Cleveland Equipment

CE-2500-HVE

Continuous Sealer

Operation Manual

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Contents

I. Use

This sealer can seal plastic films made from various materials, which is widely used in fields of food, medicine, chemicals, daily use and vegetable seeds etc. It is ideal sealing equipment for packing batch products in factories and shops.

II. Safety Caution

1. Make sure the adopted power supply is correct. The machine adopts AC 110V, and the yellow and green wire is the ground wire and cannot be omitted.
2. When the machine is working, do not touch electrical parts.
3. When the machine is operating, do not touch any moving parts
4. When machine is in operation, do not touch heating block and ink roller heating block.
5. Do not operate the machine in a dirty, dusty, caustic or damp environment.
6. Do not change any parts of the machine.
7. Keep the machine clean and away from adhesives.
8. Oil the gearwheel and chain regularly.
9. Turn off the power when not use, but allow the machine to run long enough to cool down.
10. Keep this manual near to the machine, for easy reference.

III. Main Specification

Model / Items	Horizontal Mode	Vertical Mode
Voltage	AC 220V/50 110/60	
Power	50W	
Sealing Power	300×2（W）	
Sealing Speed	0~12 （m/min）	
Sealing Width	8 - 10（mm）	
Temperature Controller	0~300（℃）（Stepless adjustable）	
Height From Sealing Center To Conveyor	10~40 （mm）	150~270 （mm）
Film Thickness(Monolayer)	≤0.08 mm	
Max. Single Conveyor Loading	≤1 Kg	
Max. Overall Conveyor Loading	≤3 Kg	
Dimension(LXWXH)	840×380×320（mm）	840×380×550（mm）
Net Weight	32 Kg	37 Kg

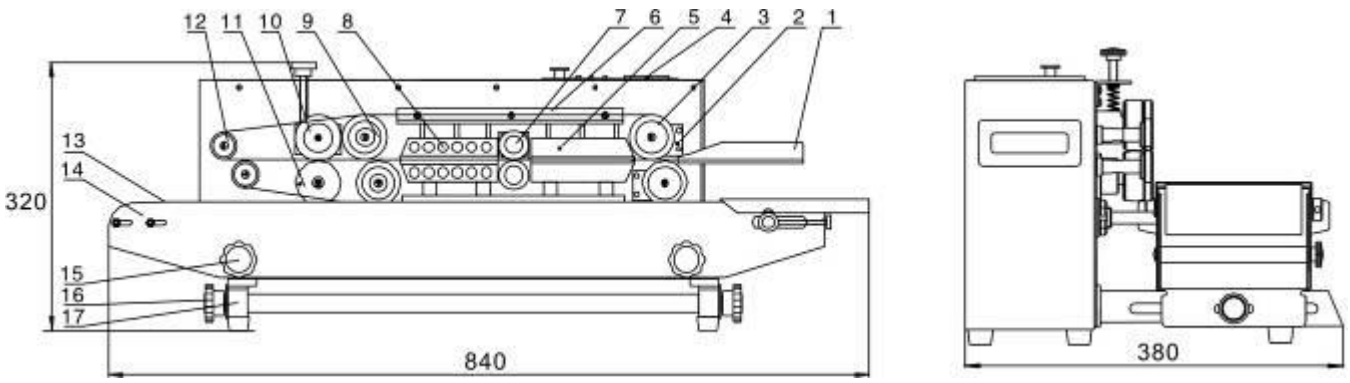
IV. Performance Features

This sealer, has an electronic thermostat control unit and stepless speed-regulation transmission mechanism. It can seal various plastic film bags made from different materials. The machine has no limitation on sealing length. It has a reliable sealing quality, a strong structure, and convenient operation.

This series provides two models, including a horizontal and a vertical type. The horizontal type suits for packaging dry materials, while the vertical type suits for packaging materials in powder or liquid form.

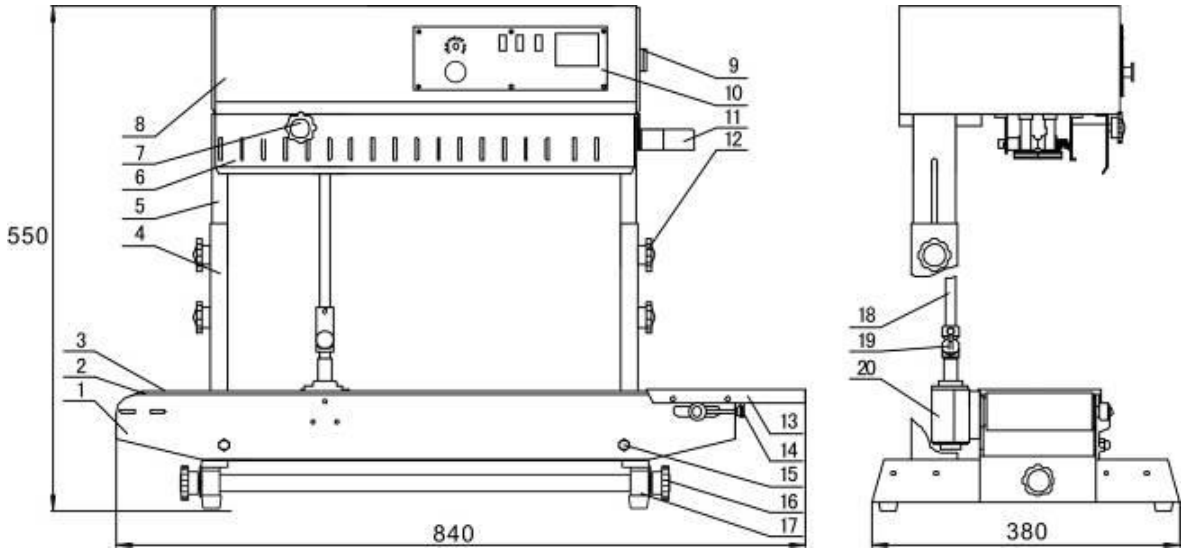
V. Structure & Working Principle

This machine is made up of a frame, speed controller, sealing temperature control system, transmission and the conveyor system. (see following figures)



