

MACHINERY ILLUSTRATION

AUTOMATIC CARTON ERECTOR

MODEL: K20TX



PREFACE

Thank you for purchasing the auto carton sealer.

This manual will show you the basic structure, using method and points for attention to use this machine safely and correctly. Please read this manual carefully before operating the machine. Be sure that the manual is hand to the final users. This manual content change, without prior notice.

GPA carton sealer series use OPP tape to seal different kinds of cartons. The machine is operated and maintained easily with simple structure and high quality, for which it is widely used in various industries.

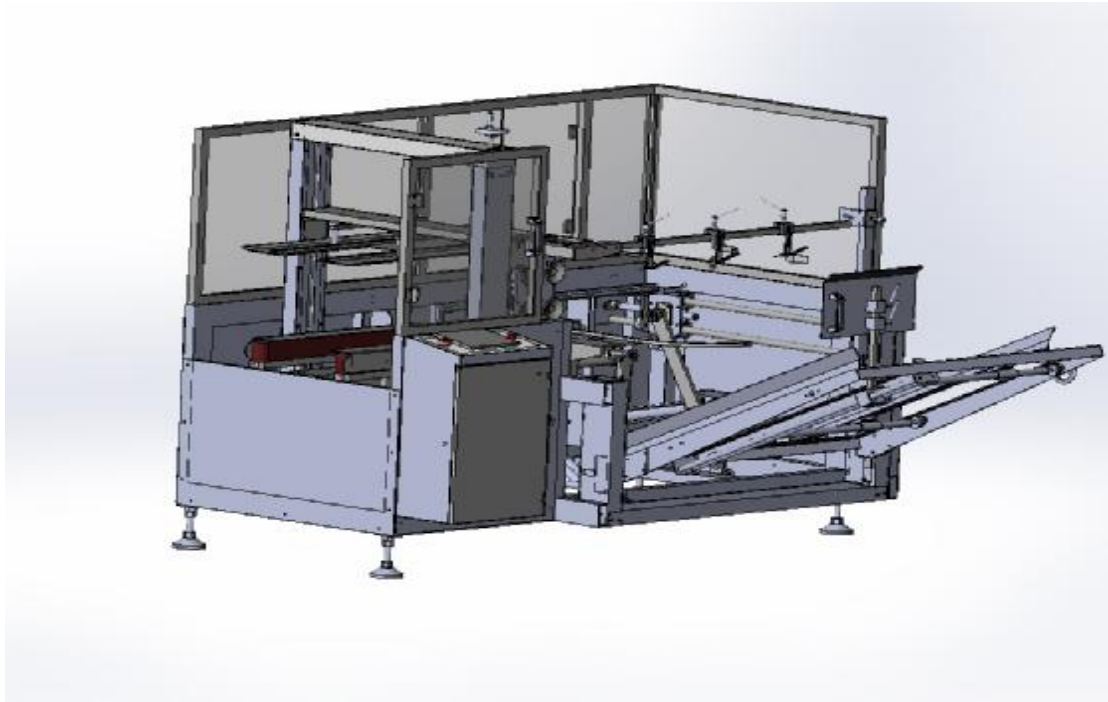
SAFETY INFORMATION

1. The operator should read the operating manual carefully before operating this machine.
2. The operator can not touch any driving parts before running this machine.
3. The maintenance personnel should read the operating manual carefully before maintaining this machine.
4. The power and gas must be closed when installing the tape and doing the daily maintenance.
5. Only the trained personnel can operate the machine.

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1 Specification



The carton erector is a Semi-auto carton sealing machine which can fold the bottom cover of carton and seal; it can be operated separately, economic and high-efficiency, which is an ideal packaging machine. The main parameters are listed as follows:

Sealing speed: 12ctns/min

Sealing width: 150mm~400mm

Sealing height: 100mm~400mm

Sealing length: 250mm~450mm

Machine dimension: L2000 mm × W1900 mm × H1450 mm

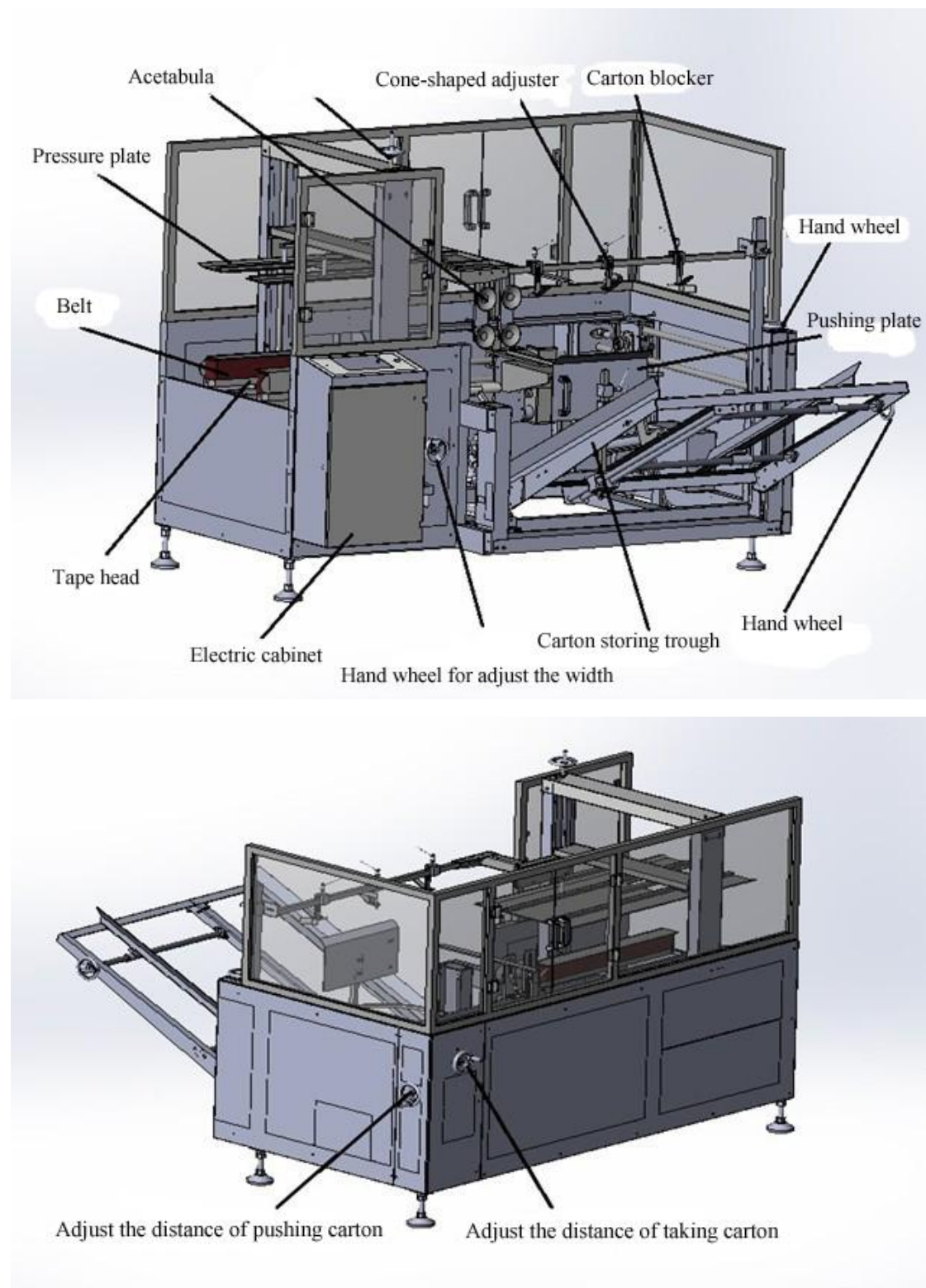
Power supply: 220v 1 φ 200W

Air pressure: 6kg/cm²

Applicable tape: W (48、60、72) mm×L1000y

Machine weight: 450kg

2. Machine structure and adjustment instruction (P.1):

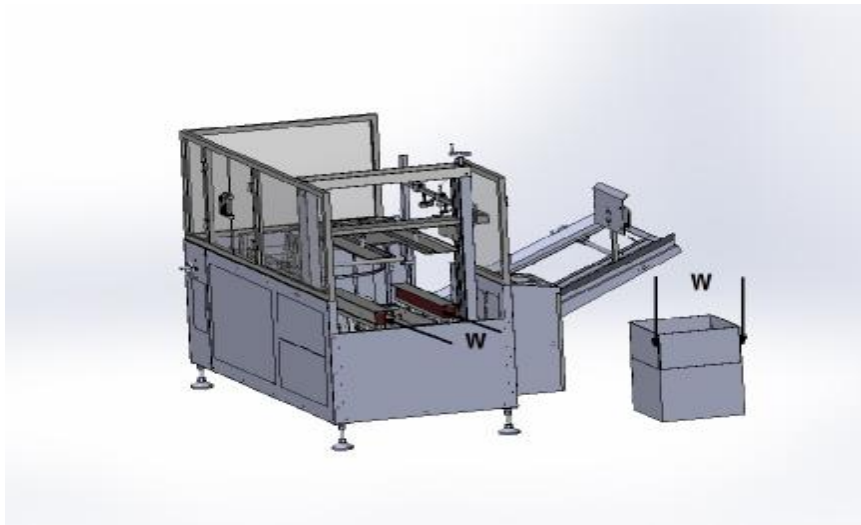


P.1

3. Operation flow

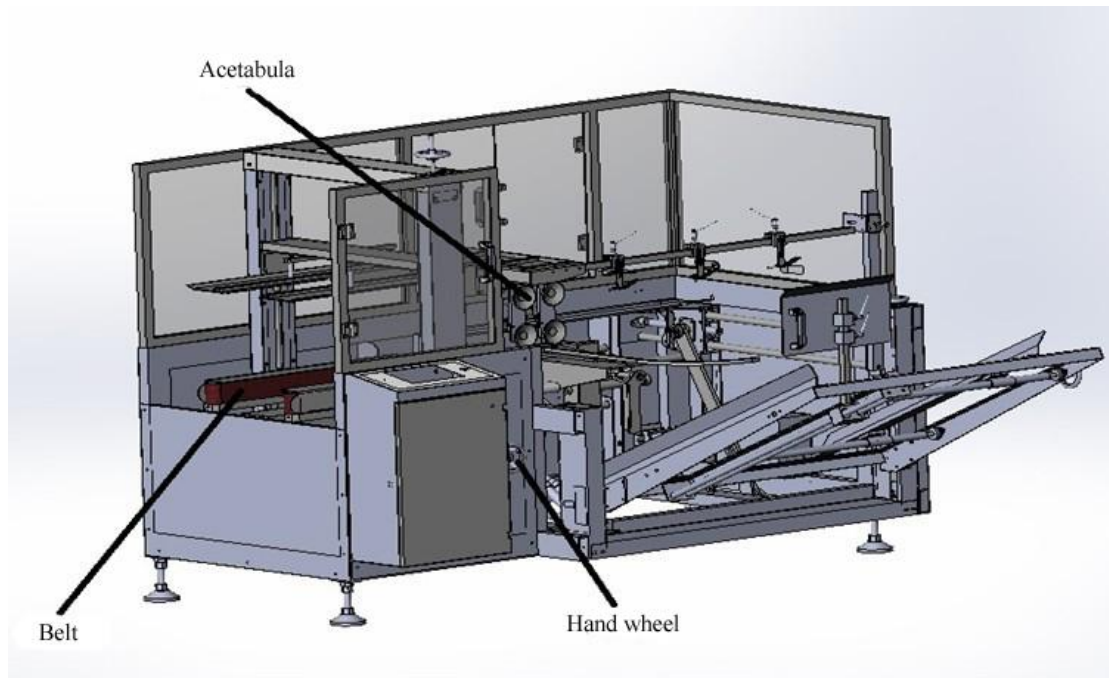
3.1 Operating instruction of the machine parts

