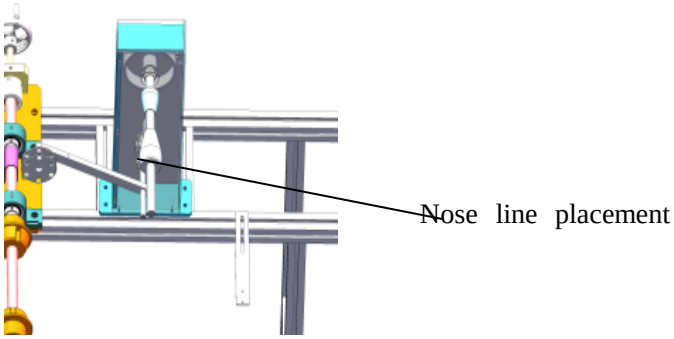
5 Flanging welding mechanism: Weld the formed mask with the folded edge and cut the nose line.

6 Slicing mechanism: slice the strip mask.

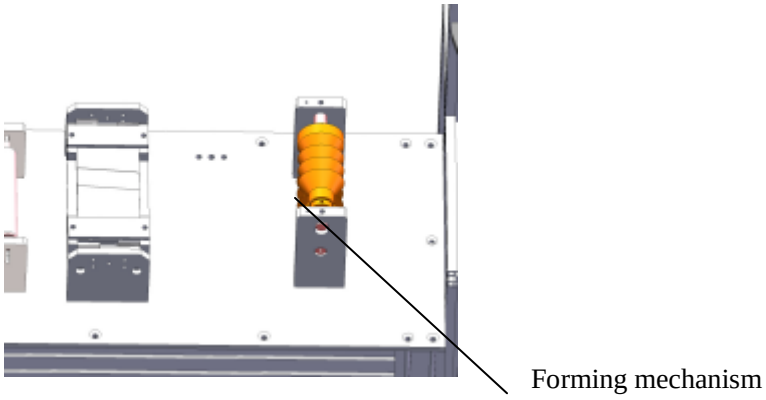
Partial view

2.1 Pass the bundled nose bridge line around the brake mechanism, so that the nose bridge line is always tightened

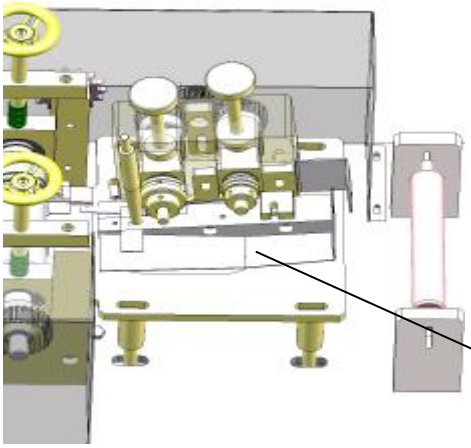
As shown below,



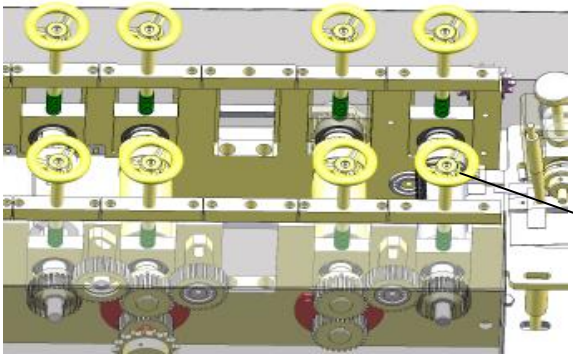
2.2 The mask forming mechanism pre-folds the rolled fabric.



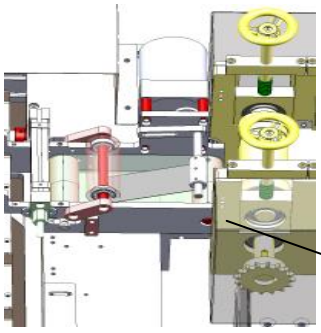
2.3 Nasal line shearing mechanism, which cuts the strip of the nose bridge line into the forming mask.



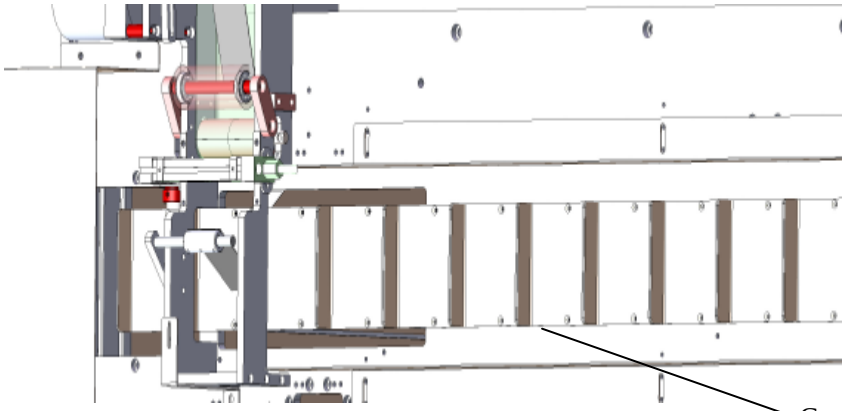
2.4 Welding hemming mechanism, welding the preformed mask.



2.5 The slice output mechanism sends out the sliced mask after welding.

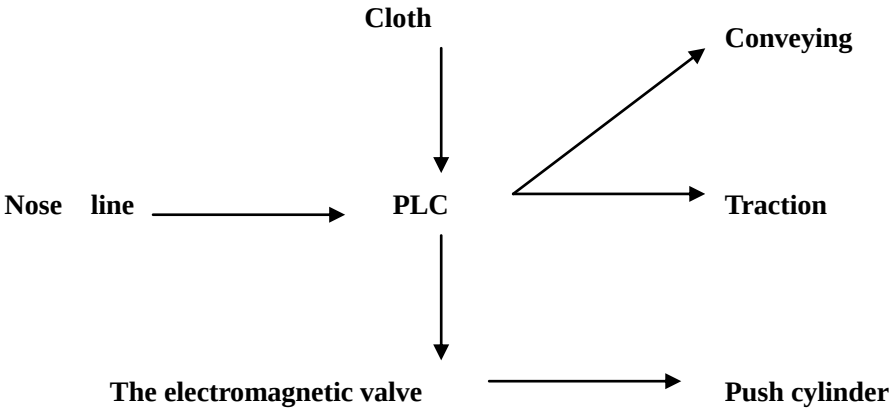


2.6 Conveying by wire, conveying the formed and welded mask to the station that needs welding wire.



Part 4 Electrical Part

一、 Electric control principle



Through the cloth detection, nose line detection, and second-class signal input, after PLC processing, the output is the control signals of the conveying motor, traction motor, and solenoid valve, which respectively control the expansion and contraction of the cylinder and the rotation of the conveying motor and traction motor to complete the mask Forming welding action.