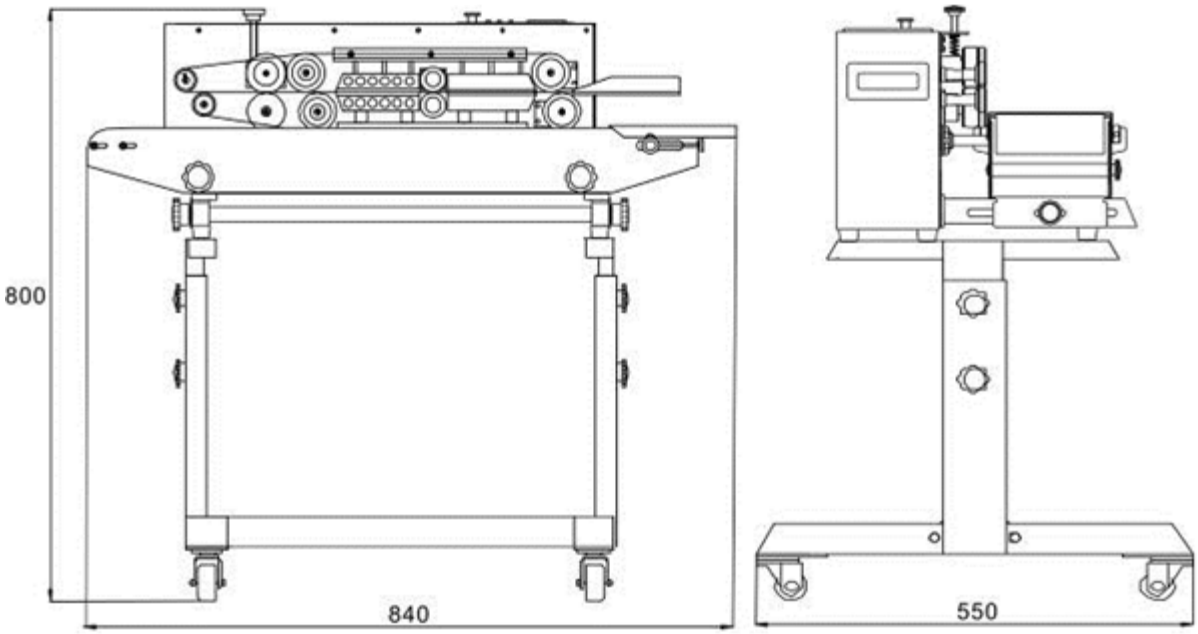
Picture 1

1	101035	Guide Plate	9	101024	Driving Wheel
2	101035	Drive Wheel Adjusting Block Upper	10	101018	Embossing Roller
2	101023	Drive Wheel Adjusting Block Lower	11	101036	Silicone Wheel
3	101024	Driven Wheel	12	101014	Guiding Wheel
4	THC1	Control Panel	13	910701	Conveyor Belt
5	930305-U 930305-L	Heating Block	14	101333	Conveyor Table
6	102007	Holding Plate	15	930109-11	Fastening Knob for Elevating Table
7	102003	Pinch Roller	16	101334	Transverse Tightening Knob for Conveyor Table
8	930306-U 930306-L	Cooling Block	17	101335	Ledge



Picture 2

1	101333	Conveyor Table	11	101035	Guide Plate
2	101012	Driving Roller	12	101341	Fastening Knob
3	910701	Conveyor Belt	13	101006	Worktable
4	101335	Fixed Bracket	14	930109-01	Adjusting Knob for Conveyor Belt
5	101336	Slip Bracket	15	930109-11	Tightening Nut
6	101337	Safety Cover	16	101334	Transverse Tightening Knob for Conveyor Table
7	101338	Adjusting Knob for Embossing Roller	17	101335	Rack
8	101339	Housing	18	101342	Vertical Shaft
9	QF1	Breaker	19	101343	Gimbal Assembly
10	101340	Control Panel	20	101344	Bevel Gear Assembly



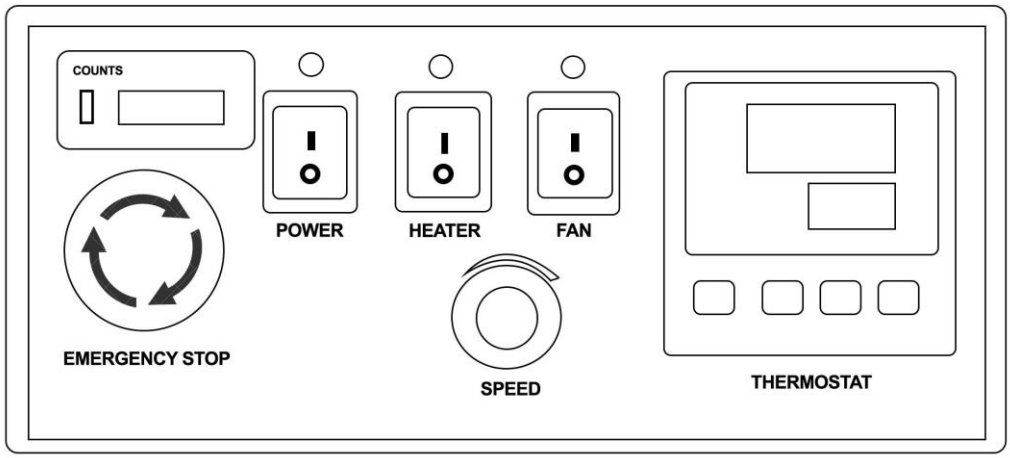
Picture 3

After turning on the power supply, electrothermal elements start to produce heat, which leads to rapid temperature rise of both upper and bottom heating blocks. Adjust the temperature controller and speed controller to get the required temperature and speed respectively. The sealing area of the plastic packing bag is conveyed into the clearance between two sealing belts by conveyor belt first, then clamped by two sealing belts and delivered into the heating area. The plastic film is heated and fuses under the pressure from the pinch roller, which binds the film. After this, the sealing area will be conveyed into the cooling area for cooling and figuration. The plastic packing bag is then pressed by the embossing roller, majubg a netted pattern.

The motor runs the transmission, which drives the sealing belts, guiding belts and conveyor belt through gears to run synchronously and smoothly.

VI. Operational Use

1. Control plate



Picture 4

2. Prepare work area:

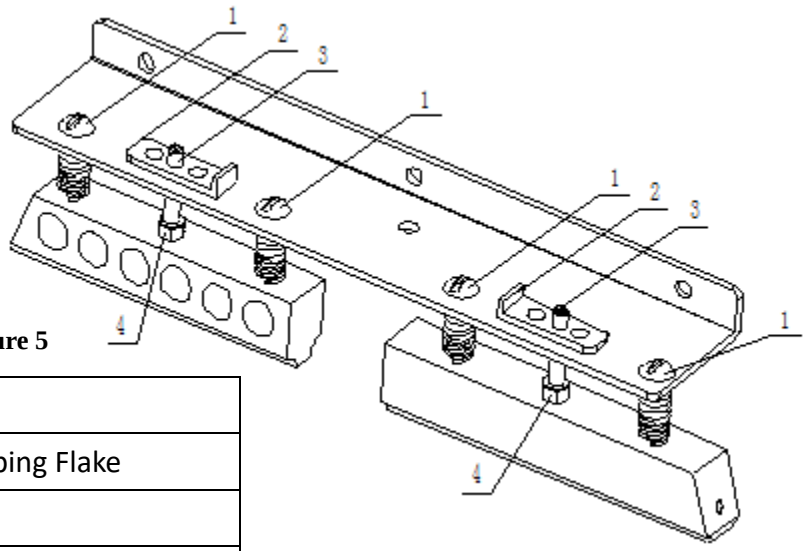
2.1. This machine is equipped with a three prong grounded socket. Be sure that the socket is well connected for safety.