- 1) Take out a formed carton
- 2) Turn the tape width adjusting hand wheel (clockwise, width of belt narrows, anticlockwise, width of belt widens), make the width the same with the carton width.(P.2)



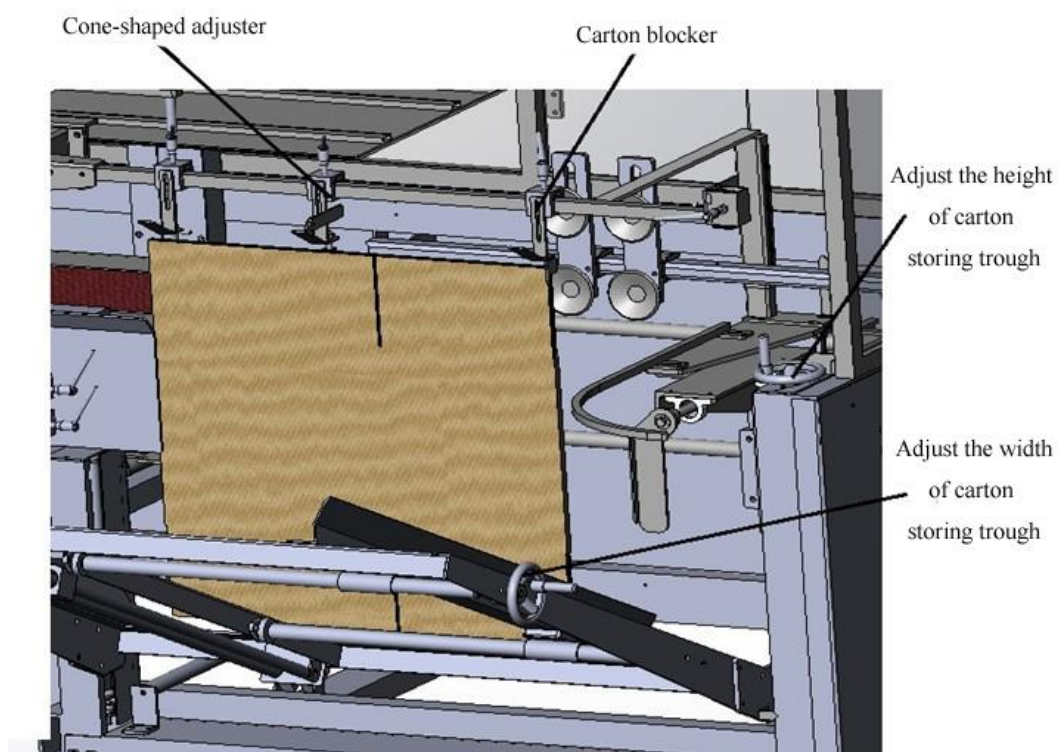
P.2

- 3) Turn the adjusting hand wheel of the carton fetching system and make the acetabula surface is parallel with the strap surface when the acetabula is in the high-point.(P.3)



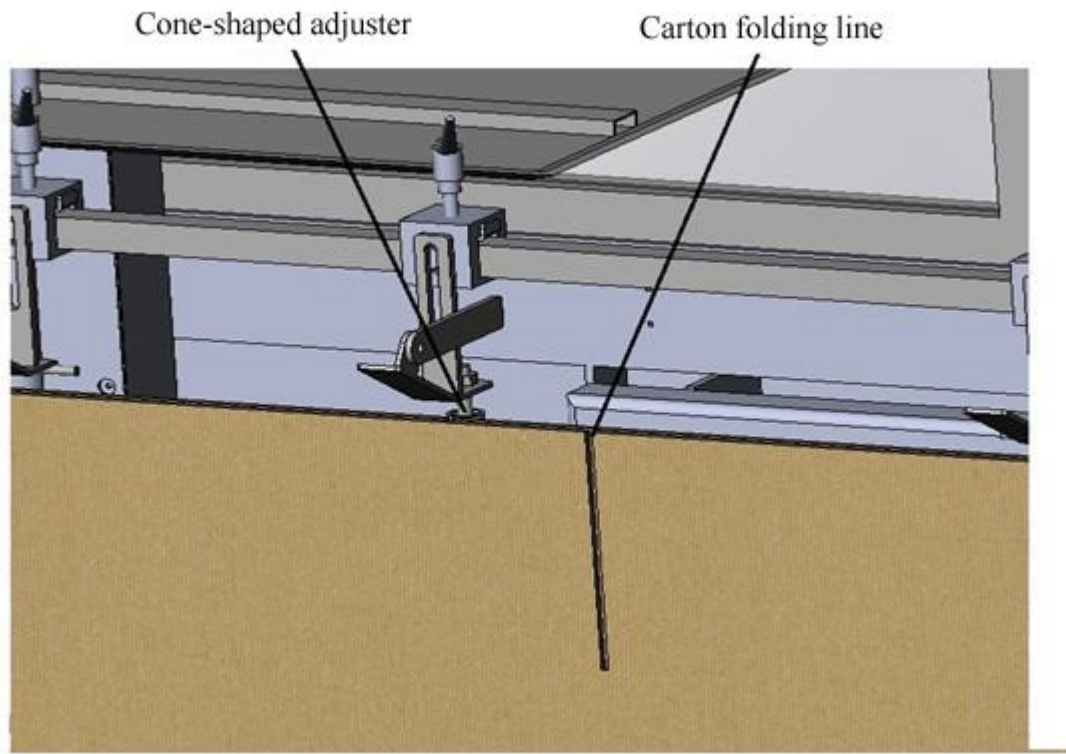
P.3

4) Take out an unformed carton, put it onto the lower brim of the carton blocker, and then adjust the height and width of the carton storing trough, to make it the same as the unformed carton's height and width.(P.4)



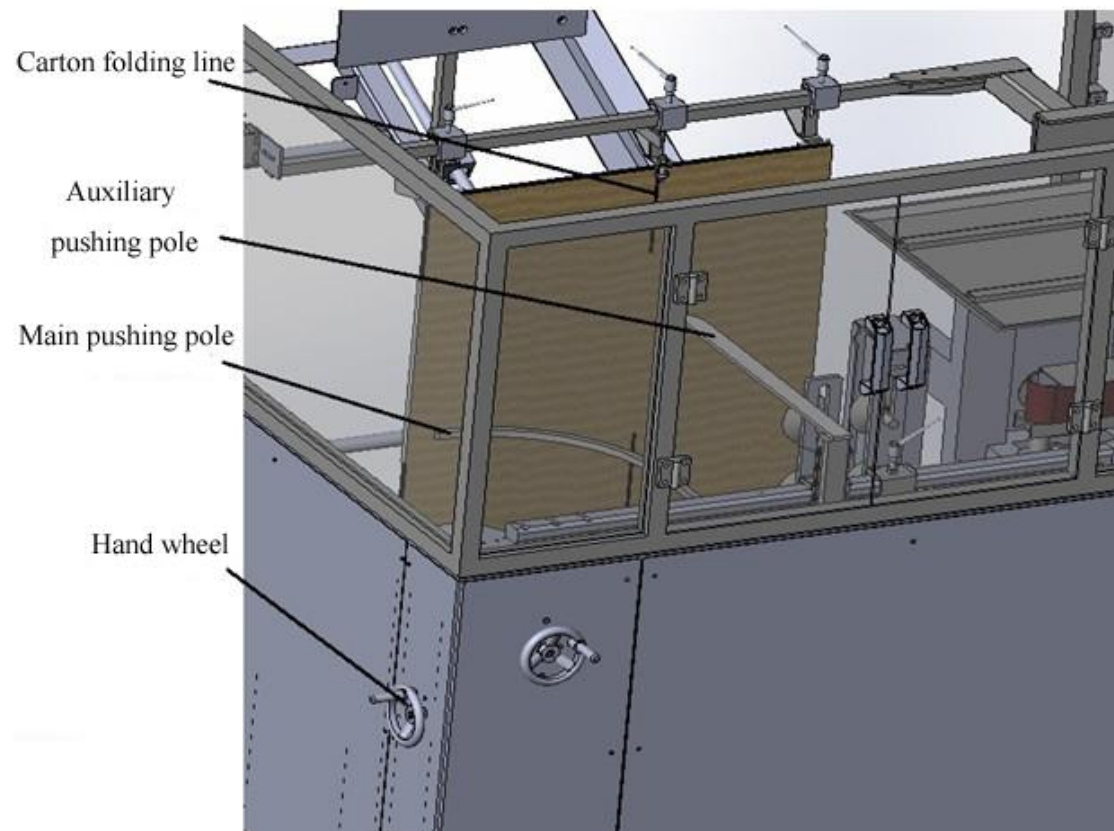
P.4

- 5) Adjust the cone-shaped adjuster, to make it align the carton folding line.
line. (P.5)



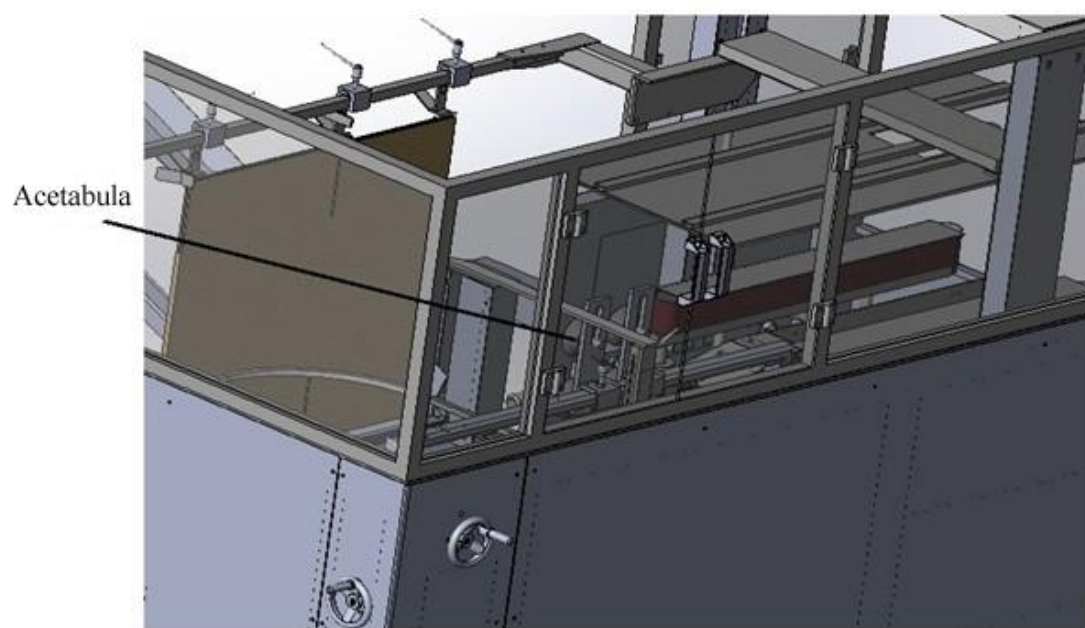
P.5

- 6) Turn the carton pushing adjust hand wheel to make the carton pushing pole, cone-shaped adjuster and the carton folding line in line. (P.6)



