





User Guide Sealing Machine SLCT-FAL5645



SeleCTechTM Model SLCT-FAL5645 Sealing Machine

This manual is a comprehensive reference for the SeleCTechTM Model SLCT-FAL5645 Sealing Machine. It includes information on machine specifications, safety, parts ordering, system setup, operation, general maintenance, and general troubleshooting.

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This manual has been designed to serve as a reference guide for the SeleCTechTM Model SLCT-FAL5645 Sealing Machine.

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SECTION A. SPECIFICATIONS

This section details information about machine specifications and machine parts illustrations.

A.1 SEALING MACHINE SPECIFICATIONS

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A.2 ILLUSTRATION OF MACHINE PARTS A-4

A.1 SEALING MACHINE SPECIFICATIONS

Specification	Description
Machine dimensions (L) x (W) x (H)	1795 mm x 985 mm x 1570 mm
Packing dimensions (L) x (W) x (H)	(100~450) x mm x (60~350) mm x (5~120) mm
Sealing bars size (L) x (H)	565 mm x 460 mm
Packing film	23 in
Packing capacity	30 pcs/min
Conveyor speed	26 m/min
Film	POF, PE
Sealing blade temperature	180°C to 230°C
Voltage	240 V/1P 3 kW
Motor power	320 W
Electric power	2.5 KW
Weight	330 kg
Pressure	4 kg
Noise Emission	70 dB(A)

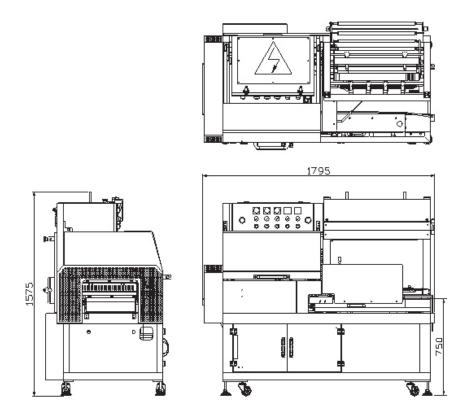


Figure A-1 Sealing Machine Dimensions

A.2 ILLUSTRATION OF MACHINE PARTS

Use Figure A-2 to identify the major parts of the machine:

1. Control Panel 2. Seal Area 3. Selvage Winder

4. Film Unwind 5. Infeed Conveyor 6. Leveling Feet

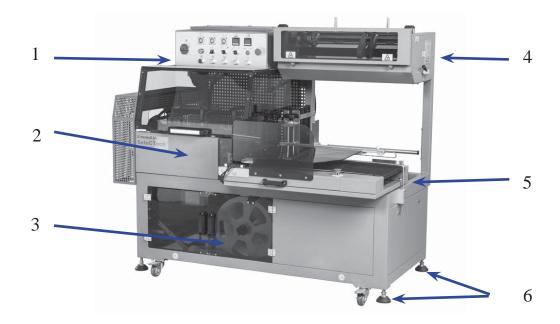


Figure A-2 Machine Parts Illustration

SECTION 1. GENERAL INFORMATION

This section details information about safety, transporting, technical support, warranty information, and equipment certification(s).

IMPORTANT

The Safety section contains information for operating and working on the equipment. <u>ALL</u> personnel working on or around the equipment are urged to read and understand the Safety Section and any additional safety information placed throughout this manual.

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1.1 SAFETY SECTION

DO NOT place this packaging system into operation or undertake maintenance and/or troubleshooting procedures until all personnel associated with the equipment have become aware of the warnings and potential hazards outlined in the Safety Section and throughout this document. It is further advised that the user of this equipment follow the manufacturer's Safety statements, cautions, warnings, and energy isolation recommendations while taking the extra precaution of performing their own safety inspection on the equipment before putting it into operation or servicing it.

1.1.1 Residual Risks

Although extensive precautions have been taken in the design and manufacture of this packaging system, all risk of potential hazards cannot be removed and operation of this equipment involves certain residual risks. To minimize exposure to any residual risks associated with operating or servicing the machine, ensure that all employees read and understand the safety policies and instructions for working on and around this machine.



CAUTION

If in doubt about a hazard associated with this machine, contact a Sealed Air Account Representative prior to operating or working on the machinery.



WARNING

It is the employer's responsibility to ensure that:

- Personnel are properly trained
- Personnel follow proper safety procedures.

Under no circumstance should this machine be run with:

- Any of its guards removed
- Any non-functioning safety devices.

1.1.2 Pictogram Label Warning Definitions

This paragraph defines the meaning of each of the pictograms used on the equipment and in the machine warnings and cautions outlined in the Safety Section and throughout this manual.



1.1.2.1 General Hazard Pictogram



This symbol is used to signify the presence of a hazard to personnel working on or around the equipment.

Use caution when following instructions and/or when working around machine parts labeled with this symbol. Refer to the contents of this manual for specific hazards and concerns.

1.1.2.2 Electrical Hazard Pictogram



This symbol is used to signify the presence of an electrical hazard to personnel working on or around the equipment.

Turn off and lock out system power before servicing equipment or when following instructions labeled with this symbol.

1.1.2.3 Heat Warning Pictogram



These symbols are used to signify the presence of a thermal hazard to personnel working on or around the equipment.

Do not remove any protective guards and keep extremities clear of parts labeled with this symbol. Allow the system to cool completely and turn off and lock out system power and air before servicing equipment when this safety label is present or when following instructions labeled with this symbol.



1.1.2.4 Lifting Hazard Pictogram



This symbol is used to signify the presence of a lifting hazard. Personal injury hazard may occur if an object is lifted without the proper technique or assistance.

Use assistance and/or proper technique when moving or lifting objects labeled with this symbol or when following instructions labeled with this symbol.

1.1.2.5 Entanglement Hazard Pictogram





This symbol is used to signify the presence of moving parts that may present an Entanglement hazard to personnel working on or around the equipment.

Moving parts can crush and cut. Do not remove protective guards and keep extremities clear of moving parts at all times when this safety label is present. Turn off and lock out system power before servicing equipment or when following instructions labeled with this symbol.

1.1.2.6 Pinch Point Hazard Pictogram



This symbol is used to signify the presence of moving parts that may present a pinch point hazard to personnel working on or around the equipment.

Moving parts can crush and cut. Do not remove any protective guards and keep extremities clear of moving parts at all times when this safety label is present. Turn off and lock out system power before servicing equipment or when following instructions labeled with this symbol.

1.1.2.7 Shear Hazard Pictogram

This symbol is used to signify the presence of moving parts that may present a cutting or shear nel working on or around the equipment.

Moving parts can shear and cut. Do not remove any protective guards and keep extremities clear of moving parts at all times when this safety label is present. Turn off and lock out system power before servicing equipment or when following instructions labeled with this symbol.

1.1.2.8 Hidden Knife Warning Pictogram



This symbol is used to signify the presence of a hidden knife that may present a cutting hazard to personnel working on or around the equipment.

Moving parts can crush and cut. Do not remove any protective guards and keep extremities clear of moving parts at all times when this safety label is present. Turn off and lock out system power before servicing equipment or when following instructions labeled with this symbol.

1.1.2.9 Crushing Hazard Pictogram



This symbol is used to signify the presence of moving parts that may present crushing hazards to personnel working on or around the equipment.

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Moving parts can crush. Do not remove any protective guards and keep extremities clear of moving parts at all times when this safety label is present. Turn off and lock out system power before servicing equipment or when following instructions labeled with this symbol.

1.1.2.10 Safety Glove Pictogram



This symbol is used to signify the presence of a possible hand hazard injury as a result of working on or around the equipment. In conjunction with safe work practices, Personal Protective Equipment (PPE) is required when this label is present. Wear the most appropriate type of safety glove for protection against cuts, scrapes, punctures, and lacerations when this label is present.

Safety glove selection should be based on the gloves performance characteristics relative to the specific task(s) to be performed, conditions present, duration of use, and the actual and potential hazards identified.

1.1.2.11 Safety Eye Wear Pictogram



This symbol is used to signify the presence of a possible eye injury hazard as a result of working on or around the equipment. In conjunction with safe work practices, Personal Protective Equipment (PPE) is required when this label is present.

Personal protective eye equipment must meet certain design criteria to be used as safety equipment and must be worn when workers are at risk from flying particles, liquid/caustic/acid chemicals or vapors, or operations that may emit light.

1.1.2.12 Machine Guard Pictogram



This symbol is used to signify the presence of a hazard to personnel working on or around the equipment when a machine guard(s) is not in place.

Do NOT operate this equipment when guards are missing or open. Serious injury could occur!

1.1.2.13 Machine Handling Pictogram



This symbol is used to signify the need for a certified forklift operator and is also used to indicate the correct forklift tine placement when lifting the machine.



Do not attempt to move this system from its crate manually; a trained operator should use the appropriate machine handling equipment to move the machine. Serious injury and/or damage to the machine could occur!

1.1.3 General Warnings

This paragraph contains general warnings and cautions. In addition to these warnings, other pertinent warnings and cautions have been placed in relevant places throughout this manual.



WARNING

To minimize potential for personal injuries, ensure that machine operators and others working on or around the machinery are properly trained in correct equipment use and safe operating procedures.