2.2. Due to the first use or too long intermission, the electronic heating elements will be dampened, several minutes' low-temperature preheating is needed before the normal operation.

2.3. Adjust the conveyor table's height and position, making it suitable for the overall size and the angle of the bag that is being sealed.

2.4. According to the distance from the sealing line to the top of the bag, make sure to regulate the position of feed opening.

2.5. Adjust the clearance between upper and lower heating block according to the material thickness, adjust withdraw stopping flake (Picture 4 #2) to adjust the clearance between sealing belts, clockwise would be lifting, while counter clockwise would be lowering. The clearance between two sealing belts should be one layer packing bag, so that not only ensure the strong sealing and clear printing, but not make the two ends extend too long. Finally, fixing the limiting bolt (see Picture 5).



Picture 5

1	101347	Bolt
2	101348	Withdraw Stopping Flake
3	101345	Tightening Bolt
4	101345	Tightening Bolt

2.6. Exchange and adjust the sealing belt

2.6.1. Remove the safety cover, after the heating blocks cool, turn stopping flakes on both upper heating block and upper cooling block by 90° to lift both, then loosen the springs on both embossing roller and pinch roller, meanwhile, remove the guiding belt, so as to make it ready for removing sealing belts. (see Picture. 5)

2.6.2. Move the driven wheel seat (adjusting block) towards heating block and remove the sealing belt.

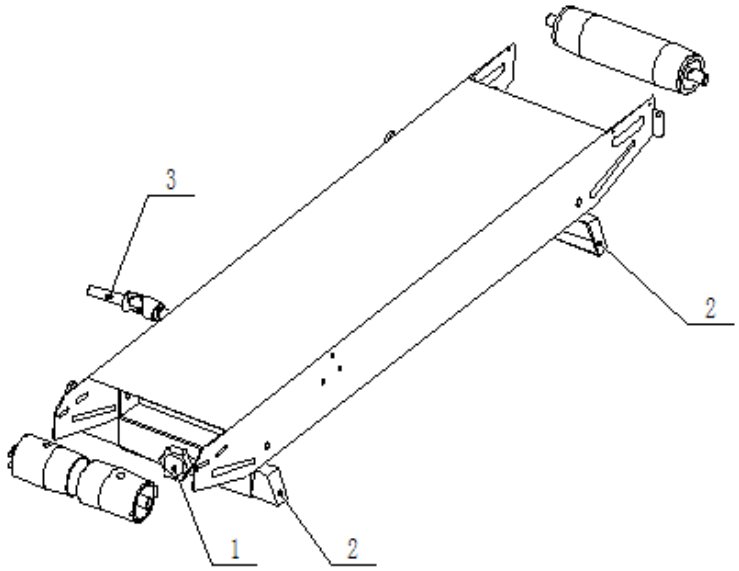
2.6.3. Replace with a new sealing belt and install the guiding belt back.

2.6.4. Put the driven wheel, heating/cooling blocks, and pinch roller to the original position.

2.6.5. Connect to the power supply to test the machine.

2.6.6. Install the safety cover. When the temperature reaches the set temperature, the machine is ready.

2.7. The transverse adjustment of conveyor table: loosen the adjusting knobs, on both sides first, and then move the conveyor table in the long slot along the foot rest. Tighten the knobs on both sides after finishing the adjustment.

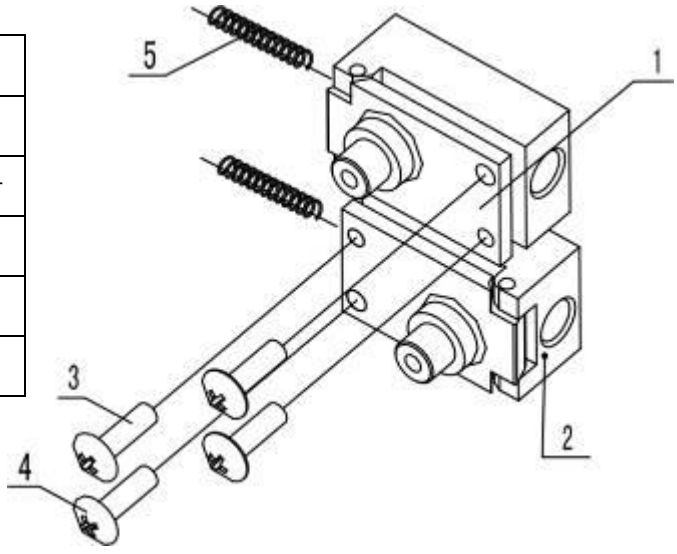


Picture 6

1	101334	Adjusting Knob
2	101335	Foot Rest

3. Regulate the adjusting block of driven Wheel. If the sealing belt is off tracking, regulate the adjusting screws on driven wheel seat (adjusting block), shown as Picture 7.

1	101035	driven wheel seat adjusting plate - Upper
	101023	driven wheel seat adjusting plate - Lower
2	101035	driven wheel seat adjusting block - Upper
	101023	driven wheel seat adjusting block -Lower
3 / 4	101349	adjusting screw
5	9361112-117-60S	spring



Picture 7

4. Starting procedure

4.1. Connect to the power supply and press the Start switch, which will turn the indicator light on. You can then adjust the speed controller knob to the desired speed. All transmission parts start to run synchronously.

4.2. Fine tune the knob of embossing roller to make the wheel swivel and acheive the proper pressure.

4.3. Turn Heat Seal switch ON, the green light of the electronic temperature controller will light up. According to the material and thickness of the packing bag, adjust the temperature controller to the necessary temperature. When the heating blocks begin to preheat, the machine needs to be started and kept running at low speed.

