Preferred Pack Model PP-5600 Combo Service Manual

SERVICE MANUAL

PP-5300/5600 COMBO
Fully Automatic L' Sealer and Tunnel Combo

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INSTRUCTIONS FOR OPERATION AND REPAIR OF THE
MODEL PP-5300/5600 FULLY AUTOMATIC L' SEALER

Excel Packaging – USA

Instruction and Service Manual

PP-5300/5600 Combo Automatic L' Sealer and Tunnel Combination Machine

Machine: PP-5300/5600 Combo Fully Automatic L' Sealer

Model: PP-5300/5600 Combo

Power: 220 Volt, 1 phase, 40 Amp

Air: 2 CFM @ 80 PSI

Machine Dimensions: 114"L x 50"W x 66"H
Machine Weight: 2,500 lbs

Serial #:_____

IMPORTANT - PLEASE READ THIS CAREFULLY

The development of a good safety program, that is rigidly enforced, is absolutely imperative when involved in the operation of industrial equipment. Our machinery is well designed and includes extremely important safety features. The part you the user play through proper installation and maintenance procedures is of far greater significance than our designs. Only properly trained individuals following rigidly enforced safety rules, as recommended by A.N.S.I. and O.S.H.A., should be allowed to operate these machines.

Preferred Pack Model PP-5600 Combo Service Manual

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Important Notice

Minimum air pressure required is 80psi

Check you air compression line to make sure you supply clean & dry air to machine.

***If you have water in you lines you may cause premature damage to your machine. Install dryer on air line if required to supply clean and dry air to the machine.**

Caution

This machine is not designed for explosion-proof applications. It is a standard model and therefore must never be installed or operated in areas subject to the risk of explosion.

Important Notice

1. The description and illustrations in this manual are not to be considered binding. Excel Packaging reserves the right to modify drawings, pictures details, or spare parts supplies at any time without notice for purposes of improvement in terms of design or sales.

2. The machine must be used exclusively for the purposes specified in design, any other use is to be considered improper and potentially hazardous which could void the warranty.

3. **The warranty shall be rendered null and void in the event of:**
   a. Failure to observe safety standards
   b. Improper use of machine
   c. Modifications made to machine without prior written consent from manufacturer.

4. Machine operators should not perform operations specified for maintenance engineers or qualified technicians. Mechanical engineers should not perform electrical repairs and like wise electrical engineers should not perform mechanical maintenance. Use of machine by personnel not familiar with this machine of instructions in this manual is strictly prohibited.
   Excel Packaging declines all liability for damage or physical injury caused by inadequate training of personnel.

General Warnings

It is extremely important to read this entire chapter as it contains important information regarding risks that personnel are subject to in the event of incorrect use of the machine.

These basic standards must be observed as well as specific standards applicable in the country of installation.

- Never use the machine for purposes other than as specified in the sales contract.
- Never allow unauthorized personnel to perform repairs or other operations on the machinery.
- The operator must be familiar with all warnings related to the tasks in hand and always be informed by the head of the site regarding associated risks.
- Ensure that all clothing is tight fitting, with particular reference to cuffs or other loose clothing.
- Always use suitable personal safety equipment such as gloves, safety footwear etc. as specified by accident prevention standards.
- Ensure that all operating areas and transit zones are kept clear, clean and adequately lit at all times.
- Eliminate all safety hazard conditions before using the machine and always notify the head of personnel of any malfunction.
- Never use the machine in the event of a fault
- Never tamper with safety devices or circuits.
- Never operate machinery with safety devices disabled or fixed guards removed.
- Never leave the machine unattended with guards disassemble or mounted incorrectly.
- Never perform modifications on the machine without prior authorization from the manufacturer.
- The electrical panel must remain closed during operation.
- The key to open the electrical panel must be kept by a specialized and authorized member of personnel.
- The manufacturer declines all liability for damage or physical injury caused by failure to observe safety standards.

Safety During Lifting and Installation

- Machine handling and loading onto means of transport must be performed exclusively.
- Transport and installation must be carried out by suitably skilled technical personnel.
- Keep the workplace clear and well lit at all times and ensure installation of a main power socket.
- Using suitable equipment, ensure conformity of the power distribution line and earthing plant.

Safety During Operation

1. Never approach moving parts or touch live components with your hands or other parts of your body.
2. Use of the machine other than as specified is strictly prohibited.
3. Inspections and adjustments of moving parts must be performed with relative guards fitted.
4. Never leave the machine unattended. If personnel must leave the workplace, notify the department head immediately.

Safety During Maintenance

1. **Always disconnect the machine from the power supply before performing maintenance or adjustments.**
2. Never lubricate, repair or adjust machine parts during operation.
3. Never use matches, lighters or torches as means of lighting.
4. All electrical and mechanical adjustments must be performed by suitable qualified authorized personnel.
5. Never approach parts not perfectly secured to the machine with your hands or other parts of your body.
6. Always use safety equipment and clothing as specified by accident prevention standards.

Machine Safety's

Normal Shutdown

This procedure shuts down all operating functions on completion of the processing cycle.
This is activated by means of the STOP pushbutton on main touch screen.

Emergency Shutdown

This command shuts down all machine functions **immediately** and shuts off power supply to all users in the event of an emergency.

This procedure is activated by pressing the **EMERGENCY pushbutton**. The pushbutton remains engaged until released manually by the operator. To re-start the machine, repeat the start-up procedure.

Safety Switches

When the front door is opened the machine will shut off.

Safety switch for front door is located in machine frame as shown above.

*This switch can be overridden only by authorized service personnel after accessing the diagnostic screen and disabling this feature when doing machine set up.

Residual Risks

The machine does not feature high hazard risks; nevertheless the following warnings and precautions must be observed.

Dragging Hazard!
Hazard generated by moving elements (conveyor belts) in the event of contact during operation phases.

Dragging Hazard!
Hazard generated by moving elements (motor-driven rollers) in the event of contact during operation phases.

Pin wheel hole punch

Burn Hazard

Risk due to hot sealing knives for film.

Before performing operations in these zones, turn heater switch off and wait for seal bar to cool.
Never perform operations without suitable personal protection equipment such as gloves, overalls and safety glasses.

Electrical Shock Hazard

Risk due to live electrical parts inside electrical panel (on main switch terminal boards and door interlock input terminals).

Turn machine off prior to electrical work.

Turn off position shown here.

UNPACKING

THOROUGHLY INSPECT EQUIPMENT UPON ARRIVAL.

If goods are received short or in a damaged condition, it is important that you notify the carrier's driver **before he leaves your company** and **insist** on a notation of the loss or damage across the face of the freight bill. Unless this is done, no claim can be enforced against the transportation company.

If concealed loss or damage is discovered, notify the carrier at once and insist on an inspection. This is absolutely necessary! A concealed damage report must be made no later than five (5) days from the date the shipment was delivered. Unless you do this, the carrier will not consider any claim for loss or damage. The carrier's agent will then make an inspection and grant a concealed damage notation. If you give the transportation company a clear receipt for the goods that have been damaged or lost in transit, you do so at your own risk and expense.

All claims must be filed within 5 Days of delivery date or carrier will not accept them.

Excel Packaging is willing to assist in every possible manner to collect claims for loss or damage; however, this does not hold Excel Packaging responsible for collection on claims or replacement of material.

IMPORTANT WARRANTY NOTICES

OPERATING AND MAINTENANCE MANUAL

The operating and maintenance manual has been carefully prepared to provide the user with all the information needed to properly install, operate, and maintain your Preferred Pack equipment.

Please read this manual carefully and refer to it for information on the care and use of your Preferred Pack equipment. It is recommended that additional copies be ordered for use by production, maintenance, and supervisory personnel. Although the design of this equipment incorporates safeguards to protect personnel, care should be used in operating, adjusting, and servicing.

Attention is directed to the warranty that accompanies all your Preferred Pack equipment. The terms and conditions of this warranty apply only to unmodified units. **Any unauthorized modifications to the equipment automatically voids this warranty.**

EXCEL PACKAGING

WARRANTY

Excel Packaging, Inc. warrants each new product manufactured to be free from defects in material and workmanship for a period of (1) year from date of shipment by Excel Packaging.

This warranty is not transferable with any subsequent resale.

Defective parts under warranty must be returned to Excel Packaging freight prepaid. Excel Packaging's sole obligation and purchaser's sole remedy in the event of a warranty dispute shall be, at Excel Packaging's option , to repair or replace the part in question. Labor incurred in removing or installing the defective part is not covered by this warranty. Prior to returning any parts for any reason, contact Excel Packaging for a Return Authorization Number. This number must accompany all returns.

This warranty shall not apply if equipment has been tampered with, misused, improperly installed, altered, or has received damage due to abuse, carelessness, accident or failure to follow recommended regular maintenance procedures or has been serviced by someone other than a duly authorized factory representative without the express written consent of Excel Packaging, Inc.

This warranty is in lieu of all other warranties, expressed or implied, including but not limited to warranties of merchantability and fitness for a particular purpose, non-infringement or any other matter.

Excel Packaging shall have no liability to any person for direct, indirect, incidental or consequential damages or delay resulting from

any defect negligence, or tort and customer hereby waives for itself any and all claims for punitive damages and all claims of negligence of strict liability or both. In no event shall our liability exceed the purchase price of the product that was actually paid.

Excel Packaging reserves the right to make changes, additions, or improvements to our products with no obligation to make such changes in any previously shipped product covered by this warranty.

Excel Packaging shall not be held liable for any damages arising out of nor in connection with the operation of the equipment should customer or its agent fail to maintain equipment in safe operating condition. This warranty shall become unenforceable if and to the extent the customer or its agents remove, disconnect, or otherwise render useless any safety device and or parts designed or affixed by us or fails to maintain and service equipment in a manner as advised.

Excel Packaging provides a one-year warranty on parts, excluding shipping or freight costs for replacement parts. All warranty parts are shipped F.O.B. Rancho Cucamonga, California. Service Labor to install part is not covered under warranty

WARRANTY EXCEPTIONS

The following parts are an exception to the general warranty list on page 19-20. Each part listed below shall carry a 30-day warranty unless designated otherwise.

PP-5600 Combo Fully Automatic L' Sealer and shrink tunnel

1. Infeed and discharge Conveyor Belts
2. Fuses

The following sealer parts are considered to be consumable and not under warranty:

1. Silicone Sponge
2. Teflon Tapes

WARNINGS

Every effort has been taken to ensure your safety while operating this machine; however, there still remain certain risks. Do not allow this machine to be operated before informing all personnel of the following warnings.

WARNING……..

Do not tamper with the electrical wiring. Only use a licensed electrician for maintenance. Always disconnect the electrical power before attempting any maintenance to all electrical and/or moving parts.

WARNING……..

In order to prevent injury to personnel and/or machinery DO NOT INCREASE SETTINGS OR RATINGS ON EITHER ELECTRICAL OR MECHANICAL OVERLOAD SAFETY DEVICES.

WARNING……..

KEEP HANDS AWAY FROM MOVING CONVEYORS AND ASSEMBLIES. Conveyor belts that have become worn or frayed are capable of being hazardous. They should be replaced promptly.

WARNING……..