WARNING

The use of plastic films in sealing and/or shrinking equipment may result in the release of hazardous fumes due to the degradation of the film at high temperatures. Before using any plastic film in this equipment, the manufacturer or supplier of the film should be contacted for specific information on the potential release of hazardous fumes.

Adequate ventilation should be provided at all times.



WARNING

Keep all extremities, loose clothing, jewelry, and hair away from moving assemblies and conveyors.



WARNING

Worn or frayed conveyor belts are hazardous and should be replaced promptly.





WARNING

Never operate this or any moving equipment without all covers and guards in place. The internal mechanisms of packaging machinery contain numerous shear, pinch, and in-running nip points capable of causing severe injury and permanent disfigurement.



WARNING



Do not place pressurized containers or volatile, flammable, or explosive materials on, into, or through a shrink tunnel. Resulting fire or explosion can cause serious injury.



WARNING

Heat sealing jaws and shrink tunnel openings on packaging machines get very hot. Keep hands away while machinery is in operation and use caution if the machine has been running recently.



WARNING

Only approved packaging specifications and parts should be used with this system.

Use of other packaging materials and/or parts on the system may cause unforeseen damage to the machinery and pose safety hazards. When unauthorized use of parts or materials has occurred, Sealed Air Corporation reserves the right to refuse services including but not limited to: maintenance, troubleshooting, supplies, and parts provided by Sealed Air (US).



WARNING

In order to prevent injury to personnel and/or machinery, do not increase settings on either electrical or mechanical overload safety devices.





WARNING

Do not make any modifications to the programmable logic controller's (PLC's) control program, the electrical circuitry, or the mechanical assemblies of this machinery. Such modifications may introduce hazards not associated with this machinery.

Sealed Air Corporation cannot be held responsible for malfunctions, personal injury, or property damage resulting from such unauthorized modifications.



WARNING

Use of extension cords to connect the system to a power supply is prohibited. The system's power cord MUST be plugged into a grounded source.



WARNING

In order to prevent injury to personnel and/or machinery, proper equipment ground, in accordance with the national, state, and local electric codes, must be applied to the machine.



WARNING

Do not tamper with, or make any modifications to, the programmable logic controller's (PLC's) control program, the electrical circuitry, the electrical wiring or the mechanical assemblies of this machinery. Such modifications may introduce hazards not associated with this machinery.

Shanklin Corporation cannot be held responsible for malfunctions, personal injury, or property damage resulting from such unauthorized modifications.

1.1.4 Energy Isolation

The following guidelines are provided to establish a minimum requirement for the disconnection/isolation of energy sources whenever maintenance or service is performed on equipment and associated parts. It is further advised that an independent safety study be performed on the machinery, its installation, and Lockout/Tagout procedures.



CAUTION

Prior to following any maintenance or troubleshooting procedures outlined in this manual, review these important steps.

- 1. Read all warnings and cautions listed in this manual's Safety Section ("1.1 Safety Section" on page 1-3) and throughout this manual.
- 2. Shut the equipment down using normal stopping procedure then engage the Emergency Stop (E-Stop) push button switch by pushing it down.
- 3. Ensure that all controls are in a neutral or OFF position.
- 4. The equipment may be isolated from its energy sources by unplugging the main power cord.
- 5. Then applicable, the equipment may be isolated from pneumatic sources by disconnecting the main air line.
- 6. Follow the appropriate Lockout/Tagout recommendations at your facility during shutdown, maintenance, and restart of the equipment.



1.2 MACHINE TRANSPORT & CRATING

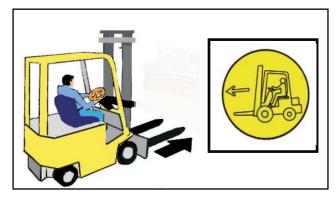
Follow these guidelines for uncrating and recrating the machine.

1.2.1 Uncrating the Machine

1. Use the appropriate machine handling equipment to transport the crated machine.



- 2. Remove the top and sides of the packing crate and all secondary packing material surrounding the machine (shrink wrap, zip ties, cardboard etc).
- 3. When applicable, smaller components such as zip-tied pneumatic lines and electrical wiring may be secured on top of the machine's conveyor. Remove those components and set them aside for installation.
- 4. Note that a tool box is shipped with each machine. Locate and remove the tool box along with any associated packing material.
- 5. There are circular forklift icons on each side of the machine. These icons indicate the correct location for the forklift tines to be placed when moving the machine.
- 6. Have a qualified operator move the machine off of the shipping pallet to where it will be stationed.



1.3 TECHNICAL AND CUSTOMER SERVICE SUPPORT

Follow these guidelines to obtain support from Technical Service or to order spare parts from Customer Service.

1.3.1 Technical Service Support

- Order parts by contacting a Sealed Air Representative or Distributor.
- Have the following information available:
 - Company name and contact information.
 - Equipment model and serial number.
 - A detailed description of the technical issues experienced.

1.3.2 Ordering Spare Parts

- Order parts by contacting a Sealed Air Representative or Distributor.
- Have the following information available:
 - Company name and contact information including: shipping address, department (when applicable), phone number, and shipping address.
 - The equipment's model and serial number.
 - Part number information obtained from: an assembly drawing (contained in the back of this manual) or the part data from the nameplate of the specific part being replaced.

1.3.3 International Customer Service Contacts

International contact information for replacement parts and technical assistance:

• Sealed Air Africa (Pty) Ltd. +27 11 923 4600 Fax: +27 11 392 1025

• Sealed Air Australia Ltd. +1 800 0808 481 Fax: 1 800 250 650

Sealed Air Packaging (Shanghai) Co. Ltd. +86 21 3920 2988 Fax: +86 21 3920 2999

• Diversey Gulf FZE +971 4 8819470/31 Fax: +971 4 8819488

• Sealed Air Hong Kong Ltd. +852 2178 7876 Fax: +852 2407 3385

• Sealed Air (India) Pte. Ltd. +91 80 4050 7333 Fax: +91 80 4117 1301

• Sealed Air HK Ltd.-Indonesia Rep +62 21 5793 8858 Fax: +62 21 5793 8859

• Sealed Air (Israel) Ltd. +972 2 5337438 Fax: +972 2 5337439

• Sealed Air (Japan) Ltd. +81 3 5644 1110 Fax: +81 3 5644 1160

Diversey Eastern & Central Africa Ltd. (Kenya) +254 703 040 247 Fax: +254 703 040 888

• Sealed Air (Korea) Ltd. +82 31 763 1716 Fax: +82 31 763 4744

• Sealed Air (Malaysia) Sdn Bhd +60 3 5569 6363 Fax: +60 3 5569 2682

• Diversey Maroc s.a. (Morocco) +212 522 756 506 Fax: +212 522 756 572/73

• Sealed Air New Zealand +64 9 813 9800 Fax: +64 9 813 9801

• Diversey West Africa Limited (Nigeria) +234 1 825 5511 Fax: +234 813 086 5000-6



• Sealed Air Philippines, Inc. +63 2 845 9400 Fax: +63 2 2811 6679

Diversey KSA-Arabian Modern Company (Saudi Arabia) +966 3 847 6986-7 Fax: 966 3 847 6989

• Sealed Air (Singapore) Pte. Ltd. +65 6861 1828 Fax: +65 6861 5221

• Sealed Air (Taiwan) Ltd. +886 3 324 2988 Fax: +886 3 324 3088

• Sealed Air (Thailand) Ltd. +66 2 834 6800 Fax: +66 2 834 6888

Diversey Kimya Sanayi ve Ticaret A.S. (Turkey) +90 216 578 6400 Fax: +90 216 578 6401

• Sealed Air (Singapore) Pte. Ltd.-Vietnam Rep Office +84 8 6292 4251 Fax: +84 8 6296 2606

• Czech Republic +420 224 315 863

• France, Osny +33 (0)3 86 92 04 58

• Germany, Alsfeld +49 (0)6631 96680

• Greece, Shimatari Viotias +30 22620 32551

• Hungary, Újhartyán +36 (06)29 573 300

• Italy, Bellusco +39 039 6835 1

• The Netherlands, Nijmegen +31 (0)24 3710111

Poland, Ozarów Mazowiecki +48 (0)22 7217 530

• South Africa, Spartan +27 (0)11 923 4600

• Spain, Abrera +34 93 773 8325

• Sweden, Aneby +46 (0)380 47100

• UK, Kettering +44 (0)1536 315700

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1.3.4 Regulatory Compliance

The SeleCTech **SLCT-FAL5645** sealing machine meets essential health and safety requirements and is in conformity with the relevant EC Directives.





SECTION 2. INSTALLATION

This section details information about installing and adjusting the sealing machine.

The machine has already been careully checked and tuned Before leaving the factory. Only trained operators are allowed to make the adjustments necessary in order to pack products of different dimensions.

2.1 SELECT THE MACHINE INSTALLATION LOCAT	ION 2-3
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2.1 SELECT THE MACHINE INSTALLATION LOCATION

The sealing machine should placed well-lit and dry place. It should be positioned away from dusty, flammable, explosive and corrosive areas.

Placing the sealing machine too close to the ventilation system may cause unstable film delivery.

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2.2 LEVELING THE SEALING MACHINE

Refer to Figure 2-1 for the following system leveling/height adjustment procedure. The steps apply to all four (4) feet on the base of the system.