4.4. Whether or not the cooling fan is needed depends on the material and thickness of the packing bag.

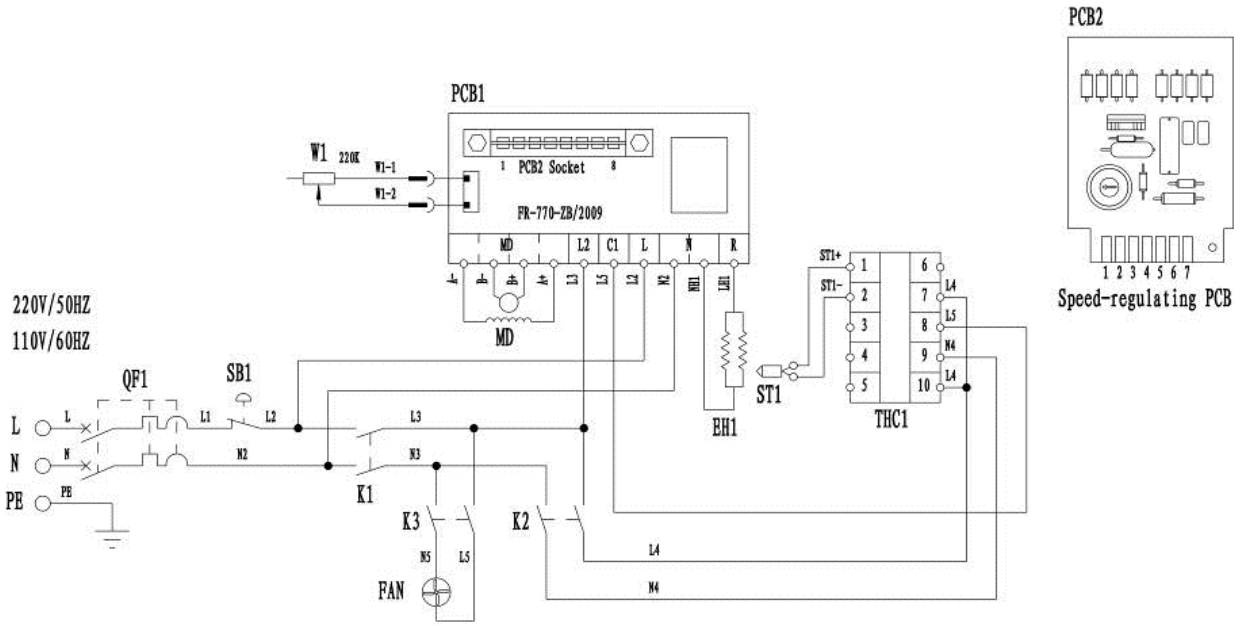
4.5. Flatten and align the seal opening, then feed the bag by aligning the bag opening with the guide plate. The bag opening is gripped by the sealing belts, which will make the bag move forward automatically. At that momento, do not push it in or pull it out by force, otherwise irregular sealing or breakdown will happen.

4.6. If it is found that there is dirt attached to the sealing belt or the heating block, stop the sealer and clear it. Never clear the dirt with your hand when the temperature is high.

4.7. Stop operation

In order to prolong the service life of the sealer, before shutting down the machine, you should return the temperatura to 0 first and then turn on the fan. The temperature on the indicator begins to fall and the sealing belts should still be in state of running. Once the temperature drops below 100℃, can you turn off the fan and main power.

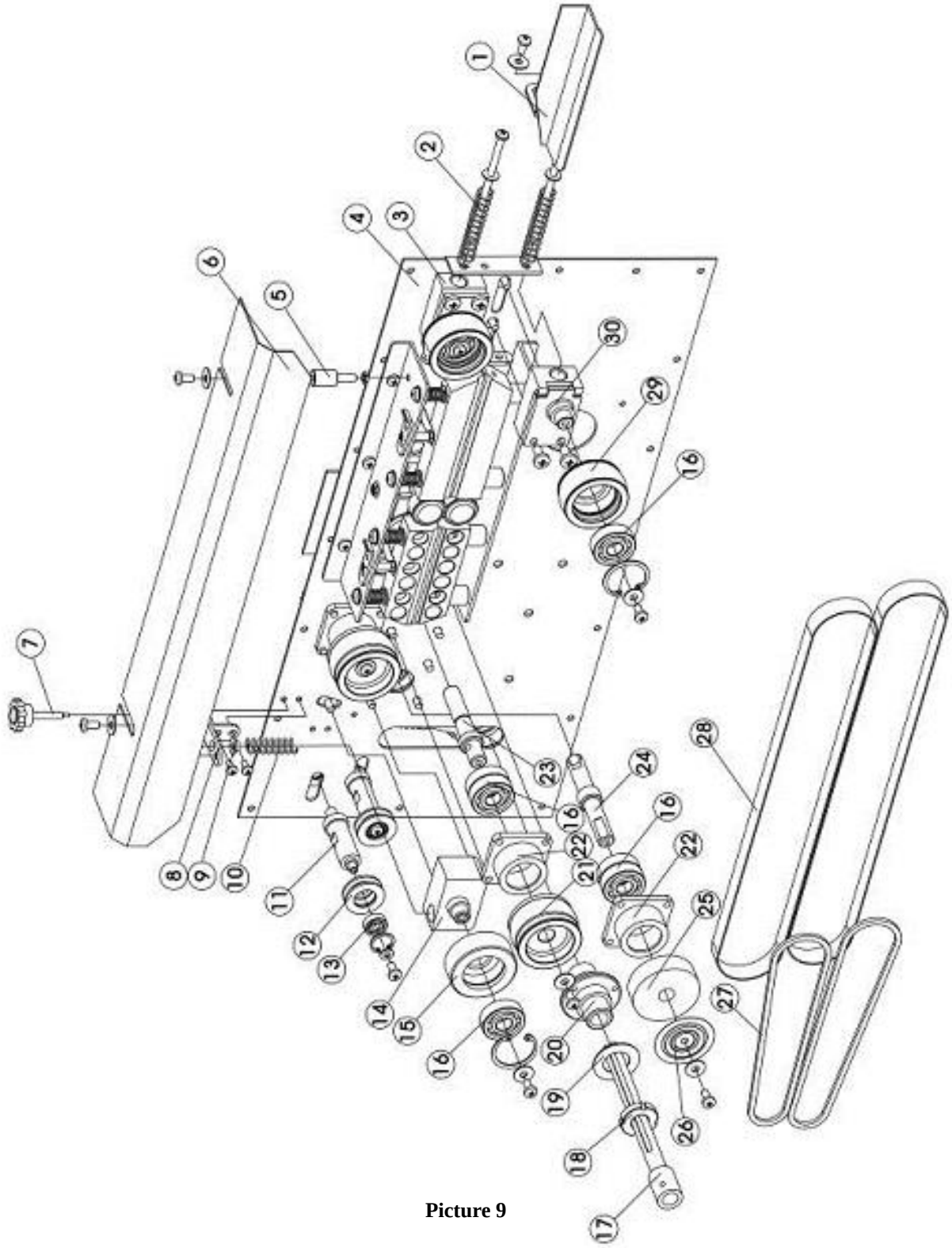
VII. Circuit Diagram



Picture 8

QF1	Breaker	THC1	Temperature Controller
SB1	Switch / Emergency Stop	ST1	Thermocouple
K1	Switch on/off	EH1	Heating Pipe
K2	Switch / Seal	W1	Potentiometer
K3	Switch / Fan	PCB1	PCB Assembly
MD	DC Motor	940801-11	Speed Regulating PCB
FAN	Axial Flow Fan	MDJ	Motor Junction Piece
BC1	Bag Counter		
BC2	Bag Counter Clicker		