NEVER OPERATE THIS OR ANY MOVING EQUIPMENT WITHOUT ALL COVERS AND GUARDS IN PLACE. The internal mechanism of most packaging machinery contains numerous shear, pinch, and inrunning nip points, many of which are capable of causing severe injury and/or permanent disfigurement.

WARNING……..

To minimize the potential for personnel injury, always be sure that machine operators and others working on the machinery are properly trained in the correct usage of the equipment and properly instructed regarding the safety procedures for operation.

WARNING……..

Heat sealing arms and sealing jaws on packaging machinery can become very warm after a period of use. KEEP HANDS AWAY WHILE IN OPERATION AND USE CAUTION IF THE MACHINE HAS BEEN RUNNING RECENTLY.

WARNING……..

ANY MODIFICATIONS TO EITHER THE ELECTRICAL CIRCUITRY OR THE MECHANICAL ASSEMBLIES OF THE MACHINERY WILL VOID ANY WARRANTIES ASSOCIATED WITH THIS EQUIPMENT. Such modifications may introduce hazards that would not otherwise be associated with this machinery. Excel Packaging will not be responsible for any consequences resulting from such unauthorized modifications.

WARNING……..

The use of certain types 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 concerning the potential release of hazardous fumes. ADEQUATE VENTILATION MUST BE PROVIDED AT ALL TIMES.

WARNING……..

It is important that the machine operator turn off the Main Power Switch when he/she has finished operating the unit.

Preferred Pack Model PP-5600 Combo Service Manual

Machine Overview

PP-5600 Combo Front View

	Description	Qty
1.	Main control Panel	1
2.	Film Scrap safety door	1
3.	Main Safety Cover	1
4.	Film roll cradle	1

PP-5600 Combo Rear View

	Description	Qty
5.	Electrical panel	1
6.	Rear lexan panel	1
7.	Rear access panel	1

PP-5600 Combo Infeed Conveyor

	Description	Qty
1.	Adjustable inverting triangle	2
2.	Right side motor cover	1
3.	Product guide bar	1
4.	Infeed conveyor belt	1
5.	Film lifter bar	1
6.	Horizontal photo eye	1
7.	Vertical photo eye	1

PP-5600 Combo Seal Area

Description	Qty

8.	Safety sensors	4
9.	Front (Long side) seal bar	1
10.	Side (short) seal bar	1

PP-5600 Combo Film Cradle

	Description	Qty
11.	Pin wheel hole punch	3
12.	Film roll guides	2
13.	Film cradle roller	2
14.	Film roll	1

PP-5600 Combo Film Scrap Assembly

	Description	Qty
15.	Scrap drive motor	1

16. Scrap full alarm 1
17. Lexan covers 2
18. Locking Knob 1
19. Dancer Bar

Connect Shrink Tunnel to PP-5600 Frame:

Use bag of 6 bolts provided (attached to power cable) and connect shrink tunnel to PP-5600 frame.

Turning Machine On

Use the small power cable coming out of the back of the shrink tunnel that has the 90 degree quick disconnect on the end and screw the power cable with coupling into recepticle located on discharge end of PP-5600 frame.

Connect large diameter power cord and supply 220 volt, 1 phase, 50 amp plug to end of power cord. (Machine will run off of 208 volt)

Once power cord is connected **TURN ON** main power switch breaker located in rear of shrink tunnel, this 50 amp breaker supplies power to the whole machine.

Turn on main power switch for shrink tunnel

Photo on right is in the "ON" position.

Turn on Green "Power Switch" and Turn on white "Heater" switch to position # 1 to start up shrink tunnel. Tunnel conveyor will start running and heaters will turn on once white heater switch is turned on.

Turn on main power switch for PP-5600 L' Sealer Portion located on electrical access panel located at the rear of the machine.

Note: Make sure to check incoming voltage. Make sure you do not have low voltage coming into machine. (Voltage should be 208-240volts.)

Air Hook Up

Connect air line to pressure regulator. Air gauge should be set at 6 bars = 80 PSI.

Installing Optional 3ft or 6ft Infeed Conveyor

Place infeed conveyor next to the machine, as close as possible. Infeeds are available as Flighted/lugged infeeds or belted. Adjust side guide rails to width of product and lock into position. Standard flight spacing is 17”.

Connect quick disconnect power cable to machine power supply (220V)

Conveyor has its own VFD variable speed drive with on/off switch

Optional External Conveyor Mode

The External Optional Infeed conveyor can be run in four different modes.

1. Conveyor-**Off**
2. Conveyor-**On**
3. Conveyor-**Sync**
4. Infeed: N**on-stop**

1. **Conveyor Off**- Conveyor does not run at all.

2. **Conveyor On**- Conveyor running at all times.

3. **Conveyor Synch**- As infeed conveyor stops and starts intermittently external conveyor will stop and start with each package cycle of machine.

4. **Infeed Conveyor Non-stop** – Will be in sync with machine conveyor.

Front Control Panel

1. **Start Button**- Starts the machine for automatic production. The push button is illuminated when depressed enables the machine to operate in manual mode.

2. **Emergency Stop switch**- Disables the machine in automatic or manual mode.

3. **Delta touch screen**- Operation interface with machine to set all machine parameters.

4. **Front Seal-Short Side:** Digital temperature control

5. **Side Seal-Long Side:** Digital temperature control

How to access film threading diagram and scrap wind up wheel

Find Main start up screen. Press top left folder icon.

Press either: 1. For film threading diagram
2. For scrap wheel diagram
3. For fuse list and location.

The screen will show proper path for film threading. Film threading diagram.

Scrap Threading Diagram

Screen will show proper path for film scrap.

Scrap wheel threading diagram.

Fuse List

Gives list of each fuse location, what rating is and what it fuse protects. All fuses are located in main electrical panel located in the back of the machine.

PP-5600 Film Threading Diagram

Mounting Film Roll

1. Open both doors (right and left)

2. Adjust roll guides to width of film roll

3. Pull film cradle toward operator To load film roll

4. Leave about ¼″ gap between Roll and guide rod

5. Enter manual screen & press film unwind open

6. Film drive roller will open to allow Film to pass through.

Refer to diagram on page 36

7. Feed film under roller(#1)

8. Push film between black rubber drive rollers (#2)

9. Run film under the dancer bar Rollers. (#3)

10. Feed film over idler roller (#4)

11. Push film rack all the way in

12. Pull film toward rear of machine.

13.

14. Feed from bottom up through ilder Roller. (#5)

15. Feed film through film separating rod. (#6)

16. Run film from behind last Idler roller (#7)

17. Straighten film sheets and Pull toward operator

18. Hit "film unwind close". This will allow you to pull and drive the film.

Adjusting Pin Perf Wheels

Loosen the knob and rotate pin wheel assembly against rubber roller. Slightly apply pressure against roller to poke holes in the film.

*Use the minimum # of perf rows as possible to get a nice shrink appearance.

Too many rows of holes will cause bag to collapse in tunnel too fast and adversely affect the package appearance.

*If the package size is large, extra rows of holes may be required. If the package is exiting the tunnel and the seals are popping open this may be a result of the trapped air in bag is not able to escape and it is blowing the seal out due to too much pressure.

Threading Film

1. Pull out about 2 feet of excess Film passed the conveyor

2.Open the film separating the 2 sheets

3.Using the bottom or left side of sheet feed under inverting triangle

4. Continue feeding bottom sheet under lower inverting triangle and feed toward seal area

5.

6. Feed film toward seal area.

Threading Film

7 and 8. Using left hand move sheet from top side around the end of infeed conveyor going underneath conveyor and pull toward front of machine.

9 and 10. Pull sheet all the way toward operator side of the machine.

11.Now go back to inverting triangle and place top of sheet over top inverting triangle.

12.Straighten out both sheets taking out all wrinkles.

Threading Film

13. From the front of the machine Look underneath inverting triangle To straighten sheet.

14.Grab both top and bottom sheets and feed into drive wheels.

15. Open wheels to insert film

16. Pull film all the way through the drive wheels

17. When finished film should Look nice and flat.

18.

19. Close film wheel

20.Press & hold manual seal until seal bar descends. Make sure hands are clear of safety area.

21. Press film jog to advance film & Press manual seal. Repeat the Process a few times to create about 6ft of scrap film

22. Run scrap film around black black idler roller (#1)

23. Run scrap around 2nd idler Roller (#2)

24. Drop scrap through the opening

25. Open film scrap door.

26. Run scrap under dancer arm roller (#3)

27. Run scrap over idler roller (#4)

28. Run scrap through a couple of Holes on the lexan

29. Close film scrap door

Make sure to set film separating bar 1-2” from CF edge of film.

Film scrap wheel alarm switch.

Installing Film Lifter Bar

Insert bar into holder

Lift top film and place bar underneath film.

Use knob to lock into proper position.

* Film lifter bar is normally used when loose sheets of paper are involved or the film being used has excessive static properties. The lifter bar keeps the product from coming into direct contact with the film and potentially disturbing the package integrity.

Threading Film-Scrap Unwind

Film Scrap Threading Diagram

Threading Film-Scrap Unwind

1. After having advanced the manual film feed several times take the excess film and feed through slot in scrap holder

2.

3.

4.

5.

6. Open door

7. Thread film under dancer bar

7. Feed up over idler roller

9.Wind up on spool and feed through lexan holes

Set Digital Temperature Controls

You may change the temperature by pressing ← key to select the digit to flash, once chosen you may ↑ or ↓ the temperature then press set to complete.

The two buttons to the right are for programming functions only – **Do Not Touch!**

Important Notice

Once the machine is turned on it will require approximately 10-12 minutes for the temperature controllers to reach a set temperature of 300 to 400 degrees.

Control Screen Diagram-Manual Mode

Main screen when machine powers up. The screen automatically changes to the home screen after 5 sec.

Select language icon

Manual mode=Allows operator to make manual adjustments to machine.

From manual mode you can adjust the following

1. **Center Seal:** (up or down)
2. **Inverting Head:** (up or down)
3. **Infeed Conveyor:** (in or out)
4. **Discharge Conveyor**: (forward or reverse)
5. **Infeed Conveyor:** (forward or reverse)
6. **Film Drive Rollers:** (open or close)
7. **Film Unwind Roller:** (open or close)
8. **Film Jog:** Manually advance film
9. **Seal Time Adjustment**: Set the seal time
10. **Manual Seal:** Must hold for 1 second!
11. **Home screen**

From Automatic Mode Screen you can

1. **Pre-set counter**: Once counter is set machine will automatically stop at desired count.
2. **Product counter**: Total # of packages run
3. **Center Seal:** Allows for adjust of center seal position
4. **Inverting Head**: Adjusts position of inverting head
5. **Infeed Conveyor**: Adjusts position of infeed conveyor
6. **Setting:** Takes you to settings screen where you can set seal time, bag length etc.
7. **Load memory:** Can select from previously set program memories
8. **Start**
9. **Stop**
10. **Alarm Indicator**: When red light flashes alarm will sound
11. **Home Screen**

From Auto Mode Screen Select "Settings"

From setting screen

1. **Counter Re-Set:** Allows operator to re-set counter to zero
2. **Photo Eye Select:** Choose between horizontal and vertical photo eyes
3. **Front Portion:** Allows operator to set amount of film to be used in the front of the package
4. **Back Portion:** Allows operator to set amount of film to be used in the back of the package.
5. **Seal Time:** Set length of time seal head stays down
6. **Closing Belt:** Allows discharge conveyor to move over and bridge the gap in the seal pad area to help transfer smaller packages (optional Item)
7. **Random/Multi pack:** Operator may choose between these two modes, Random is when the photo eye sees the package and determines the length of the package and Multi Pack is when the operator pre-sets the bag length to be used.
8. **Multi pack:** Normally used on difficult packages where the eye might get a false reading or where the package is such that the photo eye might read through a product such as a picture frame with no content or a roll of duck tape where the vertical eye will see through.

