XD 9007A
SWDHE
12/02/2015

Simple. Smart.

XLT Electric Oven & AVI Hood
Parts & Service Manual

Read This Manual Before Using This Appliance.

Current versions of this manual, Rough-In Specifications, Installation & Operation Manual, Architectural Drawings, & a list of International Authorized Distributors are available at: www.xltovens.com

For use with the following XLT Electric Oven Versions:

Standard (S)	D
World (W)	D

For use with the following AVI Electric Hood Versions:

Standard (S)	E
World (W)	E

Intertek 2000887

0359

QC DS™ QUALITY. COST. DELIVERY. SERVICE.

XLT Ovens
PO Box 9090
Wichita, Kansas 67277
US: 888-443-2751 FAX: 316-943-2769 INTL: 316-943-2751 WEB: www.xltovens.com

SAFETY DEPENDS ON YOU

CAUTION

This appliance is for professional use by qualified personnel. This appliance must be installed by qualified persons in accordance with the regulations in force. This appliance must be installed with sufficient ventilation to prevent the occurrence of unacceptable concentrations of substances harmful to health in the room in which it is installed. This appliance needs an unobstructed flow of fresh air for satisfactory operation & must be installed in a suitably ventilated room in accordance with current regulations. This appliance should be serviced by qualified personnel at least every 12 months or sooner if heavy use is expected.

DANGER

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury, or death. Read the installation, operating and maintenance instructions thoroughly before installing, using, or servicing this equipment.

DANGER

FOR YOUR SAFETY

Do not store or use gasoline or other flammable liquids or vapors in the vicinity of this or any other appliance.

- Do not restrict the flow of ventilation air to the unit. Provide adequate clearance for operating, cleaning, and maintaining the unit when in the installed position.
- Keep the area free and clear of combustible material. DO NOT SPRAY AEROSOLS IN THE VICINITY OF THIS APPLIANCE WHILE IT IS IN OPERATION.
- Ovens are certified for installation on combustible floors.
- Electrical schematics are located inside the control box of the oven and in this manual. Disconnect input power to the unit before performing any maintenance.
- This unit requires a ventilation hood. The installation must conform to local codes.
- This unit must be operated by the same voltage, phase, & frequency of electrical power as designated on the nameplate label located on the side of the unit.
- Minimum clearances must be maintained from combustible & non-combustible construction materials.
- Follow all local codes when installing this unit.
- Follow all local codes to electrically ground the unit.
- Appliance is not to be cleaned with high pressure water.
- XLT ovens are certified for use in stacks of up to three (3) units of XLT products. Integration of other manufacturer's products into an oven stack is not recommended, & will void any warranties. XLT Ovens assumes no liability for mixed product applications.
- Failure to call XLT Customer Service at 1-888-443-2751 prior to contacting a repair company voids any & all warranties.
- PLEASE RETAIN THIS MANUAL FOR FUTURE REFERENCE.
- This appliance operates below 70 dBA.

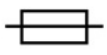
XLT Ovens has spent millions of dollars designing and testing our products as well as developing Parts & Service Manuals. These manuals are the most complete and easiest to understand in the industry. However, they are worthless if they are not followed.

We have witnessed store operators and building owners lose many thousands of dollars in lost revenue due to incorrect installations. We highly recommend you follow all instructions given in this manual as well as follow best practices in plumbing, electrical, and HVAC building codes.

Definitions & Symbols

A safety instruction (message) includes a "Safety Alert Symbol" & a signal word or phrase such as **DANGER, WARNING** or **CAUTION**. Each signal word has the following meaning:

 **DANGER**	ISO 7000-0434: Indicates a potentially hazardous situation that, if not avoided, can result in serious injury or death.
 **HIGH VOLTAGE**	IEC 60417-5036: This symbol indicates high voltage. It calls your attention to items or operations that could be dangerous to you & other persons operating this equipment. Read the message & follow the instructions carefully.
 **WARNING**	ISO 7000-0434: Indicates a potentially hazardous situation, that if not avoided, can result in minor to moderate injury or serious damage to the product. The situation described in the CAUTION may, if not avoided, lead to serious results. Important safety measures are described in CAUTION (as well as WARNING), so be sure to observe them.
 **CAUTION**	ISO 7000-0434: Indicates a potentially hazardous situation, that if not avoided, can result in minor to moderate injury or serious damage to the product. The situation described in the CAUTION may, if not avoided, lead to serious results. Important safety measures are described in CAUTION (as well as WARNING), so be sure to observe them.

 **READ MANUAL**	ISO 7000-0790: Read the instructions before using this machine.	 **CLASS II EQUIPMENT**	IEC 60417-5172: A class II or double insulated electrical appliance.
 **PROTECTIVE EARTH**	IEC 60417-5019: Terminal which is intended for connection to an external conductor.	 **EQUIPOTENTIALITY**	IEC 60417-5021: Having the same electric potential or uniform electric potential.
 **FUSE-LINK**	IEC 60417-5016: Terminal which is intended for connection to an external conductor.		

Warranty – US and Canada

Rev E **Approval Date: 12/01/2015**

XLT warrants gas ovens manufactured after April 1, 2009 and all electric ovens manufactured after April 1, 2011 to be free from any defect in material and workmanship under normal use for five (5) years from the date of original purchase by the end user, and further warrants main fan blades, conveyor shafts, and conveyor bearings for ten (10) years. XLT further warrants all ovens to be free from rust for ten (10) years from the date the equipment is originally purchased. XLT warrants AVI hoods manufactured after December 1, 2015 to be free from any defect in material and workmanship under normal use for five (5) years from the date of original purchase by the end user purchaser. In the event of a part failure, XLT will furnish a replacement part and pay for all labor associated with the replacement of the part. If upon inspection XLT determines that the part is not defective, all incurred cost will be the responsibility of the end user purchaser. This warranty is extended to the original end user purchaser and is not transferable without prior written consent of XLT. Damages are limited to the original purchase price.

DUTIES OF THE OWNER:

- The owner must inspect the equipment and crates at time of receipt. Damage during shipment is to be immediately reported to the carrier and also to XLT
- The equipment must be installed and operated in accordance with the written instructions furnished with the unit
- This warranty shall not excuse the owner from properly maintaining the equipment in accordance with the written instructions furnished with the unit
- A copy of the "Initial Start-Up Checklist" must be filled out and returned to XLT when the unit is initially installed, and/or when the unit is removed and installed in another location
- The gas, electric, and HVAC utilities must be connected to the oven and installed by locally licensed contractors
- Failure to contact XLT Ovens prior to contacting a repair company for warranty work voids any and all warranties

WHAT IS NOT COVERED:

- Freight damage
- Overtime charges
- Any part that becomes defective because of utility services (power surges, high or low voltages, high or low gas pressure or volume, contaminated fuel, or improper utility connections)
- Any part that becomes defective because of moisture and/or other contaminants
- Conveyor belts
- Filters
- Exhaust Fans
- Light Bulbs
- Normal maintenance or adjustments
- This warranty shall not apply if the equipment or any part is damaged as a result of accident, casualty, alteration, misuse, abuse, improper cleaning, improper installation, improper operation, natural disasters, or man-made disasters

CLAIMS HANDLED AS FOLLOWS:

Should any such defect be discovered, XLT must be notified. Upon notification, XLT will arrange for necessary repairs to be made by an authorized service agent. Denial of services upon the arrival of an authorized service agent will release XLT of any and all warranty obligations.

7761 W Kellogg Drive 67209-2003 - PO Box 9090 67277-0090 - Wichita, Kansas
Voice (316) 943-2751 - (888) 443-2751 - Fax (316) 943-2769
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Warranty – International

Rev G **Approval Date: 12/01/2015**

When purchased through an Authorized International Distributor, XLT warrants its products manufactured after July 1, 2014 to be free from any defect in material and workmanship under normal use. The Authorized International Distributor will repair XLT products during the warranty period. This warranty is extended to the original end user purchaser and is not transferable without prior written consent of the Authorized International Distributor. Damages are limited to the original purchase price. Products purchased by any other means other than an Authorized International Distributor will have no warranty. This warranty applies to areas outside the 50 United States of America and Canada.

DUTIES OF THE OWNER:

- The owner must inspect the equipment and crates at time of receipt. Damage during shipment is to be immediately reported to the carrier and also to the Authorized International Distributor.
- The equipment must be operated in accordance with the written instructions furnished with the unit.
- This warranty is not valid unless equipment is installed, started, and demonstrated under the supervision of the Authorized International Distributor.
- This warranty shall not excuse the owner from properly maintaining the equipment in accordance with the written instructions furnished with the unit.
- A copy of the "Initial Start-Up Checklist" must be filled out and returned to the Authorized International Distributor when the unit is initially installed, and/or when the unit is removed and installed in another location.
- The gas, electric, and HVAC utilities must be connected to the equipment and installed by locally licensed contractors.
- The Authorized International Distributor must be contacted for service. Failure to contact the Authorized International Distributor prior to contacting a repair company for warranty work voids any and all warranties.

WHAT IS COVERED (Subject to local market conditions):

- 2 year labor Ovens – Extensions may be available and charges may apply
- 5 year labor Hoods – Extensions may be available and charges may apply
- 5 year parts – Extensions may be available and charges may apply
- 5 years parts and labor on: oven fan blade, structural welds, conveyor shafts, conveyor bearings, rusted materials in ovens

WHAT IS NOT COVERED (Subject to local market conditions):

- Freight damage
- Any part that becomes defective because of utility services (power surges, high or low voltages, high or low gas pressure or volume, contaminated fuel, or improper utility connections)
- Any part that becomes defective because of moisture and/or other contaminants
- Conveyor belts
- Filters
- Exhaust fans
- Light bulbs
- Rusted materials in hoods
- Normal maintenance or adjustments
- This warranty shall not apply if the equipment or any part is damaged as a result of accident, casualty, alteration, misuse, abuse, improper cleaning, use of caustic/acidic chemicals, improper installation, improper operation, natural disasters, or man-made disasters

CLAIMS HANDLED AS FOLLOWS:

Should any such defect be discovered, the Authorized International Distributor must be notified. Upon notification, the Authorized International Distributor will arrange for necessary repairs.

This manual, which contains an illustrated parts breakdown, has been prepared as an aid in understanding how the unit operates, how to diagnose problems, and order parts for the equipment. All of the parts, listed in the parts breakdown, are manufactured with the same precision as the original equipment.

XLT parts and service providers are available worldwide. There are authorized service providers located in the principle cities of the United States. There are also authorized Distributors located throughout the world.

The Theory of Operation section describes how the unit operates. An understanding of normal operation will greatly aid diagnosis and troubleshooting. The Troubleshooting section asks simple yes or no questions. The next question or statement entirely depends upon the previous answer. It will lead to the solution of a problem in the most efficient way. The illustrated parts section identifies the various sub-assemblies and detailed parts which make up the equipment, as well as the part number. An explanation of how to order parts is included.

This manual is designed to supplement the Installation & Operation Manual provided with the unit when new. Please refer to it for descriptions, dimensions, weights, electrical requirements, maintenance schedules, and certifications.

XLT Ovens wants you to be totally satisfied with every aspect of owning & using your oven & hood. Your feedback, both positive & negative, is very important to us as it helps us understand how to improve our products & our company. Our goal is to provide you with equipment that we can be proud to build & you can be proud to own.

To receive technical support for the oven or hood you purchased, XLT has qualified customer service personnel that can provide assistance on any type of XLT oven or hood equipment problem you may experience. Customer Service is available 24/7/365 at 888-443-2751 or visit www.xltovens.com.

DANGER

Repairs of all appliances & ventilation exhaust hoods should only be performed by a qualified professional who has read & understands these instructions & is familiar with proper safety precautions. Read this manual thoroughly before installing or servicing this equipment.

NOTE

Notes indicates an area or subject of special merit, emphasizing either the product's capability or common errors in operation or maintenance.

TIP

Tips give a special instruction that can save time or provide other benefits while installing or using the product. The tip calls attention to an idea that may not be obvious to first-time users of the product.

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For maintenance procedures, please refer to the XLT Installation & Operation Manual.

Save this Manual

This document is the property of the owner of this equipment.

XLT Ovens reserves the right to make changes in design & specifications, and/or make additions to or improvements to its product without imposing any obligations upon itself to install them in products previously manufactured.

All Right Hand & Left Hand designations in this manual are from the point of view as if standing directly in front of the glass sandwich door.

Revision History Table		
Revision	**Comments**	**Date**
A	New Release	12/02/2015

When the Main Switch (S1) is turned on;

1. The Oven Fan Motor (M1) located in the Back Wall will run.
2. The Fans (M3) located on the Control Panel will run.
3. The Temperature Control (TC) should display both the actual and set-point temperatures.
4. The Conveyor Control (CC) should display the belt time.
5. The conveyor belt should move.

The first part of the Theory of Operation explains how electrical power is delivered to the oven and initial sequences when the main operator switch is turned on. The remainder of the Theory of Operation section explains the function of components in alphabetical order. These components are also listed on the schematic.

- Line voltage for Standard Ovens is assumed to be 208/240/480 VAC, 3Φ, 60 Hz.
- Line voltage for World Ovens is assumed to be 380 VAC, 3Φ, 50 Hz.

Power originates at the electrical connection on the wall. Line voltage is then carried into the oven through the power cord to the Power Block (PB). A wire connects Line 2 to the Terminal Strip (TS), which serves as a "neutral" for the single phase components. Several jumpers are used to bridge along the TS to make connection points for multiple "neutral" lines from all single phase components inside the Control Box and the Main Fan Motor (M1). A wire connects line 1 to Terminal T11 on Relay 1 (R1) and acts as the "hot" leg for all of the single phase components. From there, a wire connects single phase power through the normally closed High Limit Switch (S3), then through Circuit Breaker 1 (CB1), then to the Main Switch (S1). Three phase power is applied to Contactors 1 & 2 (C1 & C2) through Circuit Breakers 5 & 6 (CB5 & CB6) and the PB. Unless the power supply on the wall has no power, the single phase and three phase circuits just described have power at all times.

When S1 is turned on, line voltage will be carried through the switch simultaneously to three locations via two parallel circuits:

- Terminal T6 of R1
- Centrifugal Switch (S2) located in M1
- Power Supply (PS)

C1 & C2 - A contactor is an electrically controlled switch used for switching a power circuit. A contactor is controlled by a control circuit that has a much lower power level than the switched circuit. They consist of a small coil and a set of three SPST contacts. When S2 & S3 are closed, line voltage is applied to the coil, which closes the contacts. Then power is allowed to flow to the SSR's. If the temperature at S3 exceeds 600° F, or if M1 does not rotate, then voltage is interrupted to the coil, and will open the contactors.

CAP - The Capacitor is physically mounted inside the Control Box but wired to the externally mounted Main Motor (M1). The Main Motor is a permanent split capacitor (PSC) design, which is a motor in which the starting capacitor and the auxiliary winding remain in the circuit for both starting and running.

CB - Circuit Breakers are used to protect electrical components. The current value is printed on the front of all breakers. If a CB is tripped, eliminate the cause and press the front to reset.

CC - The Conveyor Control is supplied 24 VDC by the Power Supply (PS) via a Circuit Breaker (CB3 & CB4, optional) to Terminals 4 & 5. The belt time is displayed, and is user-adjusted by pressing and holding the up or down arrow button switches. See the Specification Sheet for minimum and maximum belt times. The motor speed is calculated based on the time that is entered. This time is translated to a RPM on the motor shaft depending on the size of the oven, the diameter of the sprocket, and the gear ratio of the gearbox. Once the motor is running, hall sensor inputs are fed back into the driver to determine the speed the motor is currently running at. This input goes into a PID algorithm to adjust the PWM output to control the speed to match the target speed that was calculated first. This PWM is adjusting the average voltage that the motor phases are seeing. As the average voltage goes up, the motor will speed up. As the average voltage drops, the motor speed will also drop. The maximum speed is based on a continuous 18-24V being supplied to the motor. The phasing of the controller is dependent on the hall sensor signals that are being returned. The controller reads the hall sensor position and from there knows which phase of the motor receives the 18-24V signal, which phase of the motor is the return and which phase of the motor is left open. As the motor spins, the hall sensors change, which dictate which phases are energized.

FLT 1 - Is an inline filter used in world ovens. The filter is placed in series with the Line voltage being supplied to the oven. The filter is used to reduce Electromagnetic Interference created by our equipment and back-feeding it into other appliances. EMI filters use capacitors to inhibit direct current while permitting alternating current. EMI filters also use inductors which redirect high voltages, and high frequencies by dissipating them to ground.

H1-H6 - The Heating Elements convert electricity into heat through the process of joule heating. Electric current through the element encounters resistance, resulting in heating the element. The resistance values of the four (4) different part numbers used are:

- XP-5201-208-4.5 4500 Watt 9.61 Ohms
- XP-5201-240-4.5 4500 Watt 12.80 Ohms
- XP-5202-208-5.3 5300 Watt 8.16 Ohms
- XP-5202-240-5.3 5300 Watt 10.87 Ohms

Please refer to the Parts section for the proper application.

M1 – The Main Motor is a Permanent Split Capacitor (PSC), single phase, capacitor run motor and has an internal centrifugal switch (S2). The motor is dual voltage and reversible. The voltage to

power the motor comes from the Cool Down Timer (R1), and the motor will continue to operate for approximately 30 minutes after the main switch is turned off. There are no user serviceable parts in the motor, and the bearings are permanently lubricated.

M2 - The conveyor motor (M2) is a brushless 24 VDC gear motor. The motor receives current from the Conveyor Control (CC) through three (3) wires; 1) A black or "W" phase, 2) a white or "V" phase, and 3) a red or "U" phase. They carry between 18 to 24 VDC. Each wire is energized by the Conveyor Control (CC) in sequence to provide power to the individual stator coils which, in turn, provide motor rotation.

To determine the rotors position and send this position to the controller, three (3) Hall Effect switches are utilized. They read the rotational information from a disc mounted on the rotor assembly. This information is transmitted to the CC by three (3) wires; 1) an orange "U" phase pole signal output, 2) a green "V" phase pole signal output, and 3) a green/white "W" phase pole signal output. These are located in a plug that inserts into the CC. There are two (2) additional wires in this plug; 1) a purple wire which is supply voltage for the pole sensor, and 2) a gray wire that is ground.

The CC, using an internal logic circuit, energizes the stator coils to provide proper rotation and sets the enerigization (phase) timing to obtain the desired belt speed set on the controller. The motor drives an integral gear box that reduces the motor output speed to give the correct travel time to the conveyor belt. The integral gear box is sealed and permanently lubricated with grease. The ratio is 1/200.

M3 - These Motors have fan blades attached to them that provide cool air to the control box components. It is wired in parallel with M1 and will continue to operate for 30 minutes after S1 is turned off. Filters are provided to ensure clean air.

PB - The Power Block is a connection point for multiple wires of different gauges.

PS - The Power Supply rectifies line voltage to 24 VDC, and supplies power to the Conveyor Control (CC). A 4 amp fuse is used to provide over current protection, which is mounted on the PS itself. There are no other fuses used anywhere else.

PU - The Pick-Up is physically mounted within the Conveyor Motor (M2) and utilizes hall effect technology integral to the M2 to monitor the rotation speed. The hall effect signal is transmitted to the CC, which converts it into linear travel speed of the conveyor.

R1 - R1 is a 30-minute off delay relay which functions as a cool down timer. Applying power to terminal T6 activates the relay, which sends a voltage signal out from terminal T9. When power is removed from T6, voltage continues from T9 for 30 minutes. T9 supplies voltage to the Main Fan Motor (M1) through a Circuit Breaker (CB2), and also supplies voltage to M3. M1 and M3 are the only components that will continue to operate for 30 minutes after S1 is turned off. The off delay relay is a safety feature to allow the oven to cool down to room temperature, and to eliminate heat stress on the components of the oven.

S1 - The Main Switch is a SPST normally open switch, mounted on the front of the Control Box. Activating this switch applies voltage to Terminal T6 of the Cool-Down Timer (R1). When used with the optional AVI Hood System, a remote switch mounted in the front of the AVI Hood replaces it.

S2 - This Switch is a SPDT centrifugal switch physically mounted inside the Main Motor (M1). When M1 comes up to full speed, S2 closes and sends voltage to the Temperature Control (TC) and the Contactors (C1 & C2). It functions as a safety feature to prevent heating element operation if the M1 fails to rotate.

S3 - High Limit Switch. This is a bi-metal, NC, SPST switch physically mounted in the side panel of the Bake Chamber. It's purpose is to provide fail safe operation. If the temperature of S3 exceeds 600°F, it opens and interrupts line voltage to all components except the Main Motor (M1).

SSR 1-4 - A Solid State Relay is an electronic switching device in which a small control signal from the Temperature Control (TC) controls a larger load current and voltage. It comprises a voltage sensor which responds to the TC, a solid state switching device which switches power to the Heating Elements (H1-6) either on or off, and does this without mechanical parts.

T/C - The thermocouple is type K. It consists of two different conductors that produce a voltage proportional to temperature. The T/C is connected to terminals 2 & 3 of the Temperature Control (TC). The milli-volt signal is used to display the actual temperature.

TC - The Temperature Control (TC) has line voltage applied to terminal 10, and "neutral" voltage applied to terminal 9. There are two displays; one for actual temperature and one for set-point temperature. Actual temperature is determined by the Thermocouple (T/C), connected to terminals 2 & 3, with terminal 2 being the negative terminal and terminal 3 being the positive terminal. The user determines the set-point temperature by pressing and holding the up or down arrow button switches. The TC sends a 14-24 VDC signal to the Solid State Relay (SSR) depending upon the relationship between actual temperature and set-point temperature. If the actual temperature rises above maximum temperature, an internal switch contact opens thereby interrupting power.

XFMR- The Transformer steps down line voltage to 24 VAC. It supplies power to the Signal Conditioner (SC), Ignition Control (IC), and the Centrifugal Switch (S2). One terminal on the secondary side is connected to chassis ground by a green wire. The XFMR is ON whenever the Main Switch (S1) is on, and is independent of the Cool Down Timer (R1). Note: The XFMR is equipped with an integrated circuit breaker for standalone protection.

