

SealerSales FRM-1 120LD
Right Feed Vertical Dry Ink Coding
Continuous Band Sealer

Instruction Manual



Provided by

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Continuous Band Sealer Instruction Manual

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General Information

Thank you for purchasing our FRM-1120LD continuous band sealer.

This owner's manual contains information relating to your band sealer machine. The manual will provide you with basic information concerning both operation and maintenance of your new machine. Please read it carefully as failure to do so may result in bodily injury and/or damage to the equipment.

Please fill in the information below. You will find the information on the machine identification plate. You will need this information when ordering replacement parts or making technical inquiries.

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EQUIPMENT INFORMATION

❖ Model #

❖ Serial #

❖ Purchase Date:

❖ Reference #:

❖ Owner:

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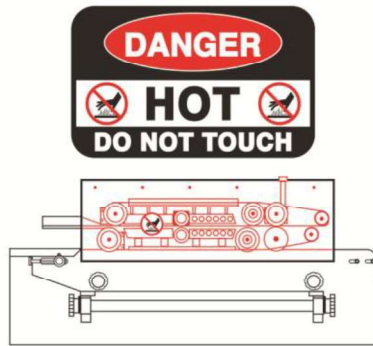
Safety Instructions



WARNING! Below are general safety precautions and warnings that should be understood prior to setting up or operating your equipment. Read and fully understand all instructions and warnings prior to using this unit. Your safety is most important! Failure to comply with procedures may result in serious injury or property damage. Remember: **Your personal safety is your responsibility.**

Unsafe practices or unauthorized modifications could result in accidents or property damage. Failure to follow these safety rules and take necessary precautions can result in serious injury as well as damage to equipment.

- ❖ Never operate or service your band sealer until you have read this manual completely and understand it fully.
- ❖ Plug the band sealer into a standard 120 Volt, 60Hz wall outlet or surge protector. We highly suggest using a surge protector. Some special order units are 220 Volt, 50Hz. Make adjustments as necessary.
- ❖ Do not use the band sealer if the power cord, plug or any other parts are damaged. Do not allow the power cord to drape into your work area. Check that all parts are operating properly and perform the intended functions. Check for all other conditions that may affect the operation of your band sealer.
- ❖ Reduce risk of unintentional starting. Make sure the power switch is in the "OFF" position before plugging into the power source.
- ❖ Always disconnect sealer from power source before servicing, changing accessories or cleaning the unit.
- ❖ To provide protection against the risk of electrical shock, the power connection must be properly grounded at all times.
- ❖ Do not leave the sealer unattended when in use. Disconnect the sealer from the power source before leaving the work area.
- ❖ Band sealer is used solely for sealing thermoplastic materials. Using the machine for any other purpose can cause damage to the machine and operator.
- ❖ Always operate machine on a flat stable surface.
- ❖ While operating machinery, wear close-fitting clothing and tie back long hair to prevent any external items from getting caught in the machine. Do not wear jewelry when operating the band sealer.



- ❖ While machine is operating do not touch the heating and/or cooling blocks. Blocks will be extremely hot and may burn your hands.



- ❖ While machine is in operation, do not place fingers, tools, or other foreign objects on or into the machine. Do not touch any moving parts while machine is operating. Fingers may get caught in between the gears / pinch points and cause significant injury.
- ❖ Thermoplastic bags and materials are hand fed into the machine. Place bag on the guide and carefully feed the bag through the band sealer. Fingers may be placed on the guide but do not allow fingers to touch any of the moving parts on the band sealer.
- ❖ Use emergency stop to turn off machine should material/bags get jammed into the machine. Carefully pull material out of the band sealer. Do NOT use fingers to touch any part of the machine.
- ❖ The band sealer is not water resistant or water proof. Spraying down the machine will damage machine or cause electrical shock. Do not submerge the band sealer in water or liquid.
- ❖ DO NOT operate band sealer in a corrosive or humid environment.
- ❖ Always keep the machine clean, lubricated and in good working condition. Follow any maintenance and lubrication procedures outlined in this manual. Make sure unit is disconnected from power source before cleaning.
- ❖ NEVER use any accessories or parts from other manufacturers. Machine should not be altered or modified using parts that are not genuine authorized parts. Doing so will VOID YOUR WARRANTY.
- ❖ Never leave the band sealer unattended. Be safe, disconnect the band sealer from power source before leaving work area.
- ❖ Close supervision is necessary when any machine is near children or persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge . This sealer is NOT to be used by children or by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge.
- ❖ DO NOT use the band sealer outdoors.
- ❖ DO NOT use the band sealer while under the influence of drugs, medications or alcohol.

SAVE THESE INSTRUCTIONS - REFER TO THEM OFTEN AND USE THEM TO INSTRUCT OTHERS.

Introduction

Our band sealers are equipped with electronic temperature controllers and variable speed conveyors to seal all types of thermoplastic materials (PP, PE, stand up pouches, gusseted bags, moisture barrier bags, etc.). Seals are created using PTFE bands which maintain high seal quality and produce consistently strong, clean seals on all heat sealable bags. Because bags are placed on a conveyor system, the width of the bag does not matter. These versatile machines offer several adjustments which allow them to be used for a wide range of applications. These machines are used extensively in the food, medical, chemical, cosmetic, and electronic industries.

The FRM-1120LD is a standalone unit with locking casters providing easy mobility for the band sealer. The vertical configuration of the sealer makes the unit ideal for packaging small solid products (ex: powders, grains, coffee) and liquids. In addition, sealing using the vertical configuration also works best with stand up pouches.

The FRM-1120LD band sealer adopts dry ink coding designed to print date and lot codes at the seal line. Ink dries instantly upon contact with packaging materials and produces clear and legible characters. For FRM-1120LD, the standard font size is 18PT which allows for two-line printing. An optional 10.5PT font size which allows for three-line printing can be purchased separately. Please ask your distributor for more information.

Features of our Band Sealer

Your band sealer is equipped with a wide range of standard features and capabilities.

- ❖ Simple to use – minimal operator training
- ❖ Fast warm up time
- ❖ Unit feeds right to left
- ❖ Rust inhibiting stainless steel construction
- ❖ Equipped with bag entry guide for easy bag feeding and straight seals
- ❖ Industrial grade safety emergency stop switch
- ❖ 10amp protection power surge breaker
- ❖ Equipped with photo sensor for optimal printing precision
- ❖ Dry ink coder for printing characters at the seal line
- ❖ Wide seal (8mm) to assure airtight seal
- ❖ PTFE sealing belts
- ❖ Extended forced-air cooling system with extra wide cooling bars and 6 heat transfer orifices
- ❖ One pair of brass sealing bars
- ❖ Sealing method – constant heat
- ❖ Adjustable 2-way pulley system for optimal stability and embossing clarity
- ❖ Knurled pressure rolls with variable pressure adjustment
- ❖ PID digital temperature controller 0-300°C (572°F) with dual alphanumeric displays (target & current temperature)

- ❖ Motorized rubber conveyor with speed control
- ❖ Capable of speeds up to 394 inches/minute
- ❖ Includes stainless steel pedestal with locking casters

How Does the Band Sealer Work?

Basic

Principles

FRM-1120LD is easy to use. To seal, adjust temperature and place bag on conveyor

Our band sealers are comprised of a stainless steel frame, speed adjusting mechanism, sealing temperature control system and transmission system. Turning on the heat for the band sealer will cause a rapid rise in the temperature of the heating blocks. Required temperature and speed can be adjusted via the temperature controller and speed adjusting device. Plastic material to be sealed is placed on the guide and conveyor. Conveyor will then take the material between the two heating blocks to fuse the material together. Material will then pass through the cooling blocks to allow the material to congeal. Finally, a photoelectric sensor will direct the dry ink coder to print a clear and legible print at the seal line.

The motor drives the sealing belts, drive belts and conveyor simultaneously.

Specifications

FRM-1120LD	
	Dry Ink Coding
Power	110V/60Hz
Motor Power	230W (1/3 HP)
Sealing Speed	0-394 inches/minutes
Sealing Width	8mm
Temperature Range	0-300°C (572°F)
Conveyor Size	55" x 10"
Single Conveyor Load	11-lbs
Max Conveyor Load	33-lbs
Min/Max Height of Bag	3.9" / 27.0"
Printing Heating Power	40 x 2 (W)
Character Size	3x5x7mm / 18PT – 2 lines 2x3x7mm / 10.5PT – 3 lines (additional option available)
Printing Colors	Black, Blue, Green, Red, White, Yellow
Dimensions	57" x 27" x 58"
Weight	450lbs

Getting to Know your Band Sealer



Figure 1. FRM-1120LD Band Sealer Overview

Band Sealer Diagram

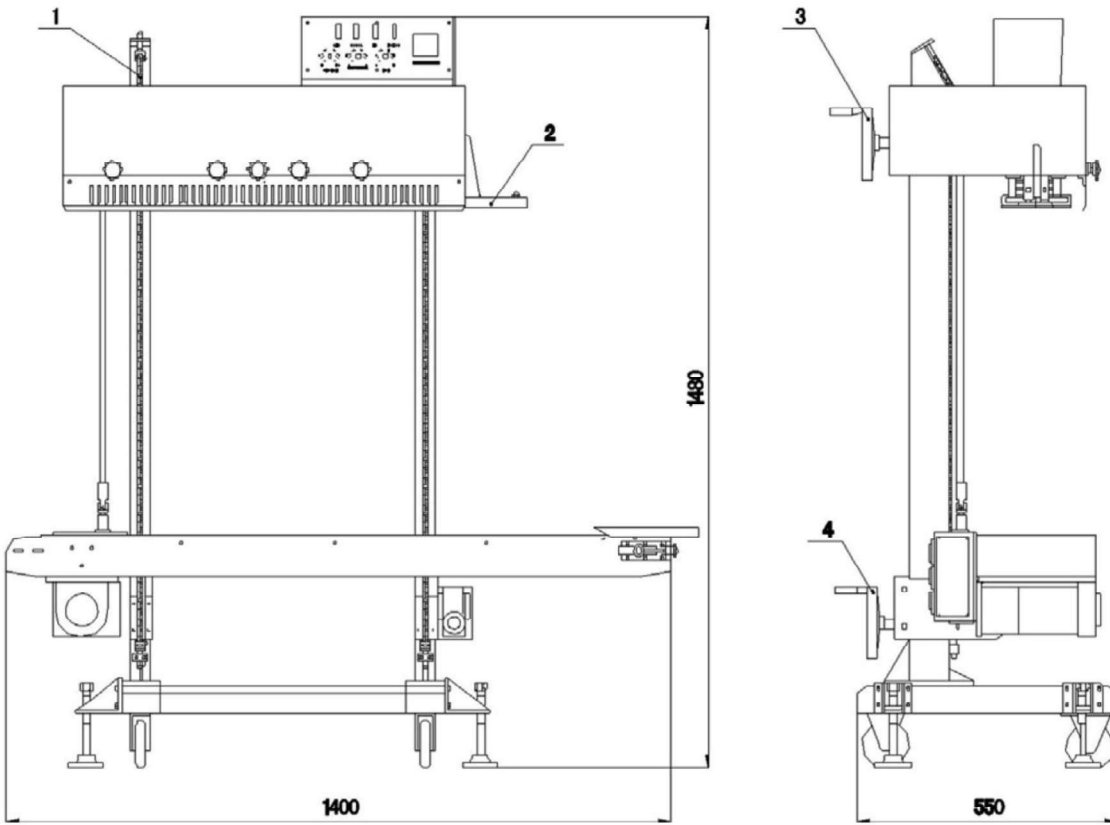


Figure 2. FRM-1120LD (1) Lifting Chain, (2) Guide, (3) Adjusting Wheel for Machine Head, (4) Adjusting Wheel for Conveyor Table