9. **Photo Eye Delay:** Delays the start of the photo eye reading the package.
10. **Machine Speed:** Allows the operator to set the machine speed from 1-100 where 100 is close to 100 FPM but not exact.

1**. Select Memory Address: Allows operator to select from 1-12 program memories.**
2. **Enter:** Saves the program memory that was just loaded.
3. **Inverters Setting:** Takes you to inverter setting screen.
4. **Conveyor Timer:** Can turn on or off the infeed conveyor if not in use
5. **Set Time:** Operator can set length of time before conveyor shuts off.
6. **External Conveyor:** Can select how the infeed conveyor is to be run
7. **Conveyor Mode:** Can choose from 4 different running modes, Conveyor off, Conveyor on, Conveyor sync and conveyor non-stop.
8. **Inverting Head:** Preset position of inverting had for program #1 9. shown
9.**Infeed Conveyor**: Pre-set position of infeed conveyor on program #1

Press on and function that requires a numerical value and a screen will pop up requesting input or if you wish to change an existing value press clear, enter new value from key pad, press enter and the new value will be saved.

If you are ready to run machine, press the green start button to activate machine. *** Machine will not operate until temperature settings are reached.**

Machine Diagnostics and access to safety door override-For Maintenance or Management level personnel only!

Press icon

Key in access password to diagnostic screen- Please contact a certified technician for this information.

- **<u>Passcode Number is 7000</u>**

Hold door release for 1 second and door safety will be deactivated for maintenance personnel or shift supervisor ONLY! Machine operator should not be given access to this feature.

From the diagnostic screen you can access the following functions

1. Center Seal:
2. Inverting Head:
3. Infeed Conveyor:
4. Discharge Conveyor:
5. Scrap Full:
6. Scrap Winding:
7. Photo Eye-Horizontal:
8. Photo Eye-Vertical:
9. Seal Bar Safety:
10. Motors: A) Film unwind
    B) Film feed
    C) Scrap wind
11. Film Dancer Bar:
12. Inverting Head: Zero
13. Infeed Conveyor: Zero
14. Next screen

<u>From page 2 of diagnostic screen you can check:</u>

1. Seal Bar Cylinder:
2. Film Feed Cylinder: up or down
3. Film Unwind Cylinder: up or down
4. Closing Belt Cylinder: In or out
5. Seal Bar Temperature:
6. Safety Guard:
7. Start Switch:
8. Alarm:
9. Emergency Switch:

Next page

Door safety release
Press: safety off

Seal temperature sensing
Press: Temperature sensor off

Infeed Photo Eye

The machine is designed with an infeed photo eye that if not triggered by a product for a given amount of time the infeed conveyor will automatically stop to preserve the infeed belt and reduce wear on the motor. Once the eye is activated the conveyor will automatically start up again.

Set conveyor time in seconds, if product does not activate photo eye within set time the infeed conveyor will automatically stop saving wear and tear on belts and drive motor. When the photo eye is re-activated by product the conveyor will start up again.

Product Set Up

Enter automatic mode from the home page.

Adjust the infeed conveyor based on your product. Make sure there is at least ½" and the product guide bar (the taller the product, the more gap required).

Adjust the inverting head based on the height of your product. Make sure there is a ½" to 1" gap between the top of the product and the inverting head.

Adjust center seal based on height of product. You want the center seal adjusted so when the product is being sealed, the seal is centered to the height of the package.

Press setting to go to the next screen.

Choosing Random or Multipack is determined by nature of the product. If you have a product that is transparent, use the multipack option. Also use multipack option if you are packing more than one product back to back in one package, otherwise use random option.

If you choose multipack option, then you must enter a value in the multipack box. This value will be a measurement of time and will determine how much bag will be created for the product. The speed of the machine will affect the length of the bag. For example, multipack length set at 1.00 and machine speed set at 50 might create a bag 10" long. However, the same multipack length (1.00) and machine speed at 75 might create a bag 14" long. An increase in machine speed will increase bag length.

Product reverse is used only for products that are 5" or taller. This option will reverse the product slightly (depending on set time) to take tension of the film when sealing.

Machine speed is the speed of the conveyors and is set between 0-100. When setting up a product, it is recommended to start at 50 and adjust if needed.

Closing belt or closing conveyor is an optional feature and is used for product that are 4 inches or less depending on product configurations.

Back portion is used when selecting the random option. It's a measurement of time and it allows the product to clear the seal bar prior to seal bar descending.

Seal time is the amount of time to allow proper cutting and sealing of the bag. The amount of seal time is determined by the types of plastic film and the thickness of plastic film and type of product.

It is recommended to start @ 1.00.

Photo eye select: Choosing the photo eye will depend on the product. Product that is less than ½" tall should be detected by the vertical photo eye. Almost everything else and especially taller products should be detected by the horizontal photo eye.

Front portion: Amount of excess bag created for the front portion of the product. It's a measurement of time.

Press to go to the next screen.

Conveyor Timer: When it is set to **ON** position and a number for set time is chosen it will shut off the infeed conveyor if the infeed photo eye doesn't detect a product within the set time period.

External Conveyor: If the optional infeed is purchased by the customer, the conveyor can be plugged in and operate with the sealer. There are 4 options. Press conveyor mode to select the appropriate option.

Inverter Setting: The sealer operates on 4 motors that use variable speed-infeed motor, discharge motor, film wheel motor, and film unwind motor. Normally they are all set to the same speed as the machine speed. However, each could individually be adjusted if needed (usually not required for most applications).

Selecting Memory Address: Once the previous settings have been set and a few products have been run and the end result is acceptable, you can save those settings in the select memory address. Press the number box and enter a value to assign your settings to that value.

Press ENTER once completed to save program in memory!

Note: Once package is saved to memory location 1-12 you can not make changes to the program unless you are in LOAD MEMORY "0", once the changes are made in program "0" you can then save in the same memory location or choose a different location.

How to set up a new product

Example of setting up for a given product

Product description: Stack of paper 8.5”w x 11”L x 2”H

Go to main menu and enter automatic mode.

Tap load memory and choose a number from 1-12. If it’s a blank memory you will notice that the infeed table opens to maximum opening and the inverting head opens to maximum opening automatically. **In order to start adjusting the settings to your product, you must first reset the load memory back to 0 (if not set back to 0, you won’t be able to make the adjustments).**

Step one: Place the product (stack of paper) on the infeed conveyor and use arrows to adjust the width of the table (infeed conveyor value.
Step Two: Adjust inverting triangle height
Step Three: Adjust the center seal unit to height of the product by placing the product on the discharge belt and used arrows on the center seal. Quick reference is to use film drive assembly. Where the 2 black belts meet it should line up with the center of the package.

Step Four: Press the setting icon to go to the settings screen.

Step five: Choose random option (top right hand corner).
Step Six: Set the machine speed to 60.

Step Seven: Choose a back portion 0.50 and seal time 1.00. When choosing a photo eye remember that photo eye can read the product from front to back. In this case we chose horizontal. Press the **(Back Arrow)** to go back to the previous screen, put product on the infeed table and press start (make sure safety hood is closed). Look at the amount of bag created and adjust the settings if necessary. After running a few products through and if there are no more adjustments are necessary, you can save these settings. Go to setting screen (if not already in it), press **(Forward Arrow)** .

Tap on the # of **select memory address** and enter a value (1-12), press enter. You will see the # registered in the box. To permanently save these settings press the enter tab. Those settings are now saved in the assigned memory address.

Press ENTER once completed to save program in memory!

Note: Once package is saved to memory location 1-12 you can not make changes to the program unless you are in LOAD MEMORY "0", once the changes are made in program "0" you can then save in the same memory location or choose a different location.

Formula to calculate the number of packages per minute the machine will run based on a given package size.

$$\frac{60\ (60\ \text{Seconds})}{(L + H + 20\%\ \text{of Total})}$$

Speed of machine x 0.22

Example: Pkg size 10”Lx5”Wx2”H

$$\frac{60}{\frac{14''}{85 \times .22 + 1}} = \frac{60}{\frac{14}{18.7 + 1}} = \frac{60}{1.75} = 34\text{ppm}$$

Adjustments- Safety Sensors

Red light on seal head when you look through hole indicates seal head safety sensor is working correctly.

Press seal bar safety icon on screen to activate safety sensor on seal bar shown above

Seal bar safety

Adjustments- Machine Height

Machine has threaded casters that can be adjusted
4” from 35 3/4” to 40” maximum

Adjust Inverting Head For product height and width

Product Height

From main control panel press arrow up or down to raise or lower inverting triangle.

With product on infeed conveyor under inverting triangle adjust height.

Inverting triangle should be set ½”
To 1” higher than product.

Adjust Center Seal

From main control panel in **manual mode** use arrow to raise or lower center seal position.

Maximum jaw opening is 8”
Adjust seal jaws to meet in center of package.

Product Width Adjustment-Infeed Conveyor

Manual Mode

Adjust infeed conveyor in or out to match product width

Adjustment of Speed of Seal Head Movement –Up and Down

Use key to open access door

Adjust flow control values to set speed of seal head movement up and down.

Front adjustment (closest to door) is for down stroke.
Rear adjustment control – is for up stroke
Set head movement so stroke is smooth up and down – no excessive head movement.

Adjustments- Conveyor Belts

Belts are adjustable from both sides by loosening nut and turning hex bolt clockwise to tighten belt and counter clockwise to loosen belt.
Roller is tapered to help track belt and keep belt centered.

Adjustments-Photo Cell

Top adjustment is for sensitivity minimum and maximum

Bottom adjustment is for photo cell delay

Infeed conveyor photo eye is set to shut off conveyor if no product is presented within a set time. Once product is sensed the conveyor will automatically re-start.

Infeed Conveyor Photo Eye Timer Adjustment

Can set photo eye timer to shut off infeed conveyor when not in use.

Set desired time in seconds. If no product has been detected within the desired time the infeed conveyor will automatically shut off. Once product is detected the conveyor will automatically start again.

Adjustment-Air Pressure

Turn adjusted knob clockwise to increase pressure and counter clockwise to decrease air pressure. Pressure should be set at 6 bars (80 psi)

Troubleshooting

Problem	Cause	Remedy
The cycle start key does not work	Power supply failure	Insert the plug in the socket. Turn the main switch
	Low voltage fuse has blown	Replace fuse
	No air in pneumatic circuit or pressure level has fallen below 3 (three) bar.	Insert the tube from the supply circuit in the fitting on the fitter unit. Turn the valve on the filter unit and check pressure by means of the gauge.
	Key is damaged	Replace key.
One of the electric motors Does not start	Thermal magnetic cutout tripped	Reset relay
	Fuse blown	Replace fuse
Knives do not seal film	Insufficient knife heating	Heater rod temperature control
	Knives do not adhere completely to contrast bars.	Align bars with blades
	Insufficient sealing time	Increase sealing time
	Knives are damaged or not secure	Replace knives or check fixture
Knives cut film instead of sealing.	Knife guards do not touch the film before blades	Adjust knife guard position (5 mm above the knives).
One of the knives does not heat up.	Resistance burnt out.	Replace resistance
	Thermocouple faulty	Replace thermocouple
	Timer faulty	Replace timer

Warning!
If the problem persists, contact the manufacturer for assistance. (909) 476-1100 Excel Packaging

Trouble Shooting-Machine will not start or will not go into start mode

1. Turn power on

2. Please check all fuses.

3. Check power to transformer

4.