When any one of the three oven switches on the Hood User Interface (HUI) are touched (capacitive touch);
1. The Exhaust Fan Motor (M1) located on the roof will run.
2. The ovens associated with the corresponding switches will turn on.

The first part of the Theory of Operation explains how electrical power is delivered to the hood and initial sequences when the HUI switch is turned on. The remainder of the Theory of Operation section explains the function of components in alphabetical order. These components are also listed on the schematic.

Power for the hood originates at the building's electrical service panel. Two (2) circuit are required, one is a single phase high voltage circuit for VFD/Fan circuit that connects to TS 1 terminals 9 & 10. The other circuit is a low voltage circuit for the lights. The line connects to P3 terminal 9 on HMC and the neutral connects to TS 1 terminal 5.

HUI mounted on the hood controls lighting, VFD activation, Make Up Air (MUA) activation and oven function. When HUI Light Switch is touched a relay is closed and voltage will go to lights. When ovens are installed with a hood, the Switch Relocation Cord (SRC) effectively eliminates the main switch located on the oven and transfers control to HUI switches on the hood. When HUI switches are touched a communication signal is sent to the VFD via ModBus signaling it to turn on to a set frequency, at the same time when HUI2 is activated a relay will allow line voltage to be carried through the Switch Relocation Cord (SRC) to the oven activating it. When HUI2-4 are activated the MUA will turn on. The VFD has a built in power supply that is wired to terminal 01 this puts the VFD in run mode so whenever a power loss is sensed the VFD will start back up in run mode once power is restored. The NO switch in the fire alarm system in the building needs to be connected to TS 1 terminals 1 & 2. When the alarm is activated 24 VDC from TS1 2 will return from the fire alarm system to TS1 1 then to HMC P8 to turn off lights, cooling fans, HUI, MUA, and making the relay R1 switch from NC to NO, causing the VFD to run at 60 Hz.

CB - Circuit Breakers are used to protect electrical components. If a CB is tripped, eliminate the cause and press the front to reset.

HUI – Hood User Interface contains the factory settings so that the hood will operate with the correct hertz when the correct oven size and number of ovens are selected. The factory settings also contain a selection for a VFD, Non VFD, type of MUA activation, and for a World installation. A beeping sound and the display will flash if an alarm occurs. An error message will display at top of screen on HUI. Touching the "I" button will give a brief description of how to correct the error (see Figure 1). Touching the "Light Bulb" button will turn the light on and off inside the hood. Touching the "Silver Square" buttons will turn each oven on or off and sequence the operation of the VFD and the MUA circuits. RS485 cable supplies power and communication between the HUI and HMC.

HMC – The Hood Machine Control is a printed circuit board that has all the relays to control these functions; oven activation SRC, MUA activation, VFD activation, monitors the air proving switches, and lighting activation. The HMC receives a continuous 24 VDC power source provided the CB1 breaker is on. This component also has independent relays to control oven power for fire suppression. If a signal from the fire system is received the oven(s) and lighting power is discontinued and the VFD will run at full speed. For a World installation, sail switch monitoring is available just by answering some questions through factory mode programming. The HMC will also program the PowerFlex 4M VFD each time the CB1 breaker is turned on. ModBus communication is used to change the frequency the VFD runs at depending on the number of ovens used. Error messages will appear on the screen to help with troubleshooting. The screen will flash and beep indicating a error has occurred, the alarm button can cancel this for 2 hours. If error has not been fixed beeping will return. The HMC has filter cleaning reminders available.

LT1 & LT2 - These are light bulbs at each end of the hood, and should illuminate when the HUI light button is touched, touch it again and the light turns off.

M1 – The Exhaust Fan Motor is a 3-phase, direct drive motor. In normal operation, it is powered by the VFD and its RPM will vary as the frequency from the VFD varies. There are no user serviceable parts in the motor, and the bearings are permanently lubricated.

M2 & M3 – The Cooling Fan Motor is a 24 VDC, direct drive motor. In normal operation, it is powered through HMC. These fans are used to keep the control box for the hood cool. There are no user serviceable parts in the motor, and the bearings are permanently lubricated.

PLUG 1, 2, & 3 – These are circular electrical plugs on one end of the Switch Relocation Cord (SRC). The plugs connect to Receptacles 4, 5, & 6 on the back of the hood. The other end of the SRC plugs into the oven wire harness, and eliminates the operator switch supplied in the oven. Conversely, when the HUI on the hood is turned off, the corresponding oven is turned off as well.

PS –The Power Supply rectifies line voltage to 24 VDC, and supplies power to the HMC, cooling fans, and fire suppression

R1 – Is a SPDT relay, which is an electrically operated switch. It uses an electromagnet to operate a switching mechanism. Voltage is supplied from TS1-2 to Ansul agent box. Once the fire alarm is activated voltage returns to TS1-1 over to HMC P8. That same voltage continues to R1-1 activating the coil in the relay, causing the contacts in the relay to switch from NC to NO. This will switch 24 VDC from terminal 6 to terminal 5 on the VFD causing the M1 to operate at 60 Hz.

REC 4, 5, & 6– These are circular electrical receptacles mounted on the back of the hood. The Switch Relocation Cord (SRC) connects into these. This deactivates the main oven switch located on the oven and relocates the operation of it to the HUI. This capacitive touch (NO) switch is located on the front of the hood and controls the lights.

TS 1 & 2- These are terminal strips, that serve as a connection point for wires.

VFD - The Variable Frequency Drive (VFD) converts the AC supply voltage to DC and then converts the DC to a suitable three-phase frequency source for M1. Incoming power connects to terminals L1 & L2. M1 connects to terminals T1, T2, & T3 through TS1. The HMC sends the command to the ModBus to set the frequency for the combination of ovens selected. The VFD can receive a signal from the fire suppression system to command the drive to run at 60 Hz.

A complete manual can be found at www.xltovens.com.

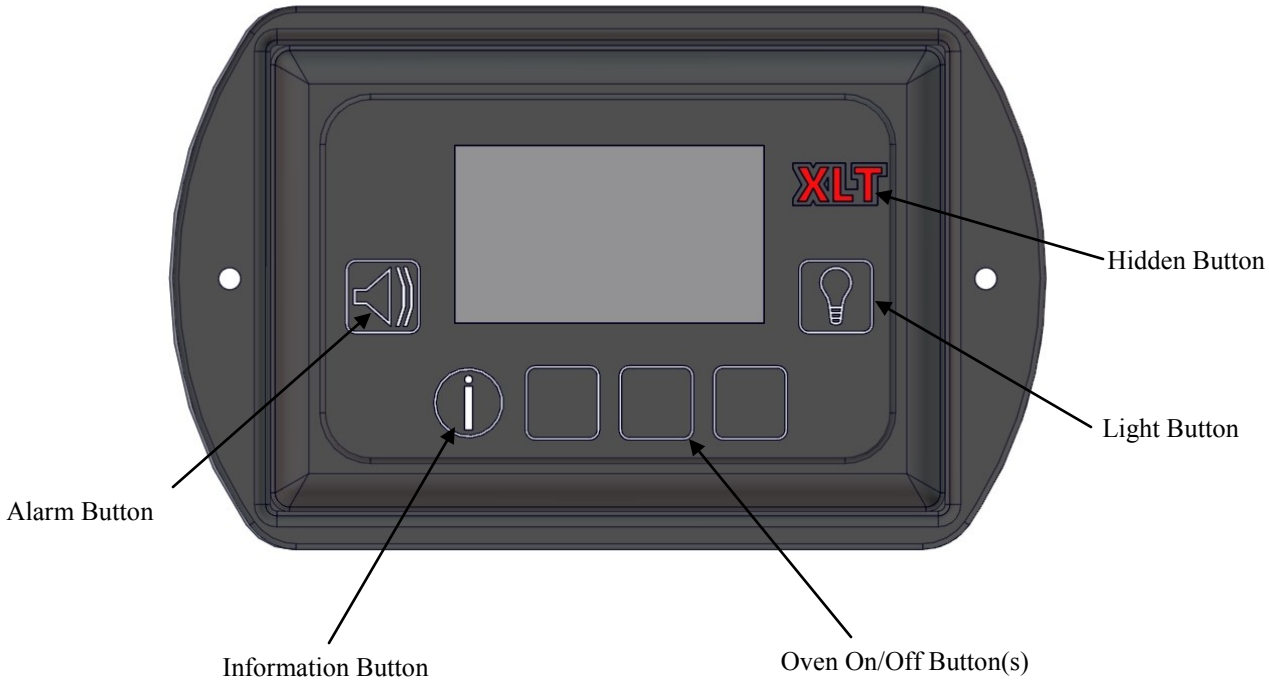

Figure 1

Mechanical Function

If your oven does not function properly, please verify the following conditions:

1. Verify that the power cord to the oven is connected and/or plugged in if equipped with a plug and receptacle.
2. Check to see that the circuit breakers in the building electrical service panel have not been tripped or turned off.
3. Check all circuit breakers on the oven control panel to ensure they have not been tripped.
4. Ensure proper voltage, amperage, and wire size.

If your oven still does not function properly, XLT has qualified customer service personnel that can provide assistance on any type of XLT oven problem you may experience. Customer Service is available 24/7/365 at 888-443-2751, or visit www.xltovens.com.

Initial troubleshooting of the hood:

1. Remove panel covering VFD to check and see if the circuit breaker is tripped.
2. Check the actual frequency of the VFD controller. To access the actual frequency, press <ESC> button until the Display Mode shows D001.
3. Check to see that the breaker in the service panel is not tripped.
4. Make sure the Switch Relocation Cords (SRC) are properly installed to the oven(s).
5. Check to see that the grease filters are clean & installed properly.
6. Check to see if the exhaust fan is rotating in the correct rotation. To verify fan rotation, remove the lid on the exhaust fan. Visually inspect rotation in accordance with label on fan housing.

The VFD has internal diagnostics, and may show the following ERROR codes:

- F004 DC bus voltage fell below min value.
- F005 DC bus voltage fell below max value.
- F007 Motor Overload.
- F008 Heat sink Over Temp.
- F013 Ground Fault.
- F081Comm Loss- RS485 port stopped communicating.

If any of the above error codes are displayed, then follow these steps to clear them.

1. Record error code on hood UI.
2. Take the cover off the hood.
3. Cycle power with circuit breaker

If the corrective actions listed above do not correct the problem, then XLT has qualified customer service personnel that can provide assistance on any type of XLT Oven or XLT Hood problem you may experience. Customer Service is available at 888-443-2751 24/7/365, or visit www.xltovens.com. The website offers an interactive troubleshooting guide that can further assist in diagnosing problems.

For repairs or maintenance of the fire suppression system and components, contact the local Ansul dealer or XLT for assistance.

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Conveyor Control Programming Procedure

TIP

Read the entire instruction before programming.

Configuration Key Functions

< L > = Behind the <L> in XLT is a hidden button. This is used along with the up and down button to access the programming mode. Use this after each step to advance to the next parameter when programming.

△ UP = Increases the setting of the selected parameter.

▽ DOWN = Decrease the setting of the selected parameter.

1. Enter Programming Mode/Program the bake length
   - Press the <L> button and both <UP> and <DOWN> button simultaneously to enter programming mode.
   - 0055 will appear on screen, this is already set from factory
   - Press the <UP> button until the desired belt length is displayed. Belt lengths will read as follows:

     1832 = 0032
     2440 = 0040
     3240 = 0040
     3255 = 0055
     3855 = 0055
2. Program the Total Reduction Value - Press the <UP> button until the desired settings is reached. All ovens = 300.
3. Set Speed Trimming Value - Press the <DOWN> button until the display shows 0000.
4. Set Fast Bake Limit - Press the <UP> button until the display shows 1:30.
5. Set Slow Bake Limit - Press the <UP> button until the display shows 17:00.
6. Set Conveyor Motor Rotation - Press the <UP> OR <DOWN> buttons until the display shows 1 for right-to-left direction, or 2 for left-to-right belt direction.
7. Set Conveyor Control default to 556 (in/rev).
8. Save and Exit Programming Mode - Press the <L> button two (2) times to save and exit Programming Mode.

After leaving Program Mode, 1:30 run time will appear on the display. Press and hold the <UP> or <DOWN> buttons until desired run time appears.

Temperature Control Programming Procedure

TIP

Read the entire instruction before programming.

Configuration Button Functions

<FUNC> =The new setting of the selected parameter is stored and the display advances to the next parameter. This is required between each parameter.

△ UP= Increases the setting of the selected parameter.

▽ DOWN=Decrease the setting of the selected parameter.

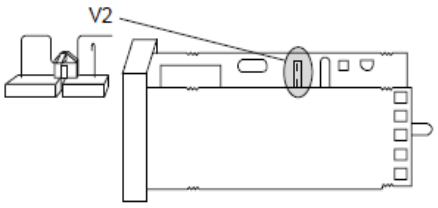


Figure 1

1. Open V2 switch for Basic Configuration (Figure 1)
   - Remove instrument from its case
   - Open switch V2
   - Re-insert the instrument back in its case
2. Basic Configurations
   - Using the configuration buttons, scroll through parameter codes, changing them to match (Table 1)
   - After P12 _._._._. Will appear
3. Close V2 switch after Basic Configuration (Figure 1)
   - Remove instrument from its case
   - Close Switch V2
   - Re-insert the instrument back in its case
   - Error 400 will appear. Press and hold the △ and ▽ to clear
   - 000 will appear
4. Advanced Configurations Procedure
   - Scroll through the parameter codes to nnn. Change nnn to 311 to unlock the advanced configuration
   - Using the configuration buttons, scroll through parameter codes, changing them to match (Table 2)
   - Scroll through the parameter codes again and change the nnn to 5. This locks the advanced configuration
   - Scroll through the parameter codes again and verify nnn is ON

P1	2˚C/10˚F
P2	0
P3	315˚C/600˚F
P4	r
P5	1
P6	H.A.
P7	d
P8	OFF
P9	0
P10	100
P11	311
P12	7

Table 1

SP	260˚C/500˚F
nnn	311/5
AL	315˚C/600˚F
HSA	.1
Pb	4.0
ti	5.0
td	.00
1P	30
C	2
rL	204˚C/400˚F
rH	310˚C/590˚F
OLH	100
tOL	InF

Table 2

Allen Bradley Power Flex 4M Restoring XLT Defaults

TIP

Read the entire instruction before programming.

To reset VFD settings change P112 to 1. The VFD will reset to factory default settings. To cycle power, turn circuit breaker off and on and the HMC will load the factory parameters into the VFD.

P105=65	Maximum Frequency
P106=2	Start Source
P108=4	Speed Reference
P110=.1	Decel Time
A451=9	Auto Reset Tries
A452=60	Auto Reset Delay
T201=2	Terminal Block Group (I/O) Terminal 5
T202=6	Terminal Block Group (I/O) Terminal 6
A404=60	Jog Frequency

Test run the motor by turning on one of the oven/hood buttons located on the HUI.

Complete VFD manual available at www.xltovens.com.

	VFD Controller Settings					
	Switches On			1832 & 2440	3240 & 3255	3855
	Top	Middle	Bottom			
Single	X			20 Hz	25 Hz	30Hz
Double	X			20 Hz	25 Hz	30Hz
			X	35 Hz	40 Hz	45 Hz
	X		X	35 Hz	40 Hz	45 Hz
Triple	X			20 Hz	25 Hz	30Hz
		X		30 Hz	35 Hz	40 Hz
			X	40 Hz	45 Hz	50 Hz
	X	X		30 Hz	35 Hz	40 Hz
	X		X	40 Hz	45 Hz	50 Hz
		X	X	40 Hz	45 Hz	50 Hz
	X	X	X	45 Hz	50 Hz	55 Hz
Fire Suppression				60 Hz-DO NOT CHANGE		

How to order Parts

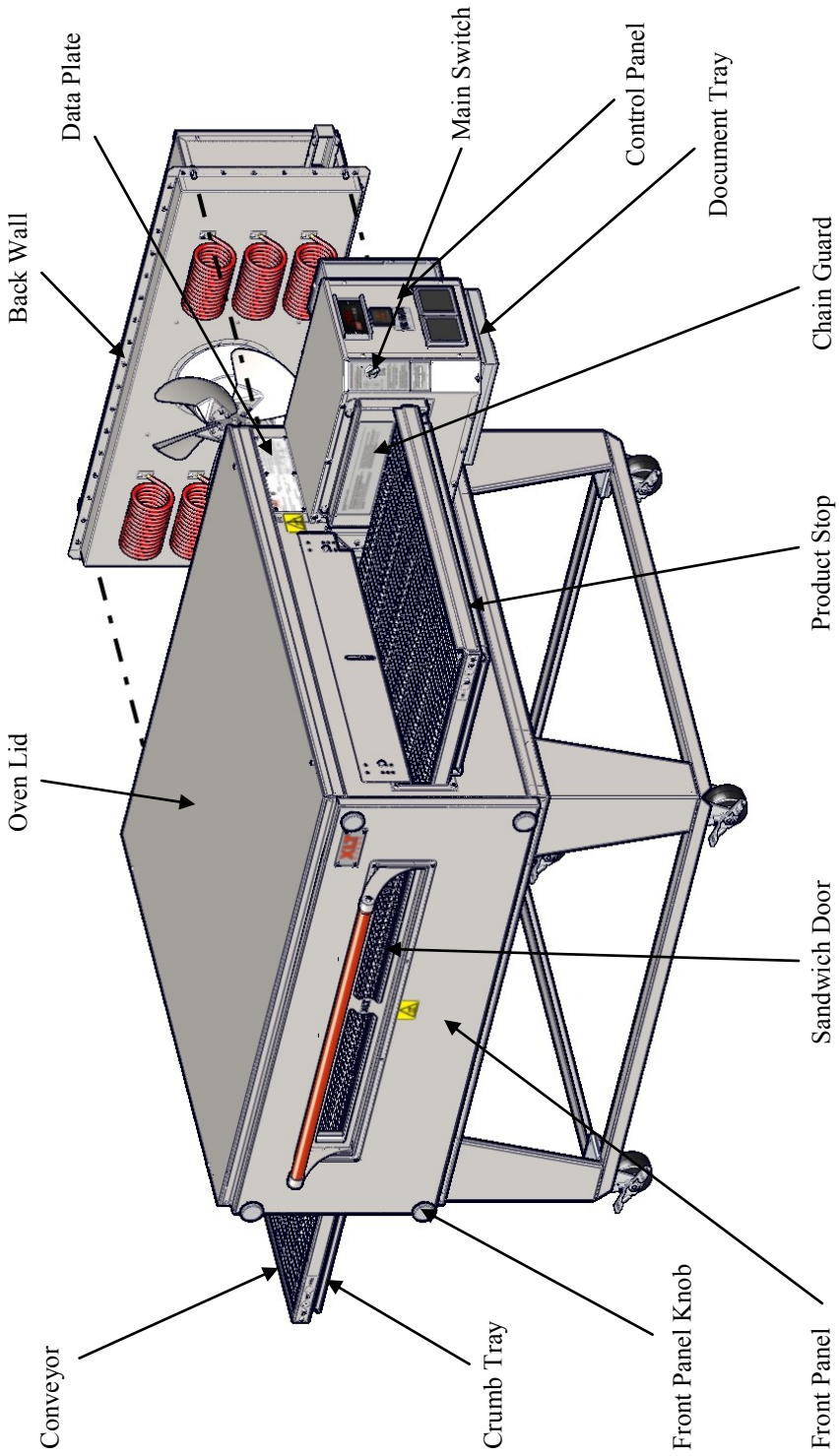
Have all information ready when calling XLT. Below is a list of information that is required for all orders. At the bottom of the Bill of Materials (BOM) on the following parts overview pages are additional requirements needed depending on your parts order.