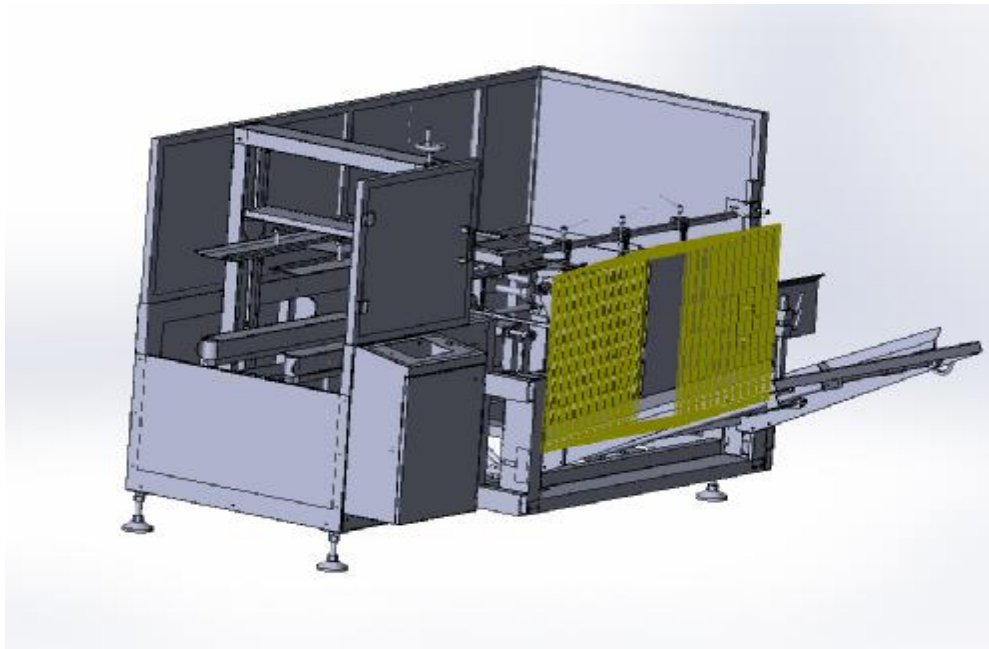
P.6

7) Adjust the acetabula to right position based the size of the carton . (P.7)



P.7

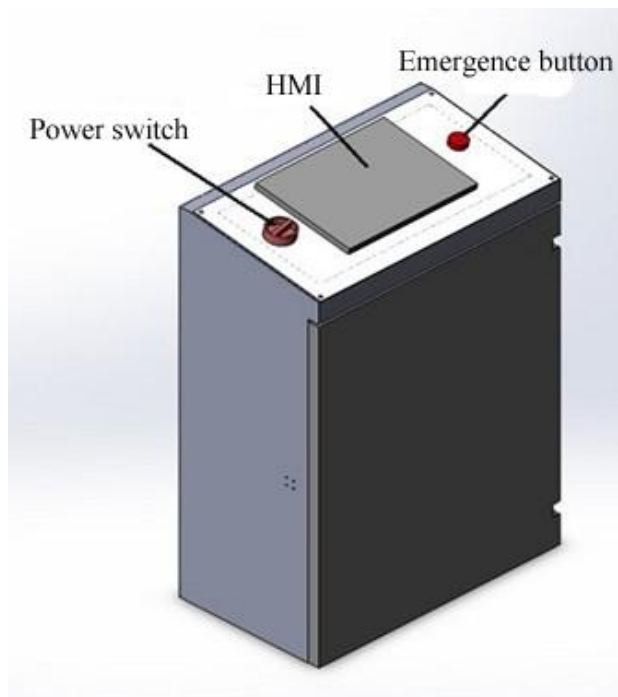
8) Finally put the unformed cartons into the carton storing trough, then lay down the pushing plate. (P.8)



P.8

3.2 Electrical control operation explanation

- 1) Make sure the machine is connected to the power supply and gas sources.
- 2) Start the NFB, start button by order, and make sure the emergence button is unpressed. (P.9)



P.9

- 3) After the machine is started, the LCD is shown as following. (P.10)



P.10

4) The main menu. (P.11)

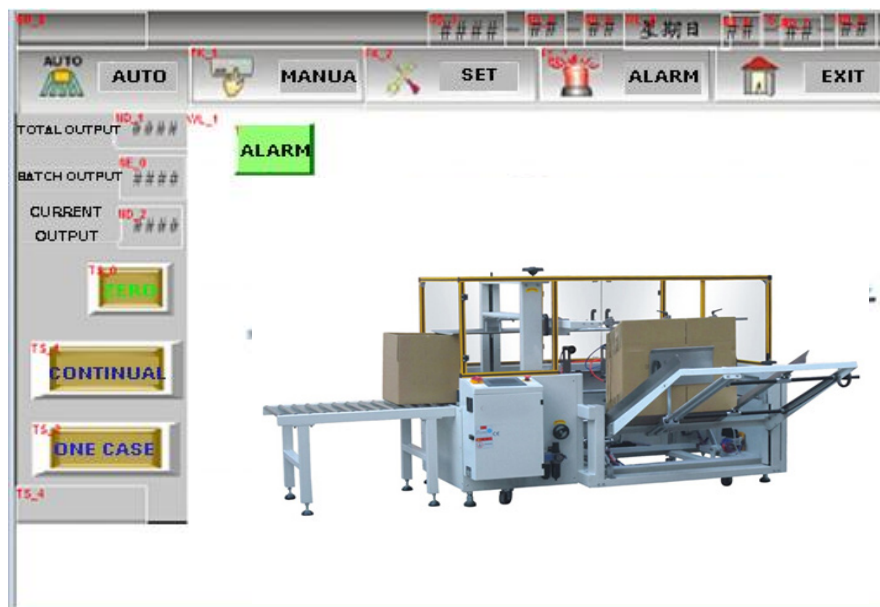
Auto/ manual: to switch the auto interface or manual interface. Under the manual interface , press the “start” button to switch to the manual menu.

Counting: Showing the Quantity of forming cases. Push Zero can clear the record.

Erecting Continually: Start this function when you run the machine automatically, then the machine erecting continually.

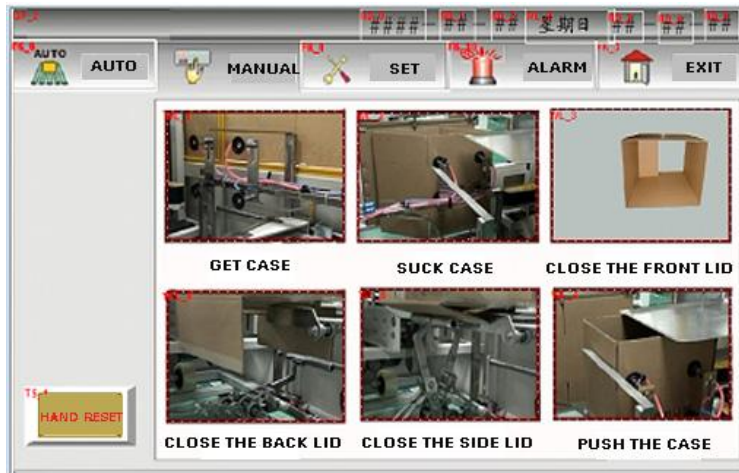
Erect one case : Only form and seal one case.

Setting Out-Put : Showing the quantity of forming case. When you Push RST, the current Out-put becomes Zero. You can clear the Out-put to Zero in the High Level setting.



PIC 11

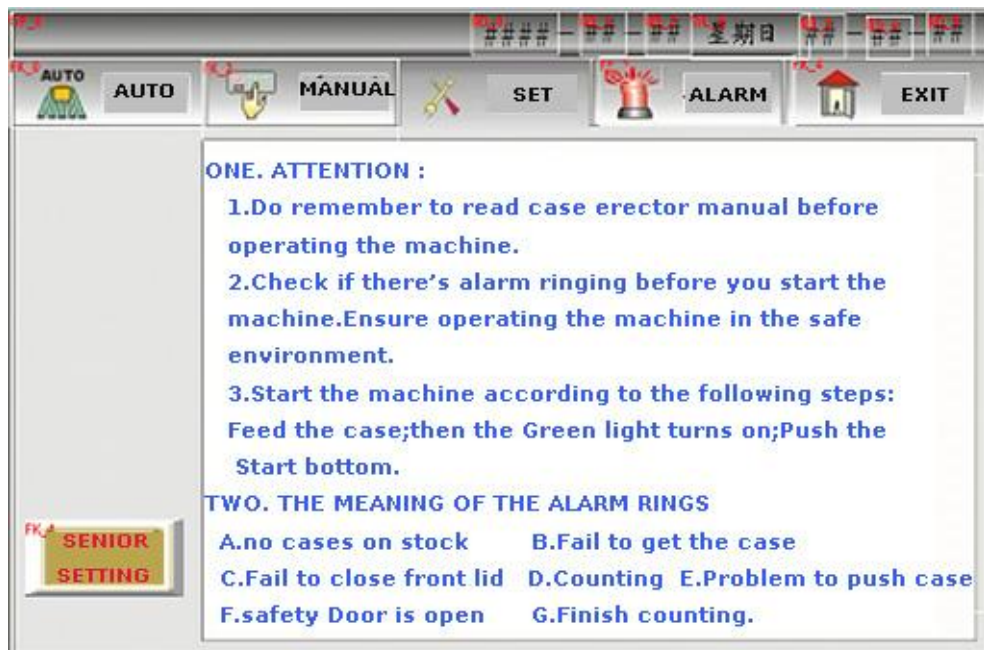
5) Operate the machine manually according to the following picture 12:



PIC12

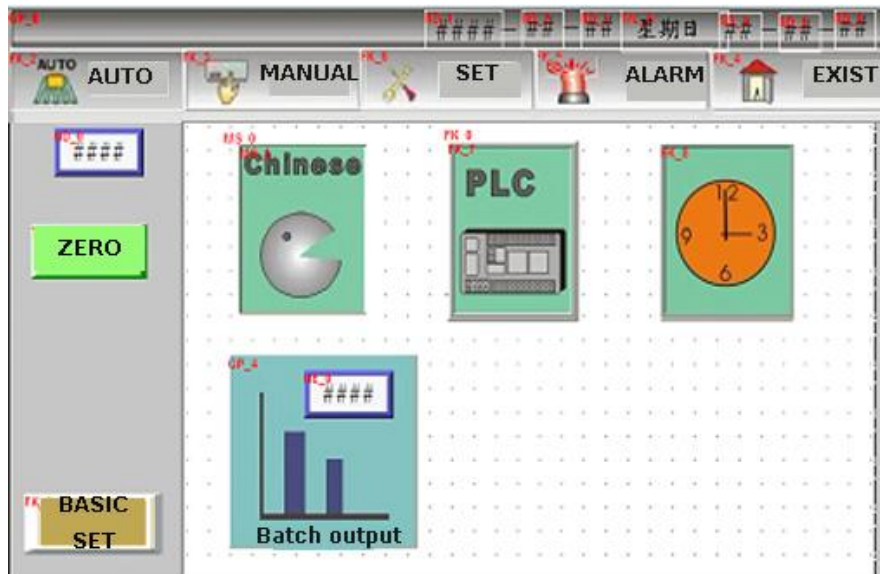
6) Set the Touch Screen 。

Basic setting, showing as Picture 13:



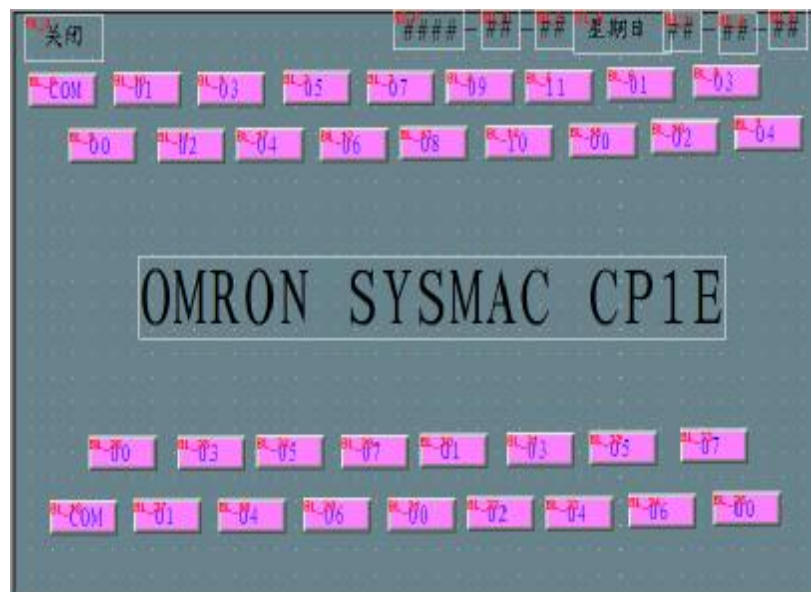
PIC13

High Level Setting showing as Picture14:



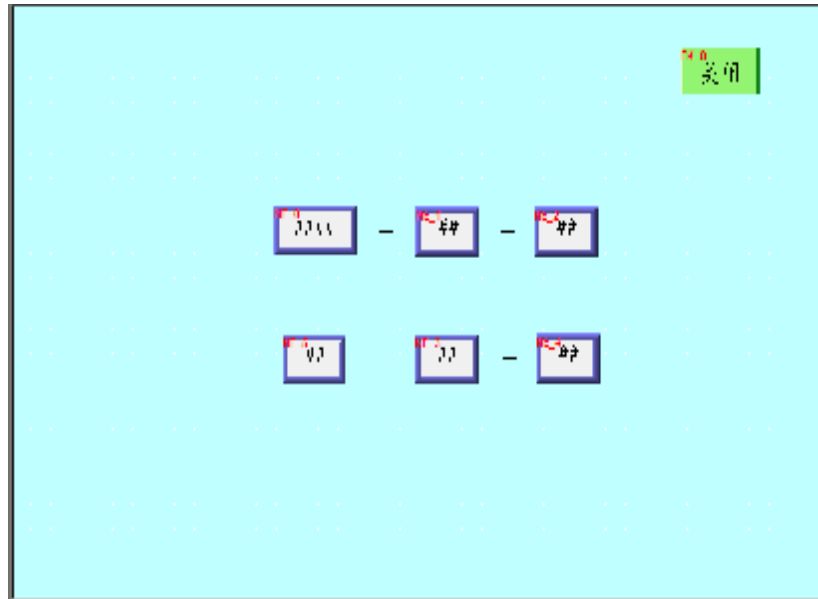
PIC14

- 1、 Click the first Icon to change the language.
- 2、 Click PLC, goes into IO/Input&output as the following picture15.



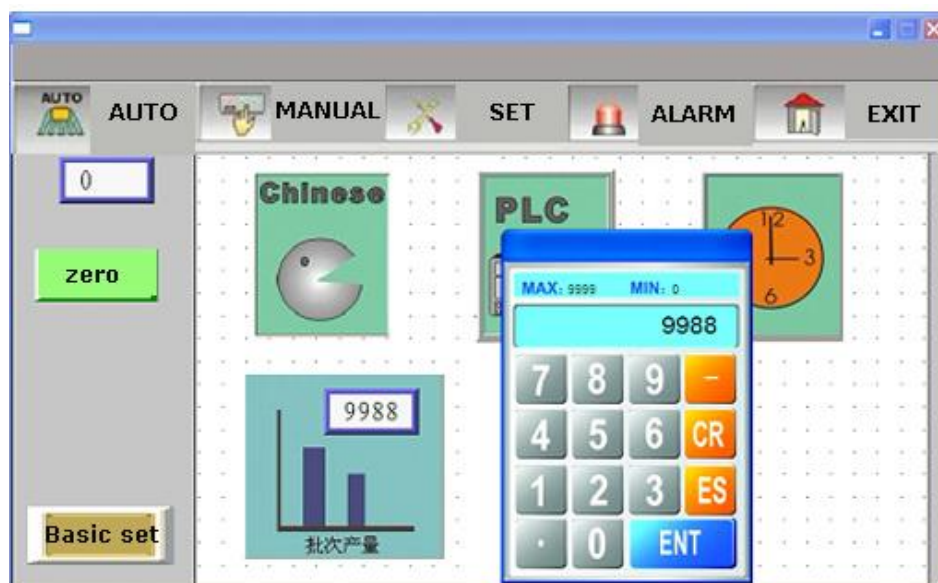
PIC15

- 3、 Click TIME to go and set time as the following Picture16 shows:



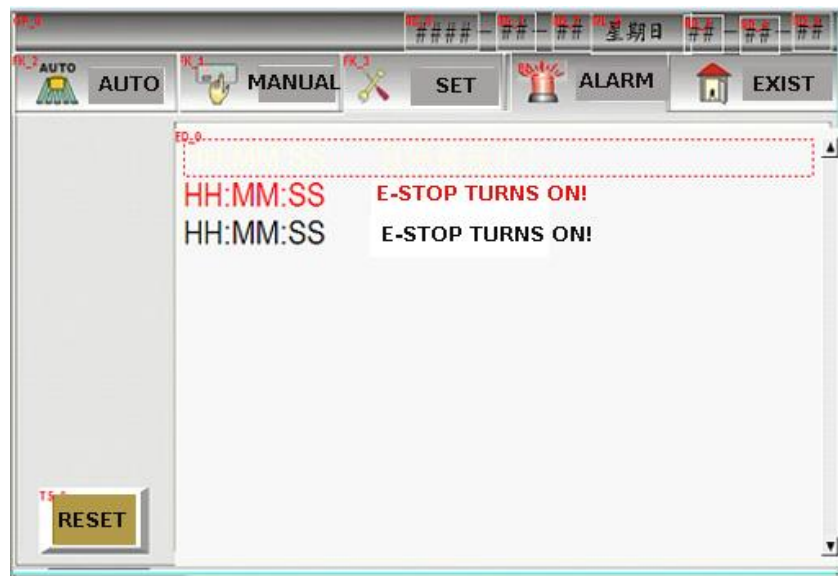
PIC16

4、Click BATCH OUT-PUT to set out-put as the following picture shows:



PIC17

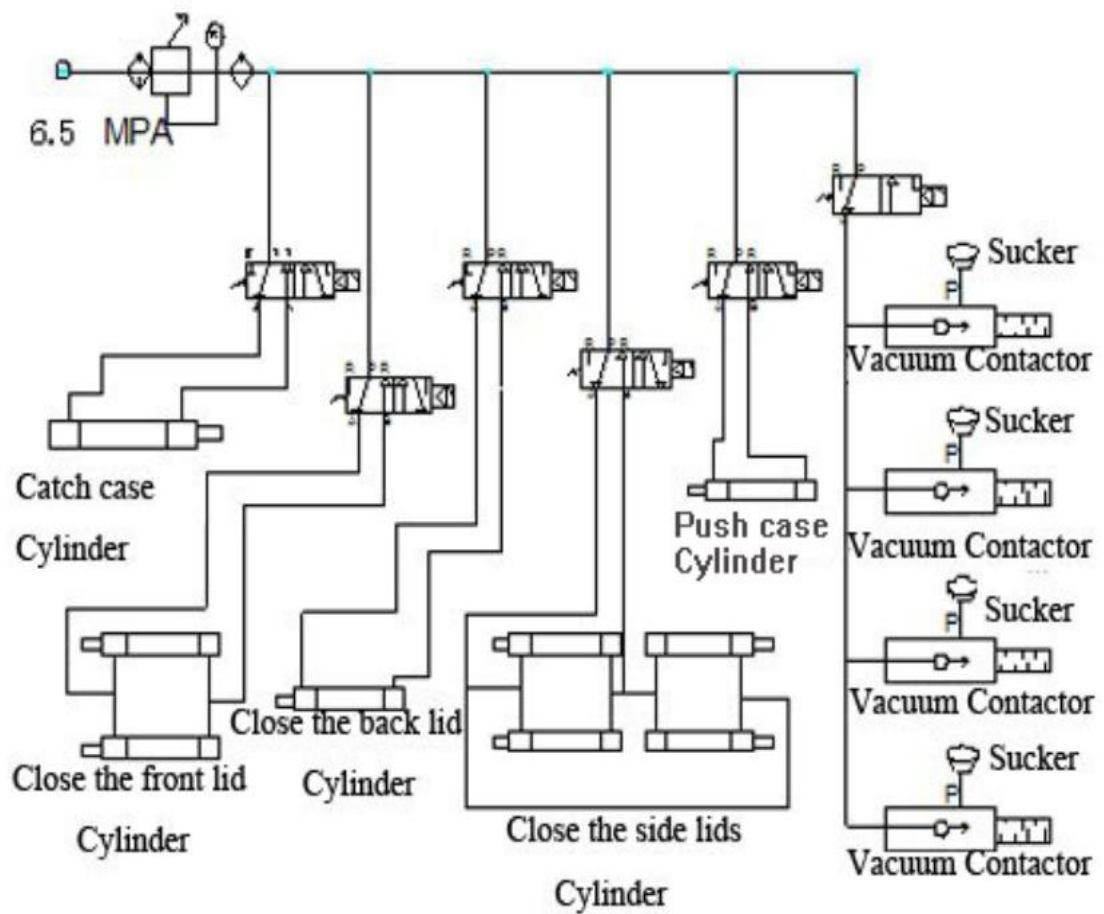
8) Alarm rings to tell you information showing as the following picture:



PIC18

3.3 Pneumatic Parts Instruction

1) Air-Pressure Drawing showing as the following picture shows:

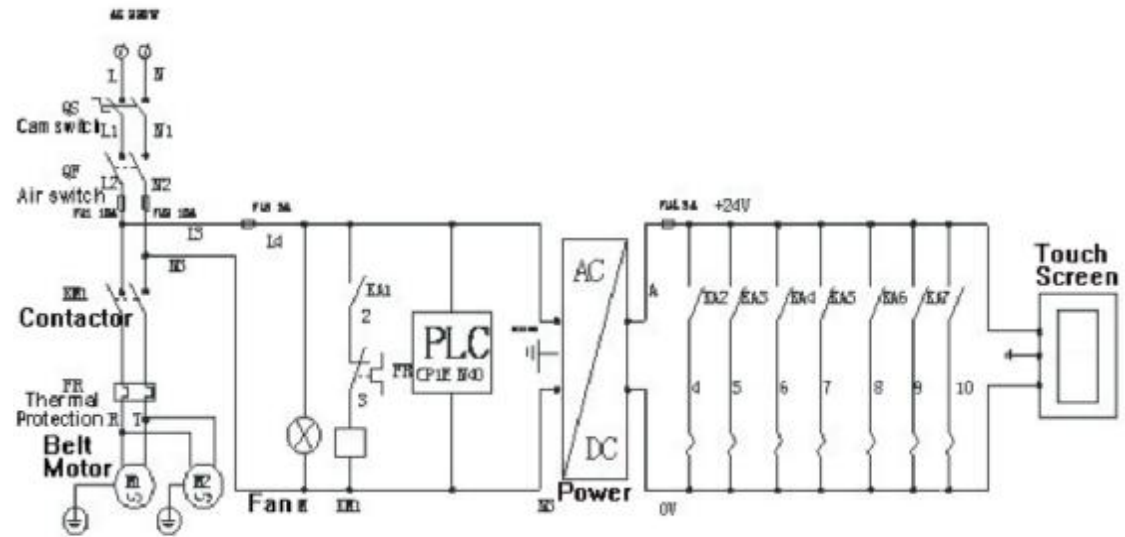


PIC19

- A、 It's important to keep the Air pipes clean and do maintainance anytime.
- B、 Please keep offering the air-pressure at $5\sim 6\text{kg/c m}^2$ to ensure the machine runs stably.
- C、 Cylinder Container: Keep the shaft clean, otherwise it causes air-leakage when the dust goes into the Piston.
- D、 Maintainance on Air-Pipe: Remember to check if the air-pipe fluent and not blocked for folded. If it happens, please clear and make the air-pipe fluent for the air running.
- E、 Suckers: Keep the suckers clean and far away from the oil. It's better to clean the Vacuum Contactor every week.
- F、 The Three Points:
 - 1、 Check if there's enough oil in it, if not, add some in time. Please use the oil that is only for air-pressure, not too strong;
*Donot use the other oil instead, otherwise it causes air-flow-back, air-blocked and other problems;
 - 2、 Check the cup for water and drain away the water when it is too much inside;
 - 3、 Set the air-pressure to $5\sim 6\text{kg/c m}^2$.
- H、 When stop and do maitainance, please deflate the air by the Pressure

release valve in case it does damage for operators.

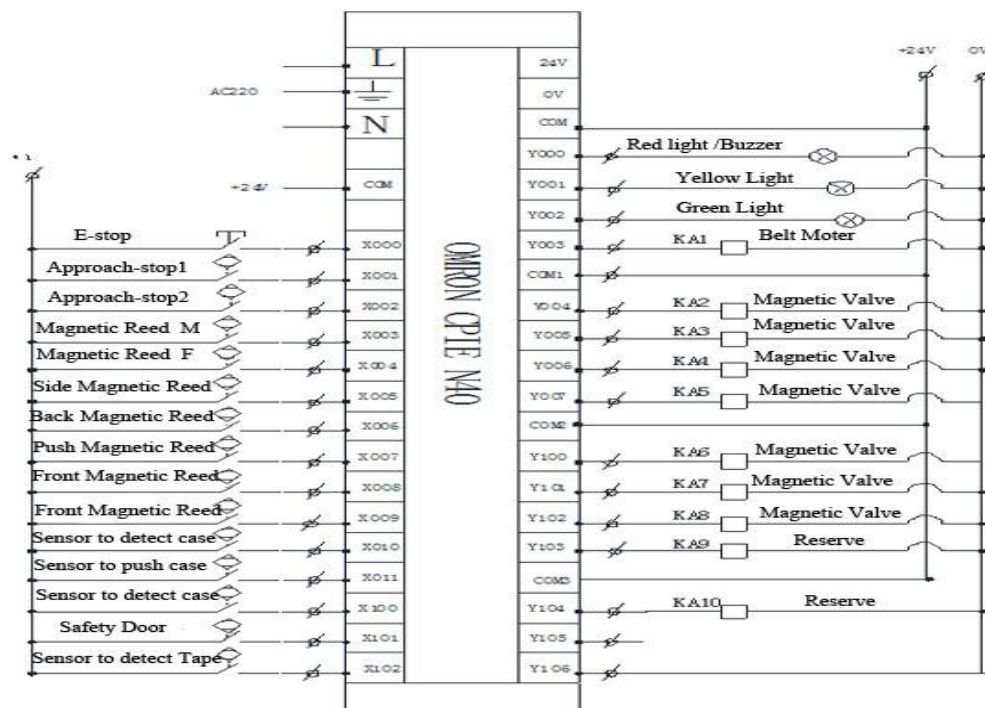
2) Electronic Drawing showing in the following Picture 20



PIC20

3) PLC I/O Showing As The Following Picture

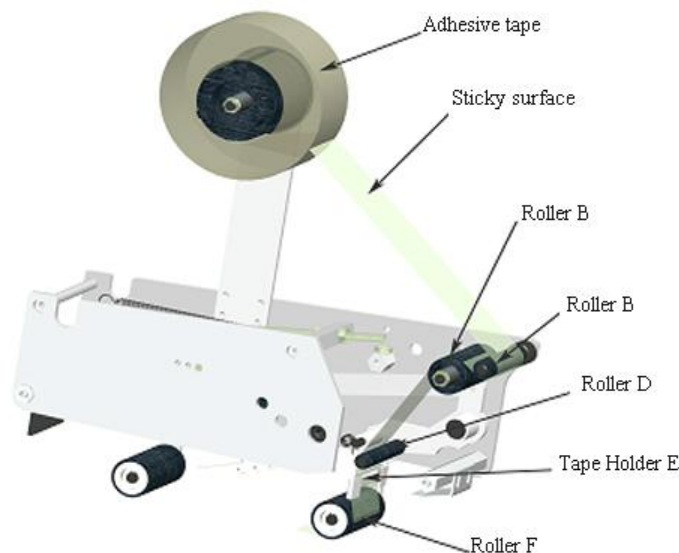
21



PIC21

3.4 Tape Head's operating and Maintenance Showing As The Following Picture22:

1、 Firstly, load the OPP tape on the tape holder showing as the following picture. Secondly, load the tape goes through the roller C and Roller B. Thirdly, it goes through Roller D. At last it goes out from Roller F after it comes out from the Tape Holder E as the picture shows. Pay attention that the sticky surface should be on the top.



PIC22

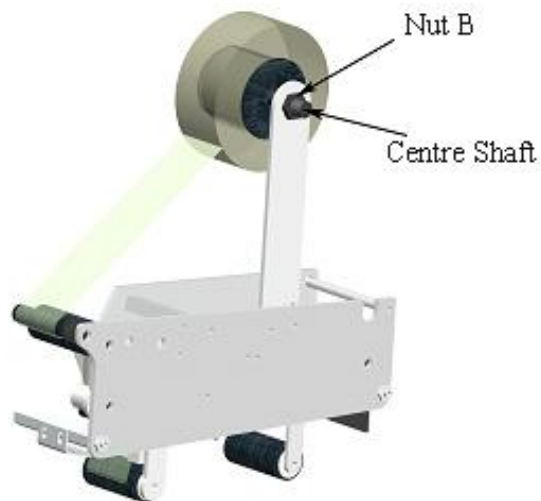
2、 Adhesive Tape Loading Clue Drawing shows as the following picture23:



PIC23

3、Adhesive Tape Position Adjusting Shows As The Following Picture24:

If the tape doesn't stick on the middle of the carton lids, please do a little adjustment according the following pictures: Loosen Nut B, then use the Screw Driver to adjust the center Shaft of the tape holder.

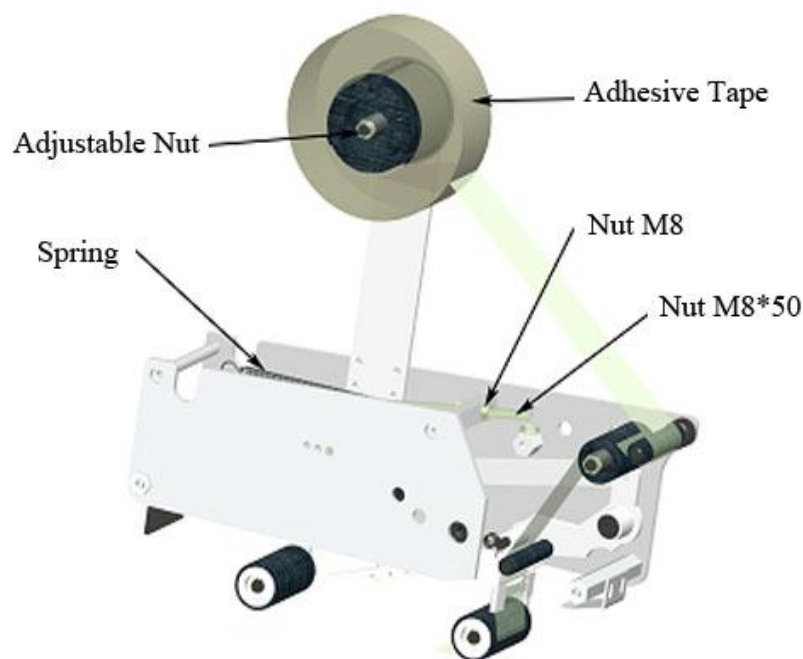


PIC24

4、Tape Tension Adjustment Shows As The Following Picture 25:

Spin the the spinning bottom to a proper speed for the tape, then

loosen Nut M8, Adjust the distance between Nut M8*50's front and back. Change the tension of the Shaft spring to control the Tape's tension. Spin the spinning bottom clockwise, the tape tension becomes larger, do it in the opposite direction, it becomes smaller. When you make Nut M8*50 go a little front, the tape tension becomes larger, if make it go a little back, it becomes smaller.

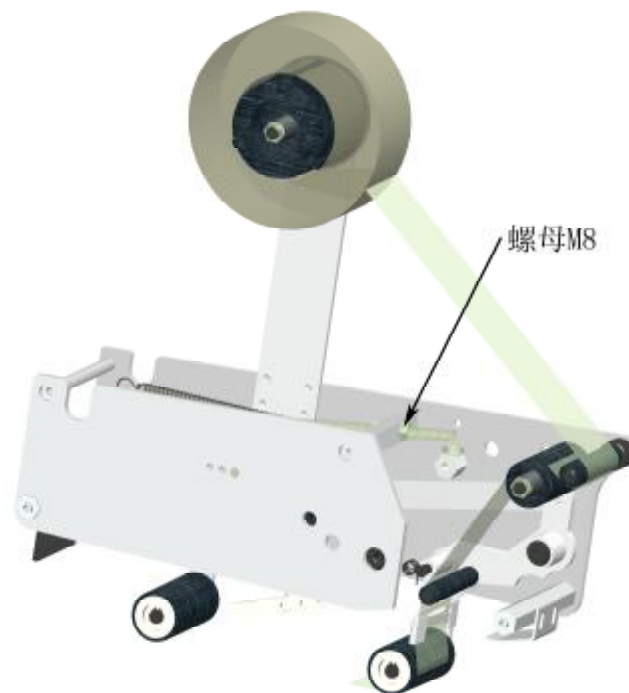


P.25

Tape head malfunctions and solutions

Malfunction	Possible reason	Solution
Adhesive tape can not be cut off	The cutter is not sharp enough. The cutter tine is jammed by the bond.	Change the cutter Launder and lubricate the cutter
There is tail after the	cutter seat is	check all nuts on the tape