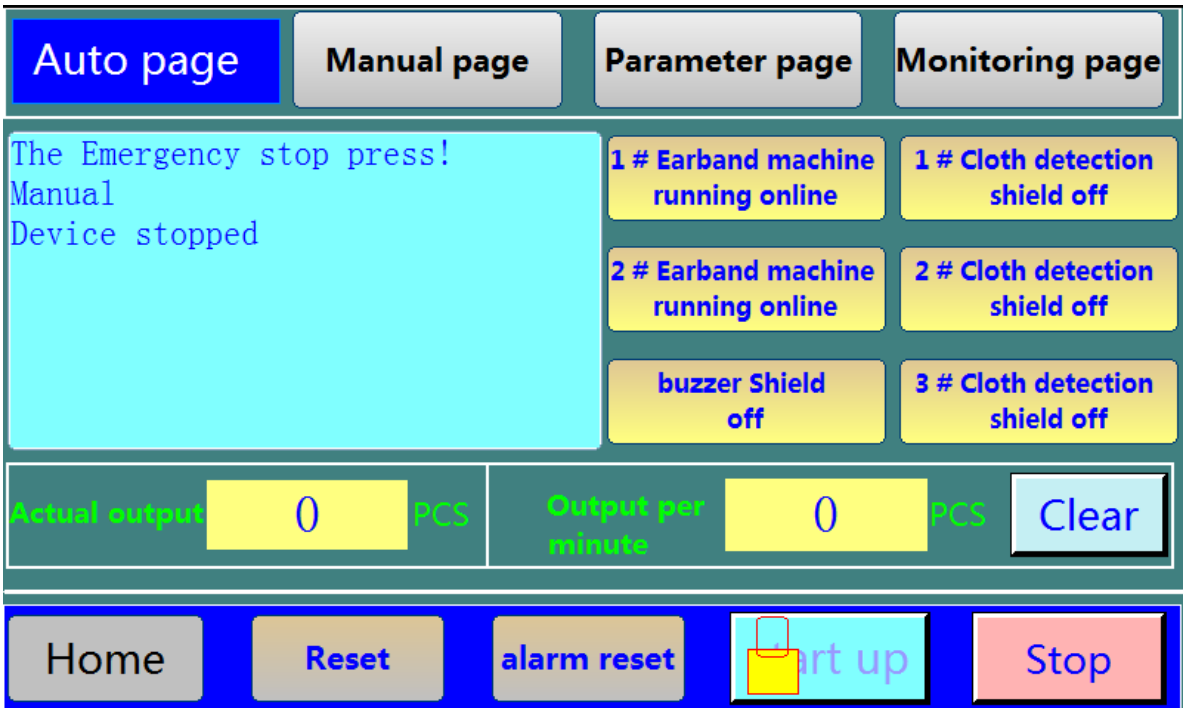
二、 Control interface

1, Touch screen interface

1.1 Start interface, start the labeling machine touch screen first enter this page, at this time it needs to initialize for about 1 second.



1.2 Auto run screen, click the corresponding button to jump to the corresponding screen, as shown in the figure below:



1. Current alarm box: display the abnormal mechanism of the system.

2. Start button: press this button, the machine enters the automatic running state.

3. Stop button: press this button, the machine will enter the standby state from the automatic running state.

4. Yield statistics: the number of products actually produced.

5. Yield per minute: The average number of products per minute of actual production.

6. Zero output: clear the actual production number and count from zero.

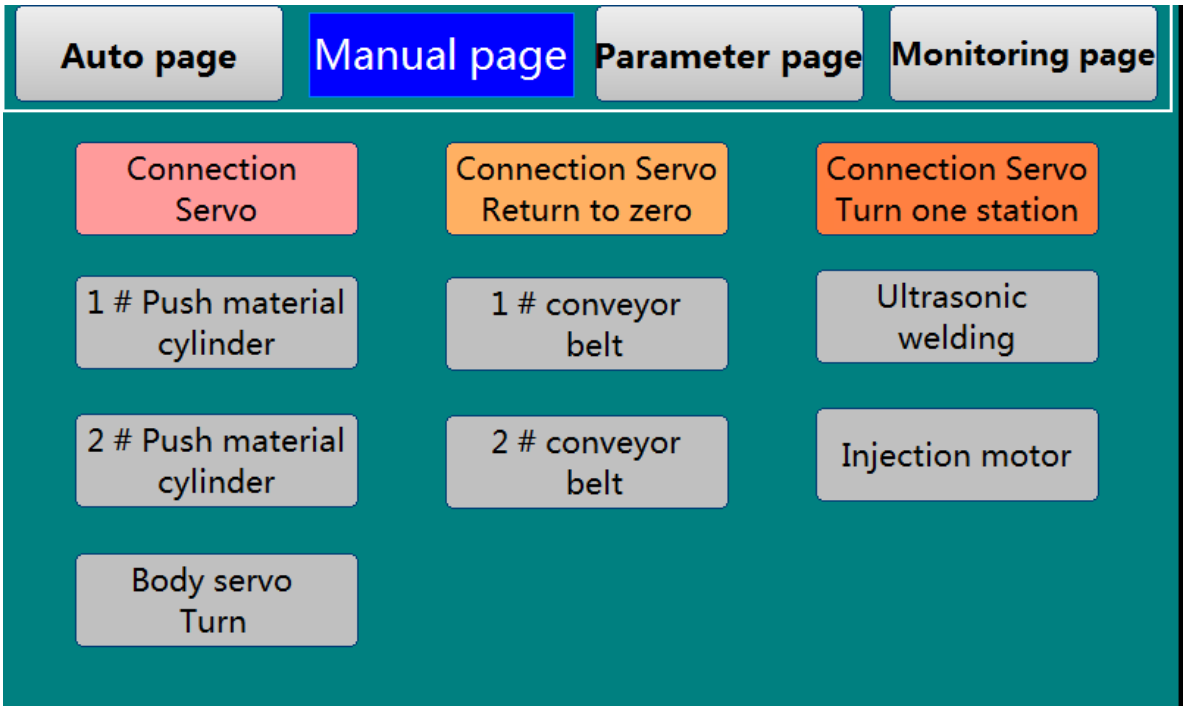
7. 1 # ear band machine online operation: The lower station 1 # ear band welding machine is turned on.

8. 2 # ear band machine online operation: The lower station 2 # ear band welding machine is turned on.

