

Automatic Carton Erector

Operating instructions

YPK-4025

Name: Horizontal automatic carton forming and sealing machine

Model: YPK-4025

Size: L2560mm×W1850mm×H1900mm

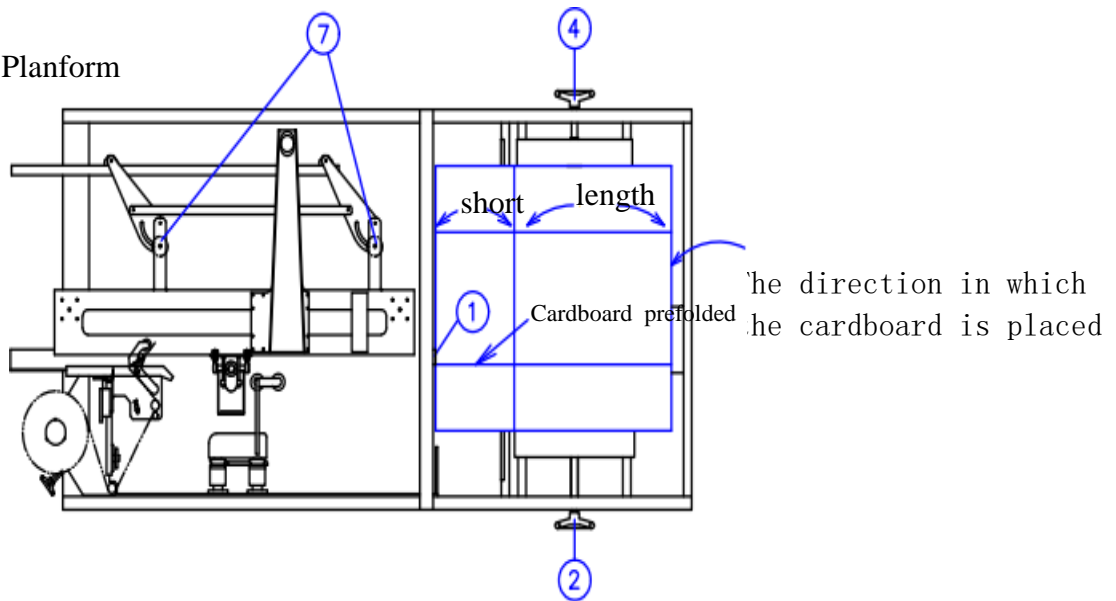
Weight: 1000KG

Directory

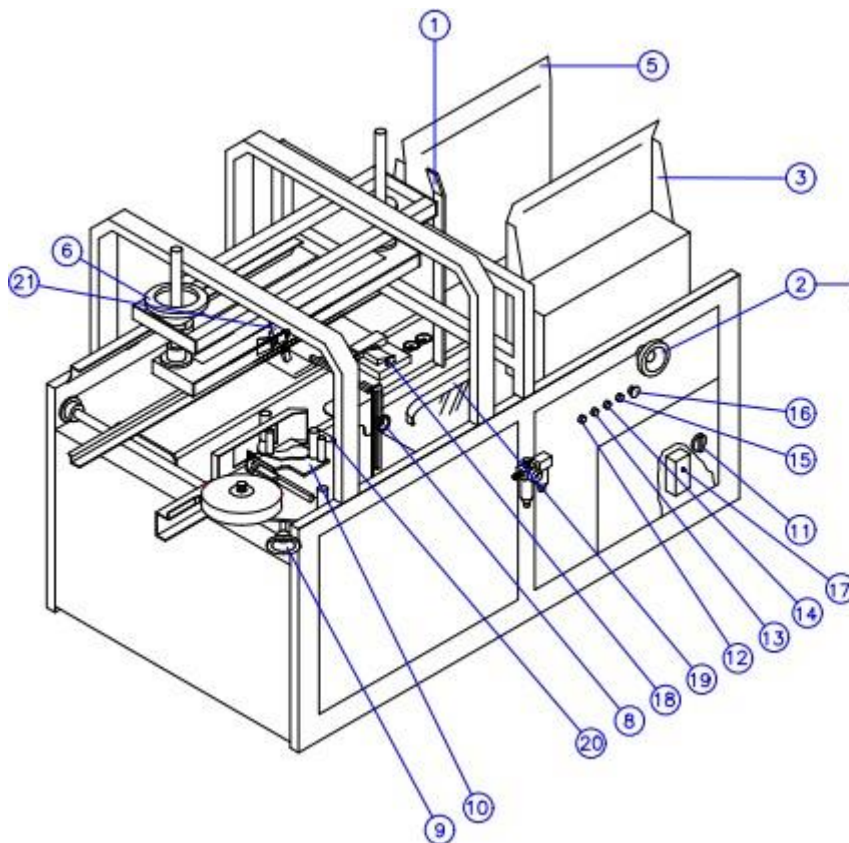
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Structure member name

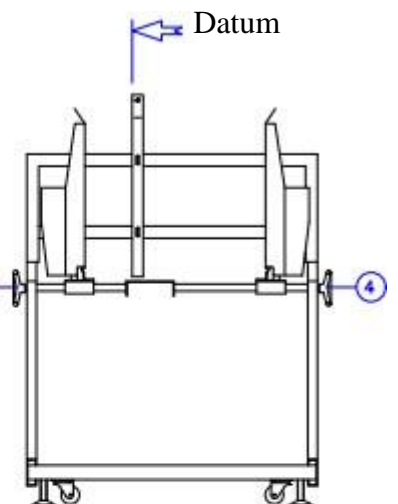
1. Planform



2. Stereogram



3. Side view



Structure member name

- 1 Plate
- 2 Positioning handwheel for cardboard storage tank
- 3 Cardboard storage tank
- 4 Adjustable handwheel for cardboard storage tank
- 5 Cardboard storage tank
- 6 Hand wheel for adjusting height of carton
- 7 Hand wheel for adjusting carton width
- 8 Carton height forming adjusting seat
- 9 Handwheel for adjusting tape height
- 10 Tape holder holder
- 11 The power switch ON/OFF
- 12 Start button
- 13 Inching button
- 14 Test button
- 15 Stop button
- 16 Scram button
- 17 A button to adjust the speed of unpacking
- 18 Pull box positioning mechanism
- 19 Folding front cover mechanism
- 20 Folding back cover mechanism
- 21 Fold cover mechanism

The methods of operation

1.How to boot

Turn the Power switch so that it is ON, the green light is on when the machine is on

2. Adjust according to carton change

2.1 The purpose of adjusting the height of the plate ① according to the thickness of the carton is to make the bottom board pass smoothly, and the rest of the boards are stuck on the turn plate.