- 1. Use a spanner to loosen the lock nut (1) at the sealing machine base.
- 2. Use a spanner to turn the nut on the height adjustment screw (2). When the sealing machine is at the required height, tighten the lock nut (1) up to the base of the machine.

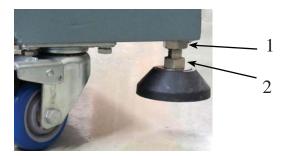


Figure 2–1 Sealing Machine Leveling/Height Adjustment

2.1 LOADING THE SHRINK FILM

When the film is properly loaded the motorized film unwind assembly provides film as required by the packing process.

2.1.1 Film Loading Micro-switch and Contact Wheel

The micro switch located above the left side of the dancer assembly controls the operation of the film delivery motor. When the actuator wheel on the side of the arm touches the micro-switch, the film delivery motor starts running. When the film pressure relaxes, the arm lowers, the actuator wheel no longer touches the micro-switch, and the motor stops. The actuator should just slightly touch the micro-switch.

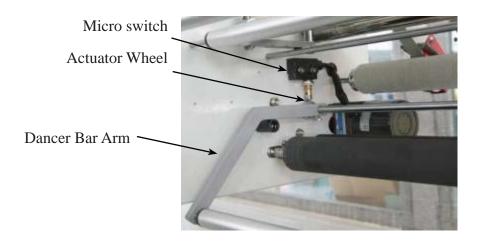


Figure 2–2 Film Delivery Assembly

2.1.2 Film Feed Roller Height Adjustment

- 1. Loosen the locking nuts on each end of the film feed roller,
- 2. Adjust the film roller set up or down as required, based on the height of sealing area.

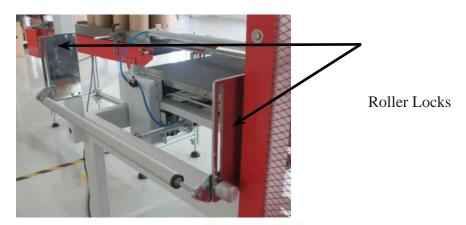




Figure 2–3 Roller Locks

2. The proper height adjustment will be based on actual operating conditions. Irregular, jumping motion of the film delivery may indicate the need to adjust the delivery angle.

2.1.3 Conveyor Belt Adjustment

The conveyor belt tension is set at the factory, but may loosen over time. If the belt becomes loose refer to Figure 2-4 as you use the belt tension adjustment procedure described here:

- 1. Loosen the Lock Nuts (1) and (2)
- 2. Turn the adjusting nut (3) clockwise to push the roller forward to increase the belt tension.
- 3. It is important to make the same adjustment on the other side of the conveyor.

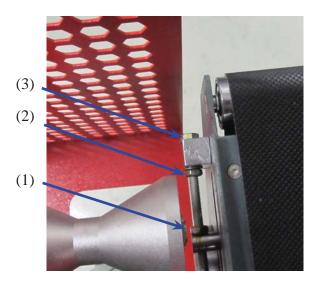


Figure 2–4 Belt Tension Adjustment

2.1.3.1 Film Sealing

Before operating the system, check to ensure that the seal wires and upper jaws are clean. Any residual film caught on or between the wires and the ceramic beads can cause poor seals. The lower beds should also be kept in good condition. Over time the Teflon tapes may show impressions from the wire and some discoloration, this is normal, but burned or blackened tapes should be replaced. This could be an indication of too much pressure or uneven pressure.

Contact between the sealing blade and the sealing base can be checked as follows:

- 1. Put a white paper between the sealing blade and base.
- 2. Manually operate the sealing and cutting process once to see if the force of the sealing and cutting action is even on the white paper.
- 3. If it is uneven, loosen the lock nuts and turn the adjusting screws. (Caution this adjustment must be made with the machine power off and the assembly cooled down.)
- 4. Tighten the locking nut

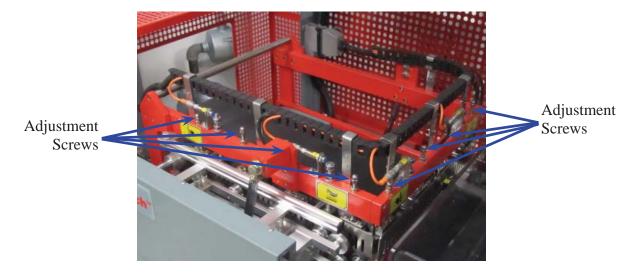


Figure 2–5 Sealing Assembly

2.2 SEALING JAW SAFETY

To prevent injury, product crushing or machine damage the jaw is equipped with several safeties that will stop the machine operation if a product or other object is inside the sealing area when the sealing blade lowers.

The operation of the jaw safety circuit should be verified at least once per day. The jaw safety circuit is designed to reopen the jaws immediately whenever the jaws contact an object upon closing. The test requires attempting to make a seal with a rubber test object between the jaws. When functioning properly, the jaw safety circuit will force the machine into an Emergency Stop state upon contact with the test object.

2.2.1 Jaw safety Verification Test

- 1. Ensure that all guards are in place. All doors and hoods must be closed.
- 2. Connect the compressed air supply for the machine.
- 3. Power up the machine.
- 4. Press the E-STOP button.
- 5. Test object should be resilient. Preferably a spare piece seal bed material (3/8" thick silicone rubber). Place the test object on the conveyor belt between the seal jaws.
- 6. Release the E-STOP button by twisting clockwise.
- 7. Put the machine into a READY state by pressing the READY button (Blue).
- 8. Perform the test by pressing the manual seal button. The button must be held down until the jaws close completely.
- PASS INDICATION: Jaws close and then immediately reopen; the READY light Flashes.
- FAIL INDICATION: Jaws do not reopen immediately and/or READY light remains on.
- 9. Repeat Steps 4-8 several times with the rubber object at different points along the entire length of each seal jaw to ensure the integrity of the Jaw Safety Circuit.





Adjust Actuator

Figure 2–6 Safety Actuator

If the jaw safety does not work properly: Loosen the top actuator screw and raise or lower it to allow the sensor to detect the packing product quickly. The distance between the two touch screws should not be too long, otherwise, the sealing blade will alarm and stop operation before completing the sealing and cutting action.

2.3 REMOVING THE WASTE FILM (SELVAGE)

The film trimmed from the side during the packing process is called selvage. Selvage is collected on a wheel located in a compartment at the front of the machine. Refer to Figure 2-7 and follow the next procedure to remove the waste film that has accumulated on the selvage winder.

- 1. Open the door to access the selvage winder.
- 2. Loosen the wheel lock on the front of the wheel, and remove the guide plate.
- 3. Remove the waste film,
- 4. Replace the guide plate and tighten the locking cap.
- 5. Run out some film and re feed the selvage to the wheel. If the wheel slips during the receiving process, tighten the locking nut a little bit to increase the friction of the selvage receiving reel



Figure 2–7 Selvage Winder



SECTION 3. OPERATION

This section details information about installing and adjusting the sealing machine.

Before machine delivery, the machine has already been precisely checked and tuned. "Do not" change the setting unless it is necessary. However, trained operators are allowed to make adjustments to some of the necessary settings in order to pack different dimensions of the packing products.

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3.1 CONTROL PANEL

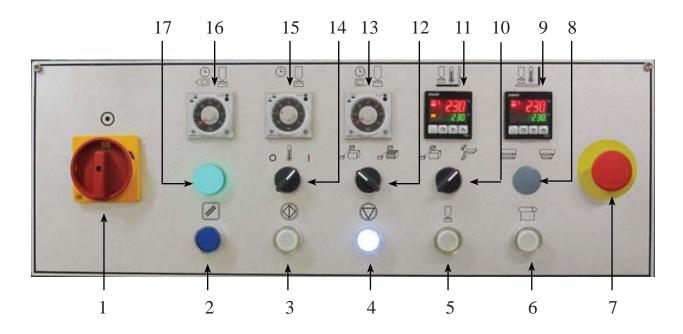
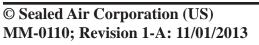


Figure 3–1 Control Panel

Call	Description
out	
1	Main Circuit Breaker Switch turns ON/OFF the power input
2	Resets the machine (Flashes Blue light until pushed)
3	Starts the conveyor
4	Stops the conveyor
5	Cycles the sealing/cutting process once
6	Manually runs the film feed motor until the button is released
7	Emergency stops the machine. Must be released to restart machine.
8	Not Used
9	Sets the temperature of the Front sealing blade
10	Selects Horizontal Sensor mode for rectangular or square products
11	Sets the temperature of the Side sealing blade
12	Sensor mode to control the packing process
13	Sets the conveyor run time for length of film at the back of the product
14	Switches ON/OFF the heater for the sealing blades
15	Sets the sealing/cutting dwell time
16	Sets the conveyor run time for film length at the front of the product
17	Power ON light (Green)





3.2 NAMEPLATE

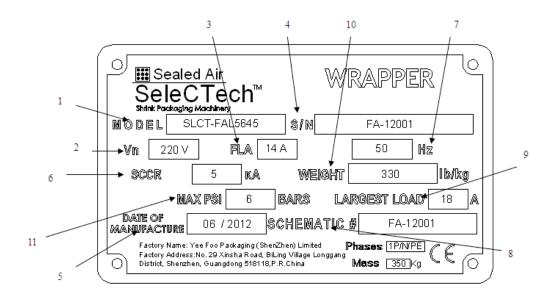


Figure 3–2 Nameplate

Call out	Description	Call out	Description	
1	MODEL Number	7	HZ (frequency)	
2	Vn (Rated voltage)	8 SCHEMATIC		
3	FLA (Rated current)	9	LARGEST LOAD (Amps)	
4	S/N (Serial number)	10 WEIGHT		
5	Date of Manufacture	11	MAXPSI	
6	Short-circuit current (SCCR)			



3.3 INSTALLING THE SHRINK FILM

The dimensions of the packing product are width (W), the height (H), and the length (L) as shown in Figure 3–33.