VIII. Sealing Unit Diagram

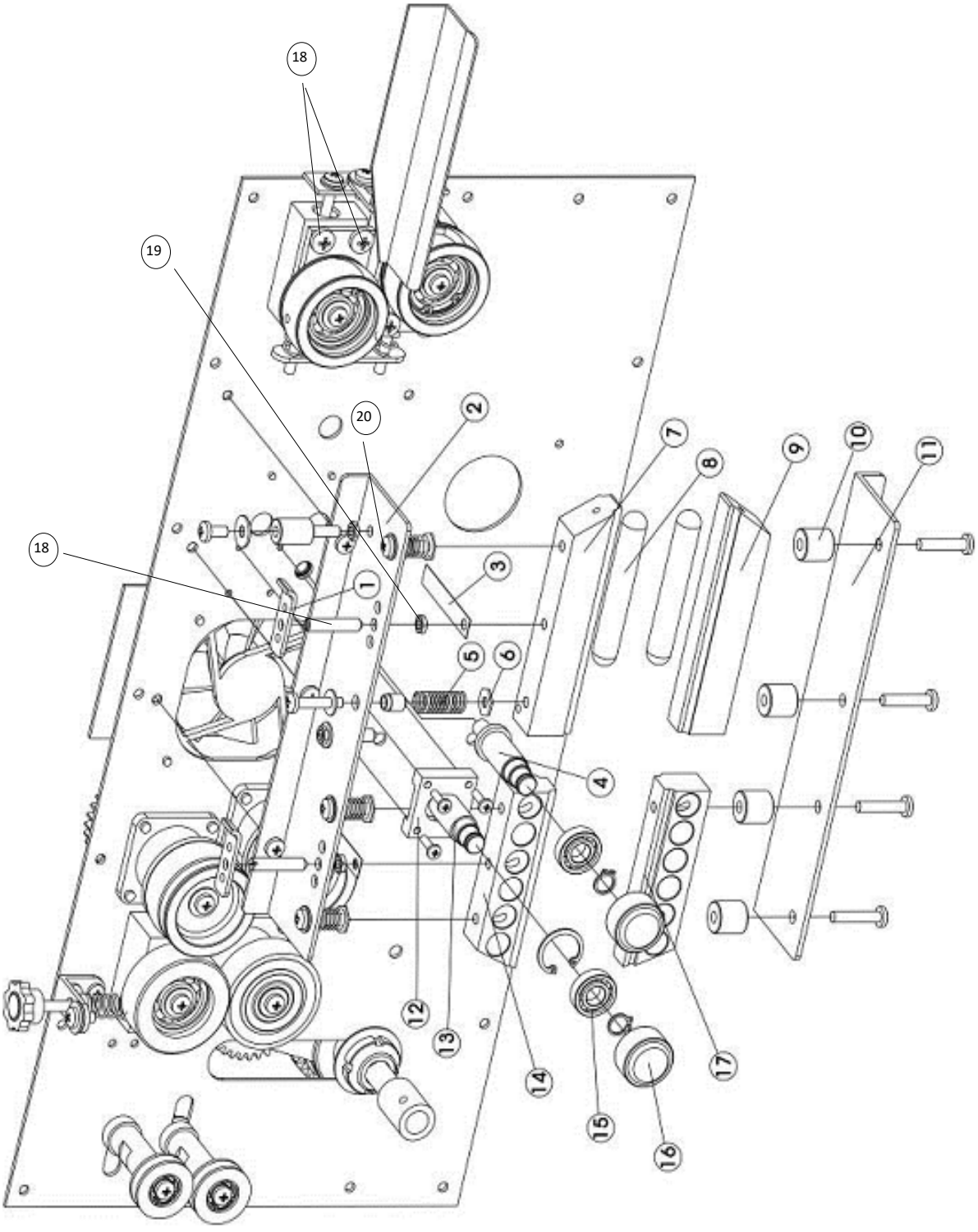


Picture 9

VIII. Sealing Unit Parts List

Item	Part Code	Quantity	Description	Remark
1	101035	1	guide plate	
2	936111.2-11.7-60S	2	spring for driven wheel seat	
3	101023	1	upper driven wheel seat	
4	102102	1	bottom board	steel: 102102-3
5	102008	1	support for safety cover	880
6		1	safety cover	
7	930108-11	1	672 corrugated knob	adjusting knob for embossing roller
			（M8X35）	
8	101016	1	supporting board for adjusting embossing roller	
9	101351	1	spring seat of embossing roller	
10	936111.2-10.8-50	1	spring of embossing roller	
11	101015	2	small pulley shaft	
12	101014	2	small pulley	
13	935601-6	2	606-2Z bearing	
14	101017	1	embossing roller seat	
15	101018	1	embossing roller	
16	930512	9	6201-Z bearing	
17	101011	1	transmission shaft	
18	930251	1	round nut	
19		1	big washer	
20	101033	1	connection shaft	
21	101024	2	driving wheel	
22	101026	3	square bearing seat	
23	101027	2	driving wheel shaft	
24	101034	1	silicone wheel shaft	
25	101036	1	silicone wheel	
26	101037	1	silicone wheel cover	
27	910802	2	guiding belt	428X6X4(40°)
28	910902	2	sealing belt	770X15X0.2
29	101024	2	driven wheel	
30	101023	1	bottom driven wheel seat	
31	101350	1	teflon belt adjust screw	