Electrical Circuit Diagram

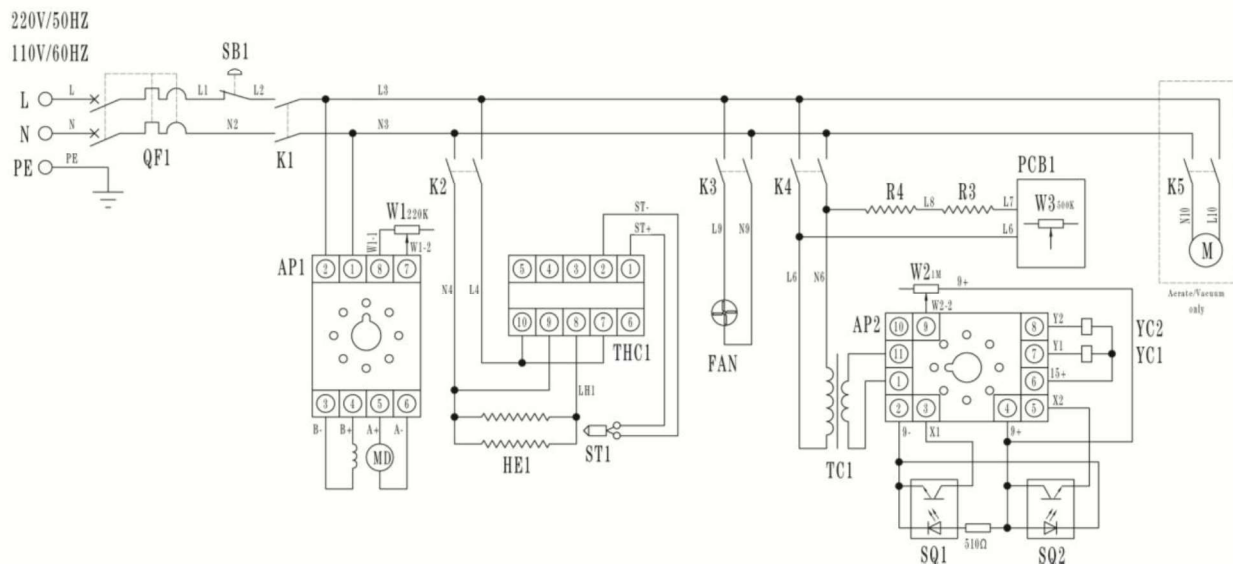


Figure 3. Electrical Circuit Diagram. (QF1) High Rupture Switch, (SB1) Emergency Stop Switch, (K1) Switch/Power, (K2) Switch/Heat, (K3) Switch/Fan, (K4) Switch/Printer, (K5) Switch/Aerating-Vacuum (W1) Speed-Regulating Potentiometer; (W2) Coding Position Potentiometer, (W3) Temperature-Regulating Potentiometer; (HE1) Heating Element of Sealing, (R3/R4) Heating Element of Ink Roller; (MD), Speed adjusting Motor, (M) Aerating/Vacuum, (FAN) Fan, (TC1) Transformer, (YC1) Electromagnetic Clutch, (YC2) Electromagnetic Brake, (SQ1) Groove Sensor, (SQ2) Photoelectric Sensor, (THC1) Temperature Controller, (ST1) Thermocouple, (AP1) Speed Adjusting PC Board, (AP2) Main Control PC Board, (PCB1) Temperature Adjusting PC Board

Operation

Operation Set-up

1. Our machines are equipped with a three-prong grounded plug. Make sure the plug is well-connected in the socket to ensure safe operation.
2. Make sure the circuit breaker is in the “ON” position. (Levers pointing up)
3. First time operation. Allow the machine to pre-heat by running at a low temperature for a few minutes. This would apply if the machine has not been in operation for a long time. The machine can sometimes be damp from storage or shipment and running at a low temperature will dry out any residual moisture.
4. Adjust the height of the conveyor and machine head based on the bag requirements.

Operation



Figure 4. Control Panel of FRM-1120LD

1. Our machines are equipped with a three-prong grounded plug. Make sure the plug is well-connected in the socket to ensure safe operation.
2. Make sure the circuit breaker is in the “ON” position. (Levers pointing up)
3. Turn Power, Heat (Seal), Fan, and Printer switches to the “On” position. Belts and conveyor will begin to move simultaneously.
4. Adjust the conveyor speed.
5. Adjust the temperature controller to the temperature desired to seal your material. Temperature settings will vary based on bag material and thickness. If you are unsure what temperature setting






to use, we recommend starting at a low temperature and gradually increase to a temperature that will seal your material. The PV value is the actual temperature and the SV value is the desired temperature setting. The SV value can be viewed by pressing the  button.



Figure 5. FRM-1120C Temperature Controller

- a. To set the temperature, press the  button. The SV temperature will be displayed. The SP light will be on to show the SV temperature.
 - b. Press the  and  button to change temperature setting.
 - c. Press the  button to save the temperature settings.
 - d. Wait until the PV temperature matches the SV temperature which should take approximately 5-10 minutes.
 - e. Check our YouTube channel (<https://www.youtube.com/user/sealersales>) for a video demo.
 - f. Please note: Temperature will be in Celsius, not Fahrenheit. Do not attempt to make additional adjustments to the temperature controller. Please contact your local distributor if you need assistance.
6. Most bag types will not need an adjustment and we suggest running your material through the band sealer without making any adjustments. If needed, adjust the pressure knobs (**Figure 27, Item #16**) to adjust the clearance between both heating and cooling blocks based on the thickness of your bag material.
 7. Place material on the guide (**Figure 27, Item #5**) and allow the band sealer to pull your material through. Make sure your material is flat on the guide. While the material is moving through the band sealer, do not push or pull the material as this will cause irregular sealing.
 8. If the sealing belt is running off the guide wheels, make adjustments to the screws that are found on the driven wheel seat (**Figure 29, Item #28**)

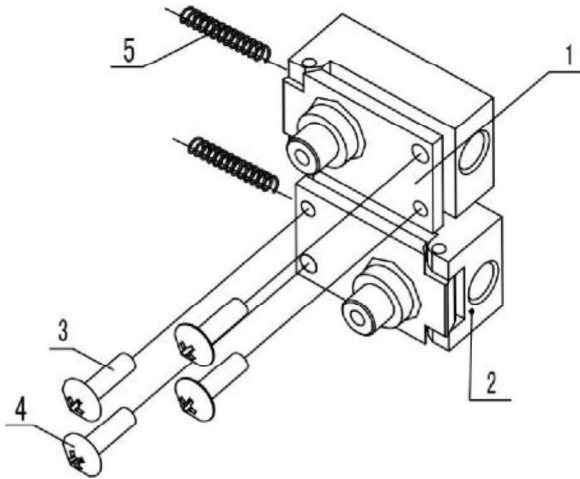


Figure 6. (1) Driven Wheel Seat (Adjusting Block), (2) Driven Wheel Seat (Adjusting Block), (3)/(4) Adjusting Screws, (5) Springs

9. Emergency Stop – Press the emergency stop to turn off the machine. In order to restart the machine, you must release the emergency stop by turning the knob 120° clockwise.
10. To shut down, turn off the heater switch and allow the temperature of the machine to drop before turning off the power and fan switches. ***Following this shut down procedure will significantly prolong the life of machine and sealing belts.***

Sealing Optimization

1. Sealing performance can be adjusted with the sealing temperature and sealing speed. The higher the speed the less exposure the material to heating blocks and therefore a higher temperature will be required to seal the material.
2. Try a variety of different sealing temperatures and conveyor speeds to get the optimal seal for your material.

Printing Operation - FRM-1120LD

FRM-1120LD is equipped with a dry ink coding feature capable of printing characters at the seal line. Ink dries instantly upon contact with packaging materials and produces clear and legible letters/numbers. Standard font size is 18PT which allows for two-line printing up to 20 characters per line. An optional print wheel which allows for 40 characters per line is available to be purchased separately. In addition, we also carry 10.5PT font size which allows for three-line printing which can also be purchased separately. Ask your distributor for more details. Check our YouTube channel (<https://www.youtube.com/user/sealersales>) for a video demo.



Figure 7. Standard font size - 18PT



Figure 8. Optional 10.5PT font size available for purchase

1. **Removing Print Wheel.** To remove the printing wheel from the base, push the red handle in and turn clockwise until you feel the handle unlock. (See [Figure 9](#) and [Figure 10](#) for locked and unlocked positions). You may need to turn the wheel a few times until the red handle unlocks and pops out of its locked position.

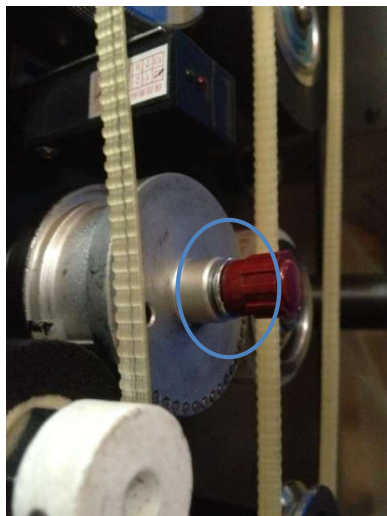


Figure 9. Locked Handle Position

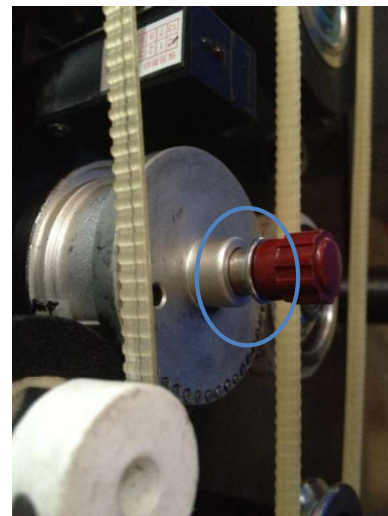


Figure 10. Unlocked Handle Position

- 2. Installing Types/Characters on Print Wheel.** Place selected characters in the grooves of the printing wheel. Be sure to insert the characters from right to left to ensure actual imprint prints correctly on your packaging material. Once completed, insert the silicone pin at the top of the printing wheel to hold the characters in place.