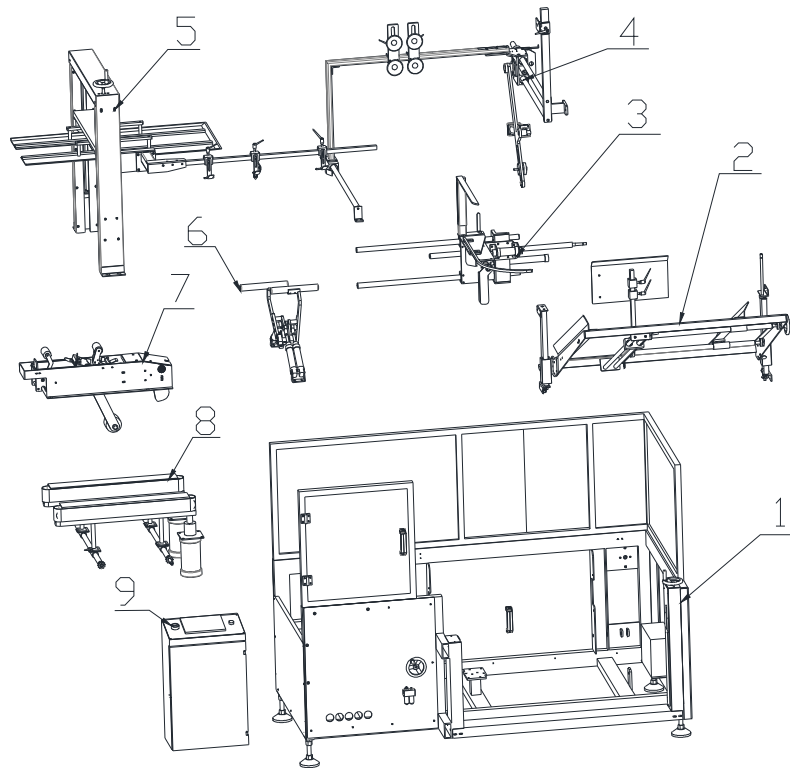
adhesive tape is cut off.	jammed ,operation is not flexible ,or the spring is not tight enough	head or adjust the spring tension
The adhesive tape can't stick to the carton completely.	main spring is too loose to keep consistent for speed of rear wheel rebound and belt	lock and tight the main spring nut properly
The carton is locked in the midway.	main spring is too tight, the front wheel is locked in midway	loosen the main spring properly
adhesive tape fall off easily	one-way knurling wheel does not work	change the knurling wheel
carton is crooked and one carton flap is jut compared with the other after sealing		the flap edge should parallel the carton body before sealing
there is drape after sealing on tape		adjust the nut M8 on the head tape to enlarge the tension as P.26



P.26

4 Exploded figure

4.1 each device figure of main body as P.27,T1 :



P. 27

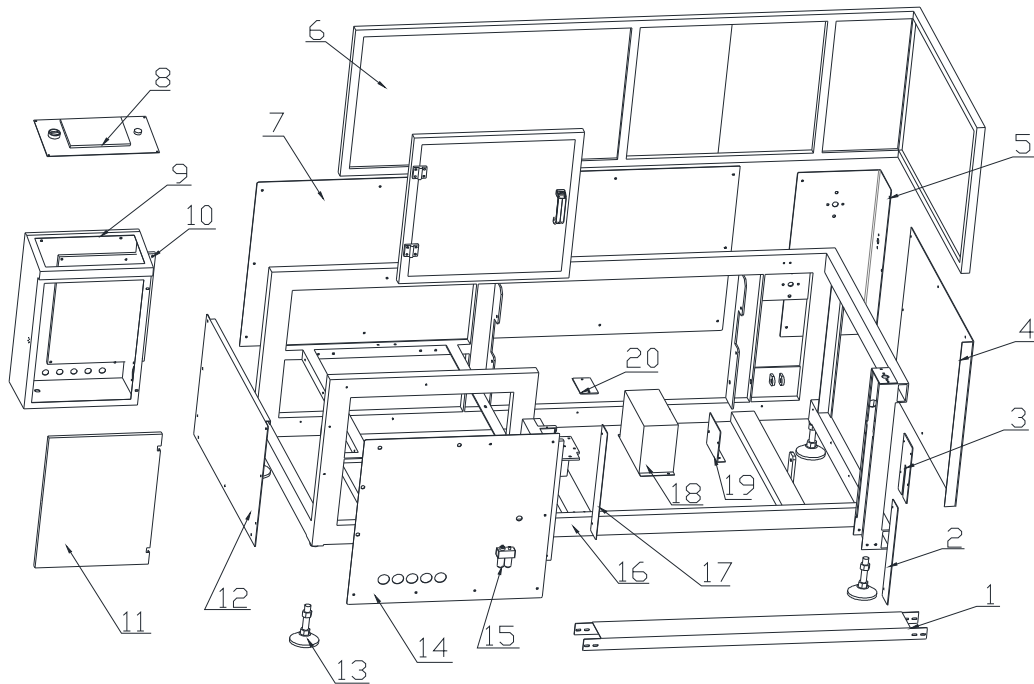
Part list

T.1

N O	Part No.	Part Name	Qty	Remarks
1	K20	main machine frame	1	
2	K20	store chute device	1	
3	K20	rear cover folding and carton pushing device	1	
4	K20	carton fetching device	1	
5	K20	adjusting device	1	

6	K20	side cover folding device	1	
7	K20	front cover folding and carton sealing device	1	
8	K20	belt conveying device	1	
9	K20	electric cabinet	1	

4. 2 Main machine frame and electric cabinet figure as P.28, T2.



P.28

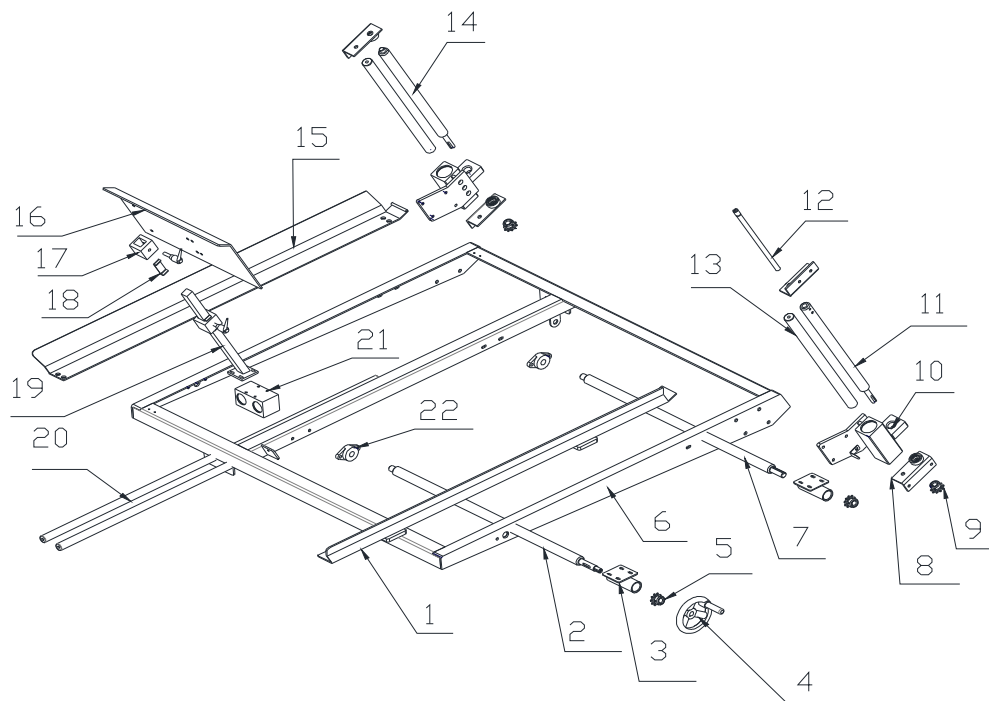
Part list

T.2

NO.	Part No.	Part Name	Qty	Remarks
1	K20101	connecting chute plate	1	
2	K20102	right standing pillar bottom sealing plate	1	
3	K20103	right standing pillar up sealing plate	1	
4	K20104	right sealing plate	1	
5	K20105	corner sealing plate	1	
6	K20106	glass guard	1	
7	K 20107	rear sealing plate	1	

8	K20108	control panel	1	
9	K20109	electric cabinet	1	
10	K20110	switch panel	1	
11	K20111	electric cabinet cover	1	
12	K20112	left sealing plate	1	
13	K20113	bun foot	4	
14	K20114	front sealing plate	1	
15		air filter	1	
16	K20115	main machine frame	1	
17	K20116	left standing pillar bottom sealing plate	1	
18	K20117	rolling cover plate	1	
19	K20118	flowing stationary plate	1	
20	K20119	cover board	1	

4.3 Store chute device figure as P.29,T3

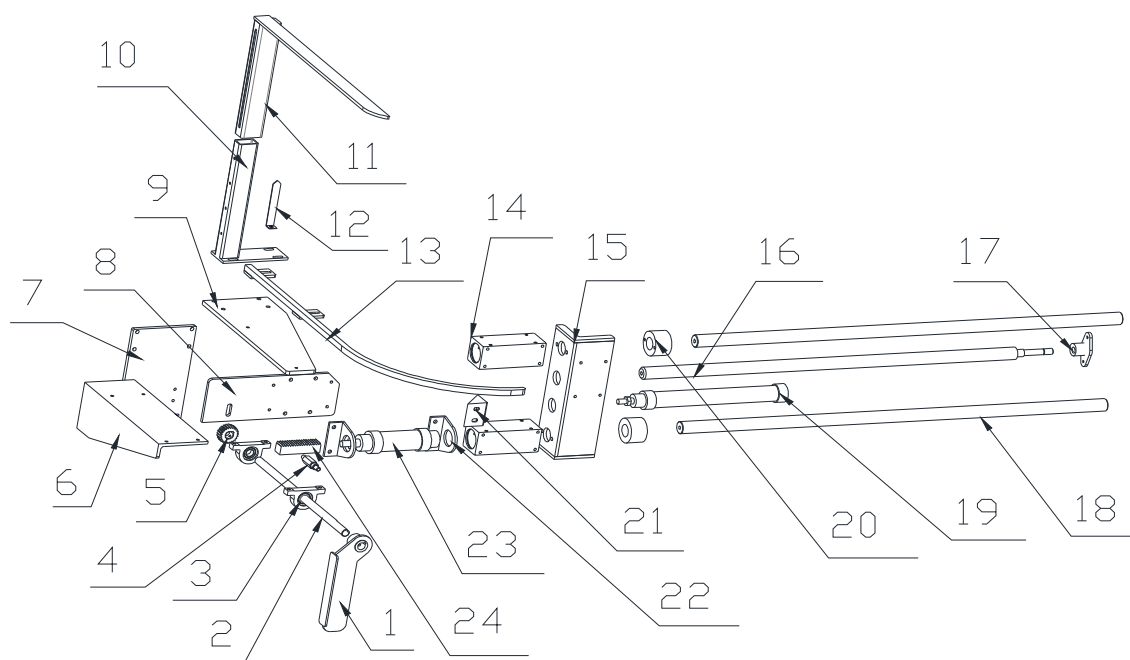


Part list

T.3

N O	Part No.	Part Name	Qty	Remarks
1	K202	activity guide plate	1	
2	K202	store chute left and right threaded rod (front)	1	
3	K202	store chute left and right tooth tube	2	
4	K202	hand wheel	1	
5	K202	1 chain wheel 1	2	
6	K202	store chute main frame	1	
7	K202	store chute left and right threaded rod(rear)	1	
8	K202	standing pillar angle iron	4	
9	K202	2 chain wheel 2	2	
10	K202	store chute lifting tooth tube	2	
11	K202	store chute lifting short threaded rod	1	
12	K202	store chute lifting threaded rod extension shaft	1	
13	K202	Store chute lifting guide shaft	2	
14	K202	store chute lifting long threaded rod	1	
15	K202	stationary guide plate	1	
16	K202	pressure plate	1	
17	K202	connecting square tube	2	
18	K202	U type adjusting spacer	1	
19	K202	supporting bar	1	
20	K202	pressure guide bar	2	
21	K202	store chute slider	1	
22	K202	seat bearing	4	