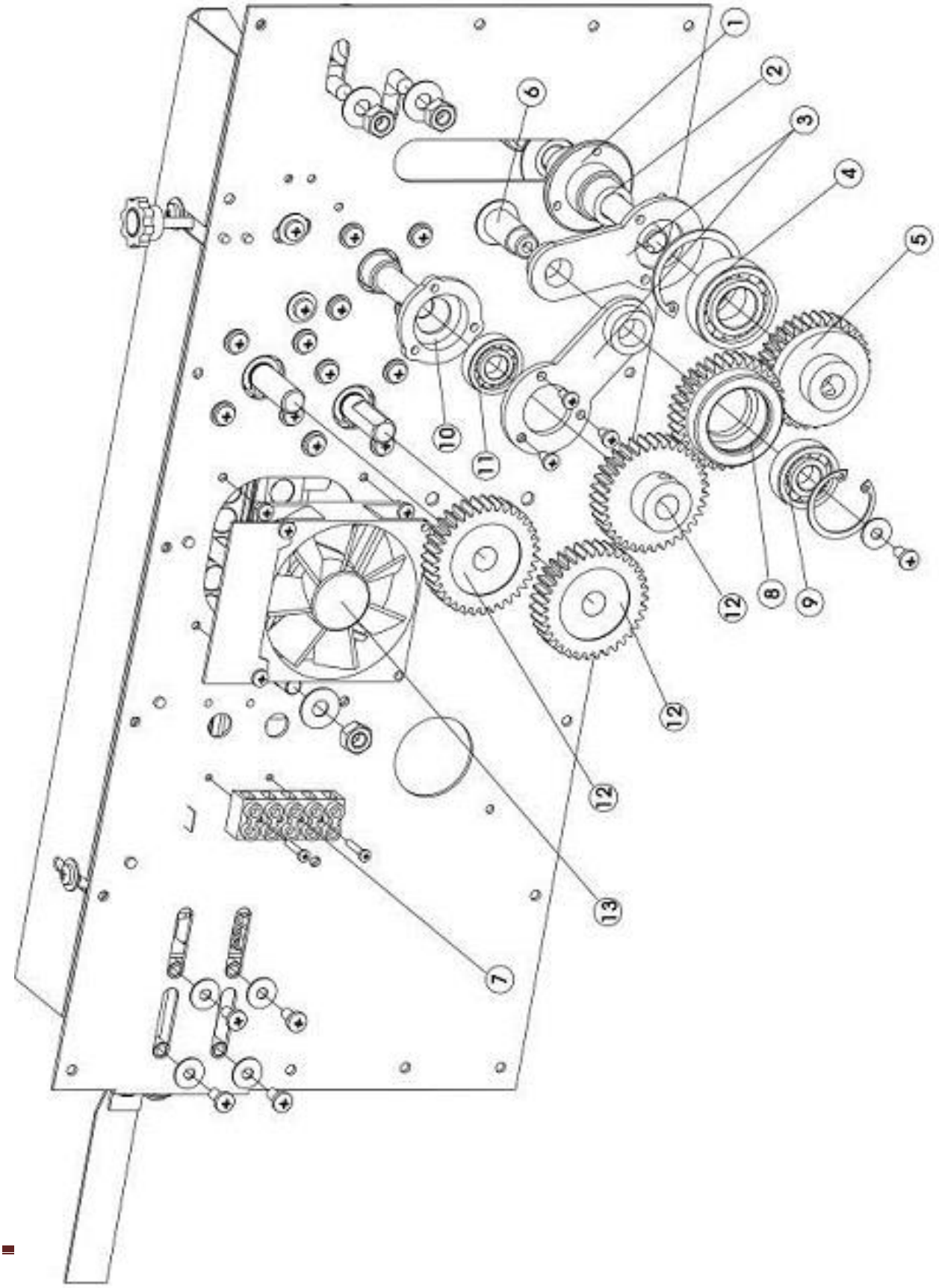
IX. Conveyer Diagrams



IX. Conveyer Parts List

Item	Part Code	Quantity	Description
1	101348	2	stopping flake
2	102007	1	upper holding plate
3	101352	2	hanger plate of copper block
4	101353	4	guiding sleeve for upper holding plate
5	936111-10-25S	4	spring for copper block
6	101354	4	self-made hexagon thin nut
7	930305	1	upper heating block (770)
8	921304	2	300W/220V（Φ12×95）
9	930305	1	bottom heating block (770)
10	101050	4	copper block cushion
11	102007	1	bottom holding plate
12	105017	1	slider
13	102001	1	upper pinch roller shaft
14	930306	1	upper cooling block
15	935619-00	2	61900-2Z bearing
16	102003	2	pinch roller
17	930306	1	bottom cooling block