Figure 11. Place characters from right to left.



Figure 12. Place silicone pin to lock characters in place.

- 3. Installing the Print Wheel.** To insert the spring-loaded print wheel into the print wheel base, ensure that the pins on the printing wheel are aligned with the notches of the print wheel base. Gently insert the print wheel into the base. Lock the print wheel by pushing the red handle in until you feel the handle lock into place.



Figure 13. Ensure two holes and pins line up with the base

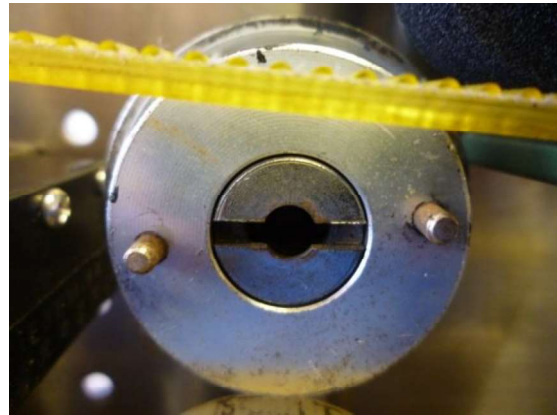


Figure 14. Ensure two holes and pins line up with the base

1. **Install Ink Roller into the Ink Roller Holder.** Remove the metal ring found on the ink roller holder using an allen wrench. Place the ink roller onto the ink roller holder and place the metal ring back on the ink roller holder to hold the ink roller in place. Please note that for 30mm wide ink roller, the metal ring will not be used.



Figure 15. Remove metal wing found on the ink roller holder



Figure 16. Ink roller installed on ink roller holder

2. **Insert Ink Roller in the Ink Wheel Heating Block.** When inserting the ink roller, ensure the ink roller lines up with the type on the printing wheel. If the ink roller is pushed in too far, the printing wheel will not print correctly. *Note: Do not allow the ink roller to heat continuously when machine is not in use as heating block may melt the ink roller.*

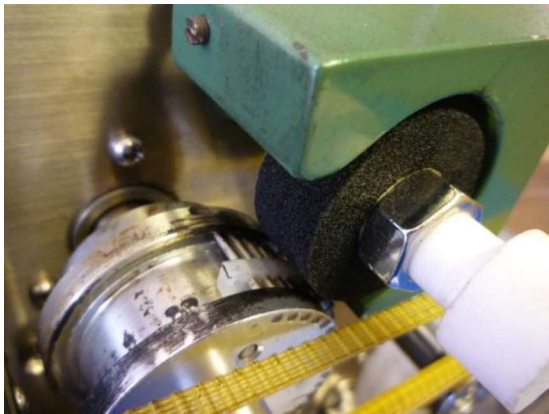


Figure 17. Correct Ink Roller Position

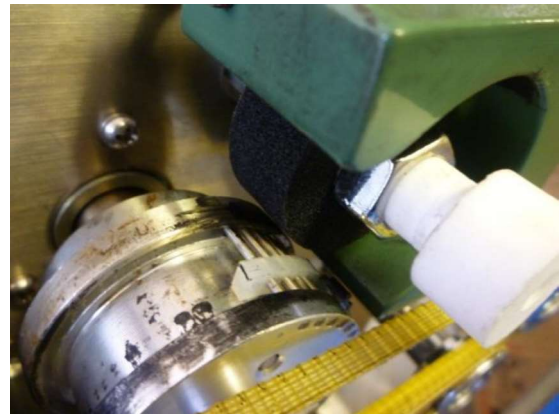


Figure 18. Incorrect Ink Roller Position

Test the ink roller position relative to the printing wheel. Place your finger under the photoelectric sensor. The sensor light will turn green and allow the printing wheel to rotate.

3. **Make Adjustments to Ink Wheel Adjusting Device.** As the print wheel rotates, check that the printing wheel makes contact with the ink roller. Make adjustments using the ink wheel adjusting device ([Figure 19, Item #5](#)) if necessary. Turning the adjusting screw clockwise will move the ink roller away from the print wheel and turning the adjusting screw counterclockwise will move the ink roller closer to the print wheel.

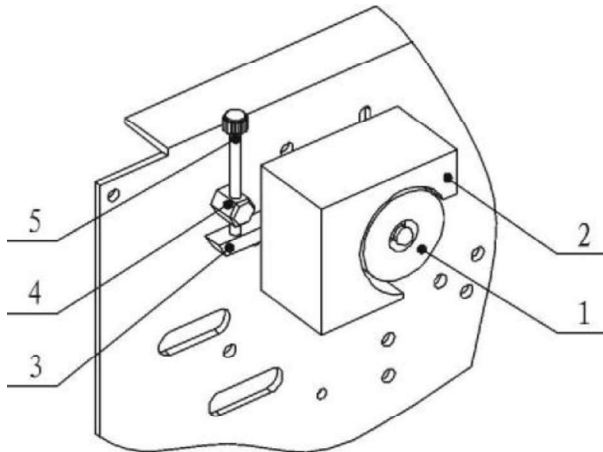


Figure 19. (1) Ink Roller, (2) Ink Roller Heating Block, (3) Swing Pole, (4) Adjusting Strut, (5) Ink Wheel Adjusting Device

4. **Make Adjustments Between Printing Wheel and Silicone Wheel.** The typesets/characters on the printwheel should only touch the silicone wheel during the printing process. The characters should not touch the silicone wheel at any other time. If the band sealer is used to seal relatively thicker materials, the screw (Figure 20, Item #4) should be loosened. Rotate the eccentric sleeve (Figure 20, Item #3) to ensure the characters/typesets slightly touch the silicone wheel's surface. Refasten the screw after making adjustments.

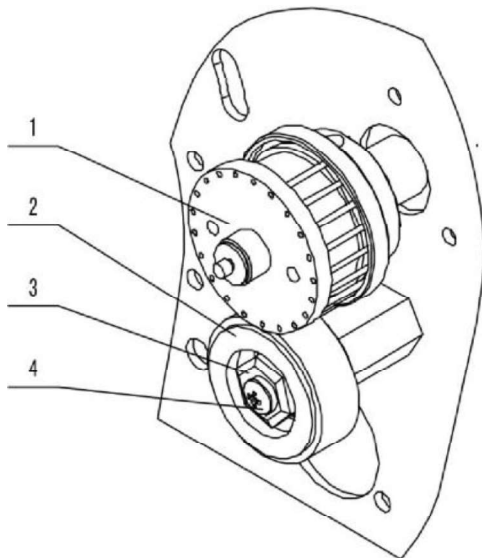


Figure 20. (1) Printing Wheel, (2) Silicone Wheel, (3) Eccentric Sleeve, (4) Screw

5. **Setting Printing Temperature.** We recommend setting the ink temperature on the higher end. Allow 5-10 minutes for the ink heating block and ink roller to reach the correct temperature. **Note: If band sealer is not in use right away, do not leave ink roller in the unit while temperature is on. This may result in the ink roller melting and producing messy print.**
6. **Adjusting Printing Position.** The coding seat knob determines printing position on your material. For example, if you want to print on the left side of your bag, turn the coding seat to its

lowest setting (or counterclockwise). If you want to print on the right side of the bag, turn the coding seat to a higher setting (or clockwise).

Printing Optimization

1. Print quality will be determined by the degree of ink melting, distance between the ink roller and printing wheel and distance between the silicone wheel and printing wheel.
2. Over time, decrease the gap between the ink roller and printing wheel.
3. A newer ink roller will require a lower temperature vs. an older ink roller. Make adjustments to ink temperature as necessary.
4. Ensure there is adequate pressure on the silicone wheel (**Part #BS-57A**) by the printing wheel. We suggest using factory default settings before making any adjustments. Adjustments may be needed based on material thickness.
5. If the printing wheel rotates and there is no thermoplastic material running through the band sealer, excess ink will rub off on the silicone wheel. Clean the silicone wheel with a shop cloth and silicone spray to remove any excess ink.
6. ***Remove the ink roller from unit until sealer is ready for use. If ink roller is left in the machine while not in use, this may result in melting of the ink roller and messy print. To clean, wipe down belts, silicone wheel, and other parts with silicone spray and cloth.***

Maintenance

The following maintenance procedures should be followed to ensure the longevity of your FRM-1120LD band sealer.

Inspection and Cleaning

1. Inspect your machine daily.
2. Check if there is any foreign matter or dirt adhering to the band sealer.
3. To clean your band sealer, wipe down your sealer with silicone spray and a shop cloth. Do not apply silicone directly to your sealer. Definitely DO NOT wash down your machine with water.

Sealing and Drive Belts

1. Check and replace the belts as necessary. Both the sealing and drive belts are consumable items. Replace sealing belts when there are burn marks or if the belts become hard and brittle. Replace drive belts when the belts break or become badly cracked.
2. To change out the belts, make sure the machine is turned off.
3. Remove the safety cover.
4. Remove the drive belts.
5. To remove the sealing belts, push on the adjustment blocks (**Figure 29, Item #30**) and the sealing belts should easily slip off.
6. Put new sealing and/or drive belts back on the machine. Test the machine, making adjustments as necessary.
7. Replace the safety cover.
8. Check our YouTube channel (<https://www.youtube.com/user/sealersales>) for video demo.

Turbocase Maintenance

1. Remove dust and clean motor at regular intervals. Avoid contact with alcohol, gasoline and benzene chemicals.
2. The turbocase should be oiled monthly with 50g 20# oil by:
 - a. Remove the back cover.
 - b. Locate the turbocase and unscrew the cap. Replenish any depleted gear oil with 50g 20# oil.
3. The carbon motor brush (**Part #BS-29A_FRM-1120LD**) is designed to be used 2,500 hours continuously. Replace carbon brush at regular intervals.