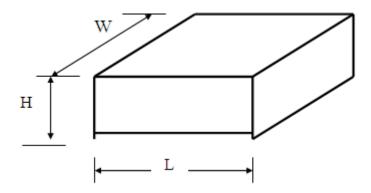


Figure 3–3 Packing Product Dimensions

- 1. Start the conveyor.
- 2. Check that the belt is tracking at the center of the bed. If not, follow the adjustment procedure on Page 2-5 to adjust the belt.
- 3. Select the appropriate shrink film: Width of shrink film = W (Product Width) + H (Product Height) + 5" ~ 7" (depends on the height of the packing product).
- 4. Adjust the infeed conveyor Height (see Figure 3–4): Rotate the conveyor adjusting wheel to adjust the height of the triangular plate. The correct position is about 1/2 H (Product Height) + 5~10mm.
- 5. Adjust of the infeed conveyor relative to the product guide (Figure 3-4)by placing a product on the belt and then squeezing the handle on the front of conveyor unit. This will enable movement of the conveyor unit to the appropriate width which is W (Product Width) plus one-third of the product height.



Product Guide is mounted to side of the machine

Inverting Heads

above and

conveyor

below infeed

Figure 3-4 View FAL 5645 from the Infeed end

- 6. Put the shrink film onto the Film Unwind rollers (see Figure 3–5).
 - a. Loosen the locking nut of the left side film positioning rod (1) and adjust the film location. Tighten the locking nut after adjustment
 - b. Loosen the locking nut of the right side film positioning rod (2) and adjust the rod to width of the shrink film + 5 mm. Tighten the locking nut after adjustment.
 - c. The open side of the shrink film must face to the film positioning rod (2).



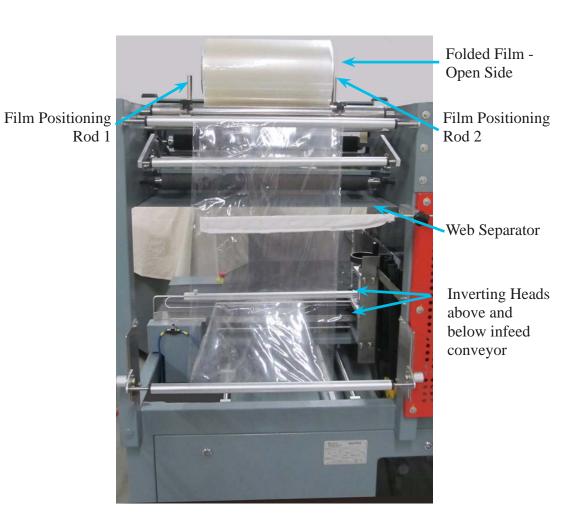


Figure 3–5 Film Unwind Assembly

7. Switch the Temperature Controllers ON and adjust the temperature of the front and side sealing wires for the type of film being used.

Film Type	Required Temperature	Film Type	Required Temperature
PE Film	220°C~240°C	POF Film	200°C~220°C

8. Loading the Shrink Film (see Figure 3–6 and Figure 3–7).

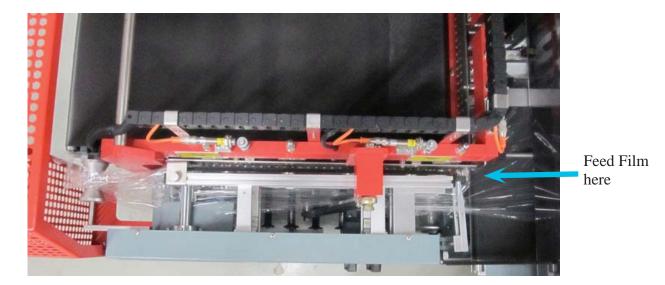


Figure 3-6 Overhead View of Film Puller Assembly



Figure 3–7 Film Assembly

- 9. After the sealer reaches the set temperature, press the Manual operation button once, the Sealer will move once, and jaws will remain open.
- 10. Turn on the conveyor, and place a product on the infeed conveyor. The machine should advance film and cycle the sealer once. The wrapped product will exit the machine.
- 11. Continue to run the film feed, while pulling the selvage end of the film until the selvage can be wound 2~3 times on the receiving reel (Figure 3–8). Now the machine can run the packing process automatically.



Figure 3–8 Selvage Reel

- 12. Switch the conveyor ON, put the packing product on the conveyor and make sure that your hands are completely away from the conveyor surface.
- 13. Adjust the sealing and cutting process as necessary. (Figure 3–9).

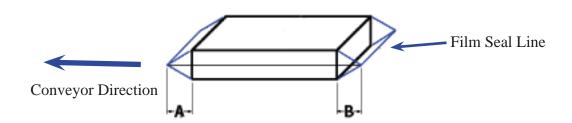


Figure 3–9 Sealing and Cutting Adjustment

- 14. Adjust of the front extra film length (Length A of Figure 3–9), to the best length approximately 1/3 H. The adjustment procedure is as follows:
 - a. When A is too long, shorten the distance between the sensor and the sealing blade by increasing the conveyor time setting on switch #16 in Figure 3-1.
 - b. If A is too short, adjust the conveying time for the extra film length at the front of the product, increasing the conveying time to increase the extra film length at the front of the box.



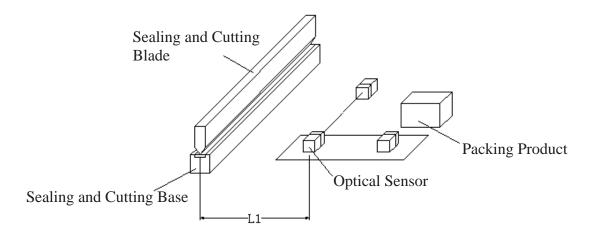


Figure 3–10 Horizontal Sensors

- 15. The best rear extra film length (B of Figure 3–9), is 1/2 H between the product and the rear seal. Adjust the conveyor time setting on switch #13 in Figure 3-1 to increase the film length at the rear of the package.
- 16. Different shrink films have different sealing time (Typically 0.3~0.6 seconds). The film must be sealed and cut completely and steadily without holes. Poor film cutting may be caused by overheating on the sealing process. Adjusting the sealing dwell time or the sealing temperature should eliminate this issue.
- 17. When the sealing and cutting line is good, the adjustment process is finished.

3.4 FUNCTIONS

- The machine includes a warning system, and a safety function.
- The sealing and cutting process can operate continuously.
- Simple machine operation can match various sizes of packing products.
- PLC and optical sensor control are applied on this machine.
- Two types of optical sensors (Horizontal type and Vertical type): Horizontal type optical sensors (as shown in Figure 3–10) are applied on packing square or rectangular product. It includes a wait function. The Vertical optical sensor is mostly used for packing thinner products, but there is no wait function on this sensor.
- According the characteristics of the product, there are two types of the sensor mode selection: Standard type and point-to-point compensation type (as shown on Figure 3–11):



- When the products are in rectangular or square shape, Standard sensor mode should be applied.
- If the packing products are an irregular shape or transparent, then the Point-to-point Compensation sensor mode should be applied and the Conveying Time switch adjusted to control the film length.

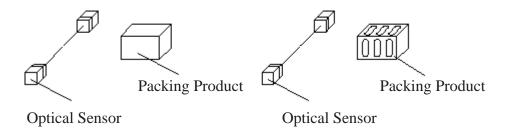
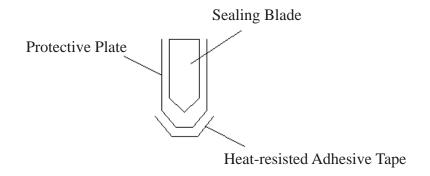


Figure 3–11 Packing Product Sensor Mode

18. The sealing blade of this machine can be used on the POF and PE Shrink Film. When using on the PE Shrink Film, the sealing blade must be covered by heat-resisted adhesive tape to prevent the blade from directly contacting the PE film.



3.5 OPERATION

3.5.1 Typical Operation

The machine employs an infeed conveyor and a discharge conveyor mounted at the same elevation to convey product through the machine. The upper seal jaws and lower seal beds both pivot such that they meet at the center line of the package when a seal is being made. The infeed conveyor carries product through the film inverting head where it is surrounded with plastic shrink film supplied by a powered film unwind assembly. When the product reaches the proper position in the sealing area, the conveyors stop and the Sealer cycles, making a seal and cutting film on two edges of the package. After sealing is completed, the seal jaws open and the discharge conveyor carries the product out of the machine while the infeed conveyor simultaneously delivers the next product to the sealing area.