2.2 Rotate the handwheel ② to align the cardboard pre-creases with the reference plane of the plate ①.

2.3 Turn the handwheel ④ so that the width of the temporary storage slot is about 1mm greater than that of the cardboard.

2.4 Manual pre-folding of a carton at the end of the unpacking machine, rotate the handwheel ⑥ so that the platen is about 2~3mm above the carton, note the scale for quick adjustment next time. (If the pre-origami carton does not fit the guide slot, You need to loosen the handwheel ④ a little bit).

2.5 Adjust the handwheel ⑦ to press the side guide plate to the side leaf of the carton, but not too tight

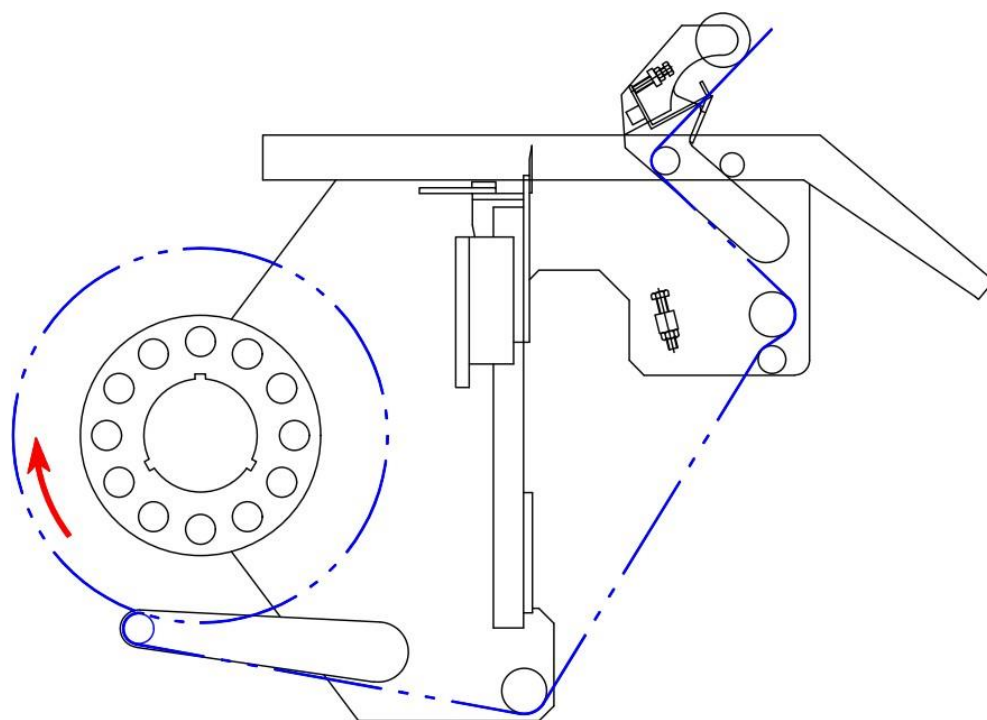
2.6 The fixing block ⑧ is adjusted to be attached to the lower edge of the sucker of the fixing block, the height is about 2~3mm above the underside of the pressure plate driven by the handwheel ⑥, note the scale for quick adjustment next time.

2.7 Adjust the handwheel ⑨ so that the center of the tape wheel is aligned with the middle of the carton.

2.8 Press the test button of the electric control switch (14) to open a carton in advance to observe the density of the carton, if the tightness is not good then fine - tuning according to the above order to achieve the best unpacking state. Press the start button of the electric switch (12) to start the operation.

The methods of operation

3. Tape thread



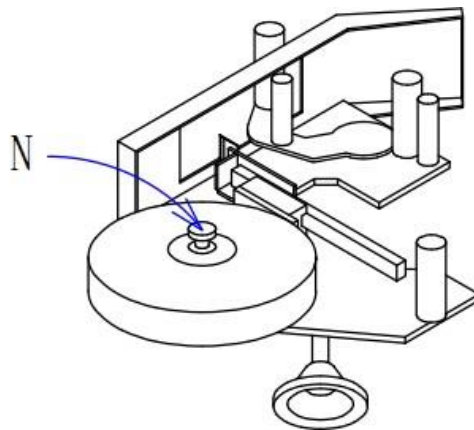
Description and elimination of exceptions

1.The tape cannot be attached to the carton(red light flashing)

Cause: Tape adjustment is too tight or insufficient adhesive tape(Tape expired),Or wear tape way error, or return to spring eccentricity, fatigue, fracture.

