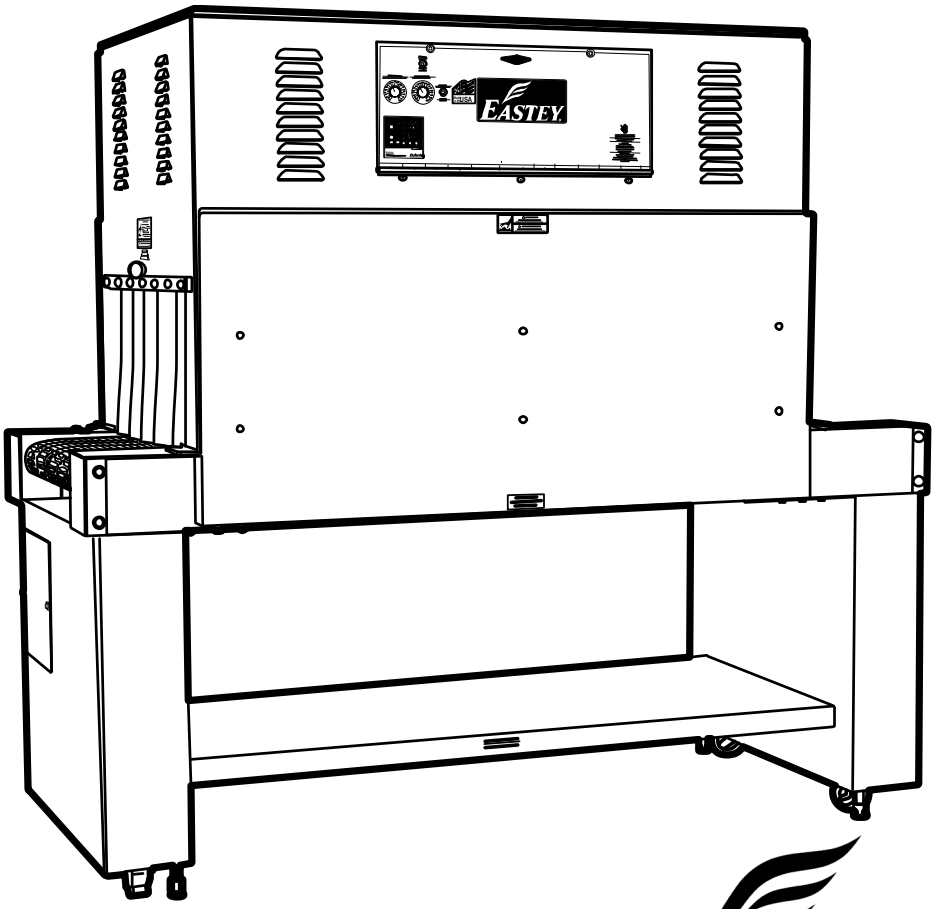
ET

ET2008, ET2012, ET2016, ET2020, ET2408, ET2412, ET2416, ET2420, ET3608, ET3612, ET3616, ET3620, ET4808, ET4812, ET4816, ET4820, ET5608, ET5612, ET5616, ET5620, ET7008, ET7012, ET7016, and ET7020

Professional Series Shrink Tunnels

User Guide



EASTEY®

ET

ET2008, ET2012, ET2016, ET2020, ET2408, ET2412, ET2416, ET2420, ET3608, ET3612, ET3616, ET3620, ET4808, ET4812, ET4816, ET4820, ET5608, ET5612, ET5616, ET5620, ET7008, ET7012, ET7016, and ET7020

Professional Series Shrink Tunnels

User Guide

This User Guide is also available in digital form at:

Eastey.com/Support/User-Guides-Drawings

Check periodically for the most current revision.

Revised 05/08/2024

PN ET001000 Rev B

Copyright and Trademarks

Eastey
7041 Boone Ave N.
Brooklyn Park, MN 55428

Phone: (763) 428-4846; Fax: (763) 795-8867; Toll Free: 1-800-835-9344
www.eastey.com

Contents

We Help Companies Deliver Products to the World

Thank you for choosing the Eastey Conveyors for your conveyor needs. Eastey Conveyors are perfect for integration with Squid Ink ink jet printing equipment. Eastey and Squid Ink are both part of Engage Technologies, an ISO 9001-2015 certified company that has steadily built a solid reputation for quality since 1979. Engage is known for providing rugged, durable, reliable packaging equipment to help companies deliver their products to the world.

Each Engage Technologies company – Squid Ink, Eastey, and American Film & Machinery (AFM), focuses on a different part of the packaging section of the production line.

ENGAGE *technologies corporation*

Squid Ink (www.SquidInk.com)
Coding and marking equipment, inks, and fluids for product identification and traceability

Eastey (www.Eastey.com)
Automated shrink wrapping and bundling, automated case sealing, case erecting and product handling

AFM (www.AFMSleeves.com)
Automated shrink sleeve labeling equipment, tamper-evident banding equipment, shrink tunnels and shrink sleeve consumables

When you purchase your packaging equipment from the Engage Technologies family of companies, you can feel confident that you have a machine that is first in quality and built to last. Thank you for choosing us for your packaging needs.

This User Guide is available online

This User Guide is also available from the Eastey Support Website in electronic format for web browsers and e-readers. Go to Eastey.com >> Support >> User Guides and Drawings to see available User Guides, or scan the QR Code at right using the camera app on your mobile device to see available user guides.

Safety

Read this manual carefully and make it available to everyone connected with the supervision, maintenance, or operation of this machine. Additional copies are available on request (Eastey.com/contact-us).

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. However, proper installation, regular maintenance, and safe operation procedures are of far greater importance for safety of the operator and others than our design. Only properly trained individuals following rigidly enforced safety rules, as recommended by ANSI and OSHA should be allowed to operate these machines.

Lockout / Tagout

Lockout/tagout procedures are safety-related practices developed, documented, and implemented by your company. Lockout/tagout procedures require safely shutting down and disabling the energy input to the machine and any connected equipment that could result in injury or equipment damage in accidental startup were to occur during inspection, maintenance, adjustment, or repairs. Part of disabling the energy input typically involves applying physical lock(s) to the energy input(s) so that the system cannot be accidentally restarted. Typical energy inputs include electrical, air, fluid, hydraulic, gravity, heat, or steam.

Your company must have lockout/tagout procedures in place for this machine before use. To prevent injury or equipment damage due to accidental startup, all inspection, maintenance, adjustments, or repairs to the machine must be governed by your company's lockout/tagout procedures and OSHA requirements and best practices,

WARNING: Failure to follow lockout/tagout practices can result in serious injury and/or equipment damage and may void the warranty

Note: OSHA provides information on lockout/tagout best practices consistent with Title 29, Code of Federal Regulations (CFR), Part 1910.147 and 1910.333, as a basis for companies to develop their own lockout/tagout procedures.

Be very careful when operating, adjusting, or servicing this equipment. If in doubt, stop and obtain qualified help before proceeding.

Lockout/Tagout on the Eastey ET-Professional Series Shrink Tunnels

Energy input for the Eastey ET Professional Series Shrink Tunnels is electrical. To power down the system prior to Lockout/Tagout, refer to special notes about the tunnel shutdown sequence in this User Guide. Shutting down the tunnel using the preferred shutdown sequence helps prevent damage to the conveyor and internal components from excess prolonged exposure to heat inside the tunnel.
After the heater bank switches have been switched off, it will take some time (which may vary depending on heat settings) for the tunnel to cool down completely. When the

tunnel cools to approximately 150° F or 66° C (unless a different cool-down temperature has been set) the tunnel conveyor and blowers will shut off automatically. At this point, the tunnel is in a standby state, where power has been shut off to the conveyor and heating elements, but the lights and controller are using minimal power. Shutting off the main power switch shuts off main power to the tunnel, but there is no provision for lockout/tagout on the main power toggle switch. Toggle the Power switch to the Off position and disconnect (unplug) the power cord from electrical energy input and follow the lockout/tagout rules and procedures developed by your company,

Be sure to follow your company's lockout/tagout procedures for the Eastey Professional Series Shrink Tunnel and all equipment connected to it, for example, L-Sealers or sleeve wrappers, printers or scanners or other equipment in accordance with your company's lockout/tagout procedures.

Note: Lockout mechanism(s), padlock(s), and identification tag(s) are the responsibility of your company in accordance with your company's lockout/tagout rules and procedures, and are not provided by Eastey.

Safety Precautions

Before installing, operating or servicing this equipment, please read the following precautions carefully:

- Always disconnect electrical power before attempting maintenance for any electrical or moving parts, following the Lockout/Tagout best practices as governed by your company and OSHA. Do not place hands, head, or any part of the body inside the confines of the machine unless the mechanism is securely fastened and the electrical supply is shut off and all sources of energy have been neutralized and locked out/tagged out in accordance with your company's lockout/tagout best practices.
- Do not tamper with electrical wiring. Use only the specified power-supply cable. Use only licensed electricians to check or repair electrical wiring.
- In order to prevent damage to the machinery or injury to personnel, do not increase the factory settings on either the electrical or mechanical overload safety devices. Do not operate a machine if such modifications have been made.
- Keep hands away from moving conveyors and moving parts. Conveyor belts that have become worn or frayed can be hazardous and should be replaced promptly.
- 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 in-running nip points, many of which are capable of causing severe injury and permanent disfiguration.
- To minimize the potential for personal injury, always be sure that the 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.

- Tunnel sides and conveyor surfaces can become very hot after a period of use. Keep hands away while in operation and use caution if the machine has been running recently. Allow the machine to cool to ambient temperature in accordance with the special notes about the tunnel shutdown sequence and in accordance with your company's lockout/tagout rules and procedures.
- Do not make any modifications to either the electrical circuitry or the mechanical assemblies of this machinery. Such modifications may introduce hazards that would not otherwise be associated with this machinery. Eastey will not be responsible for any consequences resulting from such unauthorized modification. Do not operate a machine if any modification has been made.
- This equipment is designed for indoor operation in a typical clean, dry factory environment. Do not operate the machine in any extremely wet or oily environment that may exceed operating specifications. Outdoor use is not recommended.
- The use of certain types of plastic films in sealing and/or shrink-wrapping equipment may result in the release of hazardous fumes due to 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 should be provided at all times.
- Keep combustible materials away from this equipment. The equipment may be a source of ignition.
- Do not wear loose clothing such as ties, scarves, jewelry, etc. Long hair should be pulled back and/or covered while operating this machine.

Explanation of Symbols

Caution sign or Safety Alert symbol. Indicates caution, be alert, Your safety is involved. Knowledge of safe operation is required.

Ground symbol. Indicates ground. Use Class-3 (lower than 1000) cable to ground to earth. Incomplete grounding may lead to electrical shock.

Electrical hazard. Indicates electrical danger. Only a trained electrician can uncover the electrical panel or box.

Electrical shock hazard. Indicates electrical shock danger from exposed or broken wires or electrical components. Only a trained electrician can uncover the electrical panel or box.

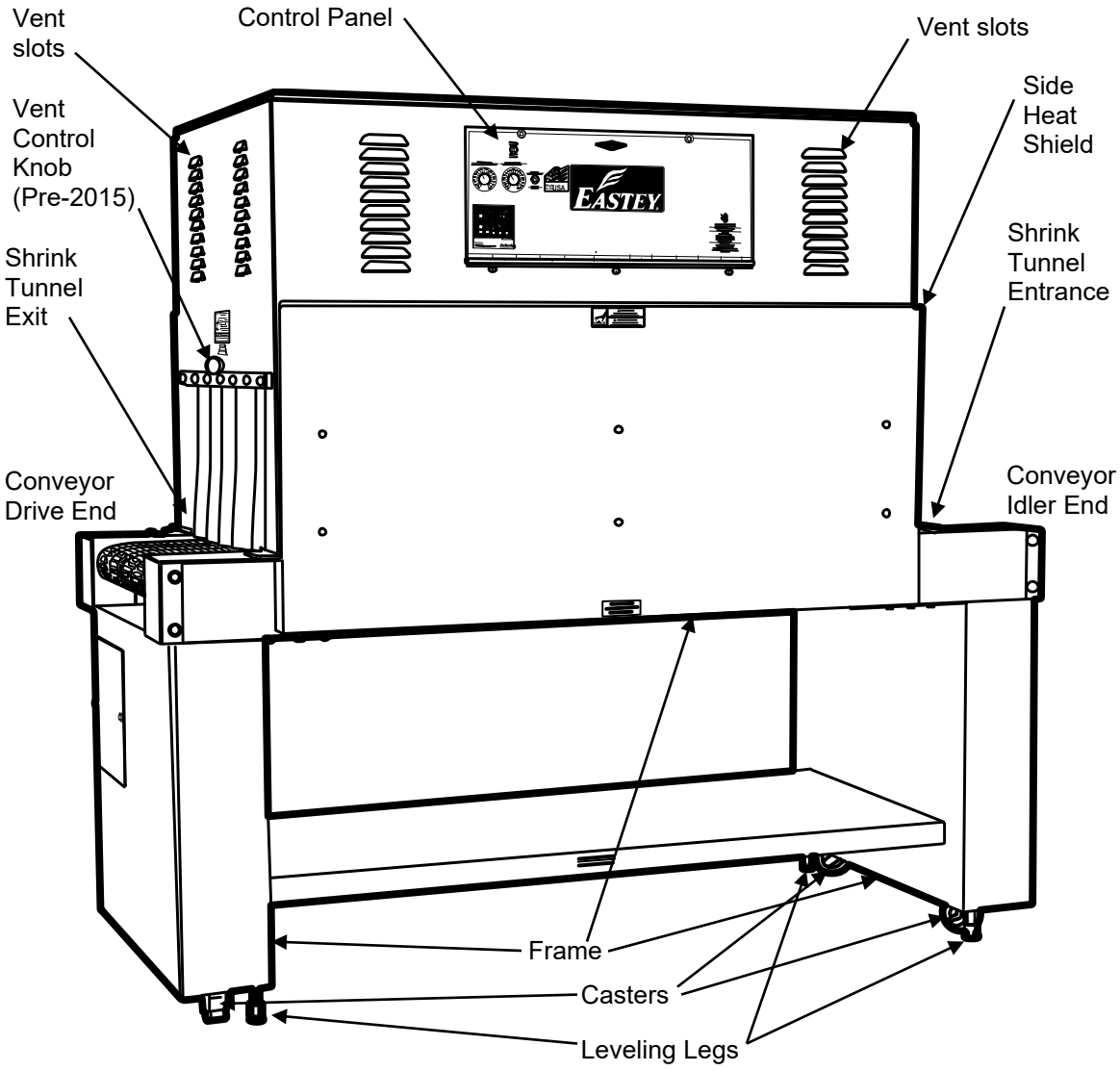
Burn hazard. Indicates a hot surface. Do not place your hand on or touch the hot surface, as doing so could result in burns. Shut down the machine and allow the surface to cool before touching surface.