3.5.2 Starting the Machine

- 1. Switch ON the Main Circuit Breaker to power the machine.
- 2. Turn ON or attach the air supply.
- 3. Switch ON the heater controls and allow the sealers to reach operating temperature.
- 4. Turn ON the conveyor.
- 5. Put a product onto the conveyor and the machine will pack the product automatically.
- 6. If abnormal machine operation occurs, then press the Emergency Stop switch to immediately stop the sealing machine.
- 7. The blue Reset Button will flash until abnormal operation has been corrected and the E-Stop has been released by twisting it clockwise.

3.5.3 Shutting Down the Machine

- 1. Turn off the heater control switches and allow the sealer unit to cool down.
- 2. Next, switch off the power supply.
- 3. If it is necessary to shut-down the air supply, be aware that it will cause the sudden downward movement of the sealing/cutting jaws when the air is disconnected.



SECTION 4. MAINTENANCE & TROUBLESHOOTING

This section details information about maintaining and troubleshooting the sealing machine.

4.2 TROUBLESHOOTING 7



4.1 MACHINE MAINTENANCE

Regular maintenance is the best way to ensure smooth operation and optimal machine life. The following are the general machine maintenance guidelines. Only trained machine operators and service technicians are authorized to perform maintenance on this machine.

IMPORTANT

Review and follow the Safety Guidelines in Chapter 1 of this Manual and site-specific Lock Out/Tag Out Procedures when necessary.

• Maintenance of Pneumatic Regulator Unit:

When the water level reaches 2/3 of the height of the water filter tank, the tank water must be drained out. To drain water, pull down the ring on the water drain plug.



Figure 4–1 Pneumatic Regulator Unit

- Clean the Workstation before the start operation each day.
 - a. Use only compressed air to clean the work area.
 - b. Only use soft wood to clear the film reside on the sealing blade. Do not use metal or other abrasive materials.
- Monthly Maintenance of the Selvage Receiving Wheel
 - a. Remove the locking nut, take out the spring and the receiving wheel.
 - b. Lubricate the contact surfaces of the receiving wheel and the center rod for smooth wheel rotation
 - c. Replace the spring and receiving wheel and tighten the locking nut.

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- Chain and wheel maintenance (every 3 months):
 - a. Take off the cover and put the grease oil onto the gap between the chain and the wheel.
 - b. Put the cover back on.
 - c. Bearing and bearing holder maintenance: Service once every 3 months, using the hydraulic pressure oil to lubricate the bearings and its parts.
- Check Tension and Tracking of the Conveyor Belt.
 - a. After a period of operation, the conveyor belt may loosen. To adjust the belt tension, loosen the two lock nuts on each tension adjustment screw. Turn the screw clockwise to tighten.
 - b. If the conveyer belt is not tracking down the middle of the bed, slightly turn the adjusting screw on the side where the belt is close, in a clockwise direction. Allow the belt to run for a few minutes to see if it moves to the center. It may take several small adjustments
- If the Teflon detaches from the sealing blade and films easily stick onto the blade, re-stall the new Teflon or change the new sealing blade.
- Check the Teflon tape covering the silicon bar. If the tape is damage, replace it.
- Change the heater tube if the heater cannot heat-up the temperature:
 - a. Before replacement, check the watt and voltage of the heater, switch off the power and wait the heater to cool-down.
 - b. Disconnect the heater wire at the electric and control box.
 - c. Loosen the locking screw of the heater tube and replace the heater tube.
 - d. Make sure that all screws are tightened, then re-connect the heater wire at electric and control box.



• Change the silicon bar and the heat-resistant adhesive tape:

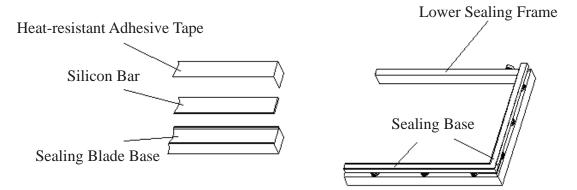


Figure 4–2 Silicon Bar and the Heat-Resistant Adhesive Tape

- a. Switch off the power and allow the sealing bars to cool-down Remove the old heat-resistant adhesive tape.
- b. Replace the silicon bar. Make sure the bar surface is flat. If necessary, trim away any excess silicon bar.
- c. Apply new heat-resistant tape and make sure the tape surface is flat.
- Replacement and adjustment of the sealing blades:
 - a. Remove the sealing blade shields.

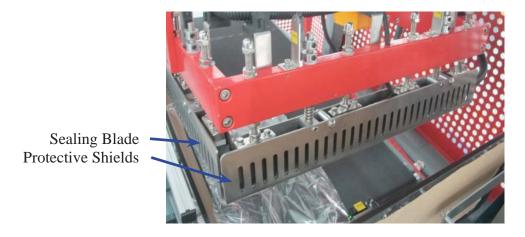


Figure 4–3 Sealing Blade Shields

b. Remove the faulty sealing blade assembly



c. Replace the sealing blade and make sure the blade is between two guiding plates.



Sealing Blade

Figure 4–4 Front Sealing Blade without Shields



Figure 4–5 Sealing Blade.



Figure 4–6 Front blade alignment

- d. Align the new front sealing blade by using the side sealing blade as a guide.
- e. Tighten the front blade set after the aligning the blade.
- f. Install the protective shields.



4.2 TROUBLESHOOTING

Item	Problem	Possible Causes	Recommended Action
		Power not connected	Connect the power cord
1	No power to the	Main Circuit Breaker is OFF	Turn "ON" the CB
1	machine	ON/OFF switch is damaged	Change the switch
		Fuse is broken	Change the fuse
		E-Stop is pressed	Release the E-Stop
2	Power connected but the machine does not	PLC does not work	Check the power connection to PLC
	work	PLC is not functioning	Change the PLC
		Door or Cover interlock open	Check covers and doors
		The heater switch is "OFF"	Switch "ON" the heater
		Temperature is set too low	Adjust the temperature
		Heater switch is not functioning	Change the heater switch
3	Heater does not work	The temperature controller is not functioning	Change the temperature controller
		Relay (SSR) is not functioning	Change the SSR
		The heater tube is not functioning	Change the heater tube
		Relay (SSR) is not functioning	Change the relay (SSR)
4	Temperature is out of control	The temperature detector is loose out or not functioning	Tight back the detector or change the detector
	Control	Temperature controller is not functioning	Change the temperature controller
		Film conveying switch is not functioning	Change the film conveying switch
_	The film conveying	The film conveying relay is not functioning	Change the film conveying relay
5	motor does not run	The film conveying motor is overloaded or overheated	Remove the cause and restart the system
		The film conveying motor is not functioning	Change the film conveying motor

Item	Problem	Possible Causes	Recommended Action
		The connecting point [1001] of PLC is not functioning	Change the connecting point [1001] and the program of PLC or Change the PLC
6	Front conveyor motor does not work	The relay of front conveyor motor is not functioning	Change the relay of front conveyor motor
		The front conveyor motor is overloaded or overheated	Remove the cause and restart the system
		The front conveyor motor is not functioning	Change the front conveyor motor
		The connecting point [1002] of PLC is not functioning	Change the connecting point [1002] and the program of PLC or Change the PLC
7	Rear conveyor motor does not work	Relay of rear conveyor motor is not functioning	Replace the relay of rear conveyor motor
		The rear conveyor motor is overloaded or overheated	Remove the cause and restart the system
		The rear conveyor motor is not functioning	Replace the rear conveyor motor
		The connecting point [1003] of PLC is not functioning	Change the connecting point [1003] and the program of PLC or Change the PLC
	The wasted film	Relay of the wasted film motor is not functioning	Change the relay of the wasted film motor
8	receiving motor does not work	Manual film conveying switch is not functioning	Change the manual film conveying switch
		The wasted film motor is over loaded or overheated	Remove the cause and restart the system
		The wasted film motor is not functioning	Change the wasted film motor
9	The sealing base unit does not work	The connecting point [1004] of PLC is not functioning	Change the connecting point [1004] and the program of PLC or Change the PLC
		The manual sealing operation switch is not functioning	Change the manual sealing operation switch



Item	Problem	Possible Causes	Recommended Action
		The micro-switch of the sealing process is blocked	Reposition the microswitch
10	Warning Buzzer of the	Product is pressed by the sealing blade	Press the Manual sealing operation switch to remove the pressed product
	sealing process is "ON"	The machine stop when the sealing blade presses down and the buzzer is "ON"	Lower the actuator or adjust the magnetic spring switch of the cylinder forwards to the normal position
		Sealing time is short	Increase the sealing time by 0.1 second until the proper sealing time is achieved
	Incomplete sealing or	The upper sealing blade and the sealing base do not completely contact each other	Adjust the sealing blade position
11	cutting, or the sealing	Teflon tape is damaged	Change the Teflon tape
	line is broken	The silicon bar of the sealing base is damaged	Replace the silicon bar
		The protective plates are not completely contacted	Adjust the protective plates
		Too much film residue is sticking on the sealing wire	Clear the film residue and lower dwell time
12	The waste film	optical sensors are out of alignment	Align the optical sensors until the sensor light is ON
12	conveying does not stop	Optical sensor is not functioning	Change the optical sensor
13	Product pressed by the side sealing blade	Product does not convey on the guiding side	Put the product correctly on the guiding side of the conveyor
14	Product pressed by the front sealing blade	The Conveying time of extra film at the rear is too short and the product does not completely pass through the sealing blade unit	Increase the conveying time of extra film at the rear side of the product
		The packing product is transparent or has an irregular shape	Try to use the point to point compensation sensor mode

Section 4. Maintenance & Troubleshooting SLCT-FAL5645 Sealing Machine

Item	Problem	Possible Causes	Recommended Action
15	The front conveyor belt is tracking to either side during operation	Improper front roller tension	Adjust the belt tension
16	Film loading is not smooth or too tight to load the film	Wrong film unwind setup	Reload the film unwind, see Fig. 4.3
17	Position change of the upper or lower film layer	The parallel film roller set is not level Stabilization of the shrink film is not good	Adjust the parallel film roller set, see Fig. 4.4 Change the film
18	Cannot remove the wasted film from the wasted film receiving reel or too loose	The spring of the reel is too tight or too loose	If the wasted film is too tight, release the screw outside the spring a little bit or tight the screw a little bit if the film is too loose.