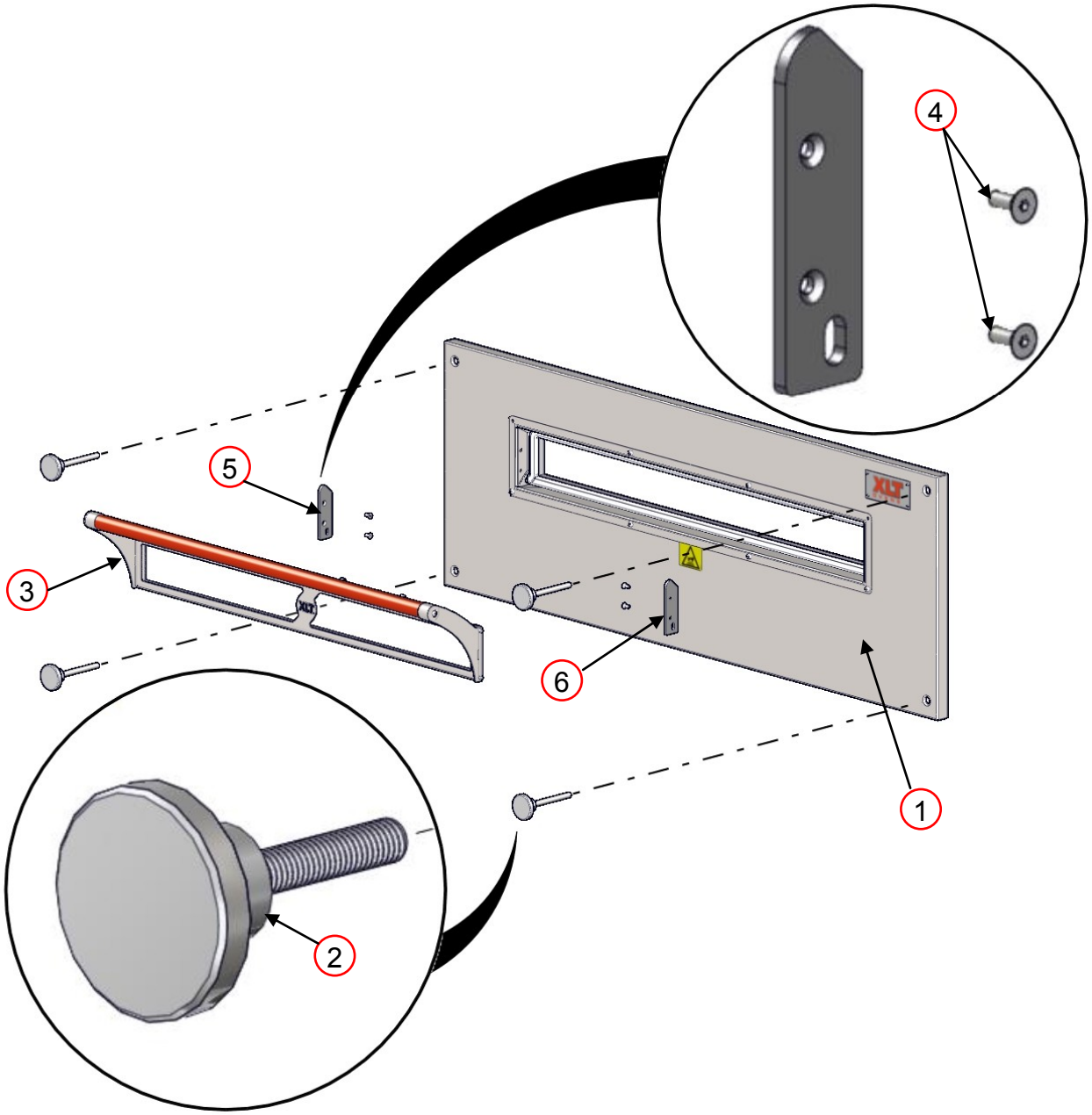
Oven/Hood information required:

- Model #
- Serial #
- Manufacture Date
- Phone #
- Contact name
- Bill to
- Ship to
- Credit card information

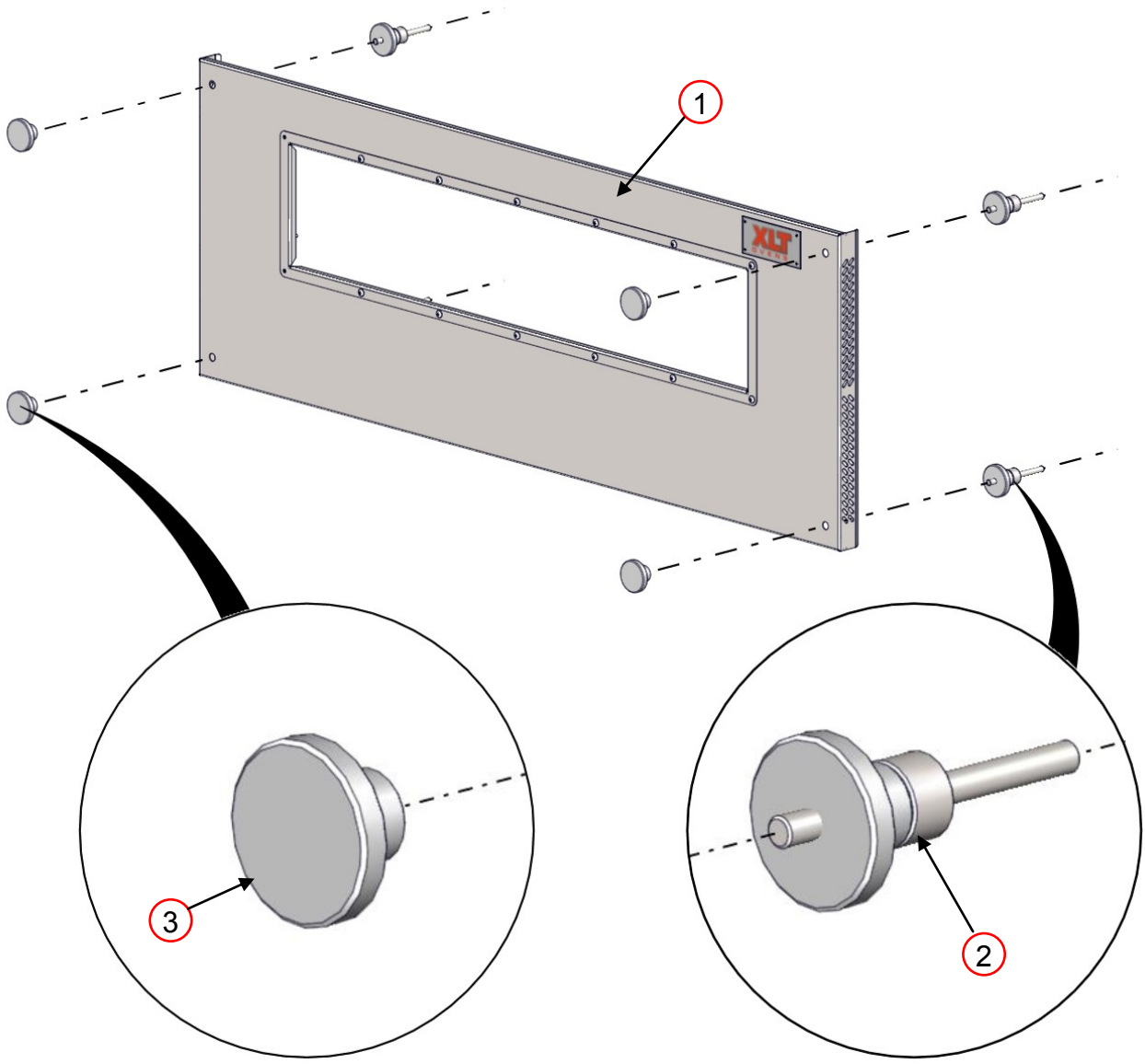
P.O.R = Price On Request

All prices are subject to change, contact XLT for current prices.


Data Plate
Main Switch
Control Panel
Document Tray
Back Wall
Chain Guard
Product Stop
Oven Lid
Sandwich Door
Conveyor
Crumb Tray
Front Panel Knob
Front Panel



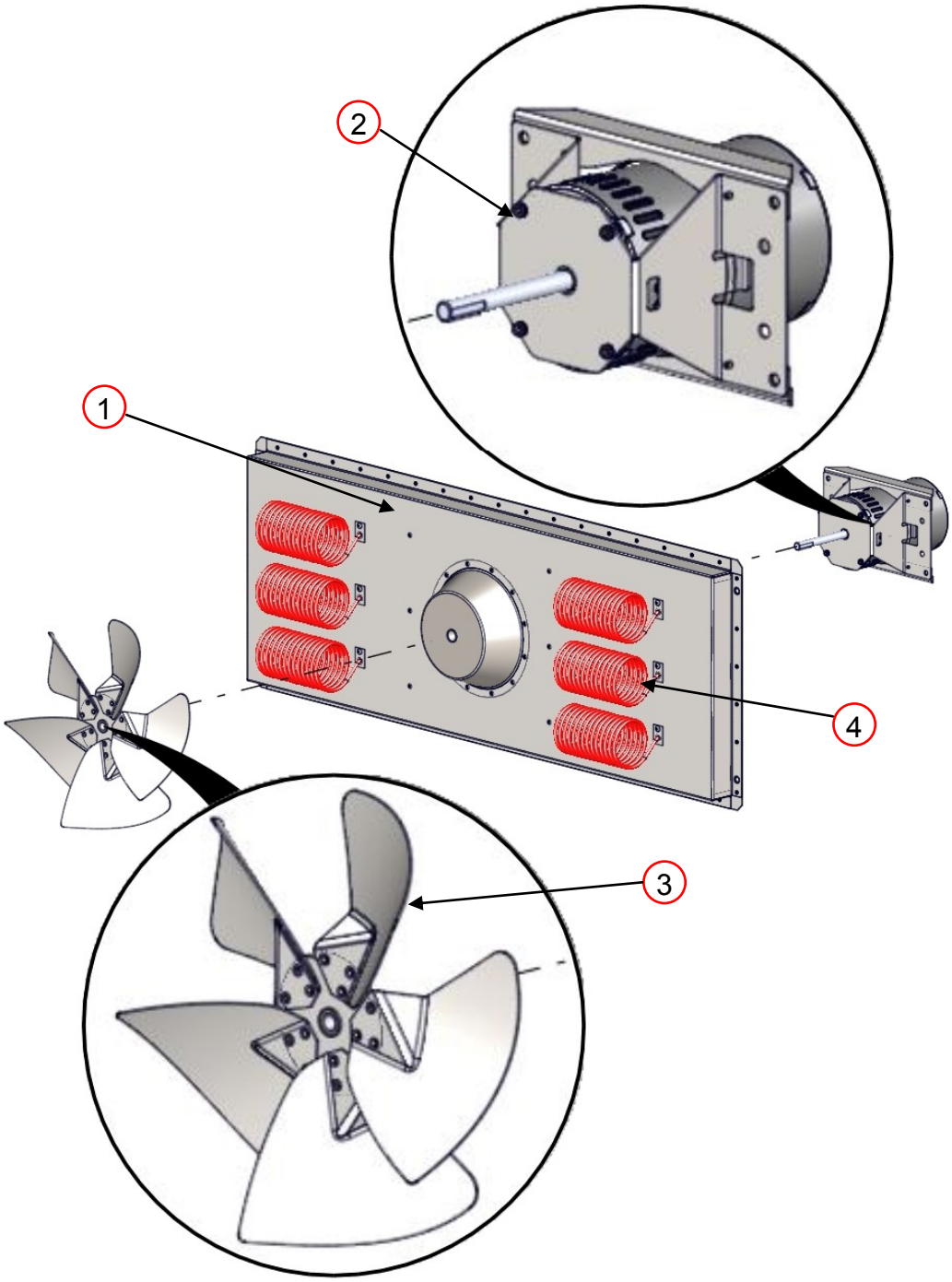
FRONT PANEL			
ITEM	PART NUMBER	DESCRIPTION	YOUR PRICE
1	XA 6500	Front Panel Assembly	P.O.R
2	XA 6505	Front Panel Knob	$15.90
3	XA 6600	Sandwich Door	P.O.R
4	XF 126-2	Screw 10-24	P.O.R
5	XM 6703	Door Retainer Left	$13.80
6	XM 6704	Door Retainer Right	$13.80



EXTENDED FRONT PANEL			
ITEM	PART NUMBER	DESCRIPTION	YOUR PRICE
1	XA 6700	Extended Front Panel	P.O.R
2	XA 6504	Front Panel Knob Assy Ext Frt	$33.09
3	XP 6505	Front Panel Knob	$14.49

Front Panel information required:

- Size of Oven
- Short or Long Window
- Stainless or Wood Handle
- 3” or 5” Window Opening

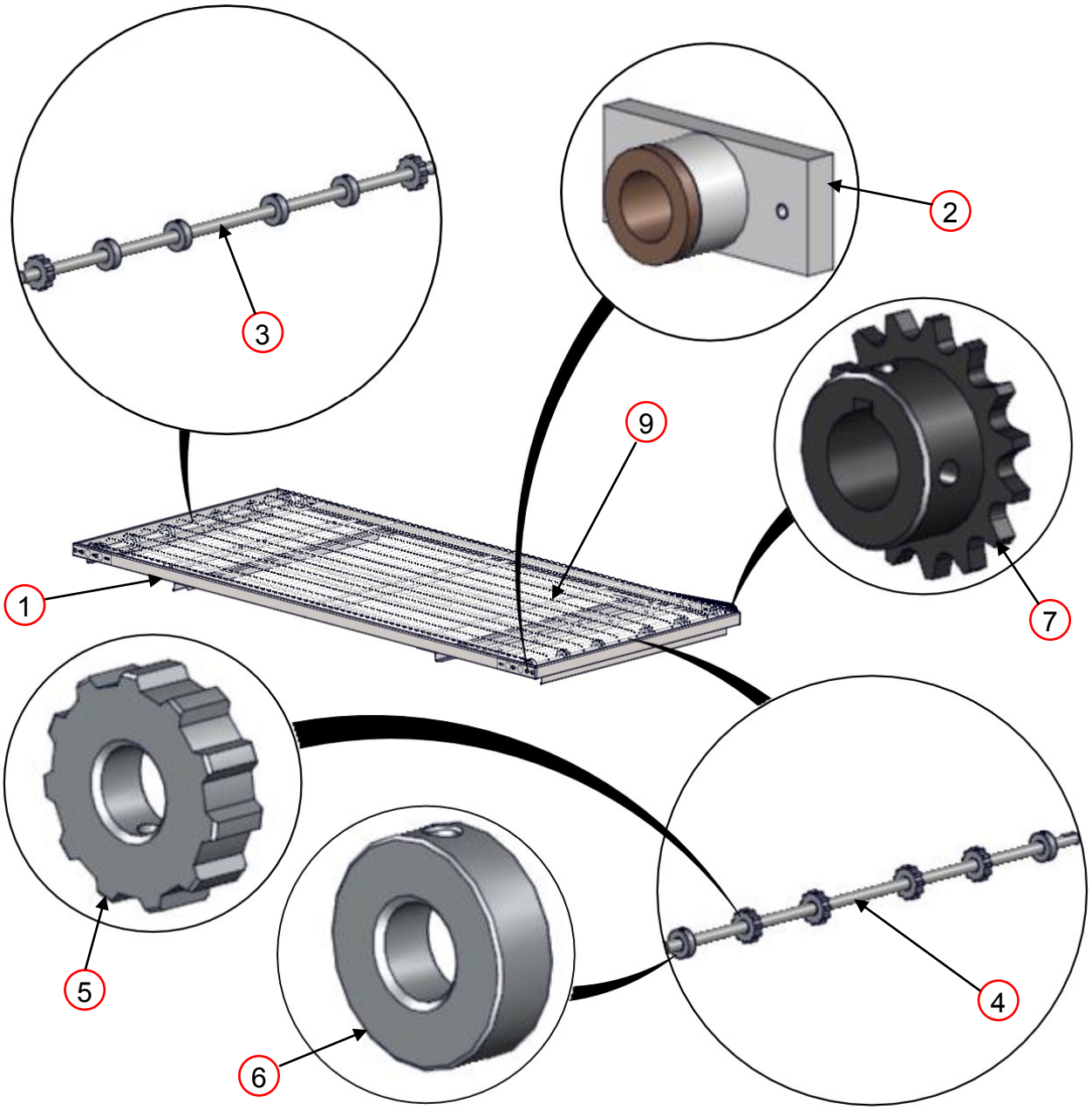

2
1
4
3

Electric Oven Elements								
Oven Size	208V-4500W	Qty	240V-4500W	Qty	208V-5300W	Qty	240V-5300W	Qty
1832-208 V					x	3		
1832-240 V							x	3
1832-380 V							x	3
2440-208 V	x	6						
2440-240 V			x	6				
2440-380 V			x	6				
2440-480 V			x	6				
3240-208 V	x	6						
3240-240 V			x	6				
3240-380 V			x	6				
3240-480 V			x	6				
3255-208 V					x	6		
3255-240 V							x	6
3255-380 V							x	6
3255-480 V							x	6
3855-208 V					x	6		
3855-240 V							x	6
3855-380 V							x	6
3855-480 V							x	6

BACK WALL			
ITEM	PART NUMBER	DESCRIPTION	YOUR PRICE
1	XA 5001	Back Wall Assembly	P.O.R
2	SP 5009A-75	Fan Motor w/ Mount 3/4 HP	$283.20
3	XA 5200	Fan Blade	P.O.R
4	XP 5201/5202	Heating Element	P.O.R

Back Wall information required:

- Size of Oven
- Voltage

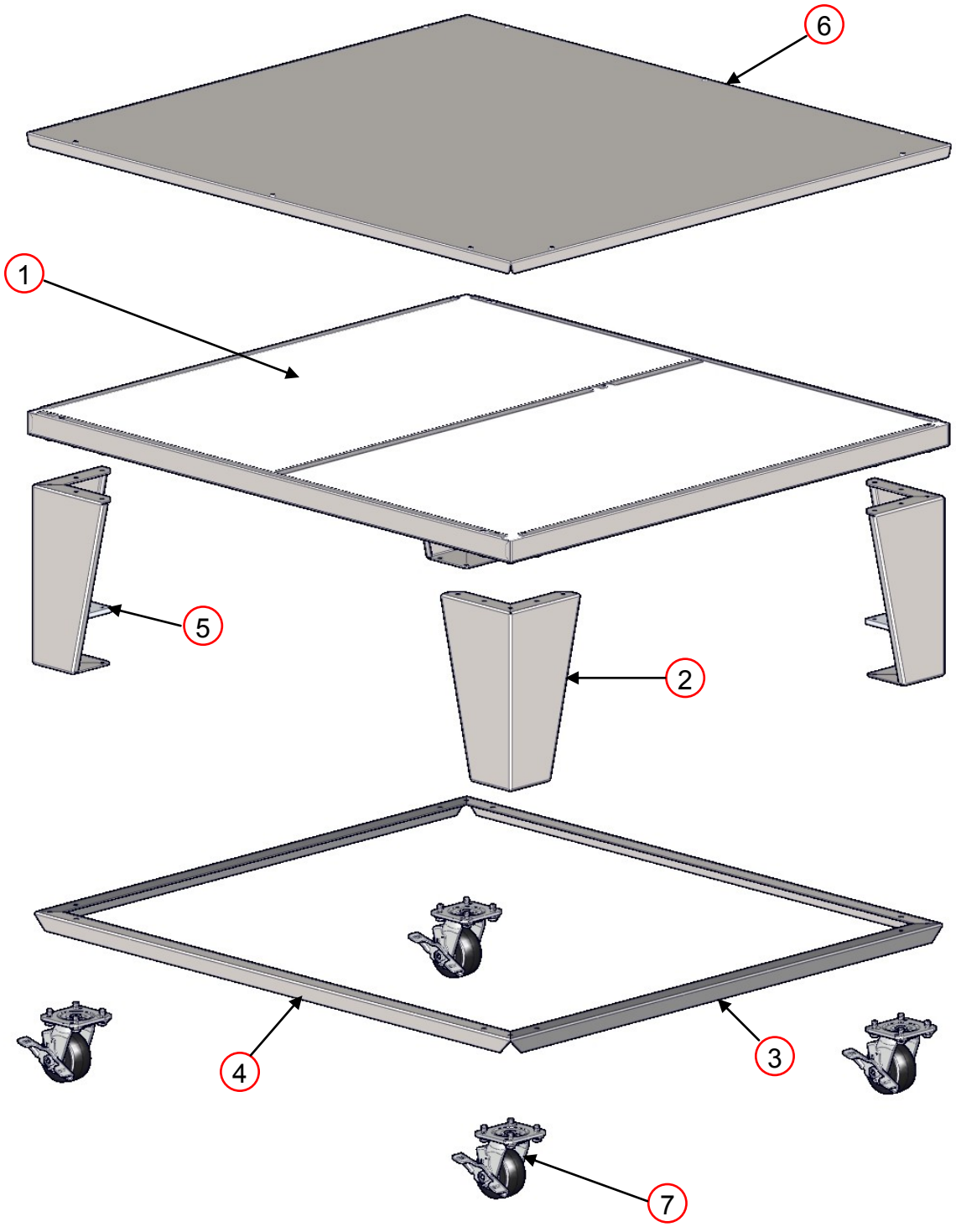


Conveyor Drive Chain not shown

CONVEYOR			
ITEM	**PART NUMBER**	**DESCRIPTION**	**YOUR PRICE**
1	XA 7000	Conveyor Assembly	P.O.R
2	XA 7200	Conveyor Bearing Assembly	$9.30
3	XM 7301	Conveyor Shaft Idle	P.O.R
4	XM 7302	Conveyor Shaft Drive	P.O.R
5	XP 7403	Conveyor Roll Notched	$12.20
6	XP 7404	Conveyor Roll Plain	$11.00
7	XP 9503	Conveyor Sprocket Driven 15	$15.50
8	XP 9504	Conveyor Drive Chain	$23.60
9	XP 9506	Conveyor Belt	P.O.R

Conveyor information required:

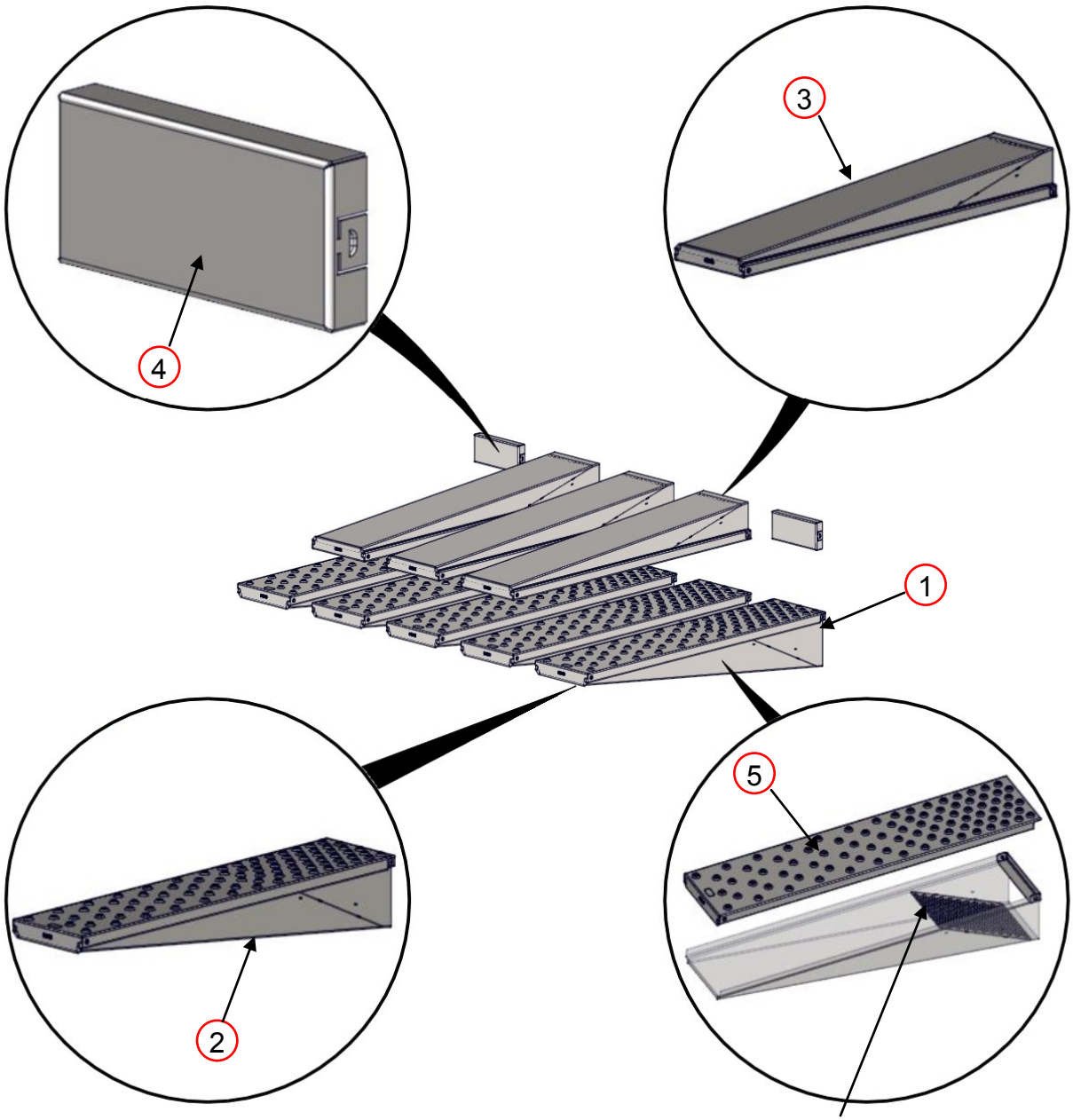
- Oven Size
- Split Belt or Standard Belt