Methods:

- a. Adjust N nut (as shown below)
- b. Replace the tape
- c. Re-check whether the tape is put through correctly



Description and elimination of exceptions

2. Corrugated board can not output positioning or box forming failure (red light flashing) cause:

- a. The air source is not open or the air pressure source is insufficient
- b. Air source air bucket is overweight
- c. Block of vacuum filter group
- d. foreign body obstruction at the suction cup bend
- e. Poor quality of cardboard (Concave arch wave, damaged, pre-crease too shallow, too deep, four leaves do not weigh, too short, too long)
- f. The binding position of the cardboard breaks the vacuum, output positioning chuck or carton forming chuck old, cracked, damaged or switch solenoid valve overload burn
- g. The cardboard is placed in the wrong direction

Methods:

- a. Check the wind source and pressure
- b. Regularly release the water and air in the air storage tank and improve the piping design
- c. Regularly remove blockages inside the vacuum filter unit
- d. Remove foreign matter at the suction cup bend
- e. Request the manufacturer to improve the cardboard quality
- f. Coordinate with the paper manufacturer to change the binding position of the paperboard
- g. Inform the maintenance department of the company to replace the new products
- h. Correct the placement direction of the board

Description and elimination of exceptions

3.The machine still doesn't work when you press the start button

Causes:

- a. Empty cardboard is not excluded at the carton forming place
- b. Left and right safety guards are not closed(The warning yellow light flashes)
- c. Foreign matter or dust on the photoelectric switch
- d. Motor overload caused the engine to jump(The red light went on, The buzzer went off)

Methods:

- a. Remove the empty cardboard and press the start button again
- b. Close the safety guard and press the start button again
- c. Press the start button again after removing the foreign matter or dust on the photoelectric switch
- d. Check whether there is any foreign body stuck on the transmission mechanism. If not, inform the maintenance department of the company to deal with it

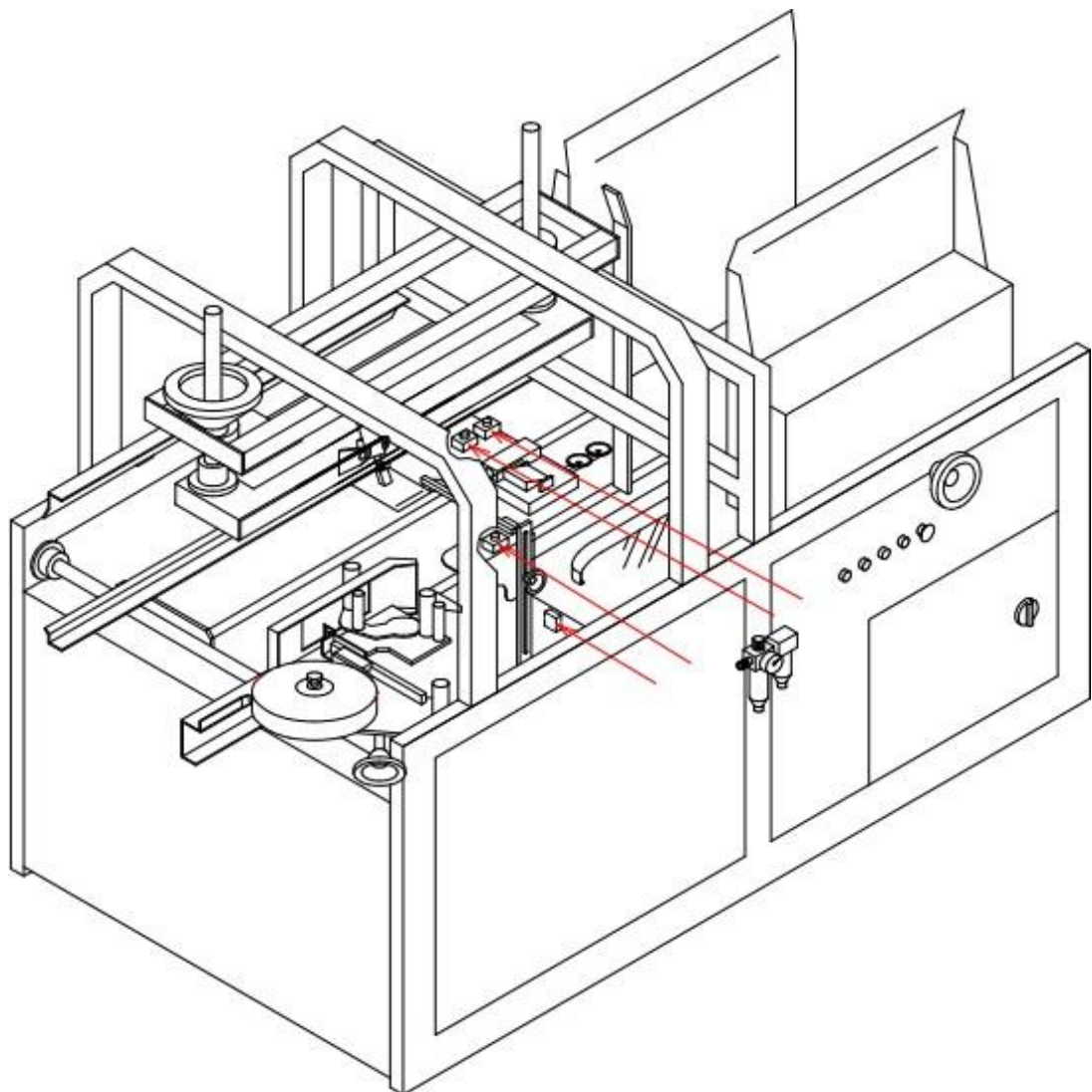
4.The yellow light keeps flashing while the machine is running