4.4 rear cover folding and carton pushing device figure as P.30,T4



图三十

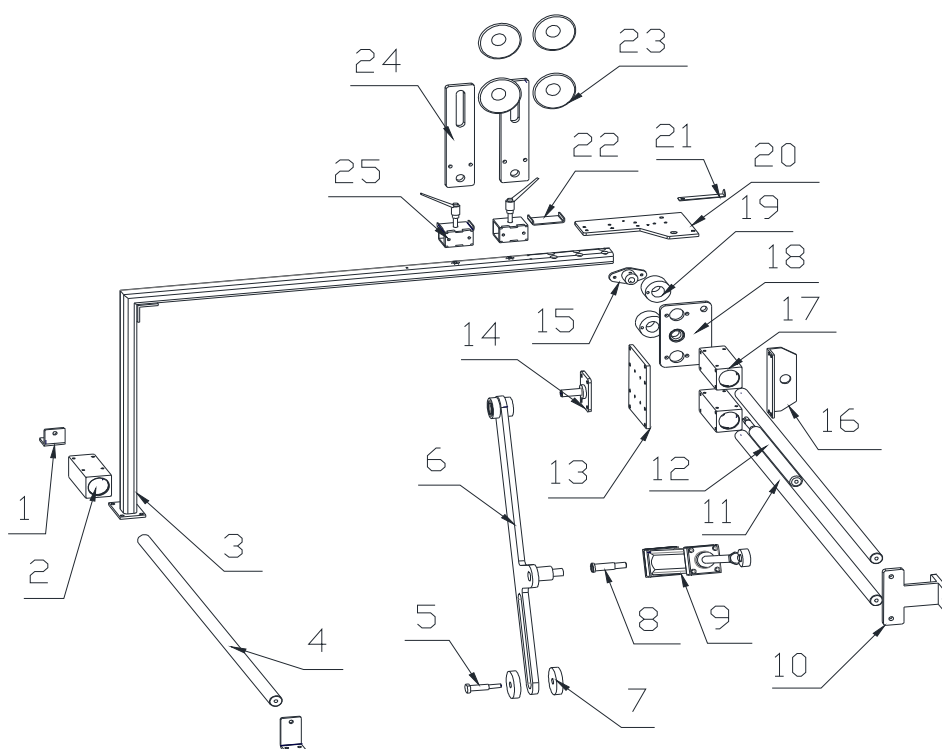
Part list

T.4

NO.	Part No.	Part Name	Qty	Remarks
1	K20301	rear cover folding set piece	1	
2	K20302	rear cover folding shaft	1	
3	K20303	seat bearing	2	
4	K20304	rack roller carrier shaft	1	
5	K20305	gear	1	
6	K20306	rear cover folding supporting plate	1	
7	K20307	slider connecting plate	1	
8	K20308	rear cover folding supporting plate 2	1	
9	K20309	supporting plate	1	
10	K20310	pushing bar supporting tube	1	
11	K20311	pushing bar	1	
12	K20312	indicator	1	
13	K20313	radial block	1	
14	K20314	carton fetching slider	1	
15	K20315	carton pushing seat	1	
16	K20316	adjusting silk pole	1	
17	K20317	prismatic locking block	1	

18	K20318	carton pushing sliding shaft	1	
19	PC32B200	carton pushing cylinder	1	
20	K20319	guide bar shaft sleeve	2	
21	K20220	carton pushing cylinder seat	1	
22	K20221	front cover folding cylinder seat	2	
23	PC40B30	front cover folding cylinder	1	
24	K20222	rack	1	

4.5 carton fetching device figure as P.31,T.5



P.31

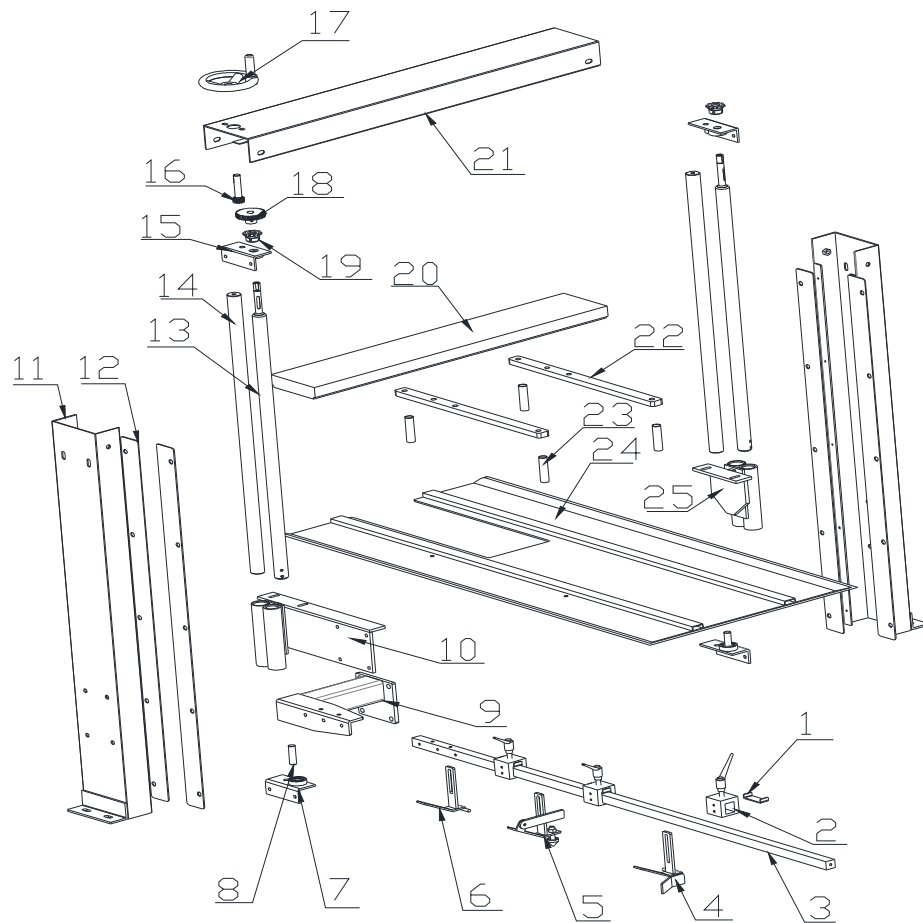
零件表 Part list

T.5

NO	Part No.	Part Name	Qty	Remarks
1	K20	(1, 2) holder(1,2)	2	
2	K20	auxiliary rod slider	1	
3	K20	auxiliary rod	1	
4	K20	auxiliary rod shaft	1	
5	K20	carton fetching swinging rod connecting shaft	1	

6	K20	carton fetching swinging rod	1	
7	K20	nylon pad	2	
8	K20	carton fetching cylinder connecting shaft	1	
9	TC50B2	carton fetching cylinder	1	
10	K20	supporting seat	1	
11	K20	carton fetching slider supporting shaft	2	
12	K20	carton fetching adjusting silk shaft	1	
13	K20	slider connecting plate	1	
14	K20	stir shaft plate	1	
15	K20	prismatic locking block	1	
16	K20	buffer angle iron	1	
17	K20	carton fetching slider	2	
18	K20	adjusting nut plate	1	
19	K20	shaft sleeve	2	
20	K20	auxiliary slider shaft connecting plate	1	
21	K20	position adjustment indicator	1	
22	K20	U type spacer	2	
23	K20	suction cup	4	
24	K20	suction cup stationary plate	2	
25	K20	positioning square tube	2	

4.6。 adjusting device figure as P.32,T6



P.32

Part list

T.6

NO.	Part No.	Part Name	Qty	Remarks
1	K20501	U type spacer	3	
2	K20502	positioning square tube	3	
3	K20503	cantilever	1	
4	K20504	right adjusting block	1	
5	K20505	middle adjusting block	1	
6	K20506	left adjusting block	1	
7	K20507	1 bearing seat 1	2	
8	K20508	lifting threaded rod extension shaft	2	

9	K20509	supporting angle iron	1	
10	K20510	inner side supporting seat	1	
11	K20511	Adjusting pillar	2	
12	K20512	Cover	4	
13	K20513	Lead screw	2	
14	K20514	Slide support shaft	2	
15	K20515	Supporting seat 2	2	
16	K20516	Gear shaft	1	
17	K20517	Hand wheel	1	
18	K20518	Big gear	1	
19	K20519	Chain wheel	1	
20	K20520	Adjusting beam	1	
21	K20521	Chain cover	1	
22	K20522	Fixing board	2	
23	K20523	Adjusting slide shaft	4	
24	K20524	Top board	1	
25	K20525	Side support seat	1	

4.7 Side Flaps Folding Device, Image 33, Chart 7.

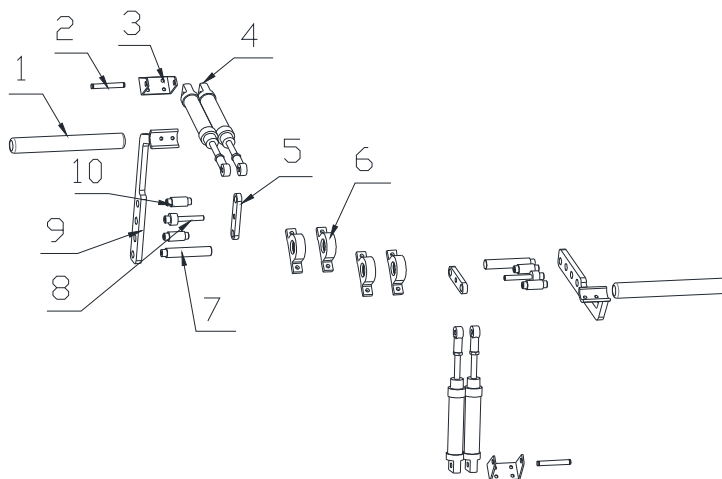


Image 33

Spares list

Chart 7

Item	Parts No.	Name	Qty	Memo
1	K20601	Driving lever	2	
2	K20602	Cylinder locking shaft	2	
3	K20603	Cylinder fixing seat	2	
4	PC32B80	Side flaps folding cylinder	4	
5	K20604	Joint board	2	
6	K20605	Bearing with seat	4	
7	K20606	Swing rod locating shaft	2	
8	K20607	Joint shaft	2	
9	K20608	Swing rod	2	
10	K20609	Pin type shaft	4	