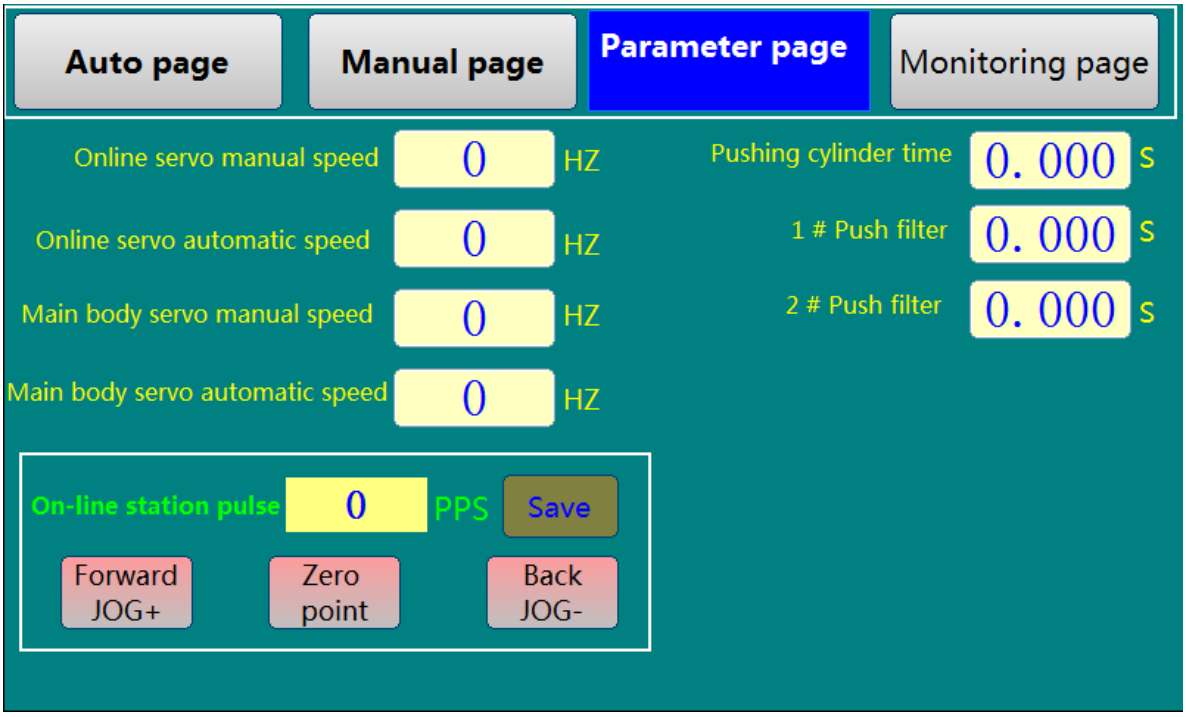
9. Reset: In the manual state, the conveyor motor will run to the origin when it is not at the origin.

10. Alarm clear: When you see the equipment abnormal on the current alarm box, remove the abnormal part and press Reset to continue the operation.

1.3 Manual operation screen, click the corresponding button to achieve the corresponding action, as shown in the figure below:



1.4 System parameter screen, on this page, you can modify various parameters, as shown in the following two figures:



On-line servo manual speed: the speed at which the on-line conveyor motor runs in manual state;

On-line servo automatic speed: the speed at which the on-line conveyor motor runs in automatic state;

Body servo manual speed: the speed of the body traction motor running in the manual state;

Body servo automatic speed: the speed of the body traction motor in the automatic state;

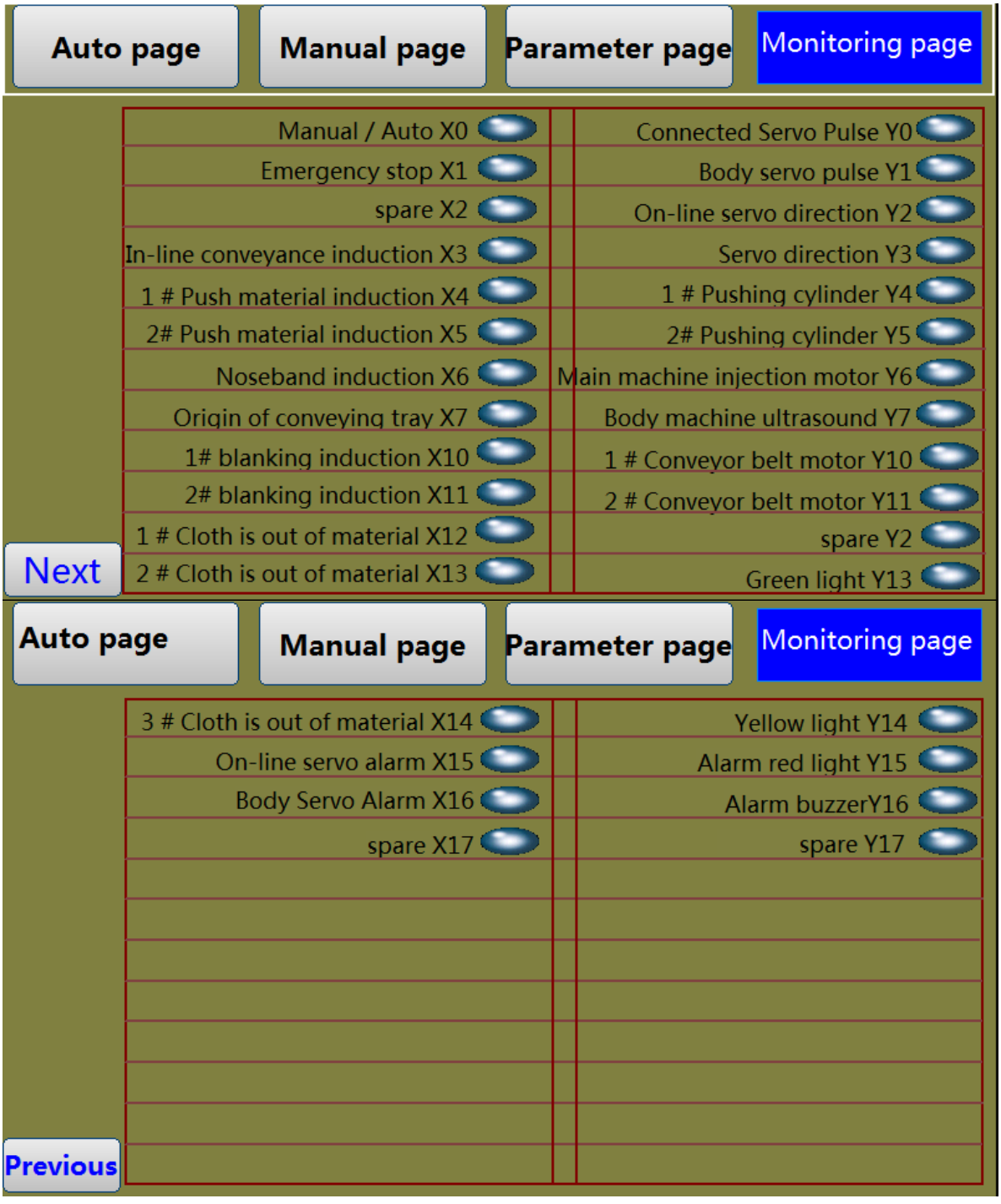
Connection station pulse: Set the pulse amount required for each station of the connection conveyor motor;

Pushing time of pushing cylinder: the time period from the start of the online pushing cylinder to the end of the action;

1 # push cylinder filtering: The time period when the 1 # push cylinder operates to the end of the delayed push signal is valid;

2 # Pushing Cylinder Filter: Time period when 1 # Pushing Cylinder Action to End Delayed Pushing Signal is Valid

1.5 The online monitoring screen monitors the operation of each functional element. The blue color of the running element indicates that the corresponding functional element is working for fault detection.