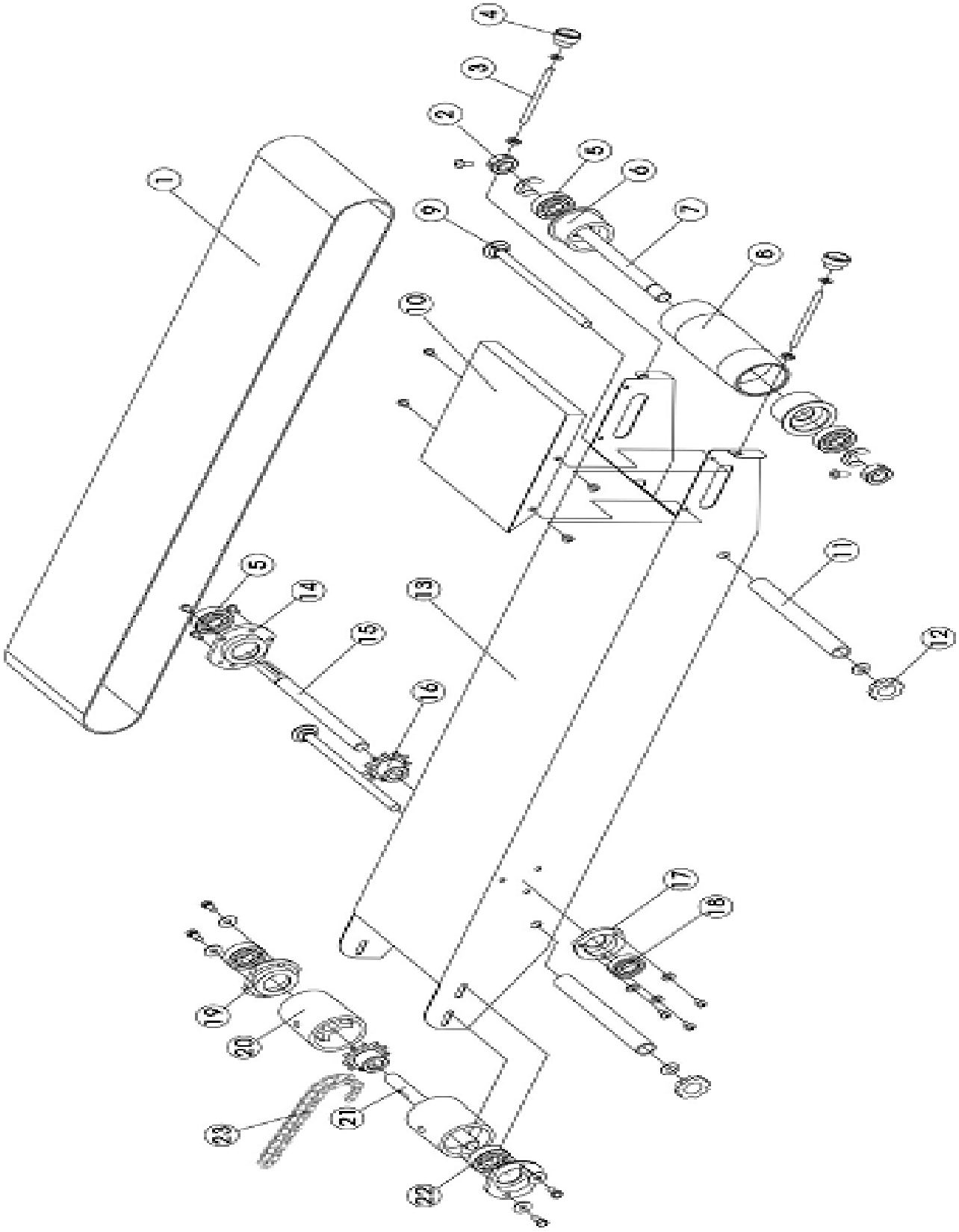
X. Component Diagrams



X. Component Parts List

Item	Part Code	Quantity	Description
1	101033	1	connection shaft
2	101011	1	transmission shaft
3	101029	1	connection board II
4	935601-04	1	6004-2Z bearing
5	101031	1	steel gear
6	101028	1	gear shaft
7	920415-22	1	10 pin wiring terminal（orange）
8	101030	1	middle gear
9	935602-01-1	1	6201-Z bearing
10	101013	1	bearing seat（three-hole）
11	935601-01	1	6001-2Z bearing
12	101032	3	driven gear
13	921101	1	axial fan

XI. Conveyor Table Diagram



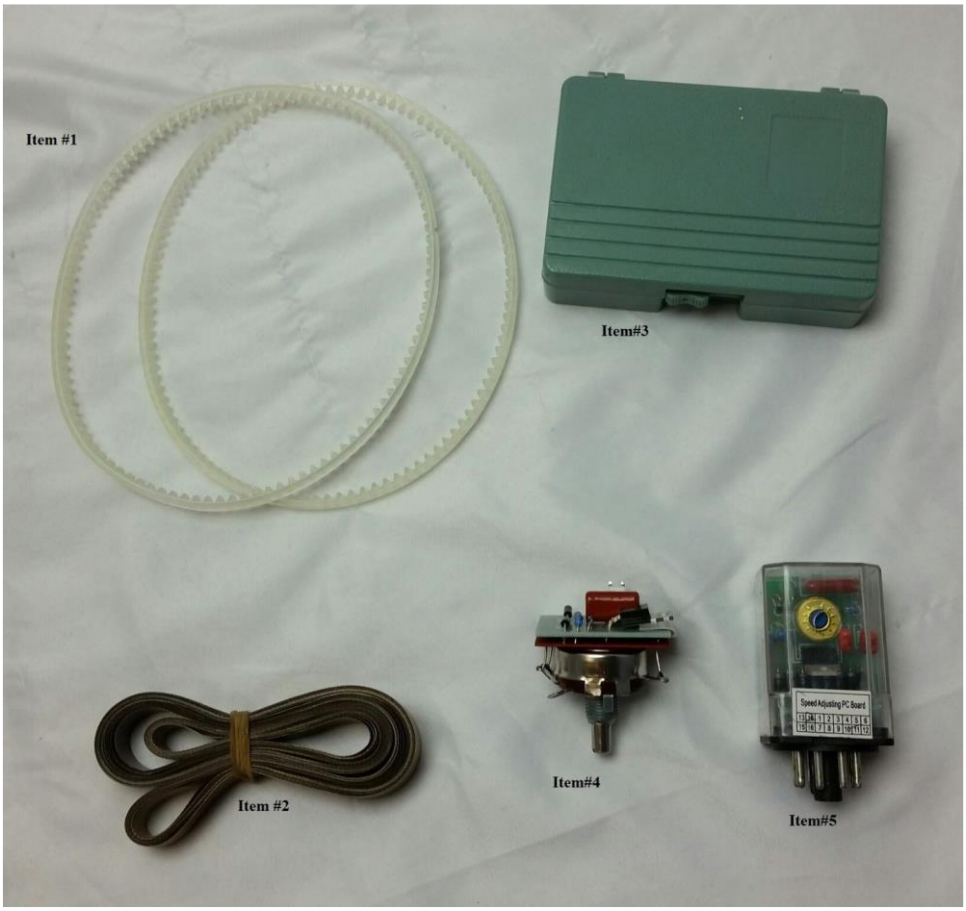
XI. Conveyor Table Parts List

Item	Part Code	Quantity	Description	Remark
1	910701	1	conveyor belt	1580X135
2	101007	2	adjusting block for conveyor belt	
3	101355	2	double end bolt	M5X55
4	930109-01	2	adjusting knob for conveyor table	M5
5	935602-01-1	3	6201-Z bearing	
6	101012	2	bearing seat of rear roller	
7	101008	1	rear shaft of conveyor table	
8	101005	1	rear roller of conveyor table	
9	GB12-1988	2	half-round square neck bolt	M8X160
10	101006	1	worktable	
11	101049	2	plastic spacer	
12	930109-11	2	knob（674-M8 star handle）	
13	101333	1	conveyor table	
14	101009	1	bearing seat（58）	
15	101004	1	middle shaft of conveyor table	
16	101010	2	sprocket of conveyor table	
17	101013	1	bearing seat (three-hole)	
18	935601-01	1	6001-2Z bearing	
19	101003	2	two-eye bearing seat	used for front roller
20	101012	2	front roller of conveyor table	
21	101002	1	front shaft of conveyor table	
22	935602-01-2	2	6201-2Z bearing	
23	930603-13	1	chain (48 segments)	（06B-1X48L）

Miscellaneous Parts

Item	Part Code	Description	Unit	Quantity
3	920205	power line	pc	1
4	920461	fuse tube (5×20 3A)	pc	2
7	930124	M6 inner hexagon spanner	pc	1
11	940801-11	speed-regulating PCB assembly	pc	1
12	930308-21	printing wheel	pc	1