5.

6.Seal bar safety switches are activated

7.Make sure your air supply is connected and you have a minimum 80 psi. /6 Bar

8.Make sure no emergency switches have been pressed or pushed.

9.Make sure the three sensors on the main air cylinder are in correct position and have not moved. See page 65 for adjustments instructing.

10.Please check all inverters to make sure they are not in alarm mode.

11.Make sure the film is not broken

12.Check that scrap unwind is not full. – (Empty when full)

Trouble Shooting

Machine will not seal (front seal)

1. Check all the fuses

2. Check the bottom seal pad and 2" 3mil Teflon tape are not worn. Replace if necessary.

3. Clean front and side seal bars with a dry cloth.

4. Check that the temperature controller is not set to high or too low.

5. Make sure the air supply has a minimum 80 psi./6 bar-low pressure will produce weak seals.

6. Make sure there is correct spacing between the packages and the seal bar is not attempting to make a seal under a lot of film tension.

7. Make sure the thermocouple and the temperature controller are not damaged.

8.Check that the heater cartridge is good

9.Make sure the solid state relay is not burned or damaged.

10. Check the wiring coming into the heater cartridge is not damaged or broken or no loose connection on the terminal.

Trouble Shooting

Belts are not tracking (infeed belt, discharge belt)

1. Make sure you keep belts clean. Wipe clean everyday or every week depending upon environment the machine is operating in.

2. Makes sure no excess film or products are under the belt.

3. All conveyors belts are adjustable with two bolts at each end of conveyor by tightened or loosening it will track the belt to the right or to the left.

4. Make sure no bolts or brackets have come loose.

5. Make sure all the rollers are rolling freely and none of the bearings are damaged.

Adjust belt using adjustment screw provided.

Adjust belt using very small incremental turns of the screw as a slight turn can make a big different in tracking of the belt.

Troubleshooting-No Heat to Seal Bar

Open rear access panel

Check Fuses FU-7 and FU-8
If fuses are bad, replace

Check the thermocouple by opening the front control panel & is connecting wires from back of the temp controller. Set volt meter to check for resistance and check across and if there is no resistance present replace the thermocouple

Check the temperature controllers. Make sure there are no alarms or displays other than present value temperature & set value temperature. If anything else displays other than the mentioned above, please contact the service department.

R1 (12 volt DC need to be present). if not then replace temperature controller and check to see if 12VDC is present across wires 17 & 18 or 18 & 29. If 12VDC is present, check across L7 & 19 or L8 and 30 to see if 220VAC is present. If no 220VAC is present then replace the solid state relay.

Check for resistance across wires L8 & 30 for side heater & L7 & 19 for front heater. If no resistance present on multimeter, replace the heater rod.

Remove Heater and thermocouple from seal bar –Replace if necessary

Routine Maintenance Table

Caution!
Routine maintenance must be performed by authorized and skilled personnel suitably qualified for electrical or mechanical repairs or adjustments according to the assigned tasks.

This type of machine is designed for minimal maintenance; however always observe the maintenance schedule set out below.

Maintenance Schedule

Frequency	Component	Operation
Daily	Machine	Remove all residue for product processing which may impair correct machine operation.
Daily	Knives	Clean surfaces that come into contact with the film, using cloths or paper. Never use objects that may damage the surfaces.
Every 2 weeks	Pneumatic circuit	Ensure that there are no leaks from fittings. Eliminate all condensate formed in the filter unit.
Every 500 hours of operation	Supports	Perform lubrication. Lubricant must correspond to the type MINERAL OIL ISO VG 220
Every 500 hours of operation	Gear couplings	Ensure sufficient lubrication
Every 6 months	Knives and contrast bars	Check the condition of the adhesive Teflon strips and the silicon plate.

Warning!
Reduction units are lubricated with "permanent" type synthetic oil and therefore do not require lubrication

Precautions and Setting to Maintenance Mode

Caution!
- Maintenance must be performed exclusively by skilled personnel familiar with the machine.
- Never carry out maintenance, lubrication or repairs when the machine is in operation and/or connected to the power supply.
- Never perform maintenance on moving parts.
- Following maintenance, always re-fit all guards to restore normal operating conditions.
- Always observe all safety standards as specified in this manual and those currently applied in the country of intallation

Setting the Machine to Maintenance Mode

This procedure must be performed before all routine maintenance, cleaning and special maintenance, to shut off the machine from all power sources, as follows:

- Press the STOP pushbutton on the control panel;
- Press the emergency stop pushbutton on the control panel;
- Turn the main switch to “0” (OFF) on the electrical panel;
- Disconnect the machine from the main power supply by removing the plug connecting the electrical panel to the main socket;
- Shut off the air supply valve on the pneumatic circuit.

Lubrication

1. Seal Head Shafts

Use light grease on shafts to lubricate

2. Inverter triangle adjustment screw

Grease threaded screw shaft

Lubrication

Grease Fitting

Grease infeed and discharge conveyor bearings utilizing the male fitting on the bearing

Replacement of Teflon Tapes

1.

Use 3/4" x 10 mill Teflon tape on bottom seal pad

Replacement of Bottom Seal Sponge

Use 3/8" hard rubber pad for shrink films
Use 3/4" x 10 mill Teflon tape over seal pad.

Maintenance – Water in Lines

Use drain screw in bottom of bowl to force water out of system.
* Important- If water is always present in the line we urge you to install a dryer on the line to supply clean dry air to your machine. This is the single most important thing you can do to keep your equipment in good condition.

Spare Parts Kit PP-5600 COMBO (Standard)

Part #	Description	Qty	Price
G10310	Seal Blade	1	$395.00
E49300	Thermocouple	1	$ 78.00
E68500	Heater-Front (Short)	1	$225.00
E68501	Heater –Side (Long)	1	$295.00
E84401	Proximity Sensor	1	$129.00
G10406	Seal Sponge (25”)(635mm)	1	$ 24.00
G10407	Seal Sponge (21”) (525mm)	1	$ 24.00
	3/4” x 10 mill Teflon Tape	1	$ 38.00
	High Temp Chain Lube	1	$ 38.00
	60 Watt (220Volt) Light Bulbs	2	$ 30.00
3600-35	Thermo Overload heat Sensor A-100	1	$ 38.00
3500-46	Cool Down Sensor (B100)	1	$ 38.00
3500-14	Fuse Kit	1	$ 30.00
	1 amp (20mm)	2	$ 5.00
	2 amp (20mm)	2	$ 5.00
	3 amp (20mm)	2	$ 5.00
	5 amp (20mm)	2	$ 5.00
	10 amp (20mm)	2	$ 5.00
	1 amp (32mm)	2	$ 5.00
	3 amp (32mm)	2	$ 5.00

Total…….$1,417.00

Ordering Spare Parts

When ordering spare parts, always specify the following:

- customer name and identification data;
- number of order (or protocol);
- machine identification data (model, type, serial number);
- part position number in diagram;
- name;
- quantity to order

Caution!
Part replacements must be performed by qualified technicians, suitably skilled and trained, and employed by the manufacturer or authorized service center.

The customer is obliged to use exclusively original spare parts (or equivalent parts authorized in writing by the manufacturer) the manufacturer declines all liability for use of non-original spare parts and/or incorrect part assembly.

Machine Front View

Position	Part#	Description	Qty
1.	M100-1135	Lexan seal area cover	1
2.	M100-1137	Film cradle assembly door	1
3.	M100-1138	Film scrap door	1
4.	M100-1151	Main control panel	1

PP-5600 Combo Film Cradle Assembly

Position	Part#	Description	Qty
1.		Rubber Drive rollers	2
2.		Pin wheel hole punch	3
3.		Film roll guides	2
4.		Film cradle roller	2
5.		Idler roller	1
6.		Dancer bar for film cradle	1

Position	Part#	Description	Qty
7.	R300-3012	Film cradle rollers	2
8.	M100-1140	Film roll guides	2
9.	R300-3013	Idler roller	1
10.	R300-3014	Dancer bar	1

Position	Part#	Description	Qty
11.	M100-1141	Mounting shaft-Pin wheels	1
12.	R300-3015	Rubber drive roller	2
13.	M100-1142	Pin wheel aluminum housing	3
14.	M100-1143	Pins	16 ea
15.	R300-3016	Rubber idler roller	1

19.		Drive roller bearing	1
20.		Pneumatic lift cylinder	1

Safety Doors

Position	Part#	Description	Qty
1.	E600-6011	Safety switch	2
2.	M100-1147	Door opener-cylinder	4

Air Control

Position	Part#	Description	Qty
3.	P200-2035	Air/filter/regulator	1
4.	00F05002	Pressure gauge	1

Position	Part#	Description	Qty
5.	E600-6009	Male Quick disconnect for infeed convey	1
6.	E600-6037	Female quick disconnect	1
7.	M100-1148	Casters	2

Front Control Panel

Position	Part#	Description	Qty
1.	E600-6010	Start	1
2.	E600-6011	Delta color touch screen	1
3.	E600-6015	Cross seal- temp control	1
4.	E600-6015	Side heater-temp control	1
5.	E600-6017	Emergency stop switch	1

Electrical Control Panel

Position	Part#	Description	
1.	E24601	Main Power Switch	1
2.		Fuse Block	4
3.		Fuse-glass	10
4.		Contactor	2

Position	Part#	Description	Qty
4.		Ac Inverters	4
5.		Contactors	3
6.		Internet Service	1

Position	Part#	Description	Qty
7.		Transformer 24 volt	1
8.		Transformer-buck boost	1
9.		Relays	7

Position	Part#	Description	Qty
10.		Delta PLC	1

Preferred Pack Model PP-5600 Combo Service Manual

SHRINK TUNNEL MODEL: PP5600 COMBO TUNNEL (220V)

Infeed Conveyor Assembly

Pos.	Part #	Qty	Description
1	G10101	1	Infeed conveyor base plate
2	G10102	1	Conveyor belt bottom cover plate
3	G10103	1	Infeed conveyor main frame
4	G10104	1	Infeed conveyor main frame support bracket
5	G10105	1	Infeed conveyor belt drive roller
6	G10106	1	Infeed conveyor belt
7	G10107	1	Support rod
8	G10108	1	1st idle roller
9	G10109	1	2nd idle roller
10	G10110	2	Belt tension adjust bracket
11	G10111	2	1st idle roller mounting plate
12	S51-FL205	2	Block bearing unit, UCFL205
13	G10113	4	Spacer
14	G10114	1	Driving roller cover, front side
15	G10115	1	Driving roller cover, rear side
16	G10116	1	Infeed motor sprocket
17	G10117	1	Driving roller sprocket
18	G10118	1	Infeed motor mounting plate
19	G10119	1	Infeed motor driving chain
20	G10120	1	Plastic cable channel
21	G10121	1	Triangle plate bottom support bar
22	G10122	1	Nose bearing mounting bracket
23	G10123	1	Nose bearing assembly
24	G10124	5	Roller
25	S50-LF1260	10	Ball bearing, LF1260ZZ
26	G10126	2	HZ photo cell fix plate
27	G10127	1	HZ photo cell mounting bracket, front
28	G10128	1	Mounting block, upper triangle plate support bar
29	G10129	1	Film open plate
30	G10130	1	Film open plate holder
31	G10131	1	Film open plate adjust bracket
32	G10132	1	Photo cell mounting plate A
33	G10133	3	Photo cell mounting bracket A
34	G10134	2	VT photo cell fix plate
35	G10135	1	Connecting plate