2, control button

2.1 Emergency stop switch, used for emergency stop. Press down to stop the device, so turn it clockwise to energize it. As shown on the left:

2.2 The conveying speed regulator is placed inside the electric box and is used to adjust the speed of conveying and labeling. Turn it clockwise to increase the speed.

The counterclockwise is the opposite. The motor switch below the knob is used to turn off the governor that can detect the corresponding motor, as shown on the left:

2.3 The indicator light indicates whether the mask machine is in working state, and the light is on to indicate the working state.

3, Connector

3.1 Power connection, just connect the plug to the power source socket.

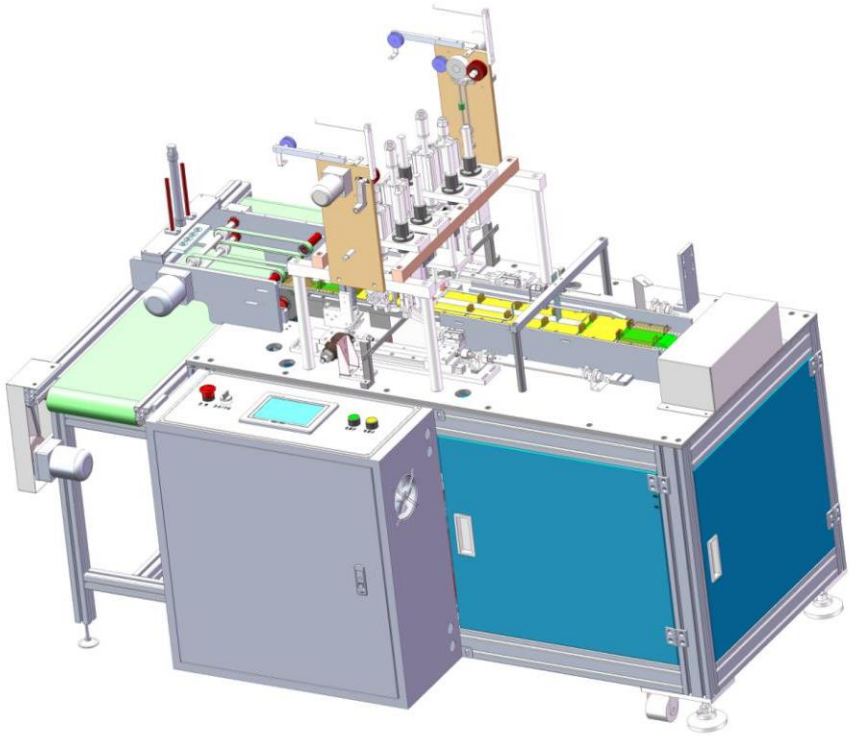
1, 3.2 Pneumatic connection, connect through the external interface of the three-pneumatic element, just insert the external source air pipe, the adjustment knob is used to adjust the size of the working air pressure, and the air pressure can be adjusted by the three-element pneumatic pressure regulator valve, clockwise Increase, decrease counterclockwise, the air pressure of this device can be between 0.2 ~ 0.5Mpa. The pressure regulating valve is shown in the right figure above, and the circle is for adjusting

The following figure indicates:


Adjustme
Exogenous
2MF 1
MC
ATTAIC
AL-2000
kgf/cm²
MPa

Part II

Operating Manual for Ear Strap welding Machine



Name: Mask Machine - Welding Ear Wire

Model: TR175V-FMM

Part I Solemn Declaration

I. Routine matters

1. The operation of this mask machine must be carried out by technicians who have received training in operation.

2. The operation of this equipment shall be carried out in accordance with the instructions in the instruction manual or under the guidance of our technician.

The technical manual is dedicated to the operation of a flat mask machine (hereinafter referred to as a mask machine). The purpose is to ensure professional use and adjust the equipment.

II. Manufacturer's authority

The Company reserves the following rights:

1. Make changes and upgrades to the institutional components, electronic control components and software, including the specifications and branding of the components used to maintain the advanced nature of the product technology, but do not commit to making free changes to previously delivered products.

2. We have the authority to guarantee the integrity of the equipment. Without the guidance of the technicians of the manufacturer, we should not modify the mechanical structure or electrical parts of the equipment privately.

We have intellectual property right to this equipment and this instruction manual, if copy, we should bear legal responsibility.

III. SECURITY MATTERS

1. Danger! Be sure to use with ground wire to prevent electric shock.

2, dangerous! Make sure the voltage doesn't run.

Be vigilant! The electric box part, the line part must have the electrician instruction to operate.

4, watch out! Rotating parts need special attention to prevent crush injury.

IV. Operating authority

:: Ensure that only trained and competent persons operate, arrange and maintain the equipment.

:: Only qualified persons, professionals and equipment engineers are allowed to complete the layout.

The operation of the machine requires ensuring that:

—— individuals should be able to operate independently and safely;

An individual who —— the operation can fix the minor errors that occur during the operation;

—— at least two people are required to operate the machine skillfully.

V. Operating environment

Please do not use:

:: Where temperature changes dramatically

Where dew is produced by excessive humidity

where vibration or shock is strong

Dusty areas

:: Where water, oil, chemicals are splashing

:: Places with explosive and flammable dangerous goods

Part II Product Introduction

I. Analysis of the action process:

Upper lamellar mask ⟶ Mask testing ⟶ Mask delivery ⟶ Round the ear Clip wire products in place under pressure welding cylinder stack finished products sent out —— this cycle.

4， The flaky mask enters the conveyor belt from the right side;

5, The lamellar mask moves along with the transport to the weld ear area.

6, The flaky mask enters the welding ear area to weld the shearing ear wire.