6
1
5
2
4
3
7

BASE			
ITEM	**PART NUMBER**	**DESCRIPTION**	**YOUR PRICE**
1	XA 1001	Base Assembly	P.O.R
2	XM 1003-15	Base Leg	$65.40
3	XM 1006	Side Leg Angle	P.O.R
4	XM 1007	Front/Back Leg Angle	P.O.R
5	XM 1008	Bolster Plate	$11.50
6	XM 1010	Oven Lid	P.O.R
7	XP 1004	Caster	$21.60

Base information required:

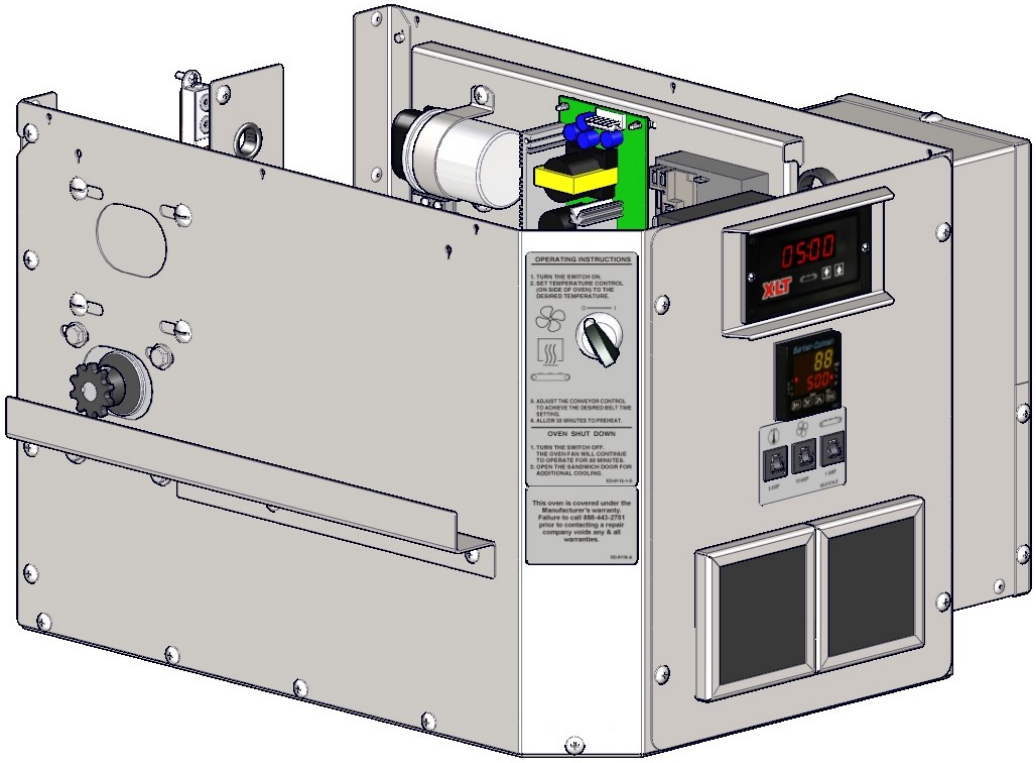
- Size of Oven
- Single, Double, or Triple Stack


4
3
1
2
5
Optional depending
on application

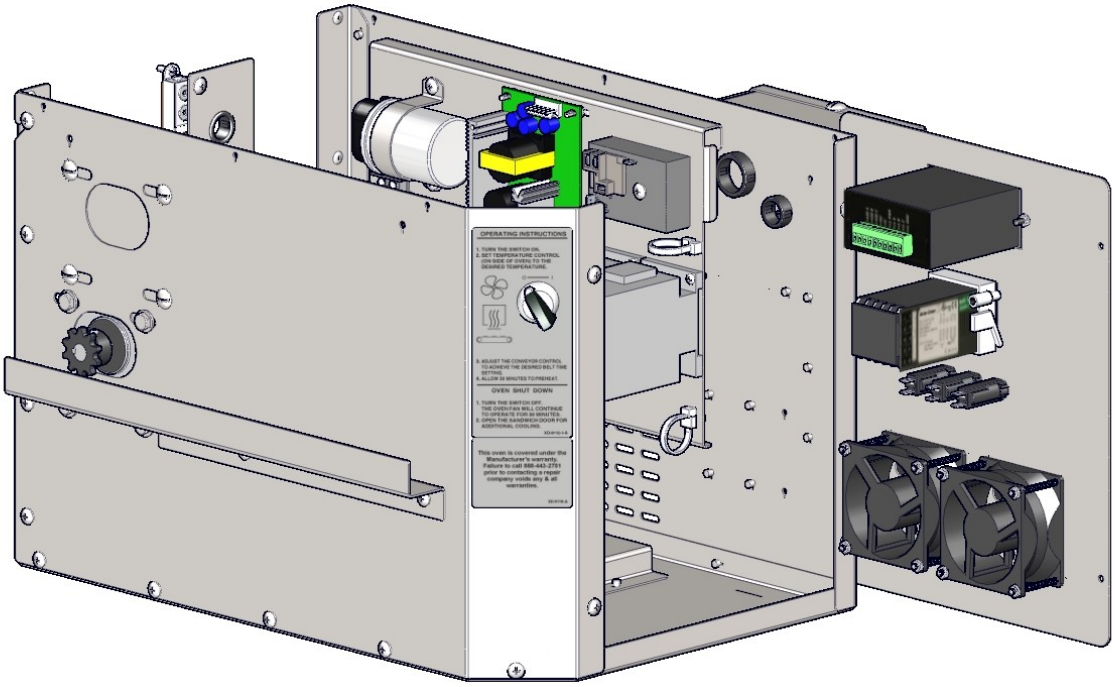
FINGERS			
ITEM	**PART NUMBER**	**DESCRIPTION**	**YOUR PRICE**
1	XA 8Xxxxx	Finger Group Assembly	P.O.R
2	XA 8001-B	Finger Body Bottom	P.O.R
3	XA 8001-T	Finger Body Top	P.O.R
4	XM 8009-S	Finger Block Off Plate	$12.60
5	XM 8xxx	Finger Outer Plate	P.O.R

Finger information required:

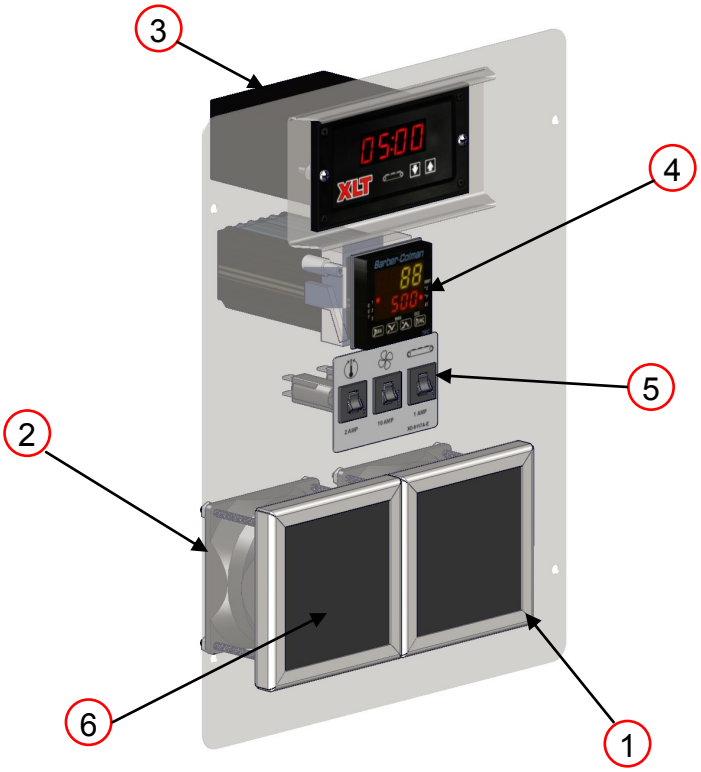
- Size of Oven
- Customer name
- Part number on front of finger outer



Operating Position (shown with lid removed)



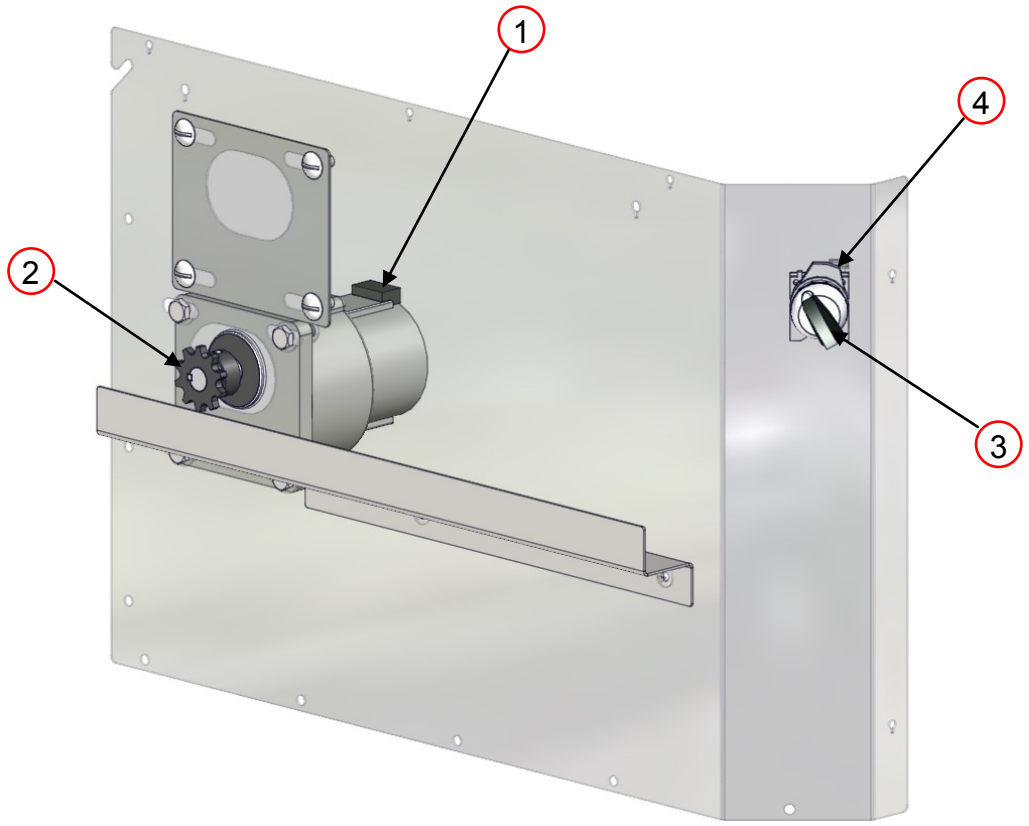
Service Position



CONTROL PANEL			
ITEM	PART NUMBER	DESCRIPTION	YOUR PRICE
1	SP 4520-EL	Fan Guard / Filter Holder	$9.30
2	XP 4501-EL	FPPG Fan EL M2	$35.20
3	XP 4507-24-A	Conveyor Speed Control 24VDC	$277.10
4	XP 4508-EL	Temperature Control ELECTRIC	$343.50
5	XP 4515-CB	Circuit Breaker	$6.95
6	XP 4520-EL	Fan Filter	$1.95

Control Panel information required:

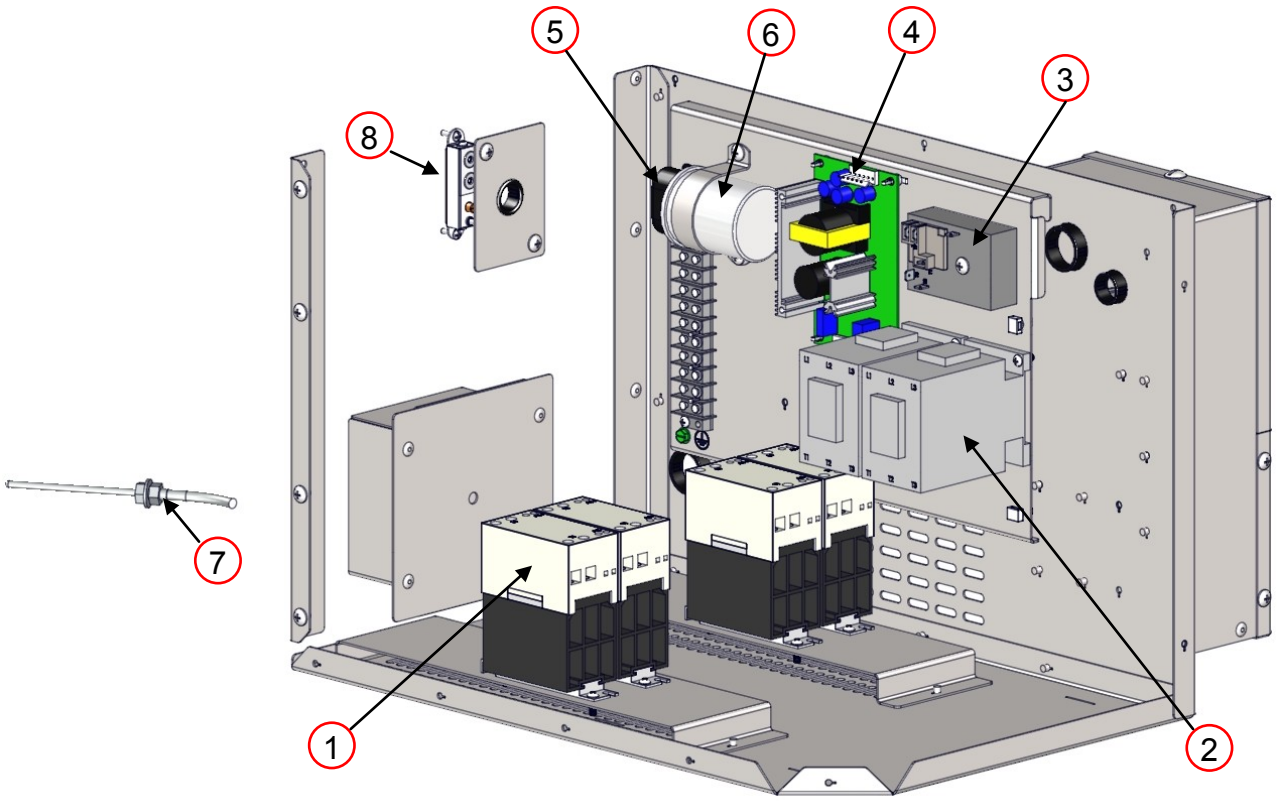
- Size of Oven
- Voltage
- Circuit Breaker amp rating
- Conveyor Belt direction



CONTROL BOX FRONT			
ITEM	**PART NUMBER**	**DESCRIPTION**	**YOUR PRICE**
1	XA 4117-12.5 RPM STD	Conv Motor Assy 12.5 RPM STD	$305.30
2	XP 4155	Sprocket Conveyor Drive 10T	$15.70
3	XP 4101	Switch Operator	$21.40
4	XP 4102	Contact Block 1 Pole w/Mount	$21.40

Control Box Front information required:

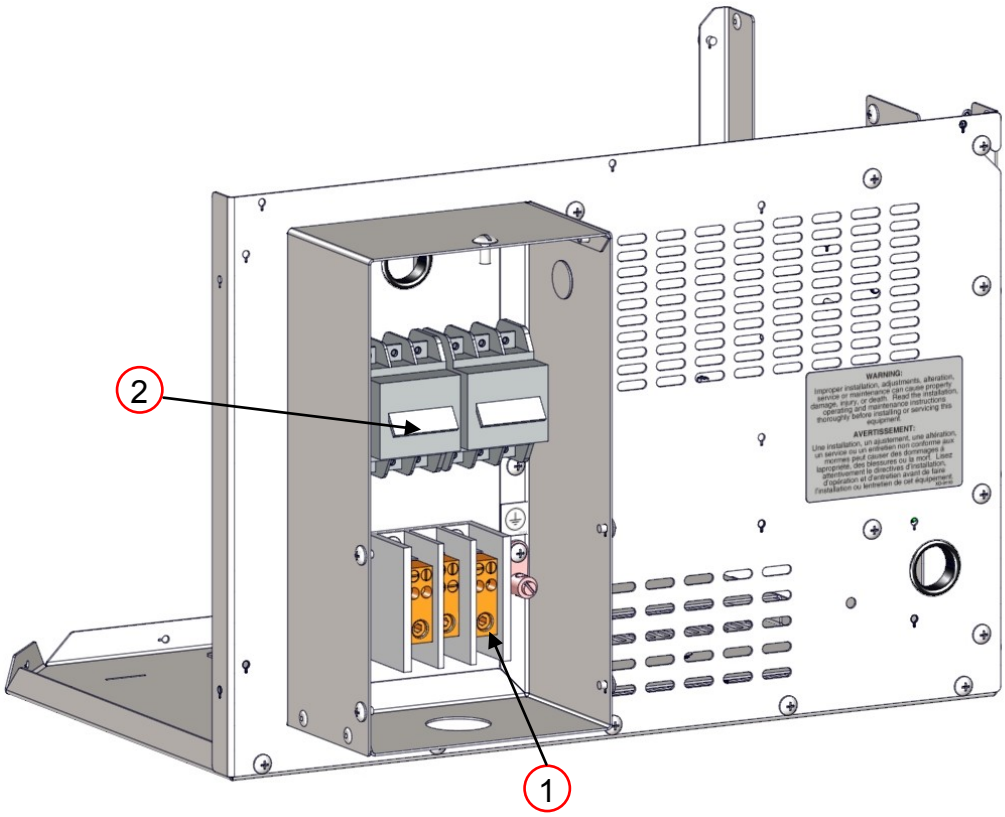
- Size of Oven
- Split Belt or Standard Belt



CONTROL BOX BACK			
ITEM	**PART NUMBER**	**DESCRIPTION**	**YOUR PRICE**
1	XP 4305-50	Relay 50A Solid State	$159.70
2	XP 4306-50	50 Amp 3 Phase Contactor	$236.60
3	XP 4704-230 VOLT	Cool Down Timer 230 Volt R1	$46.70
4	XP 4716	Power Supply PS	$32.40
5	XP 5012	Capacitor Boot	$2.30
6	XP 5014-30	Capacitor Baldor 3/4 HP 30uF	$18.60
7	XP 4509	Thermocouple Type K 48	$31.80
8	XP 4713	High Temp Limit Switch S3	$53.10

Control Box Back information required:

- Size of Oven
- Voltage



CONTROL BOX REAR			
ITEM	**PART NUMBER**	**DESCRIPTION**	**YOUR PRICE**
1	XP 4302-3	3 Pole Power Block Electric	$121.60
2	XP 4303	3 Pole Circuit Breaker EL	$160.40

Control Box Rear information required:

- Size of Oven
- Voltage

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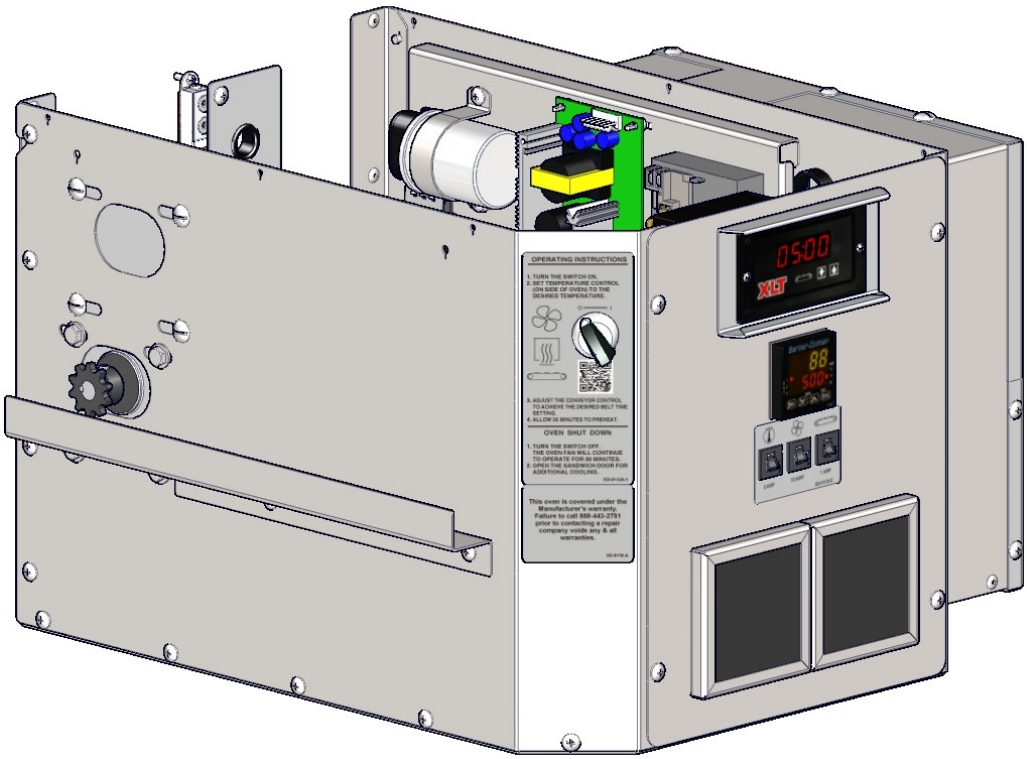
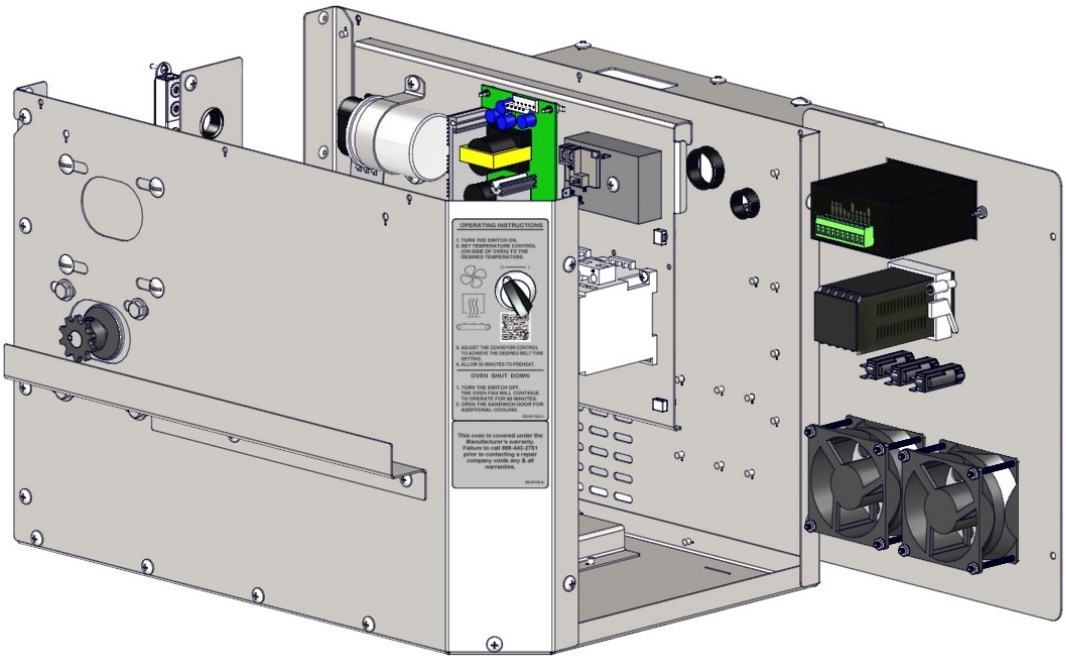
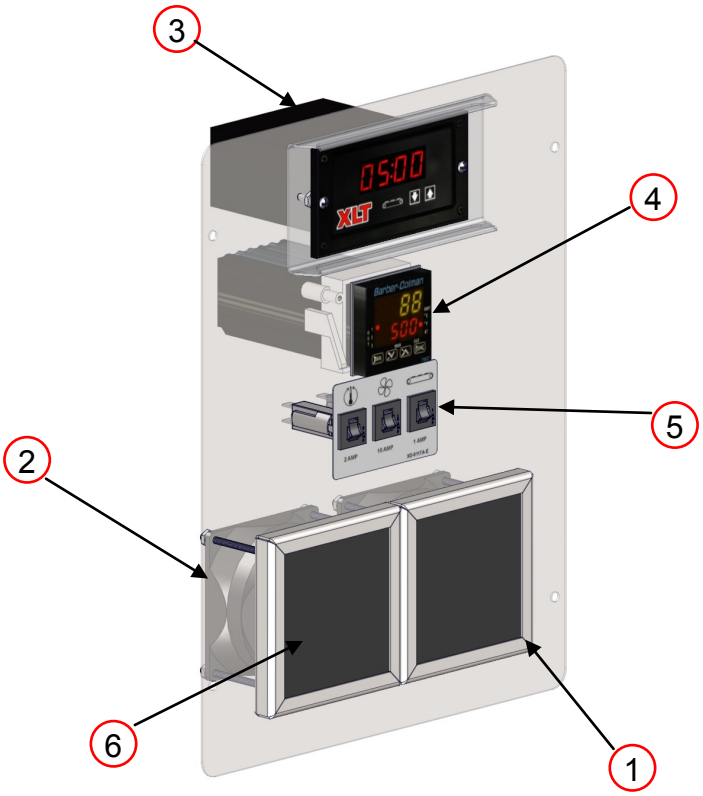


Operating Position (shown with lid removed)



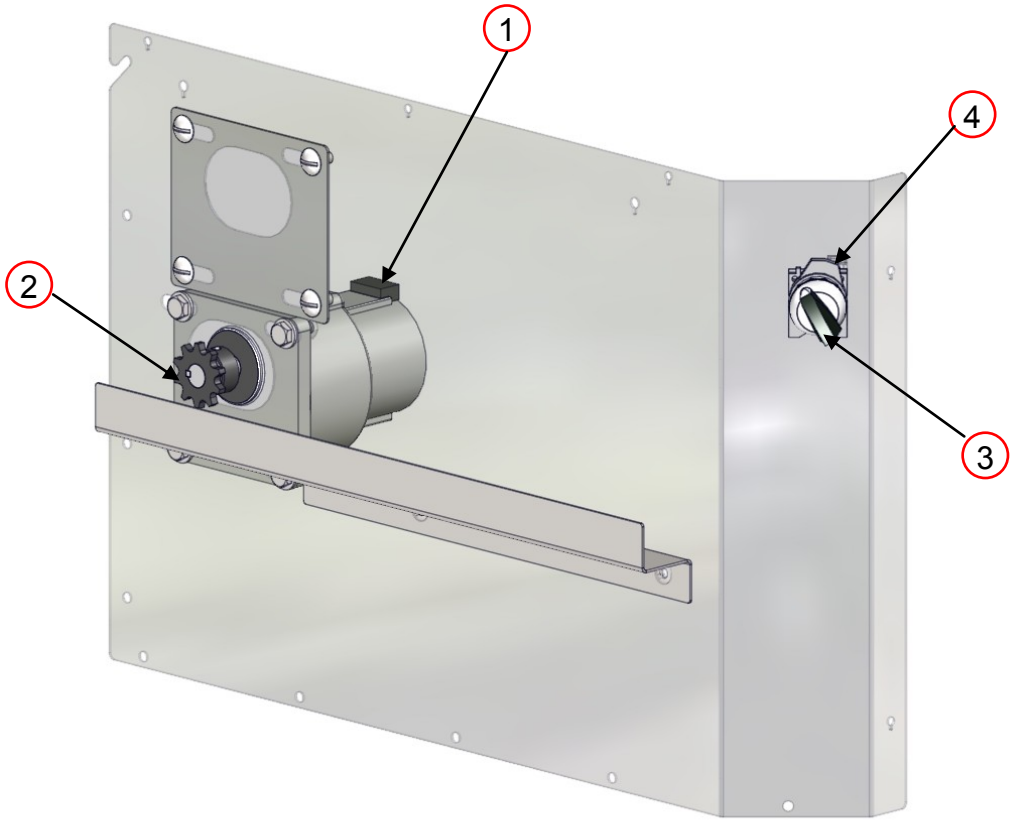
Service Position



CONTROL PANEL			
ITEM	PART NUMBER	DESCRIPTION	YOUR PRICE
1	SP 4520-EL	Fan Guard / Filter Holder	$9.30
2	XP 4501-EL	FPPG Fan EL M2	$35.20
3	XP 4507-24-A	Conveyor Speed Control 24VDC	$277.10
4	XP 4508-EL	Temperature Control ELECTRIC	$343.50
5	XP 4515-CB	Circuit Breaker	$6.95
6	XP 4520-EL	Fan Filter	$1.95

Control Panel information required:

- Size of Oven
- Voltage
- Circuit Breaker amp rating
- Conveyor Belt direction



CONTROL BOX FRONT			
ITEM	**PART NUMBER**	**DESCRIPTION**	**YOUR PRICE**
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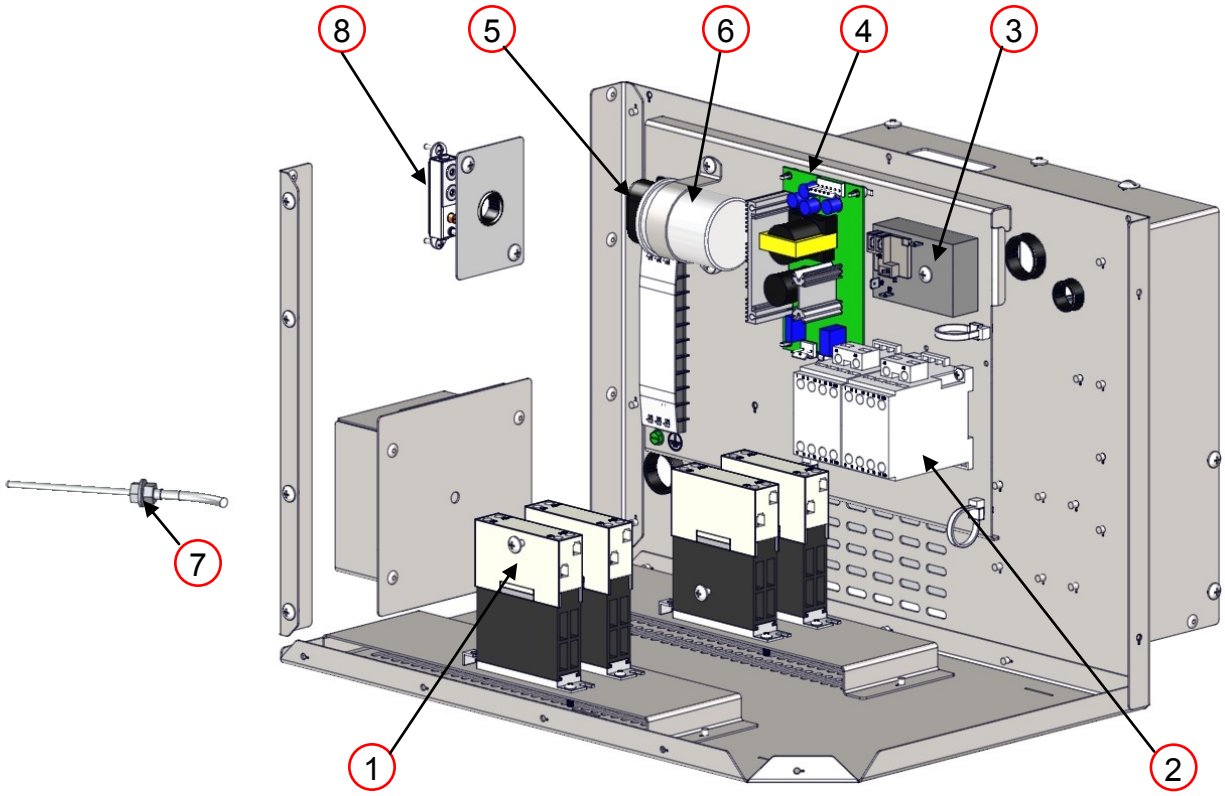
2	XP 4155	Sprocket Conveyor Drive 10T	$15.70
3	XP 4101	Switch Operator	$21.40
4	XP 4102	Contact Block 1 Pole w/Mount	$21.40

Control Box Front information required:

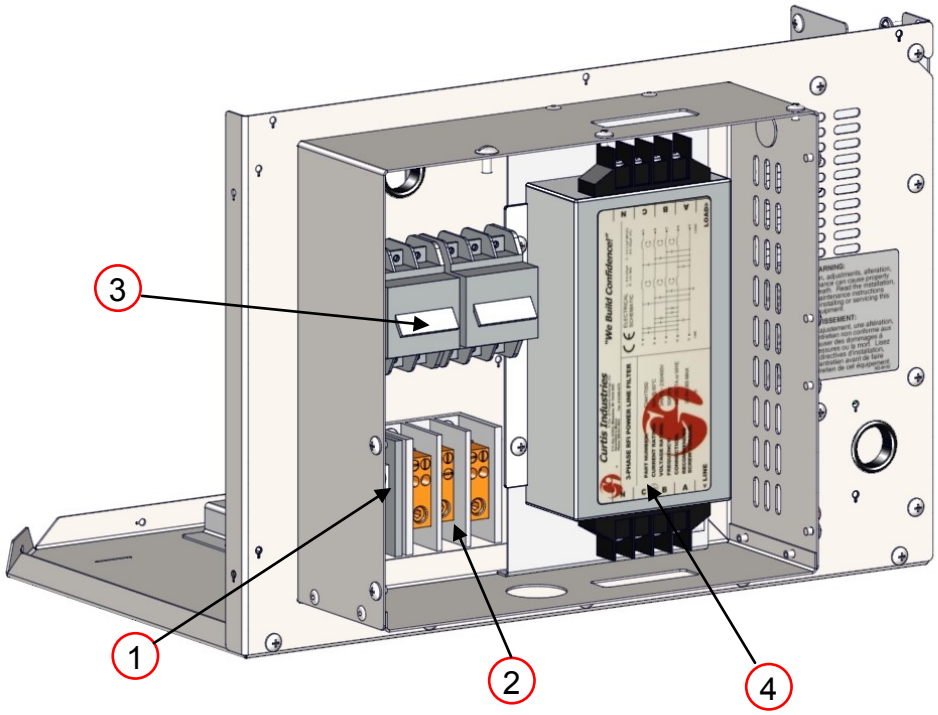
- Size of Oven
- Split Belt or Standard Belt



CONTROL BOX BACK			
ITEM	PART NUMBER	DESCRIPTION	YOUR PRICE
1	XP 4305A-30	Relay 30A Solid State	$176.20
2	XP 4306A-30	30 Amp 3 Phase Contactor	$195.80
3	XP 4704-230 VOLT	Cool Down Timer 230 Volt R1	$46.70
4	XP 4716	Power Supply PS	$32.40
5	XP 5012	Capacitor Boot	$2.30
6	XP 5014-30	Capacitor Baldor 3/4 HP 30uF	$18.60
7	XP 4509	Thermocouple Type K 48	$31.80
8	XP 4713	High Temp Limit Switch S3	$53.10

Control Box Back information required:

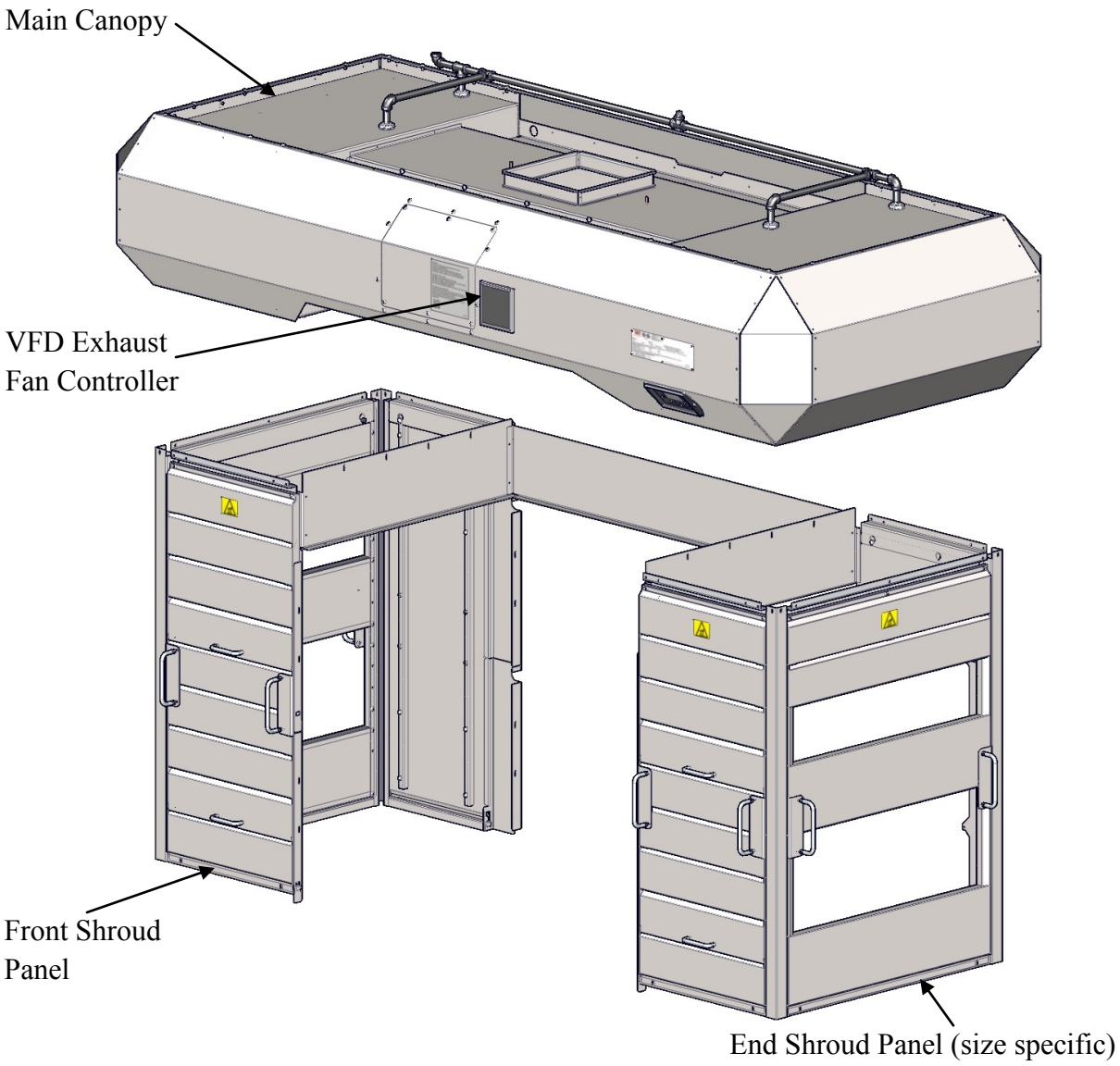
- Size of Oven
- Voltage



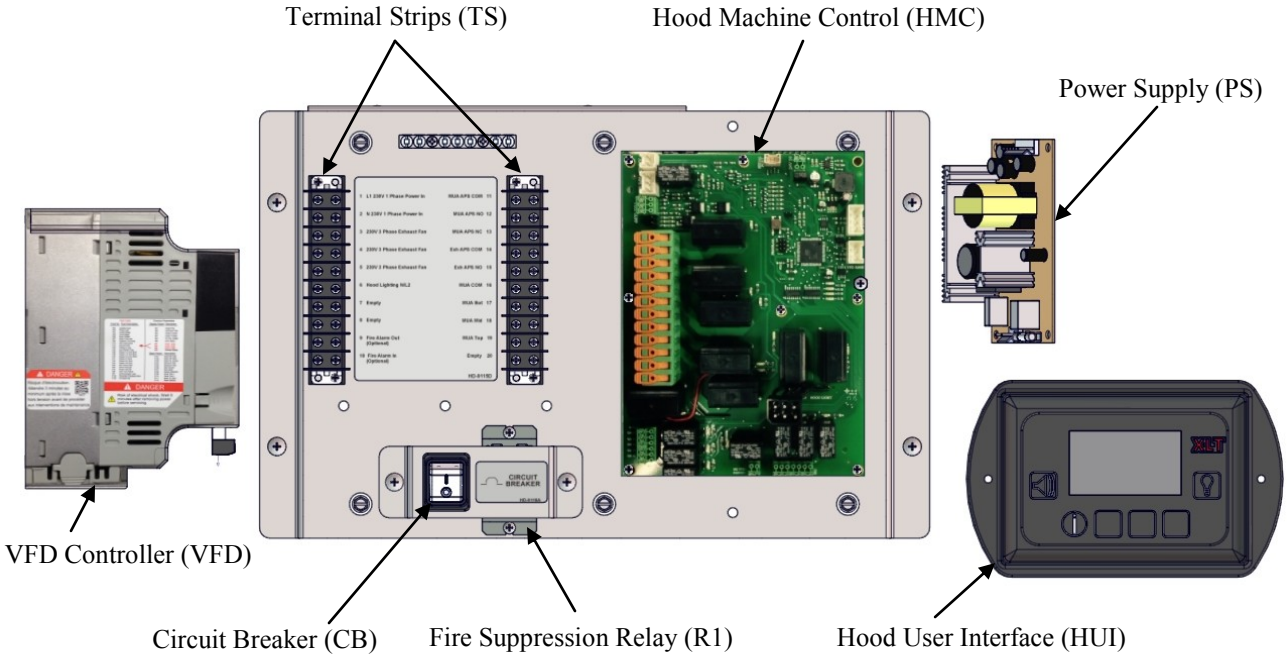
CONTROL BOX REAR			
ITEM	**PART NUMBER**	**DESCRIPTION**	**YOUR PRICE**
1	XP 4302-1	1 Pole Power Block Electric	$16.80
2	XP 4302-3	3 Pole Power Block Electric	$121.60
3	XP 4303	3 Pole Circuit Breaker EL	$160.40
4	XP 4304	Filter EMI 4 Wire	$312.70

Control Box Rear information required:

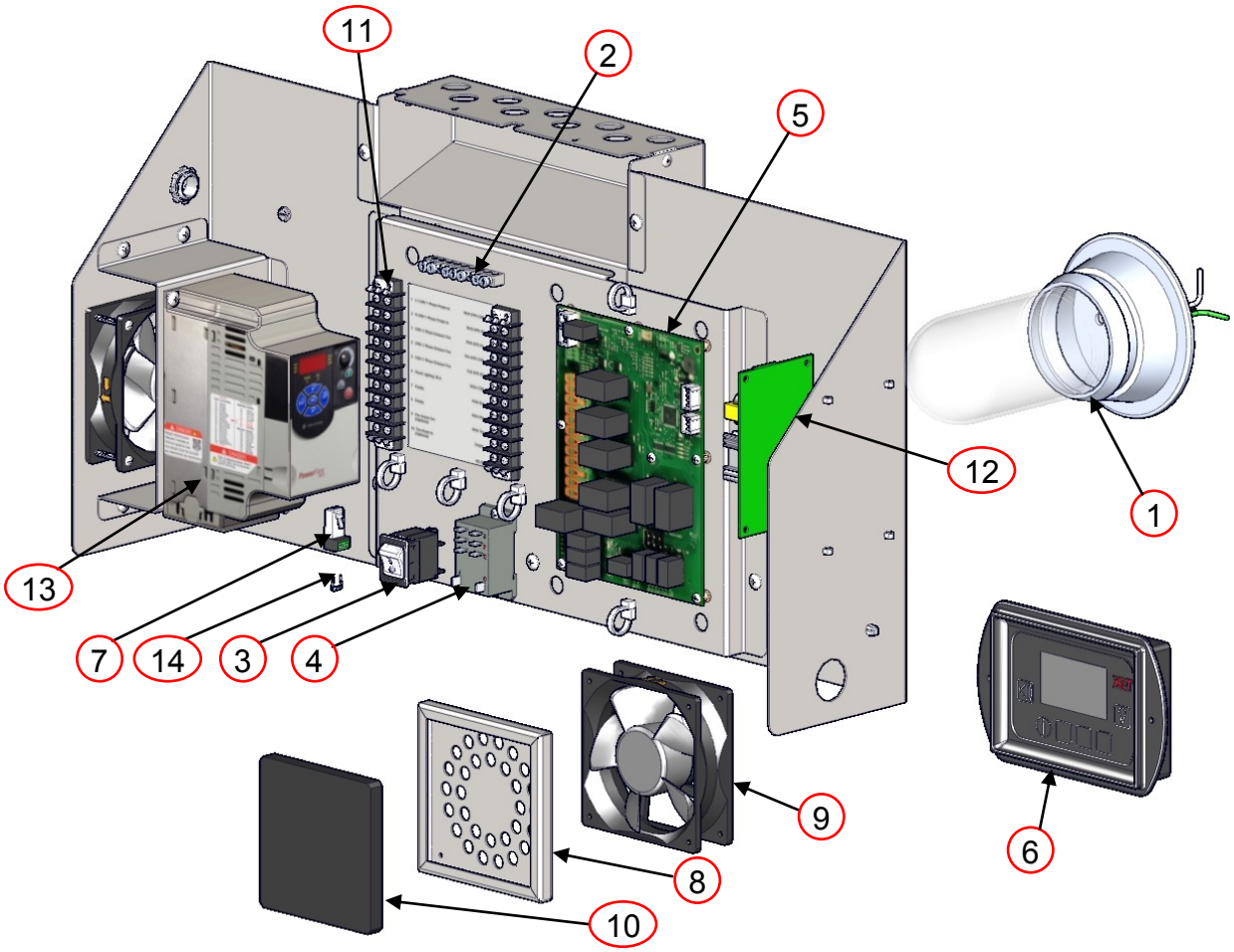
- Size of Oven
- Voltage


Main Canopy
VFD Exhaust
Fan Controller
Front Shroud
Panel
End Shroud Panel (size specific)

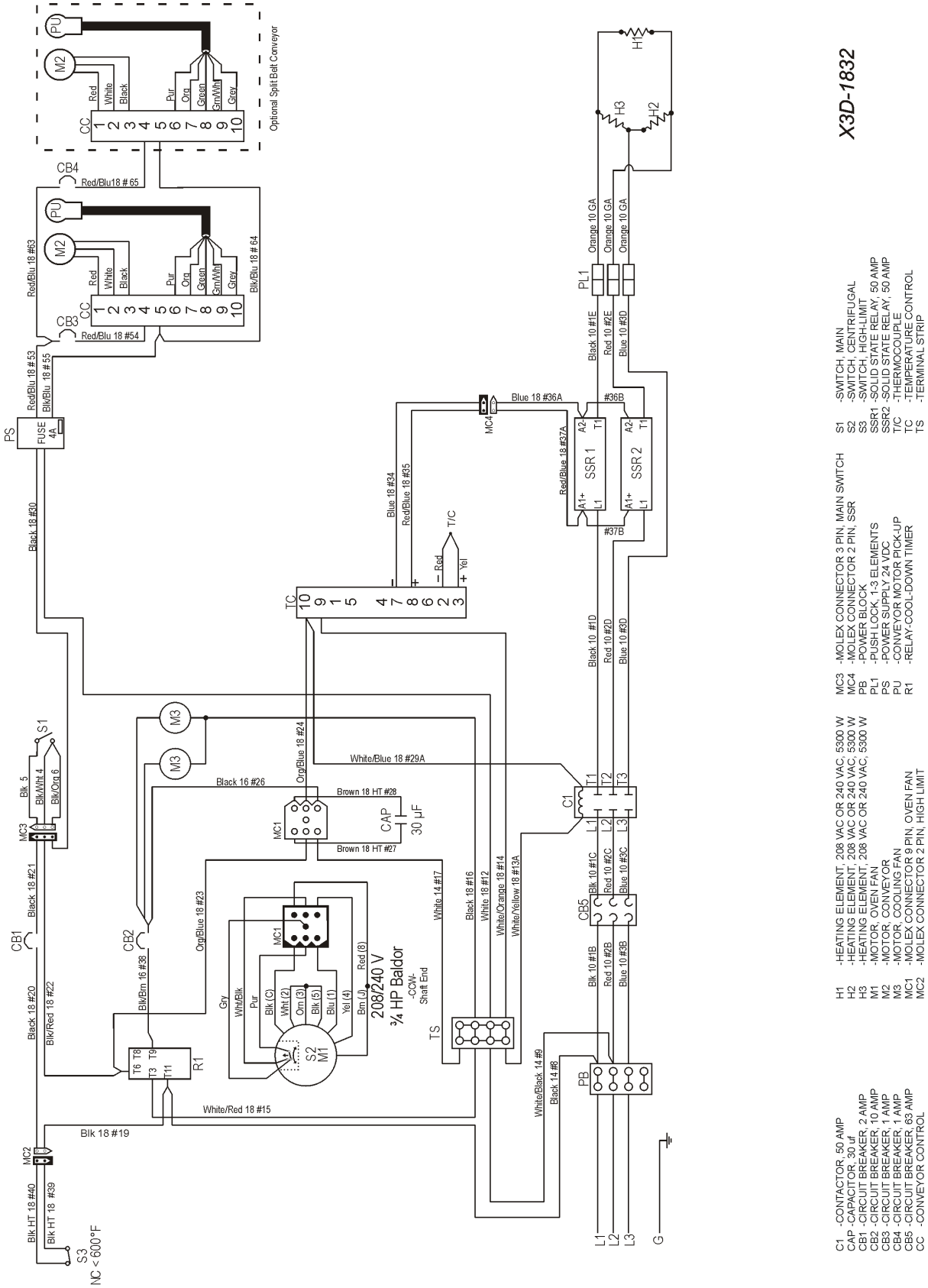
VFD Control Box w/Fire Suppression

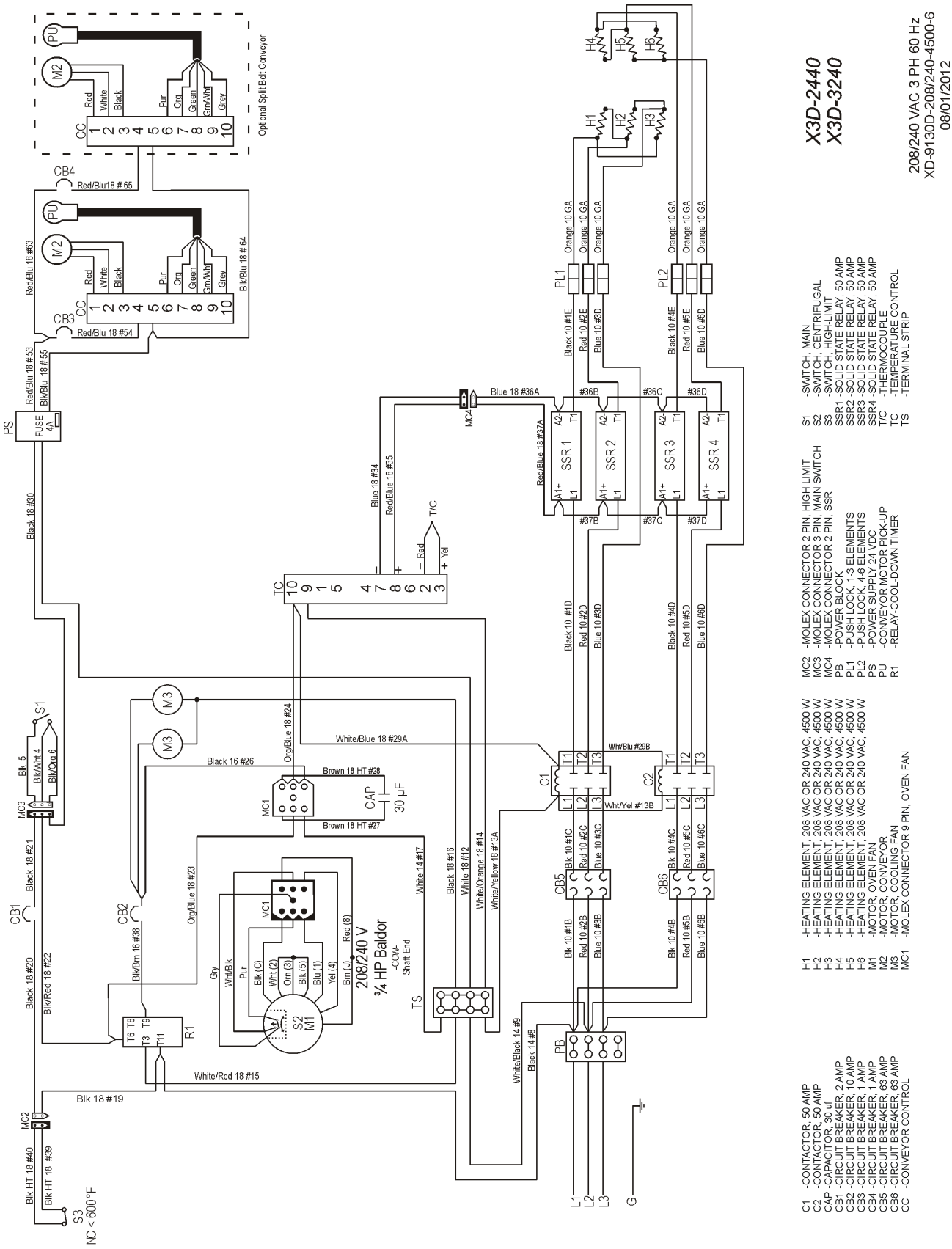


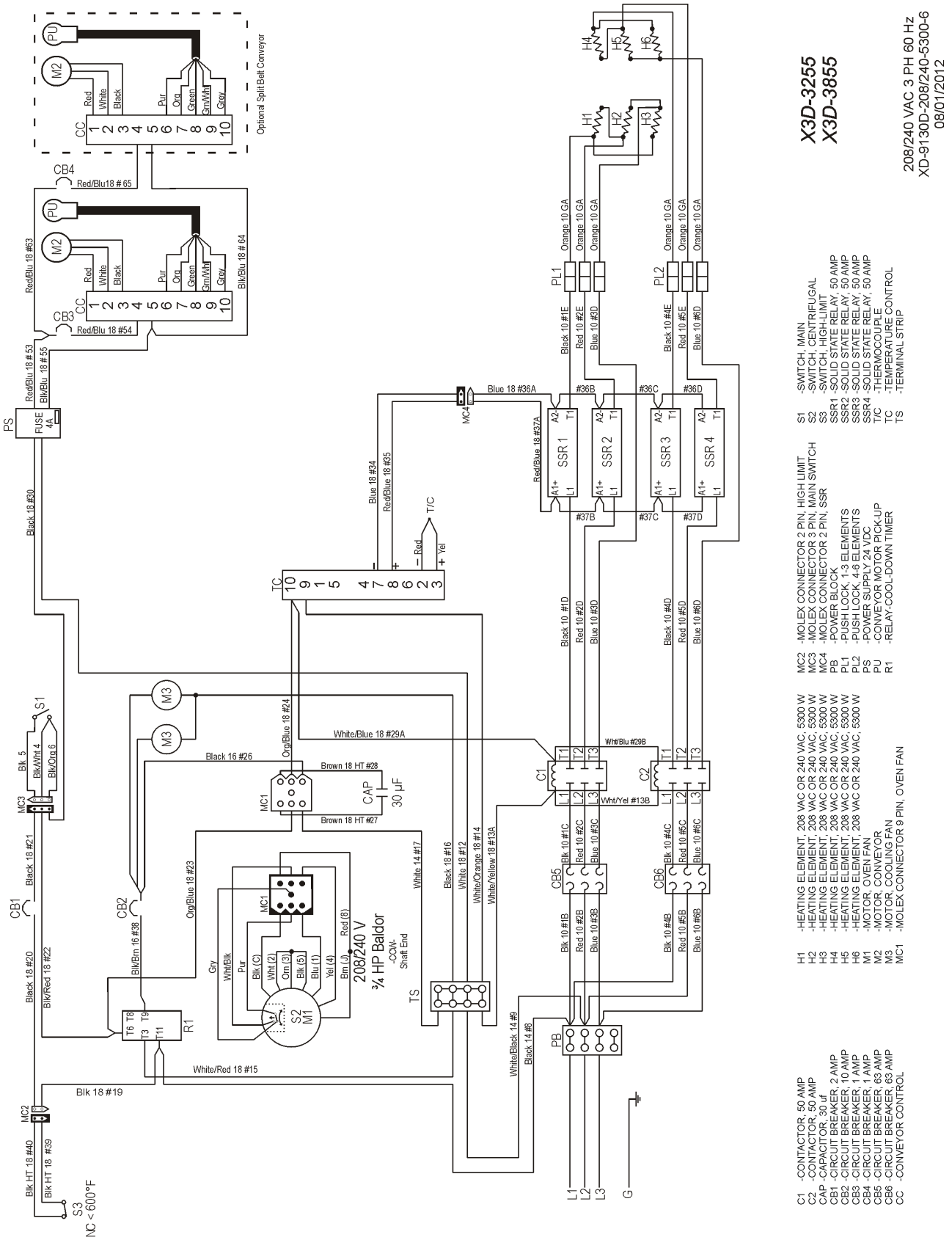
VFD Control Box (Cover removed)

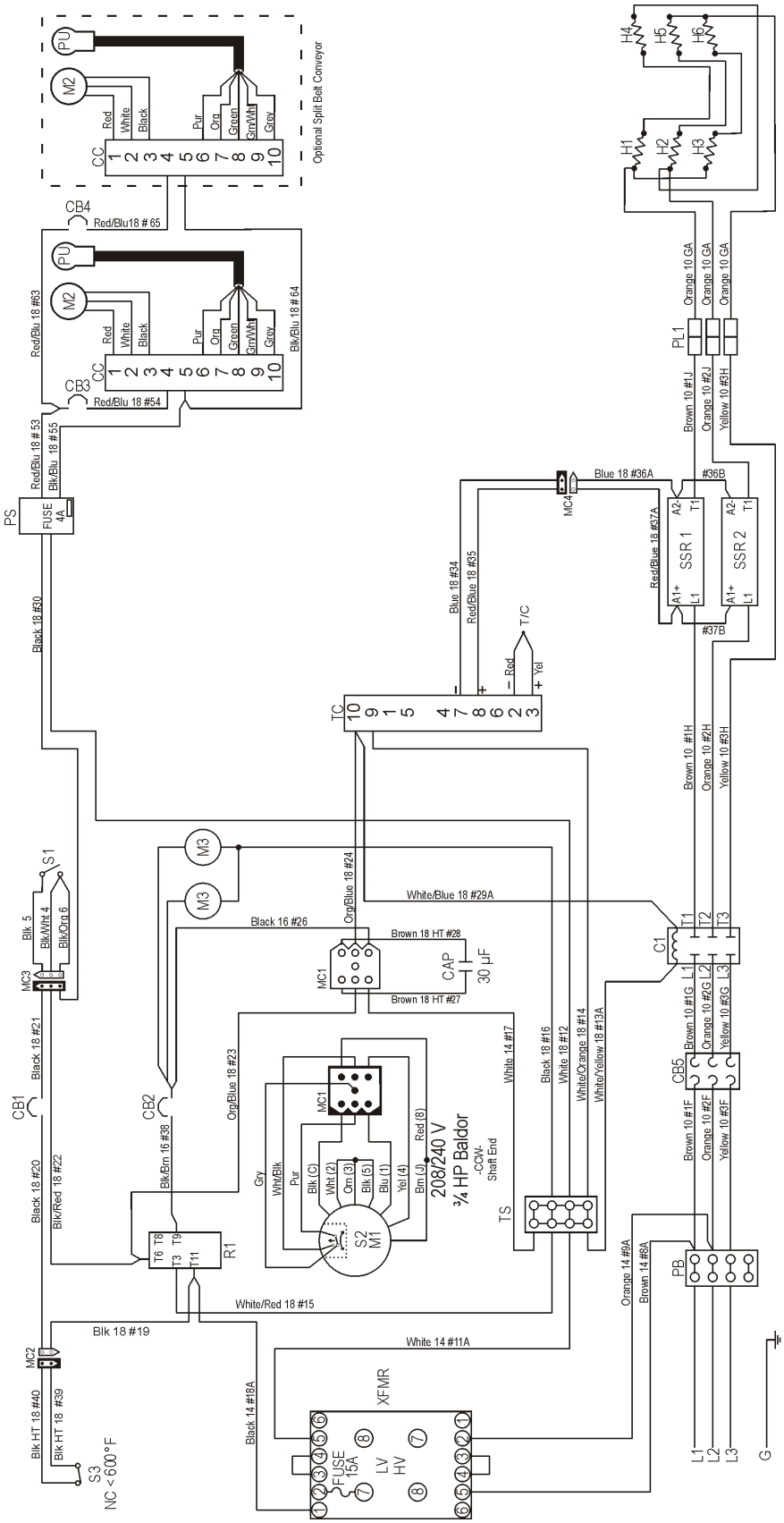


VFD W/ FIRE SUPPRESION			
ITEM	PART NUMBER	DESCRIPTION	YOUR PRICE
1	HP-1251	Light Assembly	$57.80
2	HP-2058	Ground Bar 7 POS	$55.70
3	HP-2060	Circuit Breaker Exhaust Fan	$52.30
4	HP-2067-24VDC	Relay 8 Pin 30A 24 VDC	$23.70
5	HP-2070-MC	Hood Machine Control	P.O.R
6	HP-2071-UI	Hood User Interface	P.O.R
7	HP-4718-RJ45	RJ45 Terminal Block	$2.30
8	SP-4520-GA	Fan Guard / Filter Repl Kit GA	$5.60
9	XP-4501-GA	FPPG Fan Gas M2	P.O.R
10	XP-4520-GA	Fan Filter	$1.95
11	XP-4701-10	Terminal Strip 10 Place	$7.00
12	XP-4716	Power Supply	$32.40
13	XP-4718-4.2	VFD Allen Bradley Power Flex 4M	P.O.R
14	XW-2900	120 Ohm Terminating Resistor	P.O.R


X3D-1832
208/240 VAC 3 PH 60 Hz
XD-9130D-208/240-5300-3
Rev A 06/01/2014
Optional Split Belt Conveyor
208/240 V
¾ HP Baldor
-CCW-
Shaft End
C1 -CONTACTOR, 50 AMP
CAP -CAPACITOR, 30 uf
CB1 -CIRCUIT BREAKER, 2 AMP
CB2 -CIRCUIT BREAKER, 10 AMP
CB3 -CIRCUIT BREAKER, 1 AMP
CB4 -CIRCUIT BREAKER, 1 AMP
CB5 -CIRCUIT BREAKER, 63 AMP
CC -CONVEYOR CONTROL
H1 -HEATING ELEMENT, 208 VAC OR 240 VAC, 5300 W
H2 -HEATING ELEMENT, 208 VAC OR 240 VAC, 5300 W
H3 -HEATING ELEMENT, 208 VAC OR 240 VAC, 5300 W
M1 -MOTOR, OVEN FAN
M2 -MOTOR, CONVEYOR
M3 -MOTOR, COOLING FAN
MC1 -MOLEX CONNECTOR 9 PIN, OVEN FAN
MC2 -MOLEX CONNECTOR 2 PIN, HIGH LIMIT
MC3 -MOLEX CONNECTOR 3 PIN, MAIN SWITCH
MC4 -MOLEX CONNECTOR 2 PIN, SSR
PB -POWER BLOCK
PL1 -PUSH LOCK, 1-3 ELEMENTS
PS -POWER SUPPLY 24 VDC
PU -CONVEYOR MOTOR PICK-UP
R1 -RELAY-COOL-DOWN TIMER
S1 -SWITCH, MAIN
S2 -SWITCH, CENTRIFUGAL
S3 -SWITCH, HIGH-LIMIT
SSR1 -SOLID STATE RELAY, 50 AMP
SSR2 -SOLID STATE RELAY, 50 AMP
T/C -THERMOCOUPLE
TC -TEMPERATURE CONTROL
TS -TERMINAL STRIP


X3D-2440
X3D-3240
208/240 VAC 3 PH 60 Hz
XD-9130D-208/240-4500-6
08/01/2012
Optional Split Belt Conveyor
208/240 V
¾ HP Baldor
-CCW-
Shaft End
C1 -CONTACTOR, 50 AMP
C2 -CONTACTOR, 50 AMP
CAP -CAPACITOR, 30 uf
CB1 -CIRCUIT BREAKER, 2 AMP
CB2 -CIRCUIT BREAKER, 10 AMP
CB3 -CIRCUIT BREAKER, 1 AMP
CB4 -CIRCUIT BREAKER, 1 AMP
CB5 -CIRCUIT BREAKER, 63 AMP
CB6 -CIRCUIT BREAKER, 63 AMP
CC -CONVEYOR CONTROL
H1 -HEATING ELEMENT, 208 VAC OR 240 VAC, 4500 W
H2 -HEATING ELEMENT, 208 VAC OR 240 VAC, 4500 W
H3 -HEATING ELEMENT, 208 VAC OR 240 VAC, 4500 W
H4 -HEATING ELEMENT, 208 VAC OR 240 VAC, 4500 W
H5 -HEATING ELEMENT, 208 VAC OR 240 VAC, 4500 W
H6 -HEATING ELEMENT, 208 VAC OR 240 VAC, 4500 W
M1 -MOTOR, OVEN FAN
M2 -MOTOR, CONVEYOR
M3 -MOTOR, COOLING FAN
MC1 -MOLEX CONNECTOR 9 PIN, OVEN FAN
MC2 -MOLEX CONNECTOR 2 PIN, HIGH LIMIT
MC3 -MOLEX CONNECTOR 3 PIN, MAIN SWITCH
MC4 -MOLEX CONNECTOR 2 PIN, SSR
PB -POWER BLOCK
PL1 -PUSH LOCK, 1-3 ELEMENTS
PL2 -PUSH LOCK, 4-6 ELEMENTS
PS -POWER SUPPLY 24 VDC
PU -CONVEYOR MOTOR PICK-UP
R1 -RELAY-COOL-DOWN TIMER
S1 -SWITCH, MAIN
S2 -SWITCH, CENTRIFUGAL
S3 -SWITCH, HIGH-LIMIT
SSR1 -SOLID STATE RELAY, 50 AMP
SSR2 -SOLID STATE RELAY, 50 AMP
SSR3 -SOLID STATE RELAY, 50 AMP
SSR4 -SOLID STATE RELAY, 50 AMP
T/C -THERMOCOUPLE
TC -TEMPERATURE CONTROL
TS -TERMINAL STRIP