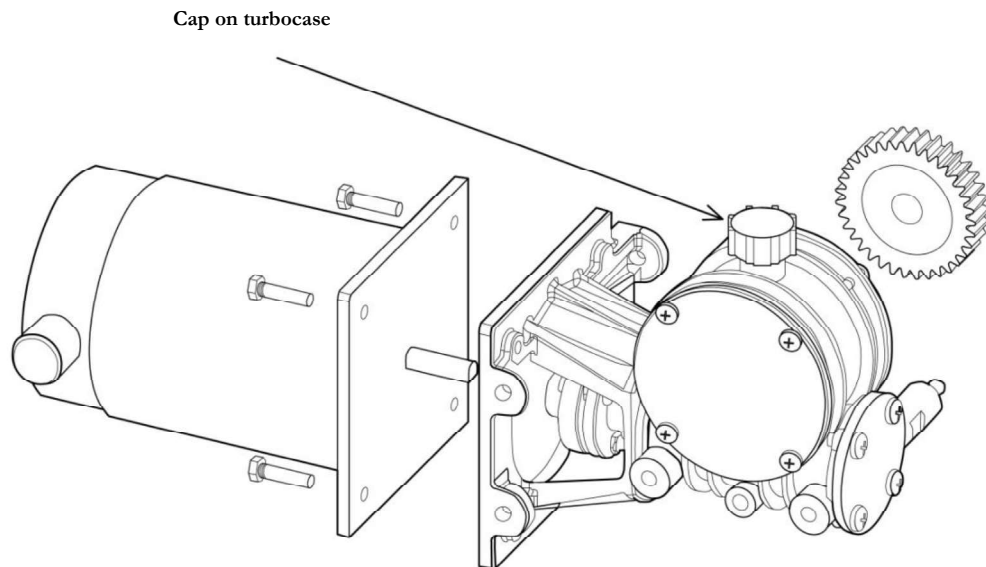


Figure 21. Turbocase cap

Printing Maintenance

FRM-1120LD band sealers are equipped with an ink temperature potentiometer which is attached to a PC Board. This part controls the temperature that is transmitted to both the ink heating block as well as the printing wheel, located behind the ink temperature knob. **(Figure 25, Item #12)** You should change the ink temperature potentiometer w/ PC Board when both ink heating block and printing wheel on your band sealer are not achieving optimal heat temperatures.

1. Turn off and unplug your band sealer.
2. Remove ink temperature knob, remove the washer that holds the ink temperature potentiometer on the panel.

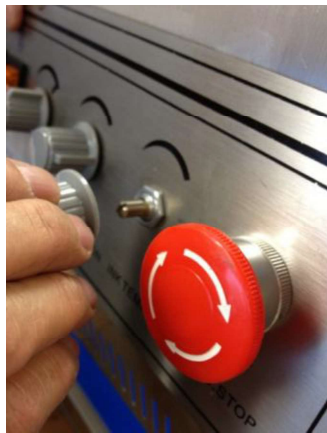


Figure 22. Remove Ink Temperature Knob



Figure 23. Remove Washer Holding Ink Temperature Potentiometer

3. Remove the band sealer display panel. There should be six screws to remove.
4. Unplug the ink temperature potentiometer and plug in a new ink temperature potentiometer. Make sure the part is plugged in properly and tight.

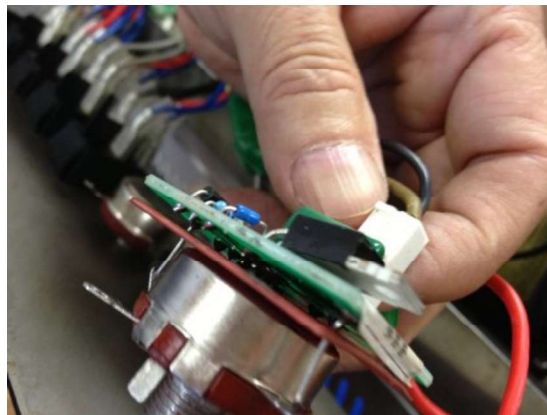


Figure 24. Unplug Ink Temperature Potentiometer w/ PC Board and Replace with a New Ink Temperature Potentiometer w/ PC Board

Parts Diagram

To order spare parts, please use diagram and part #s below:

Figure 25 – Controller Box

Figure 27 – Sealer Body

Figure 29 – Sealer Body Front

Figure 32 – Sealer Body Back

Figure 34 – Heating/Cooling Blocks & Dry Ink Coding Function

Figure 36 – Conveyor Table

Figure 38 – Sealer Rack

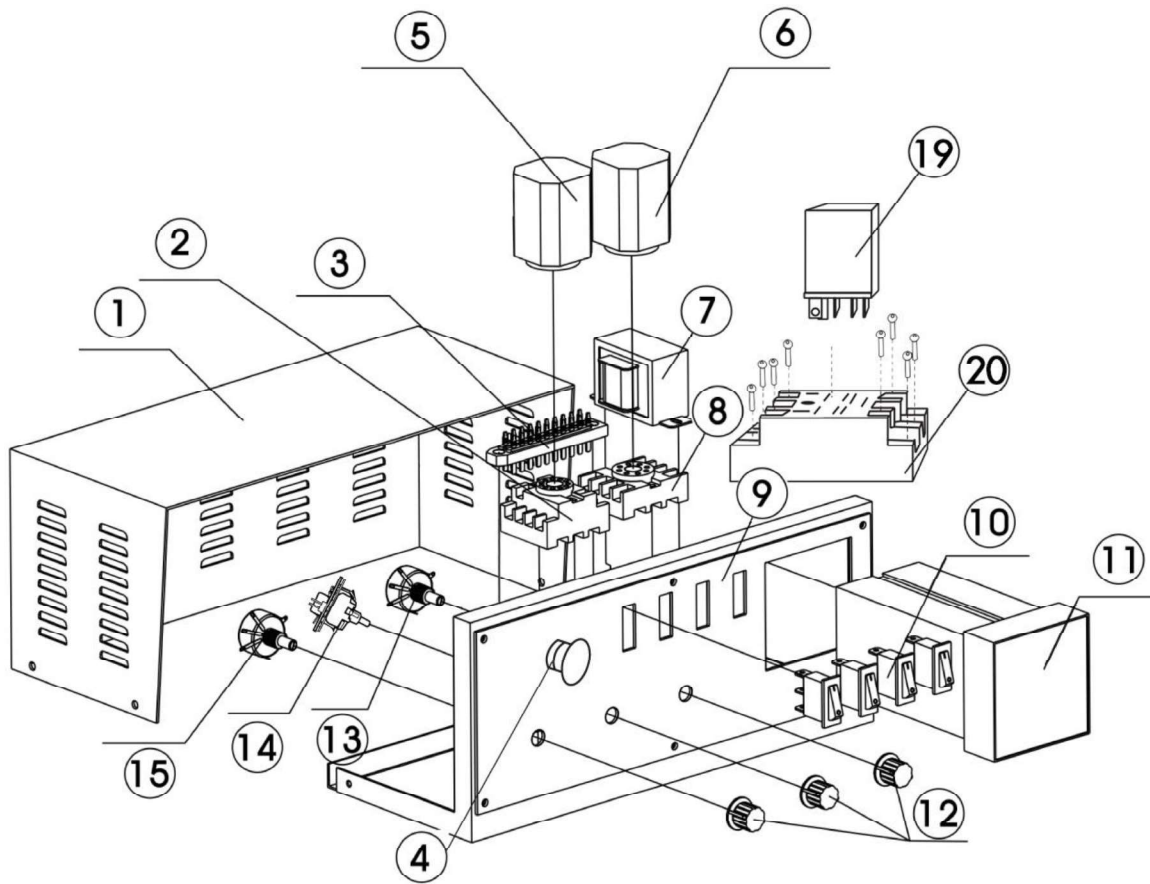


Figure 25. Controller Box

Figure 26. Controller Box

Item #	Part #	Quantity	Description	Comments
1		1	rear cover of electric cabinet	
2	BS-45B	1	PF113A relay holder	
3	FRM-1120C-56	1	20 pin socket	
4	BS-22A	1	emergency stop	
5	BS-52C	1	main control PCB	
6	BS-52A	1	speed regulating PCB	
7	BS-66A	1	transformer BK-10/220-13.5V	
8	BS-45A	1	PF083 relay holder	
9		1	control panel	
10	BS-22	1	control switch	specify large or small
11	TMC-XMTE-1000-2	1	temperature controller	determine version by taking temp controller out
	TMC-XMTE-1000-2-0	1	temperature controller	determine version by taking temp controller out
	TMC-E5CSL-QTC-FRM-1120	1	temperature controller	
12	BS-25A	1	knob	
13	BS-25	1	speed potentiometer 100K	
14	BS-50A	1	ink temperature potentiometer wih pc board	
	BS-25	1	potentiometer 100K	
15	BS-51	1	coding potentiometer 1.0M	
19	R-JQX-13F	1	Relay	
	R-JG3NA	1	Relay	
20	BS-74A	1	Seat for relay	