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Infeed Conveyor Assembly

Pos.	Part #	Qty	Description
36	S28-AN06	2	Nut, AN06
37	S52-2020	4	Metal bushing, 2020
38	G10138	2	Guide block
39	G10139	1	Triangle plate upper support bar
40	G10140	1	Upper triangle plate
41	G10141	1	Bottom triangle plate
42	G10142	2	Upper triangle plate guide shaft
43	G10143	1	Copper nut
44	G10144	1	Connecting tube
45	G10145	1	Copper nut bracket
46	G10146	1	Photo cell mounting bracket B
47	G10147	1	Photo cell mounting plate B
48	E60601	1	Infeed conveyor motor, 220V, 1/4HP 1:10
49	E60701	1	DC motor with screw assembly
50	E84300	1	VT photo cell (T+R), OMRON E3Z-T61
51	E84301	1	HZ photo cell (T+R), OMRON E3Z-T61
52	E84310	1	Conveyor timer photo cell, BANNER QS18VN6D
53	S25-321606	2	Plastic head screw, 3216M6
54	S26-HP13	4	Plastic blank cover, HP-13
55	S01-0512	6	Hexagon bolt, M5x12
56	S01-0620	2	Hexagon bolt, M6x20
57	S01-0820	8	Hexagon bolt, M8x20
58	S01-0825	4	Hexagon bolt, M8x25
59	S01-0835	4	Hexagon bolt, M8x35
60	S01-0860	2	Hexagon bolt, M8x60
61	S02-0616	6	Hex socket bolt, M6x16
62	S02-0835	4	Hex socket bolt, M8x35
63	S02-0416	4	Hex socket bolt, M4x16
64	S03-0616	6	Socket head cap screw, M6x16
65	S03-0620	2	Socket head cap screw, M6x20
66	S03-0640	2	Socket head cap screw, M6x40
67	S05-0312	8	Phillips pan head screw, M3x12
68	S08-0325	6	Truss head machine screw, M3x25
69	S08-0408	6	Truss head machine screw, M4x8
70	S07-0410	9	Flat head machine screw, M4x10

Pos.	Part #	Qty	Description
71	S04-0520	3	Flat socket head screw, M5x20
72	S04-0512	3	Flat socket head screw, M5x12
73	S04-0616	2	Flat socket head screw, M6x16
74	S04-0816	4	Flat socket head screw, M8x16
75	S09-0606	4	Hex socket set screw, M6x6
76	S09-0610	4	Hex socket set screw, M6x10
77	S12-0800	2	Hexagon nut, M8
78	S13-0500	3	Lock nut, M5
79	G10179	1	Film miser guide
80	S13-0800	8	Lock nut, M8
81	S15-0410	8	Plain washer, M4-10
82	S15-0614	16	Plain washer, M6-14
83	S15-0816	24	Plain washer, M8-16
84	S13-0400	2	Lock nut, M4
85	S16-0600	16	Spring washer, M6
86	S16-0800	14	Spring washer, M8
87	S26-0011	2	Aluminum channel plastic blank cover
88	S21-0625	1	Round end key, 6x25
89	S21-0630	1	Round end key, 6x30
90	S08-0310	2	Truss head machine screw, M3x10
91	S16-0300	2	Spring washer, M3
92	S15-0308	2	Plain washer, M3-08
93	S02-0512	2	Hex socket bolt, M5x12
94	S16-0500	16	Spring washer, M5
95	S15-0510	16	Plain washer, M5-10
96	S07-0408	3	Flat head machine screw, M4x8

Discharge Conveyor Assembly

Pos.	Part #	Qty	Description
1	G10201	1	Discharge conveyor main frame
2	G10202	2	Mounting block
3	G10203	3	Idle roller (A)
4	G10204	2	Idle roller (B)
5	G10205	1	Idle roller (A) shaft, long
6	G10206	2	Idle roller (A) shaft, short
7	G10207	2	Idle roller (B) shaft
8	G10208	1	Drive roller
9	G10209	1	Discharge conveyor belt
10	G10210	2	Roller holder
11	G10211	2	Belt tension adjust block
12	G10212	2	Discharge mounting block
13	G10213	1	Connecting rod
14	G10214	1	Motor mounting bracket
15	G10215	1	Motor fix plate stopper
16	G10216	1	Motor fix plate
17	G10217	1	Drive roller shaft
18	E60602	1	Discharge conveyor gear motor
19	S50-6801	8	Ball bearing, 6801ZZ
20	S50-6001	2	Ball bearing, 6001ZZ
21	S50-6004	2	Ball bearing, 6004ZZ
22	S51-PFL205	1	Block bearing unit, PFL205
23	S01-0816	2	Hexagon bolt, M8x16
24	S01-0865	2	Hexagon bolt, M8x65
25	S02-0612	4	Hex socket bolt, M6x12
26	S02-0616	2	Hex socket bolt, M6x16
27	S02-0620	4	Hex socket bolt, M6x20
28	S02-0825	6	Hex socket bolt, M8x25
29	S02-0830	3	Hex socket bolt, M8x30
30	S04-0616	4	Flat socket head screw, M6x16
31	S04-0620	4	Flat socket head screw, M6x20
32	S09-0606	1	Hex socket set screw, M6x6
33	S12-0800	2	Hexagon nut, M8
34	S15-0614	2	Plain washer, M6-14
35	S15-0816	7	Plain washer, M8-16

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Discharge Conveyor Assembly

Pos.	Part #	Qty	Description
36	S16-0600	4	Spring washer, M6
37	S16-0800	7	Spring washer, M8
38	S21-0670	1	Round end key, 06x70
39	S23-R42	1	Internal circlip, R-42
40	S24-S12	10	External circlip, S-12
41	S24-S20	2	External circlip, S-20

Upper Seal Bar Assembly

Pos.	Part #	Qty	Description
1	G10301	1	Cable channel cover (A)
2	G10302	1	Cable channel cover (B)
3	G10303	1	Cable channel
4	G10304	8	Film clamp guide plate
5	G10305	1	Film clamp (A)
6	G10306	1	Front seal bar bracket
7	G10307	1	Front seal bar bracket fix block (A)
8	G10308	1	Front seal bar bracket fix block (B)
9	G10309	1	Front seal bar heater cartridge
10	G10310	1	Seal blade
11	G10311	1	Front seal bar cover plate
12	G10312	1	Side seal bar cover plate
13	G10313	1	Film clamp (B)
14	G10314	1	Side seal bar bracket
15	G10315	1	Side seal bar heater cartridge
16	G10316	1	Side seal bar bracket fix block
17	G10317	1	Film clamp (C)
18	G10318	1	Film clamp (D)
19	S28-AN05	24	Disk lock nut, AN05
20	G10320	8	Film clamp spring
21	G10321	1	Cable protector
22	E80201	1	Cable clamp
23	G10323	8	Silicon buffer
24	E84400	6	Proximity sensor fix bracket
25	E84401	6	Proximity sensor, TDTEK PM12-04NS
26	E49300	2	Thermocouple
27	E68500	1	Front seal bar heater
28	E68501	1	Side seal bar heater
29	S33-0001	8	Hexagon guide screw
30	S02-0420	12	Hex socket bolt, M4x20
31	S02-0510	48	Hex socket bolt, M5x10
32	S02-0515	5	Hex socket bolt, M5x15
33	S02-0620	12	Hex socket bolt, M6x20
34	S07-0306	14	Flat head machine screw, M3x6
35	S07-0410SS	16	Flat head machine screw, M4x10-SUS

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Upper Seal Bar Assembly

Pos.	Part #	Qty	Description
36	S08-0510	3	Truss head machine screw, M5x10
37	S09-0304	2	Hex socket set screw, M3x4
38	S09-0410	48	Hex socket set screw, M4x10
39	S09-0505	8	Hex socket set screw, M5x5
40	S12-0500SS	8	Hexagon nut, M5-SUS
41	S12-0600SS	6	Hexagon nut, M6-SUS
42	S31-0570SS	4	Mounting screw, M5x70-SUS
43	S31-0680SS	2	Mounting screw, M6x80-SUS
44	S15-0500SS	8	Plain washer, M5-SUS
45	S15-0600SS	8	Plain washer, M6-SUS
46	S16-0500SS	4	Spring washer, M5-SUS
47	S16-0500	5	Spring washer, M5
48	S16-0600SS	2	Spring washer, M6-SUS

Upper Seal Bar Assembly

Bottom Seal Bar Assembly

Pos.	Part #	Qty	Description
1	G10401	1	Bottom seal pad support, side
2	G10402	1	Bottom seal pad support, front
3	G10403	6	Shaft dust cover
4	S54-25UUNI	3	Liner slide bearing, LMF25UUNI
5	S54-25LUUNI	3	Liner slide bearing, LMF25LUUNI
6	G10406	1	Sponge seal pad, L=635mm
7	G10407	1	Sponge seal pad, L=525mm
8	G10408	1	Seal pad holder, side
9	G10409	1	Seal pad holder, front
10	G10410	1	Aluminum plate (A)
11	G10411	1	Aluminum plate (B)
12	G10412	1	Aluminum plate (C)
13	G10413	1	Aluminum plate (D)
14	G10414	1	Aluminum plate (E)
15	G10415	1	Aluminum plate (F)
16	G10416	1	Aluminum plate (G)
17	G10417	1	Aluminum plate (H)
18	G10418	1	Aluminum plate (I)
19	G10419	1	Aluminum plate (J)
20	G10420	1	Aluminum plate (K)
21	G10421	1	Guide plate
22	S02-0510	4	Hex socket bolt, M5x10
23	S32-0001	3	Linear bearing shaft, SFC-M25x850
24	G10424	2	Connecting plate (A)
25	G10425	1	Connecting shaft, long
26	G10426	2	Connecting plate (B)
27	G10427	8	Bush
28	G10428	4	Shaft
29	G10429	2	Bush
30	G10430	4	Connecting rod
31	G10431	1	Cylinder mounting bracket
32	G10432	1	Cylinder mounting bracket shaft
33	G10433	2	Bearing holder
34	G10434	1	Cylinder connecting plate
35	G10435	1	Shaft