X3D-3255
X3D-3855
208/240 VAC 3 PH 60 Hz
XD-9130D-208/240-5300-6
08/01/2012
208/240 V
¾ HP Baldor
-CCW-
Shaft End
Optional Split Belt Conveyor
S3
NC < 600°F
C1 -CONTACTOR, 50 AMP
C2 -CONTACTOR, 50 AMP
CAP -CAPACITOR, 30 uf
CB1 -CIRCUIT BREAKER, 2 AMP
CB2 -CIRCUIT BREAKER, 10 AMP
CB3 -CIRCUIT BREAKER, 1 AMP
CB4 -CIRCUIT BREAKER, 1 AMP
CB5 -CIRCUIT BREAKER, 63 AMP
CB6 -CIRCUIT BREAKER, 63 AMP
CC -CONVEYOR CONTROL
H1 -HEATING ELEMENT, 208 VAC OR 240 VAC, 5300 W
H2 -HEATING ELEMENT, 208 VAC OR 240 VAC, 5300 W
H3 -HEATING ELEMENT, 208 VAC OR 240 VAC, 5300 W
H4 -HEATING ELEMENT, 208 VAC OR 240 VAC, 5300 W
H5 -HEATING ELEMENT, 208 VAC OR 240 VAC, 5300 W
H6 -HEATING ELEMENT, 208 VAC OR 240 VAC, 5300 W
M1 -MOTOR, OVEN FAN
M2 -MOTOR, CONVEYOR
M3 -MOTOR, COOLING FAN
MC1 -MOLEX CONNECTOR 9 PIN, OVEN FAN
MC2 -MOLEX CONNECTOR 2 PIN, HIGH LIMIT
MC3 -MOLEX CONNECTOR 3 PIN, MAIN SWITCH
MC4 -MOLEX CONNECTOR 2 PIN, SSR
PB -POWER BLOCK
PL1 -PUSH LOCK, 1-3 ELEMENTS
PL2 -PUSH LOCK, 4-6 ELEMENTS
PS -POWER SUPPLY 24 VDC
PU -CONVEYOR MOTOR PICK-UP
R1 -RELAY-COOL-DOWN TIMER
S1 -SWITCH, MAIN
S2 -SWITCH, CENTRIFUGAL
S3 -SWITCH, HIGH-LIMIT
SSR1 -SOLID STATE RELAY, 50 AMP
SSR2 -SOLID STATE RELAY, 50 AMP
SSR3 -SOLID STATE RELAY, 50 AMP
SSR4 -SOLID STATE RELAY, 50 AMP
T/C -THERMOCOUPLE
TC -TEMPERATURE CONTROL
TS -TERMINAL STRIP

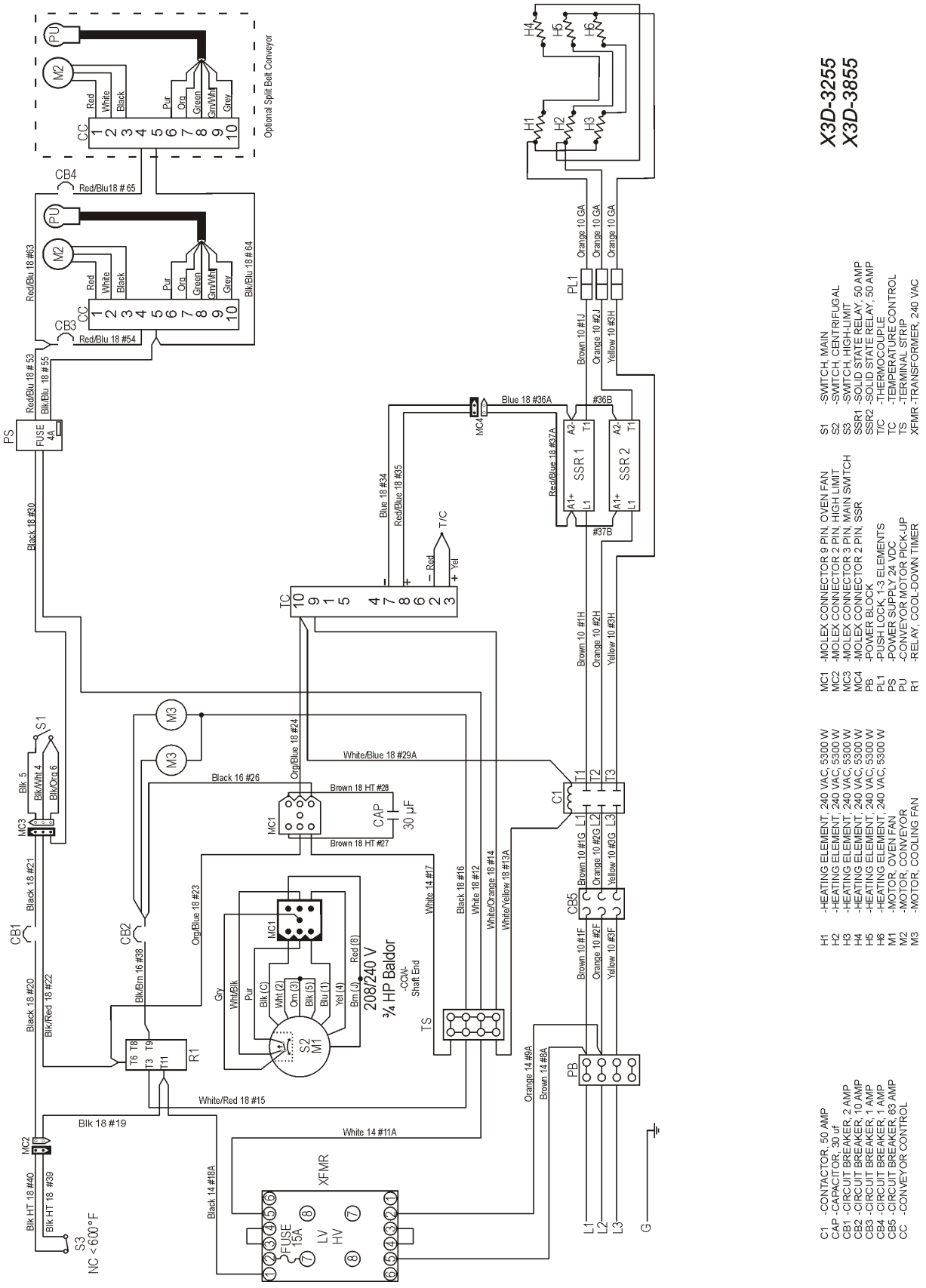


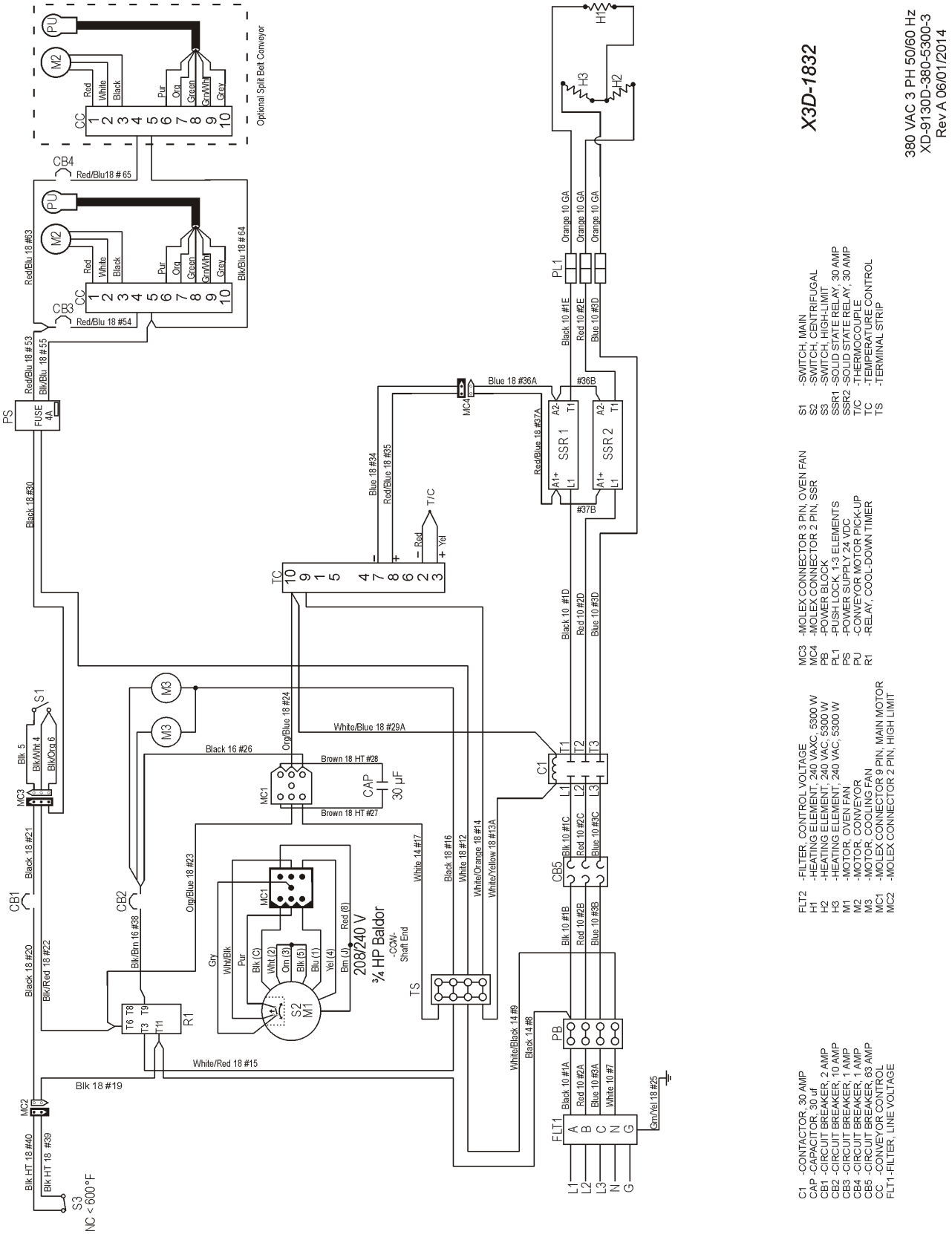
C1 -CONTACTOR, 50 AMP
CAP -CAPACITOR, 30 uf
CB1 -CIRCUIT BREAKER, 2 AMP
CB2 -CIRCUIT BREAKER, 10 AMP
CB3 -CIRCUIT BREAKER, 1 AMP
CB4 -CIRCUIT BREAKER, 1 AMP
CB5 -CIRCUIT BREAKER, 63 AMP
CC -CONVEYOR CONTROL

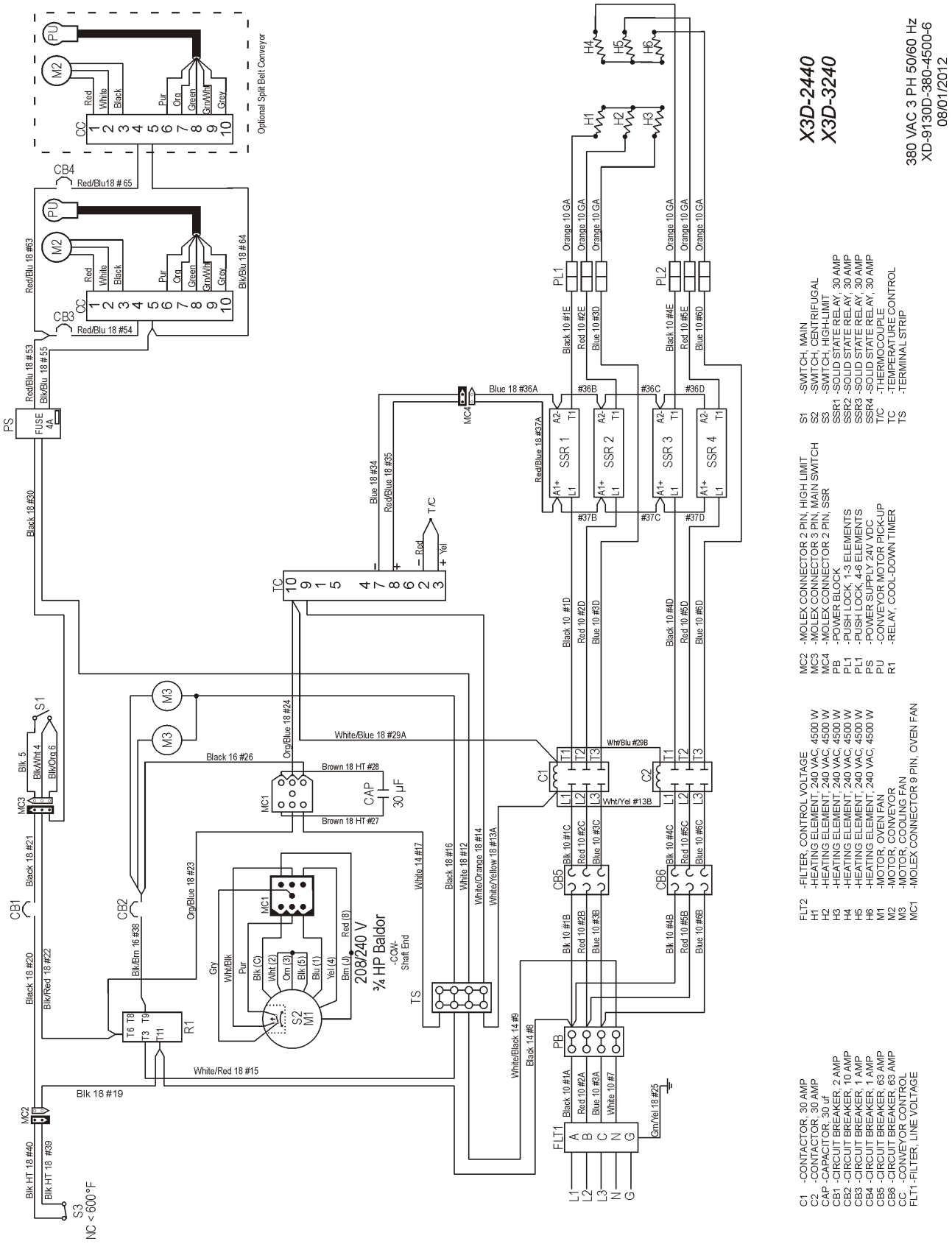
H1 -HEATING ELEMENT, 240 VAC, 4500 W
H2 -HEATING ELEMENT, 240 VAC, 4500 W
H3 -HEATING ELEMENT, 240 VAC, 4500 W
H4 -HEATING ELEMENT, 240 VAC, 4500 W
H5 -HEATING ELEMENT, 240 VAC, 4500 W
H6 -HEATING ELEMENT, 240 VAC, 4500 W
M1 -MOTOR, OVEN FAN
M2 -MOTOR, CONVEYOR
M3 -MOTOR, COOLING FAN

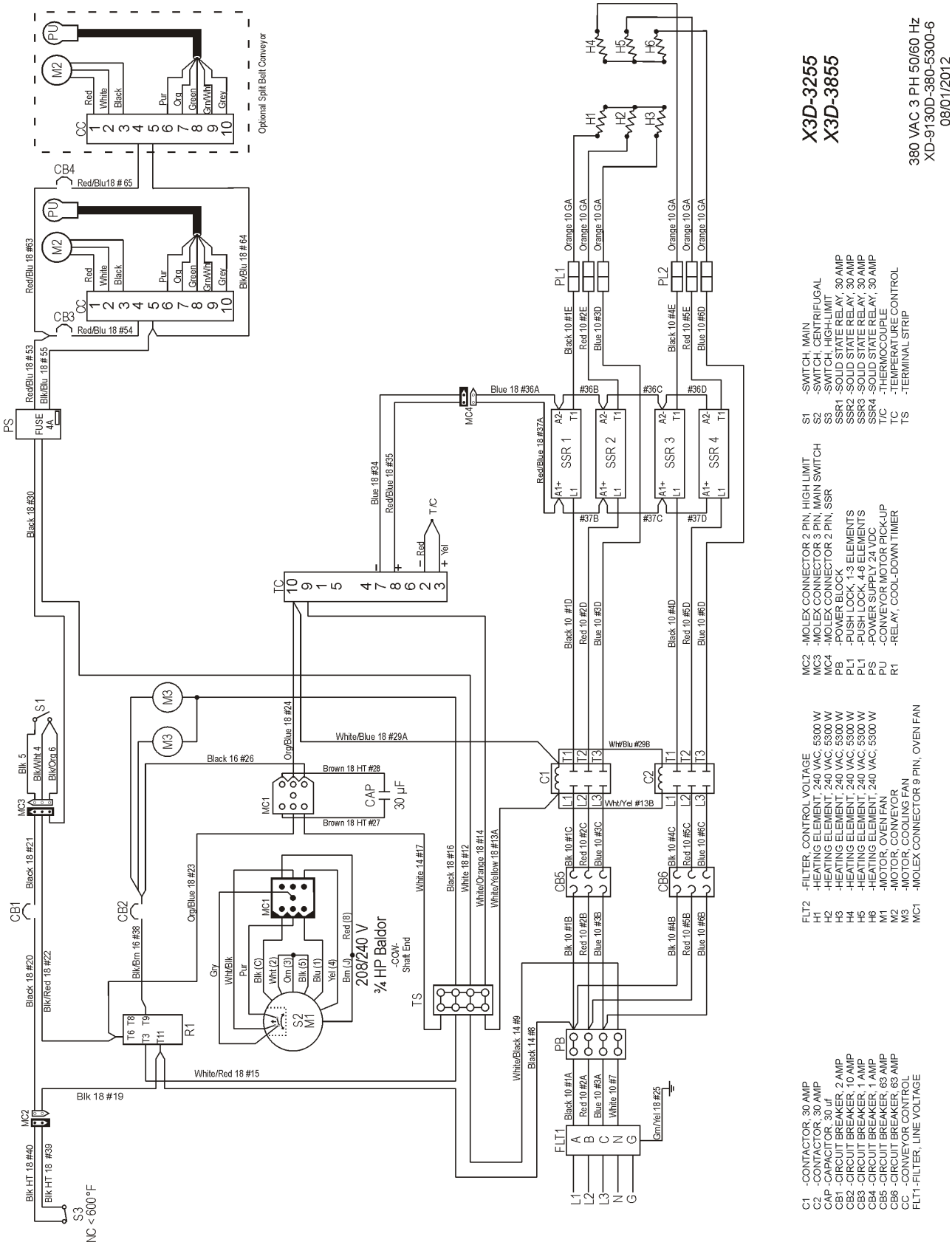
MC1 -MOLEX CONNECTOR 9 PIN, OVEN FAN
MC2 -MOLEX CONNECTOR 2 PIN, HIGH LIMIT
MC3 -MOLEX CONNECTOR 3 PIN, MAIN SWITCH
MC4 -MOLEX CONNECTOR 2 PIN, SSR
PB -POWER BLOCK
PL1 -PUSH LOCK, 1-3 ELEMENTS
PS -POWER SUPPLY 24 VDC
PU -CONVEYOR MOTOR PICK-UP
R1 -RELAY, COOL-DOWN TIMER

