



# QC1805A Curtain Eyelet Machine Operation Manual



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# Qingdao Jingchengzhiyuan Electrical & Mechanical Equipment Co., Ltd

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# User Manual for Curtain Eyelet Machine

## 1 Overview

Qingdao Jingchengzhiyuan Electrical & Mechanical Equipment Co., Ltd. is a company integrating the design, production and sales of drilling machine, riveter, eyeleting machine, beading machine, punching machine and other automation equipment. Non-standard automation equipment can be customized according to customer needs. The Company has established a good reputation during its development through continuous product design, R&D, reform and innovation, with products exported to overseas. The Company highlights the corporate culture of excellence, honesty, exploration and foresight and adheres to the business philosophy of prioritizing quality, credit, and customers, striving to offer better mechanical and electrical equipment.

## 2 Functional features

### 2.1 Functional features of QC1805A curtain eyelet machine

**Safe:** the curtain machine designed by the Company is remotely controlled by a panel. The equipment can be directly controlled by setting relevant working parameters, and an emergency stop button is set for one-click power-off protection, which protects both the people and the equipment.

**Efficient and stable:** in order to ensure the smooth operation of the equipment, the functions have been stimulated and the structure has been optimized during the design. The integrated work control mode is adopted for functional control, to ensure the efficient and stable operation of the equipment and reduce its failure rate.

**Easy to operate:** the simple and easy workflow is achieved through the structural optimization, the design of the control process and the reform and innovation of the working principle.

### 2.2 Touch interface display features

The QC1805A curtain eyelet machine is equipped with an F1001A touch screen interface, which supports multiple communication protocol structures RS232/RS485/RS422.

The use of LCD ensures the resolution of the interface, the clarity and performance of the display, and the operating sensitivity.

Various operation interfaces, such as USB SLAVE/USB HOST, ensure the diversified operation modes.

### 3 Technical parameters

Technical Specifications of QC1805A Curtain Eyelet Machine

Model	QC1805A	
Working parameters	Inner diameter of curtain eyelet	40mm
	Max throat depth	65mm
	Riveting stroke	25mm
	Speed	40-55 times/min
Gas-electric parameters	Air pressure	0.5-0.7 MPa
	Voltage	AC220V
	Power	2.5Kw
Basic parameters	Equipment dimension (mm)	1400×1750×1300
	Packing dimensions (mm)	#1 1400×1500×1500 #2 1450×750×760
	Net weight/Gross weight (kg)	480/600

## 4 Installation and debugging



### 4.1 Machine installation

1. Open the package, then remove the fasteners to fix the machine onto the wooden box. Put the machine onto the work floor with good conditions as shown on the picture above.
2. Leave a spacing of 50cm from the other objects on the back and sides of the machine. There should be 1.5 meters space in front of the machine as operating area.
3. Fix the pressing machine, adjust the height of A part to make the universal wheels off the ground and the machine is placed horizontally.
4. The vibrating plate is fixed, the vibrating plate and the base are installed according to the corresponding numbers, E is installed on the right side, and W is installed on the back.
5. Move and adjust the base B of the vibrating plate to align the feeding port of the lower vibrating plate with the runner.
6. Clean the machine and check that there is no oil or dirt in the guide rails and raceways. Dry/wipe with a cloth. Never use solvents or other products that may cause oxidation or damage the paint.

7. Finally, connect the machine to the air supply and power supply system. Open the hand slide valve C of the air supply, and adjust the pressure to about 6 Kg, and connect the vibration plate plug according to the marks E and W. The three-hole plug is inserted into the 220V power supply socket.
8. Turn on the power of the main machine, the punching switch F and the vibration plate switch I, and the machine can work normally.

**Note: When making adjustments and replacing parts, the hand slide valve must be turned off to cut off the air. Do not remove guard or insert fingers into mold.**

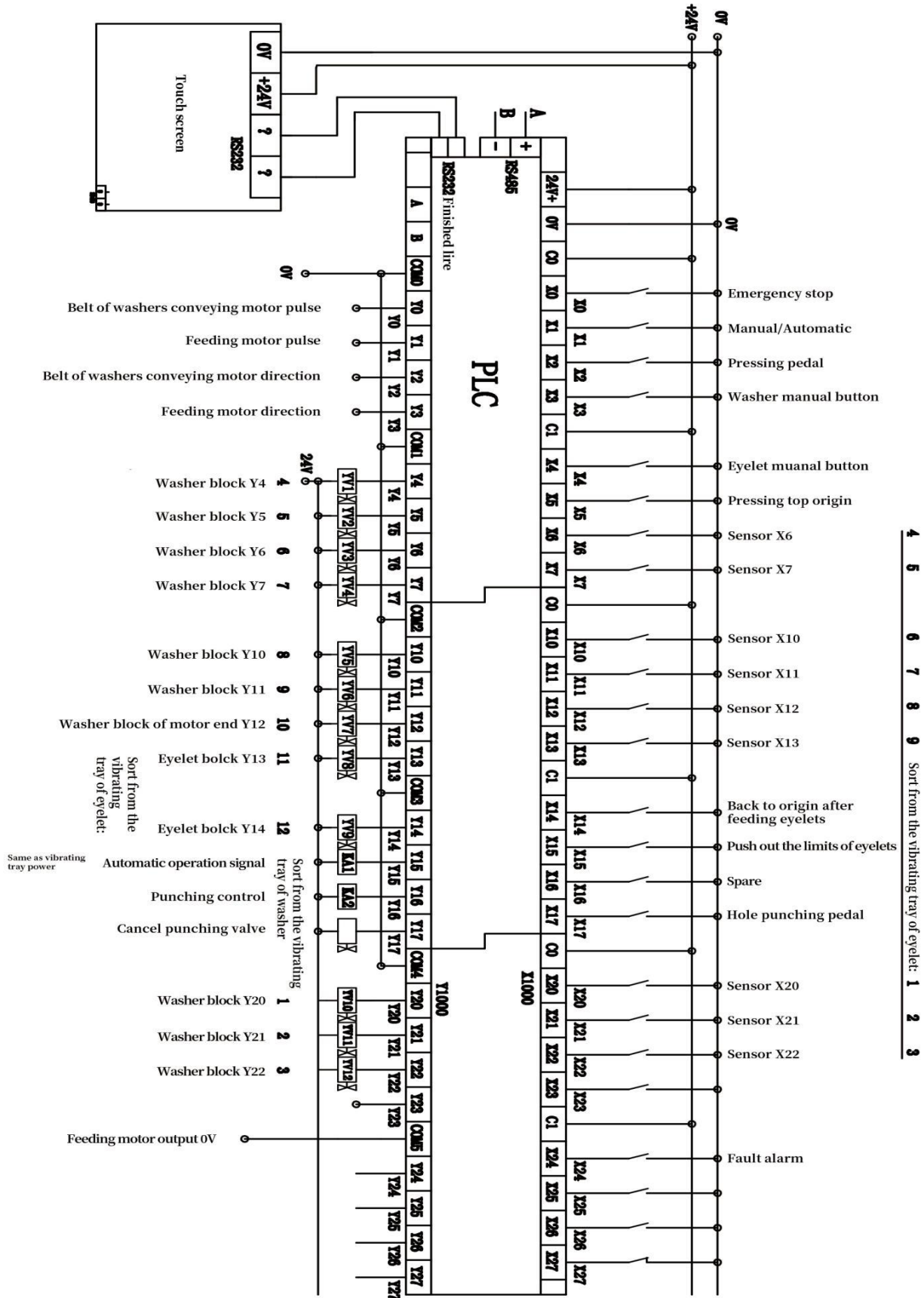
#### 4.2 Equipment adjustment

Before delivering this machine, the adjustment of punching and riveting has been done according to the type of curtain material. Attachment a sample.

1. Punching pressure adjustment F: Press the + sign to increase, press the - sign to decrease the pressure. If the material is changed or the machine can't punch through materials, you can press the + sign to gradually increase the pressure. Do not increase the pressure too high at one time. Excessive pressure will reduce the service life of the mold or cause the risk of mold explosion.
2. Punching hole distance adjustment G: Loosen the hexagon socket screw to adjust the proper hole distance and then tighten the screw.
3. Riveting pressure and speed adjustment H: adjust the riveting speed and pressure according to the parameter settings on the display screen.
4. Vibration plate speed adjustment I: According to the riveting speed, turn right or left to adjust the vibration plate speed.

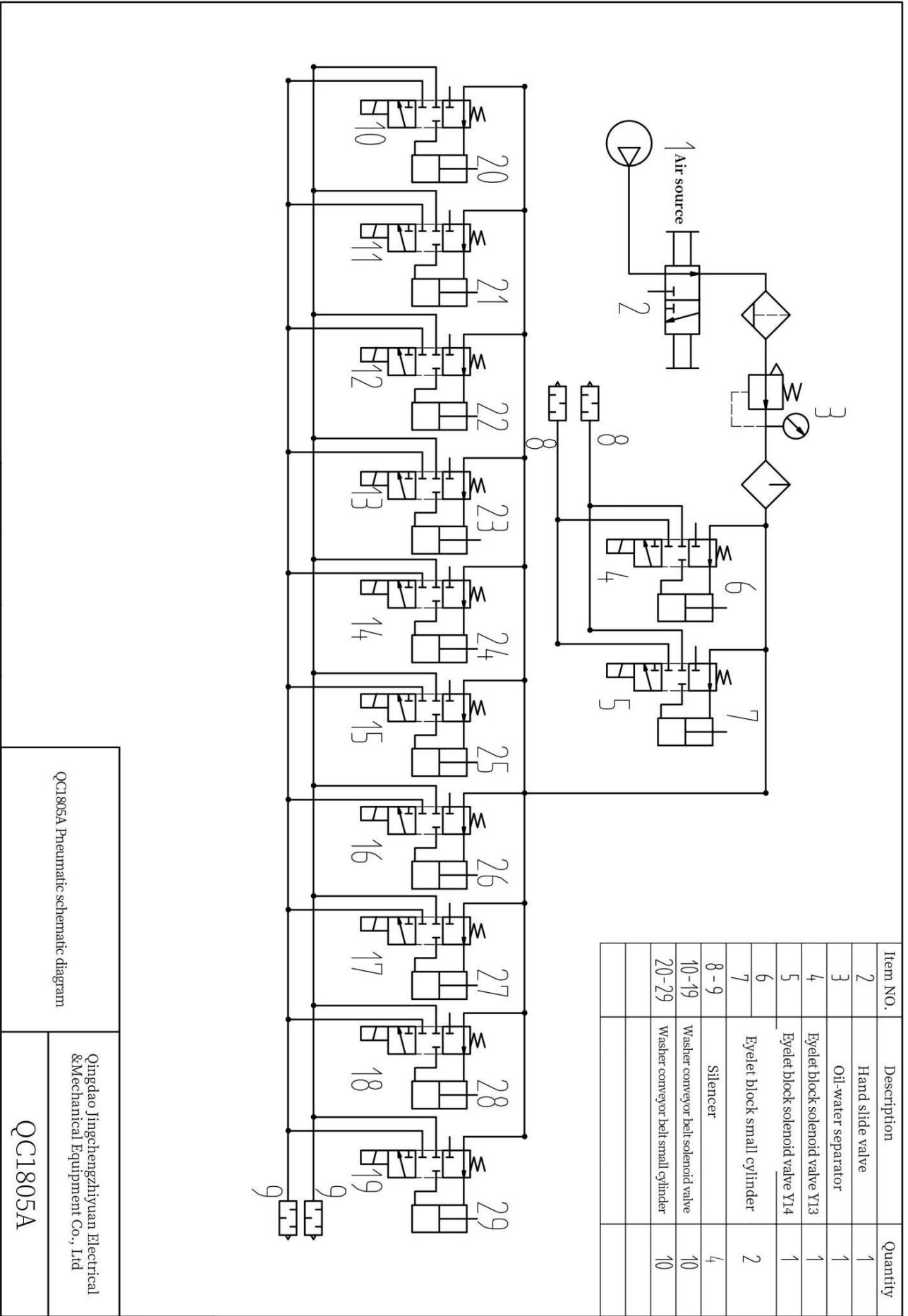
# 5 Circuit & pneumatic diagrams

## 5.1 Control system PLC circuit diagram





## 5.2 Pneumatic diagrams



QCC1805A Pneumatic schematic diagram

Qingdao Jingchengzhiyuan Electrical & Mechanical Equipment Co., Ltd

QCC1805A

## 6 Operating procedures

### 6.1 Introduction to overall functions of curtain eyelet machine

The QC1805A curtain eyelet machine, shown in the figure, is mainly used for the hole punching and eyelet attaching for window curtains. It is very suitable for curtain materials with strong hardness and thick density. In order to ensure the continuous operation and reasonable feeding of the equipment, the power of the equipment is provided by a motor, which ensures the stability and service life of the equipment, and reduces its fault frequency. The structure and function of the curtain machine are introduced below:

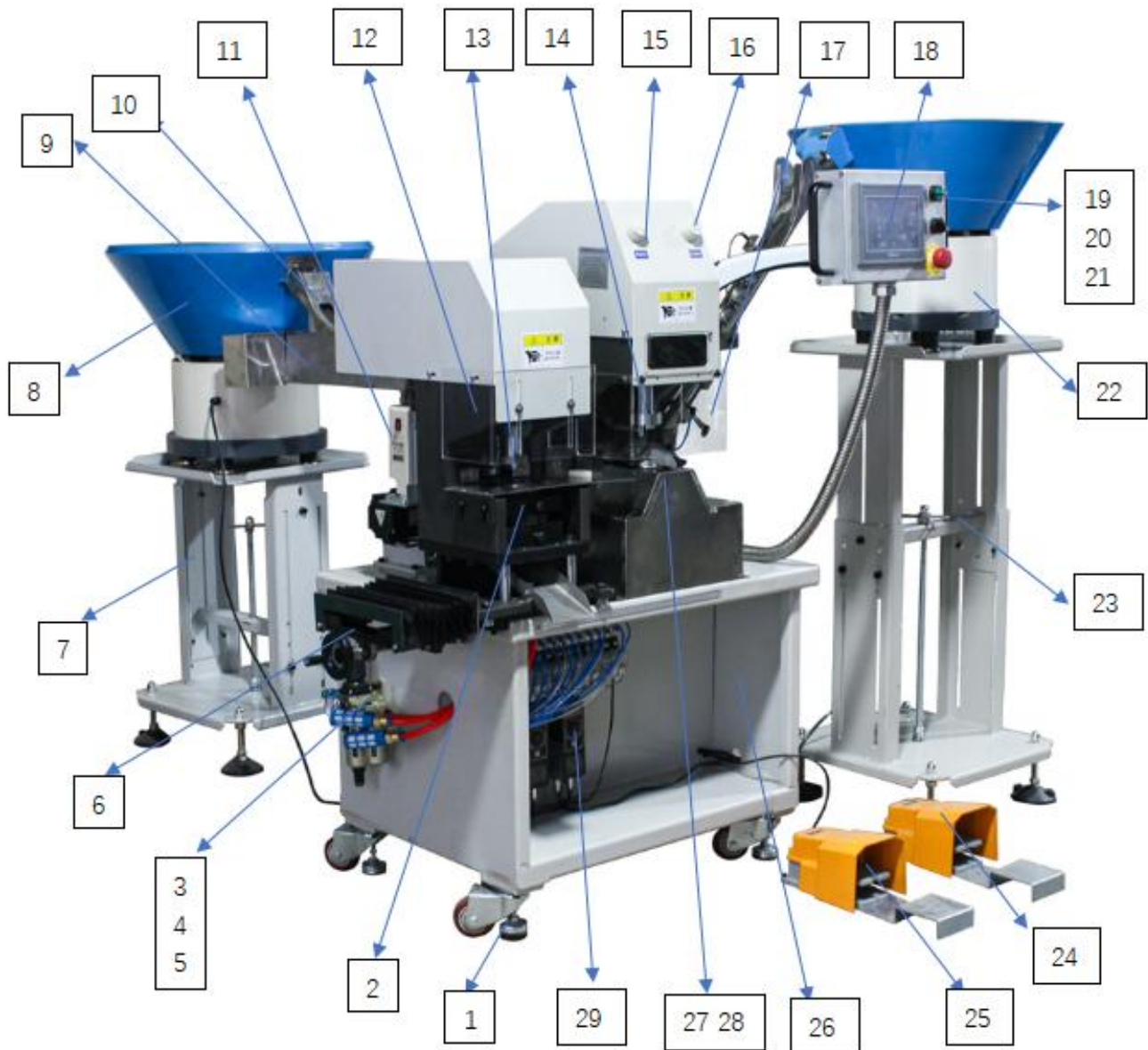


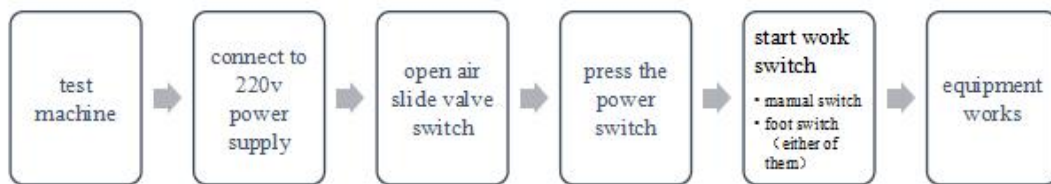
Figure 6.1 Schematic diagram of the whole machine

1-feet & universal wheel, 2-punching die, 3-Exhaust hand slide valve, 4-oil water separator, 5-silencer, 6-Punching riveting adjustable hand wheel, 7-rear vibration plate bracket, 8-rear vibration plate, 9-conveyor belt feeding, 10-back raceway, 11-punching controller, 12-punching shield, 13-punching die, 14-riveting upper die, 15-manual eyelet supplement switch, 16-manual washer supplement switch, 17-riveting shield, 18-display screen, 19-start up button, 20-manual automatic knob, 21-emergency stop switch, 22-right vibration plate, 23-right vibration plate bracket, 24-riveting foot switch, 25-punching foot switch, 26-electric control box base, 27-riveting lower die, 28-riveting lower die cover, 29-vibration plate controller.

## 6.2 Operating procedures for start-up work

This equipment is QC1805A curtain eyelet machine. The operating procedures are shown as follows:

Curtain eyelet machine schematic diagram



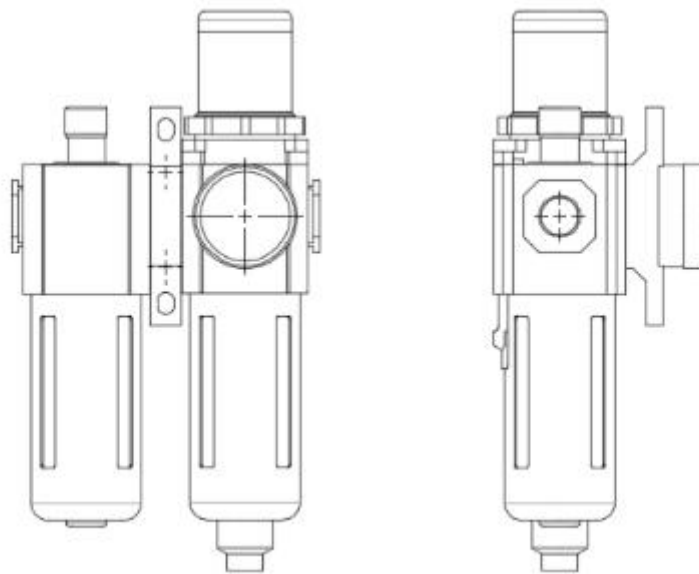
## 7 Maintenance

### 7.1 Throttle valve adjustment

The working principle of the throttle valve is to control the gas flow by changing the throttle section or throttle length. The throttle valve has no negative feedback function because of the structural setting, and cannot compensate the speed instability caused by the load change, so the throttle valve is generally only used in occasions where the load change is not large or the speed stability is not required.

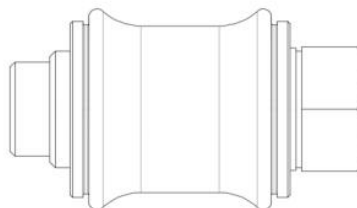
### 7.2 Air source filtration

The air source processor is a component that performs work through the force generated by the pressure or expansion of the gas, that is, the device that converts the elastic energy of the compressed air into kinetic energy. During the use of the equipment, special oil mist oil should be regularly added for maintenance to prolong the service life of the equipment. (Add special oil for the lubricator) Drain the water from the filter regularly so that the container is not more than half full of water, otherwise the air will absorb water and damage the pneumatic components.



Filter schematic

### 7.3 Manual slide valve adjustment using



The entry and exit of compressed gas is controlled by the left and right movement of the slide valve. When the equipment is in use, open the slide valve; after the equipment is used, turn off the power, close the slide valve, and release the compressed gas.

## 7.4 Machine maintenance

1. Check the oil level, exhaust temperature and exhaust pressure every day, check for any abnormal sound every day;
2. Open the drain valve of the separator to drain condensate before starting the machine every week, check for leakage, check the safety valve and the belt wear (visual inspection) every week;
3. Regularly check the intake control valve, the minimum pressure valve, the connecting terminals of the electric cabinet, the safety valve and the cooling fan;
4. Regularly clean the cooler and test the reliability of the safety valve;
5. Regularly replace the oil filter element, the oil separator filter element, the air intake filter element and the lubricating oil.
6. The machine fails to start: check the main switch and power line, check the motor;
7. The machine does not load after startup: adjust the setting value of the pressure switch or replace the pressure switch, check or replace the solenoid valve;
8. The compressor is not unloaded, and the safety valve is released: adjust the setting value of the pressure switch or replace the pressure switch, check or replace the solenoid valve;
9. Excessive fuel consumption: use the recommended oil, lower the oil to the normal level, remove the oil cup from the oil-water separator for cleaning, or replace the filter element of the oil-air separator;
10. The exhaust pressure is lower than the specified value: reduce the air consumption or place more compressors, check for any leakage, clean or replace the air intake filter element, replace the filter element of the oil-air separator, check or replace the solenoid valve, overhaul the intake control valve, replace the belt, or adjust the setting value of the pressure switch;
11. High temperature shutdown of compressor: improve the environmental ventilation, clean the cooler, add oil to the specified position, or replace the oil filter;
12. The compressor is unloaded, the exhaust pressure still rises slowly, and the safety valve is released: check or replace the solenoid valve, overhaul the intake control valve and the unloading pipeline;
13. Relief of safety valve: overhaul or replace the safety valve, overhaul the minimum pressure valve, replace the filter element of the oil-air separator, overhaul or replace the pressure switch, and check the intake control valve or solenoid valve.

## 8 Precautions and troubleshooting

### 8.1 Precautions

#### 8.1.1 Precautions for equipment use

1. The lower mold base of the working parts of the equipment should be added with lubricating oil regularly every day during operation to prevent the aging of the mold base from wearing.

2. Before starting the equipment, inspection and maintenance should be carried out. Remove the cover of the lower mold, and check whether the induction indicators on the upper and lower cylinders are normal. Any abnormal induction display indicates the abnormal operation of the lower mold.

3. During daily operation or before transportation, it is necessary to detect whether the electromagnetic induction switch is offset or affects the normal operation and use of the cylinder.

4. One half of the oil-air separator in the equipment shall be added with special lubricating oil. (Remember not to use ordinary lubricating oil to prevent damage to the solenoid valve).

5. After using the equipment, be sure to close the manual slide valve, so that the liquefied water in the gas path can be discharged automatically.

6. The air compressor in the equipment should be drained regularly, to ensure the normal gas path. Oil-water mixture will be produced if the water is not drained for a long time, which will cause the solenoid valve and air tank to be blocked, and affect the work of the equipment.

7. Before operating the equipment, make sure that the air pressure of the system is above 6MPa, so as to avoid any damage to the working mechanism of the equipment due to unstable air pressure.

8. When the runway stuck with eyelets or washers, tools should be used instead of hands, to avoid hand injury.

9. If there is no response when stepping on the foot, observe whether there is a washer in the runway. For the sake of safety, when there is no washer in the first small cylinder of the runway, the equipment is set to show no riveting response.

10. During the use of the equipment, special oil for lubricator shall be added regularly for maintenance, to prolong the service life. (Add special oil for lubricator)

11. During the use of the equipment, it is forbidden to put hands or other body parts into the riveting positions such as the mold. For sundries cleaning, please use hook or other tools.

12. Three-core power socket must be used and reliably grounded.

13. After plug in, press the reset switch and then turn on the power.

14. Power adapter can be used for this machine, to realize stable input voltage of 220V, suitable for

different countries and regions.

### 8.1.2 Precautions for cylinder use

1. The internal and external leakage of the cylinder is generally caused by eccentric installation of the piston rod, insufficient supply of lubricating oil, wear or damage of gasket ring and sealing ring, impurities in the cylinder and scratches on the piston rod. Therefore, when the cylinder shows internal or external leakage, readjust the center of the piston rod to ensure the coaxiality of the piston rod and the cylinder barrel; check whether the lubricator works reliably to ensure good lubrication of the actuator; replace any worn or damaged gasket ring and sealing ring in time; remove any impurities in the cylinder in time; replace any scratched piston rod.

2. The insufficient output force and unstable operation of the cylinder are generally caused by the stuck piston or piston rod, poor lubrication, insufficient air supply, or condensate and impurities in the cylinder. In this case, adjust the center of the piston rod; check whether the lubricator works reliably; check whether the air supply line is blocked. Any condensate or impurities in the cylinder shall be removed in time.

3. The poor cushioning effect of the cylinder is generally caused by wear of the buffer gasket ring or damage of the adjusting screw. In this case, replace the gasket ring or the adjusting screw.

4. The damage of the piston rod and cylinder head is generally caused by eccentric installation of the piston rod or failure of the buffer mechanism. In this case, adjust the center of the piston rod; replace the buffer gasket ring or the adjusting screw.

## 8.2 Troubleshooting

8.2.1 In some applications, due to poor grounding performance, the control box shell will be filled with a large amount of static electricity, which will affect the working electric field inside the control box, resulting in gradual failure of the touch. At this time, use a wire to ground the control box housing and restart it.

8.2.2 Because the surface acoustic wave touch screen system is covered with sound waves on the surface of the touch screen when working, if the touch screen is not wiped for a long time, the dust accumulates too much, blocking the reflection stripes of the wave, and the touch screen system cannot work normally. For touching screen, use a clean business card or banknote to gently wipe off the dust from the reflective stripes around the display through the gap between the front cover of the monitor and the touchscreen, and then restart the device. For the inside of the touchscreen, open the front cover of the monitor, wipe off the dust from the reflective stripes around the surrounding area with a clean towel, and then restart the device.

8.2.3 The touch screen system uses the method of drawing power from the power supply of the all-in-one machine instead of from the host, so you should also check whether the 24V output of the all-in-one power supply is correct.

#### 8.2.4 Cylinder troubleshooting

The following is the troubleshooting method for the working part of the cylinder during use:

Troubles		Causes	Solutions
external leakage	Leak from Piston rod	eccentric installation of the piston rod, insufficient supply of lubricating oil, wear or damage of gasket ring and sealing ring, impurities in the cylinder and scratches on the piston rod	readjust the center of the piston rod to ensure the coaxiality of the piston rod and the cylinder barrel; check whether the lubricator works reliably to ensure good lubrication of the actuator; Replace any worn or damaged gasket ring and sealing ring in time; remove any impurities in the cylinder in time; replace any scratched piston rod.
	Leak between cylinder and cover		
	Leak from adjusting parts		
internal leakage		<p>The piston seal is damaged</p> <p>Poor lubrication</p> <p>The piston is stuck and the piston mating surface is defective.</p> <p>Impurities are squeezed into the sealing surface</p>	<p>Replace the seal</p> <p>Check for lubricator failure</p> <p>Reinstall the adjustment so that the piston rod is free from eccentricity and lateral loads.</p> <p>Impurities are removed and purified compressed air is used.</p>



Insufficient power output The movements unstable		Poor lubrication The piston or piston rod is stuck Insufficient air supply flow Condensate impurities	Check for lubricator failure Reinstall adjustments to eliminate eccentric lateral loads. Increase the diameter of the connection or fitting Purifying and drying compressed air used to prevent water condensation.
Poor buffering		The cushion seal is worn The adjusting screw is damaged The cylinder speed is too fast	Replace the seal Replace the adjusting screw Check if the buffer mechanism is right
Damage or worn	The piston rod is damaged	An eccentric lateral load exists The piston rod is subjected to shock loads The speed of the cylinder is too fast	Eliminates eccentric lateral loads The shock cannot be applied to the piston rod Set up the buffer device
	The cylinder head is damaged	The buffer mechanism does not work	Set the buffer mechanism externally or in the loop

Note: If abnormal action occurs during the use of the working process, check whether the sensor is long on, if it is, it is damaged, and the new sensor should be used.