

# Conveyor Dryer

NPII & BEII Conveyor Dryer

## OWNER'S MANUAL



NPII-2410 shown

**HIX** CORPORATION  
For Customer Service, Call 1-800-835-0606  
or Visit [www.hixcorp.com](http://www.hixcorp.com)

### CONTENTS

Installation / Set Up .....	2-4
Operation.....	4-12
Adjustments.....	12
Fuses.....	13
Operating Precautions.....	14
Maintenance .....	15
Applications .....	16-18
FAQ .....	19
Warranty .....	20

**BEFORE warranty repair you MUST get Prior Authorization:**

# SET UP

## INTRODUCTION / SPECIFICATIONS

NPII and BEII Model dryers are the most powerful dryers in their class using custom built infra-red heaters to eliminate any cold spots within the oven chamber. Air circulation within the oven chamber is also provided to properly cure water/solvent based inks.

## SET UP INSTRUCTIONS

### 1. LEG ASSEMBLY

- A) Remove bolts on each side of dryer frame that secures the dryer to the crate bottom.
- B) Raise dryer from crate bottom with forklift to approximately 36" from floor. Remove crate bottom from work area.
- C) Attach dryer legs to frame using the 3/8" - 16 x 1" bolts & washers provided. Note: left & right side legs. The angled portion of the legs face toward each other when properly installed. [ / \ ]
- D) Attach leg cross braces between legs with the 1/4" - 20 bolts & washers provided. Note: some dryer models may ship with cross brace attached to legs.
- E) Lower forklift to allow dryer to rest on its legs. Tighten all bolts on legs and cross pieces. Adjust leveler pads if necessary.

### 2. EXHAUST BLOWER MOTOR

- A) Attach black wires from exhaust blower motor to wires labeled "EXHAUST" wires from flex conduit using provided orange wire nuts.
- B) Connect "TYPE B" double-wall insulated vent pipe to exhaust blower. Run duct work to the outside of building. See installation instructions for details.

### 3. BOTTOM BLOWER MOTOR

- A) Secure to bottom of dryer using 4 Greer lock nuts. Align point of arrow in motor plate to point of arrow on bottom of dryer.
- B) Attach black and red wires of blower motor to black colored wires in flex conduit labeled "BLOWER" using orange wire nuts. Polarity is not important.

### 4. CONVEYOR BELT

- A) Take out the bolts on the end of the conveyor frame.
- B) Loosen the bolt closest to the dryer tunnel and drop the conveyor pulleys down parallel with the conveyor frame then reinsert the end bolts. NOTE: Line up the punch marks to each other, one punch mark will be on the conveyor frame and one will be on the metal bracket that holds the pulley.

# INSTALLATION

## INSTALLATION INSTRUCTIONS

### **MODELS 1806:**

This model is designed for single phase electricity and requires a qualified electrician to “hardwire” power to the dryer. Refer to the serial tag (affixed to the control box) for full load amp information. The electrician is responsible for supplying the proper size wire and circuit breaker protection based on length of wire run and local codes.

The exhaust duct (4” diameter) exiting out the side of the dryer must be ducted to the outside. The internal fan (49 CFM) is sufficient for vertical runs of no more than 30 feet. If the duct is run horizontally over 15 or more than 30 feet vertically, a booster fan (49 CFM or less) must be added to provide proper exhausting of the heat and fumes. A rain cap must be installed where the exhaust duct exits the roof to prevent any water from entering the oven. Do not reduce the duct size diameter from the 4” provided.

### **MODELS 2410:**

This model is designed for single phase electricity and requires a qualified electrician to “hardwire” power to the dryer. Refer to the serial tag (affixed to the control box) for full load amp information. The electrician is responsible for supplying the proper size wire and circuit breaker protection based on length of wire run and local codes.

The exhaust duct (3” diameter) exiting out the bottom of the dryer must be ducted to the outside. The internal fan (136 CFM) is sufficient for vertical runs of no more than 30 feet. If the duct is run horizontally over 15 or more than 30 feet vertically, a booster fan (136 CFM or less) must be added to provide proper exhausting of the heat and fumes. A rain cap must be installed where the exhaust duct exits the roof to prevent any water from entering the oven. Do not reduce the duct size diameter from the 3” provided.

### **MODELS 3610 AND UP:**

This model is designed for three phase electricity and requires a qualified electrician to “hardwire” power to the dryer. Refer to the serial tag (affixed to the control box) for full load amp information. The electrician is responsible for supplying the proper size wire and circuit breaker protection based on length of wire run and local codes.

The exhaust duct (3-5” diameter depending on the model) exiting out the bottom of the dryer must be ducted to the outside. The internal fan (136-326 CFM depending on model) is sufficient for vertical

# INSTALLATION

runs of no more than 30 feet. If the duct is run horizontally over 15 or more than 30 feet vertically, a booster fan (136-326 CFM or less depending on model) must be added to provide proper exhausting of the heat and fumes. A rain cap must be installed where the exhaust duct exits the roof to prevent any water from entering the oven. Do not reduce the duct size diameter from the 3" provided.

**NOTE:** Do not reduce the duct size diameter down from the dryer was originally equipped with.

# OPERATION

## OPERATING INSTRUCTIONS

### ***NPII SERIES***

1. Turn "Main Power" Switch on.
2. Turn the belt speed control up and observe the belt moving. Now would be a good time to "chart" your actual oven retention times for any given speed control setting. Place a coin on the belt to use as a reference when checking times through the oven.
3. Turn the temperature control up to the desired temperature setting. Heater light will come on to indicate that the unit is heating. After the dryer has reached the desired temperature the control will start cycling the heaters on and off to maintain the temperature selected. Normal warmup time should be only 20-30 minutes to reach 325°F (163°C).
4. After the oven has reached operating temperature (indicated by the heater light cycling on and off), you may run belt temperature tests to determine proper temperature control and belt speed control settings. Many things factor into finding the "right" combination depending on garment type (t-shirt, sweatshirt, jacket etc.), its weight (heavier garments take longer to heat), water content (usually determined by the garments material composition, ie: 100% cotton will hold more water and take longer to dry than a 50% cotton/50% polyester garment), and ink deposit (more or thicker ink deposits will take longer to dry). The best rule of thumb is to set the temperature control just slightly higher (5-10°F or 2-3°C) than the ink manufacturers recommendations for cure temperature. In most cases for plastisol this means setting the temperature control for 325-330°F (163-165°C). At this point the belt speed can be adjusted to ensure that the garment and ink deposit has adequate "soak" time to reach the temperature desired. Depending on the garment and ink combination required, retention time inside the oven

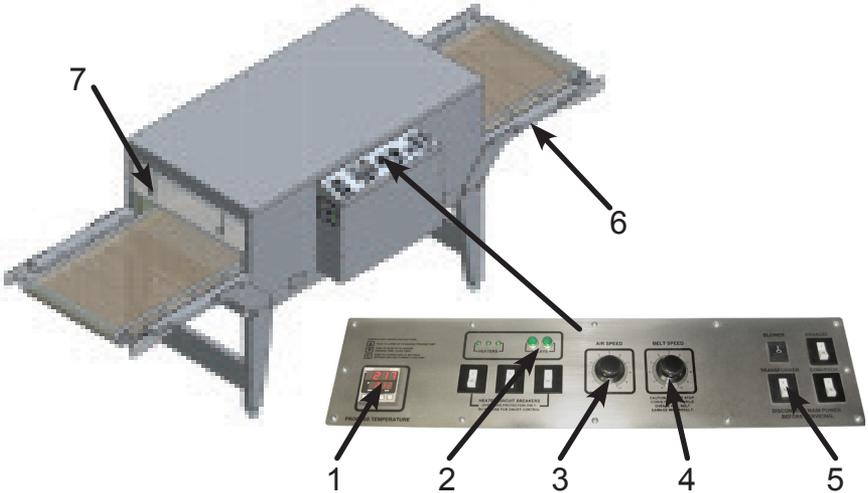
## OPERATION

can typically range from 1 to 2 minutes so pretesting your particular combination is a must to ensure a properly cured print. Remember to always read and follow the ink manufacturers recommendations as temperature requirements do vary between different manufacturers and within their own product lines. Confirm you are achieving proper temperature by using either thermolable tapes or thermocouple probes on the garment. When testing garments don't use the same one twice. The first time through the oven will evaporate most all the water trapped in the garment and if passed through a second time (even if allowed to cool down) it will heat up much quicker as the cooling effect of the water evaporating is no longer present. This will result in an erroneous test result (a much higher temperature reading) and will be confusing.

5. After the oven has reached operating temperature some adjustments in the belt tracking may have to be made. See instructions detailed on page 9.
6. At the end of the production day, reduce temperature to its lowest setting and allow the dryer to **“cool” for 10-15 minutes before stopping the belt** or turning the dryer off.

# OPERATION

**NP-II Series Dryer Shown - See Footnotes on BE-II Series.**



## 1. TEMPERATURE CONTROL (Partlow or West models)

Upper display shows current value of process (oven) temperature.

Lower display shows setpoint temperature.

Pressing this function button once will allow "SP" to be displayed enabling the operator to change the setpoint by pressing the "up" and "down" buttons located below. Pressing once again will return the displays to their normal mode.

Will increase setpoint (SP) when "SP" is displayed.

Will decrease setpoint (SP) when "SP" is displayed.

Not functional.

## BE-II Series - (Analog Temperature Control)

- A. Temperature Control Setting Dial**  
*Adjust to desired temperature*
- B. Operation Indicator**  
Heat "ON" Light
- C. Reset Shaft**

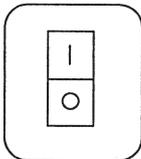


# OPERATION

## 2. RELAY LIGHTS: Cycle Off When Heaters Are On

Large (1/4") neon lights indicate proper opening and closing of each heater relay. When Relay Lights are "on", the relays are "open" and no power is applied to the heaters (Heater LED's Off). When Relay Lights are "off", the relays are "closed" and power is applied to the heaters (Heater LED's On). If one Relay Light stays "on" while the others are off, then that pole is stuck "open" and the relay should be replaced. The heater LED's will still function as normal as they are "double switched".

**NOTE:** If all Relay Lights operated normally yet one of the Heater LED's will not come on, check the suspected heater with an ampclamp. Normal reading should be 10 - 14 amps depending on element size and voltage available. If readings indicate no current flowing, then the heater will require replacing.



Provide protection for control and heater circuits only! **DO NOT** use for ON/OFF control! If a breaker trips, determine the cause before resuming operation.

**IN/OUT (I/O)  
CIRCUIT BREAKERS**

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***BE-II Series - ON/OFF only.***

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# OPERATION

## 3. AIR SPEED CONTROLLER

### *NPII Series*

Controls the Air Speed circulating inside the dryer.



***BE-II Series - Not Included. ON/OFF Only.***

## 4. BELT SPEED CONTROLLER

The belt speed is controlled by a simple rotary knob with graduations numbered from 0 to 10 as shown below.



**CAUTION:** Do not stop conveyor belt while oven is hot; belt. Damage will result.

# OPERATION

## 5. POWER BREAKER, BLOWER, EXHAUST, CONVEYOR, TRANSFORMER

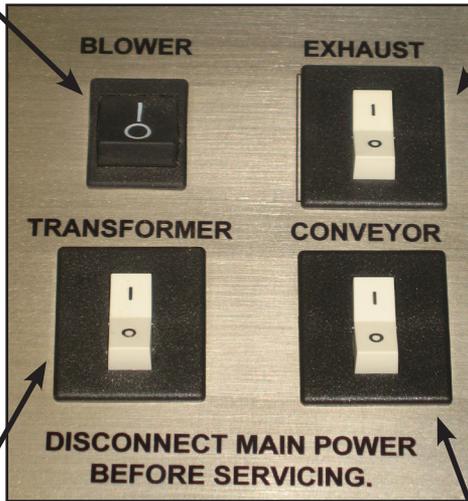
### NP-II Series

**Blower Power -**

Turns blower on and off.

**Exhaust Power -**

Turns exhaust on and off.



**Transformer Power -**

Turns control transformer on and off.

**Conveyor Power -**

Turns conveyor on and off.

### BE-II Series - Not Included. ON/OFF Only.

#### ON/OFF Power Breaker

Dryer **MUST** be externally fused with appropriate size fuse or circuit breaker (FLA x 125% = fuse size). See the following sheet for fuse size to be used for each dryer.



**NP-II Series:** When facing the dryer control box, the rotary switch is located on the right side of the control box. Turns all dryer power and off.



**BE-II Series:** The main power switch turns all dryer power and off.

**WARNING:** Disconnect Main Power Before Servicing.

# OPERATION

## 6. BELT TRACKING ADJUSTMENT

After the conveyor belt has been installed some adjustment may be necessary to ensure the belt is tracking properly.

1. Make sure the oven is level (from side to side). Use a carpenter's level.
2. Slightly loosen the pulley adjustment end plates (leave snug yet allow the plates to move with the adjustment screws) shown in the diagram.
3. The belt has a label that shows the direction of travel and which side to mount face up. Verify the travel and face up direction label are correct and then connect belt with the supplied spline pin.
4. For ovens made prior to October 2007, verify that the two set screws on side B **only** (that is the side opposite of the belt drive motor side of oven) and on both ends of the oven are removed. (set screws are located in the flange bearing into the belt roller shaft) See figure 1
5. Adjust the adjustment screw until the punch marks on each side line up, these are located on the pulley adjustment plates and the top at the end of the dryer frame. These marks are used to set the belt tension and initial tracking adjustment settings. See figure 2
6. Bring the dryer up to your desired operating temperature, at low belt speed, until you reach temperature. The belt will track differently when hot than when cold.
7. Set the belt speed to maximum/high speed; setting #10.
8. If the belt is moving to the left, tighten (1/2 turn-clockwise) the adjustment screw on that side. If tracking to the right, tighten the right side adjustment screw. Allow the belt to make at least 3 full revolutions before making further adjustments. If the belt is quickly moving to the side it can be adjusted every belt revolution. Check the position at the same location on the belt each time. The seam is a convenient place to make this check. Repeat this procedure until the belt is tracking straight. Do not tighten the adjustment screws more than 5 full revolutions. Do not over-tighten the belt or damage could occur that is not covered under warranty. Make smaller, (tighter or looser) adjustments for final tracking. As the belt ages with time/heat, further minor adjustment may be necessary.
9. Tighten the end plate bolts and verify the belt is still tracking correctly.

**NOTE:** Belt travel is always toward the belt drive motor, keeping the belt under tension. Do not attempt to reverse the motor rotation or belt travel direction as proper belt tracking will not be possible.

# OPERATION

Figure 1

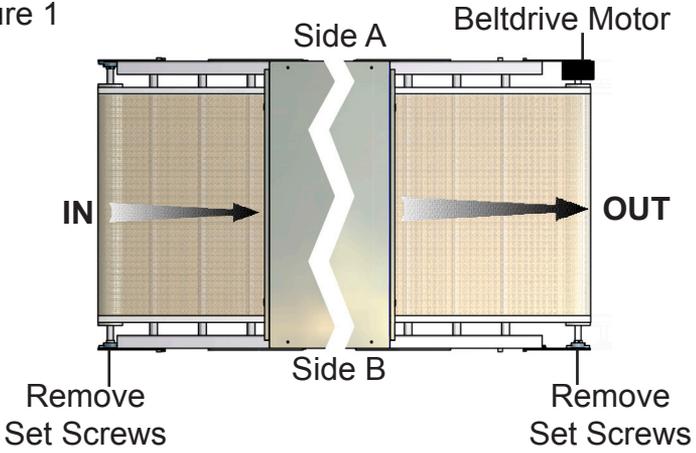
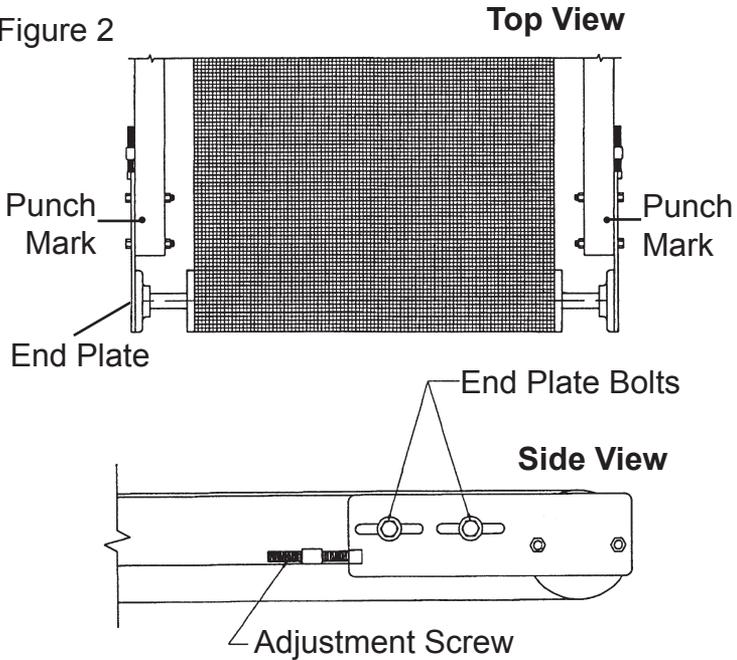


Figure 2



# OPERATION

## 7. DOOR ADJUSTMENT

The dryer is equipped with adjustable doors located at each end of the oven chamber. The maximum opening is 6 inches (12" in the case of bottle dryers) and may be pulled down to belt level on standard dryers (6" minimum opening on bottle dryers). Always run the doors as far closed as safely possible (typically allow 1-1/2" above product height) to contain the oven heat and help eliminate problems caused by air drafts in the shop. Exercise caution when adjusting the door height when the oven is hot, use a rag or wear a glove to prevent burning your fingers.



# ADJUSTMENTS

## 1-PH/3-PH CONVERSION (220 Volt Dryers Only)

To switch from 3-PH to 1-PH or from 1-PH to 3-PH some rewiring is required in the Power Entry Box located to the right of the control panel.

Contact HIX Customer Service for instructions. Provide your dryer's model and serial number when calling.

**NOTE: 3619 and 4819 models are 3-phase only.**

**1806 and 2410 models (except 380V) are 1-phase only.  
(2410 model 380V are 3-phase only.)**

**\*\*\* WARRANTY IS VOID IF CONVERSION IS NOT  
DONE BY A QUALIFIED ELECTRICIAN!\*\*\***

## 220 Volt Dryers

### NOTE:

Fuse ratings shown below are for 220 volt supply. Deduct 5% for 208 volt supply. Add 10% for 240 volt supply.

**WARNING!**  
MODEL 1806  
MUST BE EXTERNALLY FUSED WITH  
FRN-R 20 AMP 220 Volt Model  
OR EQUIVALENT CIRCUIT BREAKER

**WARNING!**  
MODEL 2410  
MUST BE EXTERNALLY FUSED WITH  
FRN-R 45 AMP 1 PHASE  
OR EQUIVALENT CIRCUIT BREAKER

**WARNING!**  
MODEL 3610  
MUST BE EXTERNALLY FUSED WITH  
FRN-R 40 AMP 3 PHASE  
FRN-R 65 AMP 1 PHASE  
OR EQUIVALENT CIRCUIT BREAKER

**WARNING!**  
MODEL 3616  
MUST BE EXTERNALLY FUSED WITH  
FRN-R 50 AMP 3 PHASE  
FRN-R 90 AMP 1 PHASE  
OR EQUIVALENT CIRCUIT BREAKER

**WARNING!**  
MODEL 3619  
MUST BE EXTERNALLY FUSED WITH  
FRN-R 80 AMP 3 PHASE  
OR EQUIVALENT CIRCUIT BREAKER

**WARNING!**  
MODEL 4819  
MUST BE EXTERNALLY FUSED WITH  
FRN-R 100 AMP 3 PHASE  
OR EQUIVALENT CIRCUIT BREAKER

THESE STICKERS WILL BE  
PLACED NEXT TO THE  
ELECTRICAL SERVICE INLET.

## 380 Volt Dryers

### NOTE:

Fuse ratings shown below are for 380 volt 3-phase supply. 5-Wire with Neutral. Add 10% for 415 volt supply.

**WARNING!**  
MODEL 2410  
MUST BE EXTERNALLY FUSED WITH  
NOS/OTS 20 AMP FUSE  
OR EQUIVALENT CIRCUIT BREAKER

**WARNING!**  
MODEL 3610  
MUST BE EXTERNALLY FUSED WITH  
NOS/OTS 25 AMP FUSE  
OR EQUIVALENT CIRCUIT BREAKER

**WARNING!**  
MODEL 3616  
MUST BE EXTERNALLY FUSED WITH  
NOS/OTS 35 AMP FUSE  
OR EQUIVALENT CIRCUIT BREAKER

**WARNING!**  
MODEL 3619  
MUST BE EXTERNALLY FUSED WITH  
NOS/OTS 45 AMP FUSE  
OR EQUIVALENT CIRCUIT BREAKER

**WARNING!**  
MODEL 4819  
MUST BE EXTERNALLY FUSED WITH  
NOS/OTS 65 AMP FUSE  
OR EQUIVALENT CIRCUIT BREAKER

THESE STICKERS WILL BE  
PLACED NEXT TO THE  
ELECTRICAL SERVICE INLET.

# **OPERATING PRECAUTIONS**

## **GENERAL OPERATING PRECAUTIONS**

While the below information will not cover every operating situation, these guidelines should be understood and general common sense applied when operating the equipment. Failure to do so could cause a fire hazard, explosion hazard and possible serious personal injury or death.

### **INTENDED USE:**

These electric conveyor ovens may be used to cure or dry a number of inks, substrates or products such as textiles, wood, plastic, glass or any other similar substrates. The oven process temperature is to be set within the safe temperature limitations of the ink or substrate. Research of the temperature limitation of the particular ink or substrate is solely the responsibility of the end user and not of the manufacturer. Neither the manufacturer, distributor or any seller of these dryers will be responsible for any damages to product, oven, facilities or personnel caused by product being exposed to temperatures exceeding their limitations or operating the oven in any manner in which it was not intended.

### **PROPER VENTING:**

Never block any of the air vents leading into or out of the control box. Blocking any of these vents can cause overheating of the unit and create a fire hazard. The exhaust on the oven shall be vented outside of the building. See instructions in this manual for additional information on proper venting of the exhaust.

### **SAFE OPERATION:**

Pay careful attention to the adjustable doors located on each end of the oven. Ensure that the door on the exit end of the oven is raised higher than that on the entrance end of the oven so there is no possibility that product may get accumulated or lodged inside the oven chamber and create a fire hazard.

Keep aerosol spray cans away from the oven. If they accidentally fall on the belt and enter the oven chamber they can overheat and explode inside the oven chamber causing a fire hazard and or personal injury.

Never introduce any flammable liquid into the oven to evaporate, such as solvents, including, but not limited to alcohol, MEK, acetone, toluene, etc. without consulting the specific application with the manufacturer to determine what amount can be safely introduced into the oven without causing a dangerous situation. Failure to do so can cause fire, personal injury or death.

This equipment is considered to be "Category 2" level of safety in accordance with standard EN 954-1.

# MAINTENANCE

## MAINTENANCE SCHEDULE

### EVERY MONTH:

1. Remove and clean or replace filters located on each side of control box.
2. Inspect belt tracking and adjust tension if necessary as outlined in this manual.

### EVERY 6 MONTHS:

1. Remove top(s) and Vacuum any lint/dust accumulation inside oven chamber and around air nozzle openings between heaters.
2. Check brushes on bottom mounted recirculating air blower motor and vacuum out any carbon dust accumulation inside the motor housing.
3. Disconnect exhaust ducting from exhaust housing. Remove exhaust housing and vacuum out any lint and/or debris accumulation.

### EVERY YEAR: (Disconnect power at main panel)

1. Remove top chain guard cover and lightly lubricate the conveyor drive chain; with SAE 20 weight oil. Replace after lubricating. **DO NOT leave off!**
2. Have a qualified electrician check all heater elements to specifications shown on wiring diagram.
3. Check brushes on conveyor drive motor.
4. Check brushes on recirculating air blower motors and vacuum out any carbon dust accumulation inside the motor housing.
5. Check/tighten all electrical connections on relays and contactor inside control box.
6. Check thermocouples with ohm meter disconnected from temperature control. Cold resistance should be between .5 to 2 ohms. Higher resistance readings indicate possible problems with the thermocouple and in this case it should be replaced.
7. Disconnect exhaust ducting from exhaust housing. Remove exhaust housing and vacuum out any lint and/or debris accumulation.

### EVERY 3 YEARS:

1. Replace thermocouple.

# APPLICATIONS

## APPLICATION PROCEDURES

**Plastisol Inks:** Plastisol Inks are vinyl compounds especially formulated for screen printing applications. The term, plastisol, indicates that these compounds consist of PVC resins which are suspended in liquid plasticizers. The combination of resins and plasticizers produces a fluid mixture which can range in viscosity from a heavy paste to a pourable liquid. Plastisol Ink forms a continuous plastic film deposit after it has been subjected to the Heat/Fusion process. Once this film is properly deposited on a garment, either by direct printing or by heat transfer method, the garment will have excellent washability.

**The Screen:** Polyester screen fabrics are ideally suited for printing with all Plastisol Inks. These fabrics have good dimensional stability and low absorption, so the Plastisol Inks release easily from the screen mesh. The mesh count range of monofilament polyester (60 to 230 mesh), is recommended for most textile applications. The deposit of Plastisol Ink desired on the substrate determines the mesh count to be used. Screens must have high tension to achieve a satisfactory print.

**Screen Prep:** Before applying the stencil material (direct emulsion or film) the mesh must be degreased with a commercial degreasing agent and rinsed with water.

**The Stencil:** The stencil is referred to as the emulsion applied to the screen mesh. It is a light sensitive emulsion that hardens when exposed to light (exposure unit). A water-resistant emulsion is required when printing water-based inks, solvent-resist emulsion for plastisols and enamel inks.

**The Squeegee:** The squeegee is a polyurethane blade mounted in a wooden handle. The hardness of the blade (referred to as a Durometer classification) is numbered according to the degree of hardness or pliability. The squeegee is selected by its Durometer hardness, depending upon the intended application.

**40 duro extra soft:** Flock transfer printing and puff inks.

**40/55 duro soft:** Flock transfer printing, puff inks, water-base inks and printing on dark fabrics.

**60/65 duro medium:** Common applications, standard work.

**70/90 duro hard:** Common application and halftone printing. 70 duro is the most common durometer for printing plastisol on textiles. Note: Keep your squeegee blades sharp and straight.

# APPLICATIONS

## APPLICATION PROCEDURES (CONT.)

**The Printing Bed (Pallet, Platen or Shirtboard):** The surface should be hard and level to ensure an even contact with the screen. A pad can be applied to the pallet to achieve a surface print when printing light ink on dark fabrics or when printing puff inks. (The pad also expedites flash-curing times).

**Direct Printing:** Plastisol inks need to be stirred prior to printing. The screen should be set up off-contact (approximately 1/16") to the shirt or substrate you are printing. In most cases, you can lay down a good deposit of ink with one squeegee pass and medium pressure. When using water-based ink, flood the image area in-between prints.

**Fusion:** The final step after direct printing of a garment with Plastisol Ink is fusion (sometimes called heat curing). It is vital that the printed garment is subjected to the proper temperature for the required time. Too little temperature will cause the print to fade when the garment is washed and crack when stretched because the Plastisol Ink has not formed a continuous film. Too much heat will scorch the fabric. Complete fusion takes place at 320°F/160°C from 60 to 90 seconds, depending on the amount and thickness of the ink deposit. The required temperature must be reached on the printing surface itself and not merely taken from a thermostat reading of the heat source. This must be carefully checked at the substrate by use of temperature test strips which are placed on the surface of the garment and sent through the oven. These strips will give a true reading (plus or minus 5°F) of the actual temperature of the substrate. There are also many digital heat probes available on the market to check substrate temperature. The heat source recommended for the most efficient fusion of Plastisol Ink is infrared radiant energy. The air/infrared combination will also help provide even heat dispersion and prevent fabric scorching. Airflow must also be used when curing water or solvent-based inks.

**Screen Printing of Transfer Release Paper:** Single color prints on transfer release paper are printed with a sharp squeegee of medium durometer, 60 to 65 hardness. The bed on which the paper is mounted should be hard (plexiglass or Formica is suitable). The printing procedure recommended is: one light stroke to flood the screen and then one print pass. For multi-color transfer printing on paper for subsequent release, each color must be gelled before overprinting. This is accomplished with approximately 200°F for 25-30 seconds. The final color is also gelled. The transfer sheet can now be safely handled and shipped. A transfer which has been fully fused at 320°F will not release acceptably. Consult applicable Ink Manufacturer's Data Sheets for specific details on curing times and temperatures.

# APPLICATIONS

**Water-Based Dye Systems:** Unlike Plastisol Inks, water based dyes require an evaporation process before curing can take place. For proper cure, good airflow in the oven is required to drive off the water from the printed garment. Some water-based inks will air-dry, but most must be heat-cured at 300°F for 2 to 3 minutes.

**NOTE:** When working with water-based inks, screens must be made with water resistant emulsions or films.

**Nylon Jacket Ink Systems:** Most nylon jacket inks are the two part nature. These systems require the addition of a catalyst to the ink before they are printed. Refer to Ink Manufacturers for mixing instructions for details. After two part jacket inks are fully cured in an infra red dryer (@ 320°F for 60-90 seconds), chemical crosslinking continues for several days before the ink film reaches its total cure.

**CAUTION: Mix only enough ink and catalyst for a 3 to 4 hour period. Pretest all nylon for ink adhesion and resistance to oven temperatures.**

**NOTE:** You must flash-cure before the first color to pre-shrink the jacket and in between each color when printing nylon jackets to prevent blurring and ink buildup.

**TIP:** Remember, most garments, especially 100% cotton (and to a lesser degree 50% cotton/50% polyester) absorb moisture out of the air during storage which the dryer must then evaporate and remove during the drying curing process. Therefore even when curing plastisol it is beneficial to provide for some air exchange when printing on 50/50 or 100% shirts. When printing on nylons not as much exchange is necessary since nylon absorbs very little water in storage. Relative humidity in your local climate and changes in humidity make it always critical that you pretest your substrate temperature prior to a production run with temperature tapes or a digital thermocouple probe. When testing a garment, always use a fresh one of the box to simulate actual printing conditions.



**Q: What is Exchange Air?**

**A:** A controlled flow of air is exhausted continuously by the exhaust blower. The purpose is to remove air saturated with water or solvents.

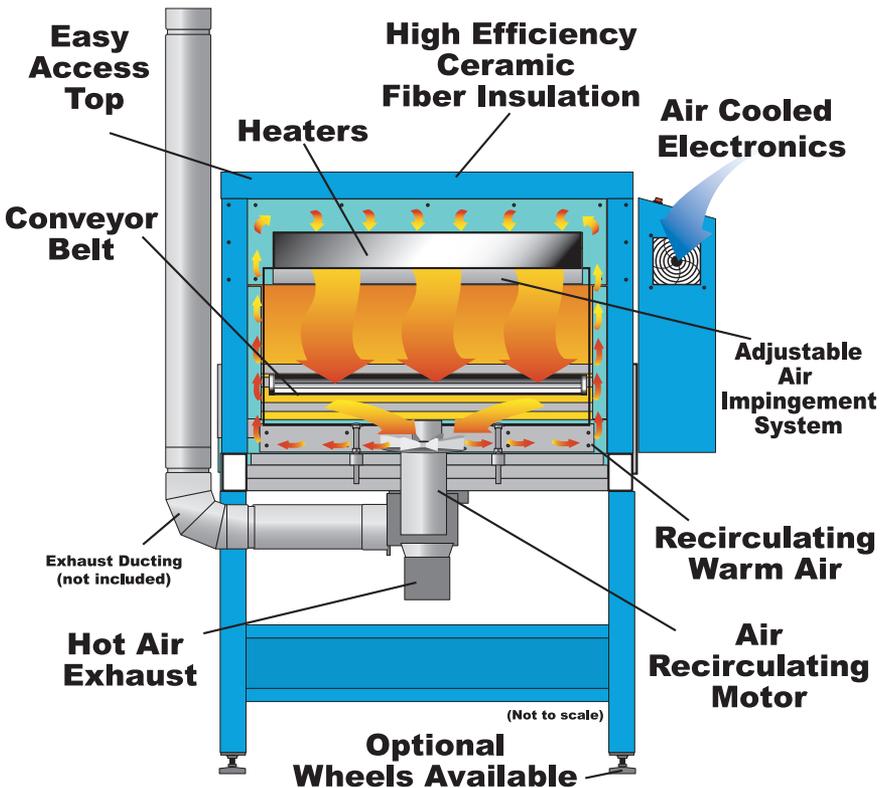
**Q: What is a Circulating Air System**

**A:** Air circulation provides these functions:

1. Drives off water/solvents from the garment and ink to provide quicker and more effective drying and curing.
2. Minimizes scorching of delicate fabrics and paper.

**NOTE:** The BEII models have a single speed air recirculating system. NPII models have a variable speed system.

The air system is controlled by a simple on-off switch located on the control panel.



# WARRANTY

**(Effective 3/1/2020)**

HIX will automatically register the equipment on the date it was shipped to you or your distributor. If the equipment was not purchased directly from HIX, but through a distributor (either domestic or foreign), please keep a copy of their sales invoice showing the serial number and date it was sold/shipped to you with this warranty. In this case, we will use the distributor's invoice date as the beginning warranty date. **STAPLE A COPY OF YOUR PROOF OF PURCHASE TO THIS WARRANTY** and keep in a safe place to provide verification of your warranty should a problem occur. Thank you.

Please fill in the following information and attach a copy of your receipt for your records.

Date Purchased: \_\_\_\_\_ From: \_\_\_\_\_  
Model #: \_\_\_\_\_ Serial #: \_\_\_\_\_

This warranty applies to equipment manufactured by the HIX Corporation (HIX), Pittsburg, Kansas, U.S.A. HIX warrants to the original purchaser, its Ovens and Dryers, Heat Transfer Machines, Textile Printers, Spot Heaters, and Exposure Units against defects in workmanship and material, except for wear and tear for a period of "One Year" from the date of purchase. HIX warrants Accessories for a period of 90 days from the date of purchase. doughXpress products are covered under separate warranty.

In the event of a defect, HIX, at its option, will repair, replace or substitute the defective item at no cost during this warranty period subject to the limitations of insurance and shipping costs stated below (excludes labor).

In the case of heat transfer presses (except the Hobby Lite and Large Format presses), HIX warrants the heat casting for the "Life" of the machine for the original purchaser. If a part becomes obsolete at the time for repair, and/or cannot be reasonably substituted for, HIX will credit, at half the then current list price or last recorded price, only that part toward a new machine or any product HIX offers. This credit offer shall be the sole responsibility of the HIX Corporation in the event of an obsolete part.

This warranty does not cover belts, rail tape, pads, mug wraps, canvas, rubber blankets, bulbs, glass. Warranty does not cover damages due to accident, misuse/abuse, alterations or damage due to neglect, shipping or lack of proper lubrication or maintenance. HIX shall not be responsible for repairs or alterations made by any person without the prior written authorization by HIX. This warranty is the sole and exclusive warranty of HIX and no person, agent, distributor, or dealer of HIX is authorized to change, amend or modify the terms set forth herein, in whole or in part.

In the case of a problem with the equipment identified herein, HIX Corporation should be contacted during regular business hours to discuss the problem and verify an existing warranty. HIX personnel will assist the customer to correct any problems which can be corrected through operation or maintenance instructions, simple mechanical adjustments, or replacement of parts. In the event the problem cannot be corrected by phone, and upon the issuance of a return authorization by HIX, the equipment shall be returned to HIX or an authorized service representative. All insurance, packaging and shipment/freight costs are solely the responsibility of the customer, and not that of HIX, and HIX shall not be responsible for improper packaging, handling or damage in transit. Contact HIX customer service for complete return authorization information. Correct shipping boxes are available from HIX.

This expressed warranty is given in lieu of any and all other warranties, whether expressed or implied, including but not limited to those of merchantability and fitness for a particular purpose, and constitutes the only warranty made by HIX Corporation.

In no event shall HIX's liability for breach of warranty extend beyond the obligation to repair or replace the nonconforming goods. HIX shall not be liable for any other damages, either incidental or consequential, or the action as brought in contract, negligence or otherwise.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.



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