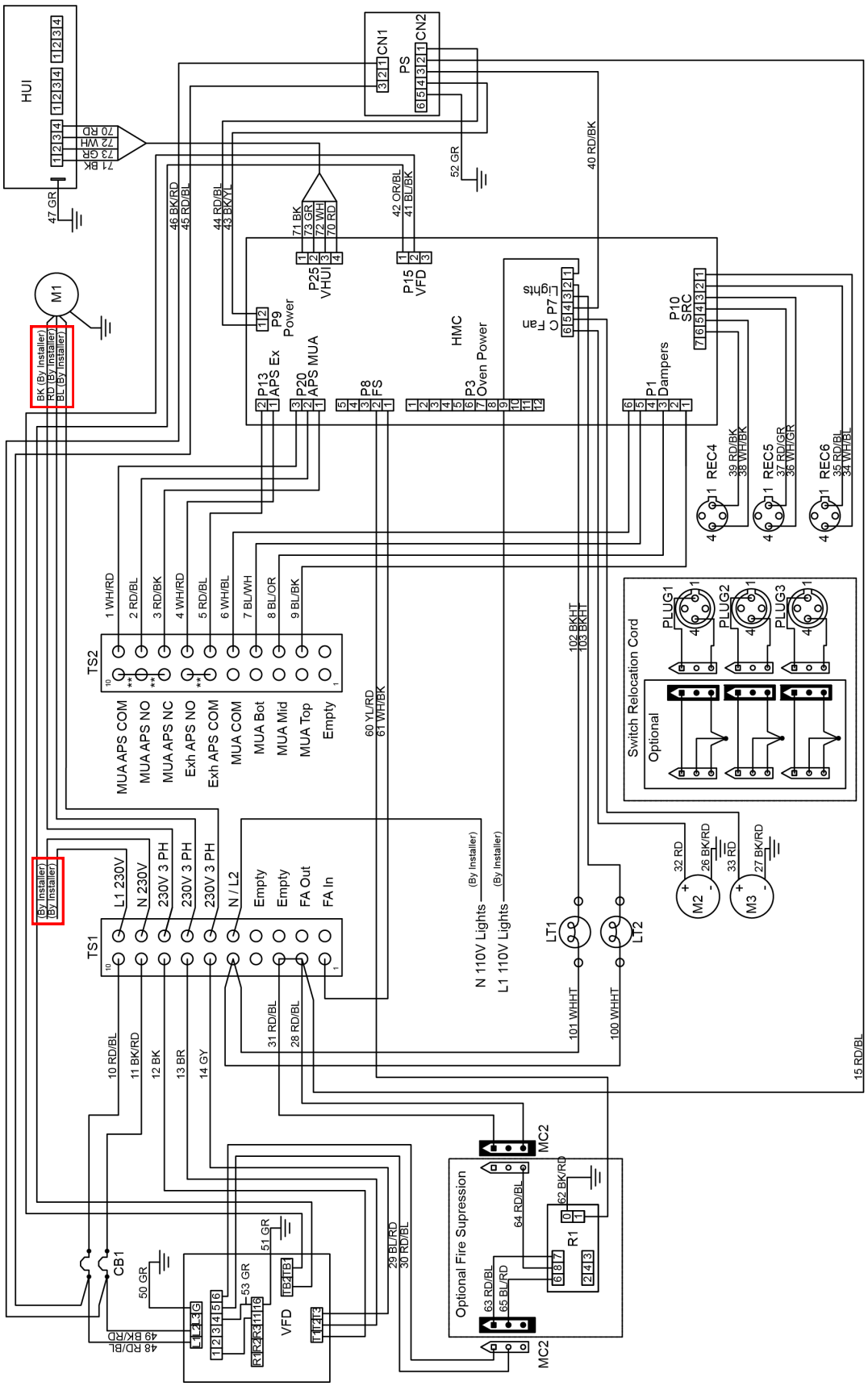
S1 -SWITCH, MAIN
S2 -SWITCH, CENTRIFUGAL
S3 -SWITCH, HIGH-LIMIT
SSR1 -SOLID STATE RELAY, 50 AMP
SSR2 -SOLID STATE RELAY, 50 AMP
T/C -THERMOCOUPLE
TC -TEMPERATURE CONTROL
TS -TERMINAL STRIP
XFMR -TRANSFORMER, 240 VAC

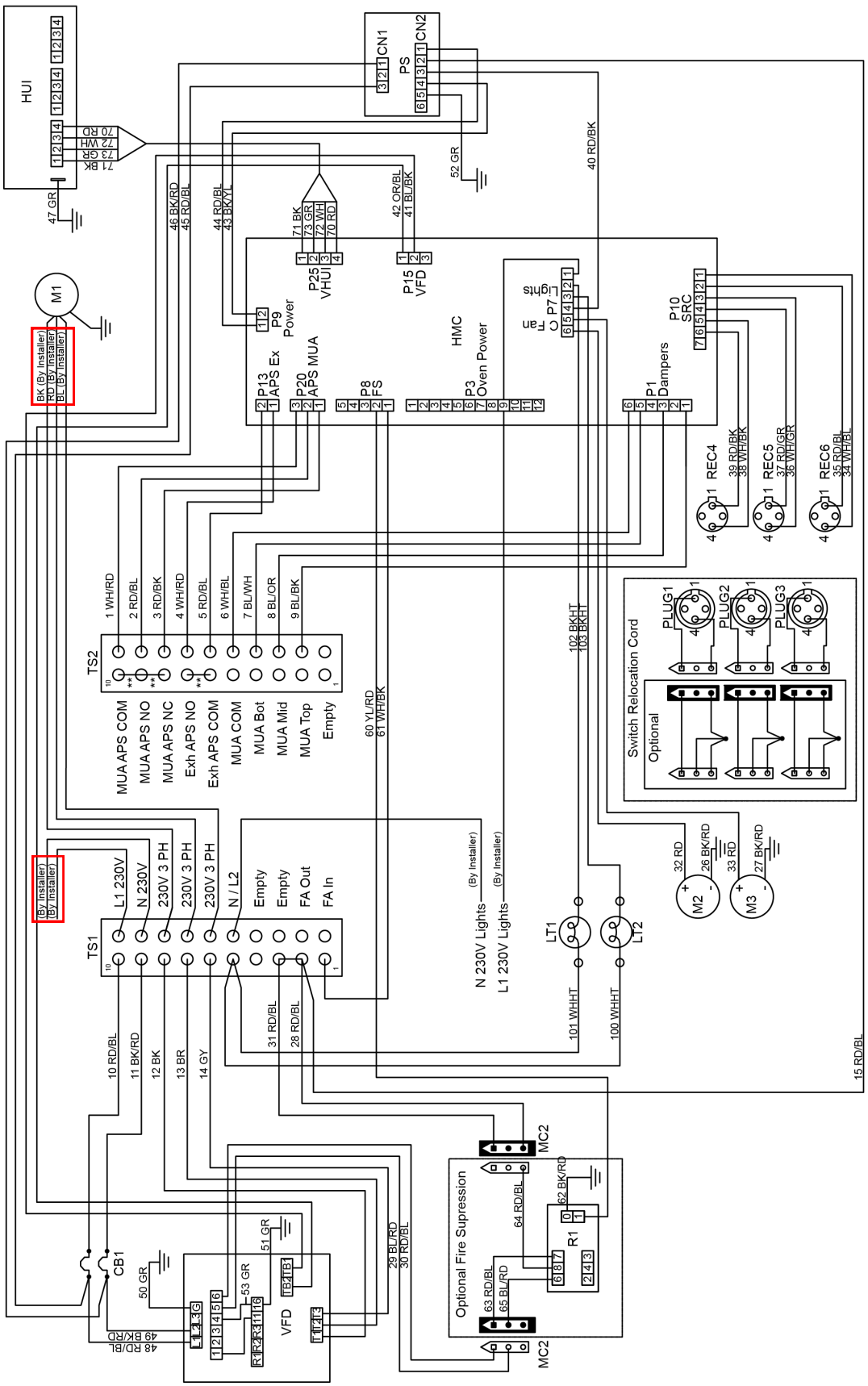

X3D-3255
X3D-3855
480 VAC 3 PH 60 Hz
XD-9130D-480-5300-6
08/01/2012
Optional Split Belt Conveyor
208/240 V
¾ HP Baldor
-CCW-
Shaft End
XFMR
FUSE 15A
LV
HV
NC <600°F
SSR 1
SSR 2
T/C
L1
L2
L3
G
C1 -CONTACTOR, 50 AMP
CAP -CAPACITOR, 30 uf
CB1 -CIRCUIT BREAKER, 2 AMP
CB2 -CIRCUIT BREAKER, 10 AMP
CB3 -CIRCUIT BREAKER, 1 AMP
CB4 -CIRCUIT BREAKER, 1 AMP
CB5 -CIRCUIT BREAKER, 63 AMP
CC -CONVEYOR CONTROL
H1 -HEATING ELEMENT, 240 VAC, 5300 W
H2 -HEATING ELEMENT, 240 VAC, 5300 W
H3 -HEATING ELEMENT, 240 VAC, 5300 W
H4 -HEATING ELEMENT, 240 VAC, 5300 W
H5 -HEATING ELEMENT, 240 VAC, 5300 W
H6 -HEATING ELEMENT, 240 VAC, 5300 W
M1 -MOTOR, OVEN FAN
M2 -MOTOR, CONVEYOR
M3 -MOTOR, COOLING FAN
MC1 -MOLEX CONNECTOR 9 PIN, OVEN FAN
MC2 -MOLEX CONNECTOR 2 PIN, HIGH LIMIT
MC3 -MOLEX CONNECTOR 3 PIN, MAIN SWITCH
MC4 -MOLEX CONNECTOR 2 PIN, SSR
PB -POWER BLOCK
PL1 -PUSH LOCK, 1-3 ELEMENTS
PS -POWER SUPPLY 24 VDC
PU -CONVEYOR MOTOR PICK-UP
R1 -RELAY, COOL-DOWN TIMER
S1 -SWITCH, MAIN
S2 -SWITCH, CENTRIFUGAL
S3 -SWITCH, HIGH-LIMIT
SSR1 -SOLID STATE RELAY, 50 AMP
SSR2 -SOLID STATE RELAY, 50 AMP
T/C -THERMOCOUPLE
TC -TEMPERATURE CONTROL
TS -TERMINAL STRIP
XFMR -TRANSFORMER, 240 VAC


X3D-1832
380 VAC 3 PH 50/60 Hz
XD-9130D-380-5300-3
Rev A 06/01/2014
Optional Split Belt Conveyor
208/240 V
¾ HP Baldor
-CCW-
Shaft End
C1 -CONTACTOR, 30 AMP
CAP -CAPACITOR, 30 uf
CB1 -CIRCUIT BREAKER, 2 AMP
CB2 -CIRCUIT BREAKER, 10 AMP
CB3 -CIRCUIT BREAKER, 1 AMP
CB4 -CIRCUIT BREAKER, 1 AMP
CB5 -CIRCUIT BREAKER, 63 AMP
CC -CONVEYOR CONTROL
FLT1 -FILTER, LINE VOLTAGE
FLT2 -FILTER, CONTROL VOLTAGE
H1 -HEATING ELEMENT, 240 VAXC, 5300 W
H2 -HEATING ELEMENT, 240 VAC, 5300 W
H3 -HEATING ELEMENT, 240 VAC, 5300 W
M1 -MOTOR, OVEN FAN
M2 -MOTOR, CONVEYOR
M3 -MOTOR, COOLING FAN
MC1 -MOLEX CONNECTOR 9 PIN, MAIN MOTOR
MC2 -MOLEX CONNECTOR 2 PIN, HIGH LIMIT
MC3 -MOLEX CONNECTOR 3 PIN, OVEN FAN
MC4 -MOLEX CONNECTOR 2 PIN, SSR
PB -POWER BLOCK
PL1 -PUSH LOCK, 1-3 ELEMENTS
PS -POWER SUPPLY 24 VDC
PU -CONVEYOR MOTOR PICK-UP
R1 -RELAY, COOL-DOWN TIMER
S1 -SWITCH, MAIN
S2 -SWITCH, CENTRIFUGAL
S3 -SWITCH, HIGH-LIMIT
SSR1 -SOLID STATE RELAY, 30 AMP
SSR2 -SOLID STATE RELAY, 30 AMP
T/C -THERMOCOUPLE
TC -TEMPERATURE CONTROL
TS -TERMINAL STRIP

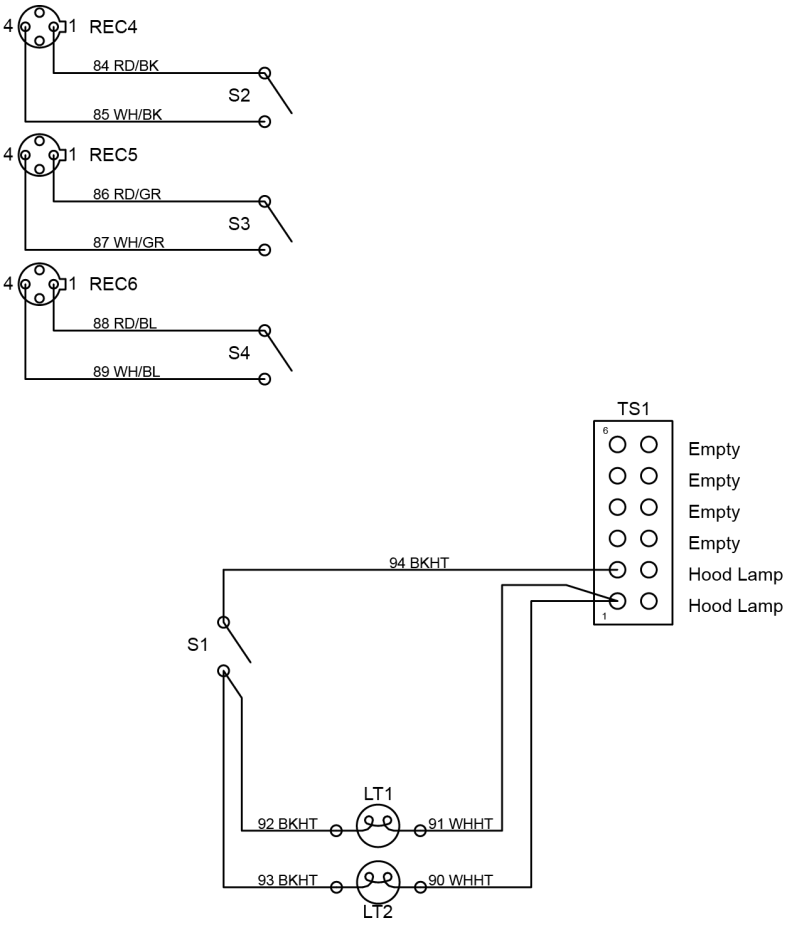

X3D-2440
X3D-3240
380 VAC 3 PH 50/60 Hz
XD-9130D-380-4500-6
08/01/2012
208/240 V
¾ HP Baldor
Optional Split Belt Conveyor
C1 -CONTACTOR, 30 AMP
C2 -CONTACTOR, 30 AMP
CAP -CAPACITOR, 30 uf
CB1 -CIRCUIT BREAKER, 2 AMP
CB2 -CIRCUIT BREAKER, 10 AMP
CB3 -CIRCUIT BREAKER, 1 AMP
CB4 -CIRCUIT BREAKER, 1 AMP
CB5 -CIRCUIT BREAKER, 63 AMP
CB6 -CIRCUIT BREAKER, 63 AMP
CC -CONVEYOR CONTROL
FLT1-FILTER, LINE VOLTAGE
FLT2 -FILTER, CONTROL VOLTAGE
H1 -HEATING ELEMENT, 240 VAC, 4500 W
H2 -HEATING ELEMENT, 240 VAC, 4500 W
H3 -HEATING ELEMENT, 240 VAC, 4500 W
H4 -HEATING ELEMENT, 240 VAC, 4500 W
H5 -HEATING ELEMENT, 240 VAC, 4500 W
H6 -HEATING ELEMENT, 240 VAC, 4500 W
M1 -MOTOR, OVEN FAN
M2 -MOTOR, CONVEYOR
M3 -MOTOR, COOLING FAN
MC1 -MOLEX CONNECTOR 9 PIN, OVEN FAN
MC2 -MOLEX CONNECTOR 2 PIN, HIGH LIMIT
MC3 -MOLEX CONNECTOR 3 PIN, MAIN SWITCH
MC4 -MOLEX CONNECTOR 2 PIN, SSR
PB -POWER BLOCK
PL1 -PUSH LOCK, 1-3 ELEMENTS
PL1 -PUSH LOCK, 4-6 ELEMENTS
PS -POWER SUPPLY 24V VDC
PU -CONVEYOR MOTOR PICK-UP
R1 -RELAY, COOL-DOWN TIMER
S1 -SWITCH, MAIN
S2 -SWITCH, CENTRIFUGAL
S3 -SWITCH, HIGH-LIMIT
SSR1 -SOLID STATE RELAY, 30 AMP
SSR2 -SOLID STATE RELAY, 30 AMP
SSR3 -SOLID STATE RELAY, 30 AMP
SSR4 -SOLID STATE RELAY, 30 AMP
T/C -THERMOCOUPLE
TC -TEMPERATURE CONTROL
TS -TERMINAL STRIP
S3
NC < 600°F


X3D-3255
X3D-3855
380 VAC 3 PH 50/60 Hz
XD-9130D-380-5300-6
08/01/2012
Optional Split Belt Conveyor
208/240 V
¾ HP Baldor
-CCW-
Shaft End
S3
NC < 600°F
C1 -CONTACTOR, 30 AMP
C2 -CONTACTOR, 30 AMP
CAP -CAPACITOR, 30 uf
CB1 -CIRCUIT BREAKER, 2 AMP
CB2 -CIRCUIT BREAKER, 10 AMP
CB3 -CIRCUIT BREAKER, 1 AMP
CB4 -CIRCUIT BREAKER, 1 AMP
CB5 -CIRCUIT BREAKER, 63 AMP
CB6 -CIRCUIT BREAKER, 63 AMP
CC -CONVEYOR CONTROL
FLT1-FILTER, LINE VOLTAGE
FLT2 -FILTER, CONTROL VOLTAGE
H1 -HEATING ELEMENT, 240 VAC, 5300 W
H2 -HEATING ELEMENT, 240 VAC, 5300 W
H3 -HEATING ELEMENT, 240 VAC, 5300 W
H4 -HEATING ELEMENT, 240 VAC, 5300 W
H5 -HEATING ELEMENT, 240 VAC, 5300 W
H6 -HEATING ELEMENT, 240 VAC, 5300 W
M1 -MOTOR, OVEN FAN
M2 -MOTOR, CONVEYOR
M3 -MOTOR, COOLING FAN
MC1 -MOLEX CONNECTOR 9 PIN, OVEN FAN
MC2 -MOLEX CONNECTOR 2 PIN, HIGH LIMIT
MC3 -MOLEX CONNECTOR 3 PIN, MAIN SWITCH
MC4 -MOLEX CONNECTOR 2 PIN, SSR
PB -POWER BLOCK
PL1 -PUSH LOCK, 1-3 ELEMENTS
PL1 -PUSH LOCK, 4-6 ELEMENTS
PS -POWER SUPPLY 24 VDC
PU -CONVEYOR MOTOR PICK-UP
R1 -RELAY, COOL-DOWN TIMER
S1 -SWITCH, MAIN
S2 -SWITCH, CENTRIFUGAL
S3 -SWITCH, HIGH-LIMIT
SSR1 -SOLID STATE RELAY, 30 AMP
SSR2 -SOLID STATE RELAY, 30 AMP
SSR3 -SOLID STATE RELAY, 30 AMP
SSR4 -SOLID STATE RELAY, 30 AMP
T/C -THERMOCOUPLE
TC -TEMPERATURE CONTROL
TS -TERMINAL STRIP


HD-9130E-ELE-VFD-S
12/01/2015
** - Remove Jumpers for APS
REC6 Receptacle, Switch, Bottom Oven
SRC Switch Relocation Cord
TS1 Terminal Strip
TS2 Terminal Strip
VFD Variable Frequency Drive
M2 Motor, Cooling Fan
M3 Motor, Cooling Fan
PS Power Supply
R1 Fire Suppression Relay
REC4 Receptacle, Switch, Top Oven
REC5 Receptacle, Switch, Middle Oven
CB1 Circuit Breaker, 10 Amp
HMC Hood Machine Control
HUI Hood User Interface
LT1 Lamp, 60W Bulb
LT2 Lamp, 60W Bulb
M1 Motor, Exhaust Fan
RD-Red BK-Black BL-Blue BR-Brown GR-Green YL-Yellow PR-Purple HT-High Temp OR-Orange WH-White GY-Gray
HUI
CN1
CN2
PS
M1
P25 VHUI
P15 VFD
P9 Power
P13 APS Ex
P20 APS MUA
P8 FS
P3 Oven Power
HMC
P7 Fan Lights
P1 Dampers
P10 SRC
REC4
REC5
REC6
Switch Relocation Cord
Optional
PLUG1
PLUG2
PLUG3
TS2
MUA APS COM
MUA APS NO
MUA APS NC
Exh APS NO
Exh APS COM
MUA COM
MUA Bot
MUA Mid
MUA Top
Empty
TS1
L1 230V
N 230V
230V 3 PH
230V 3 PH
230V 3 PH
N / L2
Empty
Empty
FA Out
FA In
N 110V Lights (By Installer)
L1 110V Lights (By Installer)
LT1
LT2
M2
M3
CB1
VFD
R1
MC2
Optional Fire Supression
BK (By Installer)
RD (By Installer)
BL (By Installer)
(By Installer)
(By Installer)


HD-9130E-ELE-VFD-W
12/01/2015
** - Remove Jumpers for APS
CB1 Circuit Breaker, 10 Amp
HMC Hood Machine Control
HUI Hood User Interface
LT1 Lamp, 60W Bulb
LT2 Lamp, 60W Bulb
M1 Motor, Exhaust Fan
M2 Motor, Cooling Fan
M3 Motor, Cooling Fan
PS Power Supply
R1 Fire Suppression Relay
REC4 Receptacle, Switch, Top Oven
REC5 Receptacle, Switch, Middle Oven
REC6 Receptacle, Switch, Bottom Oven
SRC Switch Relocation Cord
TS1 Terminal Strip
TS2 Terminal Strip
VFD Variable Frequency Drive
RD-Red BK-Black BL-Blue BR-Brown GR-Green YL-Yellow PR-Purple HT-High Temp OR-Orange WH-White GY-Gray
HUI
CN1
PS
CN2
P25 VHUI
P15 VFD
P9 Power
P13 APS Ex
P20 APS MUA
P8 FS
HMC
P3 Oven Power
Fan
P7 Lights
P10 SRC
P1 Dampers
REC4
REC5
REC6
Switch Relocation Cord
Optional
PLUG1
PLUG2
PLUG3
TS2
MUA APS COM
MUA APS NO
MUA APS NC
Exh APS NO
Exh APS COM
MUA COM
MUA Bot
MUA Mid
MUA Top
Empty
TS1
L1 230V
N 230V
230V 3 PH
230V 3 PH
230V 3 PH
N / L2
Empty
Empty
FA Out
FA In
N 230V Lights (By Installer)
L1 230V Lights (By Installer)
LT1
LT2
M1
M2
M3
CB1
VFD
R1
MC2
Optional Fire Supression
BK (By Installer)
RD (By Installer)
BL (By Installer)
(By Installer)
(By Installer)

HOOD SCHEMATIC w/oFS-w/oVFD



LT1	Lamp, 60W Bulb
LT2	Lamp, 60W Bulb
REC4	Receptacle, Top Oven
REC5	Receptacle, Middle Oven
REC6	Receptacle, Bottom Oven
S1	Switch, Light
S2	Switch, Top Oven
S3	Switch, Middle Oven
S4	Switch, Bottom Oven
TS1	Terminal Strip

RD-Red BK-Black BL-Blue GR-Green HT-High Temp WH-White

HD-9130E-NV
12/01/2015

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XLT Ovens
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Wichita, Kansas 67277
US: 888-443-2751 FAX: 316-943-2769 INTL: 316-943-2751 WEB: www.xltovens.com