4.8 Front flap folding and taping part, Image 34, Chart 8:

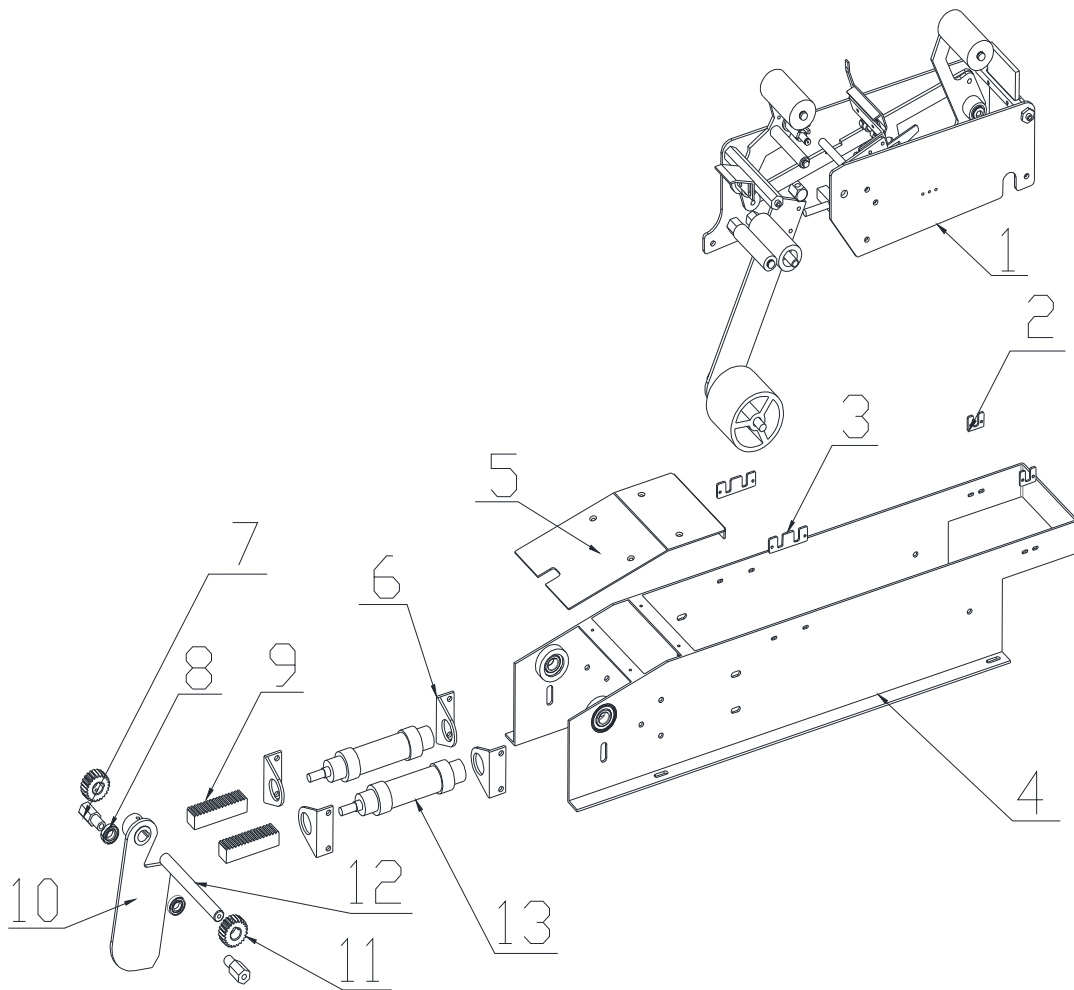


Image 34

Spares list

Chart 8

Item	Parts No.	Name	Qty	Memo
1	K20701	Tape head	1	
2	K20702	Joint plate 1	2	
3	K20703	Joint plate 2	2	
4	K20704	Support bracket	1	
5	K20705	Cover plate	1	
6	K20706	Cylinder seat	4	
7	K20707	Gear rack shaft	2	
8	K20708	Bearing	2	
9	K20709	Gear rack	2	
10	K20710	Driving block	1	
11	K20711	Wheel gear	2	
12	K20712	Flap folding shaft	1	
13	DSC320B30	Cylinder	2	

4.9 Tape Head Part, Image 35, Chart 9.

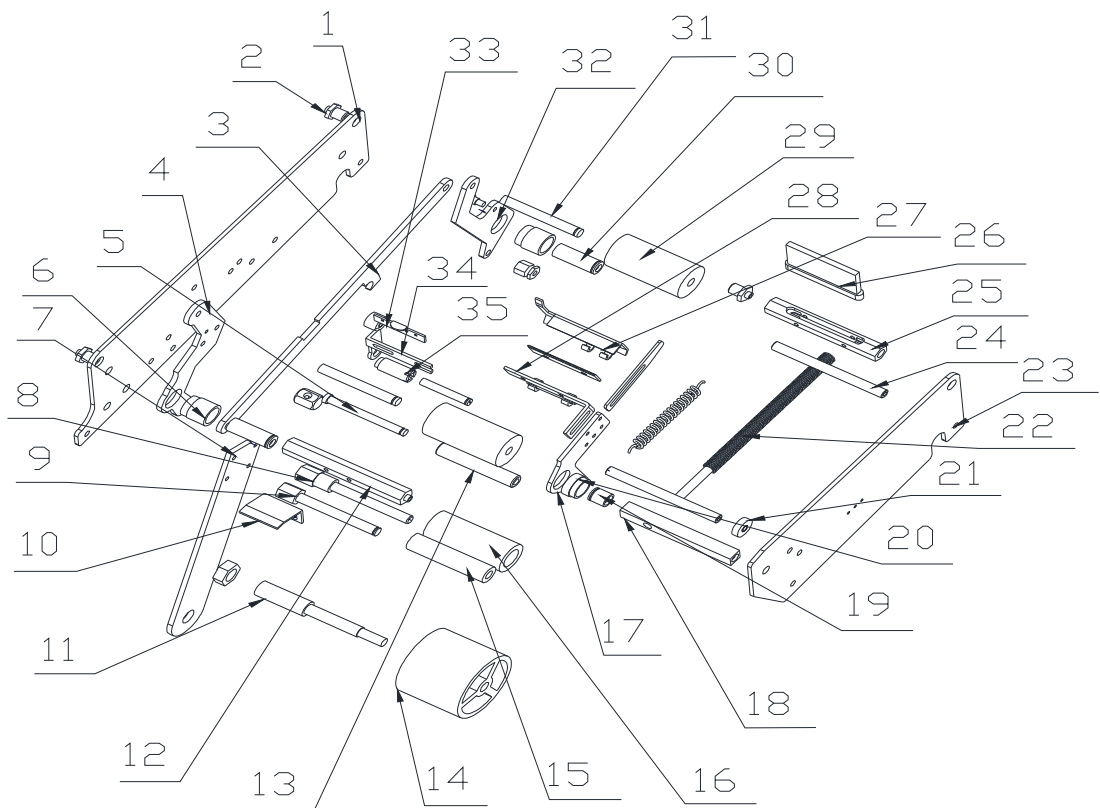


Image 35

Spares list

Chart 9

Item	Parts No.	Name	Qty	Memo
1	K20801	Left plate	1	
2	K20802	Hexagon shaft	1	
3	K20803	Joint rod	1	
4	K20804	Backswing	1	
5	K20805	Knurl wheel shaft	1	
6	K20806	Fix shaft sleeve	2	
7	K20807	Tape support piece	1	
8	K20808	Guide wheel shaft	1	
9	K20809	PE tape guide shaft	1	
10	K20810	Front guide board	1	
11	K20811	Tape seat fix shaft	1	
12	K20812	Front pivot axis	1	
13	K20813	Knurl guide wheel	1	
14	K20814	Tape wheel	1	
15	K20815	PE tape guide wheel	1	
16	K20816	One-way knurl wheel	1	
17	K20817	Cutter soldering block	1	
18	K20818	Spring locking shaft	1	
19	K20819	Cutter seat fix shaft	1	
20	K20820	Fix shaft sleeve	1	
21	K20821	Blocking wheel	2	
22	K20822	Main spring	1	
23	K20823	Right plate	1	
24	K20824	Plate locking shaft	2	
25	K20825	Brush locking shaft	1	
26	K20826	Brush	1	
27	K20827	Cutter cover	1	
28	K20828	Bracket	1	
29	K20829	Taping wheel	2	
30	K20830	Swinging fix shaft	2	

31	K20831	Taping wheel shaft	2	
32	K20832	Backswing	1	
33	K20833	Tape top piece	1	
34	K20834	Tape bracket	1	
35	K20835	U-shape shaft sleeve	1	

4.10 Belts conveying device, Image 36, Chart 10:

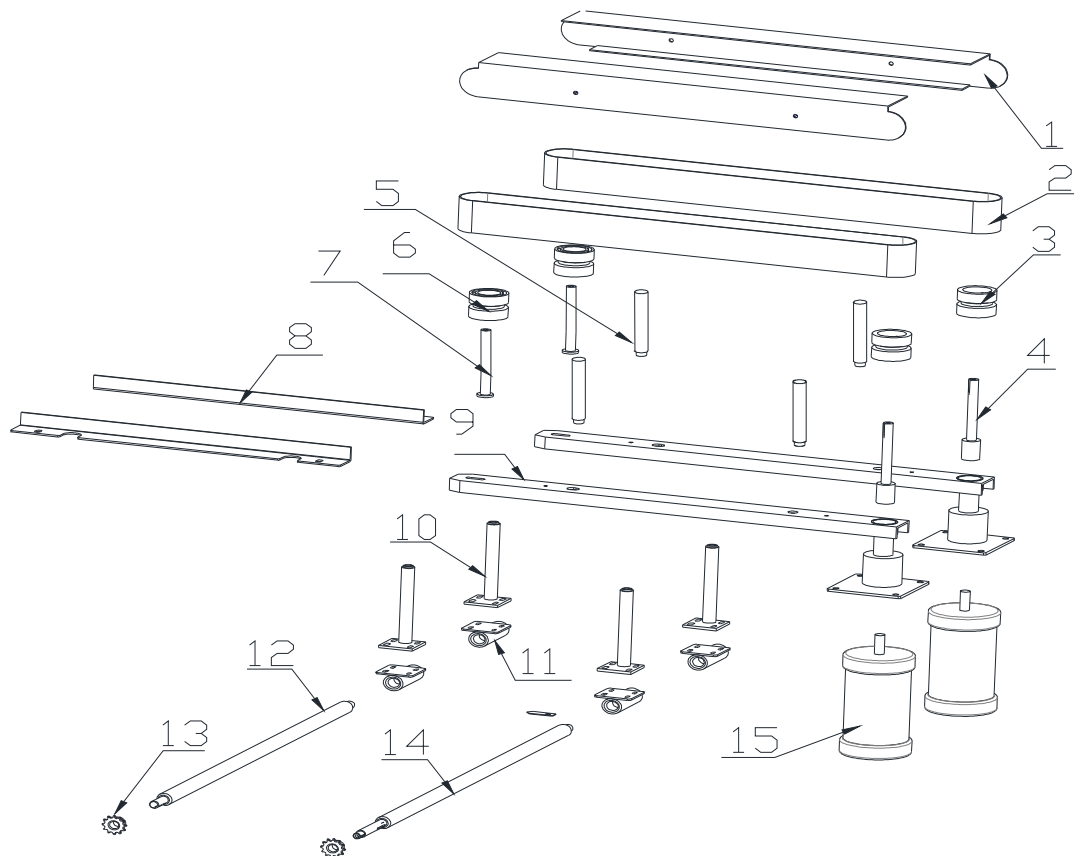


Image 36

Spares list

Chart 8

Item	Parts No.	Name	Qty	Memo
1	K20901	Belt cover	2	
2	K20902	Conveying belt	2	
3	K20903	Drive wheel	2	
4	K20904	Drive wheel shaft	2	
5	K20905	Belt cover support rod	4	
6	K20906	Driven wheel	2	
7	K20907	Driven wheel shaft	2	
8	K20908	belt guide plate	2	

9	K20909	Belt cover support	2	
10	K20910	Belt support seat	4	
11	K20911	Support barrel	4	
12	K20912	Driven lead screw	1	
13	K20913	Chain wheel	2	
14	K20914	Drive lead screw	1	
15	K20915	Motor	2	