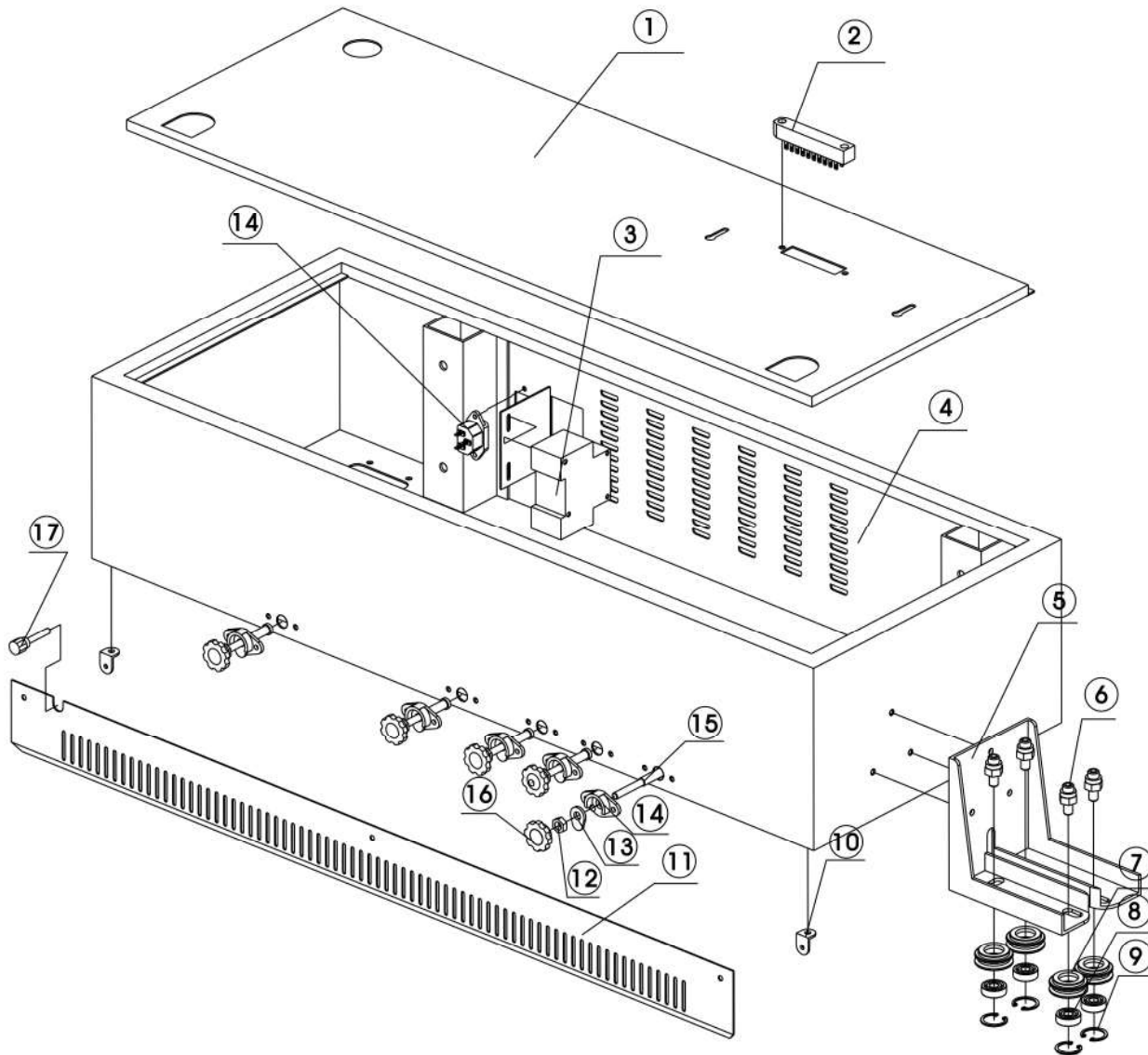


Figure 27. Sealer Body

Figure 28. Sealer Body

Item #	Part #	Quantity	Description	Comments
1		1	upper cover of housing	
2	BS-14	1	socket connector	
3	BS-27	1	DZ47-2P/5A small breaker	
4		1	housing	
5		1	idler pulley support / guide	
6		1	idler pulley shaft	
7	FRM-1120LD-6a_gen 1.0 or FRM-1120LD-6a_gen2.0	1	idler pulley	Includes #7, 8, 9
8	FRM-1120LD-6a_gen 1.0 or FRM-1120LD-6a_gen2.0	1	bearing	Includes #7, 8, 9
9	FRM-1120LD-6a_gen 1.0 or FRM-1120LD-6a_gen2.0	1	circlip	Includes #7, 8, 9
10		1	support of guard plate	
11		1	guard plate	
12		4	hexagon nut	
13	FRM-1120C-28A, 28B, or 28C	4	adjusting steel disc	(Includes #13-16) A = 65mm, B = 77mm, C = 92mm
14	FRM-1120C-28A, 28B, or 28C	4	screw holder	(Includes #13-16) A = 65mm, B = 77mm, C = 92mm
15	FRM-1120C-28A, 28B, or 28C	4	dolly bar	(Includes #13-16) A = 65mm, B = 77mm, C = 92mm
16	FRM-1120C-28A, 28B, or 28C	4	knob of screw	(Includes #13-16) A = 65mm, B = 77mm, C = 92mm
17	BS-62	1	adjusting knob for ink roller's swing pole	

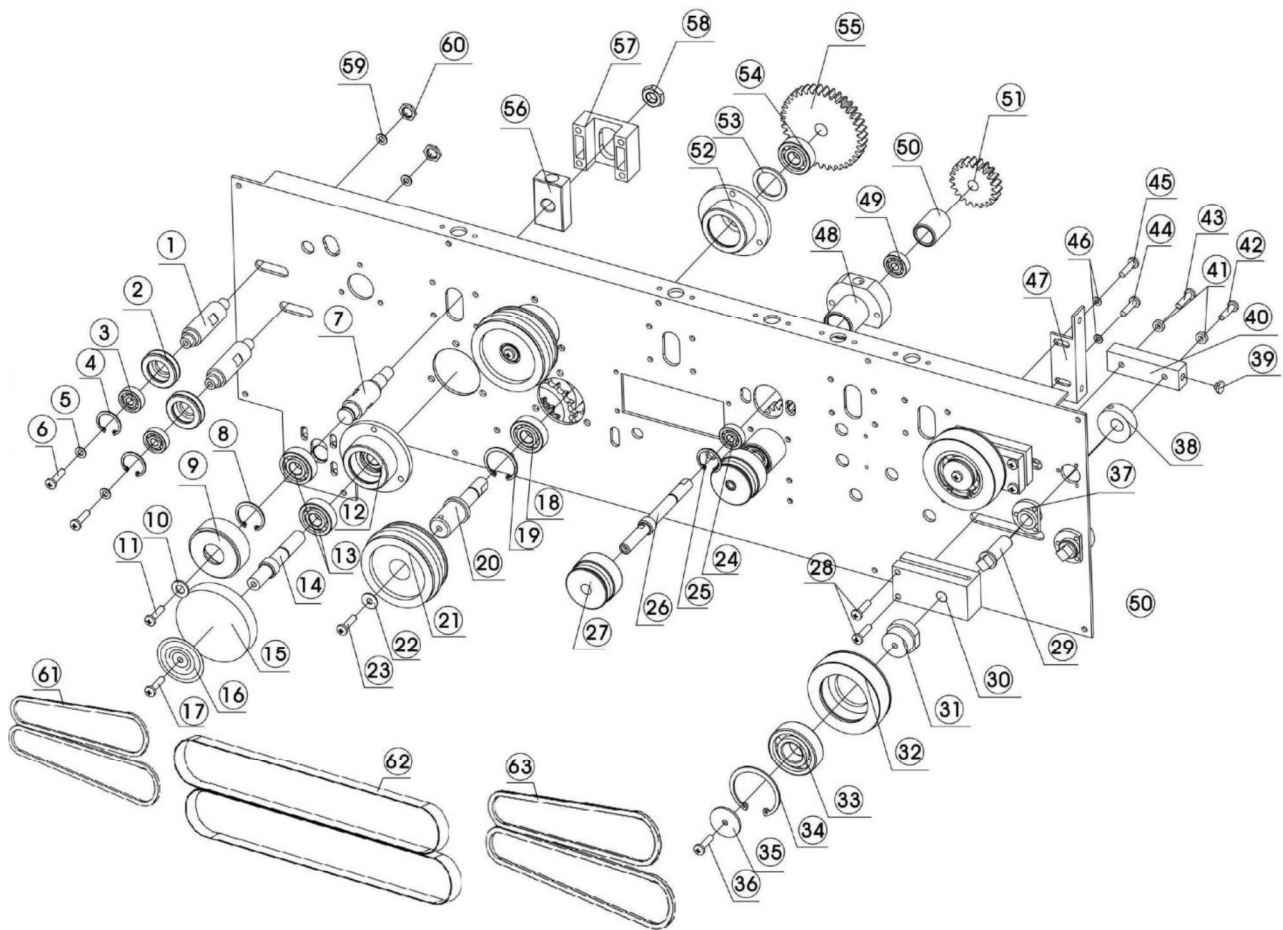


Figure 29. Sealer Body Front

Figure 30. Sealer Body Front (1 of 2)

Item	Part #	Quantity	Description	Reference	Comments
1	FRM-1120LD-6b	2	small pulley shaft	106002	
2	FRM-1120C-6A	2	small pulley	106003	Includes #2-4
3	FRM-1120C-6A	2	bearing (626)	GB/T276-1994(626)	Includes #2-4
4	FRM-1120C-6A	2	circlip for hole	GB/T893.1-1986	Includes #2-4
5	Washer-M5x16	2	flat washer	GB/97.1-2002	M5x16
6	Screw-M4x8	2	screw	GB/T818-2000	M4x8
7		1	embossing wheel shaft	106006	
8	FRM-1120C-3	1	circlip for hole	GB/T893.1-1986	Includes #8, 9
9	FRM-1120C-3	1	embossing wheel	106007	Includes #8, 9
10	WasherM5x16	1	flat washer	GB/T97.1-2002	M5x16
11	Screw-M4x8	1	screw	GB/T818-2000	M4x8
14		1	silicone wheel shaft	106011	
15	FRM-1120C-2	1	silicone wheel assembly	106010	
16		1	silicone wheel cover		
17	Screw-M4x8	2	screw	GB/T818-2000	M4x8
18	FRM-1120C-6-50-56		bearing (6201)	GB/T276-1994(6201)	Includes #18-20, 52-54
19	FRM-1120C-6-50-56		circlip	GB/T893.1-1986	Includes #18-20, 52-54
20	FRM-1120C-6-50-56		driving wheel shaft		Includes #18-20, 52-54
21	FRM-1120C-6	2	driving wheel	106012	
22	Washer-M5x28		flat washer		M5x28
23	Screw-M4x8		screw	GB/T818-2000	M4x8
24	FRM-1120C-21		bearing (6201)	GB/T276-1994(6201)	Includes #24, 25, 27
25	FRM-1120C-21	2	circlip for shaft	GB/T894.1-1986	Includes #24, 25, 27
26	FRM-1120LD-21-26	1	upper pressing wheel shaft	106023	
27	FRM-1120C-21	2	pressing wheel	106025	Includes #24, 25, 27
28	Screw-M4x8		screw	GB/T818-2000	M4x8
29	FRM-1120C-13-36	2	cam shaft	106032	
30	FRM-1120C-13	1	driven wheel seat (adjusting block)	106026	
31	FRM-1120C-12a	2	driven wheel shaft	106030	
32	FRM-1120C-12	2	driven wheel	106029	
33		2	bearing (6201)	GB/T276-1994(6201)	
34		2	circlip for hole	GB/T893.1-1986	
35	Washer-M5x28		flat washer		M5x28
36	Screw-M4x8		screw	GB/T818-2000	M4x8
37			cam shaft seat	106033	

Figure 31. Sealer Body Front (2 of 2)

x	Part #	Quantity	Description	Reference	Comments
38	FRM-1120C-13-38	2	cam	106031	
39		2	hexagonal bolt		
40	FRM-1120C-13-40	2	pressing plate for adjusting block	106027	
41	FRM-1120C-13-41	4	spacing ring of pressing plate	106028	
42	Screw-M4x8	1	screw	GB/T818-2000	M4x8
43	Screw-M4x8	1	screw	GB/T818-2000	M4x8
44	Screw-M4x8	1	screw	GB/T818-2000	M4x8
45	Screw-M4x8	1	screw	GB/T818-2000	M4x8
46	Washer-M5x16	2	flat washer	GB/97.1-2002	
47		1	spring seat	106034	
48	FRM-1120LD-21-48	2	bearing seat of upper pressing wheel		
49	FRM-1120LD-21-49	2	bearing (6201)	GB/T276-1994(6201)	
50	FRM-1120LD-21-50	2	spacing ring of upper pressing wheel		
51	FRM-1120LD-21-51	2	gear of pressing wheel		
52	FRM-1120C-6-50-56	3	bearing seat	106008	Includes #18-20, 52-54
53	FRM-1120C-6-50-56	2	spacing ring of bearing	106009	Includes #18-20, 52-54
54	FRM-1120C-6-50-56	6	bearing (6201)	GB/T276-1994(6201)	Includes #18-20, 52-54
55	FRM-1120C-35B	5	gear	106014	
56		2	slide block	106005	
57	FRM-1120C-28-49	2	single slide block seat	106004	
58		2	hexagon nut		
59	Washer-M5x16	2	flat washer	GB/97.1-2002	
60		2	hexagon nut		
61	FRM-1120C-26	2	driving belt (#678)		
62	FRM-1120C-10	2	sealing belt (#1120)		
63	FRM-1120LD-26-2a	2	driving belt (#980)		Determine 2a or 2b
	FRM-1120LD-26-2b	2	driving belt (#960)		Determine 2a or 2b