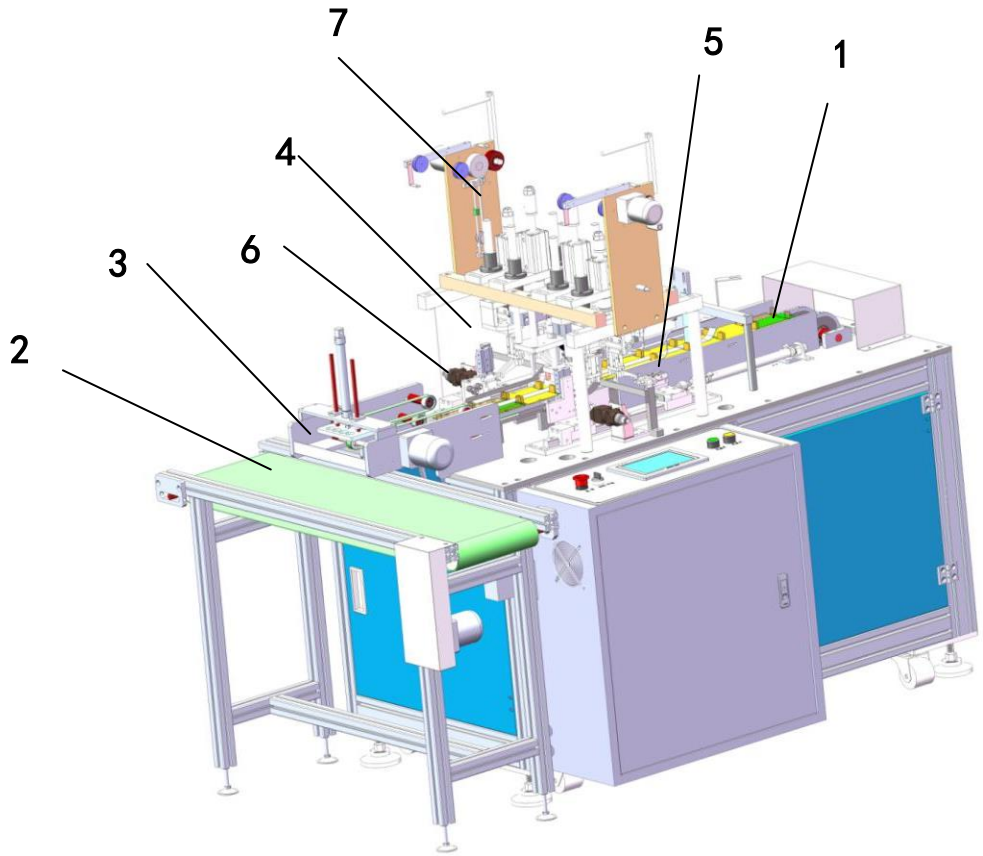
7, Fold the welded mask through the stacker cylinder into a set stack;

8, Transport the folded mask out;

Continuous welding ear wire according to the upper cycle.

Part III Institutional component

I. General view



7 Feeding mechanism: the product from the conveying mechanism to the welding ear part and the welding good ear products to the discharge delivery.

8 Discharge delivery: Feed the product label position to the next working order position.

9 Stacking mechanism: Fold the flaky mask into a stack.

10 Right ear welding mechanism: press the right ear line down and weld with ultrasonic wave.

11 Left ear welding mechanism: press the left ear line down and weld with ultrasonic wave.

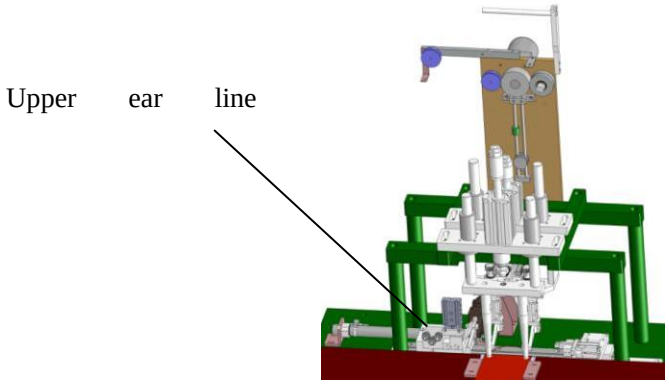
12 Shear mechanism: Shear wire shear for welding.

13 Winding motor: the ear wire is stripped to a certain length and then cut off.

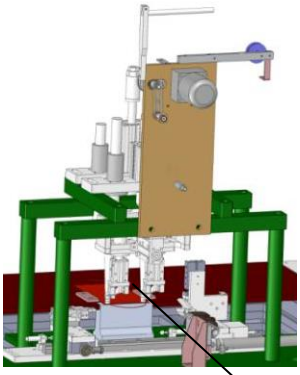
II. Local view

2.1 Pull a bound ear wire out of a head and press the thread through a wire hole on a compression mechanism

As shown in the following figure, the part of the box is a claw-closing mechanism:

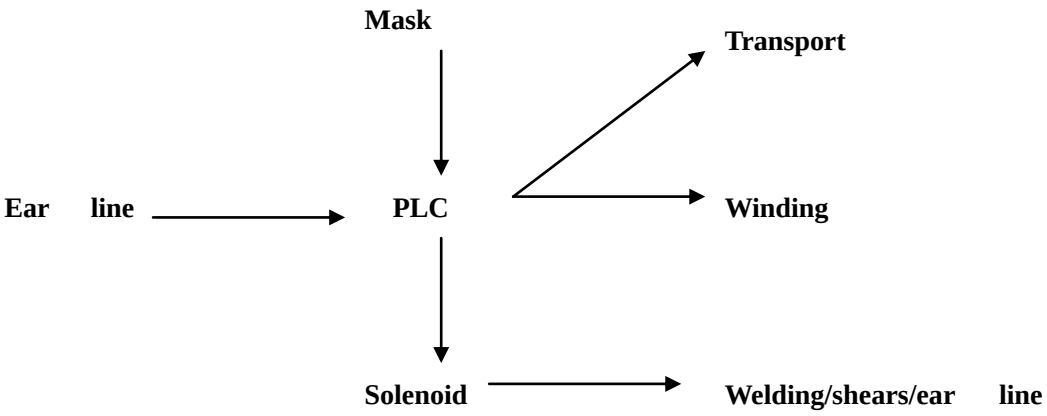


2.2 Welding the claw opening mechanism, turning the cut ear wire into a semicircular lower pressure welding.



Part IV Electrical component

三、 Principle of Electronic Control



After the PLC processing, the output is the control signal of the conveying motor, the winding motor and the solenoid valve, which respectively controls the expansion of the cylinder and the rotation of the conveying motor and the winding motor, so as to complete the ear wire welding action of the mask.