Pinch hazard. Do not place your hands or any object on the moving mechanism. Shut down the machine before performing maintenance.

Moisture hazard. Keep equipment dry. This equipment is designed for indoor operation in a typical clean, dry factory environment, protected from rain and moisture. Do not operate the machine in any extremely wet or oily environment that may exceed operating specifications.

Introduction

Eastey EB Professional Series Shrink Tunnel Overview



Specifications

Table 1 Machine Dimensions

Model Number	Machine Dimensions			Chamber Dimensions			Conveyor Width	Conveyor Length
	Width (A)	Height (B)	Length (C)	Width	Height	Length		
ET2008 – ET2020	33 in. 84 cm	56-72 in. 142-183 cm	74 in. 188 cm	20 in. 51 cm	4-20 in. 10-51 cm	52 in. 132 cm	20 in. 51 cm	72 in. 183 cm
ET2408 – ET2420	37 in. 94 cm	56-72 in. 142-183 cm	74 in. 188 cm	24 in. 60 cm	4-20 in. 10-51 cm	52 in. 132 cm	24 in. 60 cm	72 in. 183 cm
ET3608 – ET3620	49 in. 124 cm	56-72 in. 142-183 cm	74 in. 188 cm	36 in. 91 cm	4-20 in. 10-51 cm	52 in. 132 cm	36 in. 91 cm	72 in. 183 cm
ET4808 – ET4820	61 in. 155 cm	56-72 in. 142-183 cm	74 in. 188 cm	48 in. 91 cm	4-20 in. 10-51 cm	52 in. 132 cm	48 in. 91 cm	72 in. 183 cm
ET5608 – ET5620	69 in. 124 cm	56-72 in. 142-183 cm	74 in. 188 cm	56 in. 121 cm	4-20 in. 10-51 cm	52 in. 132 cm	56 in. 121 cm	72 in. 183 cm
ET7008 – ET7020	83 in. 211 cm	56-72 in. 142-183 cm	74 in. 188 cm	70 in. 179 cm	4-20 in. 10-51 cm	52 in. 132 cm	70 in. 179 cm	72 in. 183 cm

Table 2 Standard Power Requirements

Model Number	Standard Power		
	Volts	Amps	Phase
ET2008 – ET2020	220	50	3
ET2408 – ET2420	220	50	3
ET3608 – ET3620	220	50-60	3
ET4808 – ET4820	220	80-90-110	3
ET5608 – ET5620	220	90-110	3
ET7008 – ET7020	220	90-110	3

Table 3 Machine Weights

Model Number	Net Weight	Shipping Weight
ET2008 – ET2020	900 lbs. 410 kg.	1200 lbs. 546 kg
ET2408 – ET2420	1000 lbs. 455 kg	1250 lbs. 569 kg
ET3608 – ET3620	1300 lbs. 591 kg	1600 lbs. 728 kg
ET4808 – ET4820	1700 lbs. 773 kg	2000 lbs. 910 kg
ET5608 – ET5620	2000 lbs. 910 kg	2300 lbs. 1047 kg
ET7008 – ET7020	2500 lbs. 1138 kg	2800 lbs. 1247 kg

Table 4 Voltage and Phase Options

Voltage / Phase Designator	Volts	Phase
V1	220	1
V2	220	3
—	—	—
V6	480	3

Table 5 Belt Designator

Belt Designator	Belt Type
MB	Stainless-Steel Mesh Belt
LR	Live Roller
DR	Dead Roller
PB	Plastic Belt

Explanation of Model Numbers

- E = Manufactured by Eastey Enterprises Inc., division of Engage Technologies.
- T = Tunnel; machine is a Professional Series Shrink Tunnel.
- _ _ = 20, 24, 36, 48, 56, or 70 — First two digits indicate the nominal chamber width or width of the conveyor belt in inches: 20, 24, 36, 48, 56, or 70 inch conveyor widths are available. (Chamber width will typically be approximately equal to the width of the conveyor.)
- _ _ = 08, 12, 16, or 20 — Remaining two digits indicate height of the bundling chamber in inches: 8 inch, 12 inch, 16 inch, or 20 inch chamber height.
- _ _ = MB, LR, DR, or PB — Indicates the conveyor type. MB indicates a stainless steel mesh belt, standard. LR indicates Live Roller
- V _ = V1, V2, or V6 — Indicate the Voltage and Phase required for input power. V2 = 220V, three-phase is the standard voltage; 220V, single-phase and 480V, three-phase phase are options available on some models.
- Additional letters and numbers after the voltage and phase indicate additional information if required.

Example:

- Model number ET3620-MBV2-nnnn: ET indicates that it is an Eastey Shrink Tunnel. 3620 indicates the conveyor width is 36 inches (chamber width is approximately the same) and chamber height is 20 inches. MB indicates that the conveyor uses stainless steel mesh belt, and V2 indicates 220 volts and three phase. If SP appears in the model number suffix, this indicates it is a custom model (special project) and the numbers following SP (final numbers of the model number) indicate the project number.

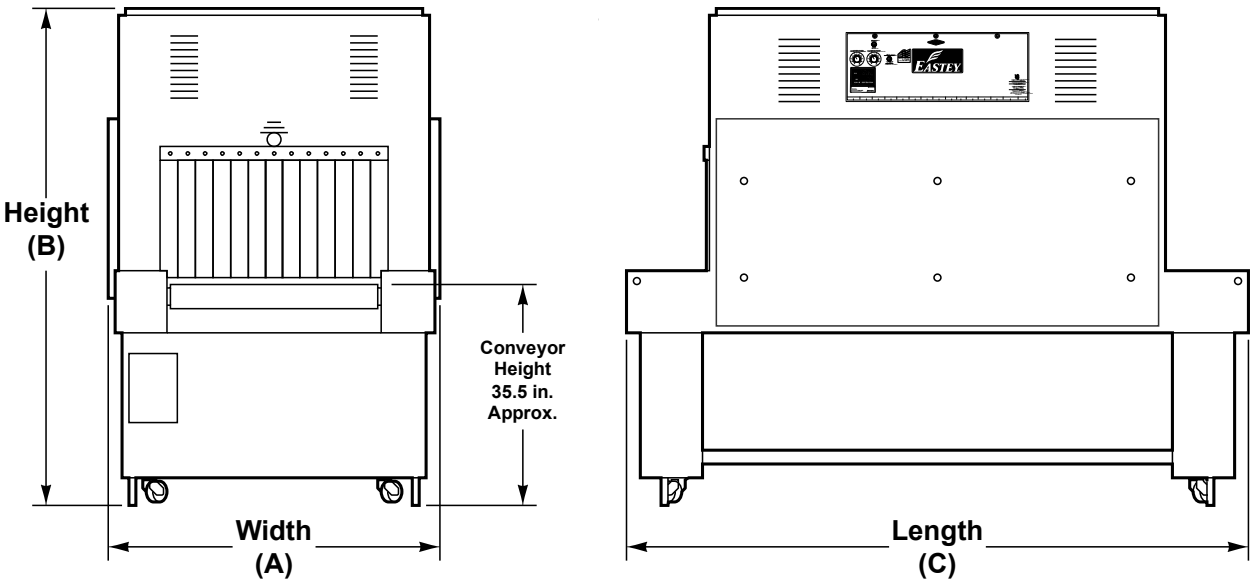
Standard features

- Designed to shrink-seal most polyolefin, polyethylene, and PVC shrink films
- All-welded main frame from 12-gauge steel
- Live roller, “dead” roller, or stainless steel mesh belt conveyor standard; optional plastic belt conveyor
- Sealed bearings (not bushings) on drive and idler shafts
- Adjustable digital solid-state temperature control for a variety of films
- Four-directional air-flow provides positive shrinking
- Variable air-flow and air velocity for a variety of products and applications
- Bottom air flow adjustment — full on, half on, or full off
- Large ducting creates more air volume inside tunnel
- Plugs available for patterned air flow

- Optional side plates (top and sides) for air flow patterning and quick changeover for different products
- Delayed cool down and over-temperature protection
- Fold-down electrical control panel for easy maintenance
- Live roller conveyor speed up to 67 fpm, mesh belt conveyor speed up to 100 fpm
- Heavy duty casters for transportation within plant
- Leveling legs provide sturdy base once in place
- Custom two-part epoxy finish resists scratching
- Stainless steel models available on ET2008, ET2012, ET2016, and ET2020
- 220V three-phase power input standard, some models optionally available for 220V single-phase or 480 three-phase power input
- Easy to use design requires minimal training and maintenance, and trouble-free operation
- Made in the USA

Dimensions

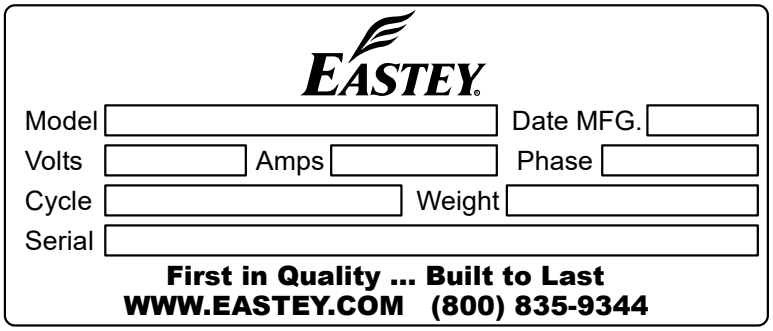
See the table on page 10 (Machine Dimensions in Specifications table) for overall machine dimensions of width, height, and length.



Machine Serial Number

The machine serial number can be found on the serial plate on the side of the machine near the control panel.

The serial plate displays the Model number, Date of manufacture, weight, Serial number, and electrical power requirements.



Record the serial number and date of manufacture for future reference.

Note the electrical power characteristics listed below the model number. These specify the electrical power requirements of the conveyor.

Typical Applications

Eastey ET Professional Series Shrink Tunnel

Eastey ET Professional Series Shrink Tunnel can be used for shrink wrapping a wide range of products, limited only by package width and weight of contents. The shrink tunnel is designed to shrink seal most polyolefin, polyethylene, and PVC shrink film.

Eastey ET Professional Series Shrink Tunnels are particularly suitable for packaged goods of moderate size and weight, and are designed and manufactured with maximum compatibility for use with Eastey's full line of L-sealers and shrink wrappers.

Do NOT use the Eastey ET Professional Series Shrink Tunnel for the following types of products:

- Explosive Products
- Flammable Products
- Hazardous Products
- Wet Products or Corrosives
- Products that are heaver or larger than allowed by the machine specifications.

Do not operate the Eastey ET Professional Series Shrink Tunnel in any extremely wet or oily environment that may exceed operating specifications. This equipment is designed for indoor operation in a typical clean, dry factory environment protected from rain and moisture.

Unpacking

Thoroughly inspect the equipment and packaging immediately on arrival.

Carefully remove the outer protective shipping wrapper. Inspect the machine for any damage that may have occurred during transit. If goods are received short or in damaged condition, it is important that you notify the carrier's driver before they leave your company and insist on a notation of the loss or damage across the bill of lading. Otherwise no claim can be enforced against the transportation company. Please note that a copy of this document is attached to the outside of every crate.

If concealed loss or damage is discovered, notify your carrier at once and **insist** on an inspection. This is absolutely necessary. A concealed damage report must be made within ten (10) days of delivery of shipment.

Unless you do this, the carrier will not entertain any claim for loss or damage. The agent will 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 **five** (**5**) months of the delivery date or the carrier will not accept them.

We are willing to assist you in every reasonable manner to help you collect claims for loss or damage. However, this willingness on Eastey's part does not make Eastey or its parent or related companies responsible for collections or claims or replacement of equipment damaged or lost in transit.

Installation

Carefully unpack the outer carton and shipping material and lift the machine up and off of the shipping pallet. Although the exterior of the shrink tunnel is coated with a custom two-part epoxy finish that resists scratching, avoid denting, scratching, or otherwise damaging the oven exterior.

CAUTION! **ET Professional Series Shrink Tunnels are heavy and may require a forklift, floor crane, or several people to move the machine safely. Use proper equipment when lifting the shrink tunnel and ensure it is secure and will not shift while being moved off the shipping pallet.**

Place the shrink tunnel in the desired location with the required electrical power source available. (See power requirements for the specific model in the Specifications table.) Make sure the electrical wiring is adequate to provide the required voltage. If the voltage provided is too low, the equipment will not operate correctly.

Selecting the proper location is one of the most important considerations for initial setup. When selecting the location, take into consideration the following factors.

1. Adequate power supply nearby?

2. Where is the shrink tunnel in relation to the power source?

3. Where is the shrink tunnel in relation to the sealer and any conveyor(s) necessary to move wrapped and bundled (finished) product? (Alignment with packaging line.)

4. Convenience for the operator.

Note: **Avoid locating the shrink tunnel in cold or drafty areas, as heat may be unintentionally drawn from the tunnel and reduce its efficiency.**

If there is any doubt, get qualified assistance with your initial installation.

Location Requirements

When installing the shrink tunnel please be aware of the following considerations:

1. The surface on which it is located is flat and level.

2. Conveyor or packing table height.

3. Alignment with packaging line.

When the shrink tunnel is positioned in the operating location you will need access to the control panel.

Provision should be made for finished exiting packages. For example, a table or bin where packages that have been sealed will be placed until they can be picked up or moved out.

Take into consideration the entrance conveyor height in relation adjacent machinery, such as the sealer feeding into it, for example.

The machine should be placed on a flat, level floor so that it does not rock or move. We recommend that the leveling feet be used to level the machine.

Set up the shrink tunnel and move it to its location. The casters allow easy movement over smooth flat surfaces.

CAUTION! **If the shrink tunnel must be lifted for moving, use proper equipment when lifting and moving it to ensure it is secure and will not shift.**

When the shrink tunnel has been moved to its location, use the leveling legs to level the conveyor and adjust it to its final height. A power cord to the main electrical disconnect switch (with optional electrical plug) should be installed by a licensed electrician.

Refer to instructions in the Operation section for instructions to power up or shut down the machine.