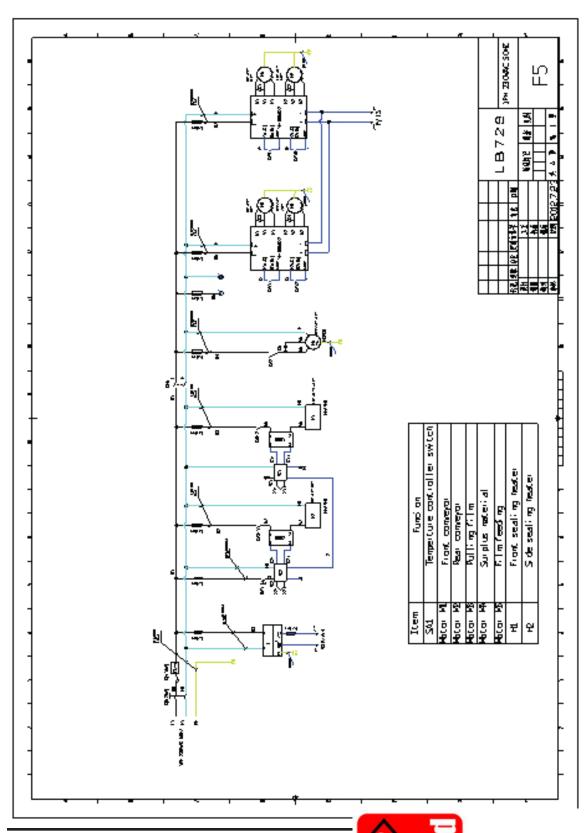


SECTION 5. REFERENCE DOCUMENTS

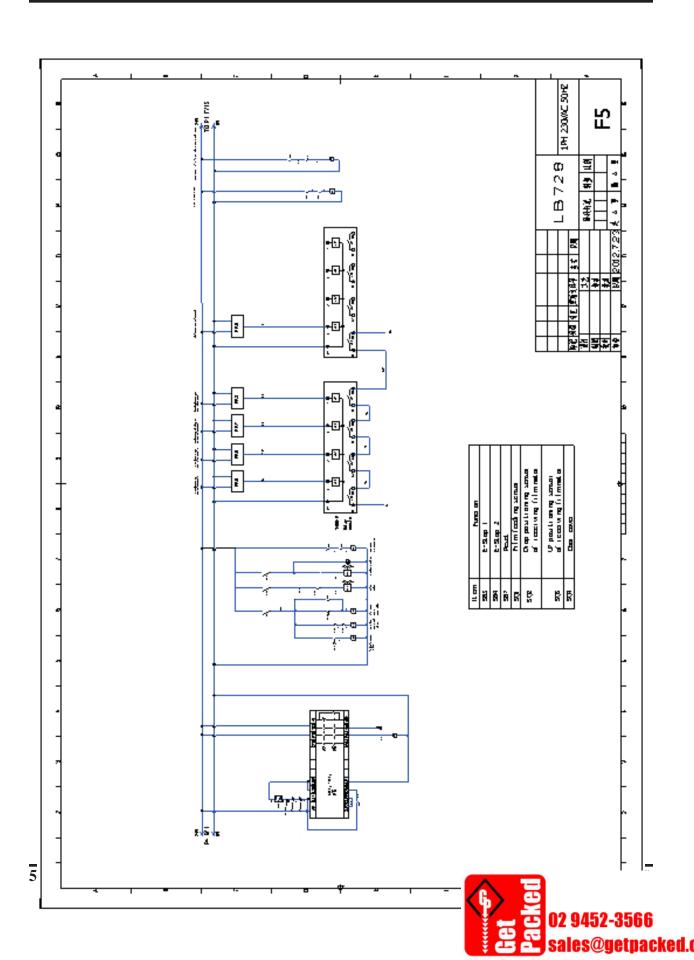
This section details information about circuit diagrams, mechanical parts lists, and a pneumatic chart.