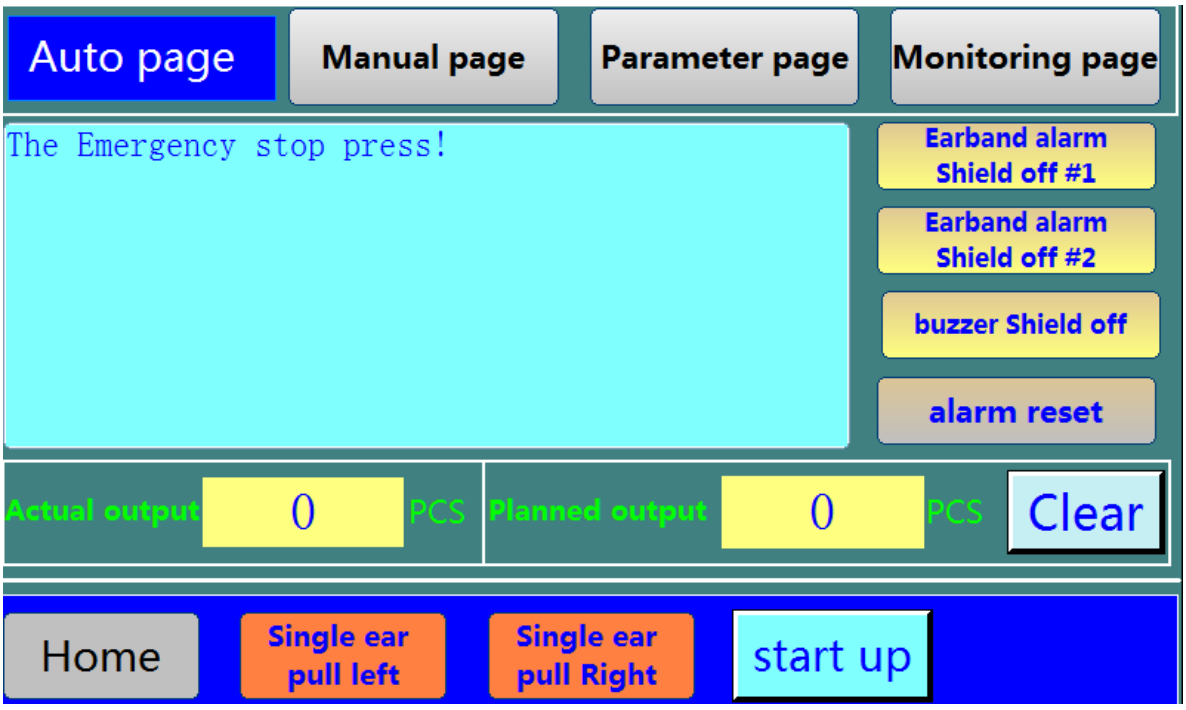
四、 Control interface

4, Touch screen interface

1.1 Start the interface, start the labeling machine touch screen first into the page, this time need to initialize about 1 second.



1.2 Automatically run the screen, click on the corresponding button to jump to the corresponding screen, as shown below:



1. current alarm box: display system appears abnormal mechanism, according to the information displayed can be excluded from the abnormal situation.

2. Start button: press this button and the machine goes into automatic running state.

3. Stop button: press this button and the machine enters standby state by automatic running state.

4. Output statistics: the number of products actually produced.

5. Production zero: the actual number of production zero, starting from zero count.

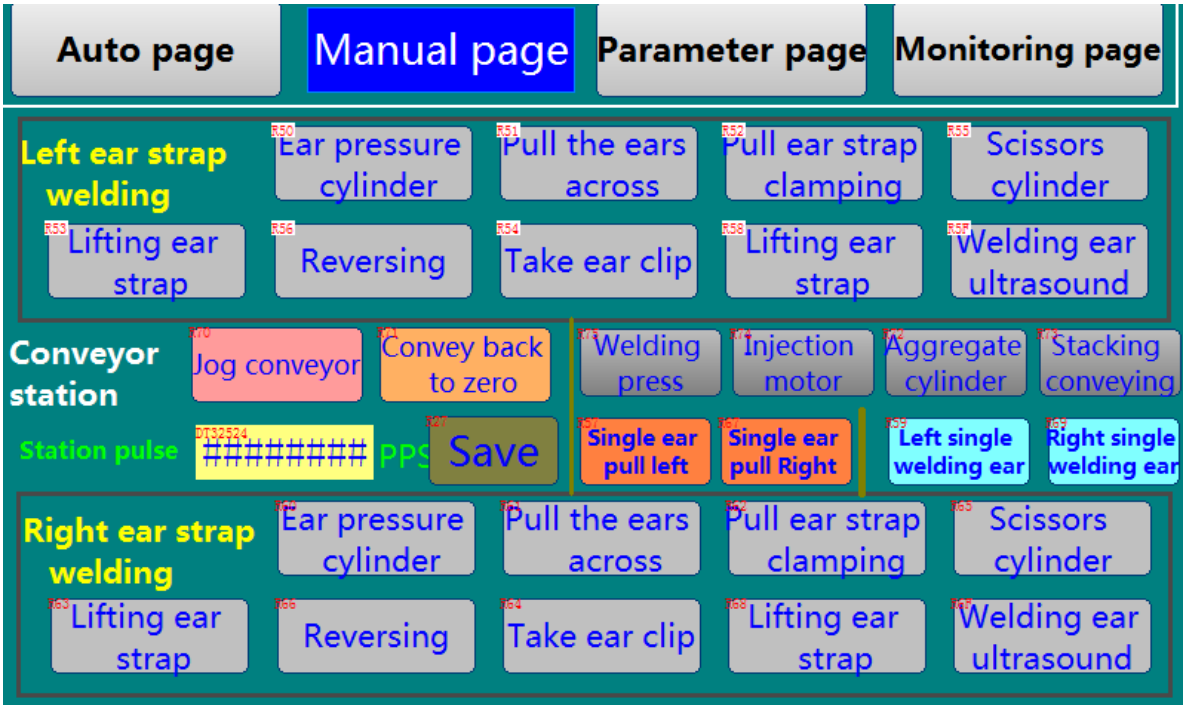
6. Cleaning stop: remove the mask above the conveyor belt and then stop the whole machine.