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Bottom Seal Bar Assembly

Pos.	Part #	Qty	Description
36	G10436	1	Coupling, non-teeth
37	G10437	1	Coupling, w/teeth
38	G10438	1	90 Shafter
39	G10439	1	90 Shafter mounting bracket
40	G10440	1	Connecting shaft, short
41	S40-1001	1	Pneumatic cylinder, SMC MDBIC 63-150
42	S40-2001	2	Flow valve, JS1003A
43	E84501	3	Reed switch, SMC D-Y78W/ DC24V
44	E53501	1	Solenoid valve coil, EVI 7/9 24VAC
45	S40-3001	1	Solenoid valve, MVSC-3004E1A24
46	S40-4001	3	Air connector, PL1003T
47	S40-5001	2	Noise absorber, SMC ANAI-03
48	S28-AN05	24	Disk lock nut, AN05
49	S45-1001	6	Oil sealed, C2197-25/32
50	S58-SAL12E	4	Rod end bearing, SAL12E
51	S58-SA12E	4	Rod end bearing, SA12E
52	S58-RHS18	1	Rod end bearing, RHS18
53	S50-6205	4	Ball bearing, 6205ZZ
54	S01-0625	4	Hexagon bolt, M6x25
55	S01-0635	6	Hexagon bolt, M6x35
56	S02-0840	2	Hex socket bolt, M8x40
57	S02-0525	24	Hex socket bolt, M5x25
58	S02-0540	2	Hex socket bolt, M5x40
59	S02-0550	7	Hex socket bolt, M5x50
60	S02-0625	2	Hex socket bolt, M6x25
61	S02-0630	4	Hex socket bolt, M6x30
62	S02-0680	2	Hex socket bolt, M6x80
63	S02-0820	14	Hex socket bolt, M8x20
64	S02-0835	8	Hex socket bolt, M8x35
65	S02-0860	2	Hex socket bolt, M8x60
66	S02-0640	12	Hex socket bolt, M6x40
67	S07-0410	4	Flat head machine screw, M4x10
68	S09-0606	10	Hex socket set screw, M6x6
69	S09-0608	8	Hex socket set screw, M6x8
70	S15-0513	10	Plain washer, M5-13

Bottom Seal Bar Assembly

Pos.	Part #	Qty	Description
71	S16-0500	6	Spring washer, M5
72	S16-0600	10	Spring washer, M6
73	S16-0800	4	Spring washer, M8
74	S21-0530	3	Round end key, 5x30
75	S15-1830	2	Plain washer, M18-30
76	S21-0620	1	Round end key, 6x20
77	S15-0620	4	Plain washer, M6-20
78	S24-S18	1	External circlip, S-18
79	S24-S25	6	External circlip, S-25

Bottom Seal Bar Assembly

Film Rack Assembly

Pos.	Part #	Qty	Description
1	G10501	2	Film rack main frame
2	G10502	1	Aluminum plate, front
3	G10503	1	Aluminum plate, back
4	G10504	1	Film width adjust channel
5	G10505	1	Brush
6	G10506	1	Brush mounting plate
7	G10507	1	Brush extension plate
8	G10508	1	Driving rubber roller
9	G10509	1	Idle rubber roller
10	G10510	2	Stainless steel roller
11	G10511	2	Film support roller
12	G10512	2	Support rod
13	G10513	1	Idle roller shaft
14	G10514	1	Activity roller
15	G10515	2	Film fix rod
16	G10516	2	Film fix rod nut
17	G10517	1	Film rollers brake plate
18	G10518	5	Pin perforator holder
19	G10519	5	Bearing core
20	G10520	80	Needle
21	G10521	5	Pin perforator wheel
22	G10522	5	Pin perforator wheel shield
23	G10523	1	Cylinder connection plate
24	G10524	1	Stop plate
25	G10525	1	Motor mounting bracket
26	G10526	2	Gear plate
27	G10527	1	Motor mounting bracket connector
28	G10528	1	Proximity sensor bracket
29	G10529	1	Cable protector bracket
30	G10530	1	Cylinder extension rod, long
31	G10531	2	Handle mounting bracket
32	G10532	1	Cylinder extension rod, short
33	G10533	2	Pinion
34	G10534	2	Roller mounting bracket
35	E60603	1	Film rack gear motor, MEZ 0.18KW, 230V, 1:10

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Film Rack Assembly

Pos.	Part #	Qty	Description
36	E84401	1	Proximity sensor, TDTEK PM12-04NS
37	E84511	2	Reed switch, RCE1-2M
38	E80211	2	Cable clamper
39	S40-4011	2	Y type air connector, PW64T
40	G10540	2	Handle
41	G10541	4	Rubber stopper
42	G10542	2	Cylinder mounting bracket
43	G10543	1	Cable channel
44	S51-FL204	2	Block bearing unit, UCFL204
45	S50-6004	2	Ball bearing, 6004ZZ
46	S50-6000	5	Ball bearing, 6000ZZ
47	S40-2002	4	Flow valve, JSC0401A
48	S40-1011	2	Pneumatic cylinder, MCJT-C-12-32-10M
49	S25-1001	5	Plastic head screw, 50x1/4”x1”
50	S46-2550	5	O-ring, 2.5x50
51	S01-0616	1	Hexagon bolt, M6x16
52	S01-0620	1	Hexagon bolt, M6x20
53	S01-0630	1	Hexagon bolt, M6x30
54	S01-0816	12	Hexagon bolt, M8x16
55	S01-0825	2	Hexagon bolt, M8x25
56	S01-0830	1	Hexagon bolt, M8x30
57	S01-1020	6	Hexagon bolt, M10x20
58	S01-1025	4	Hexagon bolt, M10x25
59	S02-0512	2	Hex socket bolt, M5x12
60	S02-0515	4	Hex socket bolt, M5x15
61	S02-0616	8	Hex socket bolt, M6x16
62	S02-0620	9	Hex socket bolt, M6x20
63	S02-0630	8	Hex socket bolt, M6x30
64	S03-0616	4	Socket head cap screw, M6x16
65	S07-0408	3	Flat head machine screw, M4x8
66	S08-0408	4	Truss head machine screw, M4x8
67	S08-0512	10	Truss head machine screw, M5x12
68	S09-0304	80	Hex socket set screw, M3x4
69	S09-0606	4	Hex socket set screw, M6x6
70	S13-0500	2	Lock nut, M5

Pos.	Part #	Qty	Description
71	S13-0600	1	Lock nut, M6
72	S12-0800	1	Hexagon nut, M8
73	S14-0500	4	Domed cap nut, M5
74	S15-0513	10	Plain washer, M5-13
75	S15-0620	32	Plain washer, M6-20
76	S15-0823	15	Plain washer, M8-23
77	S15-1023	12	Plain washer, M10-23
78	S15-1020C	4	Plain washer, M10-20 (copper)
79	S15-1032	2	Plain washer, M10-32
80	S15-2030	2	Plain washer, M20-30
81	S15-LBW18	2	Plain washer, LBW18 (Teflon coating)
82	S16-0500	6	Spring washer, M5
83	S16-0600	17	Spring washer, M6
84	S16-0800	17	Spring washer, M8
85	S16-1000	12	Spring washer, M10
86	S21-0665	1	Round end key, 6x65
87	S22-E10	2	Elastic ring, E10

Center Seal Unit Assembly

Pos.	Part #	Qty	Description
1	G10601	1	Center seal upper frame
2	G10602	1	Center seal bottom frame
3	G10603	5	Driving sprocket
4	G10604	1	Driving chain
5	G10605	1	Stopper block
6	G10606	4	Nut (copper)
7	G10607	4	Elevation screw
8	G10608	1	Motor shaft
9	G10609	1	Solenoid valve mounting plate
10	E60604	1	Center seal gear motor, 220V, 1/3HP, 1:60
11	S53-51104	8	Thrust bearing, 51104
12	S28-AN04	4	Disk lock nut, AN04
13	S40-3001	3	Solenoid valve, MVSC-3004E1A24
14	S40-6001	1	Solenoid valve dispenser, MVSA-300-5B3
15	S40-5011	4	Noise absorption, PSL-03
16	S40-4002	1	Air connector, PC1003T
17	S40-4001	1	Air connector, PL1003T
18	S24-S18	1	External circlip, S-18
19	S01-0835	4	Hexagon bolt, M8x35
20	S01-0840	4	Hexagon bolt, M8x40
21	S02-0435	4	Hex socket bolt, M4x35
22	S01-0616	2	Hexagon bolt, M6x16
23	S02-0616	20	Hex socket bolt, M6x16
24	S02-0640	2	Hex socket bolt, M6x40
25	S02-0835	4	Hex socket bolt, M8x35
26	S05-0450	6	Phillips pan head screw, M4x50
27	S09-0610	10	Hex socket set screw, M6x10
28	S12-0800	4	Hexagon nut, M8
29	S13-0800	4	Lock nut, M8
30	S15-0410	4	Plain washer, M4-10
31	S15-0613	4	Plain washer, M6-13
32	S15-0825	8	Plain washer, M8-25
33	S16-0400	10	Spring washer, M4
34	S16-0600	4	Spring washer, M6
35	S16-0800	8	Spring washer, M8

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Center Seal Unit Assembly

Pos.	Part #	Qty	Description
36	S21-0625	5	Round end key, 6x25
37	S21-0665	1	Round end key, 6x65

Scrap Unwind Unit Assembly

Pos.	Part #	Qty	Description
1	G10701	1	Washer (aluminum)
2	G10702	1	Scrap wheel outside
3	G10703	1	Wheel core
4	G10704	1	Scrap wheel inside
5	G10705	1	Turning disk
6	G10706	1	Activity arm
7	G10707	1	Scrap motor shaft
8	G10708	1	Scrap motor mounting bracket
9	G10709	1	Counter weight
10	G10710	1	Counter weight fix block
11	G10711	1	Guide roller (A)
12	G10712	1	Limit switch mounting bracket
13	G10713	1	Guide roller (B)
14	G10714	1	Connection rod
15	G10715	1	Cylinder mounting bracket
16	G10716	1	Rubber stopper
17	E84401	1	Proximity sensor, TDTEK PM12-04NS
18	E29001	1	Limit switch, TEND TZ7166
19	E60605	1	Scrap gear motor, 220V, 1/4Hp, 1:15
20	S25-1002	1	Plastic head screw, 58x3/8”x1”
21	S40-1012	1	Cylinder, MCMA-11-20-75
22	S40-2003	2	Flow valve, JSC0601A
23	S40-3001	1	Solenoid valve, MVSC-3004E1A24
24	S40-4001	1	Air connector, PL1003T
25	S40-4003	2	Air connector, PL0603
26	S40-5011	2	Noise absorption, PSL-03
27	S50-6804	2	Ball bearing, 6804ZZ
28	S50-6304	1	Ball bearing, 6304ZZ
29	S01-0825	4	Hexagon bolt, M8x25
30	S02-0530	2	Hex socket bolt, M5x30
31	S02-0535	2	Hex socket bolt, M5x35
32	S02-0816	4	Hex socket bolt, M8x16
33	S04-0610	4	Flat socket head screw, M6x10
34	S04-0640	1	Flat socket head screw, M6x40
35	S04-0820	1	Flat socket head screw, M8x20