5.1 CIRCUIT DIAGRAMS	5-3
5.2 MECHANICAL PARTS LIST	5-5
5 3 PNFIIMATIC CHART	5-10

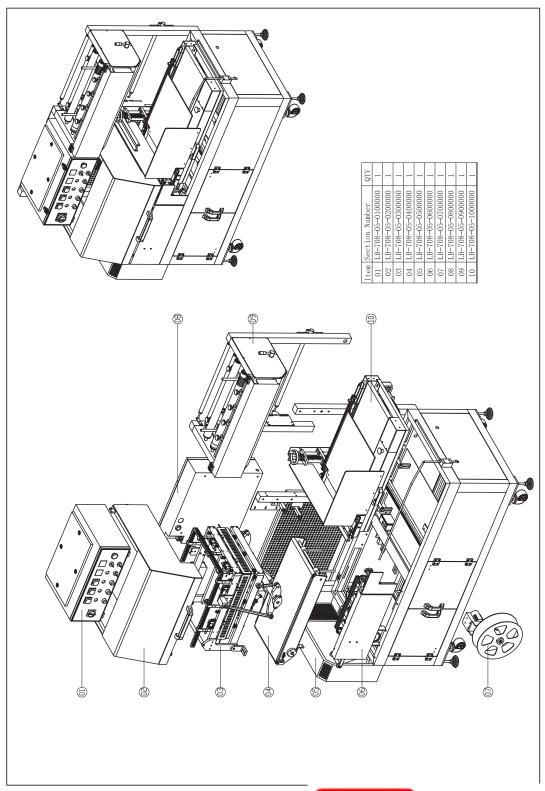
5.1 CIRCUIT DIAGRAMS

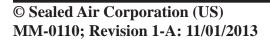




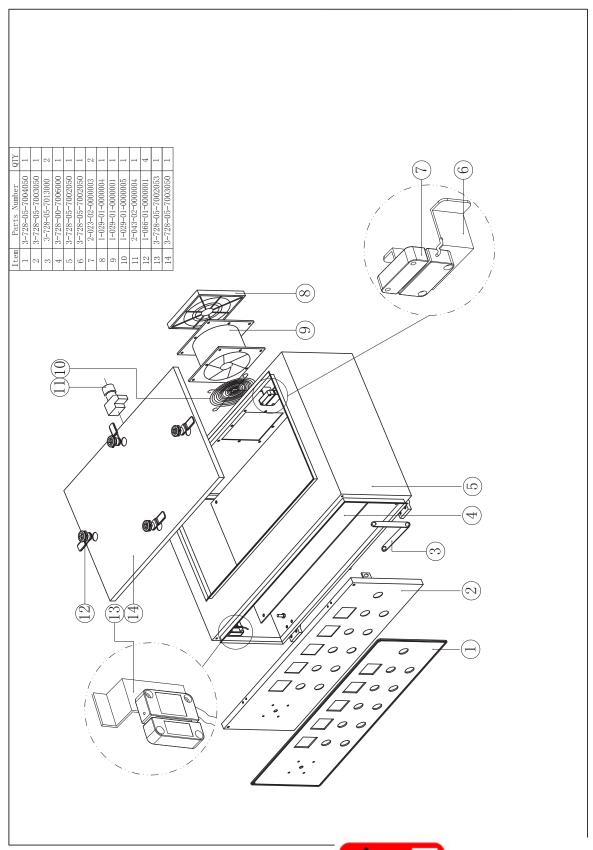


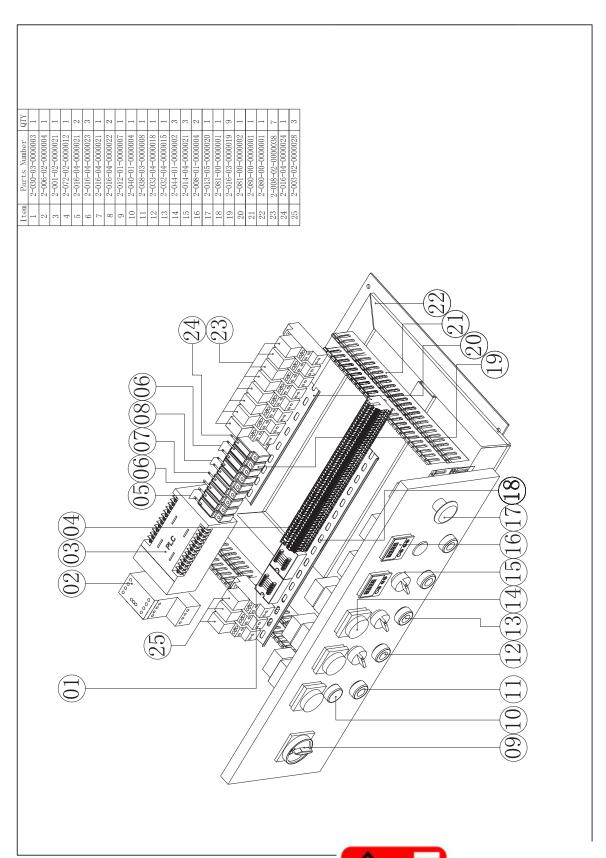
5.2 MECHANICAL PARTS LIST



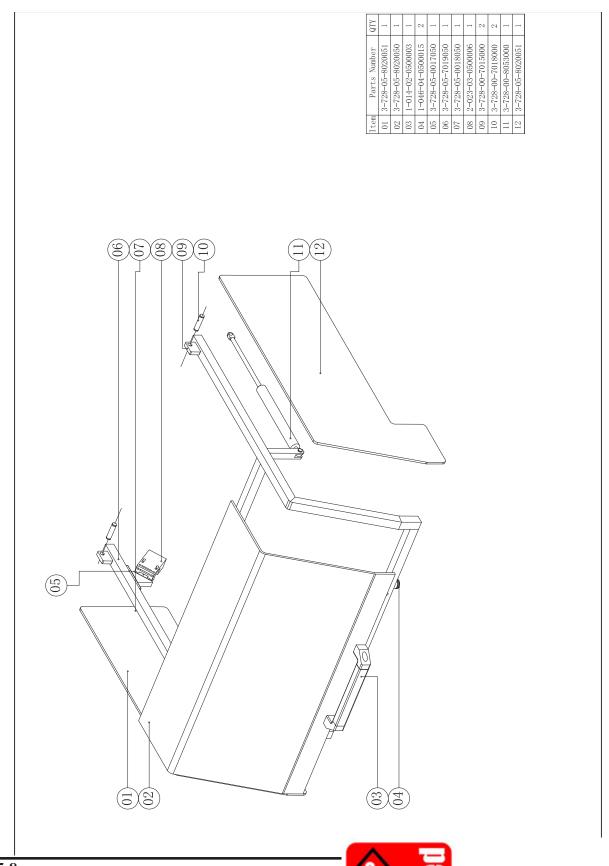






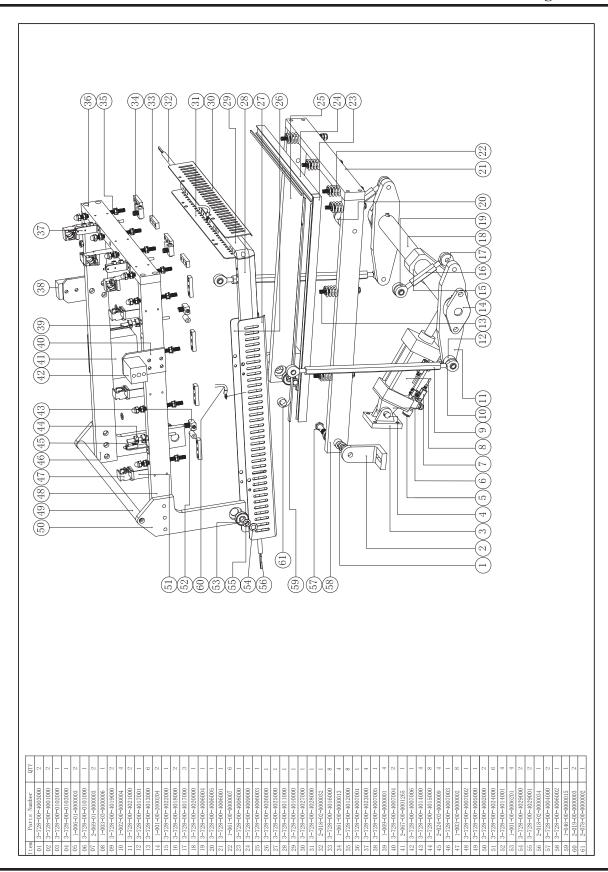


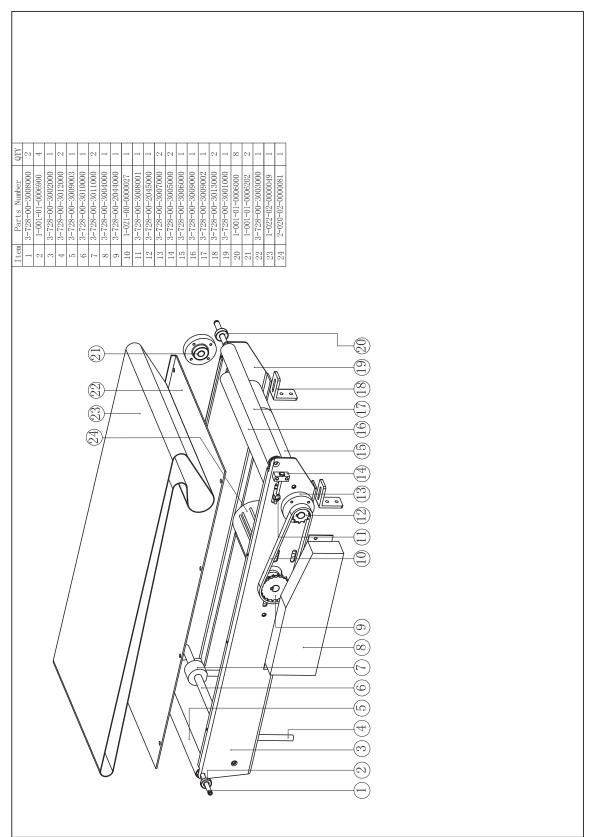




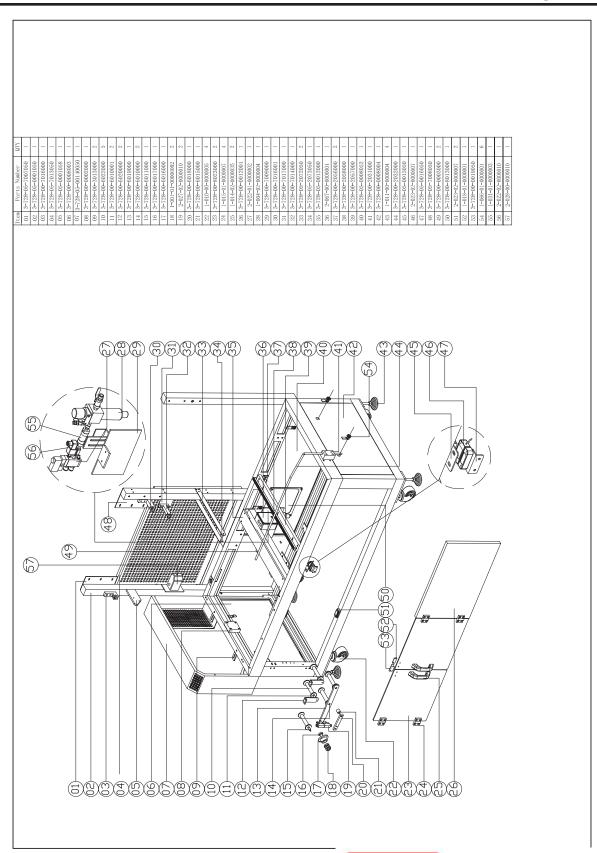
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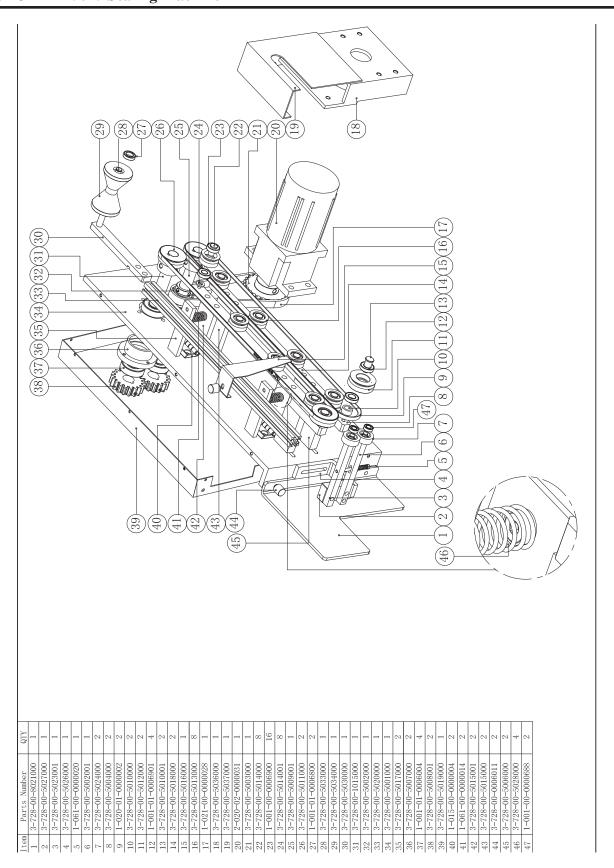


