PNEUMATIC SEALING MACHINE

LAS 125-25mm

Operating Instructions

VISTATEC

Safety Precautions

- For safe and correct use of the machine, it is necessary to read through these precautions carefully before use. Users should use the machine only after having a good understanding of the safety information and precautions.

- All the users who operate this machine should have this user's manual in hand, and should keep it properly after reading for reference in the future.

- Warning instructions provided in this manual and on the machine mean that possible personal injury and equipment damages will be caused if relevant requirements are not observed and corresponding measures are not taken.

- The persons operating this machine are required to get familiar with the steps and requirements for installation, adjustment, commissioning and operation of this machine as well as corresponding measures taken for any emergencies that will happen possibly, and must meet the following conditions:

- Having received training, able to switch on/off, earth and connect the circuits on the machine according to the common practices and safe operation procedures provided in this user's manual and able to carry maintenance, operation and protection of the machine.

Warning!

(1) There is dangerous voltage on this machine. During operation of the machine after power up, do not open electric cabinet door and electrical control box to avoid possible electric shocks.

(2) This machine is provided with good earthing and its input power must be connected to permanent fixed power lines.

(3) All the adjustment devices of the machine are adjusted to working state before delivery. Any non-professional persons are not allowed to change the adjustment. If any adjustment is necessary, such adjustment should be made by professional persons.

(4) Children and other persons except operators of the machine should be prevented from touching or access to the machine.

(5) Before installation and commissioning of the machine, please read these safety rules and warnings carefully and all the warning labels fixed on the machine, ensure that warning labels are located at conspicuous positions, and replace the damaged and lost labels.

(6) Getting familiar with all the safety instructions as well as installation, commissioning, operation and maintenance instructions provided in this manual, and correct handling, loading/unloading and maintenance is the reliable guarantee for the machine to be put into operation safely and successfully.

Special Instructions

Safety Precautions before use:

1) Before starting up the machine, please check it carefully and guarantee that there are no foreign matters under the worktable and sealing strip.

2) If any unusual conditions are found during operation, immediately press Emergency Stop switch and then check for any faults.

3) When the sealing cylinder rises, the plastic bag is not completely cooled, hence it should be raised slowly from one side to the other side. Never pull it down suddenly, which will cause damage to the sealing and affect the sealing quality.

4) If the machine is not in use, please turn off the air supply, power supply and foot switches in time to avoid any dangers.

5) Avoid heating without plastic bags placed in position (which is called empty sealing). Do not use high temperature without prior testing in order to prevent damages caused to the PTFE cloth.

6) If plastics are melted and adhered to the cloth due to incorrect operation, do not remove it by using a hard tool. Please remove it by using a soft cloth or other soft tools. Or otherwise the PTFE cloth will be damaged and thus there will be direct adverse effects on the sealing quality.

Contents

I. General Description 1
II. Definition, Functions and Overall Dimensions of the Machine 2
III. Transportation, Installation and Storage 3
IV. Maintenance 4
V. Adjustment and Operation 4
VI. Replacement of Wearing Parts 6
VII. Troubleshooting 7
VIII. Safety Warnings for Operation 8
IX. Control Panel Instructions 8
X. Diagrams and Figure 10
1. Assembly Drawing 11
2. Control Box Parts Diagram 13
3. Overall Dimension Drawing 15
5. Main Circuit Connection Diagram 18
6. Panel Connection Diagram 19
7. Power Supply Circuit Diagram 20
8. Main Switch Position Drawing 21
9. Pneumatic Schematic Drawing 23
10. Protection Diagram 25
11. Diagram of Protection from Pressing 26
12. Fork Handling Diagram 27
13. Space and Position for Worker 28
14. Panel Operation Position Diagram 29
15. Warning Sign Position Drawing 30
XI. Packing list 31
XII. Product Certificate 32
XIII. Warranty Card 33

I. General Description

LAS series sealing machine manufactured by us are pneumatic instantaneously-heating double-sided sealing machine, and are applicable to large (external) sealing of packaging plastic bags in a variety of industries.

1. This series of sealing machines are vertical or horizontal sealing machines and are provided with a cylinder as closing force source, which provides a great and steady sealing pressure, improved sealing quality and working efficiency and reduced working efficiency.
2. This machine has one upper (or front) heating wire and one lower (or rear) heating wire for heating of the sealing area, with high power, short heating time and firm sealing. The sealed area of packaging bags is neither crimpled nor shrunk, with clear patterns. Therefore, this machine can achieve the good effects that are impossible for traditional heating-type sealing machines.
3. The heating and cooling time of this machine is controlled via OMRON relay made in Japan, with absolutely accurate time control. This machine is applicable for sealing of plastic bags made from different materials and with different thicknesses, and satisfactory effects can be obtained in any case.
4. This machine has sealing strip that is 1200~4500mm long (accurate length is chosen according to customer's requirement). Its sealing width (namely width of the electric heating wire) ranges from 25mm, 15mm, 10mm, 8mm to 5mm.
5. This machine uses imported ejection switch which sensitively reacts can well protect the operators from being hurt.

   The safety and mechanical and electrical systems of LAS 250/A meet European standards of EN292-1，EN292-2：1991 and EN60204-1：1997.
6. This machine is designed with advanced technology. Push the start switch, one pressure reducing electromagnetic valve starts to work first. The cylinder declines driven by a low pressure, during which hands will not be hurt even if they are stuck

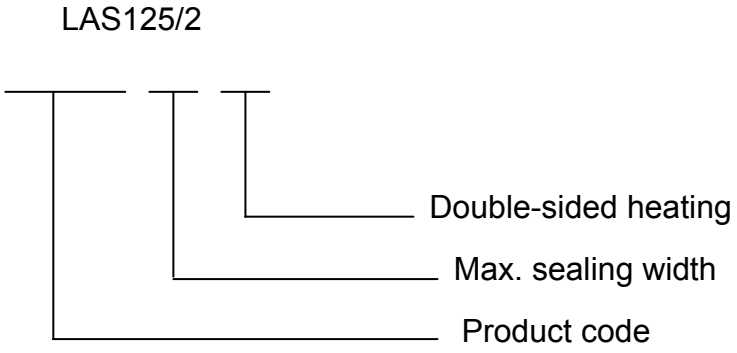
in the sealing bars. In this process, the machine will not go to next step, because for the machine's normal work, the cylinder has to decline to the right position, then the travel switch put current on for the next step. Then the other electromagnetic valve is electrified. It starts to output high pressure to drive the sealing, which guarantees the plainness of the seal. It reaches the standards of safety and beauty. The procedure is low pressure presses down the cylinder first and then high pressure drives sealing.

The complete machine is composed of the following sections:

Rolled film ⟶ Sealing unit ⟶ Heating unit ⟶ Finished products

II. Definition, Functions and Overall Dimensions of the Machine

1. Type designation



2. Names and overall dimensions of each component of the machine. (See Assembly Drawing and Overall Dimension Drawing of the sealing machine.)

Type: LAS 125/2

1) Power supply: 220V. 50HZ
2) Heating power: 4000W
3) Applicable air pressure: 0.6Mpa

4) Max. sealing length: 1200mm

5) Overall dimensions: 1370*1110*1380mm

3. Function description of each component of the machine

3.1 This machine consists of the body, film groove, sealing strip and electrical control system.

3.2 Film groove: put a roll of film into the groove, and then pull out the film and insert it into between upper and lower aluminum sealing strips.

3.3 Sealing strip: as the actuating cylinder comes down, press the film tightly. The heating plate is powered up via a heating transformer and thus heats and seals the sealing strip.

3.4 Electrical control system

The electrical elements of the machine indicated on the electrical wiring diagram are all mounted in the electrical control cabinet. The control buttons and all the instruments are located on the control panel (See Assembly Drawing).

4. Installed power

Heating transformer: 4KW （for the sealing width of 15mm, the heating transformer power is 2.5KW）

III. Transportation, Installation and Storage

1. Installation

(1) After unpacking, unload the machine onto the ground by using a forklift and check that all its components and parts are in good conditions.

(2) Place the machine in the selected working area, which should be flat and clean. After the machine is placed in position, apply the brake to the caster wheels.

2. Ambient conditions for storage

The machine should not be installed and stored in the following conditions:

(1) Direct sunlight or ambient temperature exceeding 45°C;

(2) Exposed to rain or snow or sudden temperature change or relative humidity exceeding 95%;

(3) There is much dust or corrosive gas;

(4) There is high impact or shock.

3. Removal of the machine and disposal of removed materials

External package of this machine is wood packaging material, and can be reused. Please store the packaging box for use in the future.

4. Transport and lifting of the machine

This machine is packed in a wooden box and loaded/unloaded using a forklift (see Fork Handling Diagram).

5. Installation area and operation position drawing of the machine (See the diagram of Space and Position for Worker).

IV. Maintenance

1. Before starting the machine, please check it carefully and guarantee that there are no foreign matters under the worktable and sealing strip.
2. After work is finished, turn off the power supply and air supply.
3. Drain the water in the FR.L combination for air treatment at regular intervals.
4. If plastics are melted and adhered to the cloth due to incorrect operation, do not remove it by using a hard tool. Please remove it by using a soft cloth or other soft tools. Or otherwise the PTFE cloth will be damaged and thus there will be direct adverse effects on the sealing quality.

V. Adjustment and Operation

1. Before use, check whether the supply voltage complies with the specifications of the machine and power lines are connected firmly. Connect 220V single-phase power supply, turn on the power switch and check if the Power indicator lamp is lit up (see Power Supply Circuit Diagram).

2. Connect the air supply: all actuating cylinders of the machine are driven by compressed air. There is a FR.L combination for air treatment on the right side of the machine enclosure. See Fig.1. Insert a 8mm tube to connect 0.8MPa air into the suction inlet. After the tube is connected correctly, adjust the air pressure to 0.5~0.6Mpa generally. After a black handle on the 2-part combination is pulled up, turn it to the right and you can adjust the air pressure. Press down the handle and lock it in position.
3. Select the high temperature and low temperature according to the material and thickness of the sealed bags. Adjust the heating and cooling time on the time relay. Generally, heating time is adjusted to 2~6 seconds and cooling is adjusted to 6~12 seconds (see panel operation instructions). In general, before the first sealing, the cooling time should be preset to a greater value. If the sealing quality is found very good, cooling time can be reduced.
4. Insert foot switches on both sides, and step on them for a trial (you should step on the switches with both feet). Then the heating strip begins to go down at a speed that can be controlled by adjusting the lower unidirectional shutoff valve on the closing cylinder. When the cylinder goes down, heating time relay starts to work. Green lamp on the time relay is lit up and heating process begins. Then the cooling time relay starts to work and green lamp on the cooling time relay is lit up. After cooling, red lamp on the cooling time relay is lit up. Cylinder for upper heating strip returns to the initial position and sealing is finished. The complete working process is completed.
5. As the plastic bag is not cooled completely, hence it should be raised slowly from one side to the other side. Never pull it down suddenly, which will cause damage to the sealing and affect the sealing quality.
6. If sealing is found not to be firm, increase the heating time. If the sealing is already firm but sealed surface is crinkled or broken, increase the cooling time or reduce the heating time. Try sealing several times until firm sealing, clear patterns and no crinkles or shrinkage are realized. Then normal sealing can be conducted according to the preset time (Note: there should be no objects between the ejection switches

on both sides. Or otherwise the red lamp on right switch will come on to indicate that the machine cannot work). In this case, step on the foot switches, and the machine will not operate, in order to ensure worker safety.

7. There are two magnetic switches on the middle cylinder of the machine: one is upper limit switch, the other is lower limit switch. The upper limit is the switch of the cylinder lifting to the position. The lower limit switch controls the position of the cylinder. When the cylinder goes down to the position of the magnetic switch, the upper heating bar is held there, so that the worker can stretch the up and down films to make good seals. The lower magnetic switch can be adjusted by the worker. (**Note:** if either of the magnetic switches is not in place, an alarm code will appear on the screen.)

VI. Replacement of Wearing Parts

1. Replacement of electric heating wire

   Cut off a proper length of the original heating wire at its ends. Unscrew the red screw on hold-down strip for PTFE cloth on the heating wire, take down the hold-down strip. Unscrew the screws on the heating seat at the wire ends. Remove the heating wire. Insert one end of the new heating wire into copper screw groove and turn it by several turns. Tighten the nuts of the copper screws, and tension the heating wire. Install the other end of heating wire in the same method. Tighten the heating and nuts. Check that upper and lower heating wires are flush with each other. Note that lower red silicon rubber strip is flat and ensure the insulation between the heating wire and heating aluminum strip.

2. Replacement of PTFE cloth

   Remove the hold-down strip and screws on the cloth, loosen the spindle. Pull out a little cloth and cut off the damaged part of the cloth. Re-install the hold-down strip and screws, tighten the spindle and press it tightly. Be careful that the PTFE cloth should not become crinkled. Or otherwise sealing quality will be affected.

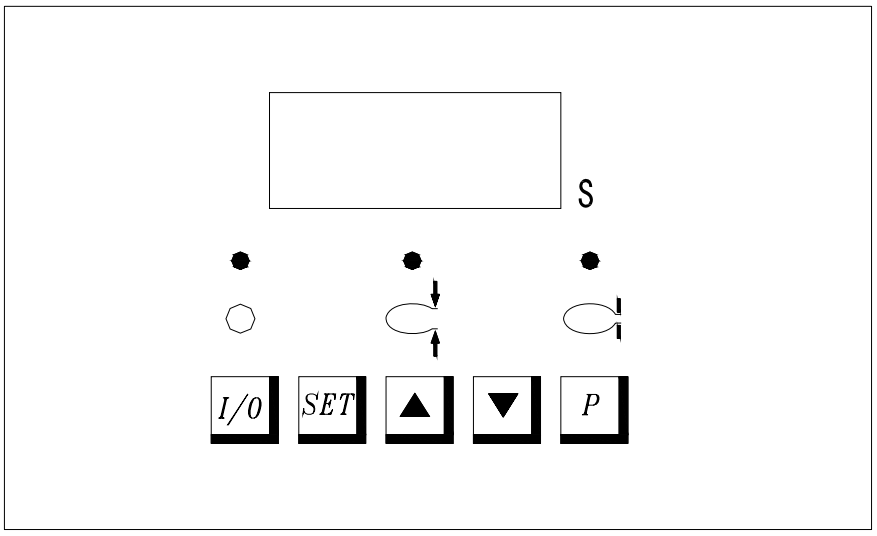
VII. Troubleshooting

Symptoms	Possible Cause	Solutions
Poor sealing	1. Heating time is too short; 2. Heating pressure is not enough.	1. Increase heating time; 2. Adjust air pressure to a higher value.
Crinkled or melted sealing	1. Heating time is too long; 2. Cooling time is not enough; 3. Upper and lower heating wires do not flush with each other.	1. Reduce heating time; 2. Increase cooling time; 3. Make the heating wires flush with each other.
Temperature rises after use for some time, causing crinkling or melting of the sealing area	Frequent operations lead to the consequence that the temperature of heating wires cannot be reduced to room temperature within a short time and will normally rise due to absorbing some heat.	Reduce the heating time slightly in order to allow temperature balance.
When the power switch is turned on, heating wire becomes normally-heated and burns PTFE cloth	SSR2 solid state relay is damaged, causing that there is normally current flowing through the heating wire.	Replace it with a new one.
Connect the power supply and switch the power on, the indication lamp is not on.	1. Poor contact of power switch; 2. The air switch inside the machine is not switched on; 3. The indication lamp has broken down.	1. Replace the power switch or repair it; 2. Put the air switch on; 3. Replace or repair the indication lamp.

VIII. Safety Warnings for Operation

1. Operators who have not received training must not operate the machine.
2. The machine should not be put into operation before commissioning of the complete machine is not completed.
3. All the safety devices and grounding devices on the machine are used to ensure operation safety of the machine and personal safety. Any persons are not allowed to dismantle them. Or otherwise personal and equipment accidents will be caused.

IX. Control Panel Instructions

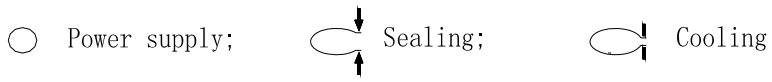


1) Panel brief introduction:

This pane is digisplay panel.

The points are indication lamps. When the lamp is on, it shows related operation. From left side, the first lamp indicates the operation of the machine; the second

indicates the sealing time; the third indicates the cooling time;



”I/0” is button for digisplay panel.

“SET” is button for setting the time of sealing and cooling.

▲ is button for increasing.

▼ is button for decreasing.

“P” is button for choosing formulas.

2) Operation instruction:

Switch the power supply on first and then press the button “I/0”, the digisplay panel is on. It displays “P1”. Press the button “SET”, the indication lamp of sealing is on indicating sealing time. Press button ▲ or ▼ to adjust sealing time according to the products conditions. When this is done, press button “SET” again. Then the indication lamp of cooling is on showing the time of cooling. The adjusting method is the same as above. When all these are done, press button “SET”, it will return to the page showing the number of formulas. The panel now displays “P1”. Till now, operation settings are finished, the machine can start to work.

(1). Save the formula.

The machine can save 9 formulas. Press “P”, it will show all the formula numbers. Save different formulas according to the product conditions. The method is as above.

(2) Access formula.

Switch on the power supply, press “I/0”, the digisplay panel will show the formula number used last time, for example “P1”. If you want to use formula 3, press “P” twice, the panel will show “P3” and the parameters of operation are those of formula 3.

(3). Alarm

When the machine is giving alarm, the panel will show the code number. Check the

trouble according to the number. After clearing the trouble, turn off the power first and restart the machine.

C1. Ejection switch alarm

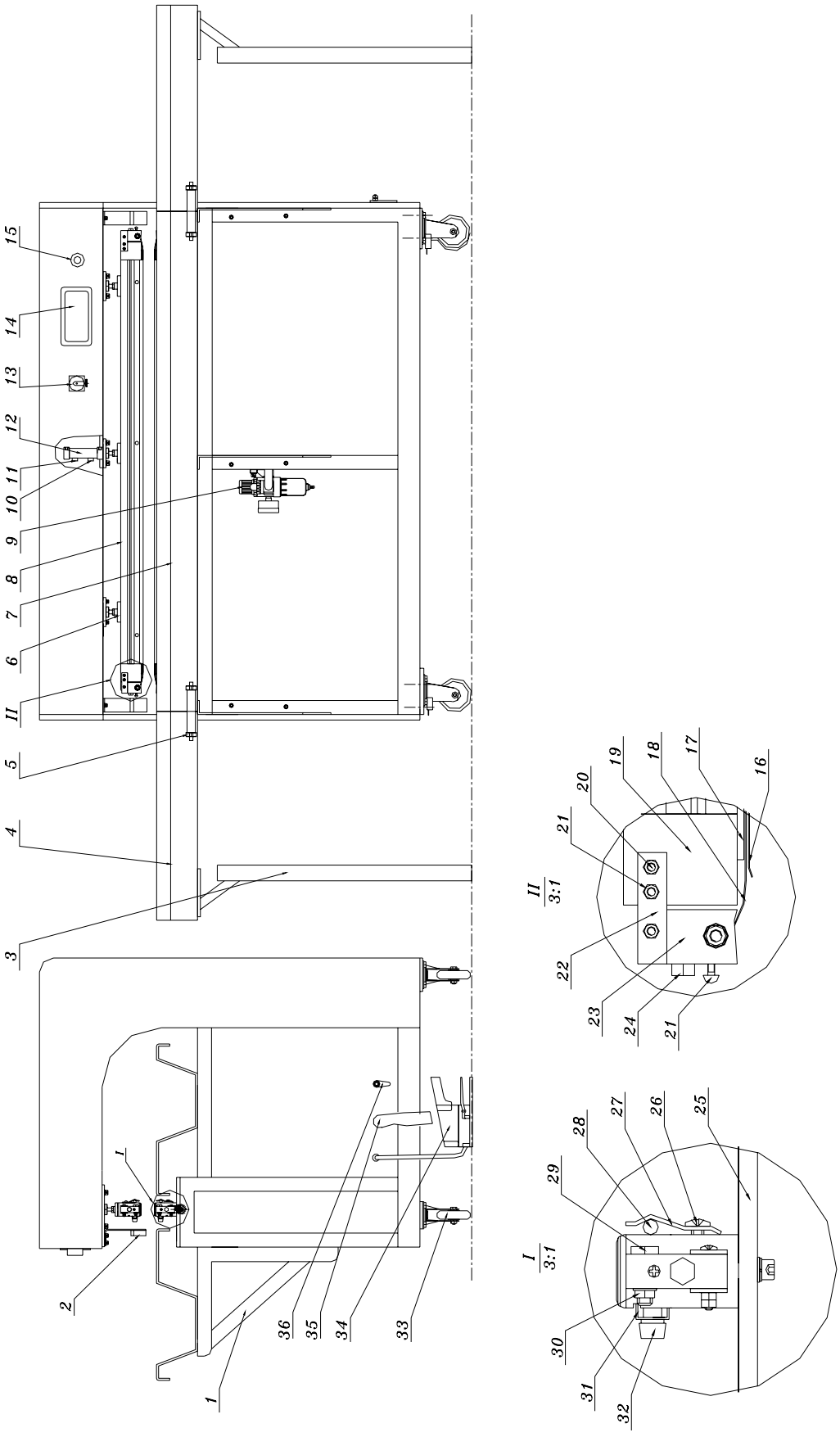
C2. Low pressure alarm

C4. Lower limit magnetic switch alarm

C5. Upper limit magnetic switch alarm.

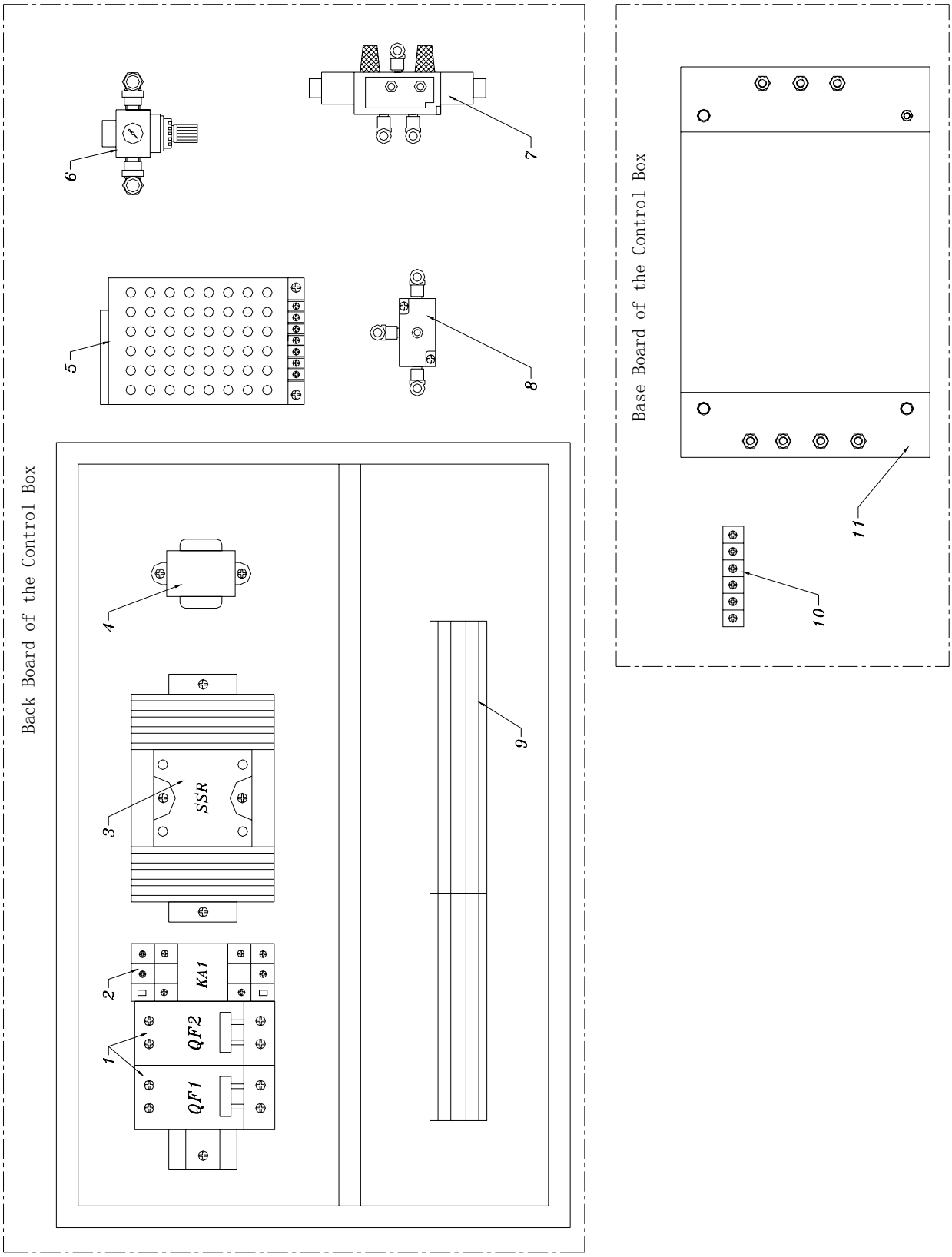
X. Diagrams and Figure

1. Assembly Drawing



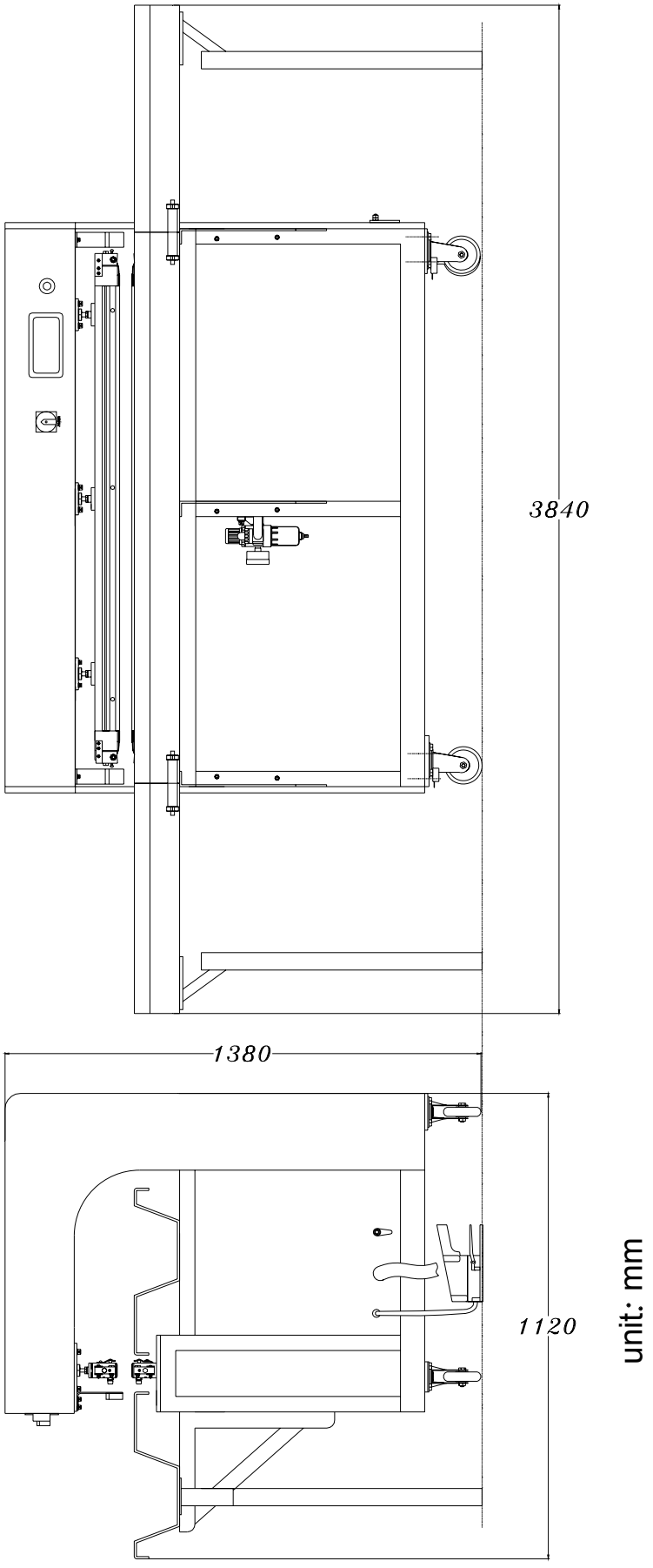
1) Guide bracket
2) Ejection switch
3) Support shaft
4) Demountable guide slot
5) M12 nut
6) Small cylinder connector
7) Supporting film guide
8) Sealing aluminum strip
9) Filter and pressure reducing valve
10) Lower limit sensor of the sealing cylinder
11) Upper limit sensor of the sealing cylinder
12) Cylinder
13) Power supply switch
14) Control panel
15) Emergency stop switch
16) Teflon cloth
17) White silicone rubber
18) Heating wire
19) Insulating board
20) M4 round head screw
21) M4 nut
22) Fixing iron sheet
23) Copper connecting block
24) M6 copper bolt
25) Aluminum strip seat plate
26) M6 round head screw
27) Hold-down sheet
28) Teflon cloth reel
29) M6 copper terminal bolt
30) M6 nut & flat washer
31) Stainless steel hold-down strip
32) Rubber cap screw
33) Caster
34) Pedal switch
35) Incoming power cable
36) Ground protection
37)

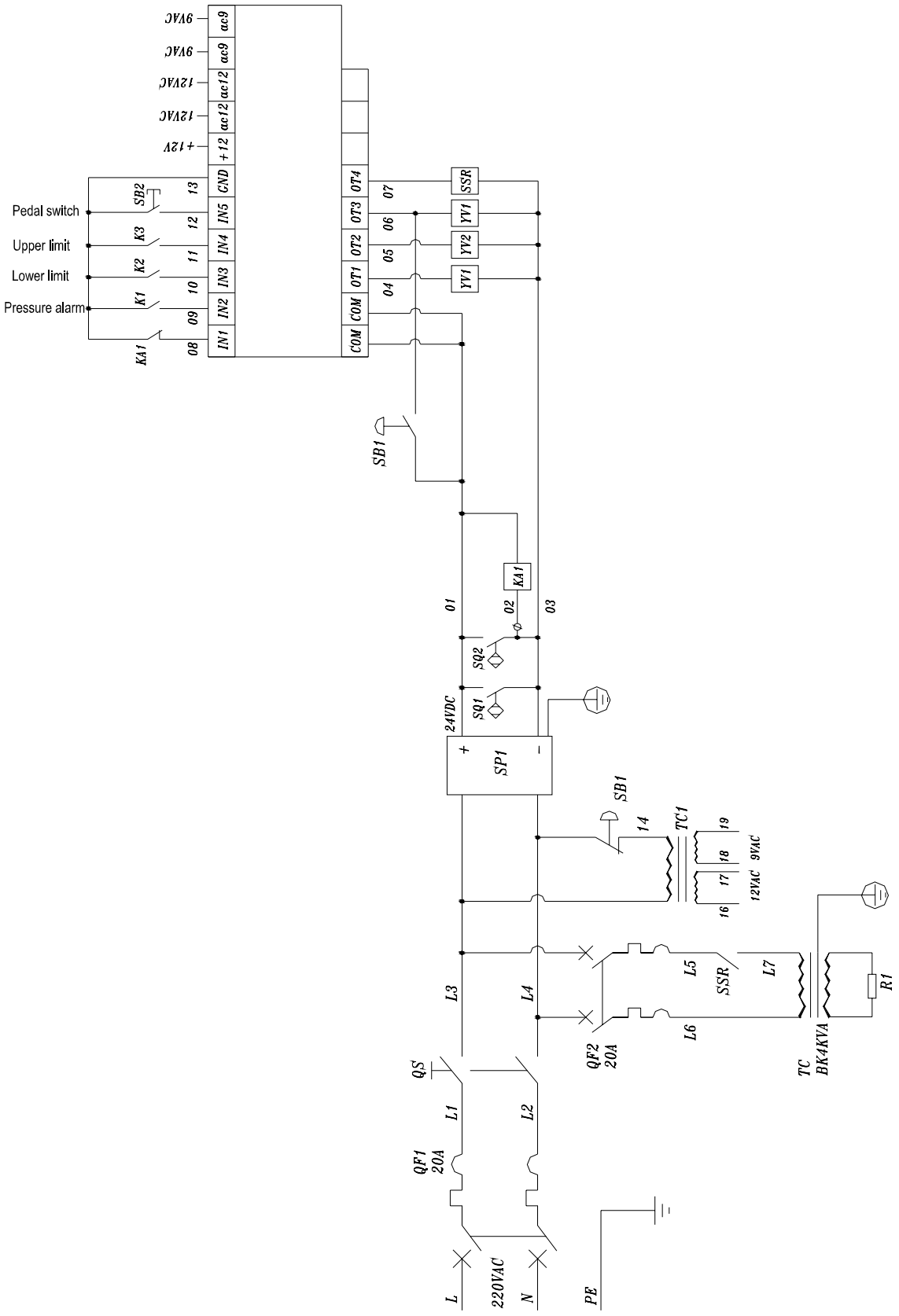
2. Control Box Parts Diagram



1. Air switch
2. Intermediate relay
3. Solid state relay
4. Control transformer
5. Switch power supply
6. Independent barometer
7. Double electric control reversing solenoid valve
8. Solenoid valve
9. Terminals
10. PE terminals
11. Heating transformer

3. Overall Dimension Drawing




9VAC
9VAC
12VAC
12VAC
+12V
GND
IN5
IN4
IN3
IN2
IN1
OT4
OT3
OT2
OT1
COM
COM
SB2
K3
K2
K1
KA1
Pedal switch
Upper limit
Lower limit
Pressure alarm
SSR
YV1
YV2
YV1
SB1
KA1
SQ2
SQ1
24VDC
SP1
TC1
12VAC
9VAC
QS
QF1 20A
QF2 20A
SSR
R1
TC BK4KVA
L
220VAC
N
PE

QF1, QF2: Air switch

QS: Power switch

SB1: Emergency stop switch

SB2: Pedal switch

SQ1, SQ2: Ejection switch

SP1: Switching power supply
SSR: Solid state relay

TC: Heating transformer

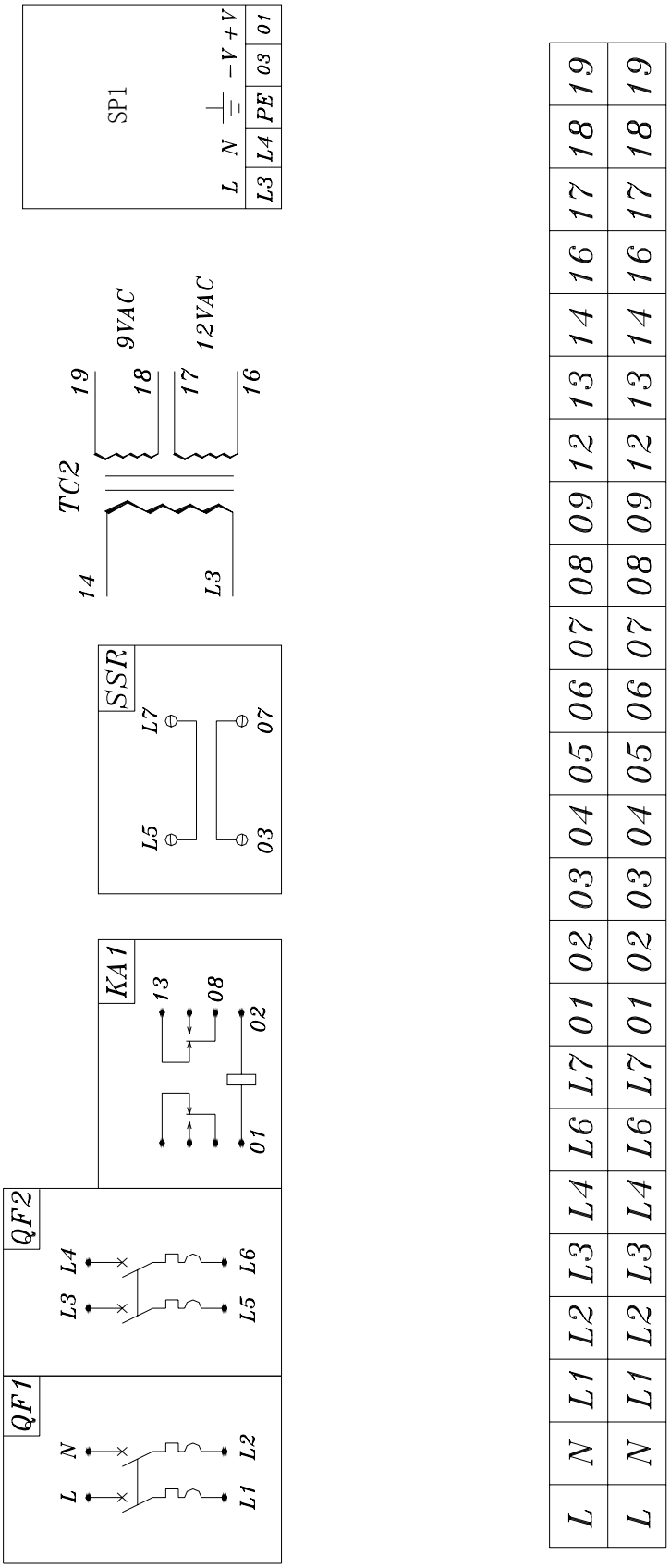
TC1: Control transformer

KA1: Intermediate relay

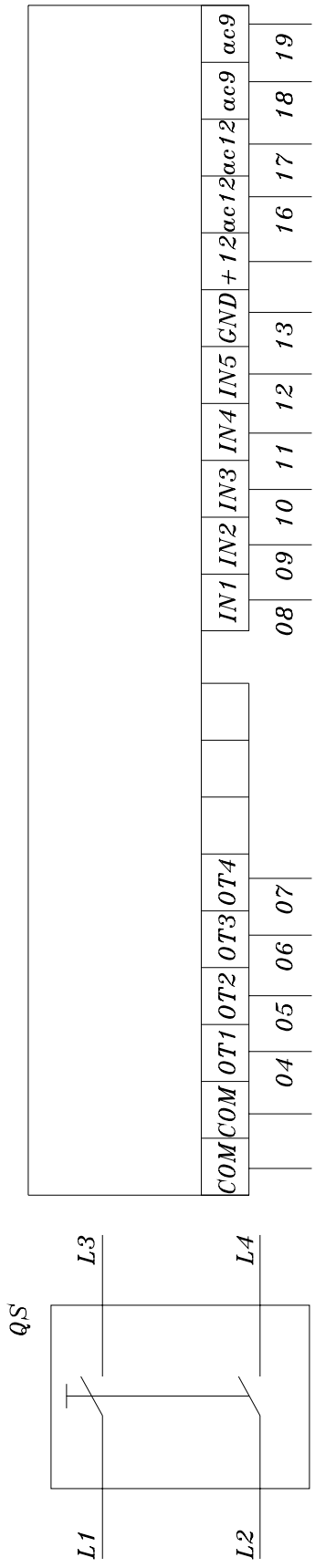
V1: Double control solenoid valve

V2: Solenoid valve

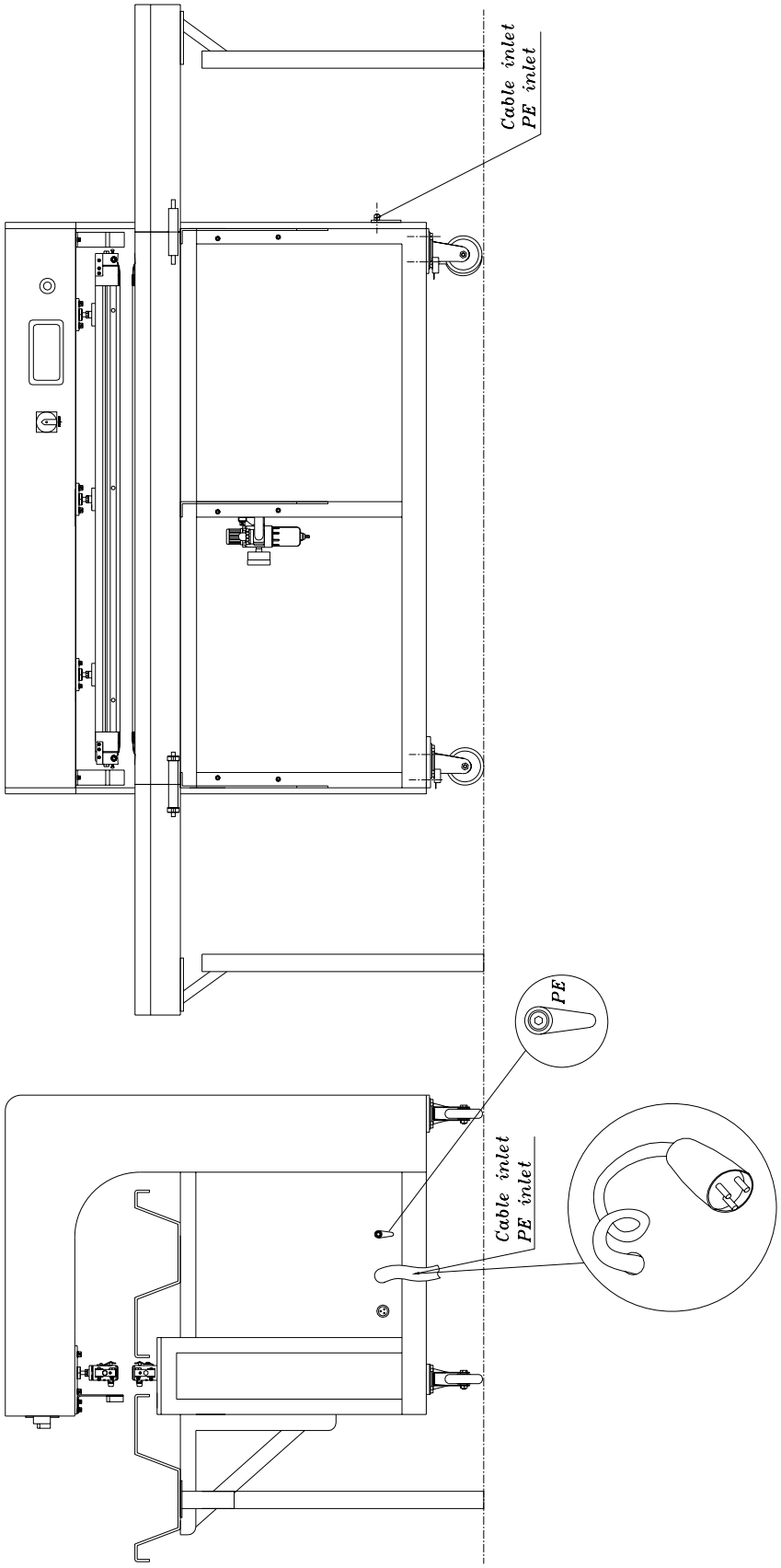
5. Main Circuit Connection Diagram



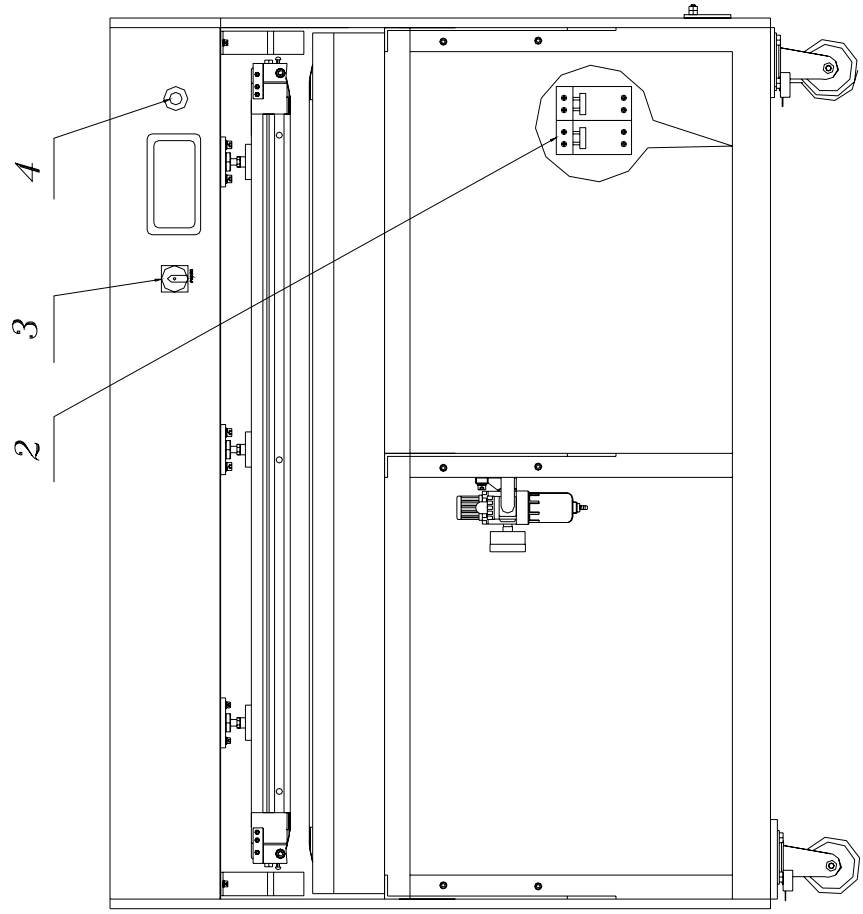
6. Panel Connection Diagram

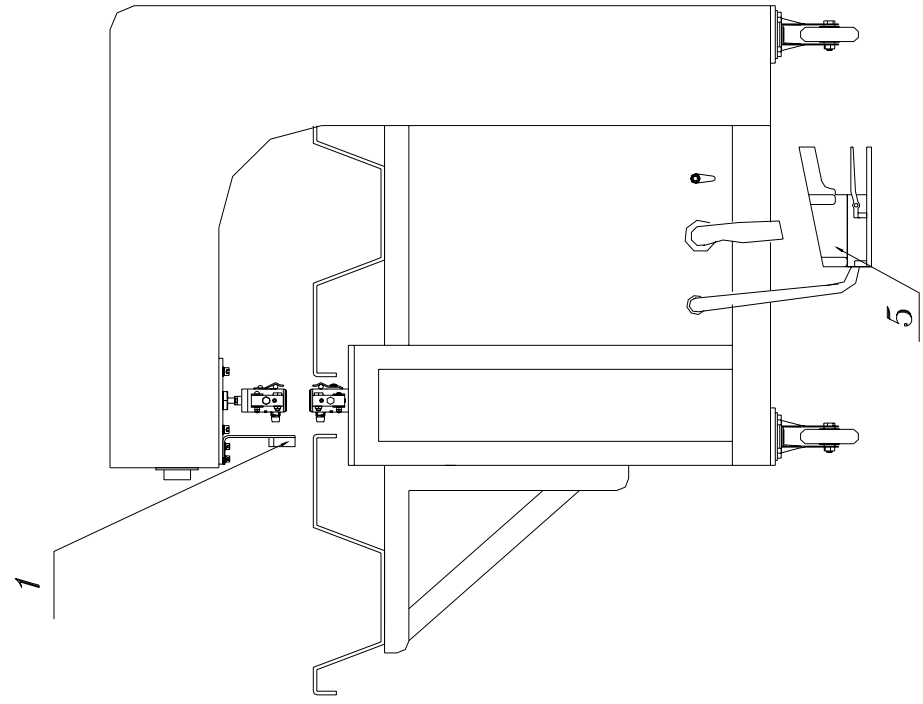


7. Power Supply Circuit Diagram



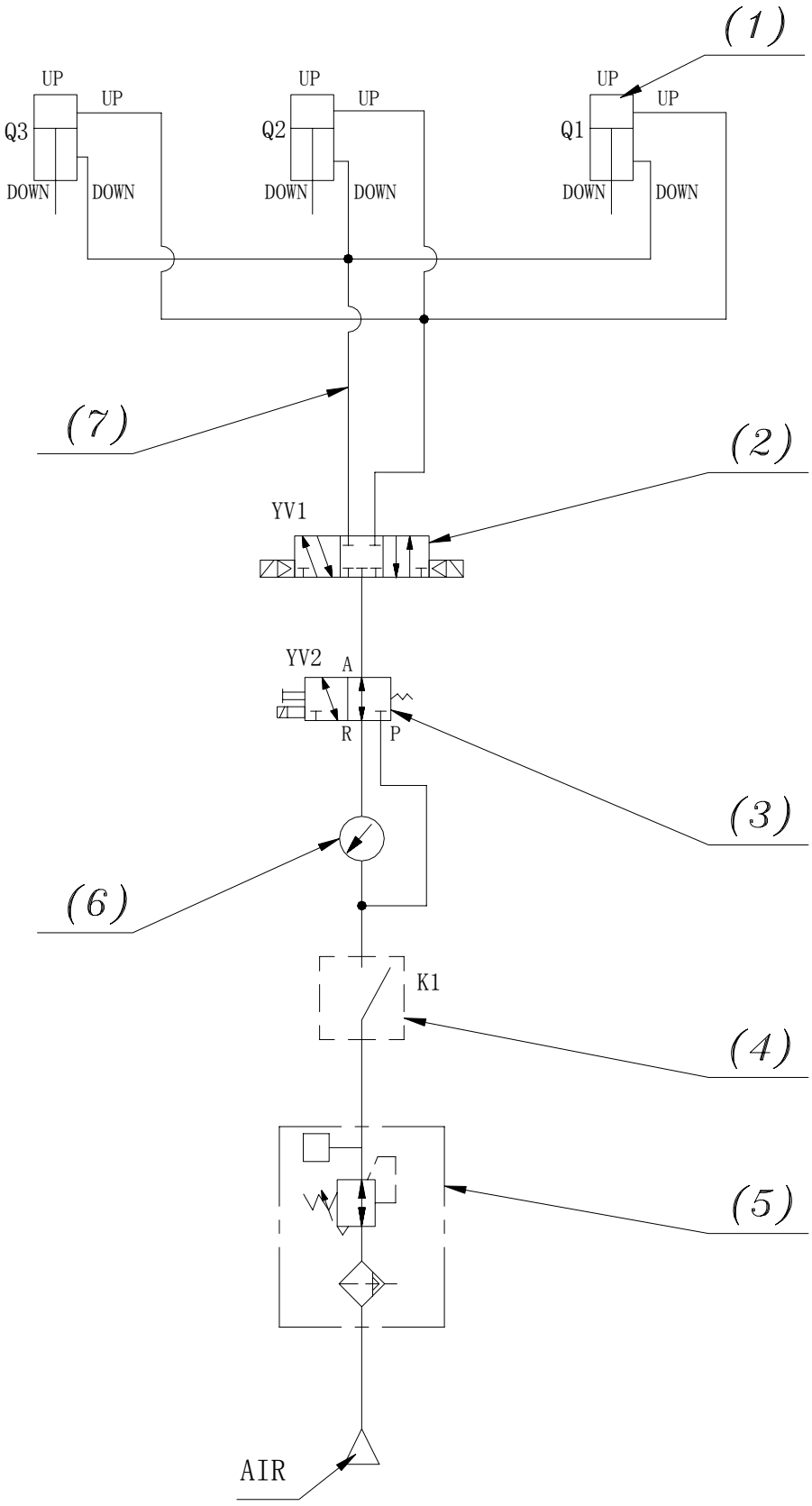
8. Main Switch Position Drawing





1) Ejection switch
2) Air switch
3) Power switch
4) Emergency stop switch
5) Pedal switch