Cause: there is not enough empty cardboard

Method: replenish the temporary stock of empty cardboard

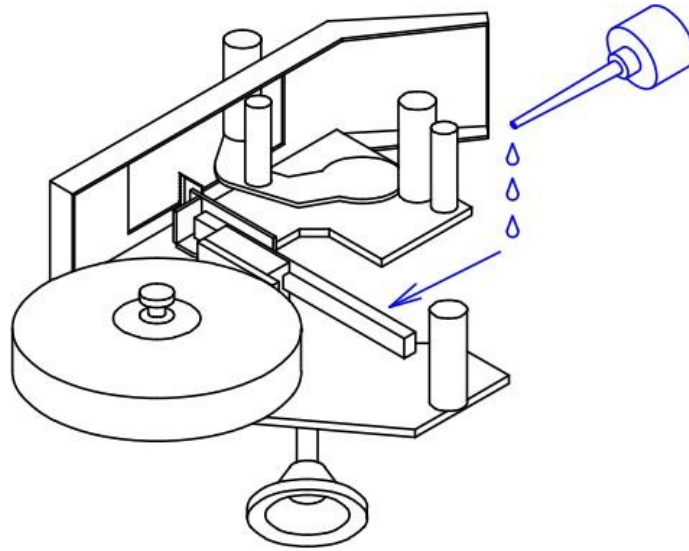
Maintenance and precautions

1.The suction and discharge times of the sucker are more, so it is easy to absorb dust and paper scraps in the air, leading to a big reduction in suction,the carton cannot be formed smoothly,So when the number of carton forming failure is frequent, please remove the dust from the vacuum filter next to the suction cup, let the air in(There are four of them in red).



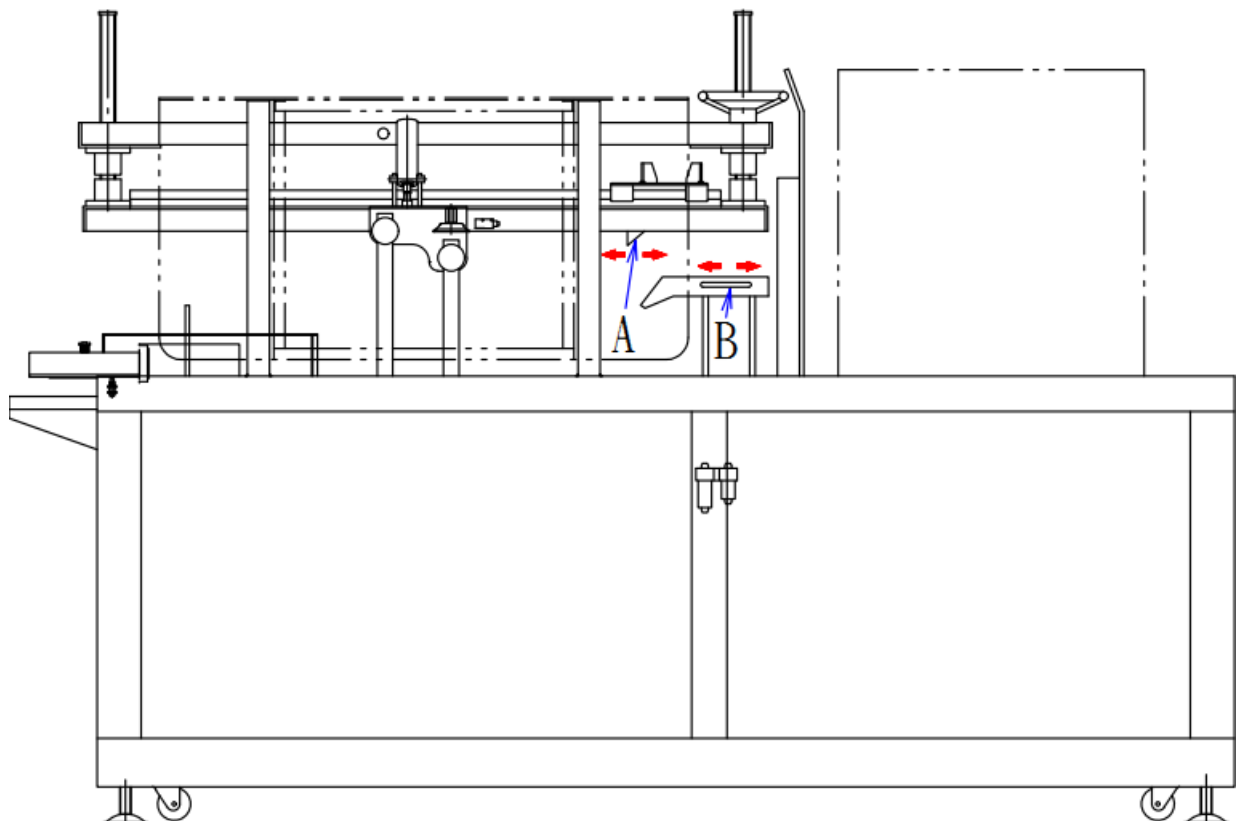
Maintenance and precautions

2.The cutting and sealing of the tape attaching machine is done by the patented fixed-point sealing and cutting, so the movement of the slide more than 10,000 times a day, please add cleaning oil regularly, to ensure smooth operation and prevent rust.



Maintenance and precautions

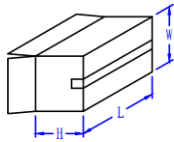
3. The thickness of the cardboard is related to the advantages and disadvantages of carton molding, therefore, it was found that the formation of the carton is not a diamond, the position before and after the upper push box block (A) can be adjusted, make it smooth by pushing the box up and down, forming founder.
4. Design according to the limit of carton length, the front cover folding mechanism (B) of the machine can be adjusted before and after the user's intention, Make the folding action before forming sure.
5. Three-point combination transparent oil cup must be regularly filled with iso-vg32 lubricating oil.
6. Please add WD-40 cleaning lubricant to the slide block assembly regularly (About once a week), for example, it is recommended to clean once a day when operating in a high viscosity environment.
7. Dust can be removed by air gun if carton is attached to the machine.