Special Notes About the Tunnel Shutdown Sequence

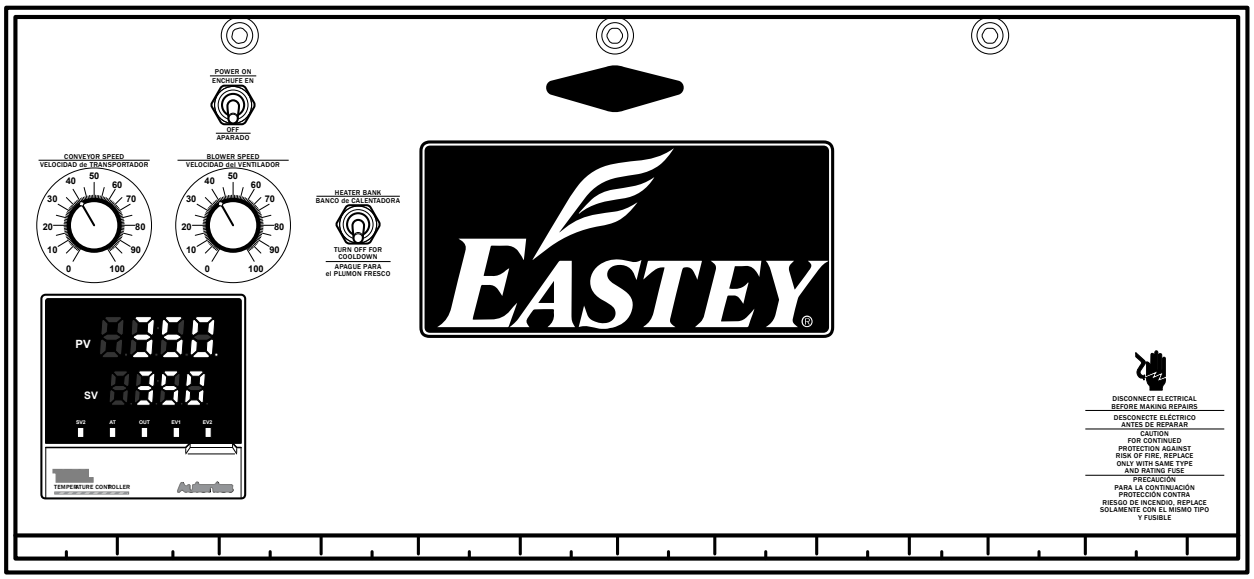
- When shutting down the tunnel, be sure to first turn the heater-bank switch to Off.
- Once the heater-bank switch is switched off, it will take some time (this will vary depending on heat settings) for the tunnel to cool down completely.
- When the tunnel cools down to approximately 150°F or 66°C (unless a different cool-down temperature has been set), the tunnel conveyor and blowers will shut off automatically.
- Bringing the tunnel down this way helps prevent damage to the conveyor and internal components from excess prolonged exposure to heat inside the tunnel.
- When the tunnel is in the resulting standby state, it shuts off the power to the conveyor and heating elements but the lights and controller use only minimal power in a standby state. This allows the tunnel to be readily brought up for the next production run once the heater bank is switched on and the rest of the normal daily sequence of operation is followed.
- It is not necessary to shut the main power lever Off and then move it back to the On position to “reset” or “reboot” the system after each production run, and this can actually result in undue, premature wear of the main power switch.

Operation

Control Panel

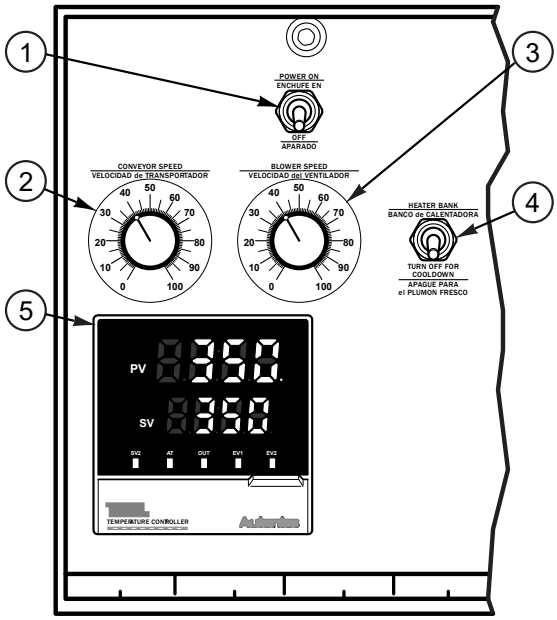
The control panel is located, centered near the top on one side of the shrink tunnel.

The configuration of toggle switches and controls in the control panel for ET Professional Series Shrink Tunnels may vary slightly by model as to the number and arrangement, however, the switches and controls are labeled to identify their function.



Example Control Panel for ET Professional Series Shrink Tunnel

Controls



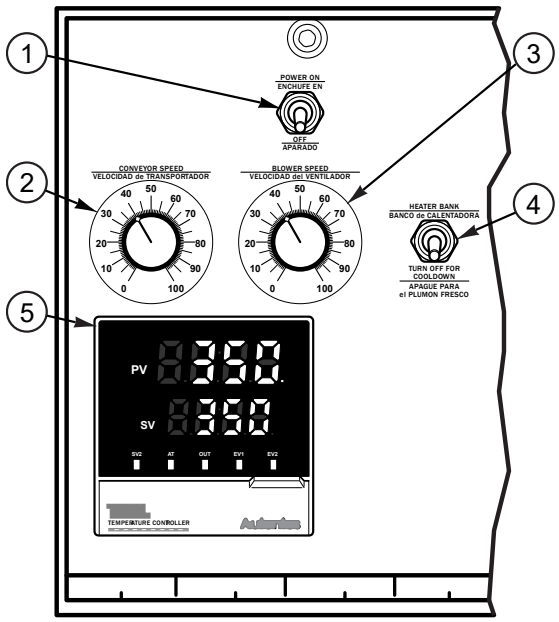
1. **Power On-Off Switch** — The power on/off switch located in the upper left corner of the electrical panel turns the power off or on for the ET Professional Series Shrink Tunnel.

    - Toggling the lever to the On position turns the heater, conveyor, and system power on.
    - Toggling the lever to the Off position turns the heater, conveyor, and system power off.

2. **Conveyor Speed** — Speed setting dial control for controlling speed of the conveyor.

3. **Blower Speed Control** — Speed setting dial control for blower speed.

4. **Heater On-Off Switch** — Toggle switch for turning the heater bank on or off.



Note: **Models manufactured before 2015 did not have a blower motor speed control. Instead, air flow is controlled by adjusting the ventilation control knob, located at the end of the machine above the tunnel.**

5. **Temperature Controller** — Temperature setting and current temperature inside the chamber is displayed.

CAUTION! **When the power is turned on be aware of heat inside of the tunnel and hot surfaces and moving belts or rollers.**

Sequence of Operation

1. Turn on power to the shrink tunnel by toggling the Power switch in the upper left corner of the control panel to the On position. (The temperature in the tunnel will be displayed on the temperature control.)

2. Turn the Heater Bank toggle switch at the right of the Power switch to the On position to turn on the heater bank.

3. Set the conveyor speed control at about midrange for initial operation. This can be fine-tuned later. (Exact desired conveyor speed can be determined later, based on package size and sealer speed.)

4. Set the temperature controller to the temperature recommended for your shrink-wrap material. This temperature may need to be adjusted higher or lower until you have achieved satisfactory shrink sealing. Once the correct temperature for a product has been set, you should not need to adjust the temperature again as long as you are running the same product.

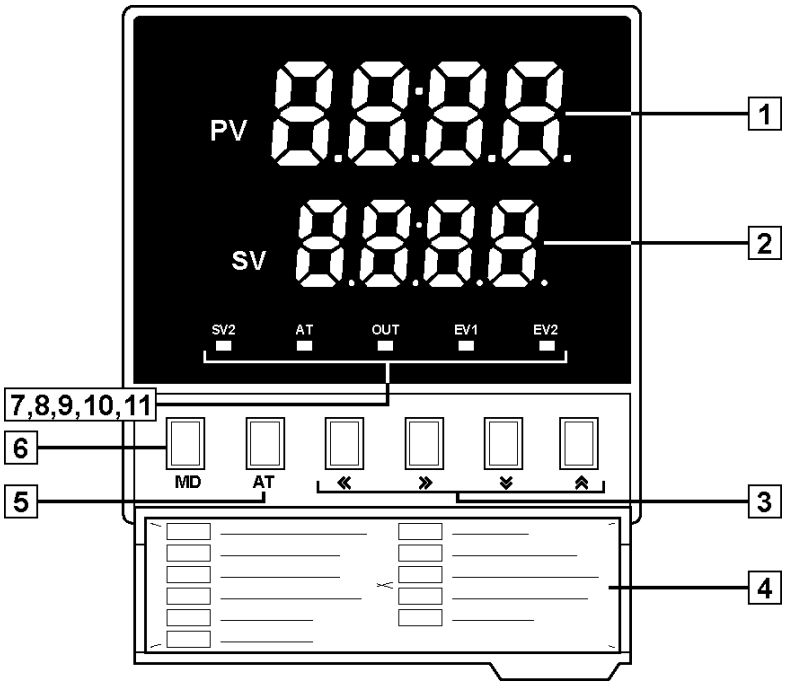
5. Adjust the blower speed or chamber ventilation for proper air flow.

   - There may be one or more speed controllers for adjusting blower speed, depending on Shrink Tunnel model size and number of blowers.

CAUTION! **When shutting down the tunnel, be sure to turn the Heater Bank switch to Off and wait for the tunnel to cool down, then turn off the Power toggle switch. (Refer to the procedure for setting the cool-down temperature. Temperature will be displayed on the temperature controls.) Once cool-down temperature is reached and motors have shut down, then shut off the Power switch.**

Adjustments

Temperature Controller Settings (ETC00011)



1. PV = Processing value (red in color).
2. SV = Setting value (green in color).
3. Back («), forward (»), down (⌄), and up (⌃) keys.
4. Programming key access door — Open to access programming keys.
5. AT key: the mode key to execute Auto Tuning function.
6. MD key: the mode key to change items to be set, such as set value, etc.
7. EV2: Event 2 output signal lamp.
8. EV1: Event 1 output signal lamp.
9. OUT: Main output light to indicate when heater bank is are on.
10. AT: Signal lamp flashes while unit is auto-tuning.
11. SV2: Not currently used.

To Change the Set Value

1. Press the left-arrow («) button and a digit will begin to flash. The flashing digit indicates the digit whose value can be changed by pressing the down- (»˅) or up-arrow (˄«) buttons.

2. If necessary, press the left- («) or right-arrow (») to shift to the place of the digit that needs to be changed. (The digit to the left or right will begin flashing.)

3. Press up (˄«) or down (»˅), as required to change the flashing digit to the required value.

4. Repeat instructions 2 and 3 above as necessary until all digits have been set to the required value, and then press the MD button. No digits will be flashing, the new value entered is applied.

To adjust the Delay Cool-Down

The SV, for Set Value (also sometimes called the set point), is factory set to 400°. If you change this value, you must make the following adjustment to ensure that your equipment will automatically shut down at 150°.

PV, the Process Value is the actual temperature in the machine. PV and SV are mentioned in this procedure, but they are only displayed at the beginning of the procedure.

1. Press and hold the MD button until SV-1 is displayed.

2. Press the MD button (do not hold it down) repeatedly to scroll through the menu until LOC is displayed.

3. Press the left-arrow key. (ON will begin flashing.)

4. Press the down-arrow key. (ON will turn to OFF and OFF will be flashing.)

5. Press the MD button. (OFF will stop flashing.)

6. Press MD again. (This will bring you back to SV-1.)

7. Press MD again until AL-1 is displayed.

8. AL-1 is set to 250°. Optimum shut-down should be 150°.

Factory settings are as follows:
SV (Set Value, your set point) is set to 400°.
AL-1 is set to 250°

400° - 250° = 150°

To set AL-1 so the machine will shut down at 150°, press the left-arrow key and the right-most digit will flash. Use the up- or down-arrow key to select the digit, and then press the left-arrow key again. Use the up- or down-arrow key to set the digit and repeat until the correct value is displayed. Press MD to lock in the setting.

9. Press MD and scroll through the menu until LOC is displayed.

10. Press the left-arrow key. (OFF will begin flashing.)

11. Press the up-arrow key. (OFF changes to ON, and ON is flashing.)

12. Press MD. (On stops flashing.)

13. Press and hold the MD key until PV and SV temperatures are displayed.

Maintenance

Unless specifically stated otherwise, shut down the bundler and all connected equipment and disable input power before performing any adjustments, maintenance, or repairs. Be sure to follow your company's lockout/tagout rules and procedures for the Eastey EB50/A Professional Series Automatic Bundler and all equipment connected to it, for example, shrink tunnels or heat tunnels or any shrinking or coding/marking or printing equipment. If this bundler is used with an Eastey tunnel, refer to the special notes about the tunnel shutdown sequence in the tunnel User Guide to allow for proper cooldown of belts and internal components for shutting down.

WARNING: Failure to follow lockout/tagout practices can result in serious injury and/or equipment damage and may void the warranty.

Note: Lockout mechanism(s), padlock(s) and identification tag(s) are the responsibility of your company in accordance with your company's lockout/tagout rules and procedures and are not provided by Eastey.

To aid in the high reliability of the shrink tunnel, inspect the machine regularly and perform maintenance as required. Disconnect electrical power before making any repairs. Be very careful when servicing or adjusting this equipment. If in doubt, stop and obtain qualified help before proceeding.

CAUTION! When replacing motors, if the tunnel chamber is below 160 degrees, the heater bank switch may need to be turned on to apply power to motors for testing.

Preventative Maintenance

- ☐ Lubricate roller chains every 60 hours with a high temperature oil. Use a brush to apply lubricant while running the conveyor slowly.
- ☐ Inspect the rollers of the conveyor regularly to ensure that no scrap pieces of film are wrapped around the rollers to cause sticking packages.

To Clean Rollers:

- Run the conveyor until the affected rollers are inside the heat chamber to heat the film residue and soften the film so it will clean easier.
- Advance and then stop the conveyor so the heated rollers are out of the chamber and accessible for cleaning.

CAUTION! Make sure the conveyor is stopped before putting your fingers or anything else in the conveyor area. Refer to your company's lockout/tagout rules and procedures.