Pos.	Part #	Qty	Description
36	S05-0512	2	Phillips pan head screw, M5x12
37	S12-0600	1	Hexagon nut, M6
38	S12-0800	8	Hexagon nut, M8
39	S12-2200	1	Hexagon nut, M22
40	S13-0800	5	Lock nut, M8
41	S15-0513	2	Plain washer, M5-13
42	S15-0616	4	Plain washer, M6-16
43	S15-0816	9	Plain washer, M8-16
44	S15-LBW18	2	Plain washer, LBW18 (Teflon coating)
45	S16-0500	2	Spring washer, M5
46	S16-0800	9	Spring washer, M8
47	S21-0625	1	Round end key, 6x25
48	S21-0660	1	Round end key, 6x60
49	S24-S18	1	External circlip, S-18
50	S24-S20	2	External circlip, S-20
51	S31-0880	1	Screw, M8x80L
52	S31-08150	1	Screw, M8x150L

Control Panel Assembly

Pos.	Part #	Qty	Description
1	G10801	1	Control panel
2	G10802	1	Control panel base
3	E52201	1	Cooling fan, KAKV KA1238HA2SAT
4	E52211	2	Cooling fan safety net
5	E30601	6	Stopper, PHCENIX CONTACT CLIPFIX 35
6	E04700	1	Control PC board
7	E90310	1	Extension I/O unit, DELTA DVP-16SP11R
8	E90301	1	PLC unit, DELTA DVP-28SV11T
9	E90300	1	DC24V Power supply, DELTA DVP-PS02
10	E18201	1	Relay, SCHNEIDER RXM2AB2B7
11	E20101	1	Relay socket, SYE SYF-08A
12	E32701	9	Fuse box, DINKLE FDk4
13	E07701	1	Circuit breaker, SCHNEIDER 23865 2P-C16
14	E03001	1	AC24V transformer, DEKER TF-401
15	E67401-A7	1	Inverter A7, DELTA VFD004S21A (Discharge Motor)
16	E67401-A6	1	Inverter A6, DELTA VFD004S21A (Infeed Motor)
17	E67401-A5	1	Inverter A5, DELTA VFD004S21A (Film Drive)
18	E67401-A4	1	Inverter A4, DELTA VFD004S21A (Film Carriage)
19	E67481	4	Braking resistor, LMEM MHL 80W/200ΩJ
20	E09100	2	Magnetic contactor, TECO CU-11 3A1a 24VAC
21	E31101	2	Connector, WAGO 2006-1201
22	E31102	6	Connector, WAGO 2002-1401
23	E32001	1	Ground plate
24	G10824	2	Aluminum rail
25	E42101	2	Solid State Relay, OMRON G3NA-225B
26	E65113	1	Capacitor, 20uf/350V
27	G10827	1	Plastic cable channel, 25x45
28	G10828	1	Plastic cable channel, 32x45
29	G10829	2	Plastic cable channel, 45x45
30	E24601	1	Power switch, MOELLER TO-2-1
31	S08-0510	8	Truss head machine screw, M5x10
32	S02-0408	4	Hex socket bolt, M4x8
33	S02-0616	3	Hex socket bolt, M6x16
34	S05-0408	44	Phillips pan head screw, M4x8
35	S12-0600	4	Hexagon nut, M6

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Control Panel Assembly

Pos.	Part #	Qty	Description
36	S15-0613	7	Plain washer, M6-13
37	S16-0600	7	Spring washer, M6

Main Frame Assembly

Pos.	Part #	Qty	Description
1	G10901	1	Main base frame
2	G10902	1	Scrap wheel door
3	G10903	1	Film rack left door
4	G10904	1	Film rack right door
5	G10905	1	Front control cabinet
6	G10906	1	HMI control panel
7	G10907	1	Back center seal door
8	G10908	1	Control panel door
9	G10909	4	Sliding rail
10	G10910	8	Spacer plate
11	G10911	1	Nut plate
12	G10912	1	Entrance guide holder.
13	G10913	1	Entrance guide
14	G10914	1	Roller (SUS304)
15	G10915	1	Sliding bearing support, long
16	G10916	2	Sliding bearing rail, BRH15RBx720L
17	G10917	2	Sliding bearing mounting plate
18	G10918	2	Sliding bearing, BRH15A
19	G10919	1	Sliding bearing support, short
20	G10920	1	Sliding bearing rail bottom cover
21	G10921	2	Limit switch mounting block
22	G10922	1	Limit switch bottom block
23	G10923	1	Limit switch adjust guide
24	G10924	2	Mounting plate
25	G10925	2	Roller support plate
26	G10926	1	Roller (SUS304)
27	G10927	1	Separation bar holder
28	G10928	1	Separation bar holder bracket
29	G10929	1	Separation rod
30	E60702	1	DC drive motor assembly (infeed conveyor)
31	G10931	1	Copper nut
32	G10932	1	DC drive motor mounting bracket
33	E90320	1	HMI, Delta S7111
34	E23301	1	Start switch push button, TE #088980
35	E23302	1	Start switch contactor, TE #089312

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Main Frame Assembly

Pos.	Part #	Qty	Description
36	E23311	1	Emergency stop push button, TE #088874
37	E23312	1	Emergency stop contactor, TE #088940
38	E48303	2	Temperature controller, TAIE FY-400
39	E80221	1	Cable Clamp, M20BL-W
40	E82601	1	Connector socket, HAN 3A-AGW-QB
41	E82602	1	Connector plug, HAN 3A-GG-11
42	E29002	2	Limit switch, TEND TZ-9104
43	E24602	1	Power switch knob
44	S40-7011	1	Gas tank
45	S40-0001	1	Air regulator, MAFR401-10A
46	S40-4021	1	L-type air connector, P80
47	S40-7001	1	Switching valve, HSV-03A
48	S40-7002	1	Quick connector
49	S40-4001	3	Air connector, PL1003T
50	G10950	1	Plexiglass scrap door
51	G10951	1	Plexiglass film rack
52	S35-1001	3	Door lock knob
53	S35-1002	3	Door lock plate
54	S35-1003	3	Control panel lock
55	S35-2001	10	Door hinge
56	S34-1001	4	Caster with brake
57	S26-0012	2	Plastic cover
58	G10958	2	Aluminum square tube
59	S35-3001	8	Connection block
60	S25-300616	3	Plastic head screw, ø30xM6x16L
61	S01-0616	2	Hexagon bolt, M6x16
62	S01-0816	16	Hexagon bolt, M8x16
63	S02-0420	8	Hex socket bolt, M4x20
64	S02-0435	4	Hex socket bolt, M4x35
65	S02-0512	18	Hex socket bolt, M5x12
66	S02-0515	6	Hex socket bolt, M5x15
67	S02-0612	42	Hex socket bolt, M6x12
68	S02-0616	26	Hex socket bolt, M6x16
69	S02-0625	2	Hex socket bolt, M6x25
70	S02-0635	7	Hex socket bolt, M6x35

Pos.	Part #	Qty	Description
71	S02-0820	4	Hex socket bolt, M8x20
72	S02-0860	2	Hex socket bolt, M8x60
73	S03-0515	4	Socket head cap screw, M5x15
74	S07-0408	16	Flat head machine screw, M4x8
75	S08-0312	2	Truss head machine screw, M3x12
76	S08-0416	8	Truss head machine screw, M4x16
77	S09-0610	2	Hex socket set screw, M6x10
78	S13-0400	16	Lock nut, M4
79	S13-0600	7	Lock nut, M6
80	S15-0410	20	Plain washer, M4-10
81	S15-0513	4	Plain washer, M5-13
82	S15-0613	23	Plain washer, M6-13
83	S15-0820	24	Plain washer, M8-20
84	S16-0400	4	Spring washer, M4
85	S16-0500	6	Spring washer, M5
86	S16-0600	8	Spring washer, M6
87	S16-0800	24	Spring washer, M8
88	G10988	1	Nut
89	G10989	2	Square nut, M6
90	S03-0620	2	Socket head cap screw, M6x20

SAFETY SHIELD ASSEMBLY

Pos.	Part #	Qty	Description
1	G11001	1	Safety shield main frame
2	G11002	1	Front door
3	G11003	1	Back cover
4	G11004	1	Film wheel cover
5	G11005	1	Seal cylinder upper cover
6	G11006	1	Safety shield right side support
7	G11007	2	Front door cylinder bracket
8	G11008	1	Handle holding plate
9	G11009	1	Back cover holding plate
10	G11010	2	Guide roller
11	G11011	1	Guide roller shaft
12	G11012	1	Roller shaft
13	G11013	1	Plastic roller
14	G11014	2	Gas spring
15	E86110	2	Front door hinge, HC AA
16	E86111	1	Door safety switch, HC AA050F-2PN
17	G11017	1	Aluminum rail
18	S26-0011	2	Aluminum rail end cover
19	S25-300616	1	Plastic screw, ø30xM6x16L
20	G11020	1	Plastic handle
21	G11021	1	Steel handle
22	G11022	1	Front door right side plexiglass, 6Tx740x740
23	G11023	1	Front door left side plexiglass, 6Tx560x560
24	G11024	1	Discharge conveyor side plexiglass, 6Tx310x560
25	G11025	1	Infeed conveyor side plexiglass, 6Tx310x641
26	G11026	1	Back cover left side plexiglass, 6Tx560x620
27	G11027	1	Back cover right side plexiglass, 6Tx350x780
28	G11028	1	Edge protector
29	S02-0510	21	Hex socket bolt, M5x10
30	S02-0512	10	Hex socket bolt, M5x12
31	S02-0516	12	Hex socket bolt, M5x16
32	S02-0616	18	Hex socket bolt, M6x16
33	S02-0620	2	Hex socket bolt, M6x20
34	S02-0816	2	Hex socket bolt, M8x16
35	S03-0612	2	Socket head cap screw, M6x12

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Safety Shield Assembly

Pos.	Part #	Qty	Description
36	S03-0616	2	Socket head cap screw, M6x16
37	S09-0606	2	Hex socket set screw, M6x6
38	S13-0400	60	Lock nut, M4
39	S13-0600	2	Lock nut, M6
40	S13-0800	4	Lock nut, M8
41	S15-0410	60	Plain washer, M4-10
42	S15-0510	16	Plain washer, M5-10
43	S15-0616	16	Plain washer, M6-16
44	S16-0500	28	Spring washer, M5
45	S16-0600	19	Spring washer, M6
46	S24-S10	1	External circlip, S-10
47	G11047	2	Stopper ring
48	S09-0506	2	Hex socket set screw, M5x6

Film Wheel Assembly

Pos.	Part #	Qty	Description
1	G11101	1	Film wheel cover
2	G11102	1	Film wheel mounting plate
3	G11103	1	Aluminum plate (A)
4	G11104	1	Aluminum plate (B)
5	G11105	1	Aluminum plate (C)
6	G11106	1	Aluminum plate (D)
7	G11107	4	Aluminum plate (E)
8	G11108	2	90° Transmission block fix bracket
9	G11109	1	Aluminum plate (F)
10	G11110	1	Aluminum plate (G)
11	G11111	1	Teflon block fix plate
12	G11112	2	Teflon block
13	G11113	4	Copper bush
14	G11114	2	Belt tension adjust block
15	G11115	1	Cylinder spacer
16	G11116	1	Upper bearing housing
17	G11117	2	90° Transmission block
18	G11118	1	Bottom bearing housing
19	G11119	2	Rubber wheel
20	G11120	4	Aluminum wheel
21	G11121	4	Aluminum wheel shaft
22	G11122	1	Upper drive screw
23	G11123	1	Bottom drive screw
24	G11124	1	90° Shifting screw
25	G11125	4	Washer, M6 4Tx2506
26	G11126	2	Spacer
27	G11127	1	Anti-dog ear mounting bracket
28	G11128	1	Aluminum channel
29	G11129	1	Anti-dog ear device
30	G11130	1	Sliding plate
31	G11131	2	Driving belt, 5PJ864
32	S25-300616	1	Plastic head screw, ø30xM6x16
33	G11133	3	Spring
34	E60606	1	Gear motor, 220V/ 3PH.,1/4Hp, 1:10
35	S40-1011	1	Pneumatic cylinder, MCJT-C-12-32-10M