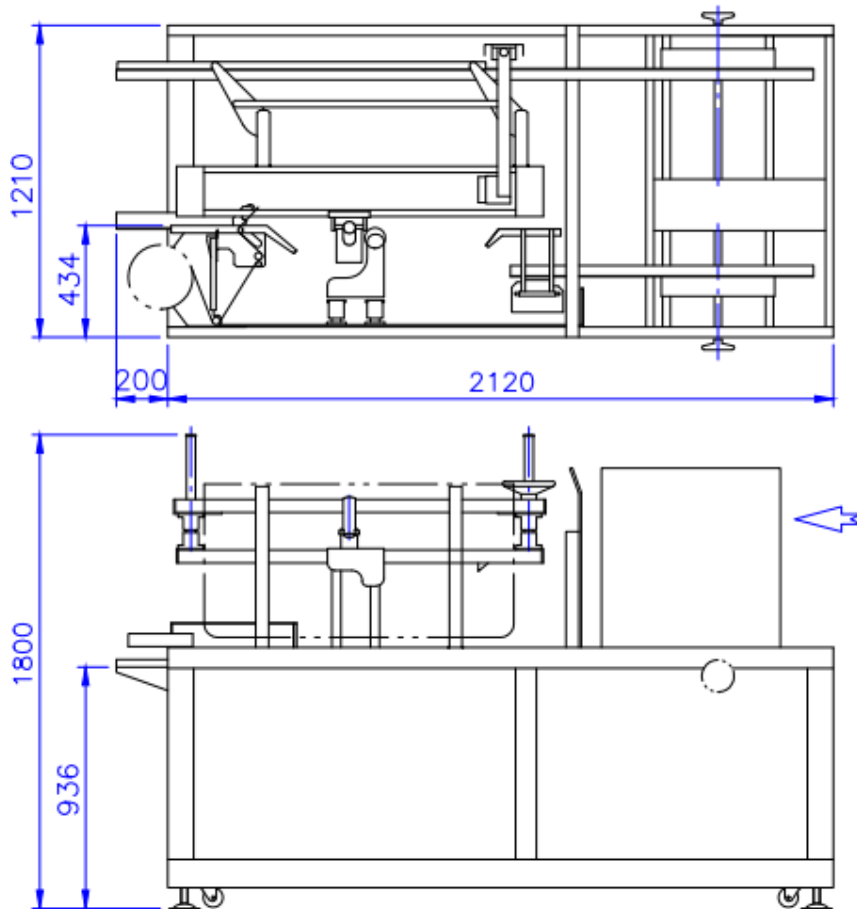
Specifications and dimensions

1.Specifications

height of storage carton	950mm
method of sealing	3 inch tape
power supply	1.75KW(380V,3 ϕ)
essential air pressure	5 kg/cm ²
Air consumption	About 300L/min
Required compressor	3HP
Carton size	L*W*Hmm: 290*235*105 287*228*108 295*240*110 317*162*117 305*154*128 317*177*140 310*160*128