- Remove film residue. If necessary, use a dull blunt-edged tool. Do not use any sharp instruments, as nicking silicone may result in damage that requires replacing the roller covering.

Perform the following maintenance checks each month.

- ☐ Check and clean the intake screens.
- ☐ On dead roller tunnels, clean and lubricate the conveyor chains. Check the chains and adjust as needed.
- ☐ Check the condition of the silicone covering on the rollers. Repair or replace as necessary.
- ☐ On mesh belt conveyors, check the mesh for material stuck in or on the belt. Check and adjust the belt tension as needed.
- ☐ Check and clean the motor-to-conveyor drive chain. Adjust tension as needed.
- ☐ Check for loose fasteners. Tighten as necessary.
- ☐ Check the condition of the power cord for wear, especially if it is exposed to traffic.
- ☐ Check that the tunnel is able to maintain the set temperatures. If not, refer to the Adjustments Section of this User Guide for instruction.
- ☐ Check that you are able to vary the conveyor speed. If not, refer to the Adjustments Section of this User Guide for instruction.
- ☐ Check for overall wear on dead roller guide rails and starter rails. Repair as needed.
- ☐ On mesh-belt conveyors, check the condition of the wear rails. Replace as needed.
- ☐ Check the condition of all warning and instruction labels. Replace as necessary.

Preventative Maintenance for Modular Plastic Conveyor Belts

Modular plastic conveyor belts typically do not require day-to-day maintenance and are generally trouble-free when installed and operated properly.

Following are a few recommendations to obtain maximum life of the belt and avoid down-time.

- ☐ Check belt tension on a routine basis (weekly or monthly) to ensure proper drive. Adjust screw take-up if necessary. (Belts experience thermal expansion while hot.)
- ☐ Sprocket alignment should be checked before installing the belt to ensure that all the teeth are in line. (A misaligned sprocket can cause the belt to break or go off

track.) On round-bore sprockets, it is good practice to check the keyways and tighten keyway setscrews when required.

☐ If a small section of the belt or a module breaks, it is important to replace it as soon as possible. Failure to do so could incur further damage to the belt. Try to determine the cause of the break before restarting to avoid the break from happening again.

Make sure that when you join the belt, the metal connecting rod is locked in with a plastic tab.

- To replace a belt section See the Plastic Belt Assembly and Disassembly section that begins on page 34 and outlines procedures To assemble the belt on page 34 and To disassemble the belt on page 35.
- Remove a steel connecting rod by pulling it out from the left.
- To lock the tab in, put the tab in from the top of the belt and press it into place.

☐ When performing repairs to the conveyor, it is important to remove or protect the belt to avoid damage from welding sparks or from other tools.

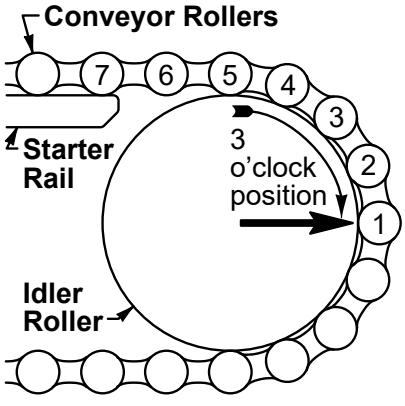
Avoid using the belt for uses other than for what it was specified. If you need to utilize the belt in a different application, consult the manufacturer first.

Conveyor Belt Tension Adjustment

Check the belt tension of the package conveyor occasionally to ensure that it is not excessive, as this will cause unnecessary wear on the conveyor sprockets.

To Check or Adjust Conveyor Chain Tension

1. Bring a roller to the three o'clock position (the center of the end) of the idler end of the conveyor.
2. Shut off power to the tunnel, and then remove the idler end caps.
3. Begin with the roller in the three o'clock position and count the conveyor rollers. The seventh roller should be evenly touching the conveyor starter rails.



For 48-inch width and larger tunnels, loosen center shaft support on drive end and adjust it too if necessary.

Replacing Conveyor Components

Caution! **Disconnect main power source before performing any procedure to replace any conveyor component(s). Refer to your company's lockout/tagout rules and procedures.**

Roller Silicone Covering Replacement

1. Disconnect power to the machine.
2. Remove idler end caps, disconnect drive chain, loosen the four (4) bolts that hold the drive motor and then, through the access hole, take the drive chain off the drive motor sprocket.

   NOTE: You must take the chain off the drive motor sprocket or the conveyor will not move freely. You must be able to move the conveyor to replace silicone covering on the rollers.

3. Remove old covering, by carefully slitting the covering and then pulling it off.
4. Clean all rollers using steel wool or a wire wheel. Make sure all rollers are smooth and free of residue and burrs.
5. Fit the new silicone rubber tubing onto each roller and work on by hand at least ½ inch. At the opposite end of the tubing, fit on and secure an air supply hose of low pressure, maximum pressure 5 lbs. While tubing is slightly expanded by air pressure, push the tubing onto the roller and work it on to the roller. Be careful to hold the roller at all time so it does not fly from the air pressure.
6. Replace rollers on conveyor by inserting roller end holes into the extended pins of the chain. Reconnect drive chain around drive motor sprocket. Adjust tension on drive chain by retightening the four (4) bolts. Place access-hole cover back on, and replace idler end caps.
7. Check conveyor chain tension by following the steps explained earlier.

Idler, roller shaft, bearings, or sprockets replacement

Refer to the Roller Silicone Covering Replacement section above to access and remove rollers as required. Note the location and orientation of sprockets (make a sketch and note measurements if necessary). Loosen the jam nuts on the tensioning bolts at the drive end of the conveyor. Remove the four (4) ¼-20 bolts for the bearings. Slide the shaft left or right and then the shaft and sprockets will come off. Identify and replace any damaged or worn parts and reassemble in reverse order of disassembly.

Drive shaft, bearings, or sprockets replacement

Refer to the Conveyor belt tension adjustment section above to open up the conveyor belt. Remove the drive end caps. Disconnect the conveyor belt. Note the location and orientation of sprockets (make a sketch and note measurements if necessary). Loosen four (4) set screws on the drive sprockets. Keep the keyway key for the driveshaft and replace as necessary. Slide the shaft left or right. The shaft sprockets must be adjusted for position. All sprockets are fastened to the shaft by set screws. Identify and replace any damaged or worn parts and reassemble in reverse order of disassembly.

Conveyor motor replacement

Shut off the machine and disconnect main power. Remove the drive end cap, disconnect two (2) electrical wires from the drive motor, and disconnect the motor from the drive chain by removing four (4) bolts that hold the drive motor. Remove the sprocket from the old motor and place it on the new drive motor and reassemble parts in the same as they were disassembled. For electrical connections, refer to the electrical schematics.

Replacing Tunnel Components

Caution! **Disconnect main power source before performing any procedure to replace any tunnel component(s). Refer to your company's lockout/tagout rules and procedures.**

Fuse replacement or electrical component replacement

Major electrical components, except the conveyor motor (whose replacement procedure is provided on the previous page) and the heater bank and blower motor (whose replacement procedures are provided separately below), are located behind the fold-down electrical control panel for easy maintenance. See the Panel Layout in Appendix A for description and approximate location of electrical components.

Heater bank replacement

Shut off the machine and disconnect main power. Remove the side panel cover. Pull insulation out. Marking the wire positions so they can be reconnected in the same positions, remove the wires on the heater bank with a 3/8-inch nut driver, and then set the wires off to the side. Noting the heater bank position so it can be replaced in the same position, remove the heater bank. Reassemble components in the same manner in which they were disassembled.

Important! **Ensure that the heater bank frames are pushed completely in. The end of the frame should be flush with the housing.**

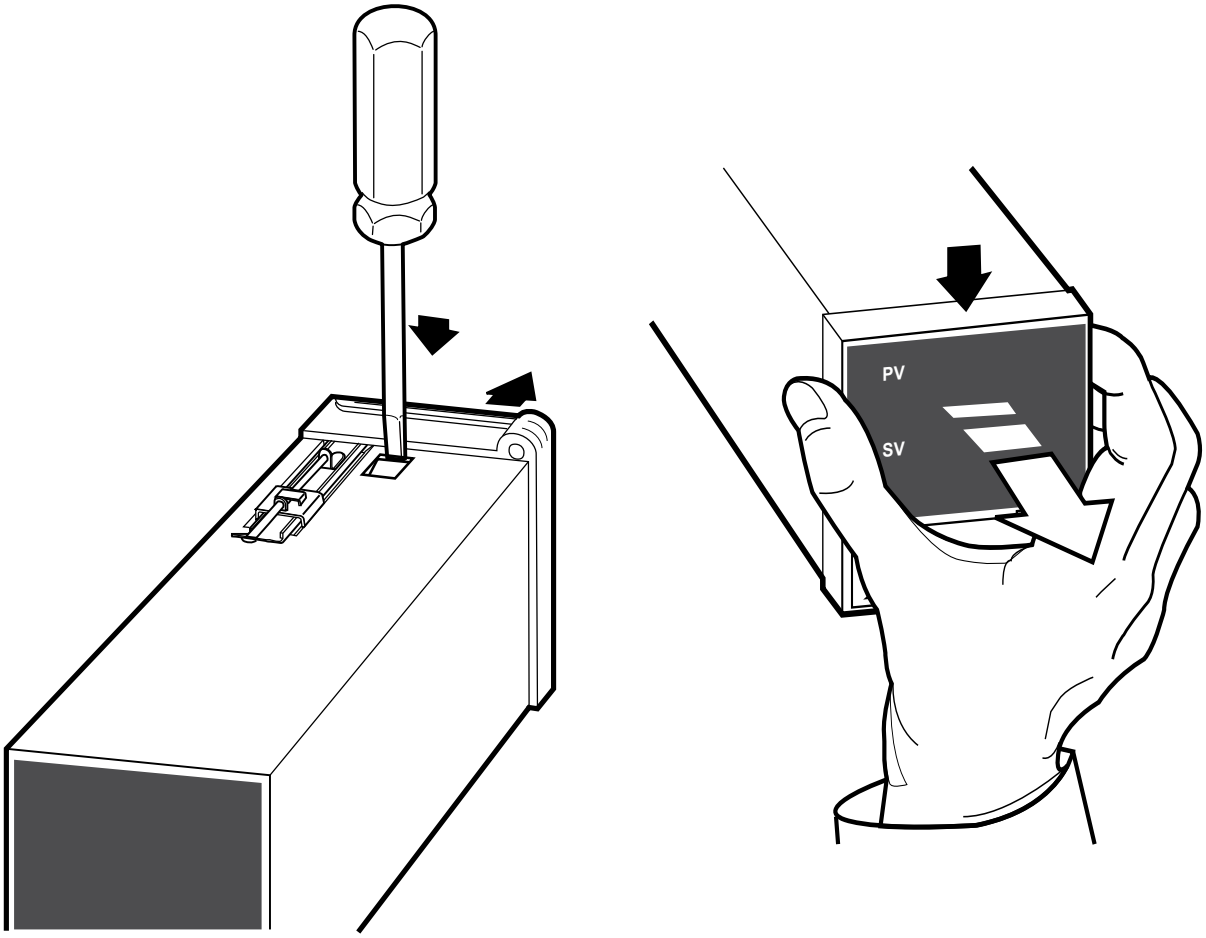
Temperature controller replacement

Note: **Shut off power to the machine before opening the panel door on the side of the machine to access internal electronics and temperature controller. Refer to your company's lockout/tagout rules and procedures.**

There are two options for removing the temperature controller.

1. The first and easiest option is to remove and replace only the controller, which reuses the receptacle sleeve and leaves all wiring intact.
2. The second option is to disconnect all wiring and replace the controller and sleeve together.

To reuse the housing and replace only the interior components of the controller, use a flat screwdriver to carefully press down on the tab, inside on top of the controller. (Take care to not break or deform the tab permanently. See the following illustration.) While the tab is depressed, pull on the front face of the controller to slide it out of the housing.



For the second option (to replace entire controller and receptacle), first take note of wire locations (make a sketch and label the wires with tape, if necessary), and then disconnect wires from the temperature controller and thermocouple. Slide the controller and receptacle out of the front of the panel. Replace with a new controller and reconnect wires to the temperature controller and thermocouple. (Refer to notes made during disassembly or the electrical schematic if necessary.)

Warning: If there is no control over heat, interchange the thermocouple wires.
Caution: Do not exceed 500 degrees.

Blower motor replacement

Shut off power to the machine. Remove the top lid on the hood of the tunnel. Disconnect the wires on the blower motor(s). (Note: there may be more than one blower motor.) Remove four (4) 5/16-18 bolts on the motor mount(s). Once the blower housing is out and on the bench, loosen the two (2) set screws holding the blower wheel in place. The blower wheel shaft set screws are installed with thread-locking compound and may require a torch to remove the blower wheel — if force is necessary, apply it between the motor and blower wheel hub. Remove the motor mount bolts and remove and replace the motor. Rotation on the blower motor needs to be counter-clockwise as viewed from the electrical inlet and hub side. Reassemble the new motor and blower wheel housing and reassemble components in the same manner in which they were disassembled.
Note: Do not rest blower housing on blower wheel! Blower wheel will not work if bent or out of balance.

Blower wheel replacement

Shut off power to the machine. Refer to **Blower motor replacement** instructions above.

Placement of upper wear rails

Shut off power to the machine, move the conveyor by hand if necessary to gain access. Remove the #10-32 screw on the idler end. Replace parts in the same manner in which they were disassembled.

Chamber cooling fan motor replacement

Shut off power to the machine. Remove the top lid of the hood. Disconnect the wires. Remove four (4) ¼-20 screws which hold the cooling fan motor in place. Take the motor out of the machine, replace with the new motor, and reassemble with four (4) ¼-20 screws removed earlier. Reconnect wires to new motor and

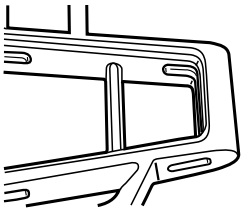
Plastic Belt Assembly and Disassembly

Caution! Disconnect main power to the conveyor before attempting to remove or assemble belt. Refer to your company's lockout/tagout rules and procedures.

When repairing or replacing the belt, it is important to orient the belt correctly.

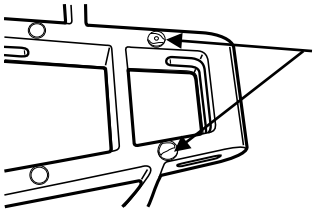
- The top side of the belt is relatively smooth and the ribs are recessed.

Top view



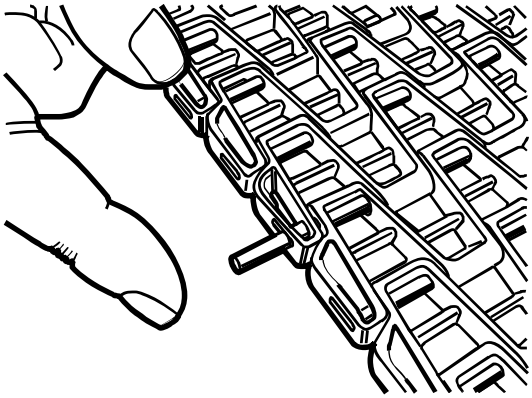
- The bottom side of the belt has metal disks visible and the ribs are flush.

Bottom view

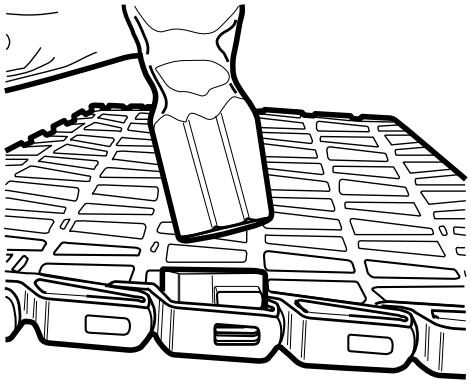


To assemble the belt

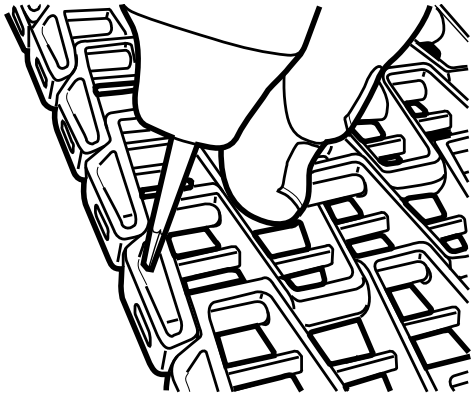
1. Bring ends of the belt together, and aligning holes, insert metal rod through holes for the entire width of the belt.



2. Insert a plastic retainer clip into place to retain the metal rod. Use a hammer, if necessary, to gently tap the retainer clip into place.

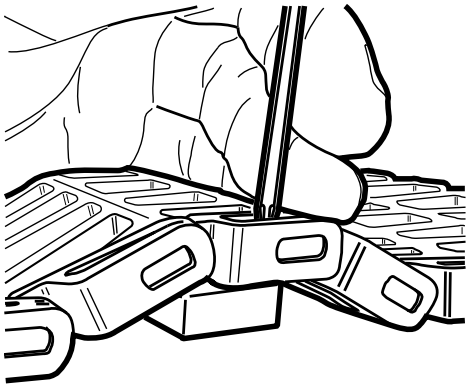


3. Use a flat-blade screwdriver to give the retainer clip a “double click” to finish seating it in place

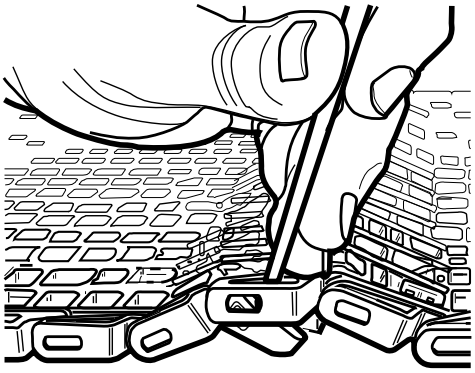


To disassemble the belt

1. Place a block under the belt and place the belt upside-down over the block, so the link to be opened is positioned close to the block.



2. Use a screwdriver to push down on the retainer clip to unseat it.



3. Continue to push down on the retainer clip to move it out of the end link.

4. Slide the metal rod out to unlink the belt and the belt will unzip.

Wire Belt Repair Splicing

Caution! **Disconnect main power to the conveyor before attempting to repair or adjust belt.**

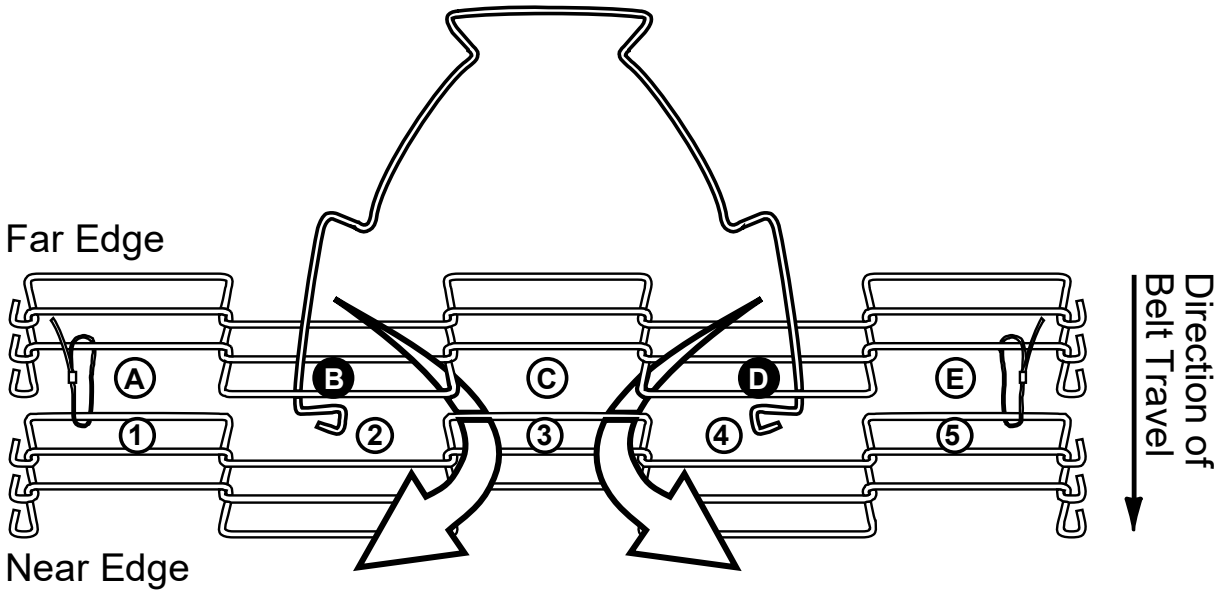
Before you begin splicing

- Release all belt tensioning mechanisms
- If installing a new belt, thread the belt onto the conveyor
  - Check to be sure that the smooth side is “up”
  - Check to be sure that the edge loops curve back in the direction opposite the direction of belt travel
  - Remove a strand or two from the new belt to keep in reserve to splice the belt or in case it may be needed to repair the belt in the future
  - Tie both ends of the belt together with cord, twine, or wire ties
- If repairing a belt
  - Tie two undamaged strands at the end to be spliced together with cord, twine, or wire ties
  - Cut out the damaged wire(s) with a wire cutters — pick out and dispose of wire pieces *immediately*

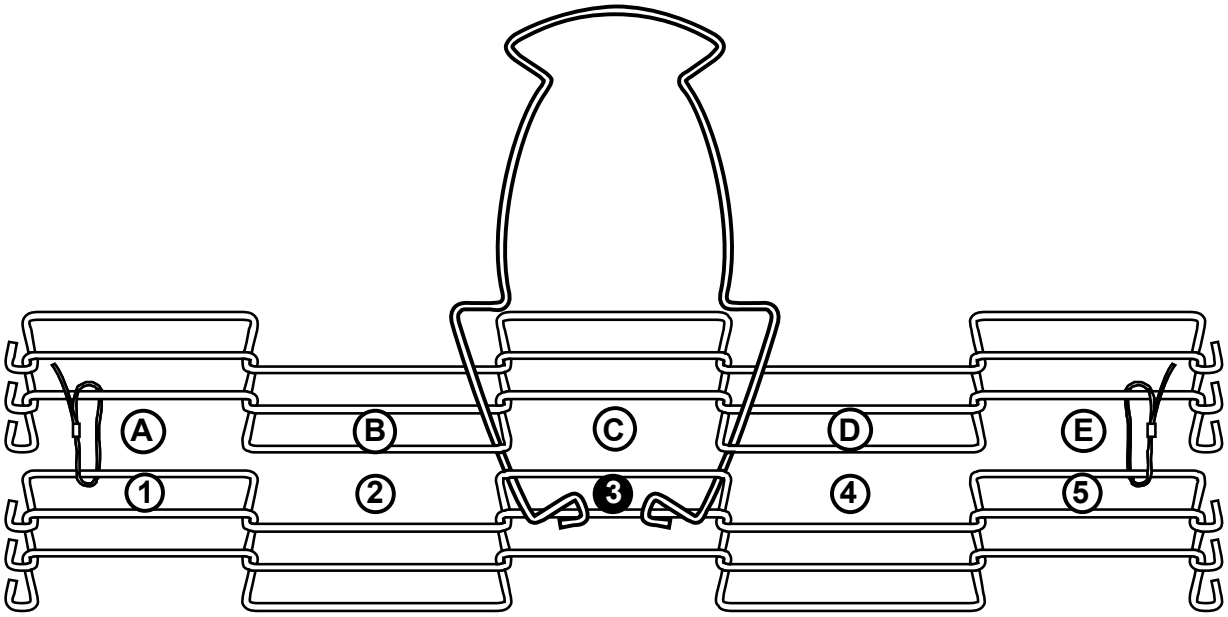
Important! If a belt has been damaged in more than one place or if the belt has been previously repaired, do not try to repair it. **Install a new belt**. Also, never save used belting to use for repairs because it has already been weakened by use. Purchase several extra feet of new belting to use exclusively for repairs.

Step 1 – Begin splicing in the center

1. Move the two ends of the belt to be spliced to the exit end of the conveyor.
2. Confirm that the edge loops curve back, away from the direction of belt travel as shown in the following illustration. If not, check to make sure that the belt is not positioned backwards on the conveyor.
3. Lay the strand down between the two belt ends and check to see that the edge loops are going in the same direction as the belt edge loops. (The strand must also be right-side-up for it to lay flat. You will know immediately if you have installed the splice strand wrong-side-up and you will need to start over.)
4. Bend the strand from each side enough to insert the ends into the two spaces next to the center space. (Spaces B and D in the following illustration.)



5. Insert the strand ends into the center space of the opposite edge. (Space 3 in the illustration below.)

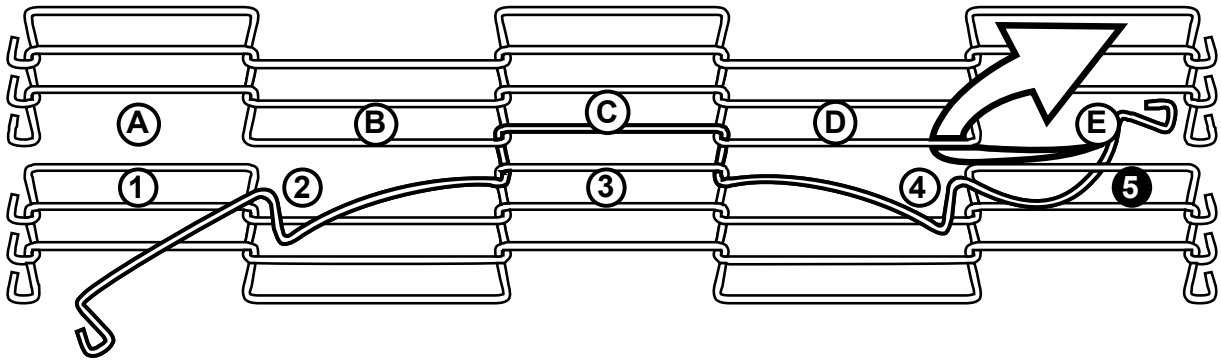


6. Pull the ends of the strand through until the center section “pops” or “locks” into place. (You should be pulling the strands toward you.)
7. Use pliers or the wire belt straightening tool to straighten the wire in the center space. (Once the center is connected, you may remove the ties holding the belt ends together.)

Step 2 – Weave the strand to one side

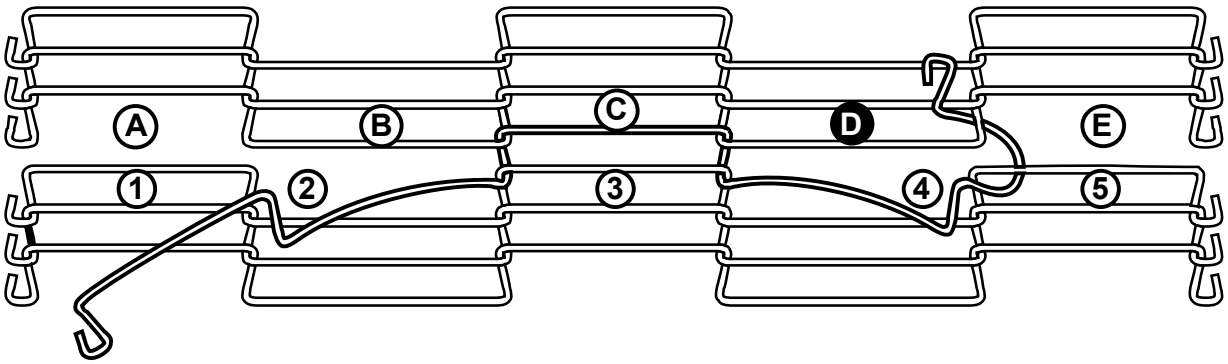
1. Bend one end of the wire up and insert it around the z-bend in the next space on the edge of the wire closest to you. (Space 5 in the following illustration.) Always try to avoid bending the wire in the z-bend.

Far Edge



Near Edge

2. Bend the wire toward the center and insert it around the z-bend next to the center space. (Space D in the following illustration.)



3. Pull the strand wire through the mesh and straighten it with pliers.

4. Repeat the above three moves until you reach the side edge of the belt.

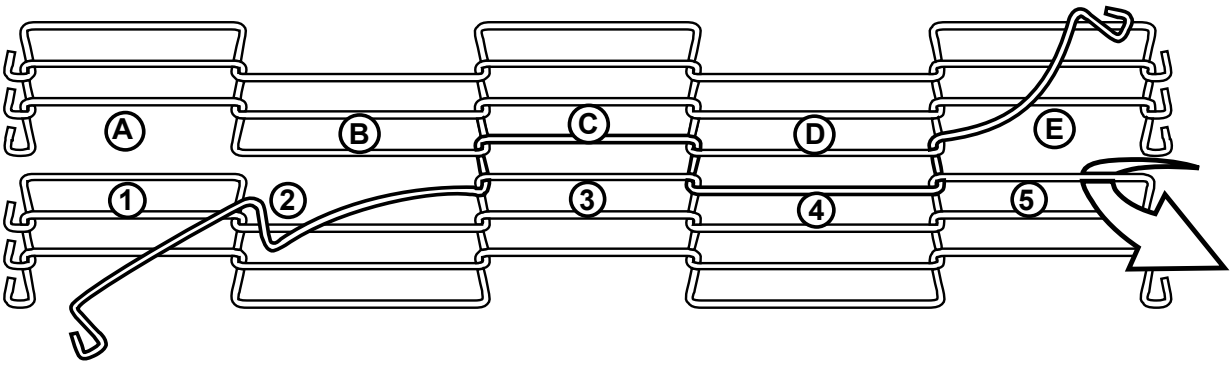
5. Using the pliers, connect the strand's edge loop to the belt's edge loop on the far edge.

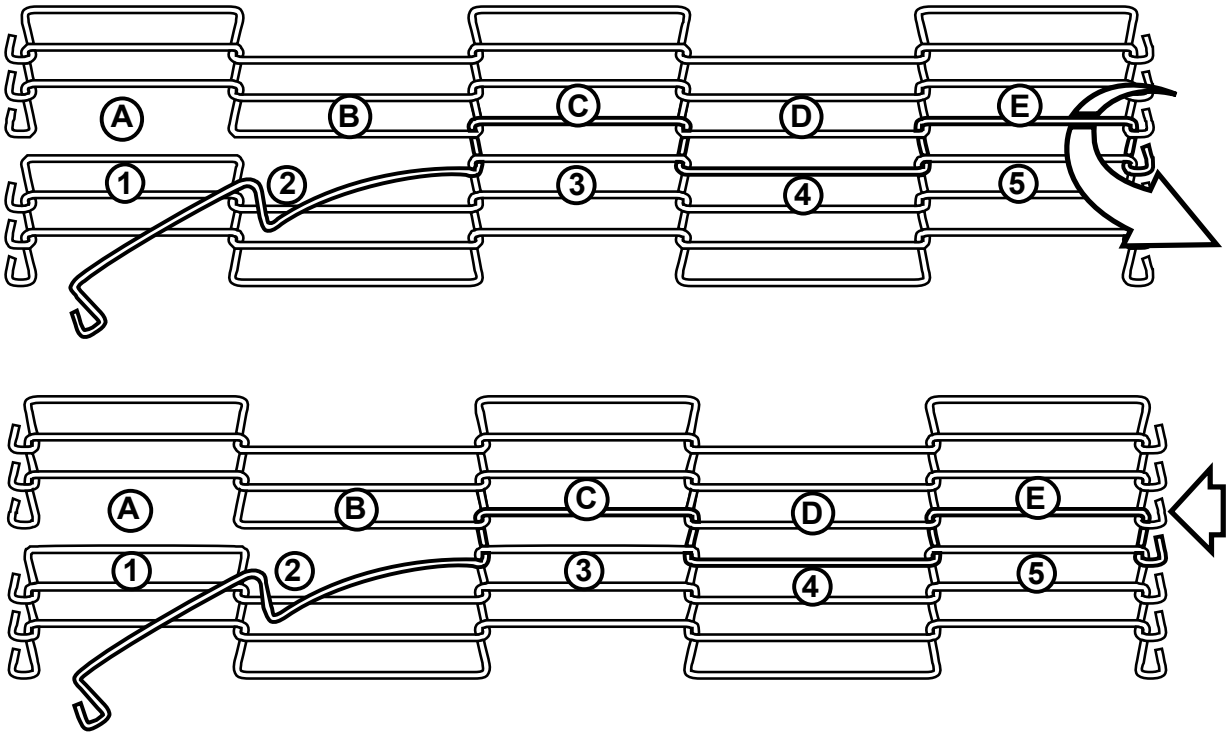
6. Connect the edge loop on the near edge of the belt to the strand's edge loop.

7. Straighten the strand with the pliers.

Step 3 – Weave the strand to the other side

1. Repeat the steps in Step 2, going in the opposite direction, weaving to the other side edge of the belt as shown in the following illustrations.





2. If you are installing a new belt, you are finished splicing.

Step 4 – Check Drive Shaft Sprocket Alignment

- Check to ensure 3/16-inch clearance between all sprockets (and/or blanks) and the Z-bends next to them.
- Check alignment of sprocket teeth with a straight-edge. (Only necessary if the sprockets are not keyed to the drive shaft.)

Step 5 – Check Entire Belt Circuit

- Z-bends should not come into contact with any conveyor component (including end rolls, wear strips, transfer support rails, nose bars, etc.)
- Adjust as needed.

Step 6 – Adjust Tension

- The wire belt used is a low-tension belt. Use minimal tension — only enough so the sprockets properly engage the belt.
- Run the conveyor and check to make sure it runs smoothly.

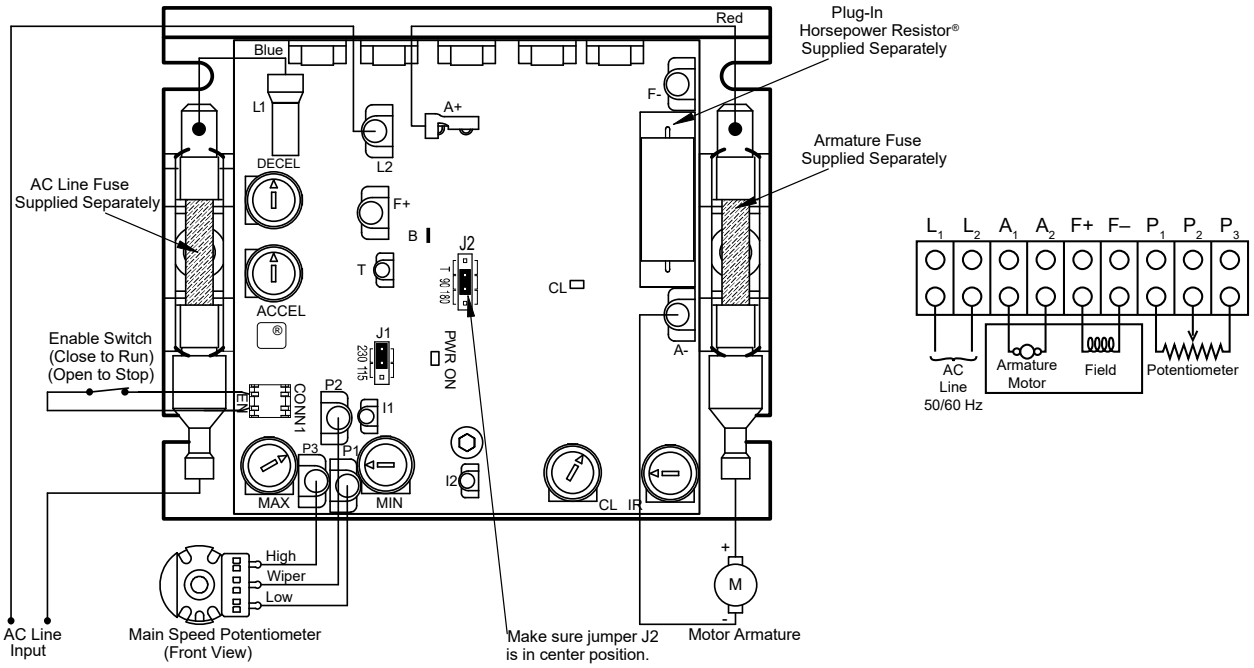
Note: Too much tension will cause premature belt failure.

Troubleshooting

The following illustration shows the D.C. board used in the shrink tunnel. Some of the solutions to problems identified in the troubleshooting table that follows refer to adjustments made by tuning potentiometers on this board.

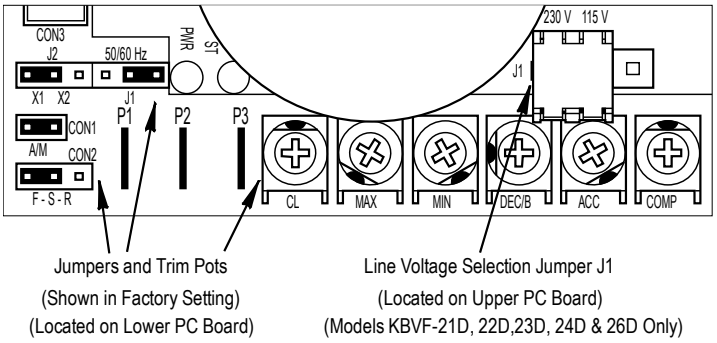
Basic KBMM™ Controller Board Connection Diagram **KBMM™ with Barrier Terminal Kit**

CONTROL LAYOUT & GENERAL CONNECTION DIAGRAM (Model KBMM-225D Shown)
(Note: Control is set for 208/230 VAC line input, 0-180 VDC output with armature feedback)



For more information refer to the *KBMM™ Installation and Operation Manual* (provided by the D.C. board manufacturer).

Problem	Solution
Conveyor not moving	1. The conveyor motor is controlled by a D.C. control board. Input is 220 VAC in and variable 0 to 90 VDC out. 2. Is a green light on? If not, check the input fuse. 3. If fuse is good and a green light is not on, check for 220 VAC on L1 and L2. If there is voltage, check the output DC voltage. 4. Check output fuse. 5. The KBMM-225 has a current overload. Is there a red light on the board? If so, below are some conditions that could cause this light to turn on. • This could be caused by a jammed conveyor. • Locate the ceramic horsepower resistor and check its resistance. If the ohmmeter indicates open (infinite resistance), the resistor is damaged; replace it — but, there is a reason the resistor went out. There will be a point number (for example, .1 or .25) you will need this number when ordering a replacement resistor. • The motor is pulling more amps than the board is allowing. Try adjusting the CL potentiometer on the motor controller board. • Bad idler or drive bearing. 6. If the red light is on, disconnect the drive motor from the drive chain. Power up the machine and operate the motor without any load and see if the red light goes off. If the board works and the red light does not light, it does not mean that the motor is good; it could be weak under load. Check the brushes. Also pull the conveyor by hand, checking to make sure it pulls smoothly and checking for bad bearings. 7. If the light remains on, replace the motor. 8. If the red light is not on and a green light is, with the speed pot set at 100%, check for 90 VDC on terminals A+ and A–. If voltage is not correct, try adjusting the MAX potentiometer to obtain 90 VDC.

Problem	Solution
No air flow	1. Check AC Inverter adjustable speed pot settings below. • C.L.: Set at approximately 12 o'clock. • Max.: All the way counter-clockwise. • Min.: All the way clockwise. • ACC.: All the way clockwise. • Comp.: Set at approximately 12 o'clock. Detail View of Jumpers and Trim Pots  Jumpers and Trim Pots (Shown in Factory Setting) (Located on Lower PC Board) Line Voltage Selection Jumper J1 (Located on Upper PC Board) (Models KBVF-21D, 22D,23D, 24D & 26D Only) **Important Application Information:** Motor with External Fan Cooling – Most totally-enclosed fan-cooled (TEFC) and open-ventilated 3-phase AC induction motors will overheat if used beyond a limited speed range at full torque. Therefore, it is necessary to reduce motor load as speed is decreased. **Note:** Some fan-cooled motors can be used over a wider speed range. Consult the motor manufacturer for details. ⚠ **WARNING!** Some motors have low speed characteristics which cause overheating and winding failure under light-load or no-load conditions. If the motor is operated in this manner for an extended period of time, it is recommended that the unloaded motor current be checked from 1–15 Hz (60 – 450 RPM) to ensure motor current does not exceed the name-plate rating. Do not use motor if the motor current exceeds the nameplate rating. 2. Check intake screens inside upper chamber to see if they are clogged. 3. Blower motors are controlled by 220 volt single-phase input and three-phase output. (Check lead to lead. Not lead to ground.) 4. Is there a steady green and a slowly-flashing green light? If not, check input fuses. If fuses are good, replace AC inverter. 5. If there is a steady green light and not a slowly-flashing green light, refer to the table that follows for information about what the flashing LEDs indicate.

LED	Drive Status	Color and Flash Sequence	Flash Rate	Color and Sequence After Recovered Fault
	Normal Operation (Run)	Green	1 sec. On / Off	—
	Overload (120% – 160% Full Load	Red	On continuously	Green
	I^2t (Drive Timed Out)	Red	0.25 sec. On / Off	—
	Short Circuit	Red	1 sec On / Off	—
	Under-Voltage	Red / Yellow	0.25 sec. On / Off	Red / Yellow / Green
	Over-Voltage	Red / Yellow	1 sec. On / Off	Red / Yellow / Green
	Stop	Yellow	On continuously	—
	Phase Loss Detection[1,2]	Yellow	0.04 sec. On / 0.06 sec. Off	—
	Communication Error[2]	Green / Red	1 sec. On / Off	Green
PWR (Power)	Bus and Logic Power Supply	Green	On continuously	—

Notes:

1. Phase Loss Detection: Models KBVF-23P, 24P, 29, 45, 48.
2. Requires AC line restart.
3. With DVF Modbus Communication Module Installed.
4. All LED flash rates after recovered faults are 1 sec. On / Off.
5. Drive will require manual restart to return the Status LED color to its normal flashing green state.

Problem	Solution
No air flow (Continued)	6. If one motor is running and one is not, replace the faulty motor. 7. If all motors are not running, check for approx. 220 VAC output voltage. If there is no voltage and the green lights are on and slowly flashing, replace the AC inverter. (Remember this is three-phase: test from lead to lead. Do not test to ground.) U to V, U to W, V to W. If you lose voltage on one of these legs, replace the AC inverter. 8. One bad motor could cause the steady-flashing green light to change. Disconnect all motors and run one motor at a time to find the bad motor. 9. Motors should be running counter-clockwise. Check that all motors are running the correct direction. If not, change the two output terminals to obtain correct phase.

Problem	Solution
No heat	1. Is the display on the temperature controller on? If not, check for 220 Volts on terminals 9 and 10. If there is voltage, replace the temperature controller. 2. If the display is on and SV is set higher than PV, is there a red light on? If not, replace the thermocouple. 3. If there is a red light on, check for 220 VAC from any wire number 8 to terminal 13, and then terminal 14. If no voltage, replace the temperature controller. 4. If there is 220 VAC, check for 220 VAC on coil of heater contactor. If there is voltage and the contactor is not pulling in, replace contactor. 5. If there is no 220 VAC, check heater bank on / off switch. The best way to check this is to disconnect the wires and check resistances (Ohms).
Delay cool-down does not work	Adjust temperature controller TT1 using the menus, Menu #1 and Menu #2, that follow. Refer to adjustment procedure to adjust the Delay Cool-Down setting.

Temperature Controller Default Settings

Menu 1

Temperature Controller 1

In-t	-	JIC.H
Eu-1	-	AL-4
Eu-2	-	AL-5
AL-T	-	AL-B
AT.T	-	TUN1
PIDT	-	PID.F
O-FT	-	HEAT
Unit	-	°F
H-SC	-	450°
L-SC	-	32
Ramp	-	OFF
LOC	-	ON

Temperature Controller 2

In-t	-	JIC.H	(same as 1)
Eu-1	-	AL-0	
Eu-2	-	AL-5	
AL-T	-	AL-B	(same as 1)
AT.T	-	TUN1	(same as 1)
PIDT	-	PID.F	(same as 1)
O-FT	-	HEAT	(same as 1)
Unit	-	°F	(same as 1)
H-SC	-	450°	(same as 1)
L-SC	-	32	(same as 1)
Ramp	-	OFF	(same as 1)
LOC	-	ON	(same as 1)

Menu 2

Temperature Controller 1

Su-2	-	32
AL1	-	250
AL2	-	450
AHYS	-	10
P	-	9.5
I	-	48
D	-	12
T	-	50
IN-B	-	-4
REST	-	2.0
LOC	-	ON

Temperature Controller 2

Su-2	-	32	(same as 1)
AL1	-	N/A	
AL-2	-	450	(same as 1)
AHYS	-	2	
P	-	9.5	(same as 1)
I	-	48	(same as 1)
D	-	12	(same as 1)
T	-	50	(same as 1)
IN-B	-	-4	(same as 1)
REST	-	2.0	(same as 1)
LOC	-	ON	(same as 1)

Frequently Asked Eastey Heat Tunnel Questions

1. My motor on my Eastey heat tunnel is running full speed. Do you have an idea of why this could be?

   The conveyor drive motor has shorted out. The motor requires replacement.
   Recommend replacing the motor, resistor, and fuses on the DC board,

2. The Red light on my DC board is on as well as the green light. Do you know why this is?

   The resistor is blown, and possibly the motor is bad.
   Recommend replacing the motor and resistor.

3. My Eastey tunnel gets up to temp and then the temperature drops. The temperature then continues to drop slowly. Do you know what could be the cause of this?

   a. Make sure you are not going over the maximum temperature of the tunnel (400-450 degrees F). If the machine goes above this temperature, the over-temp relay will not allow the machine to heat up.

   b. Check the heater bank toggle switch.

   c. Check the heater contactor.

   d. Check the output of the temperature controller.

4. I have my tunnel set at 350 degrees, but it only gets up to 270 degrees. Do you know what could cause this?

   One or more coils are burnt out on the heater bank.
   Check the heater bank and replace or repair it as necessary.

5. When I turn the heat tunnel to cool down, everything turns off. Do you know what could cause this?

   a. Temperature controller parameters are not set correctly.

   b. Pre-2019: the delay cool down sensor is faulty.

6. My Eastey heat tunnel temperature controller is flashing JiCH/In-t when I start the machine. Do you know what this means?

   If the controller continually flashes, the temperature controller has failed.
   Replacing the temperature controller is recommended.

7. When I turn my Eastey heat tunnel on, nothing happens. I get lights on the temperature controller, but the conveyor, blower, and heater do not turn on. What should I look for?

Check all fuses. If the fuses are good, the toggle switch is faulty.
Replace the toggle switch.

8. When I turn on the Eastey heat tunnel, everything works except the conveyor drive motor. What should I look for?

   Check the indicator lights on the DC board.
   - If you don't have any lights (with heater bank toggle switch turned on), check the AC side fuse and voltage input into the board.
   - If you have a green light and a red light, refer to Question 2, above.
   - If you have a green light on the DC side, the fuse is likely blown. Replace the blown fuse.

9. My temperature controller reads open. Do you know what this means?

   The thermocouple is not communicating with the temperature controller.
   Replacing the thermocouple is recommended.

10. I turned up my heat tunnel to 450 degrees. Now the temperature is dropping. Do you know what I should do next?

    The tunnel went into over-temp.
    Turn down the temperature to below 400 degrees and cycle power.

11. Customer says they blow the medium 10 Amp fuse once they start the machine up. I replaced them once and they blew right away. Do you know what I should check?

    This is usually the conveyor motor.
    Try disconnecting the motor and replacing the fuse. If the machine does not blow the fuse, replace the conveyor drive motor.

Parts List

Electrical

Eastey Bundling Shrink Tunnel

Part No.	Description

Part No.	Description

Mechanical

Hood Parts

Part No.	Description

Conveyor Parts

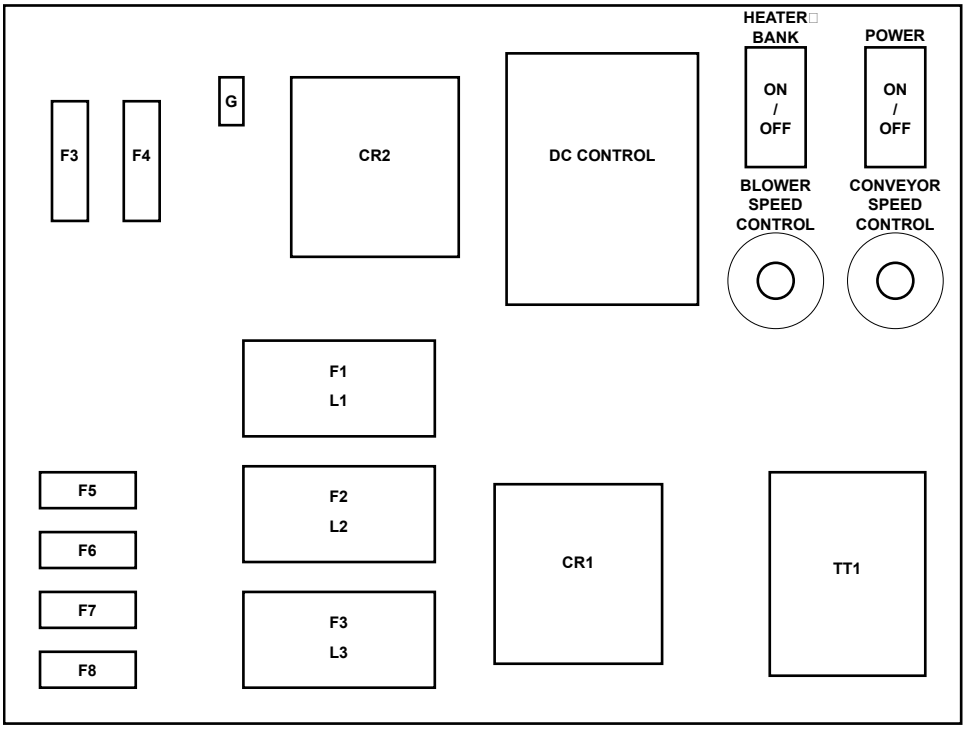
Part No.	Description

Part No.	Description

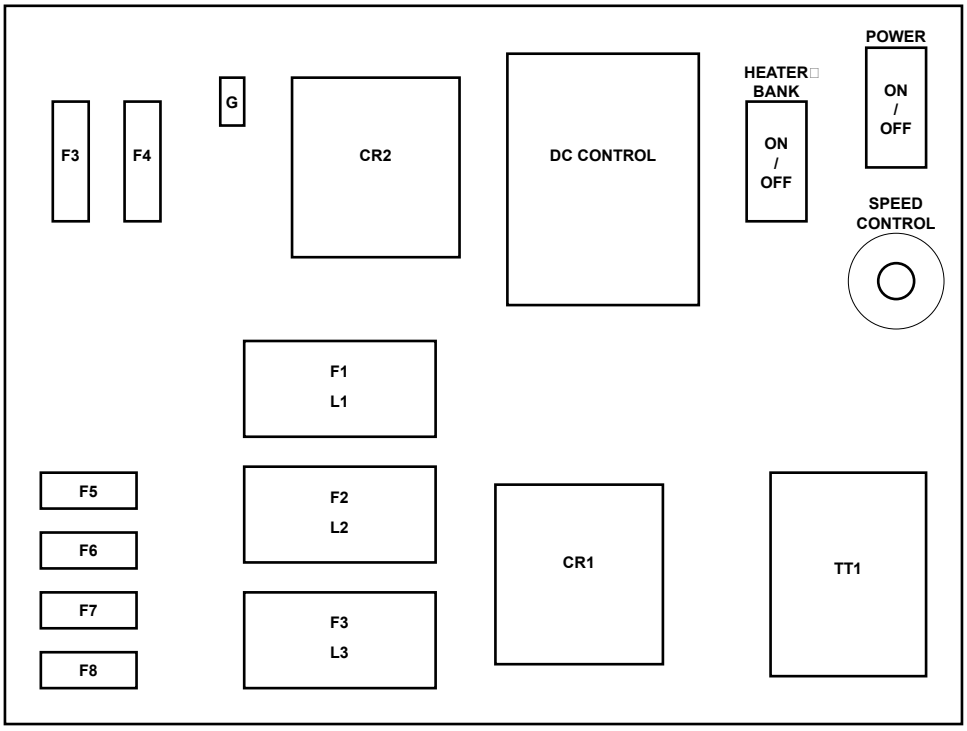
Appendix A: Electrical Schematics

Panel Layout

Panel layout for tunnels manufactured in 2015 and forward.



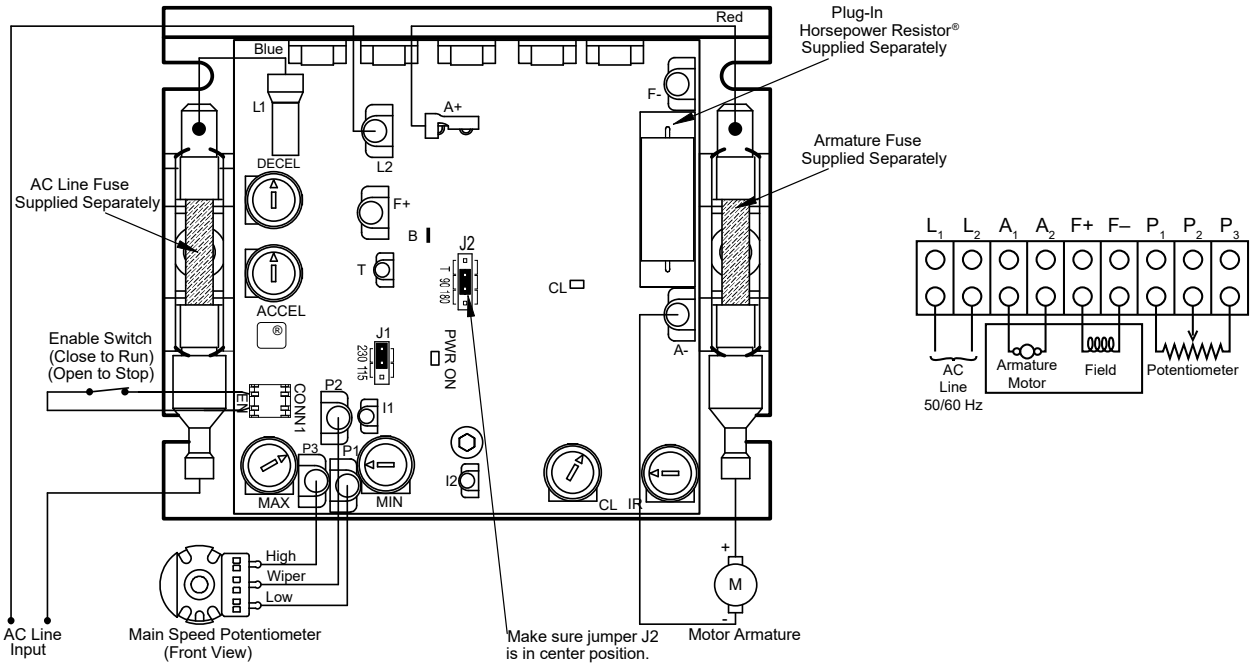
Panel layout for tunnels manufactured before 2015



Motor Controller Board (KBMM™) Basic Connections for Controller Board and Barrier Terminal Kit

Basic KBMM™ Connection Diagram **KBMM™ with Barrier Terminal Kit**

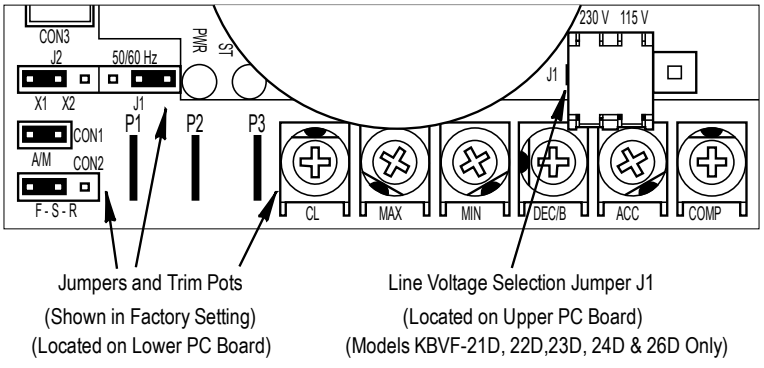
CONTROL LAYOUT & GENERAL CONNECTION DIAGRAM (Model KBMM-225D Shown)
(Note: Control is set for 208/230 VAC line input, 0-180 VDC output with armature feedback)



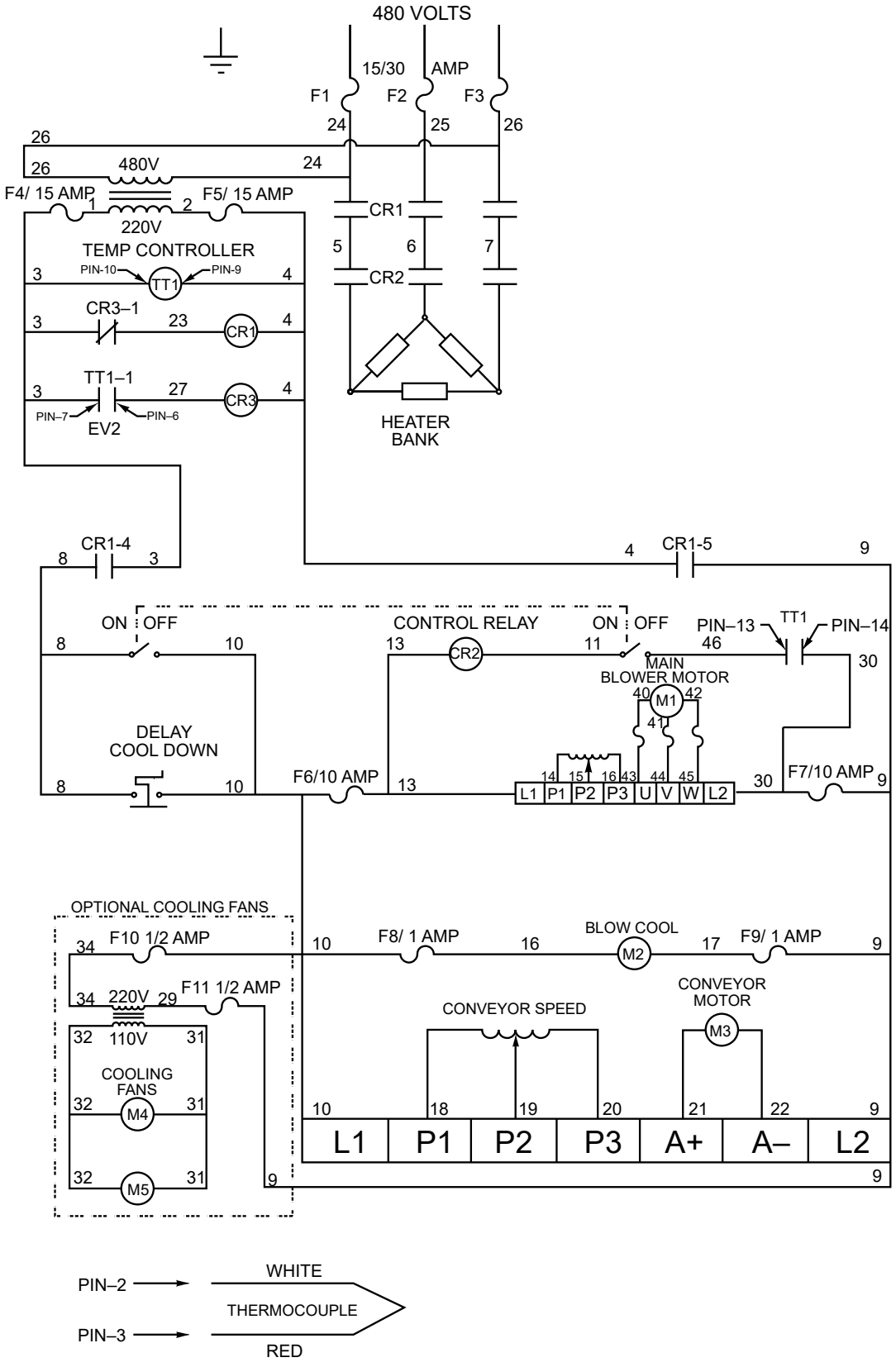
For more information refer to the *KBMM™ Installation and Operation Manual* (provided by the controller board manufacturer).

Motor Controller Board (KBVF) Expanded View of Jumpers and Trim Pots, Controller Board for Blower Fans

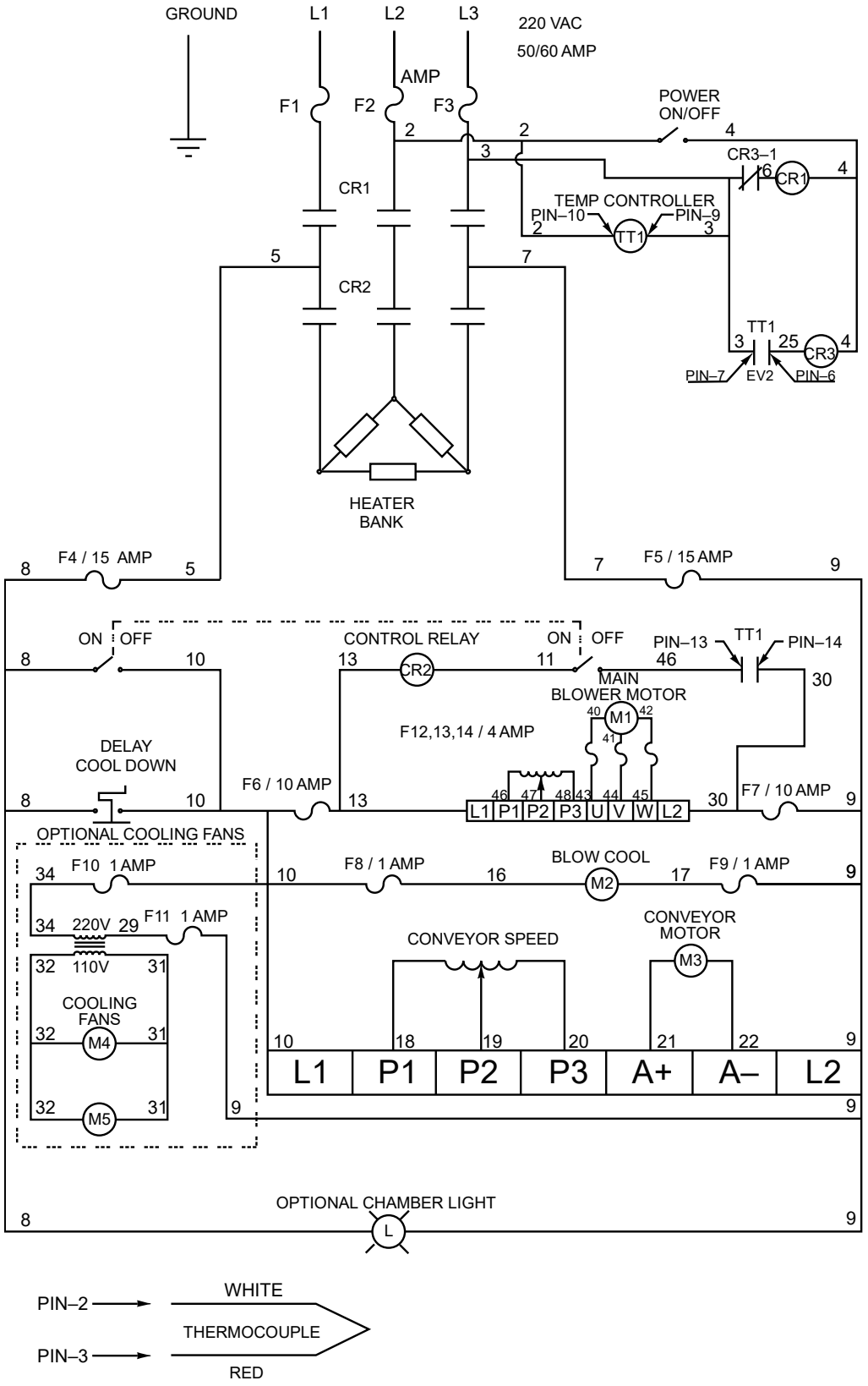
Basic KBVF Diagram



Electrical Schematic, 480 Volt



Electrical Schematic, 220 Volt



Warranty Statement
Shrink Packaging Equipment

This Warranty Statement Is Available Online

This Warranty Statement is also available from the Eastey Support Website in electronic format for web browsers and e-readers. Go to Engage Technologies.net >> Eastey >> Case Sealing & Shrink Packaging Equipment >> Warranty >> Shrink Packaging Warranty or scan the QR Code at right using the camera app on your mobile device to go directly to the online version of the most current version this Warranty Statement.

Warranty Statement

Eastey warrants that all of the products it ships will be in good working order and free from defects in material and workmanship for a period of two (2) years from the date of shipment by Eastey and will conform to the published specifications for that product. Purchased parts will be warranted for one (1) year.

Damage caused during transport is the responsibility of the carrier and is not covered under this warranty. All damages detected upon receipt of equipment should be reported immediately to the carrier and Eastey should be notified.

Warranty Period – Specific Items

Any moving or wear parts are covered for 180 days after the date of purchase. This includes items such as conveyor belt, silicone tubing (roller covering), end curtains, felt pad, bearings, and wear rails. The seal pad and fuses are consumable items and are not covered under warranty.

Repairs

All in-house repairs are rigorously tested for optimum operation and performance and warranted to be, under normal and proper use, free from defects in materials and workmanship for a period of 90 days from the date of service.

Shrinking Quality

Shrinking quality achieved in a given application is dependent on the film, product, installation, material handling, and the maintenance provided. Eastey makes no warranty that the shrinking quality achieved in an application will be the same as that achieved on a test piece in our demo facility.

Shipping Policy

Customer pays all incoming shipping charges for replacement components. If the item is defective and under warranty, Eastey will pay all return shipping charges via the least costly method. If expedited shipping is desired, the customer must furnish their shipping account number and shipping fees will be charged to that account.

Exclusions

Damage due to tampering, abuse, improper adjustment, electrical interference, or the use of non-approved components will void any and all warranties by Eastey and its distributors.

EASTEY
7041 Boone Avenue • Brooklyn Park, MN 55428
1-800-835-9344 • (763) 795-8856 • Fax (763) 795-8867
info@eastey.com • www.eastey.com

Warranty Verification

If you believe that a product may be defective and may be covered by warranty, obtain a Return Material Authorization number by calling our technical support number (toll free at 1-800-835-9344, or 763-428-4846 or Fax: 763-795-8867) or e-mail info@eastey.com. Based on the recommendation from Eastey technical support, replacement components may be shipped out via UPS Ground or similar method. If expedited shipping is desired, customer must furnish their shipping account and shipping fees will be charged to that account.

Customer is required to return the defective component to Eastey. If after 30 days, Eastey hasn't received the defective component, the customer will be invoiced for the replacement component. If the returned component is found to not be eligible for warranty, Eastey will contact the customer and the customer will be invoiced for the replacement component.

Warranty within 60 days of invoice

For warranty questions that take place within 60 days of the original invoice, Eastey will allow cross-shipment of a replacement component to an end-user customer or Eastey distributor. The customer will be invoiced for the replacement component 60 days after it ships. Upon receipt of the returned component, Eastey will evaluate it and issue credit where necessary.

For components that have been misused or externally damaged, Eastey will not issue credit, and will contact the customer to determine whether or not they want the component repaired and/or returned.

Warranty after 60 days of invoice

For warranty questions that take place more than 60 days from the original invoice, Eastey requires the end-user or Eastey distributor to return the component to Eastey for repair. Upon receipt of the returned component, Eastey will evaluate it and repair as necessary.

Components that fall within our warranty policy will be repaired normally within 5 business days of receipt and returned to the customer via standard ground shipping at Eastey's expense. If expedited shipping is required, the customer must furnish their shipping account number and shipping fees will be charged to that account.

For components that have been misused or externally damaged, Eastey will contact the customer to determine whether or not they want the component repaired and/or returned.

Warranty Eligibility

The warranty provided by Eastey will only be covered provided that:

- Equipment usage is proper and normal
- Equipment is still owned by the original buyer
- Equipment has been operated in accordance with generally approved practice and in accordance with Eastey's specifications and instructions
- No repairs, alterations, or replacement have been made by others without Eastey's prior written approval
- Genuine Eastey repair components are used during the warranty period

Limited Warranty

THIS WARRANTY SHALL NOT APPLY IF ANY MODIFICATION, ALTERATION OR ADDITION IS MADE TO THE PRODUCT WITHOUT EASTEY'S PRIOR WRITTEN APPROVAL. FURTHERMORE, THIS WARRANTY DOES NOT APPLY TO PRODUCT DEFECTS DUE TO MISUSE, ABUSE, NEGLECT, OR FAILURE TO FOLLOW THE RECOMMENDED PROCEDURES. ANY PRODUCT REPAIRED OR ALTERED BY PERSONS OTHER THAN

AUTHORIZED EASTEY REPRESENTATIVES WILL NOT BE COVERED BY THIS WARRANTY. THIS WARRANTY DOES NOT APPLY TO CONSUMABLE ITEMS.

EXCEPT AS EXPRESSLY PROVIDED IN THIS WARRANTY, EASTEY MAKES NO REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED WITH RESPECT TO THE PRODUCT, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT OR ANY OTHER MATTER. EASTEY SHALL HAVE NO LIABILITY TO ANY PERSON FOR INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES OF ANY DESCRIPTION WHETHER ARISING OUT OF WARRANTY OR ONTHER CONTRACT, NEGLIGENCE OR OTHER TORT, OR OTHERWISE. NO AGENT, EMPLOYEE, OFFICER, OR OTHER REPRESENTATIVE OF EASTEY HAS AUTHORITY TO BIND EASTEY TO ANY REPRESENTATION OR WARRANTY EXCEPT AS STATED HEREIN. UNDER NO CIRCUMSTANCES SHALL EASTEY'S LIABILITY HEREUNDER, FOR ANY REASON OR CAUSE EXCEED THE PRICE PAID TO EASTEY FOR THE PRODUCT.

Disclaimer of Damages

REGARDLESS OF WHETHER ANY REMEDY SET FORTH HEREIN FAILS OF ITS ESSENTIAL PURPOSE, IN NO EVENT WILL EASTEY BE LIABLE FOR ANY SPECIAL, CONSEQUENTIAL, INDIRECT OR SIMILAR DAMAGES, INCLUDING LOST PROFIT OR LOST OPPORTUNITIES OF ANY TYPE ARISING OUT OF THE USE OR INABILITY TO USE THESE PRODUCTS EVEN IF EASTEY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Terms and Conditions

Eastey's Terms and Conditions of Sale are set forth separately at WWW.EASTEY.COM and are hereby incorporated by reference into this warranty statement as if fully set out within.

Customer Support

Eastey Technical Service

For help setting up or operating the EB/A Professional Series Semi-Automatic-Bundling Sealers, please contact Eastey Technical Service at one of the numbers listed below.

Toll-Free Phone	800-835-9344
Phone	763-428-4846
Fax	763-795-8867
E-mail	info@eastey.com
Web	www.eastey.com

Thank you again for your purchase of Eastey products. We are pleased to be a part of your packaging needs.


EASTEY®