7. Direct shutdown: the whole machine directly stops running.

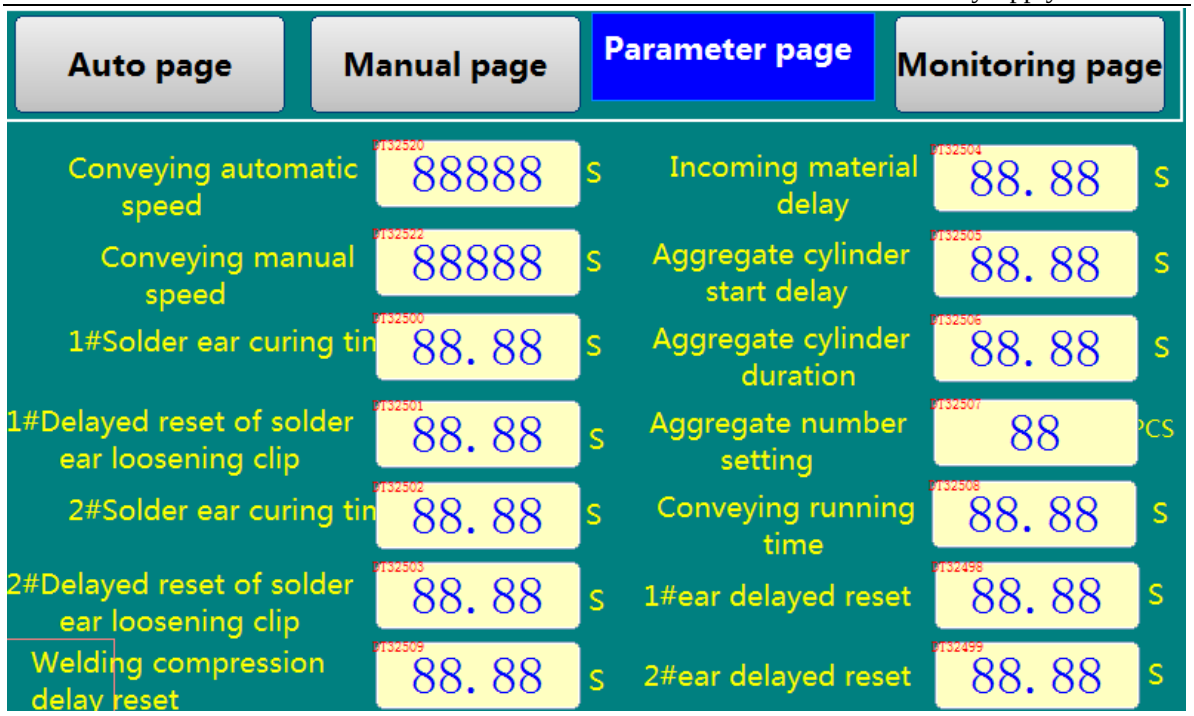
8. reset: in the manual state, the conveying motor, the left rotation motor, the right rotation motor are not in the origin position to run to the origin position.

9. Alarm clearance: when you see an abnormal device on the current alarm box, remove the abnormal part and press the reset machine to continue running.

1.3 Manually run the screen and click the corresponding button to achieve the corresponding action, as shown in the following figure:



1.4 System parameters screen. On this page, parameters can be modified as shown in the following two figures:



Automatic conveying speed: the speed of the motor running in automatic state;

Conveying manual speed: the speed at which the motor is operated in a manual state;

The curing time of the left welding ear: the period of the left welding lift cylinder under pressure to the ultrasonic welding stay welding;

Delay reset of the left ear clamp: the time period of the left welding lift cylinder under pressure to take the claw delay reset;

Right welding ear curing time: right welding lift cylinder pressure down to ultrasonic welding stay welding time;

Right ear clamp delay reset: right welding lift cylinder pressure in place with claw delay reset period;

The time of incoming material measurement: the time period of incoming material delay starting delivery is detected by incoming electric eye;

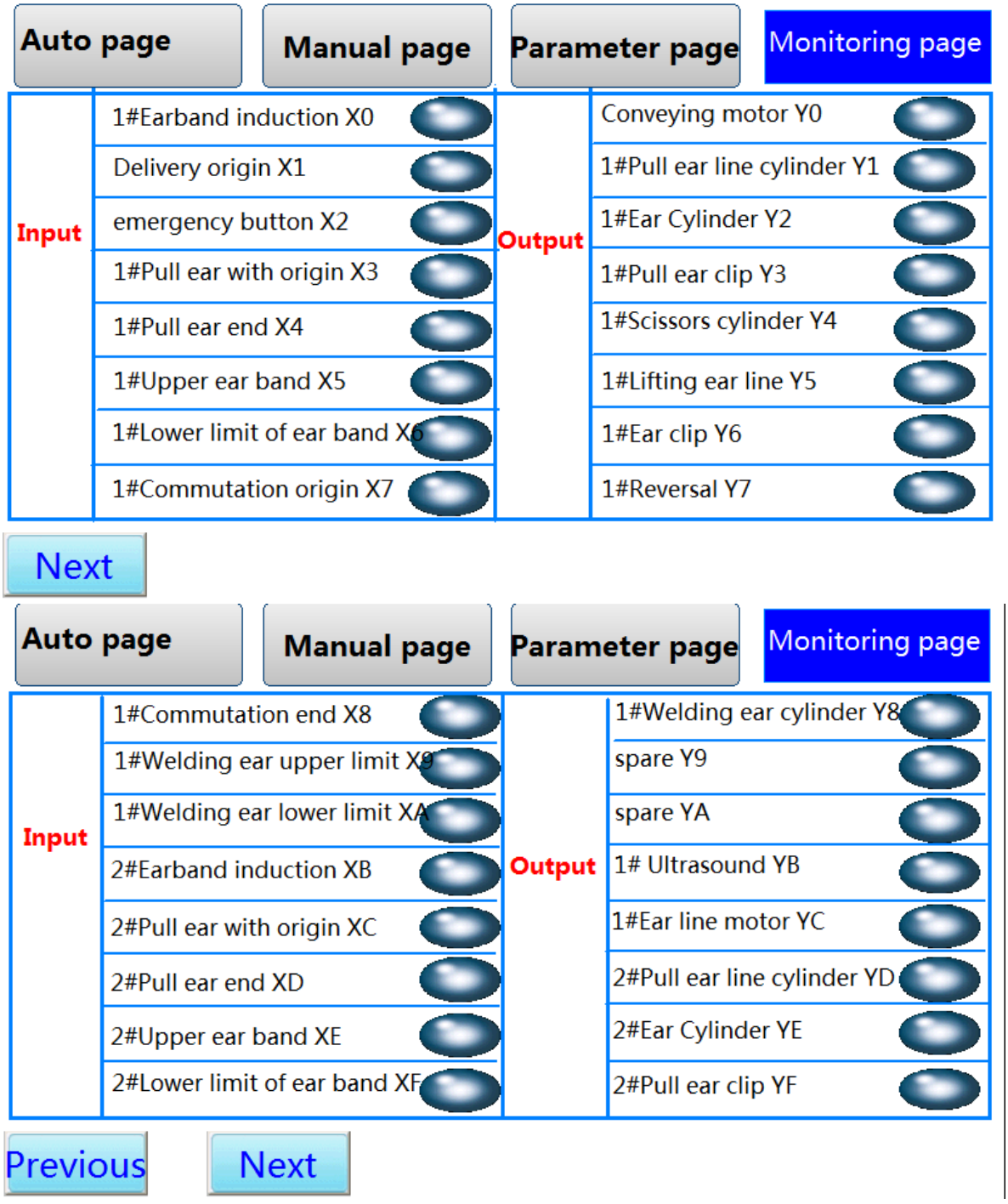
Aggregate cylinder delay start: product flow to aggregate cylinder station delay action period;