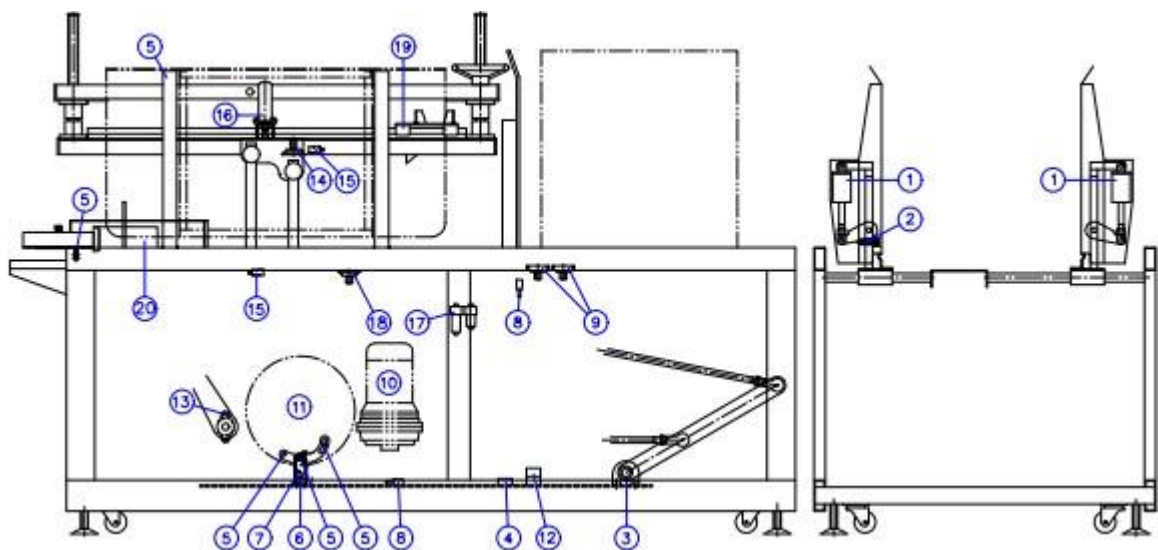


2.Size drawing



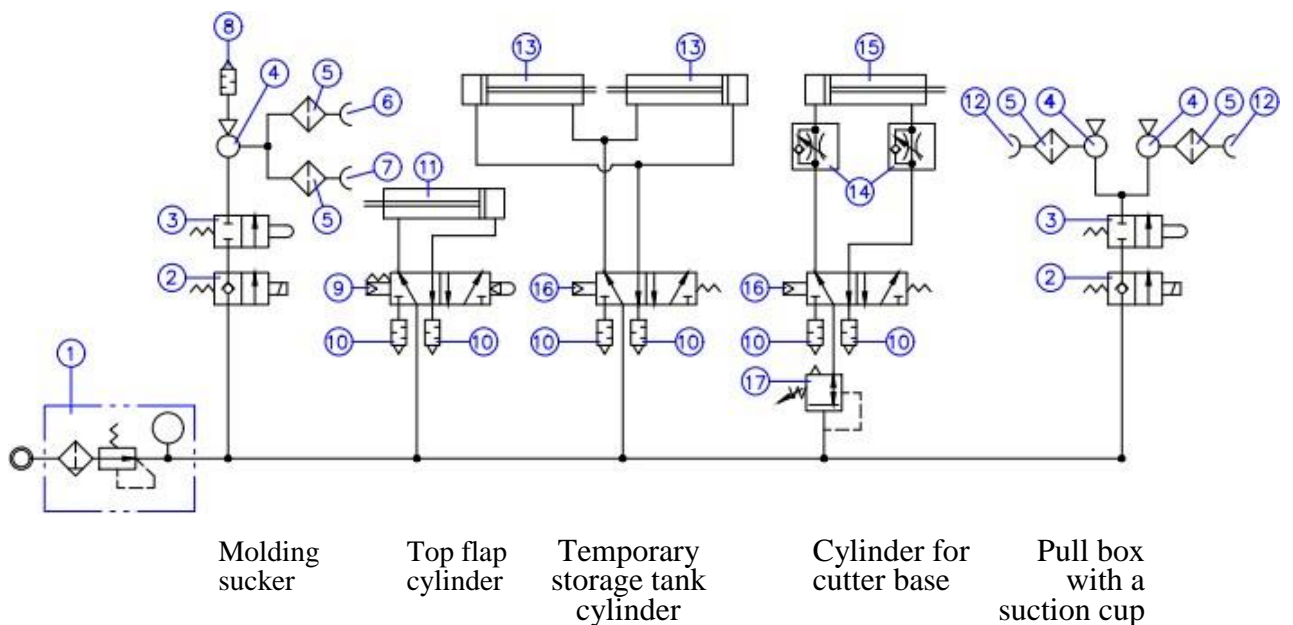
Hardware list

NO	Name	quantity
1	Pneumatic cylinder	2
2	Photoelectric switch	3
3	United bearing	2
4	Solenoid valve	1
5	Proximity switch	5
6	Mechanical valve	1
7	Mechanical valve	2
8	Vacuum generator	3
9	Vacuum suction cups	2
10	motor	1
11	Worm gear reducer	1
12	Solenoid valve	2
13	United bearing	2
14	Vacuum suction cups	2
15	Photoelectric switch	2
16	Pneumatic cylinder	1
17	Three combination	1
18	Vacuum suction cups	2
19	the bearing slide	4
20	Pneumatic cylinder	1



Wind pressure circuit diagram

NO	Name	quantity
1	Three combination	1
2	Solenoid valve	2
3	Mechanical valve	2
4	Vacuum generator	3
5	Vacuum filter	4
6	Vacuum suction cups	2
7	Vacuum suction cups	2
8	silencer	1
9	Mechanical valve	1
10	silencer	6
11	Pneumatic cylinder	1
12	Vacuum suction cups	2
13	Pneumatic cylinder	2
14	Speed regulating connector	2
15	Pneumatic cylinder	1
16	Solenoid valve	2
17	pressure regulating valve	1