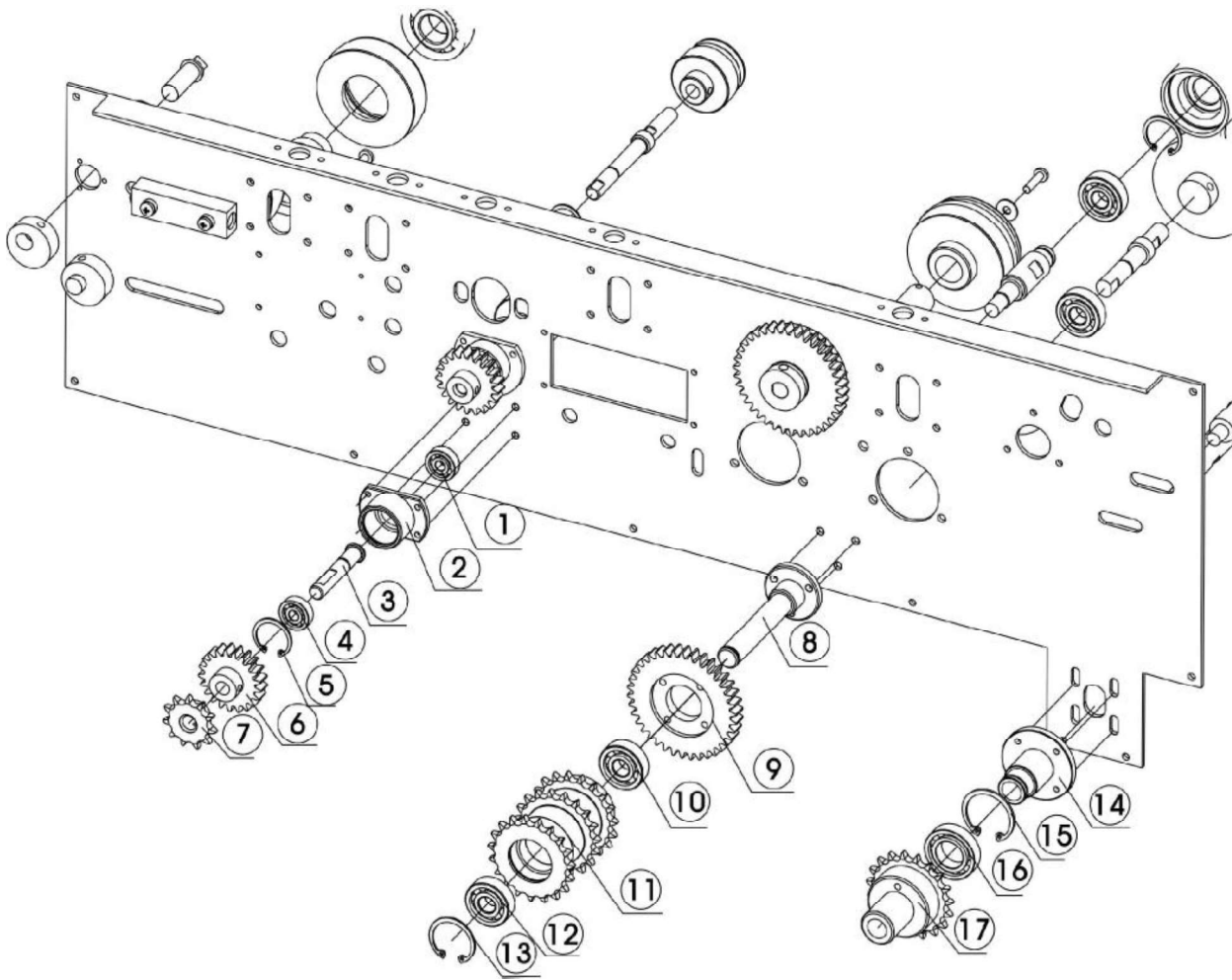


Figure 32. Sealer Body Back

Figure 33. Sealer Body Back

Item #	Part #	Description	Reference	Comments
1		bearing (626)	GB/T276-1994(626)	
2		bearing seat of drive sprocket		
3		drive sprocket shaft		
4		bearing (626)	GB/T276-1994(626)	
5		circlip for hole	GB/T893.1-1986	
6		gear of pressing wheel		
7		drive sprocket		
8		driving gear shaft		
9		driving gear		
10		bearing (6201)	GB/T276-1994(6201)	
11		triple sprocket		
12		bearing (6201)	GB/T276-1994(6201)	
13		circlip for hole	GB/T893.1-1986	
14		sprocket shaft		
15		circlip for hole	GB/T893.1-1986	
16		bearing (6201)	GB/T276-1994(6201)	
17		drive sprocket		

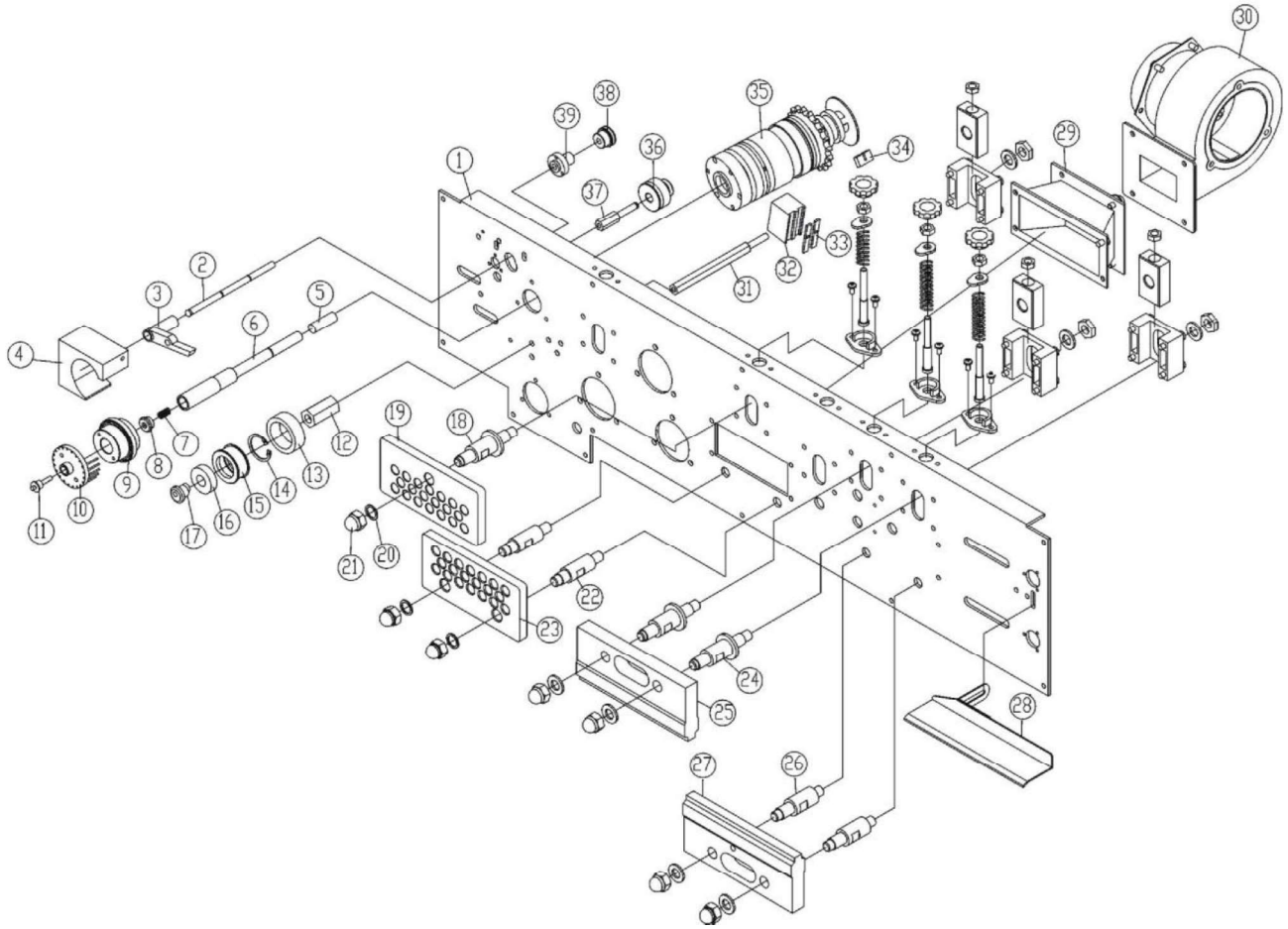


Figure 34. Heating/Cooling Blocks & Dry Ink Coding Function

Figure 35. Heating/Cooling Blocks & Dry Ink Coding Function

Item #	Part #	Quantity	Description	Reference	Comments
1		1	bottom board	106042	
2	BS-46	1	ink roller shaft	105036	
3	BS-62E-FRM	1	swing pole of ink roller	201007	
4	FRM-1120C-47	1	heating block of ink roller	201002	
5	BS-48C	1	heating pipe 110v/40w	921301	
6		1	printing wheel shaft	106071	
7	BS-48-7	1	spring of holding latch on printing wheel		
8	BS-48-8	1	cover for printing wheel shaft	201015	
9	BS-48B	1	printing wheel	201013	
10	BS-48A	1	printing wheel cover	201014	Includes #10, #11
11	BS-48A	1	holding latch for printing wheel	201016	Includes #10, #11
12		1	printing-silicone wheel shaft	201010	
13	BS-57A	1	silicone ring	910107	
14	BS-57	1	circlip for hole	GB/T893.1-1986	Includes #14-17
15	BS-57	1	core of silicone wheel	201011	Includes #14-17
16	BS-57	1	bearing	GB/T276-1994	Includes #14-17
17	BS-57	1	eccentric sleeve	201012	Includes #14-17
18	FRM-1120LD-8-18	1	upper cooling block shaft	201019	
19	FRM-1120C-8	2	upper cooling block	201015	Includes #19, #23, sold as pair
20		7	flat washer	GB/97.1-2002	
21		7	cap nut	GB/923-1988	
22	FRM-1120LD-8-22	1	lower cooling block shaft	106020	
23	FRM-1120C-8	1	lower cooling block	106016	Includes #19, #23, sold as pair
24	FRM-1120LD-9-24	2	upper heating block shaft	106021	
25	FRM-1120C-9A-SS	1	upper heating block	106017	Includes #25, #27, sold as pair
26	FRM-1120LD-9-26	2	lower heating block shaft	106022	
27	FRM-1120C-9A-SS	1	lower heating block	106018	Includes #25, #27, sold as pair
28					
29		1	wind catcher	106058	
30	FRM-1120C-32	1	fan		
31	BS-64B	1	support for brush	106073	
32	BS-64A	1	carbon brush holder	920423	
33	BS-64	2	pressing plate of brush	201009	
34	BS-65	1	groove sensor		
35	BS-139-FRM-1120C	1	electromagnetic clutch assembly	A10501	
36	BS-54B	1	middle pulley	105032	
37	BS-54B-35	1	middle pulley shaft	105035	
38	BS-54C-34	1	ink roller shaft pulley	105041	
39	BS-54C	1	seat for ink roller swing pole shaft	201006	