XII. CE-2500-HVE Parts Kit



Included with the CE-2500 HVE Continuous Band Sealer is a parts kits with the following:

Item#	Qty.	Part#	Description
1	2	910802	Guiding Belt (Rubber Belt with teeth) - 428x6x4mm
2	**2**	910902	Sealing Belt (Teflon) – 770x15x0.2mm
3	1	2500-EMBKit	Embossing Kit
4	**1**	W1	Potentiometer (Speed Dial)
5	**1**	PCB2	Speed Regulating PCB

XIII. Troubleshooting

Problem	Reason	Solution
Sealing belt is off tracking.	Driving wheel shaft is not parallel to driven wheel shaft.	Adjust two adjusting screws on driven wheel seat.
Sealing belt is easy to break.	1. Too much tension on sealing belt. 2. Sealing belt is off tracking. 3. Crease on sealing belt. 4. Film or other dirt attached to the surface of sealing belt. 5. Sealing belt is easy to burn.	1. Adjust the vertical adjusting screw on driven wheel seat to decrease tension on sealing belt. 2. (see the point above） 3. No crease on sealing belt. 4. Clean its surface in time. 5. Clearance between two heating blocks is too small or temperature is too high.
Embossing is in low definition.	1. Embossing roller is worn out. 2. Pressure spring on embossing roller is not tightened to enough degree.	1. Replace embossing roller 2. Adjust the embossing roller's tightening spring.
There is resistance when the sealing belt is conveying.	The clearance between heating blocks or cooling blocks is too small, so the friction is too much.	Adjust the clearance between sealing belts properly, which should be about the thickness of a packing bag in one layer. This ensures fast sealing, high-definition embossing, but not allow the two ends of the sealing area to extend too long.
There is blockage or folding when the packing bag is conveyed to pinching the roller or embossing roller.	Too much pressure is being applied by pinch roller or embossing roller.	1. Adjust proper pressure for the pinch roller or embossing roller, so as to make the clearance between the two sealing belts be the same thickness of a packing bag in one layer so as to ensure sealing fastness, high-definition embossing, but also prevent the two ends of sealing area from extending too long. 2. Adjust the limiting screw after adjusting clearance.
Conveying belt is off track.	The driving roller shaft is not parallel to driven roller shaft.	Adjust the two adjusting screws for driven roller shaft (rear shaft) on conveyor.
Conveyor belt and sealing belt don't move synchronously.	Too small tension on conveyor belt.	1. Tighten the chain of the driving roller shaft (front shaft) and the middle shaft properly. 2. Tighten the conveyor belt properly.

XIV. CE-2500-HVE Horizontal to Vertical Guide

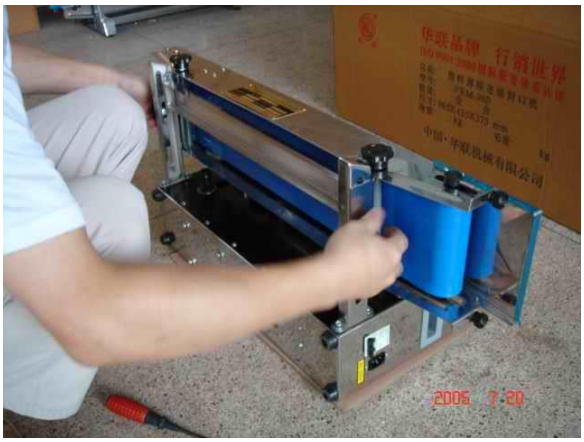
Step 1

Step 4

Step 2

Step 5

Step 3



Step 6

Step 7

Step 10

Step 8

Step 11

Step 9

Step 12

Step 13

XV. Stand Assembly

Included Parts:

Assemblied Stand:

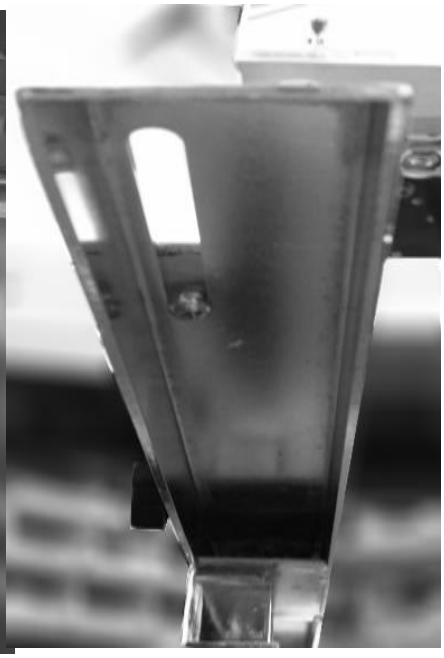
Stand Assembly

Included are
2 each - Legs
-Look like a “T” with two holes drilled into the long end.

2 each - Risers
- Look like a “T” with a slit cut into the long end.

These two pieces slide together using the long ends, the slotted T is in top and slides into the inside of the bottom T.

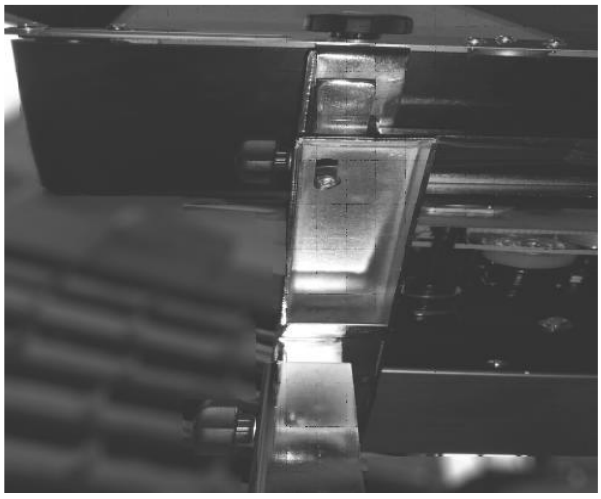
4 knobs
4 screws with round backs
4 washers



Use these together through the two holes on the risers of the “T”s and you will end up with two matching sides that look like Upper Case “I”s .

Support Bar(s) – CE-2500 (Qty 1)
CE-3000 (Qty 2)

On the 2500 you have one other large piece in the kit and for the 3000 you will have 2 pieces. These pieces will go between the two sides with the short end with the holes to the sides. On the side pieces you will find corresponding holes 2 on each side for the 2500 and 4 on each side for the 3000. Use the provided long bolts through the outside and into the threads on the middle supports.



Also included are screws that screw into the bottom of the machine where the rubber feet usually are. Unscrew the feet from the machine and screw the Philips head screw through the bottom of the top of the stand and into the holes that held the feet.