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Film Wheel Assembly

Pos.	Part #	Qty	Description
36	S40-2003	2	Flow valve, JSC0601A
37	S36-5PJ864	2	Driving belt, 5PJ-864
38	S52-2015	4	Metal bushing, 2015
39	S50-6901	8	Ball bearing, 6901ZZ
40	S50-6002	1	Ball bearing, 6002ZZ
41	S50-6004	5	Ball bearing, 6004ZZ
42	S01-0640	2	Hexagon bolt, M6x40
43	S01-0825	2	Hexagon bolt, M8x25
44	S02-0420	6	Hex socket bolt, M4x20
45	S02-0508	2	Hex socket bolt, M5x8
46	S02-0520	4	Hex socket bolt, M5x20
47	S02-0535	17	Hex socket bolt, M5x35
48	S02-0550	4	Hex socket bolt, M5x50
49	S02-0612	8	Hex socket bolt, M6x12
50	S02-0616	12	Hex socket bolt, M6x16
51	S02-0620	10	Hex socket bolt, M6x20
52	S04-0616	4	Flat socket head screw, M6x16
53	S07-0408	4	Flat head machine screw, M4x8
54	S09-0520S	8	Hex socket set screw, M5x20-SUS
55	S12-0600	6	Hexagon nut, M6
56	S13-0500	11	Lock nut, M5
57	S15-0410	6	Plain washer, M4-10
58	S15-0510	22	Plain washer, M5-10
59	S15-0616	2	Plain washer, M6-16
60	S15-0816	2	Plain washer, M8-16
61	S15-1218	8	Plain washer, M12-18
62	S16-0600	18	Spring washer, M6
63	S16-0800	2	Spring washer, M8
64	S21-0625	2	Round end key, 6x25
65	S21-0670	1	Round end key, 6x70
66	S23-R42	4	Internal circlip, R-42
67	S24-S12	4	External circlip, S-12
68	S24-S15	1	External circlip, S-15
69	S24-S19	2	External circlip, S-19
70	S28-AN04	2	Disk lock nut, AN04

Pos.	Part #	Qty	Description
71	S31-0670	1	Screw, M6x70L
72	S26-0011	2	Aluminum channel plastic blank cover

PP180838 Upper Main Frame

Pos.	Part #	Qty	Description
1	C06101	1	Upper main frame
2	C06102	1	Upper main frame top cover
3	C06103	1	Upper main frame back cover
4	C06104	1	Cooling fans bracket
5	C06105	1	Exit conveyor bracket - front
6	C06106	1	Exit conveyor bracket - back
7	C06107	1	Control panel plate
8	C06108	1	Circuit breaker mounting bracket
9	C06109	3	Exit conveyor bracket connecting rod
10	C06110	8	Exit conveyor roller
11	C06111	2	View window plexiglass
12	E52110	6	Cooling fan safety net
13	E52101	4	Cooling fan, 220V
14	E07101	1	Circuit breaker, BH2P-50A
15	E80103	1	Cable glands, MG-25A-18
16	E80110	1	Cable glands, NB-1216
17	E24200	1	Power switch, P0160002R+0001-1
18	E47100	1	Speed potentiometer knob
19	E45100	1	Potentiometer, B-203
20	E48303	1	Temperature controller, FY-400-101
21	E22112	1	White heater switch, 220V
22	E22131	1	Green push start switch, 220V, LBF 22
23	E22700	1	Emergency stop switch, LEB 22
24	B51033	4	Exit conveyor mounting screw
25	S01-0616	6	Hexagon bolt, M6x16
26	S02-0620	2	Hex socket bolt, M6x20
27	S03-0408	4	Socket head cap screw, M4x8
28	S05-0410	2	Phillips pan head screw, M4x10
29	S05-0510	24	Phillips pan head screw, M5x10
30	S05-0625	6	Phillips pan head screw, M6x25
31	S08-0516	16	Truss head machine screw, M5x16
32	S12-0500	24	Hexagon nut, M5
33	S14-0400	12	Domed cap nut, M4
34	S15-0613	6	Plain washer, M6x13
35	S16-0600	6	Spring washer, M6

PP180838 Upper Main Frame P-1

Pos.	Part #	Qty	Description
36	S17-0600	6	External tooth lock washer, M6
37	E79003	1	Power cable
38	E79201	1	Conveyor motor cable

PP180838 Upper Main Frame P-2

PP180838 Bottom Main Frame

Pos.	Part #	Qty	Description
1	C06201	1	Bottom main frame
2	C06202	1	Bottom main frame back cover
3	C06203	2	Sliding bearing - rails
4	C06204	4	Sliding bearing - block
5	C06205	2	Caster
6	C06206	2	Caster with brake
7	S02-0620	4	Hex socket bolt, M6x20
8	S02-0415	12	Hex socket bolt, M4x15
9	S02-0515	16	Hex socket bolt, M5x15
10	S16-0500	16	Spring washer, M5
11	S15-0510	16	Plain washer, M5x10
12	S01-0820	16	Hexagon bolt, M8x20
13	S16-0800	16	Spring washer, M8
14	S15-0823	16	Plain washer, M8x23

PP180838 Bottom Main Frame

PP180838 Conveyor Section

Pos.	Part #	Qty	Description
1	C06301	1	Conveyor main frame
2	C06302	1	Bottom air channel cover
3	C06303	1	Conveyor exit cover
4	C06304	2	Shaft cover holding plate
5	C06305	1	Idle shaft cover
6	C06306	1	Drive shaft cover
7	C06307	1	Motor mounting bracket
8	C06308	1	Motor L bracket
9	C06309	1	Upper chain guide, back side
10	C06310	1	Upper chain guide, front side
11	C06311	1	Bottom chain guide, back side
12	C06312	1	Bottom chain guide, front side
13	C06313	1	Copper nut bracket
14	C06314	2	Entry roller bracket
15	C06315	1	Entry roller
16	C06316	2	Discharge roller
17	C06317	80	Conveyor roller with silicon coverage, 3/8x407L
		120	High Density rollers
18	C06318	1	Idle shaft, 15Dx520
19	C06319	1	Drive shaft, 15Dx580
20	C01312	2	Idle sprocket
21	C06321	1	Drive sprocket - double
22	C01311	1	Drive sprocket - single
23	C06323	1	Motor sprocket
24	C06324	2	Conveyor chain, 1/2x160L
25	C06325	1	Motor chain, 1/2x48L
26	C01317	2	Bearing seat
27	S50-6202	4	Ball bearing, 6202zz
28	C06328	1	Copper nut
29	C06329	1	Screw
30	C06300	1	Plastic knob
31	E54304	1	Conveyor motor, 40RGN-20K
32	S01-0616	12	Hexagon bolt, M6x16
33	S01-0620	4	Hexagon bolt, M6x20
34	S01-0625	4	Hexagon bolt, M6x25
35	S01-06100	2	Hexagon bolt, M6x100

PP180838 Conveyor Section P-1

Pos.	Part #	Qty	Description
36	S02-0685	4	Hex socket bolt, M6x85
37	S03-0620	2	Socket head cap screw, M6x20
38	S04-0412	2	Flat socket head screw. M4x12
39	S05-0615	4	Phillips pan head screw, M6x15
40	S09-0610	3	Hex socket head set screw, M6x10
41	S09-0810	4	Hex socket head set screw, M8x10
42	S10-0410	6	Pan head tapping screw, M4x10
43	S12-0600	10	Hexagon nut, M6
44	S15-0613	8	Plain washer, M6x13
45	S15-0620	16	Plain washer, M6x20
46	S16-0600	24	Spring washer, M6
47	S24-S15	4	External circlip, S15

PP180838 Tunnel Chamber & Control Components

Pos.	Part #	Qty	Description
1	C06401	1	Tunnel chamber frame
2	C06402	1	Tunnel front door
3	C06403	1	Tunnel rear door
4	C06404	1	Frame A
5	C06405	1	Frame B
6	C06406	2	Upper curtain holding bracket
7	C06407	2	Bottom curtain holding bracket
8	C06408	2	Glass window holder
9	C06409	1	Blower chamber top cover
10	C06410	1	Blower chamber cover plate
11	C06411	1	Blower chamber
12	C06412	1	Velocity plate
13	C06413	1	Heater bank mounting bracket
14	C06414	1	Heater bank connecting block
15	C06415	1	Electrical mounting bracket
16	C06416	1	Speed control board mounting bracket
17	C06417	1	Velocity inner shaft
18	C06418	1	Velocity outer shaft
19	C06419	1	Velocity sticker plate
20	C06420	1	Velocity knob
21	C06421	2	Tunnel curtain
22	E72300	1	Heater bank, 9KW
23	E94000	2	Light bulb socket
24	E94101	2	Light bulb, 40W
25	E61201	1	Blower motor, 1HP
26	E61002	1	Blower assembly, CY-190
27	E50200	1	Thermo-switch, B-100
28	E50100	1	Thermo-switch, A-90
29	E04112	1	Speed control board, 220V
30	E09301	1	Magnetic contactor, CU-27
31	E32301	2	Fuse block, RT18-63X
32	E09101	2	Magnetic contactor, CU-11
33	E14201	1	Overload contactor, RHU-10, 5.5-7.5A
34	E33101	2	Fuse seat, TFB102 (2P-10A)
35	E30502	4	Assembly connector, TA-101 10A/600V

PP180838 Tunnel Chamber & Control Components P-1

Pos.	Part #	Qty	Description
36	E30203	1	Connector, 30A/600V-3P
37	E42401	1	SSR, JKAC2C55A
38	E36801	3	Fuse 1A (30mm)
39	E36803	1	Fuse 3A (30mm)
40	C06440	1	Aluminum bracket A
41	C06441	1	Aluminum bracket B
42	E30503	1	Assembly connector stopper, BNL-6
43	C06443	1	Cable channel A
44	C06444	1	Cable channel B
45	C06445	1	Cable channel C
46	C06446	1	Cable channel D
47	C06447	4	High temperature glass
48	S01-0616	6	Hexagon bolt, M6x16
49	S01-0620	4	Hexagon bolt, M6x20
50	S05-0310	3	Phillips pan head screw, M3x10
51	S05-0408	5	Phillips pan head screw, M4x8
52	S05-0412	4	Phillips pan head screw, M4x12
53	S08-0306	4	Truss head machine screw, M3x6
54	S10-0410	68	Pan head tapping screw, M4x10
55	S15-0308	4	Plain washer, M3x08
56	S15-0310	3	Plain washer, M3x10
57	S15-0616	4	Plain washer, M6x16
58	S16-0300	4	Spring washer, M3
59	S16-0600	4	Spring washer, M6
	E49103	1	Thermocouple
	E36350	2	Fast power fuse 50A/600V
	E65105	1	Conveyor motor capacitor, 2.5uf/450V

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