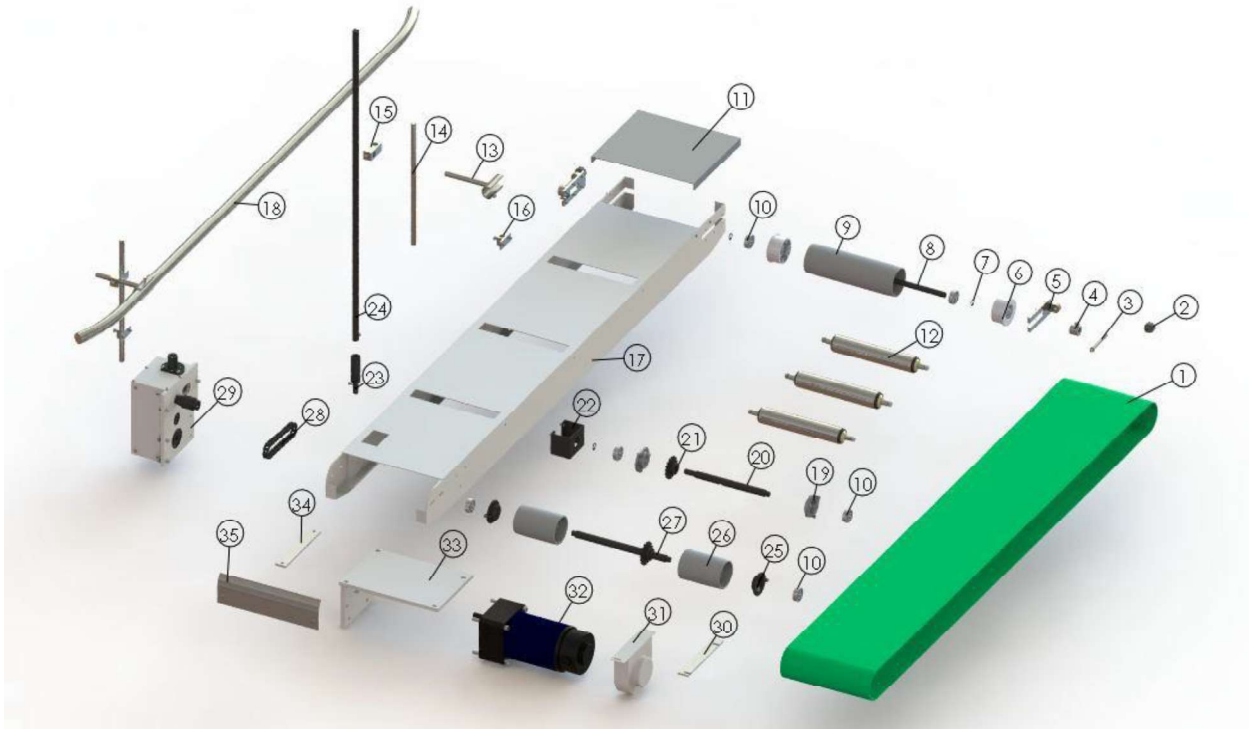


Figure 36. Conveyor Table

Figure 37. Conveyor Table

Item #	Part #	Quantity	Description	Comments
1	FRM-1120LD-1	1	Conveyor Belt	
2		2	Five-Star (Bakelite)Handle	M6×Φ30
3	FRM-1120LD-16	2	Adjustment Screw	Includes #3, 4
4	FRM-1120LD-16	2	Adjusting Ring	Includes #3, 4
5	FRM-1120LD-16-15	2	Conveyor Belt Adjust Seat	
6	FRM-1120LD-36	2	Rear Roller Plug	Includes #6, 7, 8, 9
7	FRM-1120LD-36	2	Circlip for Shaft (Φ12mm)	Includes #6, 7, 8, 9
8	FRM-1120LD-36	1	Rear Roller Shaft	Includes #6, 7, 8, 9
9	FRM-1120LD-36	1	Rear Roller	Includes #6, 7, 8, 9
10		6	Deep Groove Ball Bearing	6201-2RS
11	FRM-1120LD-15	1	Working Table	
12	FRM-1120LD-36.12	3	Intermediate Roller (Long) Assembly	
13		2	Baffle Support Rod	
14		2	Guide Rod	
15		2	Support Rod Support	
16		2	Guide Rod Support	
17		1	Conveyor Table	
18	FRM-1120LD-1-11521040605	1	Baffle Support	
19	FRM-1120LD-41	2	Conveyor Table Middle Shaft Bearing Seat I	Includes #29, 20, 21, 22
20	FRM-1120LD-41	1	Conveyor Table Middle Shaft	Includes #29, 20, 21, 22
21	FRM-1120LD-41	2	Conveyor Table Chain Wheel	Includes #29, 20, 21, 22
22	FRM-1120LD-41	1	Middle Shaft Pad	Includes #29, 20, 21, 22
23		1	Half-Universal Joint Assembly	
24		1	Vertical Shaft	
25	FRM-1120LD-37	2	Front (Left) Roller Bearing Seat	Includes #25, 26, 27
26	FRM-1120LD-37	2	Front (Left) Roller	Includes #25, 26, 27
27	FRM-1120LD-37	1	Front (Left) Roller Shaft	Includes #25, 26, 27
28		1	Three-joint Chain	(06B-1×42L) 42 segment
29	FRM-1120LD-30	1	Gear Box	
30	FRM-1120LD-1-30	1	Front Baseplate	
31		1	Motor Safety Cover	
32	FRM-1120LD-29	1	Reducer Motor	100ZYT-08-40GK/220V
33		1	Reducer Installing Board	
34	FRM-1120LD-1-34	1	Rear Subplate	
35	FRM-1120LD-1-1	1	Outfeed Board	

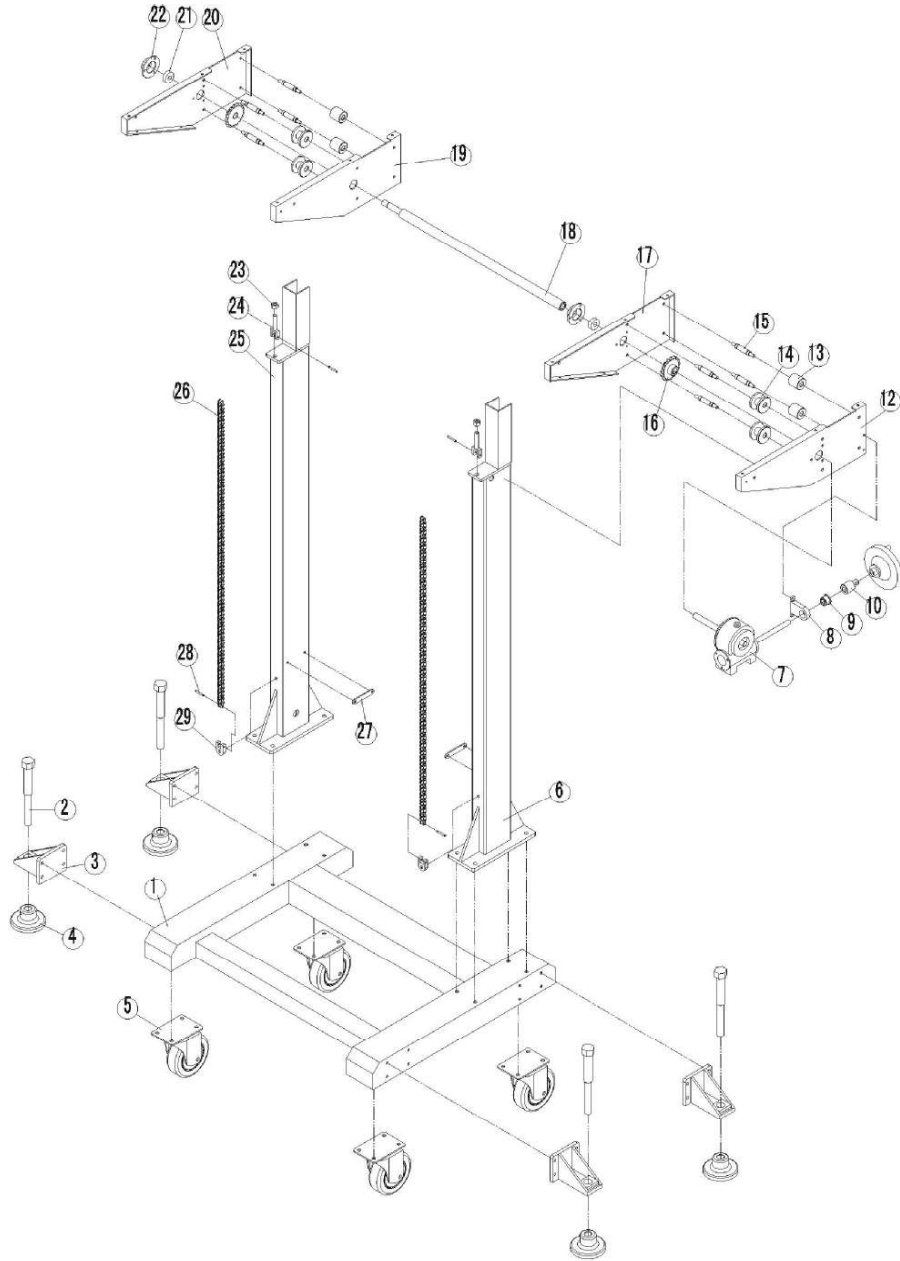


Figure 38. Sealer Rack

Figure 39. Sealer Rack

Item #	Part #	Quantity	Description	Reference	Comments
1		1	chassis		
2		4	foot plate bolt		
3		4	foot plate support		
4		4	foot plate		
5		4	caster	910205	
6		1	right upright post		
	FRM-1120LD-29	1	motor		Not shown
	BS-29A_FRM-1120LD	2	motor brush		Not shown
7	FRM-1120LD-30	4	wormgear case assembly		
8		1	worm support seat	111077	
9		1	worm bushing	111078	
10		1	connecting head of handle	111086	
11		1	handwheel	930107-2	
12		1	right-out support plate for conveyor table		
13		4	rear roller	111071	
14		4	front roller	111070	
15	FRM-1120LD-72-15	8	lifting roller shaft	111072	
16	FRM-1120LD-72-16	2	lifting sprocket	111080	
17		1	right-inner support plate for conveyor		
18	FRM-1120LD-72-18	1	lift sprocket shaft	111079	
19		1	left inner support board of conveyor table		
20		1	left out support board of conveyor table		
21	FRM-1120LD-72-21	2	shaft sleeve of lift sprocket	111082	
22	FRM-1120LD-72-22	2	bearing seat for lift sprocket	111081	
23		2	nut	GB/T41-2000	
24	FRM-1120LD-72-24	2	screw rod	111085	
25		1	left upright post		
26	FRM-1120LD-72-26	2	chain	930603	
27		2	limiting plate for conveyor table		
28		4	chain pin	111084	
29		2	chain seat	111083	