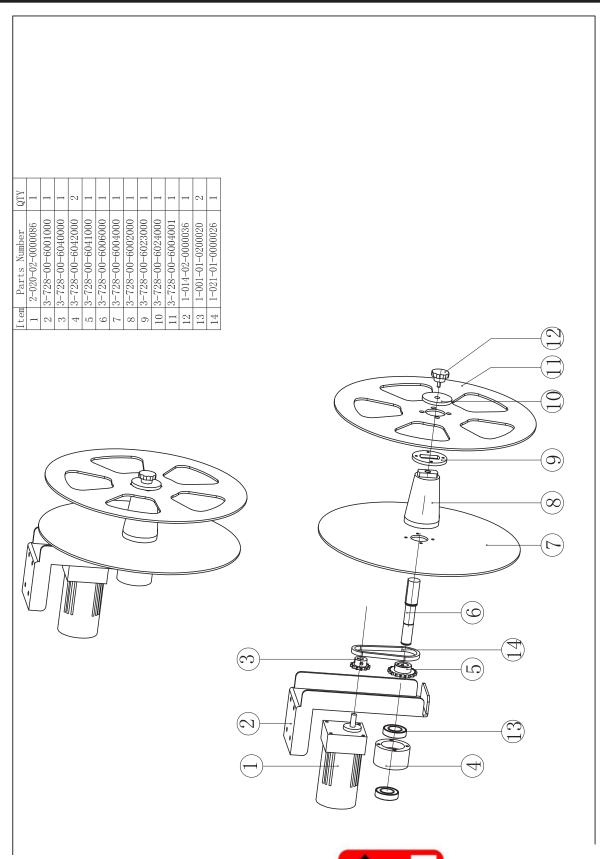




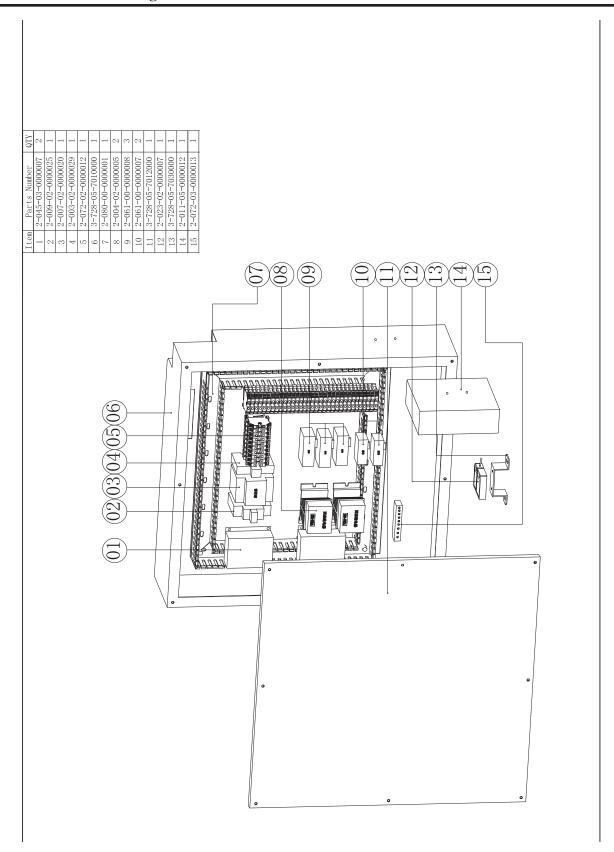


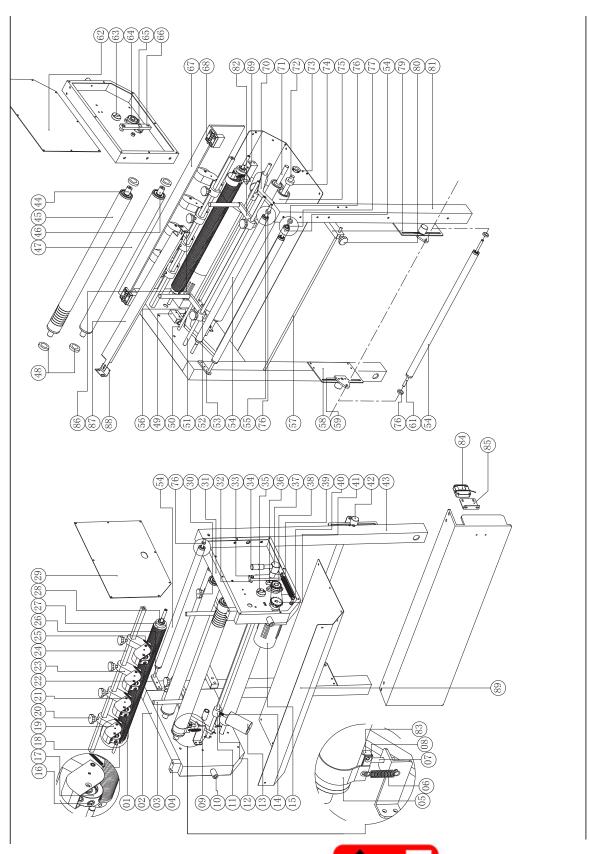




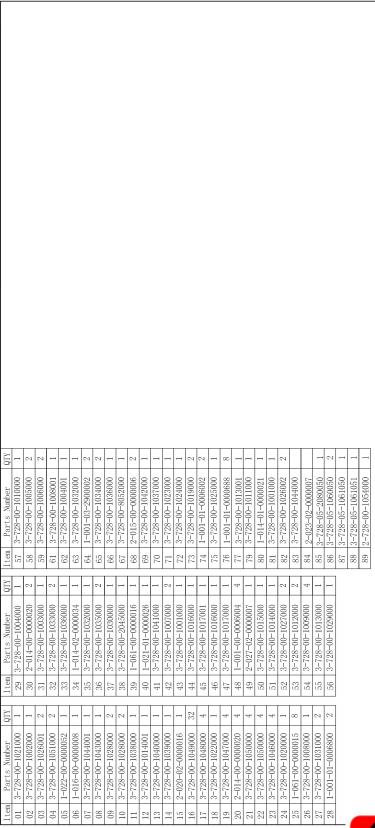




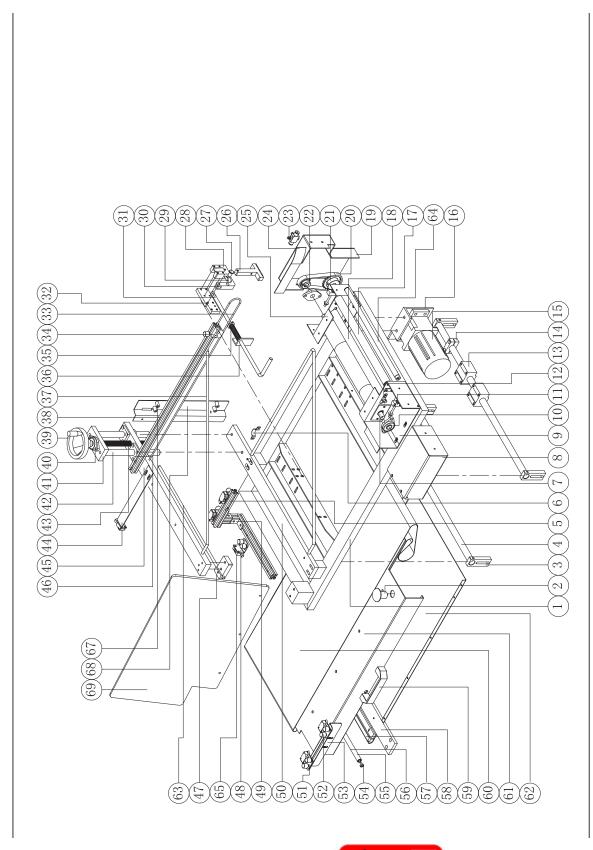














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3	3-728-05-2001000	4	38	3-728-00-2034000	_
4	3-728-05-2003000	2	39	1-013-00-0000007	1
5	3-728-00-2036000	1	40	1-001-03-0500001	1
9	3-728-00-2067000	1	41	3-728-00-2011000	_
7	3-728-00-2013000	1	42	3-728-00-2009000	П
8	3-728-00-2025000	1	43	3-728-00-2010000	_
9	3-728-00-2022000	1	44	3-728-00-2039000	1
10	1-001-01-2900002	2	45	3-728-00-2012000	1
11	3-728-00-2052000	2	46	1-001-04-0900020	2
12	3-728-00-2015001	1	47	3-728-00-2054000	1
13	1-001-01-2200020	4	48	3-728-00-2039001	4
14	3-728-00-2002000	1	49	3-728-00-2037000	3
15	2-020-08-0000083	1	20	3-728-00-2006000	1
16	3-728-00-2030000	1	51	3-728-00-2040000	2
17		1	52	3-728-00-2043000	11
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27	3-728-00-2062000	П	62	3-728-00-2021000	1
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29	3-728-00-2066000	П	64	3-728-00-2015000	П
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33	3-728-00-2035000	1	89	-728-00	
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5.3 PNEUMATIC DIAGRAM