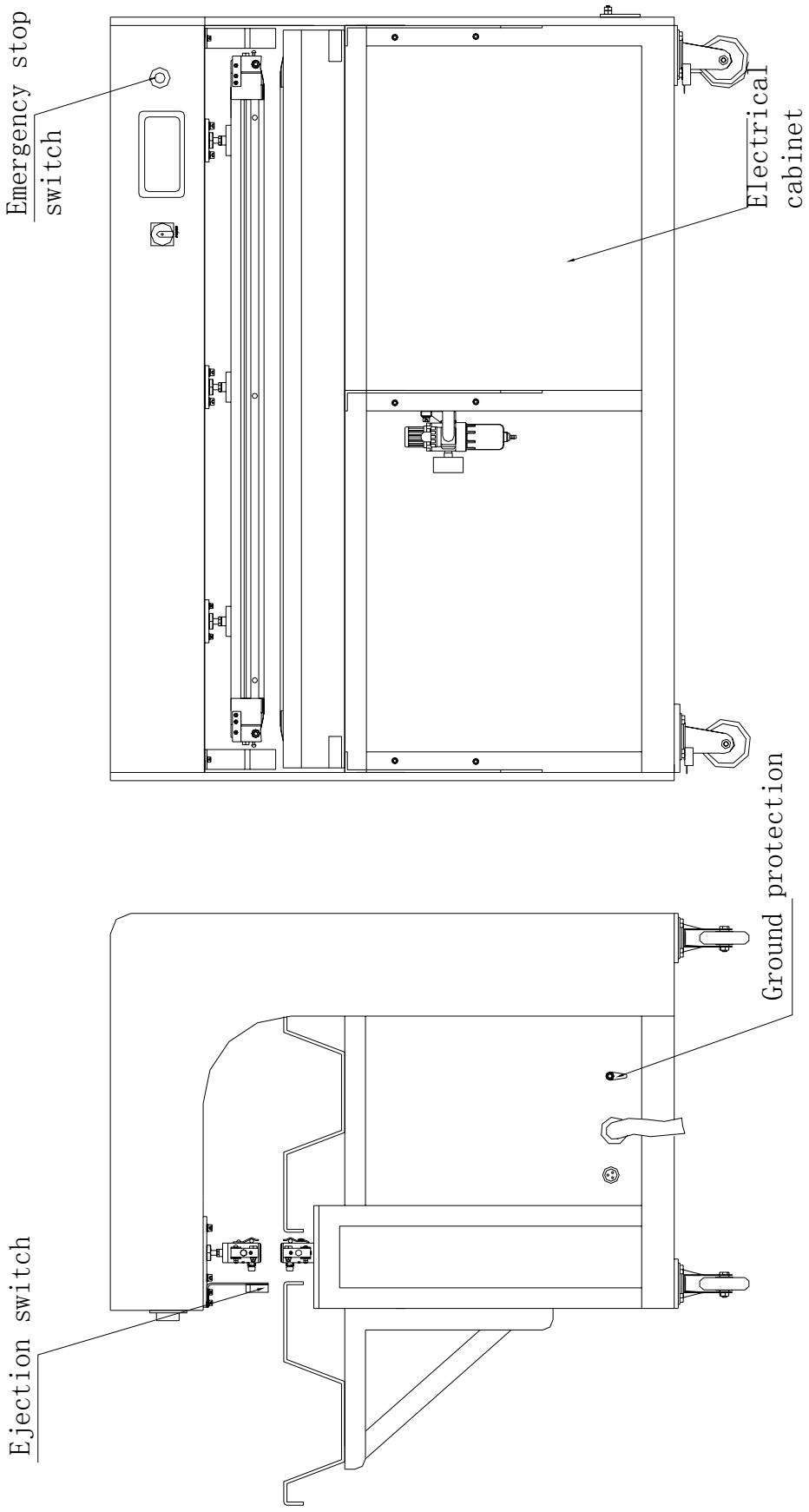
9. Pneumatic Schematic Drawing



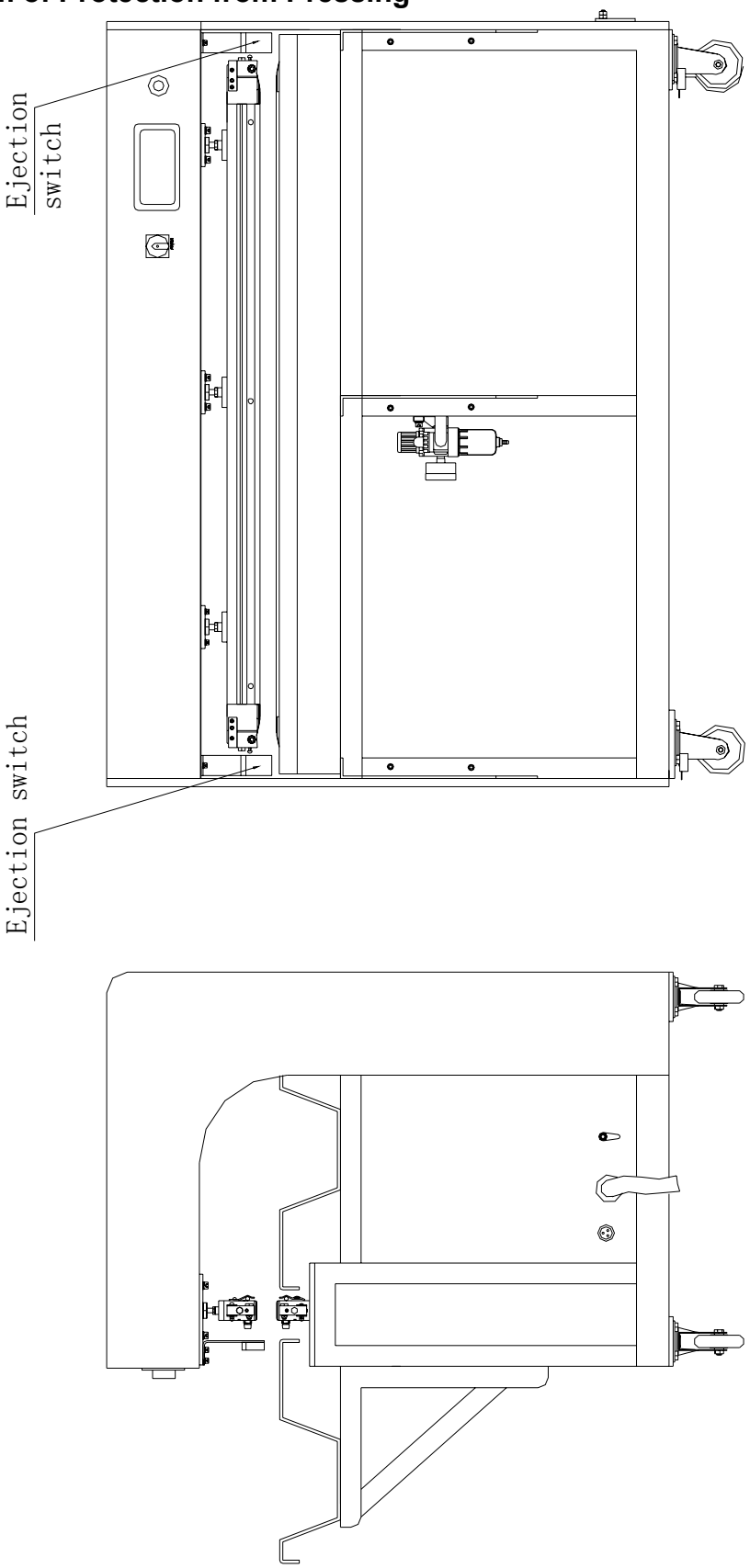
Note: Other PU pipes are allΦ8 black.

Ref.	No.	Name	Qty.	Material	Weight		Memo
					Unit	Total	
1	（1）	Cylinder	3	CM2BZ40-75			"SMC"
2	（2）	Double electirc control reversing solenoid valve	1	SY7320-5G-02			"SMC"
3	（3）	Solenoid valve	1	VT307-5G-01			"SMC"
4	（4）	Pressure controller	1	PC-200-3.90E4.10E			
5	（5）	Filter and reducing valve	1	AW20-02BG			"SMC"
6	（6）	Independent barometer	1	AR25-02BE			"SMC"
7	（7）	PU pipe	1	Φ8 light red			

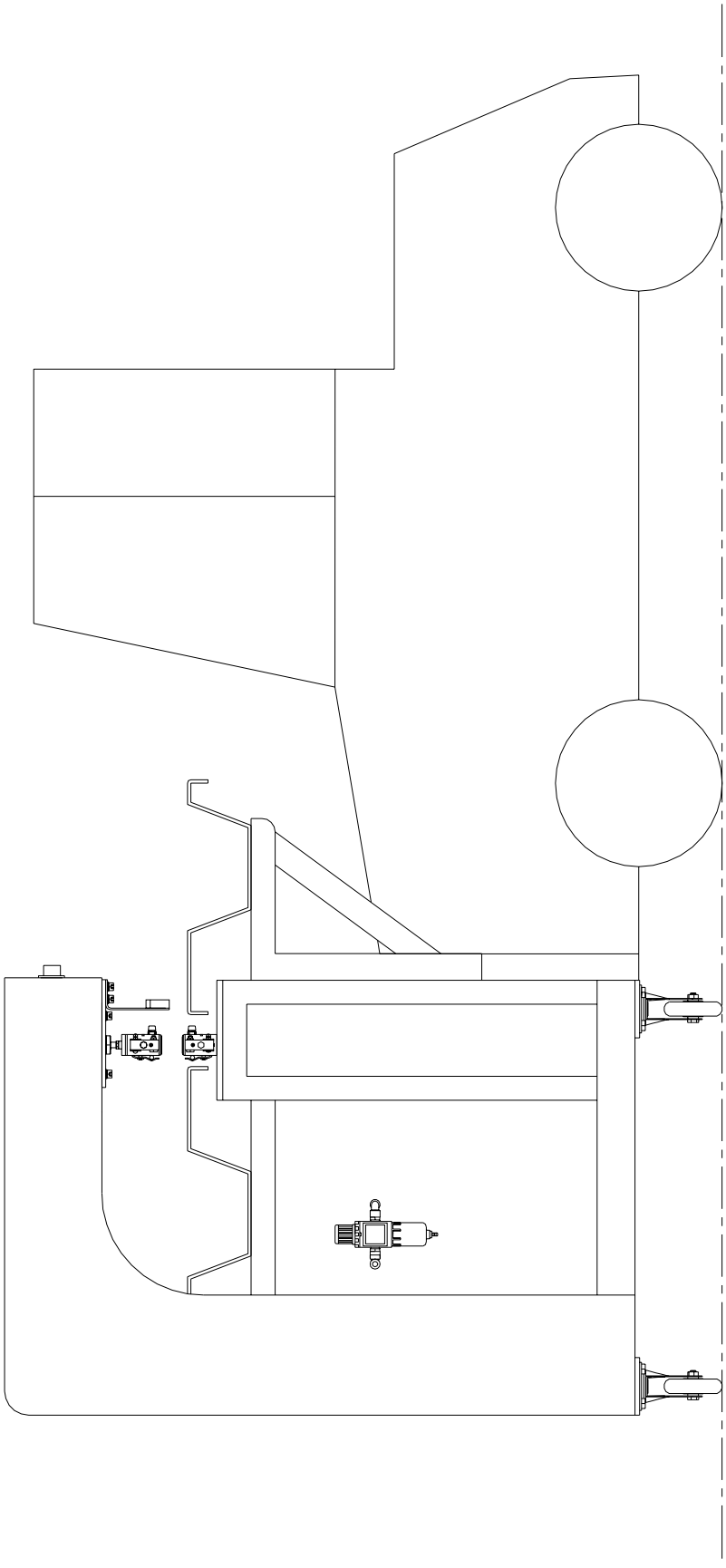
10. Protection Diagram



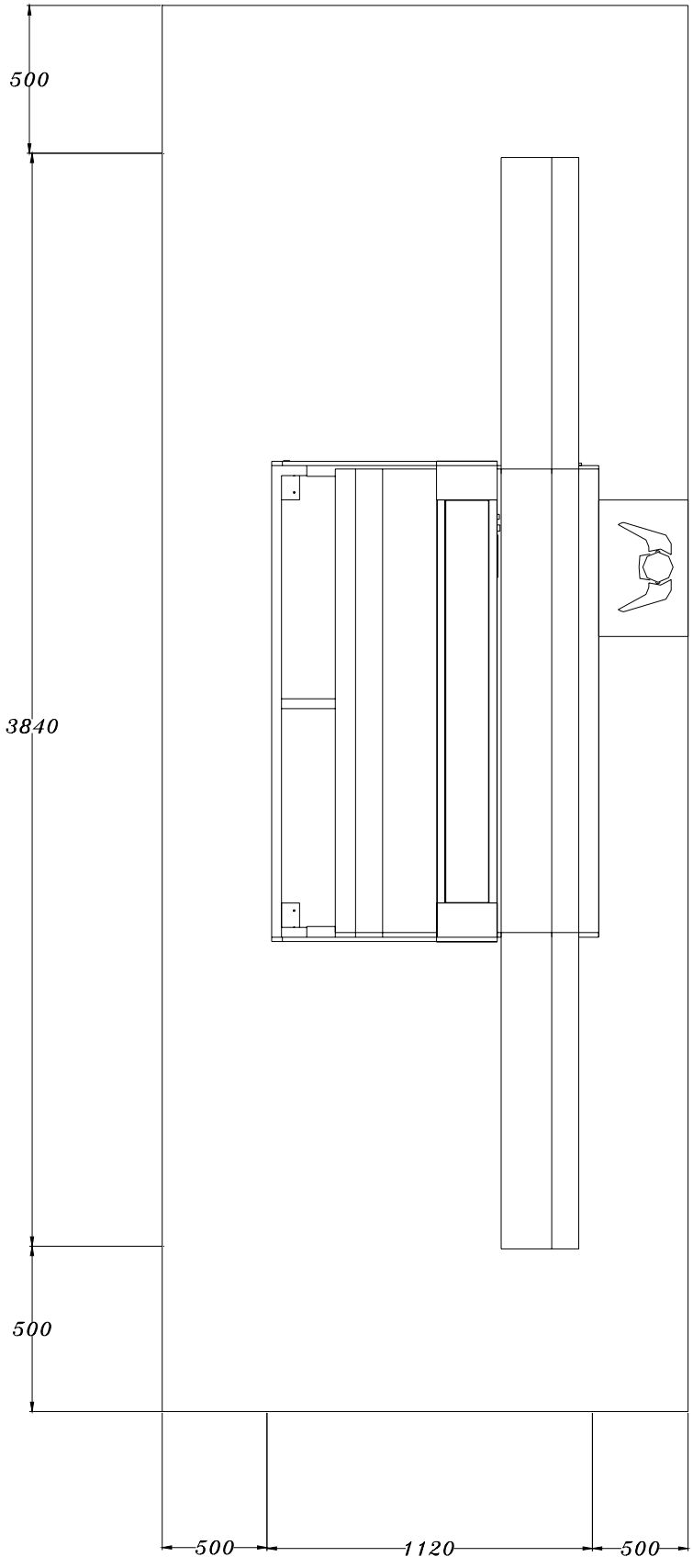
11. Diagram of Protection from Pressing



12. Fork Handling Diagram

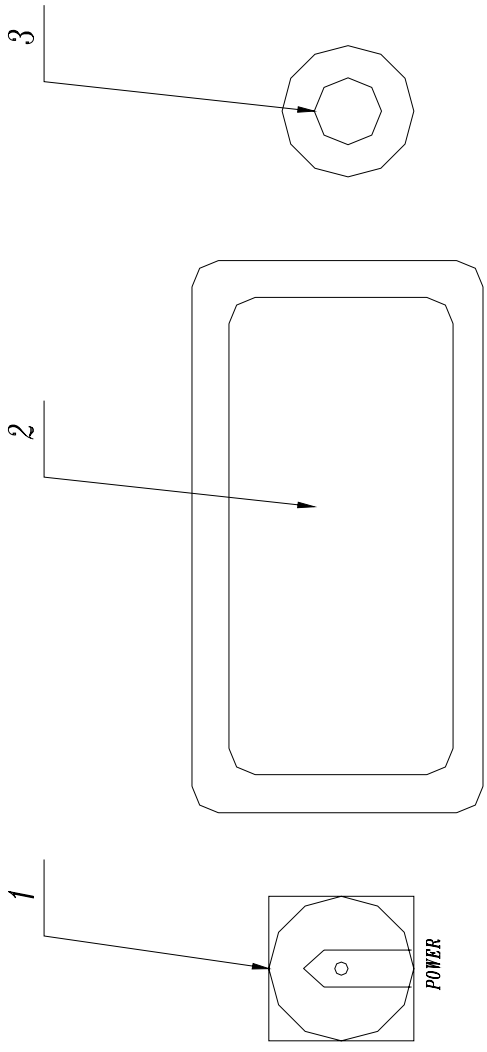


13. Space and Position for Worker

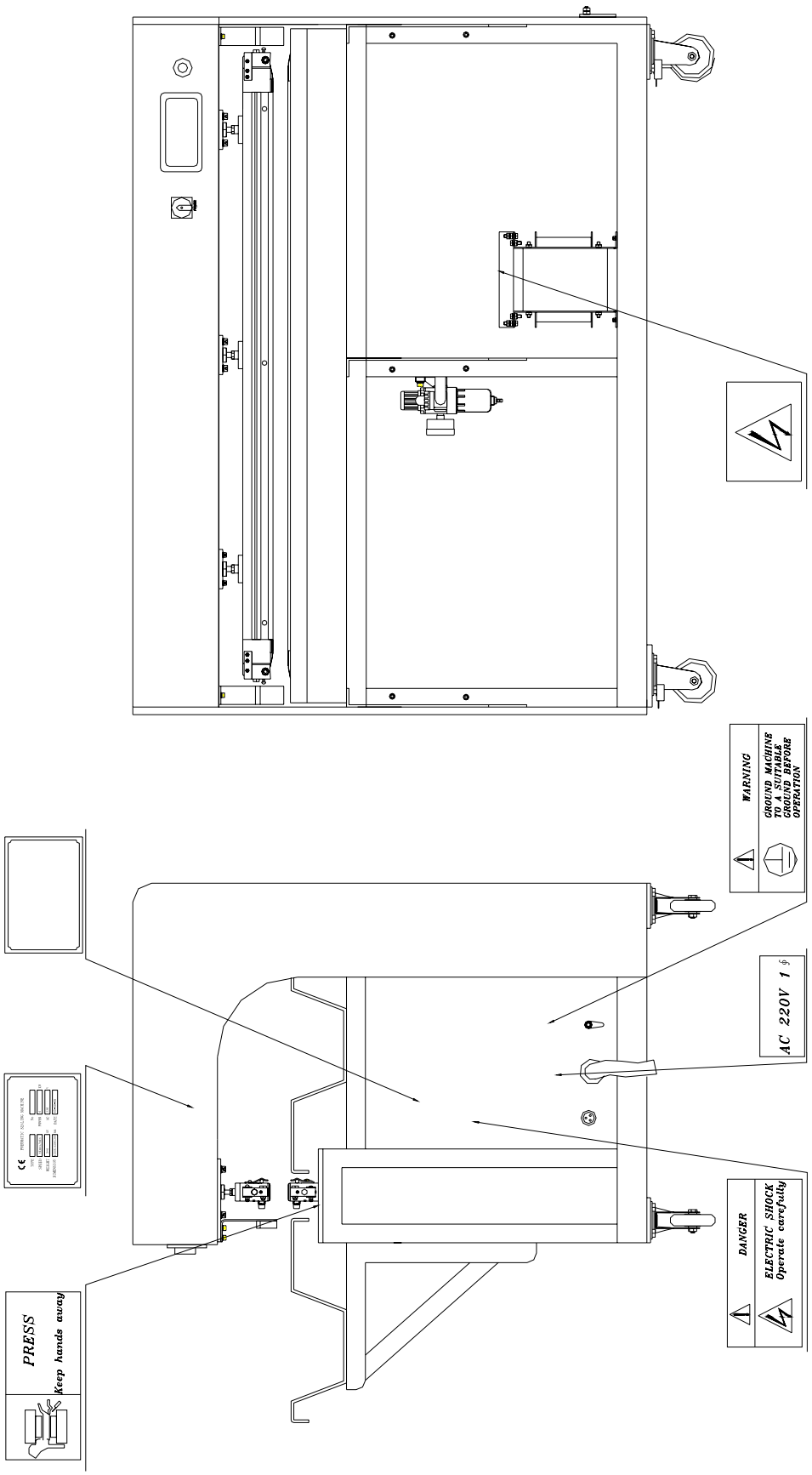


14. Panel Operation Position Diagram

1	电源开关/POWER	
2	控制面板/CONTROL PANEL	
3	紧停开关/EMERGENCY	



15. Warning Sign Position Drawing



XI. Packing list

Description	Spec and type	Unit	Qty	Remark
Heating wire	25mm	pc	2	
Teflon cloth		roll	1	
Silicone rubber strip		roll	1	
Screwdriver	cross head	pc	1	
Screwdriver	flat-tip	pc	1	
Inner hexagon spanner	5	pc	1	
Inner hexagon spanner	6	pc	1	
Open spanner	8-10	pc	1	
Open spanner	12-14	pc	1	
Pedal switch		pc	1	
Copper screw	M8	pc	4	

XII. Product Certificate

Product Certificate

Product Name: **Pneumatic Sealing Machine**

Product Size: **LAS 125/2**

Product Number: _____

The said product has been tested and proved to comply with current applicable standards and is hereby permitted to be delivered.

Inspector: _____ **Date:** _____

Chief Inspector: _____ **Date:** _____

VISTATEC

XIII. Warranty Card

Warranty Card

Product Name: Pneumatic Sealing Machine Type: LAS 125/2

Customer's Name: Address:

Tel: Fax: Post Code:

Date of Purchase: Invoice No.:

Precautions:

1. The warranty period is one year from the date of purchase of this machine.
2. Correct operation and careful maintenance will help to prolong the service life of the machine. Please operate it according to the User's Manual.
3. Keep clean the machine and the environment around it.
4. Please do not dismantle the machine parts and displace any parts or assemblies inside the machine.
5. If any unusual conditions occur, please do not use the machine any more, and send a notice to us as soon as possible, notifying the name, type, and manufacture number of the machine.

Maintenance Record Card

Maintenance Date	Fault Description	Maintenance Personnel	Remarks

VISTATEC 0031-592-407615

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