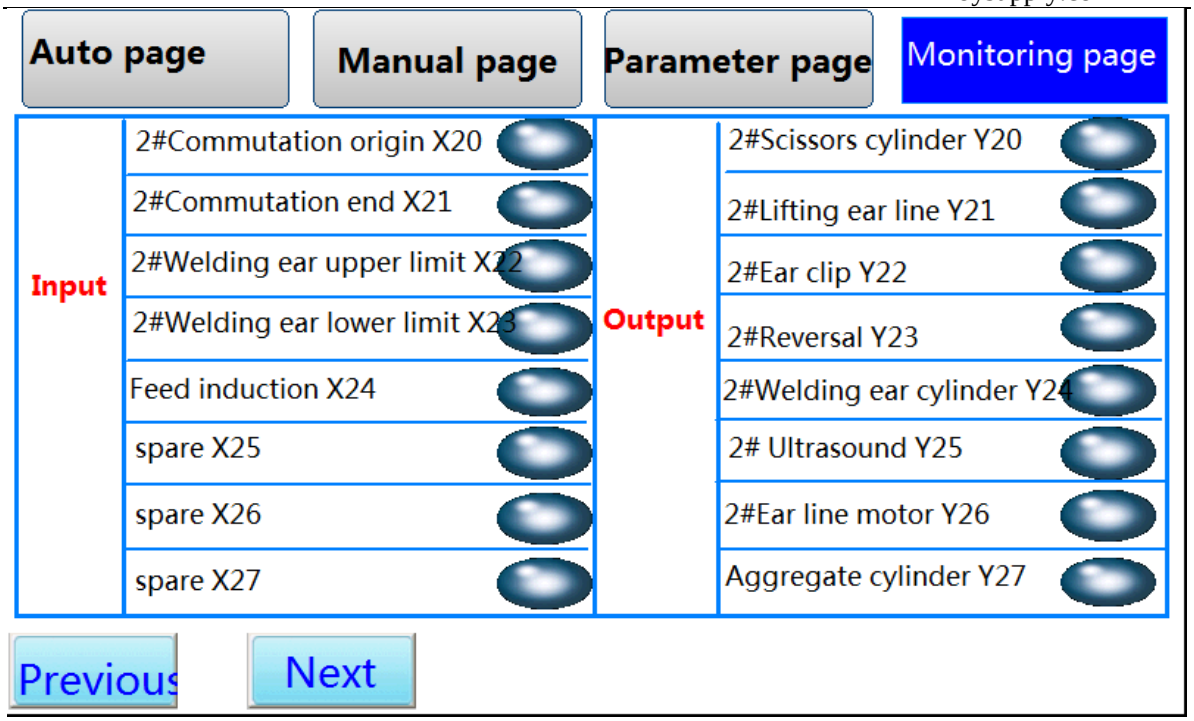
Aggregate cylinder length: aggregate cylinder action start to the end of the time period;

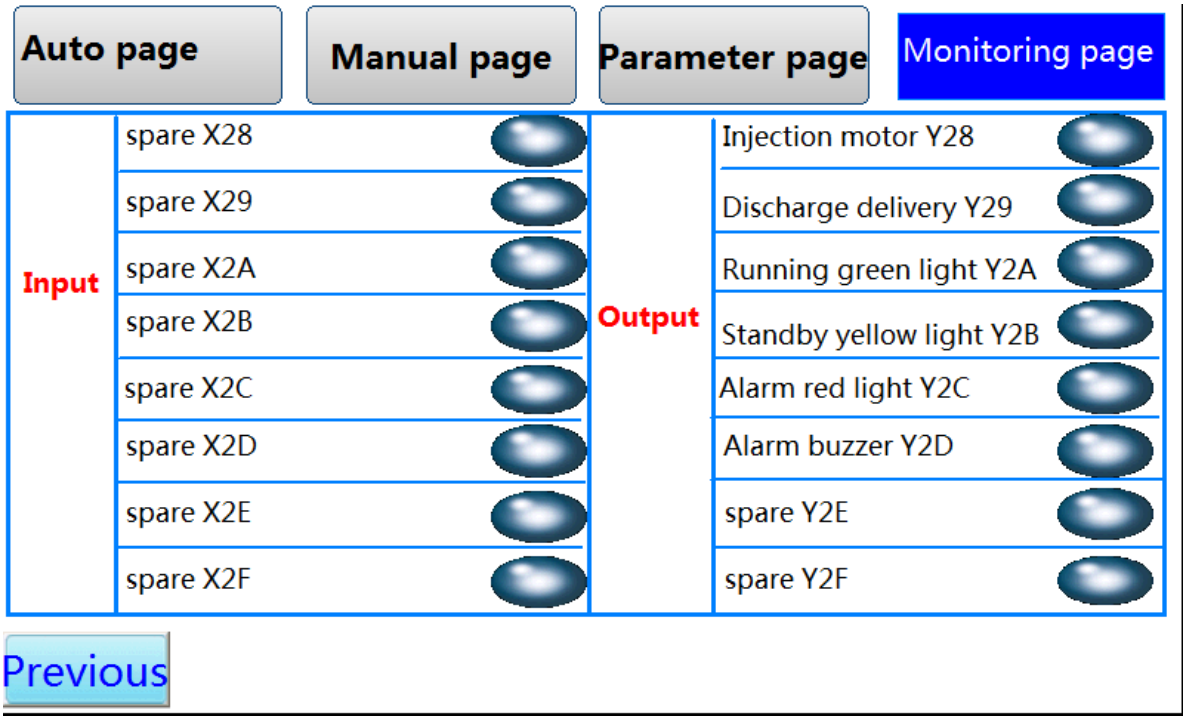
Number of aggregates: how many masks are set as a stack number;

Delivery time: set a stack of masks to transport out of the time period;

1.5 On-line monitoring screen to monitor the operation of each functional component, the running components blue indicates that the corresponding functional components are in operation, for fault detection.







5, Control button

2.1 Emergency stop switch for emergency shutdown. Press down to stop the device so the action, clockwise twist is energized. As shown on the left:

2.4 Conveyor governor, placed inside the electric box, used to adjust the speed of conveying and marking, clockwise torsion, speed up,

Counter clockwise. The lower part of the knob is the motor switch, which can detect the governor of the corresponding motor, as shown on the left:

2.5 Indicator light, indicating whether the mask machine is in the working state, the light indicates the working state. Let the left

6, Connectors

3.1 Power connection, plug to power outlet.

2, The air path is connected through the external interface of the pneumatic ternary, and the external trachea can be inserted. The adjusting knob is used to adjust the working pressure. The air pressure can be adjusted by the pressure regulating valve of the pneumatic ternary, which increases clockwise and decreases counterclockwise, and the air pressure of the equipment is between 0.2~0.5 M p a. The pressure regulating valve is shown on the right and the circle part is the adjustment

The following figure indicates:

