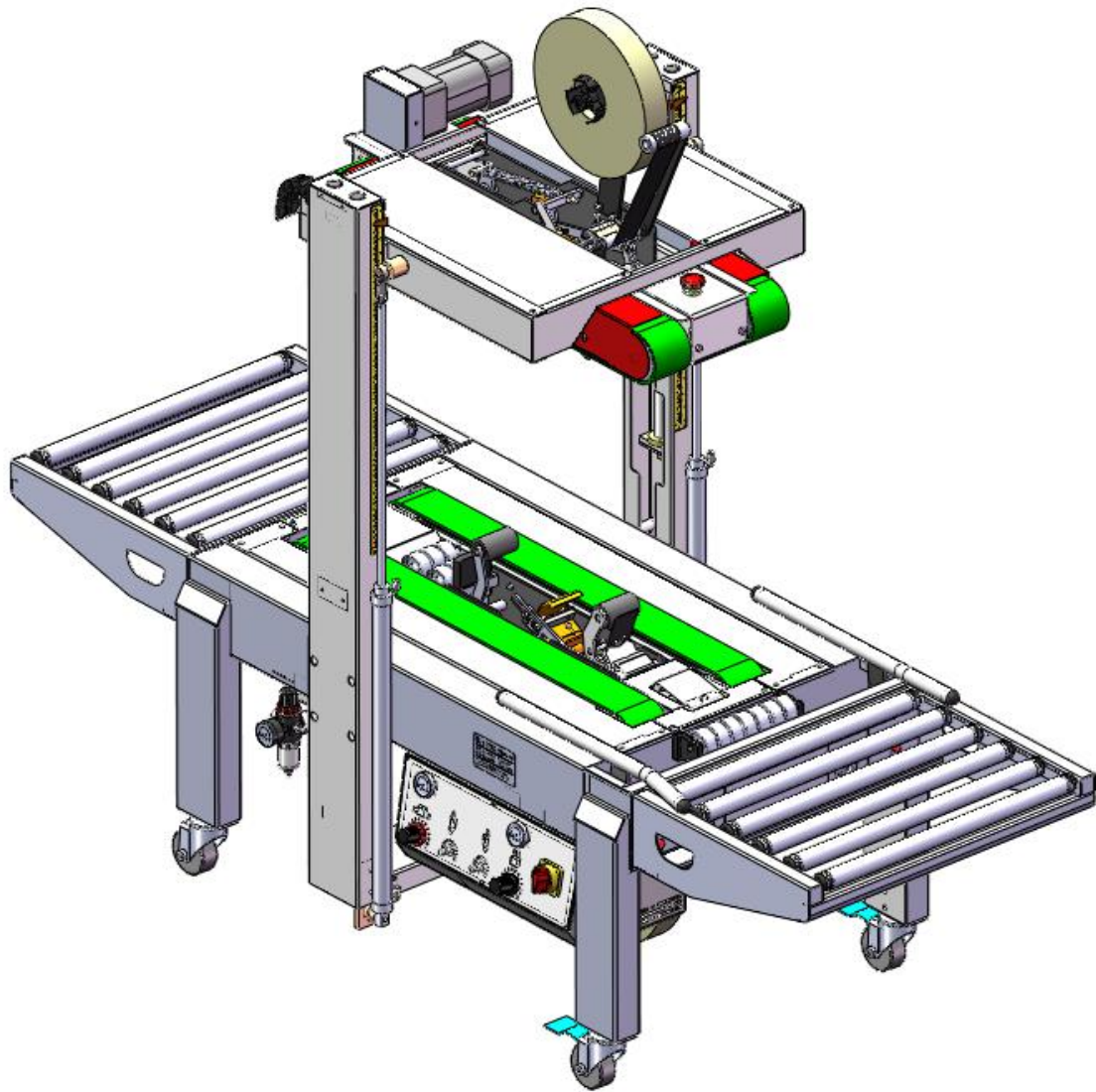


# Smart-F6050 Automatic Carton Sealing Machine Manual



## **Preface**

Thank you for choosing the series of packaging machinery products developed and manufactured by our company. Using our products will help to enhance the packaging image of your products, improve your product quality and production efficiency, and will create more wealth for you and your company.

In order to use the packaging machinery you purchased correctly and make it work better, please read this instruction manual carefully before installation. It will help you understand the basic performance, structure, operation and maintenance methods of the machine. Proper use of the machine for optimum performance, reduced failure and extended service life.

### **Special statement:**

**1. The company reserves the right to interpret all the parameters and contents stated in the manual;**

**2. The company reserves the right to make technical changes to the product without prior notice.**

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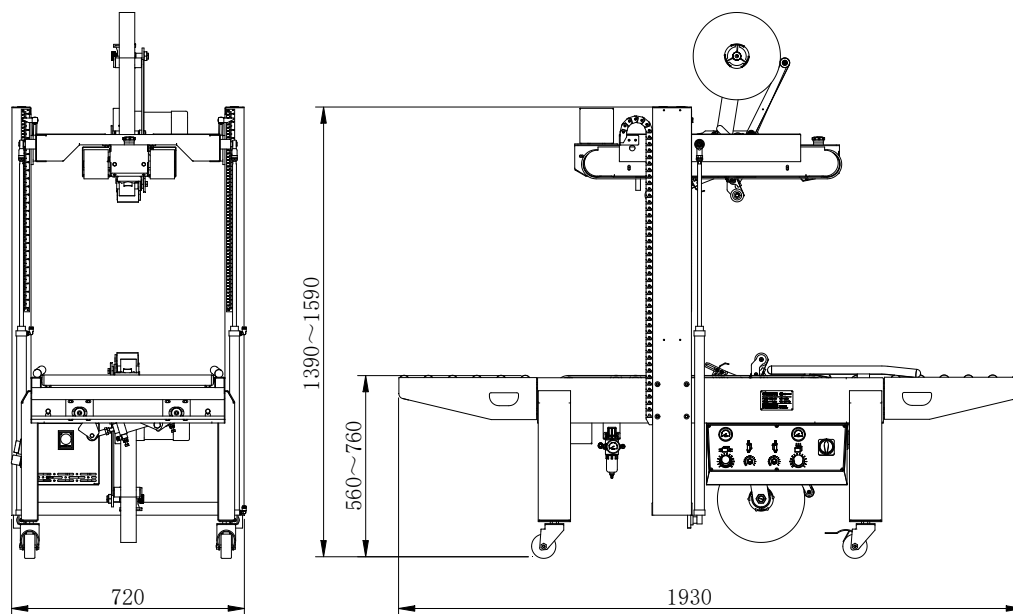
# I.Characteristics

The automatic sealing machine is suitable for sealing and packaging of different carton specifications, and the carton is sealed by the tape. When the size of the carton changes, the width and height are automatically adjusted, which is convenient, simple and fast. The upper and lower sealing actions can be completed at one time. Printing tape can be used to improve the appearance of the product. This machine is widely used in food, beverage, cosmetics, household appliances, books, textiles, department stores, chemical and other industries.

## **Advantage:**

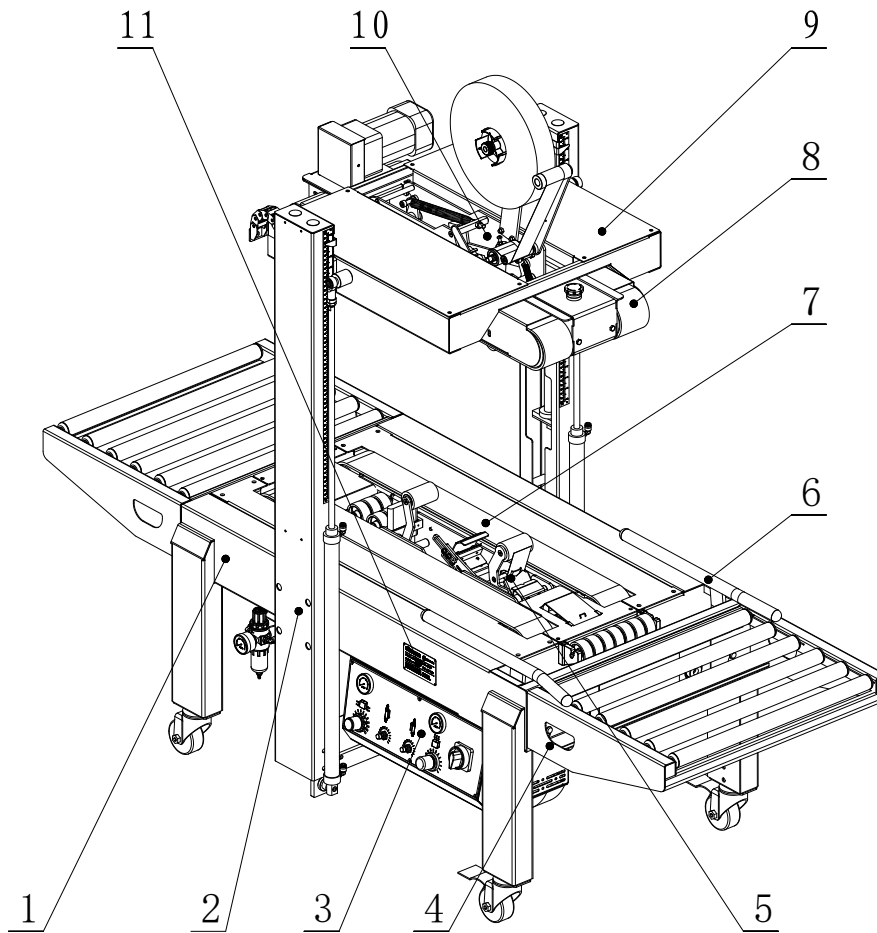
- ◆Using high-strength gripping PVC tape to drive the upper and lower sides of the carton, the transmission is stable, and the tape sealing is centered.
- ◆The adhesive tape is flat, firm, standardized, beautiful, and will not tear the box.
- ◆It can be equipped with ink coding equipment. When the carton passes, the side can print the production date, production batch number and necessary text labels.
- ◆This machine can be used in a single machine or in conjunction with the production line.

## II. Main technical parameters



Model	DQFXA6050
Voltage	AC220V/50Hz
Power	240W
Sealing speed	18m/min
Tape with	48mm 60mm
kind of drive	Up and down conveyor
Max.Packing	500×600mm
Min.Packing	170×120mm
Machine size	1930×720×1395~1555mm

### III. Structure and parts name



1.Frame

2.Column frame

3.Electric box

4.Transfer station

5.Down sealing head

6.Clamping stick

7.Lower conveying section

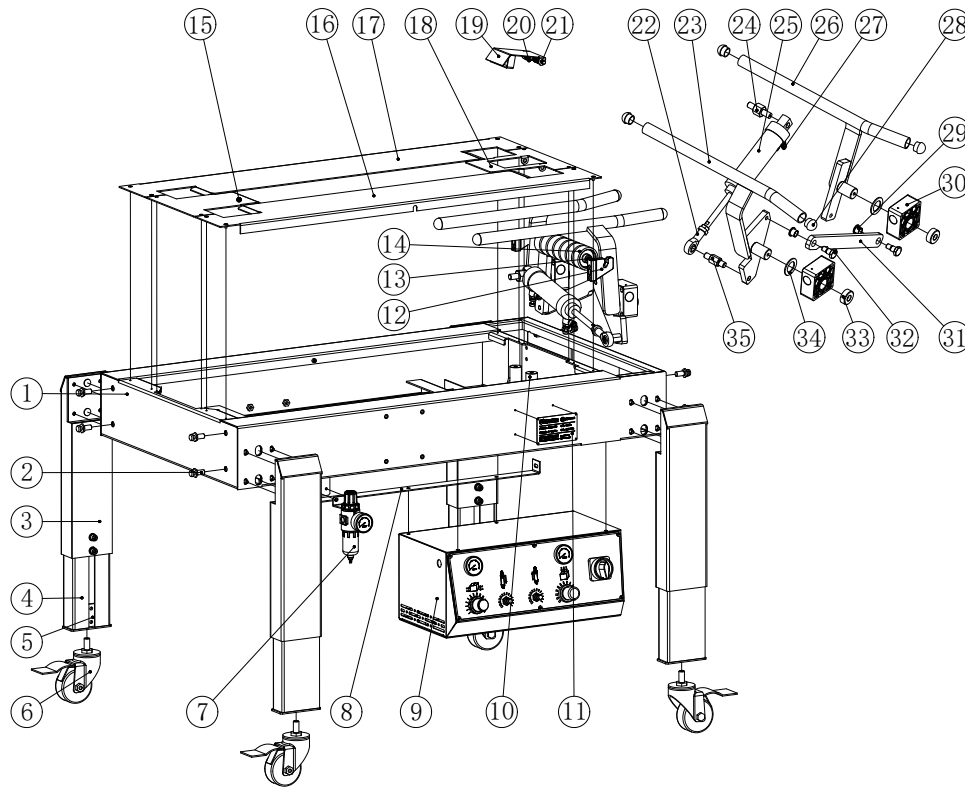
8.Upper conveying section

9.Upper sealing frame

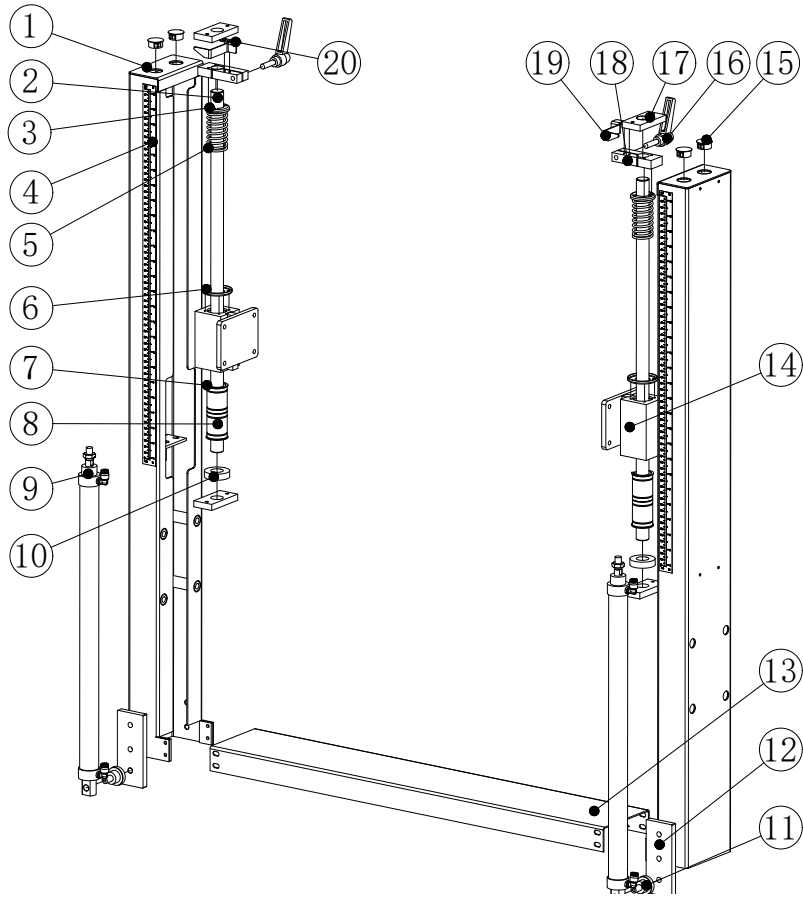
10.Upper box head

11.Nameplate

## IV. Machine parts description



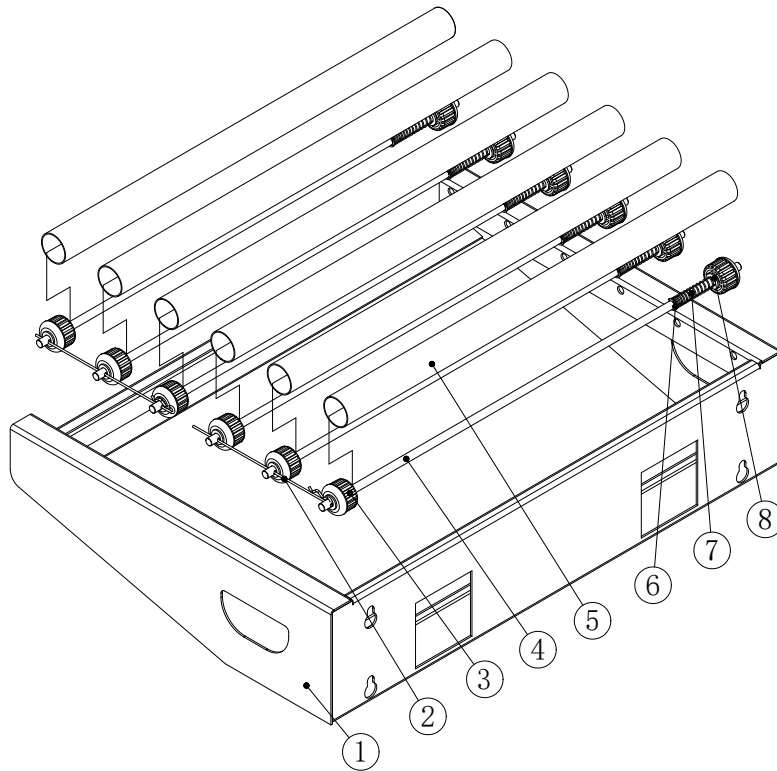
35	Connection screw	1		
34	Inner friction plate	2		
33	Locking end cap	2		
32	Locking screw	2		
31	link	1		
30	Fixed seat	2		
29	Bushing	2		
28	Blockages	4		
27	Exhaust throttle valve	2	ASL6-02A	
26	Guide rod II	1		
25	Mini cylinder	1	MAL40×80SCA	
24	Cylinder upper shaft seat	1		
23	Guide rod I	1		
22	Fish eye connector(40×1.25)	1	M12×1.25	
21	Short roller mandrel	1		
20	Torsion spring	1		
19	Switch plate	1		
18	Small cover	1		
17	Conveyor belt cover (right)	1		
16	Conveyor belt cover (left)	1		
15	Long cover	1		
14	Wheel	7		
13	axis	1		
12	Bracket plate	2		
11	Nameplate	1		
10	Support column	4		
9	Electrical box	1		
8	Electrical box mounting plate	1		
7	Pressure regulating filter	1	AFR2000	
6	Casters	4	With brake75×30	
5	Fixed block	4		
4	Adjustment foot	4		
3	Foot	4		
2	Coupling screw	8		
1	frame	1		
No.	Spare parts name	QTY	Specification	remark



Column frame

20	Left ruler	1		
19	Right ruler	1		
18	Height limit block	2		
17	Lifting slide seat	4		
16	D type adjustable position fixing handle	2	M8×25	
15	Sealing $\phi 22$	4	HP-22	
14	Lifting slider	2		
13	Lower beam	1		
12	Lower shaft base plate	2		
11	Cylinder lower shaft seat	2		
10	Buffer limit pad	2		
9	cylinder	2	MAL-CA 32×430	
8	Linear Bearings	4	LM20UU	
7	Hole circlip 32	4	GB 893.1-86	
6	Lower spring seat	2		
5	spring	2		
4	Ruler (sticker)	2		
3	Upper spring seat	2		
2	Lifting slider	2		
1	Column	2		
No.	Spare parts	Qty	Specification	Remark

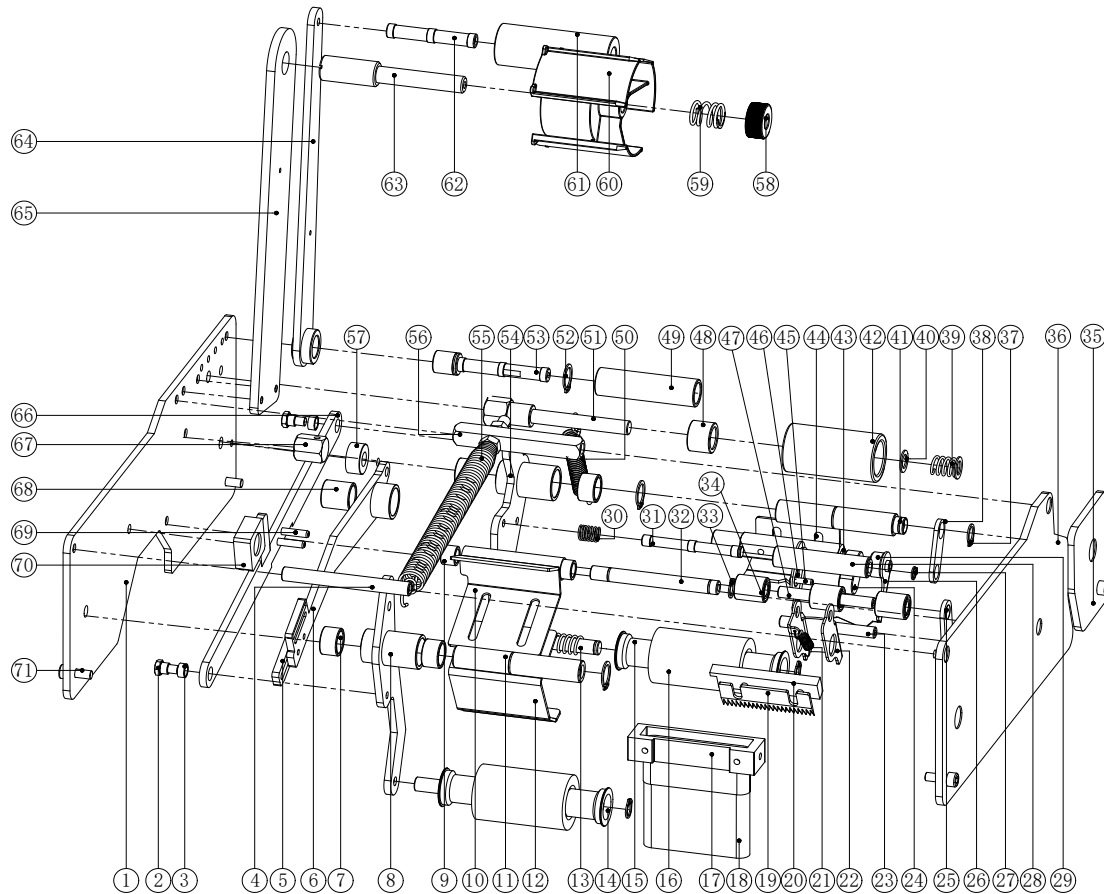




### Transfer station

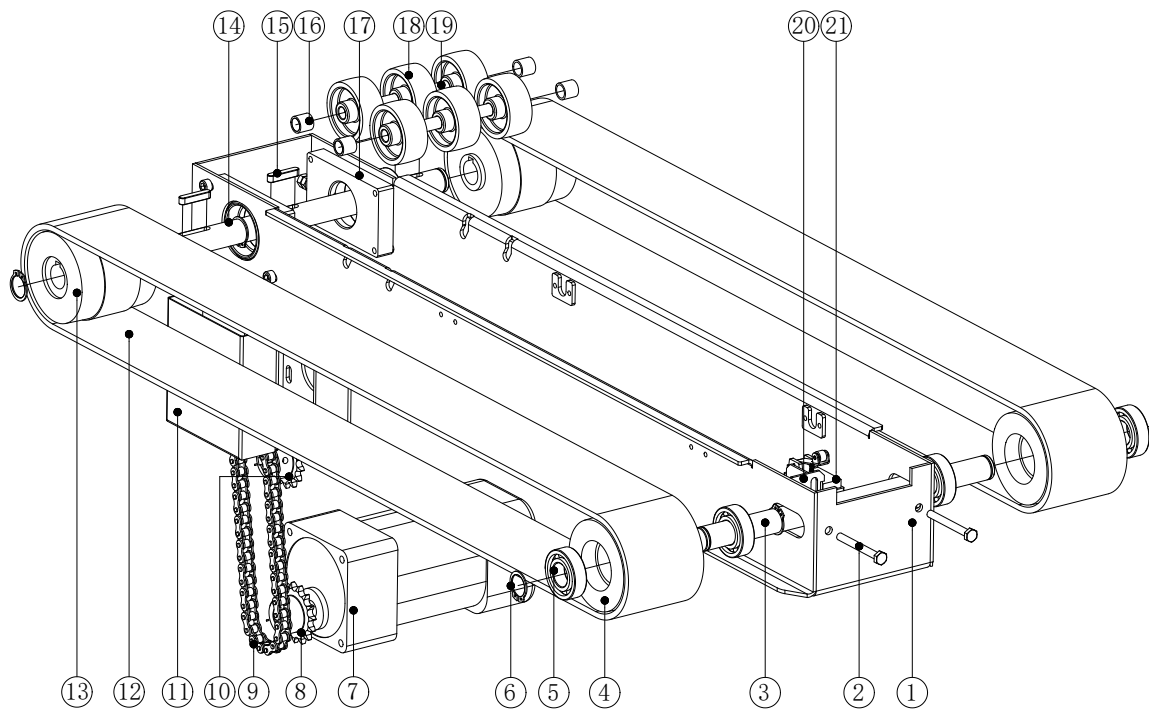
8	Flat washer 8	12	GB/T 95-2002	
7	Pressure spring	6		
6	Open retaining ring 6	12	GB/T 896-1986	
5	Conveyor table roller	6		
4	Conveyor roller shaft	6		
3	Roller head	12		
2	Type B cotter pin	2		
1	Conveying workbench	1		
No.	Spare parts	Qty	Specification	Remark

71	Hexagon socket head cap screw M6×16	4	GB/T 70.1-2000	60	Tape fixing roller	1		48	One-way bearing	1	HF1616-6HJ
70	Limit plate	1		59	Tape tube compression spring	1		47	Pressure roller support shaft	2	
69	Elastic cylindrical pin φ5×24	2	GB/T 879.1-2000	58	Tension adjustment knob	1		46	Torsion spring	1	
68	Copper-based oil bearing	1	φ16×φ20×20	57	Blade swing limit block	1		45	Elastic cylindrical pin φ4×16	1	GB/T 879.1-2000
67	Link guide pin	1		56	Support column	1		44	Pressure box	1	
66	Rubber wheel pin material	1		55	Rubber roller tension spring	1		43	Cutter mandrel	1	
65	Tape support	1		54	Rubber wheel rotating plate II	1		42	Big knurling wheel	1	
64	Film roll I	1		53	Membrane mandrel	1		41	Rubber wheel connecting rod rotating mandrel I	1	
63	Tape cartridge mandrel	1		52	Shaft retaining ring 16	3	GB 894.1-86	40	Rubber wheel washer	2	
62	Film roll II mandrel	1		51	Large knurling wheel spindle	1		39	Large knurling wheel compression spring	2	
61	Film roll II	1		50	Spring	1		38	Connection plate I	1	
				49	Film roll I	1		37	Shaft retaining ring 12	1	GB 894.1-86



36	Right wall panel	1	
35	Right small wall panel	1	
34	Spacer wheel	3	
33	Shaft retaining ring 10	4	GB 894.1-86
32	Tool holder guard spindle	1	
31	Knurled wheel spindle	1	
30	Knurling wheel spring	1	
29	Carton guide plate fixing block	1	
28	Small knurling wheel	1	
27	Shaft retaining ring 8	1	GB 894.1-86
26	Carton guide	1	
25	Connection plate II	1	
24	Torsion spring fixing block	1	
23	Small tension spring fixed shaft	1	
22	Carton pressboard	1	
21	Small tension spring	1	
20	Cutter fixing plate	1	
19	Cutting blade	1	
18	brush	1	
17	Brush holder	1	
16	Rubber wheel outer wheel	2	
15	Rubber wheel core II	1	
14	Rubber wheel core I	3	
13	Rubber wheel spindle	2	
12	Tool holder guard II	1	
11	Rubber wheel connecting rod rotating mandrel II	1	
10	Tool holder guard I	1	
9	Copper-based oil bearing	2	φ10×φ14×10
8	Rubber wheel rotating plate I	1	
7	Copper-based oil bearing	4	φ16×φ20×12
6	Cutter link	1	
5	Adjustment board	1	
4	Strengthening rod	1	
3	Connecting rod bushing	2	
2	Connecting rod locking screw	2	
1	Left wall panel	1	
No.	Parts name	QTY	Specification Remark

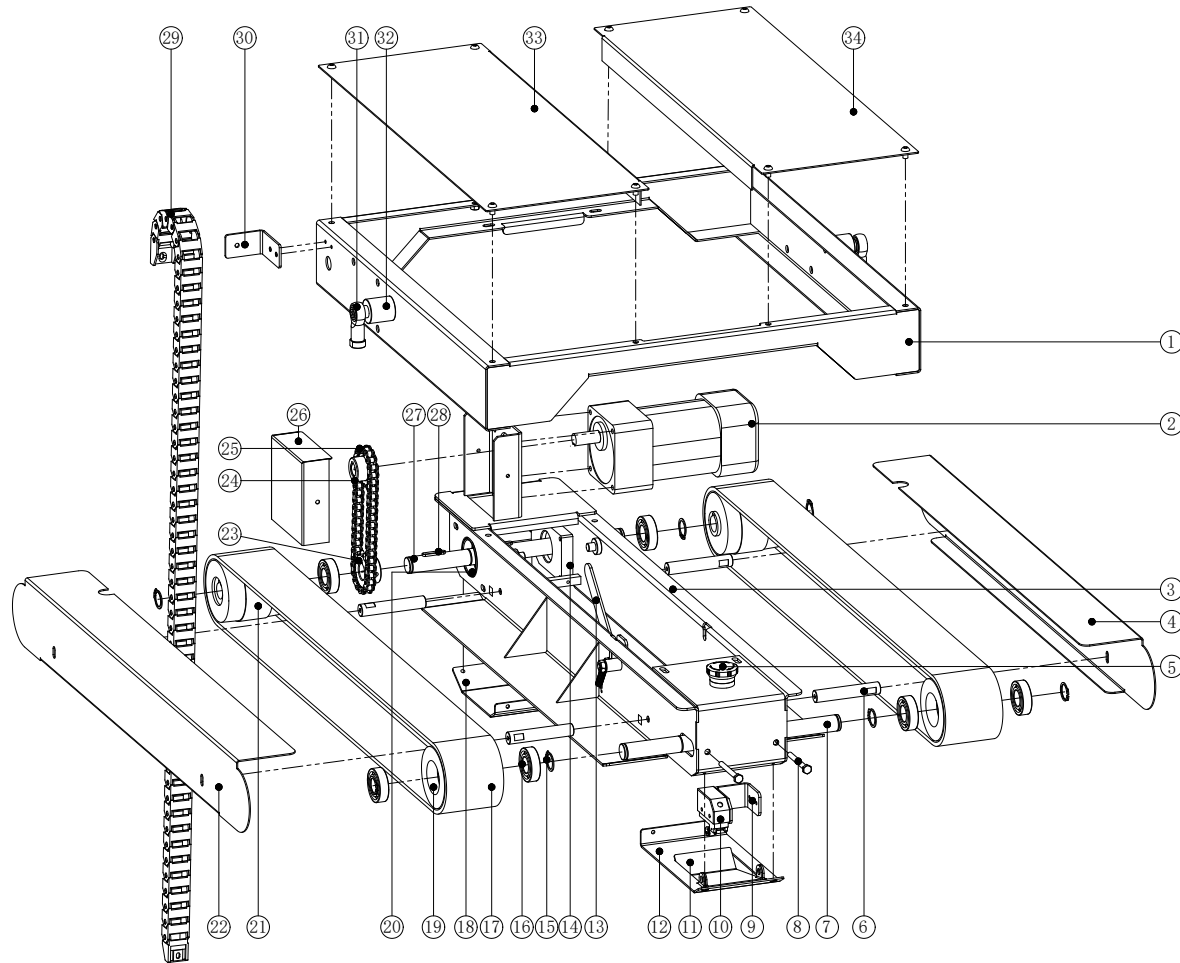
Down sealing head



Lower conveying section

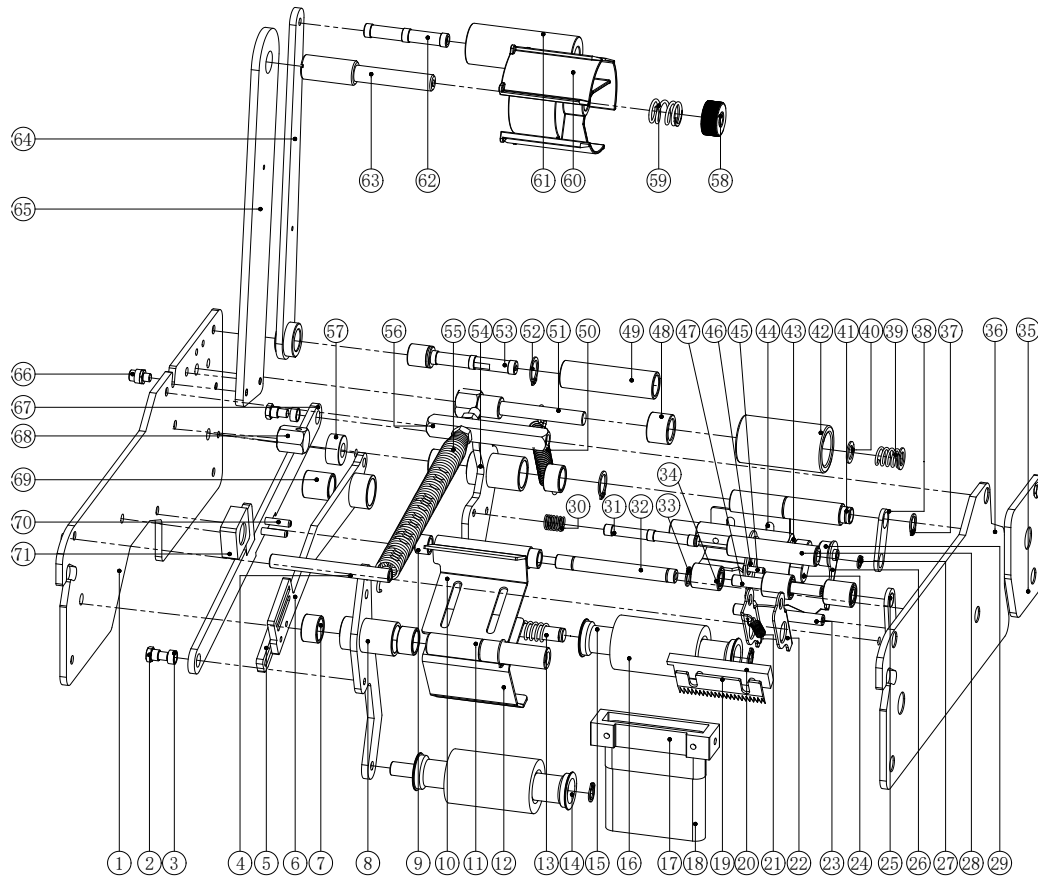
21	Limit switch		SM1704	
20	Lower limit switch seat			
19	Roller axis I	2		
18	Wheel	6		
17	Bearing housing	2		
16	Spacer ring	4		
15	Key 6×30	3	GB/T 1096-79	
14	Drive wheel mandrel	1		
13	Driving wheel	2		
12	Rubber conveyor belt	2		
11	Motor housing cover	1		
10	Passive sprocket	1		
9	Chain (40 knots)	1	06B	
8	Motor drive sprocket	1		
7	Drive motor	1	51K90GN-C 120W 4P	
6	Shaft retaining ring 20	8	GB/T 894.1-86	
5	Deep groove ball bearing 6004	6	GB/T 276-94	
4	Passive wheel	2		
3	Passive wheel spindle	1		
2	Tightening hex head bolt M6×55	2	GB/T 5780-2000	
1	Lower seat	1		
No.	Part Name	Qty	Specification	Remark

## Upper sealing frame



34	Cover (right)	1		
33	Cover (left)	1		
32	Cylinder upper shaft seat	2		
31	Fish eye connector	2	F-M10125U	
30	E-chain fixing plate	1		
29	Drag chain	1		
28	Key 6×30	3	GB/T 1096-79	
27	Drive wheel mandrel	1		
26	Motor housing cover	1		
25	Chain (44 knots)	1	06B	
24	Motor drive sprocket	1		
23	Passive sprocket	1		
22	Left conveyor belt cover	1		
21	Driving wheel	2		
20	Bearing housing (left)	1		
19	Passive wheel	2		
18	Bottom guide plate (rear)	1		
17	Rubber conveyor belt	2	5×75×1680	
16	Deep groove ball bearing	6	GB 276-94	
15	Shaft retaining ring 20	8	GB 894.1-86	
14	Bearing housing (right)	1		
13	Sealing head locking	1		
12	Bottom guide plate (front)	1		
11	Upper limit switch plate	1		
10	Limit switch	1	SM1704	
9	Upper limit switch seat	1		
8	Tightening hex head bolt M6X55	2	GB/T 5780-2000	
7	Passive wheel spindle	1		
6	Roller shaft	4		
5	Emergency stop switch	1		
4	Right conveyor belt cover	1		
3	Upper seat	1		
2	Drive motor	1	51K90GN-C 120W	
1	Upper frame	1		
No.	Part name	QTY	Specification	Remark

71	Limit plate	1		60	Tape fixing roller	1		48	One-way bearing	1	HF1616-6HJ	
70	Elastic cylindrical pin $\phi 5 \times 24$	2	GB/T 879.1-2000	59	Tape tube compression spring	1		47	Pressure roller support shaft	2		
69	Copper-based oil bearing	1	$\phi 16 \times \phi 20 \times 20$	58	Tension adjustment knob	1		46	Torsion spring	1		
68	Link guide pin	1		57	Blade swing limit block	1		45	Elastic cylindrical pin $\phi 4 \times 16$	1	GB/T 879.1-2000	
67	Rubber wheel joint material	1		56	Support column	1		44	Pressure box	1		
66	Support shaft	2		55	Rubber roller tension spring	1		43	Cutter mandrel	1		
65	Tape support	1		54	Rubber wheel rotating plate II	1		42	Big knurling wheel	1		
64	Film roll I	1		53	Membrane mandrel	1		41	Rubber wheel connecting rod rotating mandrel I	1		
63	Tape cartridge mandrel	1		52	Shaft retaining ring 16	3	GB	40	Rubber wheel washer	2		
62	Film roll II mandrel	1		51	Large knurling wheel spindle	1		39	Large knurling wheel compression spring	2		
61	Film roll II	1		50	Spring	1		38	Connection plate I	1		
				49	Film roll I	1		37	Shaft retaining ring 12	1	GB 894.1-86	



36	Right wall panel	1										
35	Right small wall panel	1										
34	Spacer wheel	3										
33	Shaft retaining ring 10	4	GB 894.1-86									
32	Tool holder guard spindle	1										
31	Knurled wheel spindle	1										
30	Knurling wheel spring	1										
29	Carton guide plate fixing block	1										
28	Small knurling wheel	1										
27	Shaft retaining ring 8	1	GB 894.1-86									
26	Carton guide	1										
25	Connection plate II	1										
24	Torsion spring fixing block	1										
23	Small tension spring fixed shaft	1										
22	Carton pressboard	1										
21	Small tension spring	1										
20	Cutter fixing plate	1										
19	Cutting blade	1										
18	brush	1										
17	Brush holder	1										
16	Rubber wheel outer wheel	2										
15	Rubber wheel core II	1										
14	Rubber wheel core I	3										
13	Rubber wheel spindle	2										
12	Tool holder guard II	1										
11	Rubber wheel connecting rod rotating	1										
10	Tool holder guard I	1										
9	Copper-based oil bearing	2	$\phi 10 \times \phi 14 \times 10$									
8	Rubber wheel rotating plate I	1										
7	Copper-based oil bearing	4	$\phi 16 \times \phi 20 \times 12$									
6	Cutter link	1										
5	Adjustment board	1										
4	Strengthening rod	1										
3	Connecting rod bushing	2										
2	Connecting rod locking screw	2										
1	Left wall panel	1										
No.	Part Name	Qty	Specification	Remark								

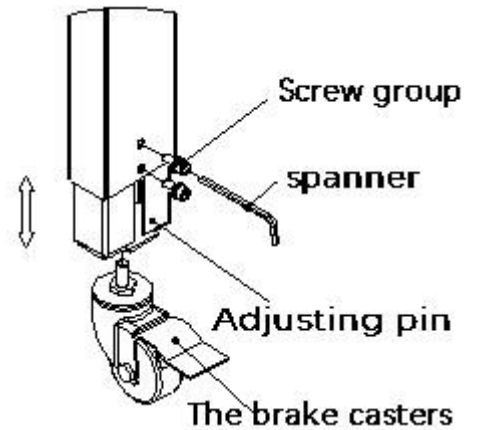
## V.Operation

### 5.1 Preparation before work

1) Open the outer box, place the machine on a flat surface, check whether the movable parts of the machine are flexible, whether there is any jam, and whether the fasteners are loose or not, otherwise adjustment or correction should be given.

2) The working environment of the machine should be free from corrosive gases.

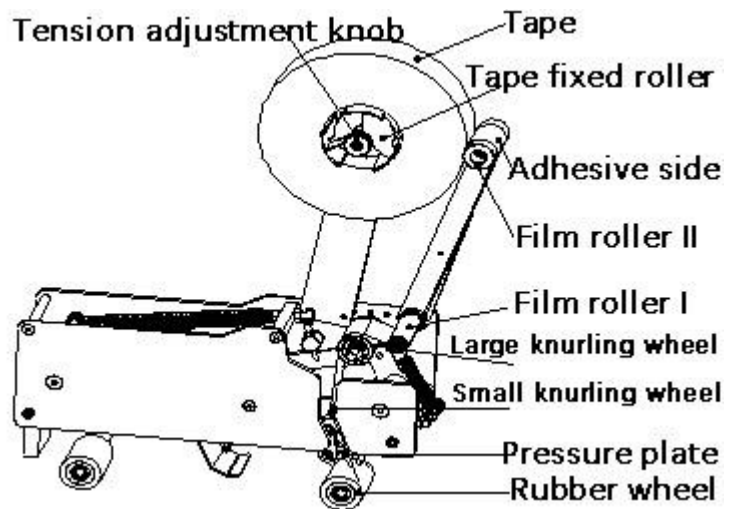
3) As shown on the right, lock the brake casters, loosen the set of screws, and then adjust the stand to keep the machine at the proper operating height or the height of the line and make the work surface to the horizontal position, then set the screws Locked.



### 5.2 Equipment work adjustment

#### 1) Sealing head operation

Tape line diagram: As shown in the figure on the right, the tape is wrapped on the tape fixing roller with the adhesive side facing outward, through the film roller II, the film roller I, the large knurling wheel, the small knurling wheel, and the pressure plate to the rubber wheel.

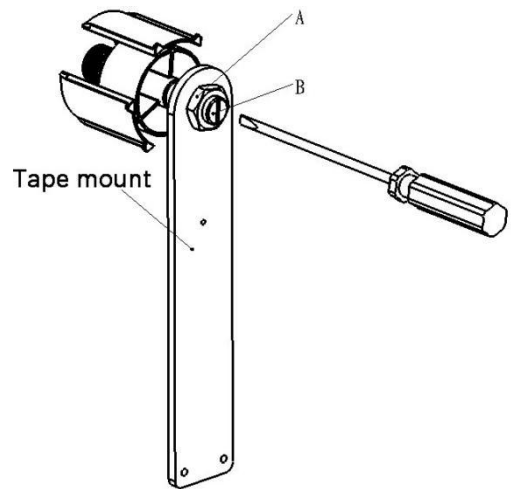


**2) Tape tension adjustment:** The adjustment of the tension of the tape is achieved by the tension adjustment knob at the tape roll. When the knob is tightened clockwise, the resistance is increased, the tape is tensioned, and the tape is loosened.

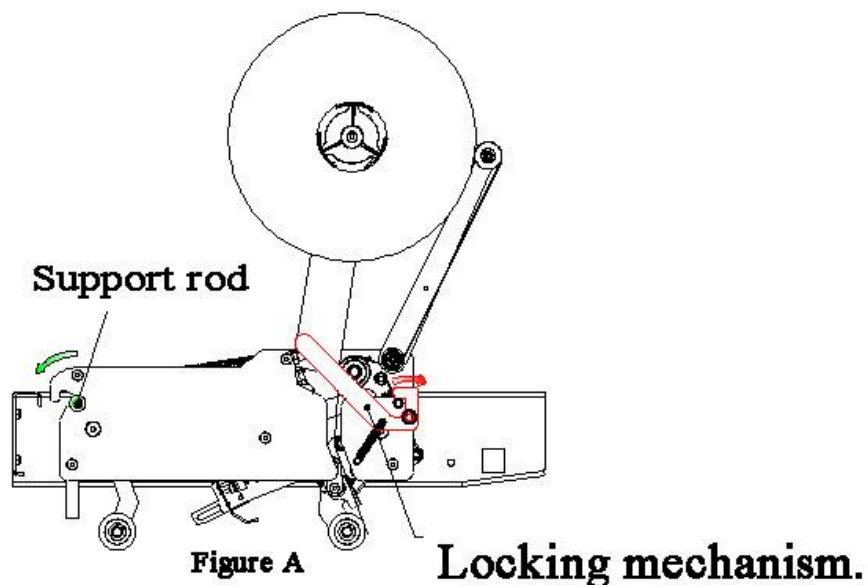
**3) Length adjustment of the ends of the sealing tape:** by adjusting the position of the cutting blade. Generally, the head has a short tail length.

Loosen the M5 screw of the cutting blade, move the cutting blade a little outward, and then lock the M5 screw. Otherwise, the head is short and long, then move the cutter a little.

**4) Adjust the position of the tape:** As shown in the figure on the right, after loosening the lock nut with a wrench, use a flat-blade screwdriver to adjust the screw and adjust the position of the tape so that the tape is at the center line of the rubber wheel.



5) The upper sealing head replacement tape can be operated directly on the machine. **Specific operation method:** As shown in Figure A below, first open the locking mechanism in the direction of the red arrow, and then rotate the sealing head around the support rod in the direction of the green arrow until the sealing head is fixed against the side plate (as shown in Figure B below). ), start changing tape. After changing the tape, turn the sealing head around the support rod in the opposite direction to the green arrow, and open the locking mechanism in the direction of the red arrow until the sealing head falls into the slot and release the locking mechanism.



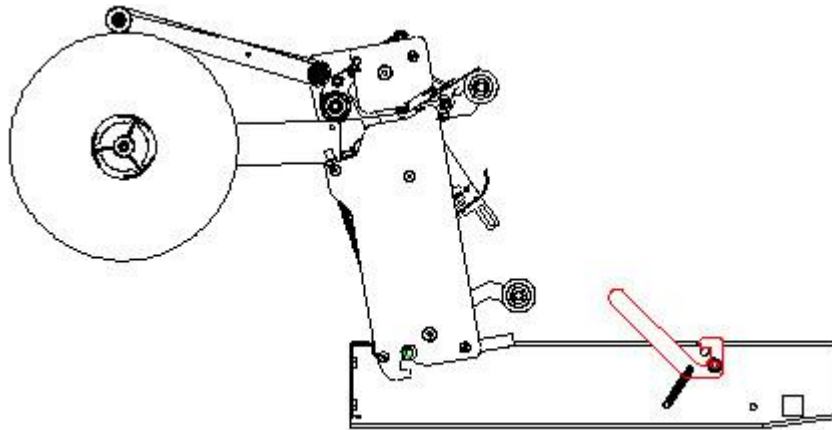


Figure B

### Gas source treatment (see photo to the right)

1) Please pay attention to clean the connecting pipes and joints during installation to avoid the dirt from entering the gas path.

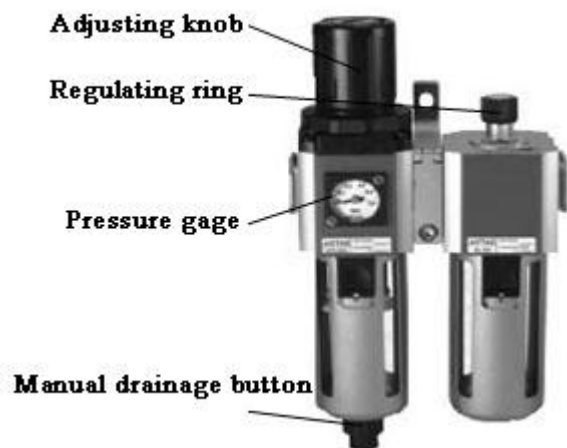
2) When installing, please pay attention to whether the direction of gas flow is consistent with the direction indicated by the arrow on the double joint, and whether the nozzle and joint teeth are correct.

### 3) Water discharge (filter)

The water is drained into the cup by pushing the drain button up. Water is not allowed to drain directly without passing through the filter. It must be drained before the water level reaches the level below the filter holder.

### 4) Pressure regulation (regulating valve)

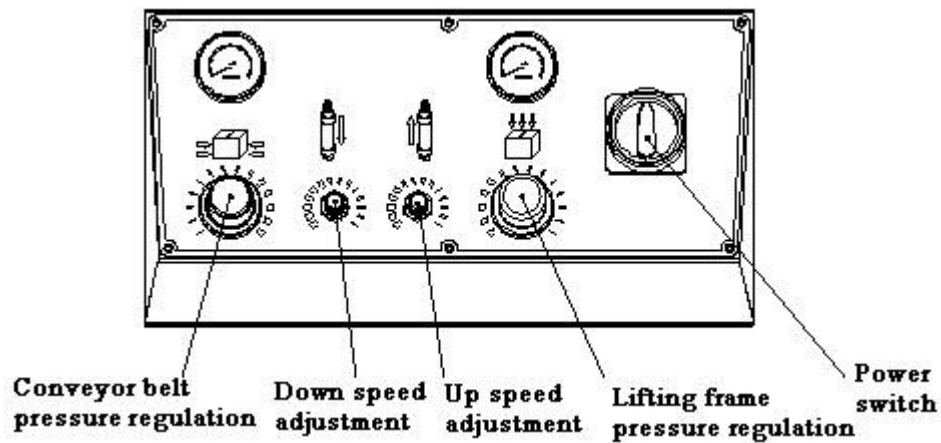
Pull up and rotate before turning the adjustment knob, and press the adjustment knob to position. Turn the knob clockwise to increase the outlet pressure, and counterclockwise to reverse. When adjusting the pressure, it should be gradually and evenly adjusted to the required pressure value, generally 4Kgf/cm<sup>2</sup>, and should not be adjusted in one step.





## V.Operation

1) Connect the power supply and plug the power plug into the single-phase socket (220V, 10A) with the grounding protection. For safety reasons, it is forbidden to change the power plug of this unit into a plug without grounding protection. Turn on the main power switch. Connect the air supply to adjust the pressure of the pressure reducing valve to 4Kgf/cm. Then turn on the power switch and the machine enters the working state.



2) The operator pushes the carton of the package (folding the upper and lower cover) into the entrance of the cartoner. The carton passes through the lower switch platen and the lower limit switch is pressed. The clamp is clamped, and the upper seal frame is pressed until the upper switch plate presses the upper limit switch, the conveyor belt starts to operate, and the carton automatically enters the sealed portion. When the carton is completely separated from the upper carton frame, the pinch bar and the upper carton frame are reset and the sealing is completed.

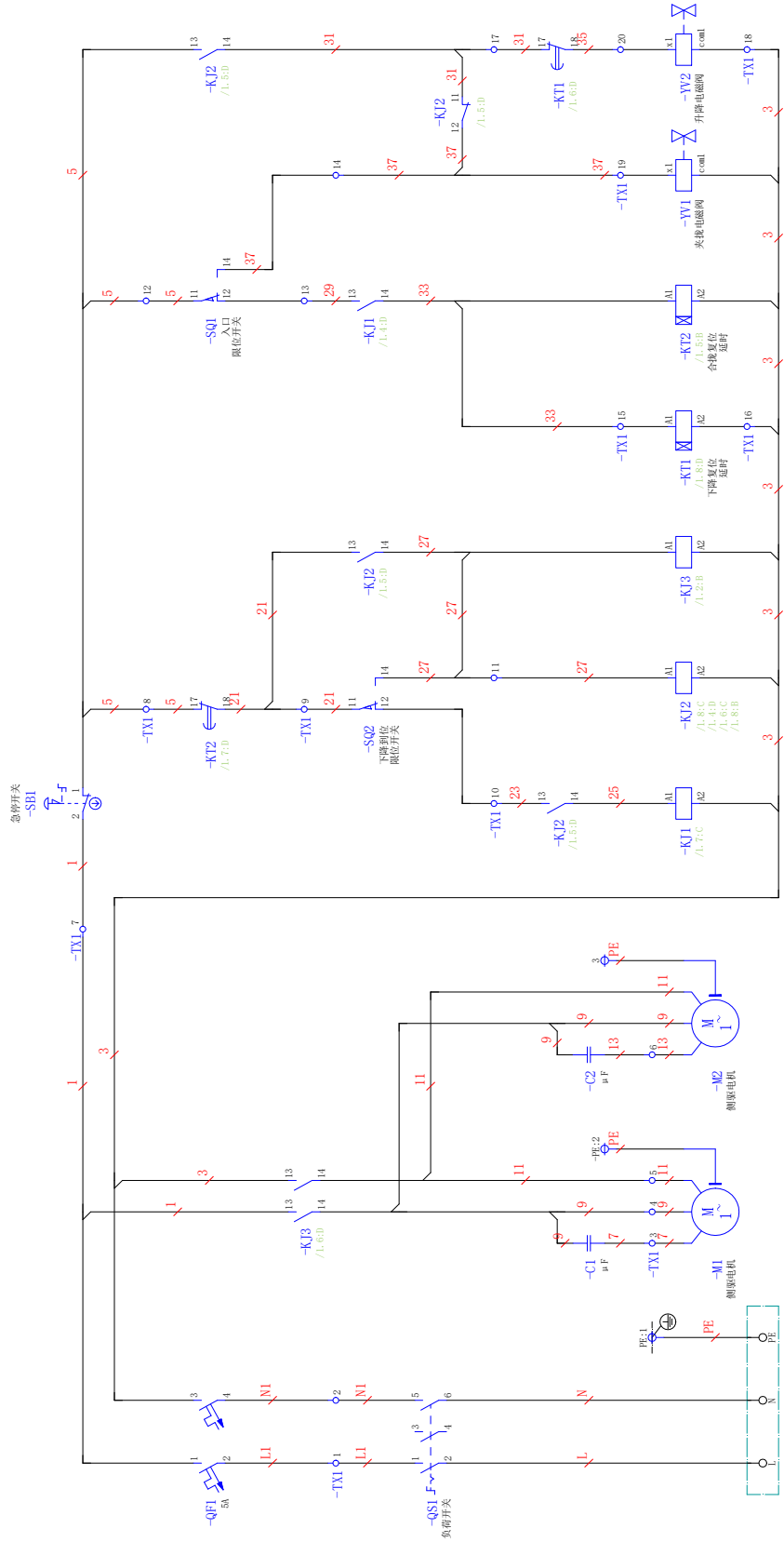
3) According to different carton specifications, the pressure of the clamp bar, the pressure of the upper seal frame, and the speed of the lifting and lowering can be appropriately adjusted.

	<b>Fault</b>	<b>Reason</b>	<b>Method of exclusion</b>
1	Tape cannot be cut	The blade is not sharp enough or the blade is covered with tape and the mucous membrane becomes dull	Replace or clean the blade
2	The tape is not trimmed after being cut	Because the screw is loose and the blade is not installed, the elasticity of the blade spring is insufficient, and the waist drum tension spring is too loose.	Check for loose seat screws and add some oil to the spring if necessary.
3	The tape is not completely stuck to the box	The roller shaft rotates with the tape due to the accumulation of viscosity	Extend the waist drum spring to lubricate the roller shaft
4	Box is stuck	The tape wheel adjustment nut is too tight, the carton height is not adjusted properly; the drum spring is too tight	Loosen the tape wheel adjustment nut, re-adjust the height, and relax the waist drum spring
5	Broken or broken tape when sealing	The blade protrudes too high	Lower blade position
6	Tape often deviates	Pressure imbalance between two side pressure rollers acting on the carton	Re-adjust the position distance in the pressure rollers on both sides
7	There is noise when sealing	The bearing housing has accumulated dust	Adding lubricating oil after cleaning
8	The tape is too loose in the carton	The sealing head seat tension spring is too loose, and the tape seat reduces friction by multiple times of sticking	Increase the tension of the waist drum and tighten the friction of the tape mount

## **VII.Maintenance**

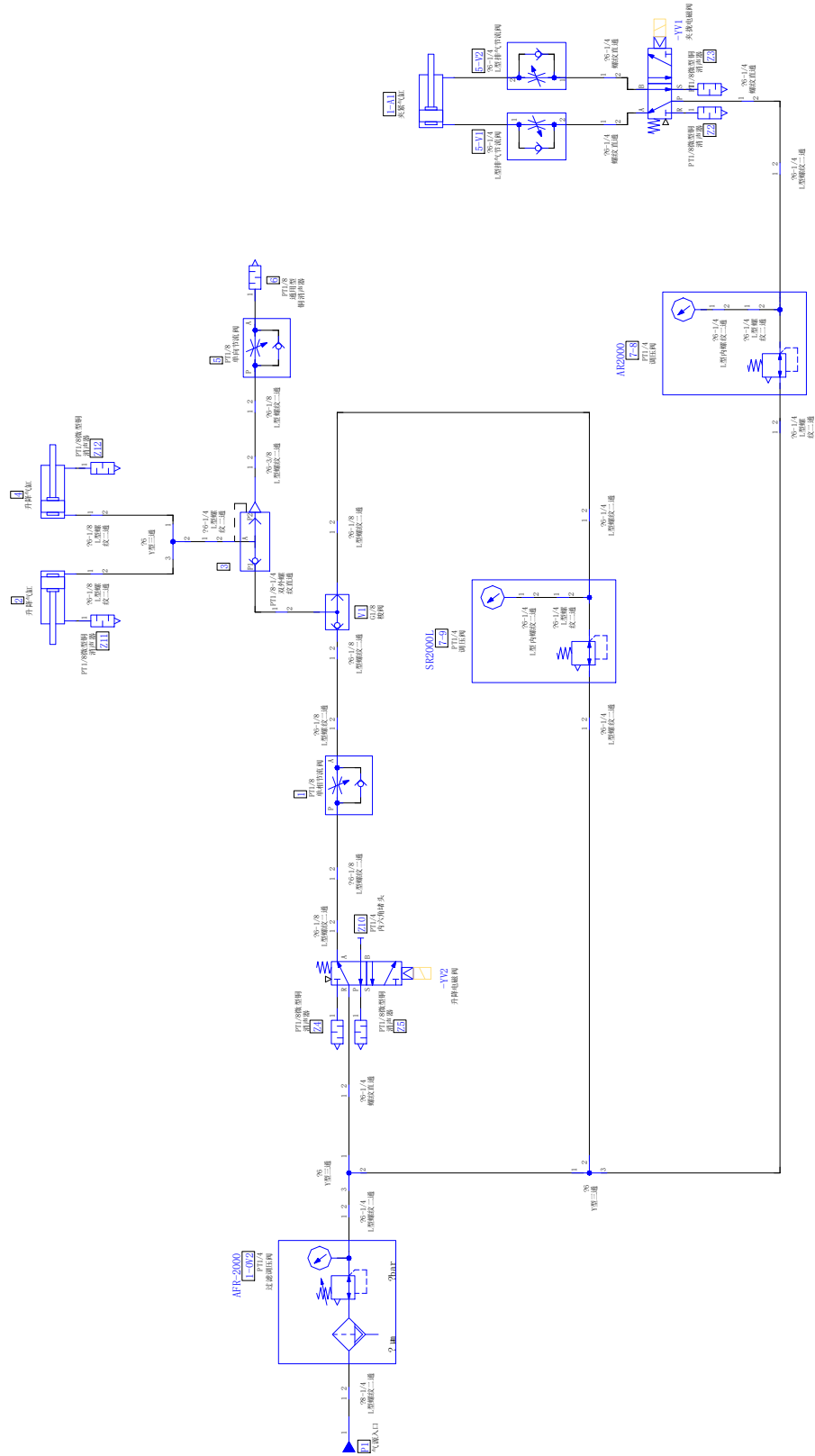
- 7.1 Keep the inside and outside of the machine clean and dry at all times.
- 7.2 Do not place wet or dirty objects on the machine table.
- 7.3 The blade must be cleaned and lubricated before use.
- 7.4 Lubricate the various transmission parts on the sealing head every two months.
- 7.5 Check all the screws and nuts every two months. If loose, tighten them in time.
- 7.6 Requirements for cartons
  - 7.6.1 The carton must be kept dry (wet carton is not suitable for tape sealing).
  - 7.6.2 There should be no dust on the surface of the carton.
  - 7.6.3 Deformed cartons cannot be sealed with tape, especially those with wavy folds that are absolutely unusable.
  - 7.6.4 The creases on the side of the box should be neat.
- 7.7 Requirements for tape
  - 7.7.1 The center-deformed tape cannot be used.
  - 7.7.2 Tapes with deformed coils cannot be used (there are gaps in the scallops).
  - 7.7.3 Paper tape cannot be used.
  - 7.7.4 Tapes with uneven width or thickness cannot be used.
  - 7.7.5 Tapes with scratches on the surface cannot be used (since the scratches are easily cut off, it will cause malfunction to the machine)
  - 7.7.6 It is best not to use tape with a production date of more than half a year.

# VIII.Electric diagram



DQFXA6050全自动封箱机电路图

# IX.Pneumatic diagram



DQFXA6050全自动封箱机气路图