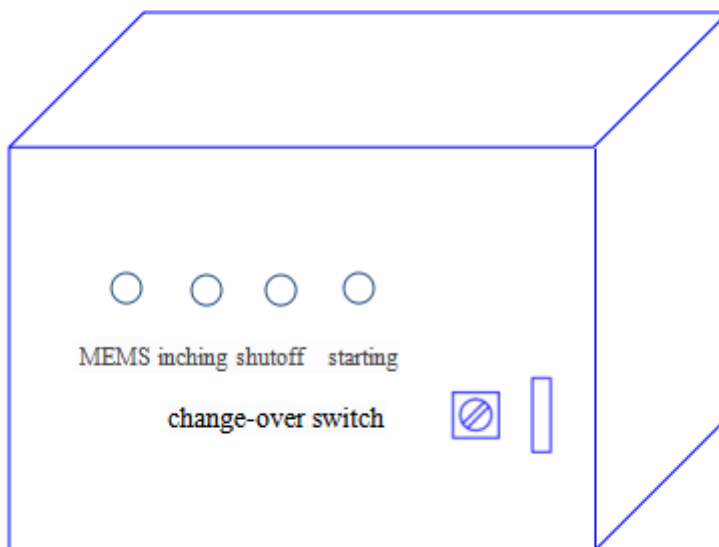


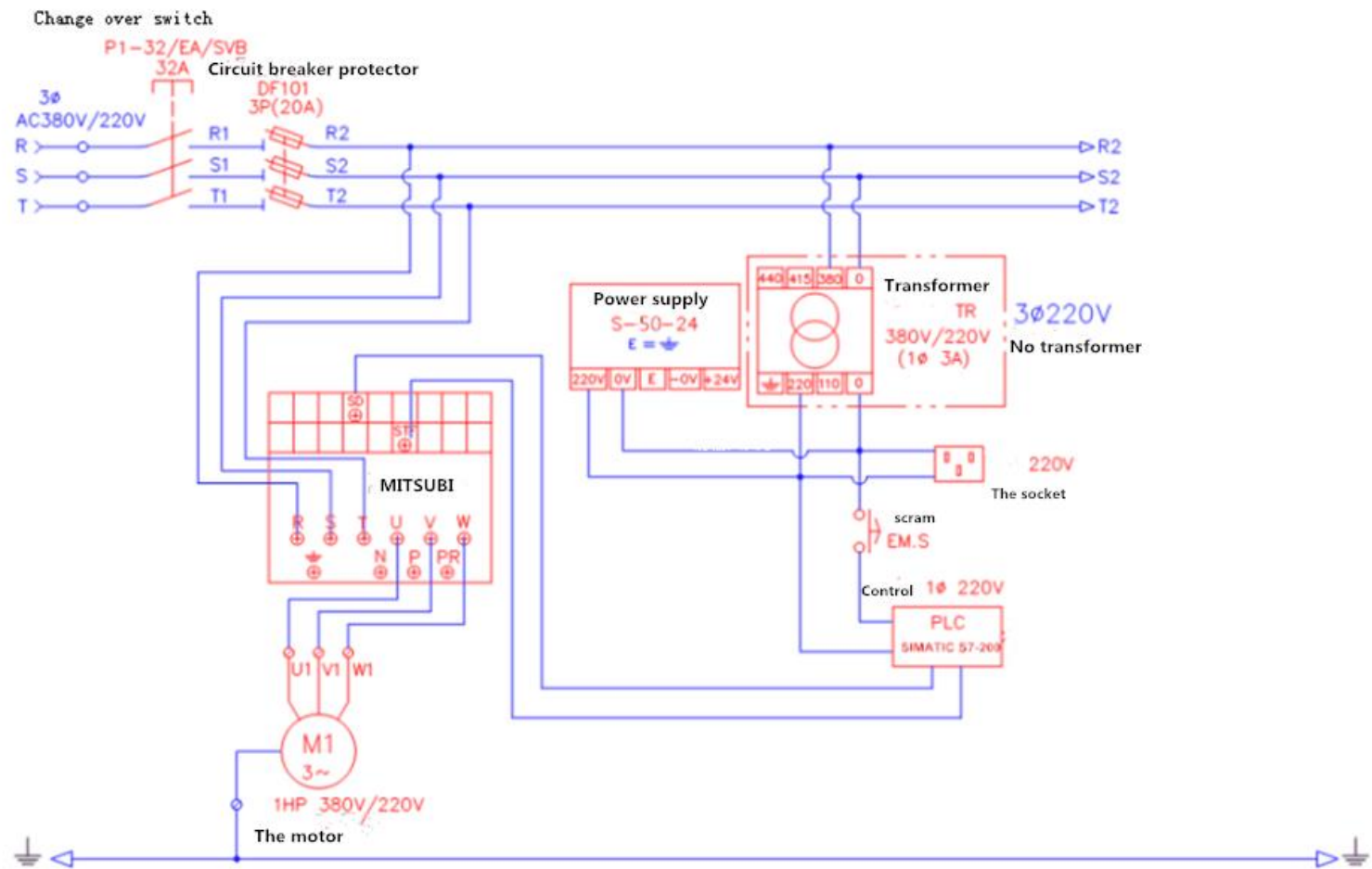
Installation way

- 1.Plug in the power supply and air pressure source when using the single machine.
- 2.When used online as a whole,please first connect the external on-line signal line to the contact reserved by the programmable controller (PLC) of the unpacking machine.After configuration, plug in the power supply and air pressure source can be online operation。 (Note: the purpose of the contact is to start and stop the unboxing machine. The contact is set to X17)
- 3.The machine has been set up before the factory to prevent the reversal of CAM protection procedures, if the installation wiring can't work, just switch and fix any two of the three wires.

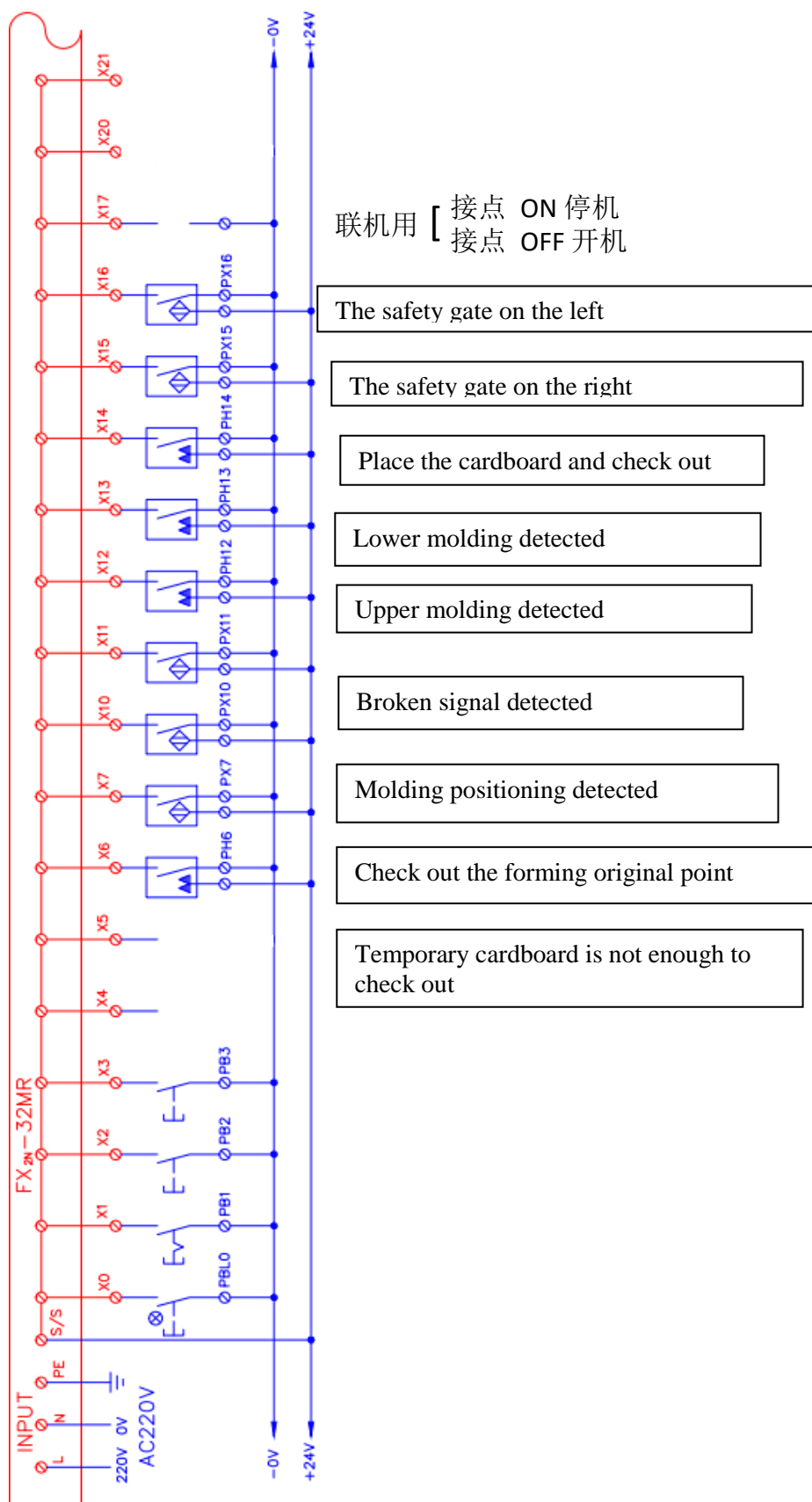
PLC control circuit diagram - control box material diagram

NO	Name	quantity
1	Proximity switch	5
2	The inverter	1
3	Proximity switch	3
4	Proximity switch	2
5	PLC	1
6	PLCInput extender	1
7	Loop protector	3
8	Electromagnetic switch	1
9	Inverse phase control	1
10	Power switch	1
11	Push button switch	5
12	Tricolor warning light	1
13	Fuse (main circuit)	3
14	Terminal station	1
15	Power supply	1
16	Buzzer	1

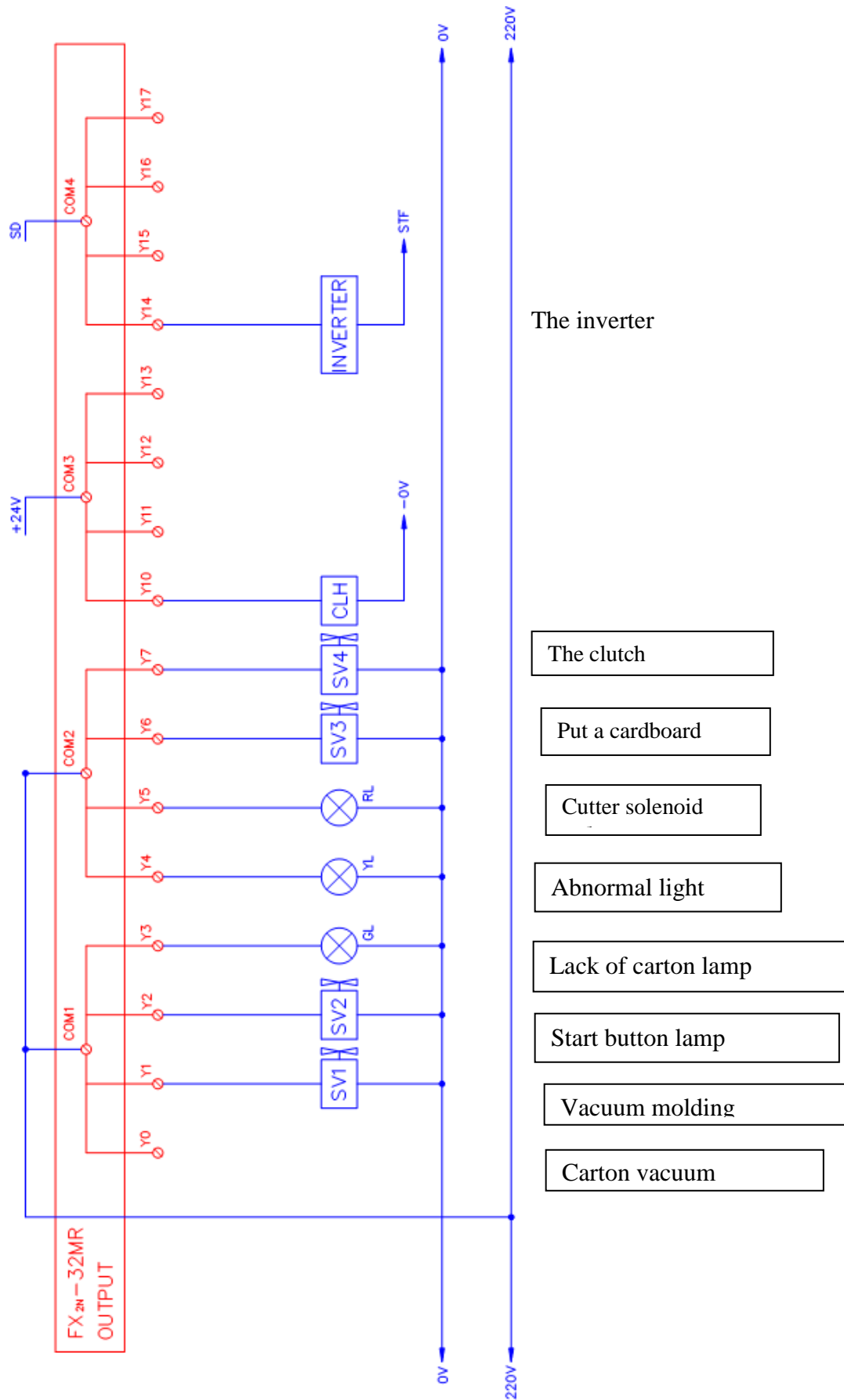




PLC control circuit diagram - INPUT circuit diagram



PLC control circuit diagram - OUTPUT circuit diagram



The inverter

- The clutch
- Put a cardboard
- Cutter solenoid
- Abnormal light
- Lack of carton lamp
- Start button lamp
- Vacuum molding
- Carton vacuum

PLC control circuit diagram - I/O related components location diagram