Troubleshooting

Problem	Possible Causes	Solution
Sealing belt is off tracking.	Driving wheel shaft is not parallel to driven wheel shaft	Adjust two adjusting screws on the adjusting block seat (Part# FRM-1120LD-13)
Sealing belts are tearing	<ol style="list-style-type: none"> 1. Too much tension on sealing belt 2. Sealing belt is off tracking 3. Creases on the sealing belt 4. Residual film or other debris attached to the sealing belt 	<ol style="list-style-type: none"> 1. Adjust the vertical adjusting screw on driven wheel seal to decrease tension on sealing belt 2. see above 3. When installing belt, make sure no creases are found on belt 4. Clean surface of belt with cloth
Seal is crumpled and film sticks to sealing belts	<ol style="list-style-type: none"> 1. Temperature is too high 2. Guide belt is not correctly in place 3. Plastic melted on the sealing belt 	<ol style="list-style-type: none"> 1. Reduce temperature 2. Adjust guide belt 3. Clean or replace sealing belt <p>If any plastic melts on the sealing belt, your bags will stick to the melted plastic</p>
Embossing is not clear	<ol style="list-style-type: none"> 1. Embossing roller is worn out 2. Pressure spring on embossing roller needs to be tightened 	<ol style="list-style-type: none"> 1. Replace embossing roller 2. Adjust the embossing roller spring (Part# FRM-1120C-28B)
Material will not pass through sealing blocks	Clearance between heating blocks or cooling blocks may be too small	Adjust the clearance between blocks by adjusting the springs and stopping flakes found above the blocks
Conveyor belt is off tracking	Driving roller shaft is not parallel to the driven roller shaft	Adjust using the conveyor belt adjustment (Part# FRM-1120LD-16)
Conveyor and sealing belt are not moving at same speed	Not enough tension on conveyor belt	<ol style="list-style-type: none"> 1. Tighten the chain of driving roller shaft (front shaft) and middle shaft. (Parts # FRM-1120LD-37 and FRM-1120LD-41) 2. Tighten the conveyor belt
Temperature doesn't rise or cannot be controlled	<ol style="list-style-type: none"> 1. Heat switch is damaged 2. Heater (BS-9B) is damaged 3. Temperature Controller 4. Coupling 	<p>Replace:</p> <ol style="list-style-type: none"> 1. Heat switch (BS-22-Large) 2. Heater (BS-9B) 3. Temperature Controller (TMC-XMTE-1000-2 / TMC-XMTE-1000-2-O) 4. Thermocouple (FR-1120LD-34)

Problem	Possible Causes	Solution
Printing wheel does not rotate	<ol style="list-style-type: none"> 1. Sensor is blocked 2. Sensor is not clean and eye is blocked by dust 	<ol style="list-style-type: none"> 1. Make sure sensor is not blocked 2. Clean sensor 3. Replace PCB (BS-52C)
Printing wheel does not stop rotating	<ol style="list-style-type: none"> 1. Sensor (groove) is damaged or dirty 2. Photoelectric sensor is damaged or dirty 3. Main control PC Board is damaged 	<ol style="list-style-type: none"> 1. Replace or correct position of the groove sensor or clean its surface (BS-65) 2. Replace or clean photoelectric sensor (BS-60) 3. Replace PC Board (BS-52C)
No heat on the ink heating block	<ol style="list-style-type: none"> 1. Heating element in heating block is damaged 2. Heating PCB is damaged 3. Potentiometer w/ PC Board (BS-50A) is damaged 4. Carbon brush is not in place 5. Carbon brush is damaged 	<ol style="list-style-type: none"> 1. Replace element (BS-48C) in heating block 2. Replace PCB (BS-50A) 3. Replace potentiometer with PC Board (BS-50A) 4. Adjust and tighten nut on carbon brush seat 5. Replace carbon brush
Temperature of heating block for ink roller cannot be regulated	Relay for temperature control PCB is damaged	Check and replace temperature control PCB (BS-50A)
Printing position cannot be regulated	<ol style="list-style-type: none"> 1. Tighten screw on printing wheel 2. Coding seat potentiometer may be damaged 	<ol style="list-style-type: none"> 1. Tighten screw on printing wheel. 2. Replace coding seat potentiometer (BS-51)
Motor runs at a high speed and cannot be regulated	Speed controller has malfunctioned	Replace the speed controller (BS-52A)
Power, heater, and or fan switches do not light up	<ol style="list-style-type: none"> 1. No AC Voltage 2. Open Fuse 3. Lamp is damaged 	<p>Check power source / power cord</p> <p>Connect the power</p> <p>Replace the fuse</p> <p>Replace the lamp</p>

Problem	Possible Causes	Solution
Machine does not run	<ol style="list-style-type: none"> 1. Board for speed regulation is abnormal 2. Doesn't connect well 3. Brushes in the motor are too short because of friction 	<ol style="list-style-type: none"> 1. Replace the speed board (BS-52A) 2. Tighten the connecting screws 3. Replace motor brushes (BS-29A) <p>If the temperature controller works and the power lamp illuminates but the motor does not move, start off by checking the motor and turbocase connection. Remove the back of the machine and you will see bushing where the motor connects to the gear box. Ensure the bushing is not broken. There is also a set screw that connects the bushing to the gear box / motor shafts. Ensure that these are tight so that when the motor turns, the turbocase turns as well.</p> <p>If the turbocase is noisy before it stopped working, the gear box could be broken inside. Lack of oil could cause this.</p> <p>If the lamp illuminates and the motor does not turn, the motor speed controller may need to be replaced.</p>

Spare Parts List

Included with your band sealer are the following parts. Please note that spare parts included with your band sealer are subject to change without notice.

- ❖ Typeset Box – Typesets – 18PT Font
 - ❖ 5 – Number 0s
 - ❖ 6 – Number 1s
 - ❖ 6 – Number 2s
 - ❖ 4 – Number 3s
 - ❖ 3 – Number 4-9s
 - ❖ 1 – EXP, MFD
 - ❖ 2 – Silicone Pins (Part #BS-59)
 - ❖ 1 – Tweezers
 - ❖ 1 – Allen Wrench
- ❖ Leg Supports
 - ❖ 4 Screws – 25mm x 187mm
 - ❖ 4 Washers – 37mm
 - ❖ 4 Nuts – 26mm
 - ❖ 4 Nuts – 26mm
 - ❖ 4 Leg Supports
- ❖ Power Cord
- ❖ 10 – PTFE Sealing Belts (Part# FRM-1120C-10)
- ❖ 4 – Drive Belts - #980 (Part#FRM-1120LD-26-2a) or #960 (Part#FRM-1120LD-26-2b)
(check with your distributor to determine which version)
- ❖ 4 – Drive Belts - #678 (Part #FRM-1120C-26)
- ❖ 2 – Heating Element for Ink Wheel Block (Part # BS-61)
- ❖ 1 – Speed Adjusting PC Board (Part #BS-52A)
- ❖ 1 – Central Circuit PC Board (Main Control PC Board) (Part #52C)
- ❖ 1 – Ink Temperature Potentiometer with Heat PC Board (Part #50A)
- ❖ 1 – Rubber Wheel (Part#FRM-1120C-2)
- ❖ 4 – O-Ring – 1.76” / 50mm (Part#BS-53)
- ❖ 4 – O-Ring – 2.05” / 60mm (Part #BS-54)
- ❖ 1 – Silicone Ring (Part# BS-57A)

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- ❖ 1 – Ink Roller Holder (Part# BS-58)
- ❖ 2 – Ink Rollers, 15mm (Part#IT-IR-15-Blk)
- ❖ 2 – Silicone Pins (Part #BS-59)
- ❖ 1 – Groove (Trough) Sensor (Part #BS-65)
- ❖ 2 – Carbon Brush for Printer (Part #BS-64)
- ❖ 1 – Philips Screwdriver
- ❖ 1 – Flat Screwdriver
- ❖ 2 – Allen Wrench (3mm and 5mm)
- ❖ 1 – Wrench

Quality Control Testing

Our band sealers are manufactured in a facility which is certified in accordance with ISO 9001:2008. In addition, we quality test all of our band sealers in our facility following a rigorous and exacting standards to ensure that the product you purchased is a high quality reliable machine.

✓ Steps	Description
	Inspect all wiring on the unit, nothing is loosely attached. Make sure all wires are connected correctly.
	Make sure all connections are tight and properly mounted. (Ex: PC Board, Relay)
	Check parts to ensure they are in proper working order (ex: wheels, belts, knobs, etc)
	CBS-880 only - Attach the conveyor to the body via the drive shaft (Part #40). Detach after testing.
	Turn on machine - start, seal, fan, printer Check all knobs to make sure they start and end in the correct position
	Make adjustments as necessary if there is any unusual noise. Noise should be under 80db.
	Check fan - There should be air coming out of the cooling blocks
	Check motor - motor brushes should be held in tightly
	Check conveyor belt to make sure the belt is running smoothly and evenly
	Run machine for at least 20 minutes - after the seal temperature has been reached, seal bag sample to ensure good quality seal
	<u>Band Sealers w/ Printing Option:</u> Printing - make sure ink heating block, ink printing wheel are at optimal heat temperature
	Sensor and Coding Seat - test the sensor and coding seat are working properly; make adjustments as necessary
	Clean machine
	Enter serial # of the unit in the manual
	Repackage sealer w/ QC form, sealed bag / printed sample and manual.

Date:

Technician: