XD 9007A
SWH03HF02
5/9/2023

XLT® SmartSolutions™

XLT Electric Oven & XLT Hood
Parts & Service Manual

CAUTION Read This Manual Before Using This Appliance.

Electronic copies of this manual, Technical 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)	H
World (W)	H

For use with the following XLT Electric Hood Versions:

Standard (S)	F
World (W)	F

Intertek 2000887 0359

QC DS™ QUALITY.COST.DELIVERY.SERVICE.

Original Instructions

XLT Ovens
PO Box 9090
Wichita, Kansas 67277
US: 888-443-2751 FAX: 316-943-2769 INTL: +1-316-943-2751 WEB: www.xltovens.com

FOR YOUR SAFETY

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

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

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

XLT has spent millions of dollars designing and testing our products as well as developing Installation & Operation 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.

Revision History Table

Revision	Comments	Date
A	New Release - H Oven F Hood - Shroud Assembly Updates	05/23/2023

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:

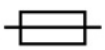
 DANGER	ISO 7000-0434: This symbol indicates a potentially hazardous situation that, if not avoided, can result in serious injury or death.
 HIGH VOLTAGE	IEC 60417-5036: This symbol indicates a high voltage. It calls your attention to items or operations that could be dangerous to you and other persons operating this equipment. Read the message and follow the instructions carefully.
 WARNING	ISO 7000-0434: This symbol indicates a potentially hazardous situation, that if not avoided, can result in cuts or being crushed. It calls your attention to items or operations that could be dangerous to you and other persons operating this equipment.
 CAUTION	ISO 7000-0434: This symbol 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.


NOTE

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


TIP

TIP gives 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.

 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.		

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 twelve (12) months or sooner if heavy use is expected.


DANGER

Installation and repairs of all electrical 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.

- Do not restrict the flow of ventilation air to the unit. Provide adequate clearance for operating, cleaning, and maintaining the unit is 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 either combustible or non-combustible floors, and adjacent to either combustible or non-combustible walls.
- Electrical schematics are located inside the control box of the oven, in this manual, and online at www.xltovens.com. Disconnect input power to the unit before performing any maintenance.
- This unit requires a ventilation hood that must conform to local codes.
- This unit must be operated by the same voltage, phase, and frequency of electrical power as designated on the data plate located on the side of the unit.
- Minimum clearances must be maintained from combustible and 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 water jet (high pressure water).
- Most XLT ovens are certified for use in stacks of up to four (4) units of XLT products. Integration of other manufacturer's products into an oven stack is not recommended, and voids any warranties. XLT 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 and all warranties.
- This appliance operates below 75 dBA.
- PLEASE RETAIN THIS MANUAL FOR FUTURE REFERENCE.

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

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 contains information about service error codes including the display read outs, MC LEDs, error determinations and troubleshooting actions. 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 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 equipment problem you may experience. Customer Service is available 24/7/365 at 888-443-2751 or visit www.xltovens.com.

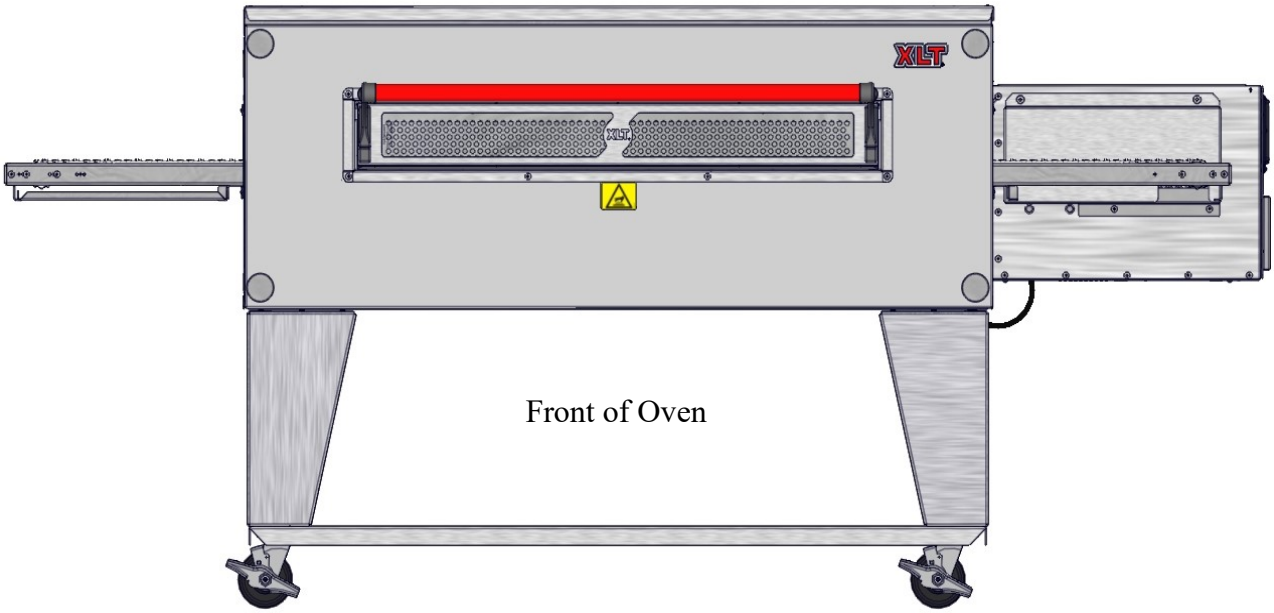
Save this Manual

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

XLT 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 seen below.

Left Hand (LH) Right Hand (RH)



Warranty – US and Canada

Rev J

Approval Date: 09/22/2022

XLT warrants ovens manufactured after September 22, 2022 to be free from any defect in material and workmanship under normal use for seven (7) 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/hoods to be free from rust for ten (10) years from the date the equipment is originally purchased. XLT warrants hoods manufactured after September 22, 2022 to be free from any defect in material and workmanship under normal use for seven (7) years from the date of original purchase by the end user purchaser. If the purchase includes a pre-piped Ansul system on both the ovens and hood, the warranty will be increased to ten (10) years on both pieces of equipment. 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 costs 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, XLT, and documented on the Bill of Lading
- The equipment must be installed and operated in accordance with the Installation and Operation Manual furnished with the unit
- This warranty shall not excuse the owner from properly maintaining the equipment in accordance with the Installation and Operation Manual 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 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
- Painted or Powder Coated surfaces
- 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.

Warranty – International

Rev L

Approval Date: 09/22/2022

XLT warrants ovens manufactured after September 22, 2022 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/hoods to be free from rust for ten (10) years from the date the equipment is originally purchased. XLT warrants hoods manufactured after September 22, 2022 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. If the purchase includes a hood and the ovens both the warranty will be increased to seven (7) years on both pieces of equipment. 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 costs 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 the Distributor/Service Provider
- The equipment must be installed and operated in accordance with the Installation and Operation Manual furnished with the unit
- This warranty shall not excuse the owner from properly maintaining the equipment in accordance with the Installation and Operation Manual furnished with the unit
- A copy of the "Initial Start-Up Checklist" must be filled out and returned to Distributor/Service Provider and 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 the Distributor/Service Provider 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
- Painted or Powder Coated surfaces
- 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, the Distributor/Service Provider must be notified. Upon notification, Distributor/Service Provider 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 and Distributor/Service Provider 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
www.xltovens.com

10 INSTALLATION RESPONSIBILITIES

Responsibility	Service Company	Owner/ Contractor
Site Survey: Verify electric and gas meter/regulator sizes	X	
Supply wiring from TS1 #R3, R4, R5 to exhaust fan		X
Assembly of new hood per XLT Installation & Operation Manual		X
Suspend XLT Hood from ceiling		X
Weld ducting to XLT Hood		X
Install new exhaust fan on roof		X
Supply power to XLT Hood		X
Install Duct Cover or Valance above XLT Hood		X
Supply wiring from TS1 R3, R4, R5 to exhaust fan		X
Assemble upper and lower shroud assemblies	X	
Install shrouds assembly	X	
Assembly of new ovens per XLT Installation & Operation Manual	X	
Bases assembled and set in place	X	
Supply power to XLT Oven(s)	X	
Ovens moved and stacked with proper lifting equipment	X	
Peel all PVC	X	
Assemble shrouds & brackets to XLT Oven/Hood	X	
Install FS to oven	X	
Connection may require Permit and Code Inspections		X
Relocate Make-Up-Air to enter the room at the ends of the Ovens		X
Start-up per XLT Installation & Operation Manual:	X	
Start-Up Checklist has been filled out per Installation & Operation Manual	X	
Start-Up Checklist must be submitted to XLT to validate Warranty		X

NOTE If XLT employees are completing the installation process, they will be considered a Service Company in regards to the above table.

Legend from electrical schematics:

C	**Contactor**	**OMC**	**Oven Machine Control**	**SSR**	**Solid State Relay**
CAP	**Capacitor**	**PB**	**Power Block**	**TC**	**Thermocouple**
CB	**Circuit Breaker**	**PL**	**Push Lock**	**TS**	**Terminal Strip**
CS	**Current Sensor**	**PS**	**Power Supply**	**VFD**	**Variable Frquency Drive**
H	**Heating Element**	**PU**	**Pick-Up**	**WC**	**Wago Connector**
FLT	**Filter, Control Voltage**	**R1**	**Oven Fan Motor Relay**		
LUI	**Large User Interface**	**RTD**	**RTD, High Limit**		
M1	**Motor, Oven Fan**	**S2**	**Switch, Centrifugal**		
M2	**Motor, Conveyor**	**S3**	**Switch, High Limit**		
M3	**Motor, Cooling Fan**	**SC**	**Suppression Core**		

Once the oven is plugged into the wall the Oven Machine Control (OMC) Power Light will illuminate.
When the main power button on the Large User Interface (LUI) is pressed for one (1) second:

1. The LUI will illuminate and display actual temperature until set point is reached as well as display belt time.
2. The Oven Fan Motor (M1) located in the Back Wall will run, illuminating the Main Fan Light on the OMC.
3. The Fan (M3) located on the Control Panel will run.
4. The heating elements will receive power, illuminating the Heat Light on the OMC.
5. The conveyor belt will move, illuminating the Conveyor Light on the OMC.

The first part of the Theory of Operation explains how electrical power is delivered to the oven and initial sequences when the main power on the Large User Interface (LUI) is turned on. The second part 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 VAC, 3Φ, 60 Hz.
- Line voltage for World Ovens is assumed to be 380 VAC, 3Φ, 50 Hz.

Part 1:

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). Wires coming off the bower block lead to the Circuit Breaker (CB) which then continues on to the Power Supply (PS), the High Limit Switch (S3), and other components. After the PS, 24 VDC is delivered to the Terminal Strip (TS2). From the other side of the TS2, power is then supplied to the Oven Control (OMC).

When the main power button is turned on, the OMC sends power to the Oven Fan Motor Relay (R1) or the Oven Fan Motor Frequency Drive (VFD World and Australia Only). Which then delivers power to the Oven Fan Motor (M1). Once the Main Motor Centrifugal Switch (S2) closes in World ovens or current is sensed by the Current Sensor (CS) for standard ovens, it provides power to the coil of the Contactors (C1 and C2), which opens the contactor sending power to the SSRs (SSR1-4) and Heating Elements (H1-H6). The SSRs are elements controlled by the OMC.

Part 2:

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 (3) Dingle Pull Single Throw (SPST) contacts. When the LUI is turned on and the S2 is closed, 24 VDC 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/316°C, or if S2 is not closed 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 M1. The M1 is a Permanent Split Capacitor (PSC) motor. PSC means a capacitor motor in which the starting capacitor and the auxiliary winding remain in the circuit for both starting and running. The CAP is a 30.0 uF +/- 6% 370VAC/B 50/60 Hz.

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.

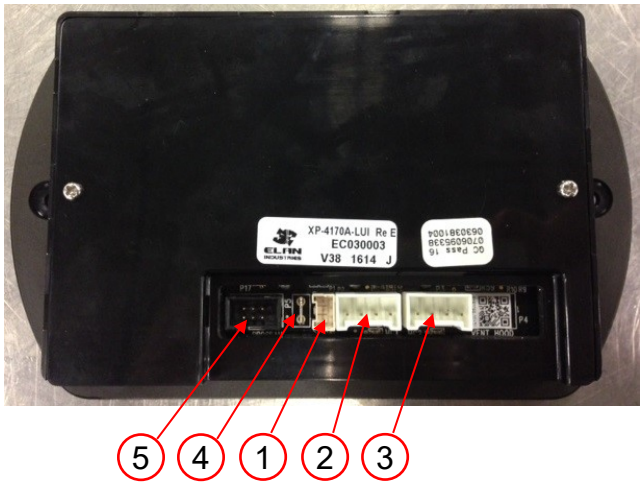
CS - The Current Sensor detects electrical current (AC) in a wire, and generates a signal proportional to it. The generated signal is analog voltage and then sends it to the LUI. This monitors the condition of the oven fan motor to control the call for heat signal.

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 (EMI) 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.



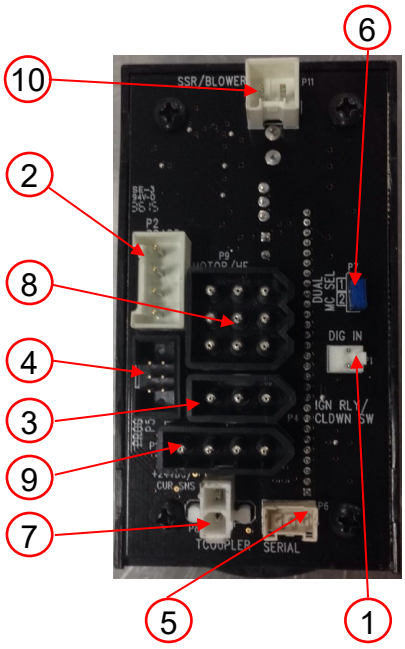
1) P1- Not Used
2) P2- RS-485 Cable To OMC1
    1) +5V
    2) 485-
    3) 485+
    4) Ground
3) P3- RS-485 Cable To OMC2
    1) +5V
    2) 485-
    3) 485+
    4) Ground
4) P5- Ground
5) P17- Elan Programming

LUI - The Large User Interface is powered by the OMC by the RS 485 cable. The main power button is located on the front face of the LUI. The conveyor(s) and temperature of the oven is controlled through the LUI. You can change the factory settings for the oven size, VFD/No VFD, cool down mode, and Gas/Electric, etc. For a Standard Oven it will also display the main fan amps. The LUI will display error messages and maintenance alarms. There are 12 menu presets for predetermined time and temperature settings. The screen can be locked to prevent unwanted mischief.

M1 – The Main Motor for standard ovens is a PSC, single phase, capacitor run motor and has an internal S2 in World ovens. The motor is dual voltage and reversible. The voltage to power the motor comes from the R1-2. For world ovens M1 is a 3 phase inverter rated motor with an internal S2. It gets power from a variable frequency drive which is then turned on by the OMC. The main motor will continue to operate for approximately thirty (30) minutes or until the oven temperature is less than 225°F/108°C after the oven is turned off. There are no user serviceable parts in the motor, and the bearings are permanently lubricated.

M2 - The Conveyor Motor is a brushless 24 VDC gear motor. The motor receives current from the OMC through three (3) wires; 1) A "W" phase, 2) a "V" phase, and 3) an "U" phase. They carry between 18 to 24 VDC. Each wire is energized by the OMC in sequence to provide power to the individual stator coils which, in turn, provide motor rotation. To determine the rotor 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 OMC by three (3) wires; 1) an "U" phase pole signal output, 2) a "V" phase pole signal output, and 3) a "W" phase pole signal output. These are located in a plug that inserts into the OMC1 or OMC2. There are two (2) additional wires in this plug; 1) a wire which is voltage for the pole sensor, and 2) a wire that is ground. The OMC, using an internal logic circuit, energizes the stator coils to provide proper rotation and sets the energization (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 200:1. This motor contains no serviceable parts. The OMC will detect if the conveyor belt has a jam by monitoring the rotor signal. If the signal falls more than 25% below the expected rate a jam is detected. This action will stop the conveyor and display an alarm on the LUI. To reset the alarm press and hold the TIME key for ten (10) seconds.

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



1) P1- Not Used - Digital Input
2) P2- RS-485 Cable To LUI
    1) +5V
    2) 485-
    3) 485+
    4) Ground
3) P4-Molex provided with harness
    1) +24 Remote Switch
    2) +24 Power (In) Switch
    3) Relay +24 Switched (Out)
4) P5- Elan Programming
5) P6- Elan Serial Port
6) P7- Jumper For OMC 1 or 2
7) P8- Thermocouples
    1) Red (-)
    2) Yellow (+)
8) P9- Conveyor Motor
    1) Motor SA
    2) Motor SB
    3) Motor SC
    4) Hall +5V
    5) Hall HC+
    6) Hall HB+
    7) Hall HA+
    8) Ground
    9) Not Used
9) P10-Molex provided with harness
    1) Current Sensor
    2) Current Sensor
    3) 24 VDC(-) Main Power
    4) 24 VDC(+) Main Power
10) P11-Molex provided with harness
    1) +24 VDC To R1/VFD
    2) -24 VDC Ground to Gas Valve V2

OMC - The Oven Machine Control reads selections or parameters from the LUI. It holds the logic for the conveyor controls and the temperature controls. The OMC will turn on or off SSR's, start and stop M1, send the call for heat signal, reads the thermocouple and monitor the current sensor.

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

1) CN2- 24VDC
    1) +24 VDC Main Power To OMC
    2) +24 VDC
    3) +24 VDC
    4) -24 VDC Ground To TS2-
2) CN1- Line Voltage
    1) Neutral
    2) Not Used
    3) Line Voltage

PS - The Power Supply rectifies line voltage to 24 VDC, and supplies power to the OMC and S2. 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.

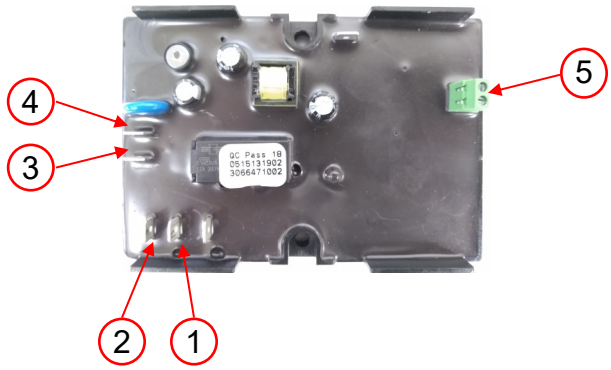
PU - The Pick-Up is physically mounted within M2 and utilizes hall effect technology integral to the M2 to monitor the rotation speed. The hall effect signal is transmitted to the OMC, which converts it into linear travel speed of the conveyor.

R1 - The Oven Fan Motor Relay is used as a remote switch to handle the higher amp load of M1.

RTD - The Resistive Thermocouple Detector monitors the air temperature inside the bake chamber. The RTD wire is a pure material, typically platinum, nickel, or copper. The material has an accurate resistance/temperature relationship which is used to provide an indication of temperature.

S2 - World Ovens- The Centrifugal Switch is a Single Pole Double Throw (SPDT) switch physically mounted inside M1. When M1 comes up to full speed, S2 closes and sends a 24 VDC signal to the contactors. It functions as a safety feature to prevent the elements from heating if the M1 fails to rotate.

S3 - Standard Ovens- The High Limit Switch for standard ovens is a bi-metal, Normally Closed (NC), SPST switch physically mounted in the side panel of the Bake Chamber. Its purpose is to provide fail safe operation. If the temperature of S3 exceeds 600°F/316°C, it opens and interrupts line voltage to all components.



1) COM– Line Voltage

2) N.O.- Switched Line Voltage

3) L2- High Limit Power

4) L1- High Limit Power

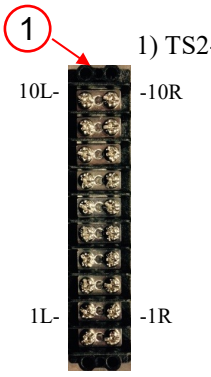
5) RTD

S3 - World Ovens- The High Limit Switch is an electronic, SPST switch. Its purpose is to provide fail safe operation. If the RTD temperature exceeds 650°F/343°C the red LED will turn off and S3 opens to interrupt line voltage to all components. In order to reset the S3, you must unplug the main power supply.

SC - The Suppression Core is placed around the wires after the Power Block and Heating Element Circuit Breaker on our 380/415V models and is used to reduce high frequency interference from the wiring before continuing the other components in the control box.

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

TC - The thermocouple is a type K. It consists of two different conductors that produce a voltage proportional to a temperature difference between either end of the pair of conductors. The TC is connected to P8-1 & P8-2 on the OMC. The millivolt signal is used to display the actual temperature.



1) TS2- Terminal Strip

1L) Power SRC	1R) Power To SSR
2L) Not Used	2R) Power To OMC2
3L) +24 VDC In	3R) 24 VDC Power To OMC1
4L) Not Used	4R) Not Used
5L) Not Used	5R) M3 (+)
6L) Power S2 24 VDC	6R) From OMC
7L) SRC	7R) Cool down Switch
8L) Power Supply	8R) M3 (-)
9L) -24 VDC	9R) -24 VDC
10L) Not Used	10R) Ground

*Above image references Right Hand Control (RH) ovens

TS 2- A terminal strip that serve as a connection point for wires.

1) Incoming Power
    1) Neutral (L1)
    2) Line Voltage (L2)
    3) Not Used (L3)
    4) Ground
2) Digital Inputs
    1) Not Used
    2) Start / Run
    3) Stop Function
    4) Not Used
    5) Not Used
    6) Not Used
    7) COM To TS2
3) Main/Exhaust Fan Power
    1) Ground
    2) Power To Motor (U)
    3) Power To Motor (V)
    4) Power To Motor (W)
4) ModBus Comm

VFD -The Variable Frequency Drive converts 50 Hz power into 60 Hz power so the ovens fan can run at the customer desired RPM's, not to exceed 65 Hz. The VFD converts the AC supply voltage to DC and then converts the DC to a suitable three-phase frequency source for M1. The VFD is turned on via the OMC P11-1. A complete manual can be found at www.xltovens.com.

18 HOOD THEORY OF OPERATION (STD W/FS)

Legend from electrical schematics:

CB	**Circuit Breaker**	**M3**	**Motor, Cooling Fan**	**S**	**Switch**
HMC	**Hood Machine Control**	**PS**	**Power Supply**	**SRC**	**Switch Relocation Cord**
HUI	**Hood User Interface**	**R1**	**Fire Suppression Relay**	**TS**	**Terminal Strip**
LT	**Lamp**	**R2**	**Fire Suppression Time Delay Relay**	**VFD**	**Variable Frequency Drive**
M1	**Motor, Exhaust Fan**				
M2	**Motor, Cooling Fan**	**REC**	**Receptacle**		

When any one of the three oven buttons 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 buttons 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 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.

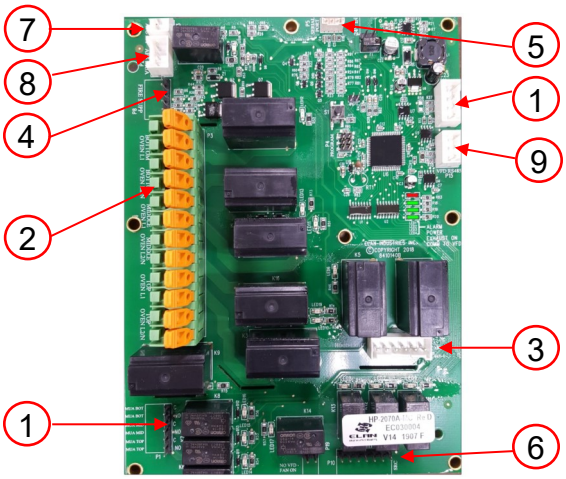
Part 1:

Power for the hood originates at the building's electrical service panel. A total of four (4) circuits are required; one (1) is a single phase high voltage circuit for Variable Frequency Drive (VFD)/Fan circuit that connects to TS-1 and TS-2, and the remaining three (3) circuits are single phase low voltage minimum 20A circuits for each oven that connects at the Hood Machine Control (HMC) P3-1, P3-5, and P3-9 for line side, and neutral will connect at P3-3, P3-7, and P3-11.

The HUI mounted on the hood controls the lighting, VFD activation, Make Up Air (MUA) activation and oven function. When the HUI Light button is touched a relay is closed and voltage goes to the lights. When ovens are installed with a hood, the Switch Relocation Cord (SRC) effectively eliminates the main power button located on the oven and transfers control to HUI buttons on the hood. When HUI controls 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 a relay will allow line voltage to be carried through the SRC to the oven activating it. When the HUI is activated the MUA will turn on. The VFD has a built in power supply that is wired to TS1-1L. 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 TS1-R9 and TS1-R10. When the alarm is activated 24 VDC from TS1-R9 will return from the fire alarm system to TS1-R10 then to HMC P8 to turn off lights, cooling fans, HUI, MUA, shut down ovens and making both relays R1 & R2 switch from NC to NO, causing the VFD to run at 60 Hz.

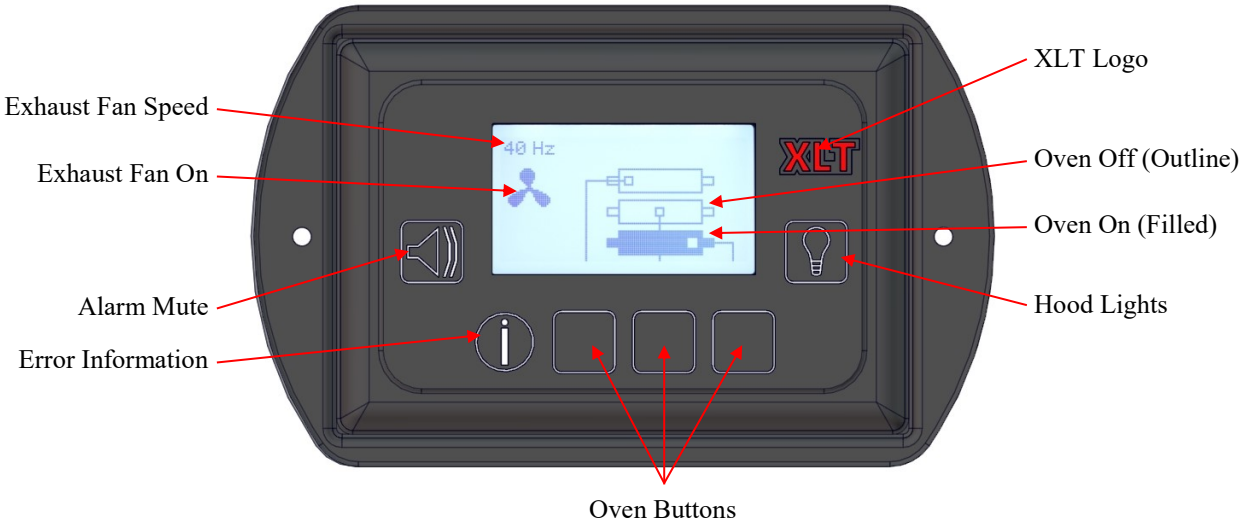
Part 2:

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



1) P1- Dampers
   1) MUA Top
   2) Not Used
   3) MU A Middle
   4) Not Used
   5) MUA Bottom
   6) Common
2) P3- Oven Power
   1) Bottom Oven L1
   2) Not Used
   3) Bottom Oven L2/N
   4) Not Used
   5) Middle Oven L1
   6) Not Used
   7) Middle Oven L2/N
   8) Not Used
   9) Top Oven L1
   10) Not Used
   11) Top Oven L2/N
   12) Not Used
3) P7- Lights/Cooling Fans
   1) By Installer
   2) Light 1
   3) Light 2
   4) To PS CN2-3
   5) +24 VDC To Cooling Fan
   6) +24 VDC To Cooling Fan
4) P8- Fire Suppression
   1) To TS1-10L
   2) To R1-1
   3) Not Used
   4) Not Used
   5) Not Used
5) P9- Power
   1) +24 VDC Power Supply CN2-1
   2) -24 VDC Power Supply CN2-4
6) P10- Switch Relocation Cord
   1) Bottom Oven
   2) Bottom Oven
   3) Middle Oven
   4) Middle Oven
   5) Top Oven
   6) Top Oven
   7) Not Used
7) P13- APS Ex
   1) TS2-4R
   2) TS2-5R
8) P15- VFD
   1) TB2
   2) TB1
   3) Not Used
9) P20- APS MUA
   1) TS2-3R
   2) TS2-2R
   3) TS2-1R
10) P25- Cable to HUI
   1) Black
   2) Orange
   3) White
   4) Red

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 two (2) hours. If error has not been fixed beeping will return. The HMC has filter cleaning reminders available.



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. 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. RS-485 cable supplies power and communication between the HUI and HMC.

LT1 & LT2 - These are light bulbs at each end of the hood that illuminate when the HUI hood lights button is pressed. When pressed again the lights 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 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 power button supplied on the oven. Conversely, when the HUI on the hood is turned off, the corresponding oven is turned off as well.

1) CN2- 24VDC
    1) +24 VDC Power To HMC
    2) +24 VDC Power to Fire Suppression
    3) -24 VDC Power To HMC
    4) -24 VDC Ground
2) CN1- Line Voltage
    1) Neutral
    2) Not Used
    3) Line Voltage

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

R1 - Is a Single Pole Double Throw (SPDT) relay, which is an electrically operated switch, an electromagnet is used to operate a switching mechanism. Voltage is supplied from TS1-9R to ANSUL agent box. Once the fire alarm is activated voltage returns to TS1-10 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 60Hz.

R2 - Is a SPDT time delay relay, which is an electrically operated switch, an electromagnet is used to operate a switching mechanism. Voltage continues from R1-6 to R2 via the red wire activating the coil in the relay, causing the contacts in the relay to switch from NC to NO after one second has expired. This action delays the application of the voltage on terminal 5 on the VFD.

REC 1, 2, & 3 - These are electrical receptacles, which supply line voltage for the ovens. Each receptacle should have a 20A dedicated breaker supplied from the buildings electrical panel. Line voltage to each receptacle is supplied via HMC P3. If the fire alarm is activated P3 will disrupt line voltage being supplied to receptacles shutting the oven(s) off.

REC 4, 5, & 6 - These are circular electrical receptacles mounted on the back of the hood. The SRC connects into these. This deactivates the main power button located on the oven and relocates the operation of it to the HUI. This capacitive touch (NO) button 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.

1) Incoming Power
    1) Neutral
    2) Line Voltage
    3) Not Used
    4) Ground
2) Not Used-VFD Relay
3) Digital Inputs
    1) Stop Function
    2) Start / Run
    3) Not Used
    4) COM To TS2
    5) Not Used
    6) Not Used
4) Exhaust Fan Power
    1) Power To Motor
    2) Power To Motor
    3) Power To Motor
    4) Not Used
    5) Not Used
5) ModBus Comm

VFD - The Variable Frequency Drive 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.

1) Incoming Power
    1) Neutral (L1)
    2) Line Voltage (L2)
    3) Not Used (L3)
    4) Ground
2) Digital Inputs
    1) Not Used
    2) Start / Run
    3) Stop Function
    4) Not Used
    5) Not Used
    6) Not Used
    7) COM To TS2
3) Main/Exhaust Fan Power
    1) Ground
    2) Power To Motor (U)
    3) Power To Motor (V)
    4) Power To Motor (W)
4) ModBus Comm

(NOTE: VFD based on Date Of Mfg.)

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 all circuit breakers on the oven control panel and on the back of the control box to ensure they have not been tripped.
3. Check to see that the circuit breakers in the building electrical service panel have not been tripped or turned off.
4. Check to see that the oven is fully assembled. All of the fingers must be properly installed. Incorrect or incomplete finger placement can cause a "windy" condition that can cause the burner not to light.
5. In the case of the oven not lighting properly. Turn off the oven and wait approximately thirty (30) seconds or until the fan stops spinning and turn the oven back on.
6. (World Installations) If using the Sail Switches check the HUI for error messages relating the Sail Switch sequencing.

HIGH VOLTAGE

Proceed with caution and read the following instructions carefully when unplugging the units.

Hard Reset

If your oven still does not function properly, perform a hard reset. First, power down the unit then unplug the unit from all electrical power. Leave the unit unplugged for one (1) minute. Once this is done, plug the unit back in and turn on the power.

LUI Service Error Codes

Display Alarm	MC LED	Error Determination	Troubleshooting
Oven Probe	Alarm LED on. Flash HEAT LED. All other LED's operate as normal.	Temp Sensor Error, Open or Short. Temp <40F (4C) or >700F (371C)	Perform A Hard Reset. If Error Still Exists, Contact XLT.
PCB Temp Probe	Alarm LED on. Flash HEAT LED. All other LED's operate as normal.	Temp Sensor Error, Open or Short.	Perform A Hard Reset. If Error Still Exists, Contact XLT.
Ignition Error	Alarm LED on. Flash HEAT LED. All other LED's operate as normal.	From Ignition enable (run) signal, if oven doesn't see 25F (-4C) temp rise in three (3) minuites. If restart (actual temp within 50F (10C) of set point) error timing ten (10) minutes.	Perform A Hard Reset. If Error Still Exists, Contact XLT.
Over Temp	Alarm LED on. Flash HEAT LED. All other LED's operate as normal.	Temp is 50F (10C) over set point for period > one (1) minute. If user adjusts set point lower, inhibit alarm until new set point is reached.	Perform A Hard Reset. If Error Still Exists, Contact XLT.
Under Temp	Alarm LED on. Flash HEAT LED. All other LED's operate as normal.	Once set point is reached, the Actual is 15F (-9C) under set point for more than thirty (30) minutes. If user adjusts set point, reset timer.	Perform A Hard Reset. If Error Still Exists, Contact XLT.
Over Speed	Alarm LED on. Flash CONVEYOR LED. All other LED's operate as normal.	Speed > thirty (30) seconds fast Duration vs. Set Point	Perform A Hard Reset. If Error Still Exists, Check LUI Settings. If Settings Are Correct, Perform A Pan Test To Confirm Settings. If Error Still Exists, Contact XLT.
Under Speed	Alarm LED on. Flash CONVEYOR LED. All other LED's operate as normal.	Speed > thirty (30) seconds slow Duration vs. Set Point	Check Drive Chain and Sprocket To Verify Proper Working Condition. Perform A Hard Reset. If Error Still Exists, Check LUI Settings. If Settings Are Correct, Perform A Pan Test To Confirm Settings. If Error Still Exists, Contact XLT.
Software Error	Alarm LED flash. All other LEDs off.	Internal Software Error	Check for pinched wires. Perform A Hard Reset. If Error Still Exists, Contact XLT.
EEPROM Error	Alarm LED flash. All other LEDs off.	Bad Checksum	Perform A Hard Reset. If Error Still Exists, Contact XLT.
Key Short	Alarm LED flash. All other LEDs off.	Any Key Shorted > one (1) minute.	Clean LUI Screen. Perform A Hard Reset.If Error Still Exists, Contact XLT.
Comm Error	Alarm LED flash. All other LEDs off.	Internal Software Error	Perform A Hard Reset. If Error Still Exists, Contact XLT.
Hi Alarm	Alarm LED on. Flash HEAT LED. All other LED's operate as normal.	Hi Alarm set point exceeded.	Perform A Hard Reset. If Error Still Exists, Contact XLT.
Main Fan Low Amps	Alarm LED on. Flash FAN LED. All other LED's operate as normal.	Amps below min level per Main Fan Amp level table for ten (10) seconds.	Perform A Hard Reset. If Error Still Exists, Contact XLT.
Main Fan High Amps	Alarm LED on. Flash FAN LED. All other LED's operate as normal.	Amps above max level per Main Fan Amp level table for ten (10) seconds.	Check CB1 To See If It Has Tripped. If Yes, Reset CB1. If No, Perform A Hard Reset. If Error Still Exists, Contact XLT.
Belt Jam	Conveyor LED flash. All other LED's operate as normal.	If the current motor speed is less than 25% of the most recent minimum motor speed.	Check For Obstructions. If No Obstructions Are Found, Check Drive Chain and Sprocket To Verify Proper Working Condition. Perform A Hard Reset. If Error Still Exists, Contact XLT.

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

HIGH VOLTAGE

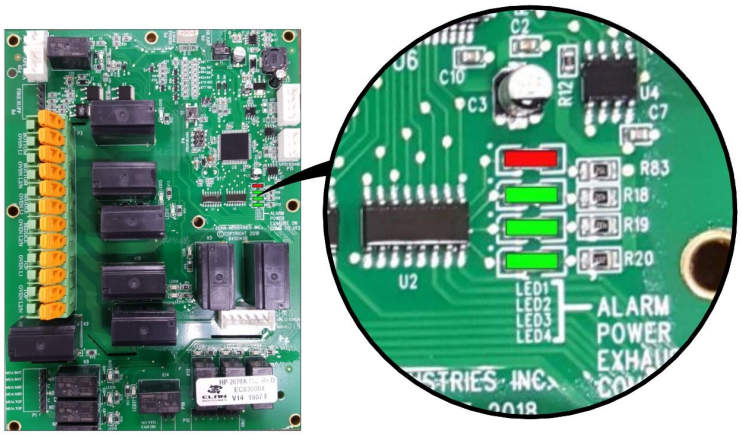
Removing the hood VFD cover panel exposes high voltage. Proceed with caution and read the following instructions carefully.

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.

Hood Machine Control LED Lights

1. When the Red LED is lit it indicates an MC error.
2. When the first Green LED is lit it indicates power to MC.
3. When the second Green LED is lit it indicates that the exhaust fan on.
4. When the third Green LED is lit it indicates the MC communication to the VFD.



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

- F004 DC bus voltage fell below minimum value
- F005 DC bus voltage exceeded maximum value
- F007 Motor Overload
- F008 Heat sink Over Temp
- F013 Ground Fault
- F081 Comm Loss- RS-485 port stopped communicating

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

1. Remove VFD control box access panel.
2. Determine cause of error code.
3. Resolve the condition that is causing error.
4. Cycle the VFD Power.
   Circuit breaker must be turned off for ten (10) seconds to allow complete shut down of VFD before turning back on.

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

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

TIP

Read the entire instruction before programming.

ENTER Used to select and save parameters.

UP Increases the setting of the selected parameter.

DOWN Decrease the setting of the selected parameter.

To enter factory tech mode press both UP and DOWN button simultaneously for ten (10) seconds and the following parameters will be displayed: *Displays will auto-exit programming screens after five (5) seconds of no activity.

1. Software Version
2. Serial Number Entry
3. Elapsed Time:
    - Total Hours.
    - Hours Since Filter has been Cleaned.
4. Belt Length: 32 = 1832 36 = 2336 40 = 2440 or 3240 50 = 3250 55 = 3255 or 3855 or 4455 65 = 3265 70 = 3270 or 3870 80 = 3280 or 3880
5. Main Fan Type: Defaults to ON/OFF
6. Split Belt: Defaults to No.
7. Dual Burner: Defaults to No
8. Fuel Type:
    - Gas or Electric Options.
9. Remote Hood Switch Installed: Defaults to No.
10. Temperature Offset Adjustments:
    - Offset shown in degrees Fahrenheit.
11. High Temperature range from 590°F (310°C) to Low Temperature.
12. Low Temperature range from 300°F (150°C) to High Temperature.
13. Main Fan (Amps):
    - Press ENTER to see isolated Amp load.
14. Belt Direction: Defaults to right to left.
    - Defaults to Right to Left
    - Can be switched to left to right without physically changing the wire belt direction.
15. Main Fan Off Delay: Defaults to auto 225°F (107°C)
16. Beeper Button Test
17. Done:
    - Press ENTER to return to operating screen.

Conveyor Speed Settings

TIP

Read the entire instruction before programming.

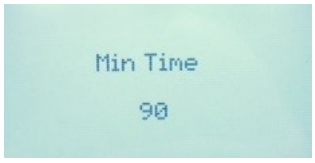
ENTER Used to select and save parameters.

HIDDEN Behind the XLT is a hidden button. This is used along with the up and down button to access the programming mode.

UP Increases the setting of the selected parameter.

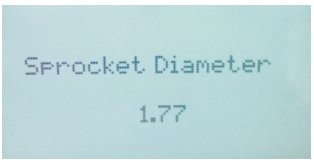
DOWN Decrease the setting of the selected parameter.

To enter conveyor settings, press and hold three (3) buttons (HIDDEN, UP, and DOWN) for ten (10) seconds to enter. Displays will auto-exit programming screens after five (5) seconds of no activity.

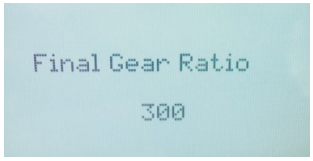


Min Time
Factory default is 90. To change, press ENTER. Use Up/Down arrows to change time which is shown in seconds. Press ENTER to accept and advance.

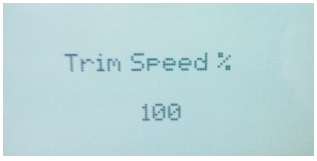
Max Time
Factory default is 1200. To change, press ENTER. For 1832 use 1020 and all other models will be 1200. Use Up/Down arrows to change time which is shown in seconds. Press ENTER to accept and advance.



Sprocket Diameter
Factory default is 1.77. To change, press ENTER. Use Up/Down arrows to change diameter. Press ENTER to accept and advance.



Final Gear Ratio
Factory default is 300. To change, press ENTER. Use Up/Down arrows to change gear ratio. Press ENTER to accept and advance.



Trim Speed
Factory default is 101. To change, press ENTER. Use Up/Down arrows to change trim speed. Press ENTER to accept and advance.

Directional Change of the Conveyor Belt

The conveyor belt is non-directional. This means there is NO physical change of the belt when wanting to change direction. To change the direction:

Standard Belt

1. Enter Factory Tech Mode by pressing and holding the two (2) arrow buttons for ten (10) seconds.
2. Press Down arrow to cycle through screens.
3. On Belt Direction, press ENTER (direction will flash) and use Up/Down arrows to change.
4. Press ENTER to accept and advance.

Split Belt

1. Enter Factory Tech Mode by pressing and holding the two (2) arrow buttons for ten (10) seconds.
2. Press Down arrow to cycle through screens.
3. On Belt Direction, press ENTER (FRONT belt will flash) and use Up/Down arrows to change FRONT belt direction.
4. Press ENTER to accept.
5. Press ENTER (FRONT belt will flash).
6. Use the time (clock) button to toggle to BACK belt and use Up/Down arrows to change.
7. Press ENTER to accept and advance.

Invertek VFD (World) Programming Procedure

TIP

Read the entire instruction before programming.

START When in keypad mode, used to Start a stopped drive or to reverse the direction of rotation if bi -directional keypad mode is enabled.

UP Used to increase speed in real-time mode or to increase parameter values in parameter edit mode.

DOWN Used to decrease speed in real-time mode or to decrease parameter values in parameter edit mode.

NAVIGATE Used to display real-time information, to access and exit parameter edit mode and to store parameter changes.

RESET/STOP Used to reset a tripped drive. When in Keypad mode, used to Stop a running drive.

With the Oven Control switched off and power connected to the oven, the VFD should show “Stop” on the display.

CAUTION

Do Not Exceed 65 Hz On VFD Settings.

Programming Instructions For Factory Parameters

1. Press and hold NAVIGATE > 2 seconds.
2. Press UP Arrow until (P-14) is displayed and press NAVIGATE.
3. Press UP Arrow until (201) is displayed and press NAVIGATE to save and return to parameter menu.
4. Press UP Arrow until (P-15) is displayed and press NAVIGATE.
5. Press UP Arrow until (2) is displayed and press NAVIGATE to save and return to parameter menu.
6. Press UP Arrow until (P-17) is displayed and press NAVIGATE.
7. Press UP Arrow until (24) is displayed and press NAVIGATE to save and return to parameter menu.
8. Press UP Arrow until (P-20) is displayed and press NAVIGATE.
9. Press DOWN Arrow until (0.0) is displayed and press NAVIGATE to save and return to parameter menu.
10. Press UP Arrow until (P-21) is displayed and press NAVIGATE.
11. Press UP Arrow until (60.0) is displayed and press NAVIGATE to save and return to parameter menu.
12. Press UP Arrow until (P-51) is displayed and press NAVIGATE.
13. Press UP Arrow until (1) is displayed and press NAVIGATE to save and return to parameter menu.
14. Press DOWN Arrow until (P-38) is displayed and press NAVIGATE.
15. Press UP Arrow until (1) is displayed and press NAVIGATE to save and return to parameter menu.
16. Press and hold NAVIGATE > 2 seconds to return to operating display.

TIP

Read the entire instruction before programming.

Programming Instructions For Lower Than 60 Hz

1. Press and hold NAVIGATE for > 2 seconds.
2. Press UP Arrow until (P-38) is displayed and press NAVIGATE.
3. Press DOWN Arrow until (0) is displayed and press NAVIGATE to save and return to parameter menu.
4. Press DOWN Arrow until (P-21) is displayed and press NAVIGATE.
5. Press DOWN Arrow until desired Hz is displayed and press NAVIGATE to save and return to parameter menu.
6. Press UP Arrow until (P-38) is displayed and press NAVIGATE.
7. Press UP Arrow until (1) is displayed and press NAVIGATE to save and return to parameter menu.
8. Press and hold NAVIGATE > 2 seconds to return to operating display.

Programming Instructions For Up To 65 Hz Max

1. Press and hold NAVIGATE for > 2 seconds.
2. Press UP Arrow until (P-38) is displayed and press NAVIGATE.
3. Press DOWN Arrow until (0) is displayed and press NAVIGATE to save and return to parameter menu.
4. Press DOWN Arrow until (P-1) is displayed and press NAVIGATE.
5. Press UP Arrow until (65.0) is displayed and press NAVIGATE to save and return to parameter menu.
6. Press UP Arrow until (P-21) is displayed and press NAVIGATE.
7. Press UP Arrow until desired Hz is displayed and press NAVIGATE to save and return to parameter menu.
8. Press UP Arrow until (P-38) is displayed and press NAVIGATE.
9. Press UP Arrow until (1) is displayed and press NAVIGATE to save and return to parameter menu.
10. Press and hold NAVIGATE for > 2 seconds to return to operating display.

Allen Bradley Power Flex 4M Restoring XLT Hood Defaults

TIP

Read the entire instruction before programming.

To reset VFD settings change P112 to one (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=2	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.

ENTER Used to select and save parameters.

SELECT Advances one step in programming menu. Selects a digit when viewing parameter values.

ESCAPE Used to return to previous menu.

UP Increases the setting of the selected parameter.

DOWN Decrease the setting of the selected parameter.

Complete VFD manual available at www.xltovens.com.

The VFD controller is adjusted at the factory to the values displayed in the chart below.

	VFD Controller Settings						
	Ovens On			1832, 2336 & 2440	3240, 3250DS & 3255	3855	4455
	Top	Middle	Bottom				
Single	X			20 Hz	25 Hz	30 Hz	30 Hz
Double	X			20 Hz	25 Hz	30 Hz	30 Hz
			X	20 Hz	30 Hz	35 Hz	45 Hz
	X		X	20 Hz	30 Hz	35 Hz	45 Hz
Triple	X			20 Hz	25 Hz	30 Hz	30 Hz
		X		20 Hz	30 Hz	35 Hz	45 Hz
			X	30 Hz	35 Hz	40 Hz	50 Hz
	X	X		20 Hz	30 Hz	35 Hz	45 Hz
	X		X	30 Hz	35 Hz	40 Hz	50 Hz
		X	X	30 Hz	35 Hz	40 Hz	50 Hz
	X	X	X	30 Hz	35 Hz	40 Hz	50 Hz
Fire Suppression				60 Hz DO NOT CHANGE			

* DS ovens only available in single and double stacks.

If you require either more or less air flow, follow these steps: (Reference Hood User Interface image on next page)

1. Press & hold the LIGHTS and XLT LOGO buttons to enter into factory tech mode.
2. Use the Up/Down arrows to reach manual air balance.
3. Press and hold ENTER button for three (3) seconds. Entire row will flash.
4. Scroll to desired oven setting. Press ENTER.
5. +/- should flash and it allows +/- change up to 10 Hz.
6. Press ENTER to save changes.
7. Press ON to test air balance.

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:

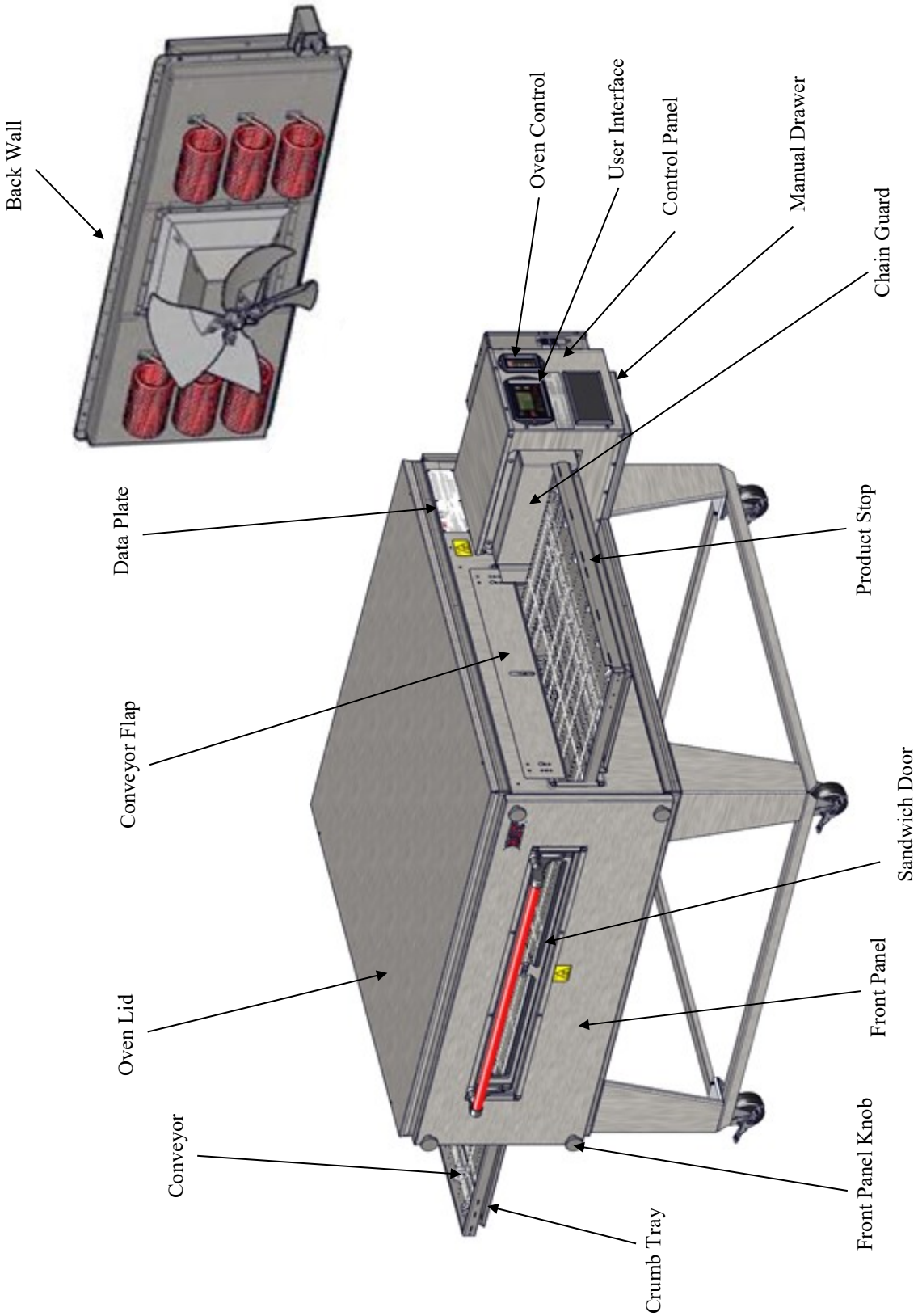
- Model #
- Serial #
- Manufacture Date
- Phone #
- Contact name
- Bill to
- Ship to
- Credit card information

NOTE

CALL FOR PRICING.

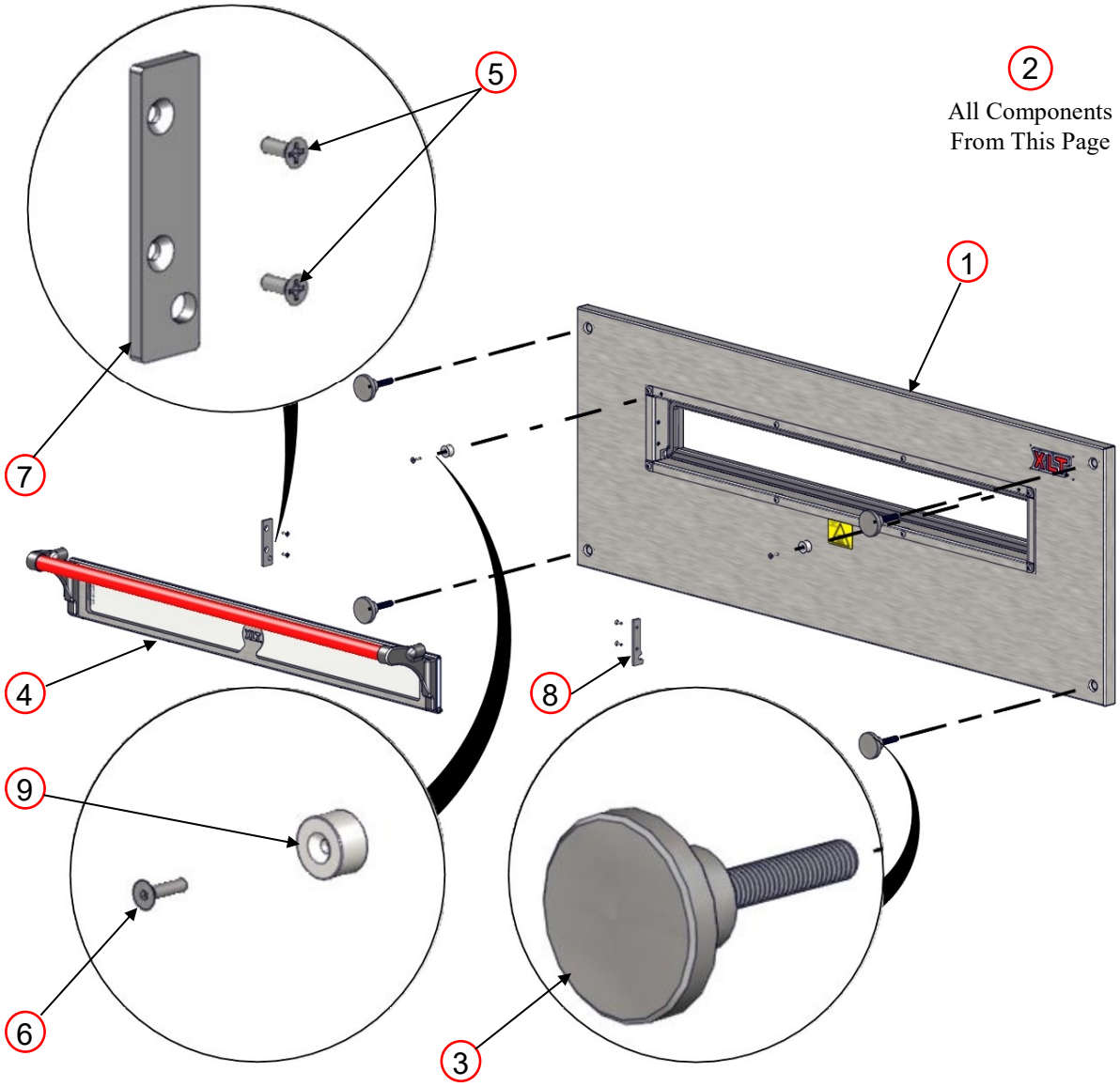
NOTE

All parts images are for reference only. Some design characteristics differ by model. **All prices are subject to change, contact XLT for current prices.**

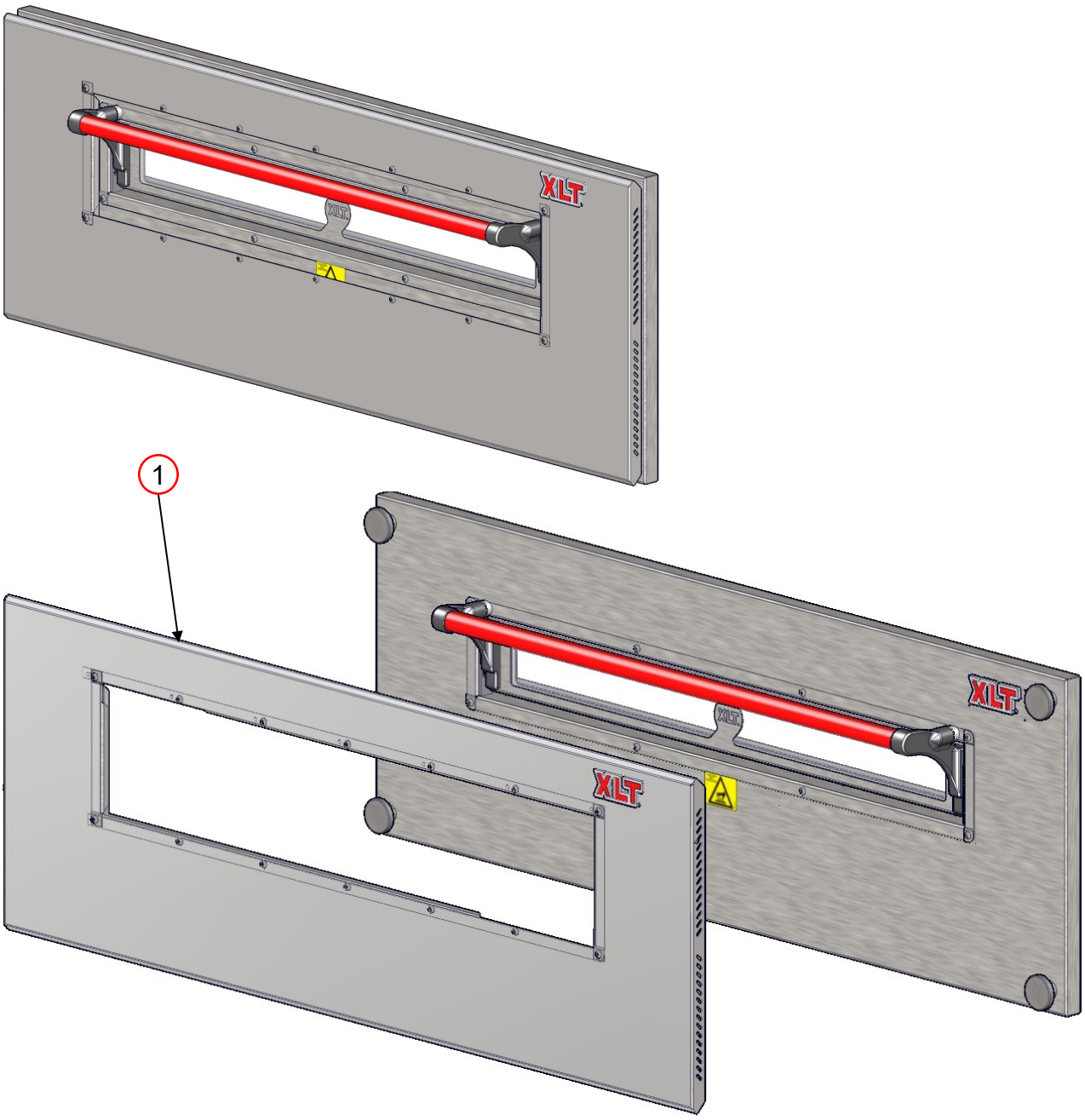

Back Wall
Oven Control
User Interface
Control Panel
Manual Drawer
Chain Guard
Data Plate
Product Stop
Conveyor Flap
Sandwich Door
Oven Lid
Front Panel
Conveyor
Front Panel Knob
Crumb Tray

WARNING

Individuals with pacemakers or internal medical devices should not handle strong rare-earth magnets. These magnets are found in the sandwich door assembly.



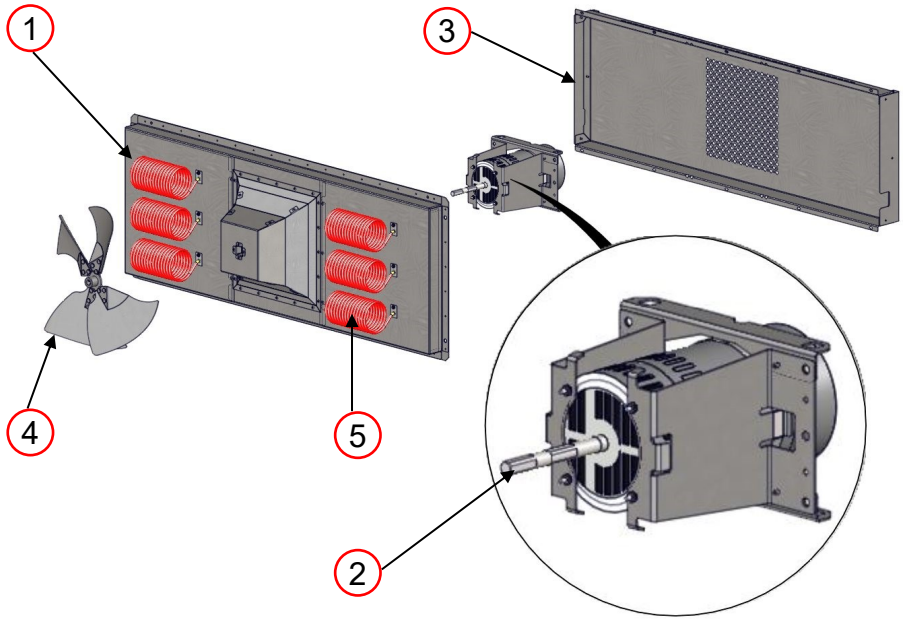
FRONT PANEL		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	XA 6400	Front Panel
2	XA 6500	Front Panel Assembly
3	XA 6505	Front Panel Knob
4	XA 6600	Sandwich Door
5	XF 126-2	Screw 10-24 x 1/2
6	XF 242	Screw 10-24 x 1/2
7	XM 6703	Door Retainer Left
8	XM 6704	Door Retainer Right
9	XP 6519	Window Steel Slug



EXTENDED FRONT PANEL		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	XA 6700	Extended Front Panel

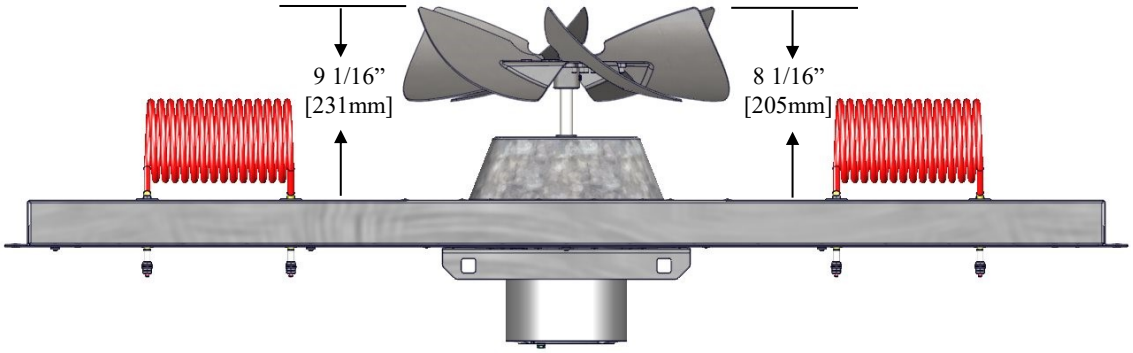
Front Panel information required:

- Size of Oven
- Short or Long Sandwich Door, or No Door
- Stainless, Wood, or Painted Handle

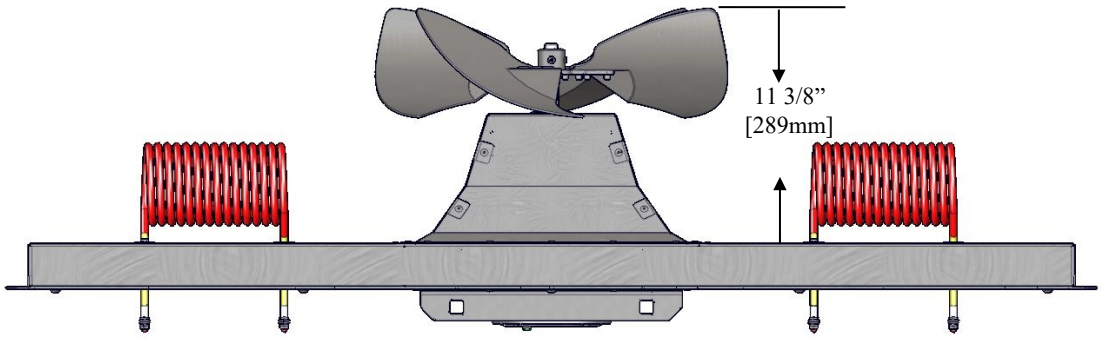


Installed Fan Height

1832 and 2440 only



2336 only



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
2336-208 V					x	3		
2336-240 V							x	3
2336-380 V							x	3
2440-208 V	x	6						
2440-240 V			x	6				
2440-380 V			x	6				
3240-208 V	x	6						
3240-240 V			x	6				
3240-380 V			x	6				
3250-DS-208 V					x	6		
3250-DS-240 V							x	6
3250-DS-380 V							x	6
3255-208 V					x	6		
3255-240 V							x	6
3255-380 V							x	6
3855-208 V					x	6		
3855-240 V							x	6
3855-380 V							x	6
4455-208 V					x	6		
4455-240 V							x	6
4455-380 V							x	6

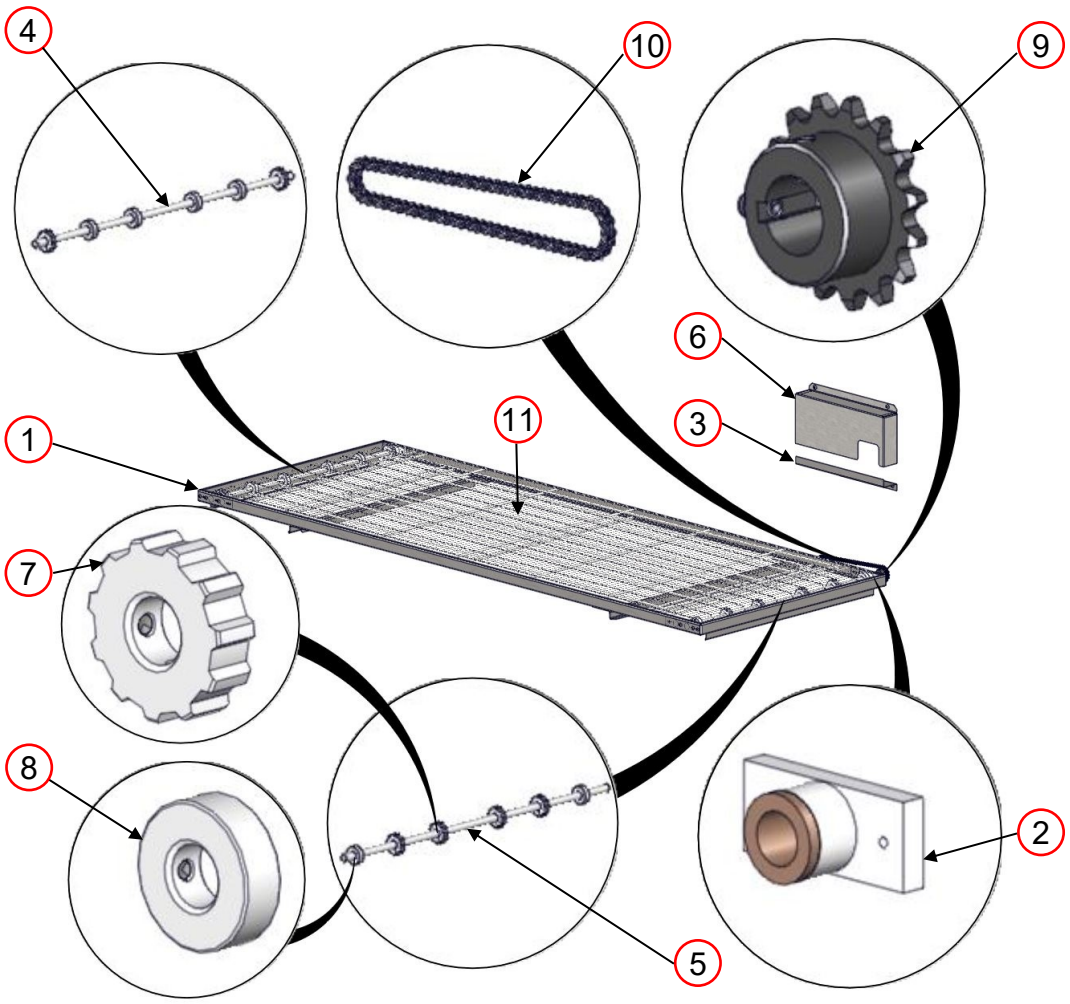
BACK WALL - STANDARD		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	XA 5001	Back Wall Assembly
2	XA 5009-75	Oven Fan Motor M1
3	XA 5121	Motor Cover Assembly ELECTRIC
4	XA 5200	Fan Blade
5	XP 5201/5202	Heating Element

BACK WALL - WORLD		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	XA 5001	Back Wall Assembly
2	XA 5009-75-3PH	Oven Fan Motor 3 Phase M1
3	XA 5121	Motor Cover Assembly ELECTRIC
4	XA 5200	Fan Blade
5	XP 5201/5202	Heating Element

Back Wall information required:

- Size of Oven
- Voltage

Standard Belt

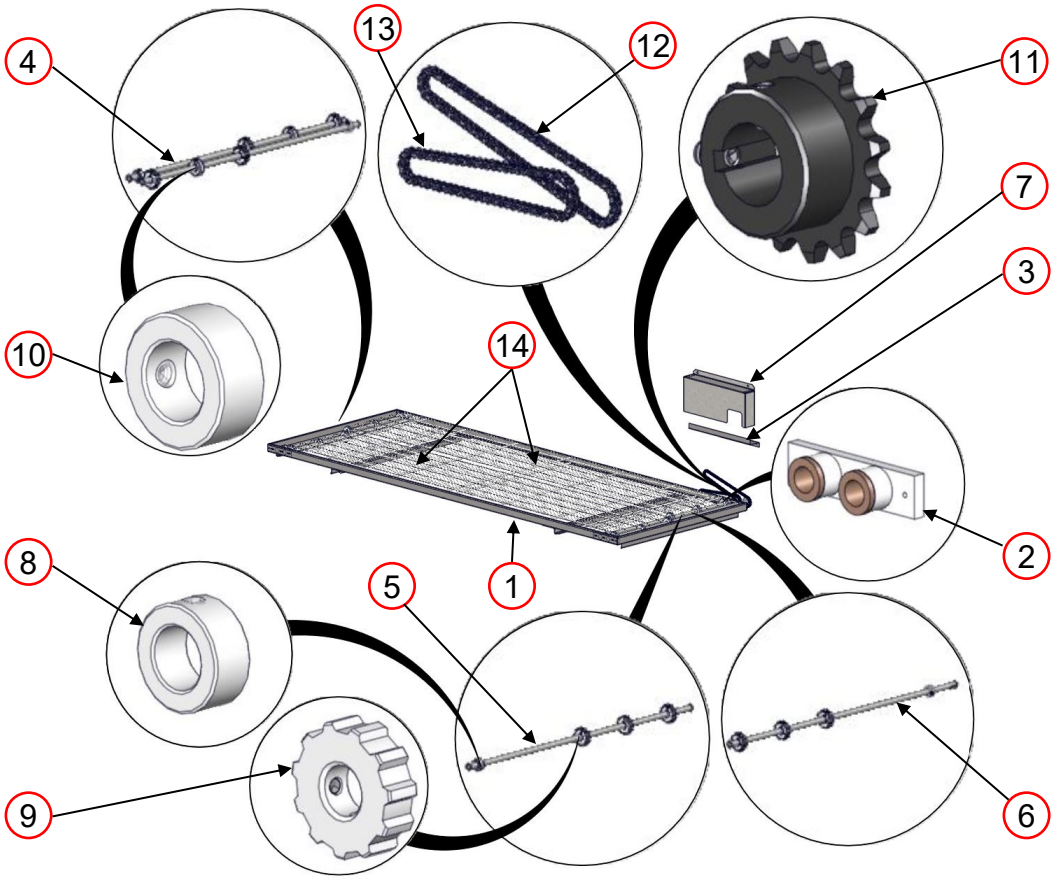


CONVEYOR		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	XA 7000	Conveyor Assembly Complete
2	XA 7200	Conveyor Bearing Assembly
3	XM 4006	Chain Guard Lower
4	XM 7301	Conveyor Shaft Idle
5	XM 7302	Conveyor Shaft Drive
6	XM 9508	Chain Guard
7	XP 7403	Conveyor Roll Notched
8	XP 7404	Conveyor Roll Plain
9	XP 9503	Conveyor Sprocket Driven 15
10	XP 9505	Roller Chain
11	XP 9506	Conveyor Belt

Conveyor information required:

- Oven Size
- Right or Left Hand Controls

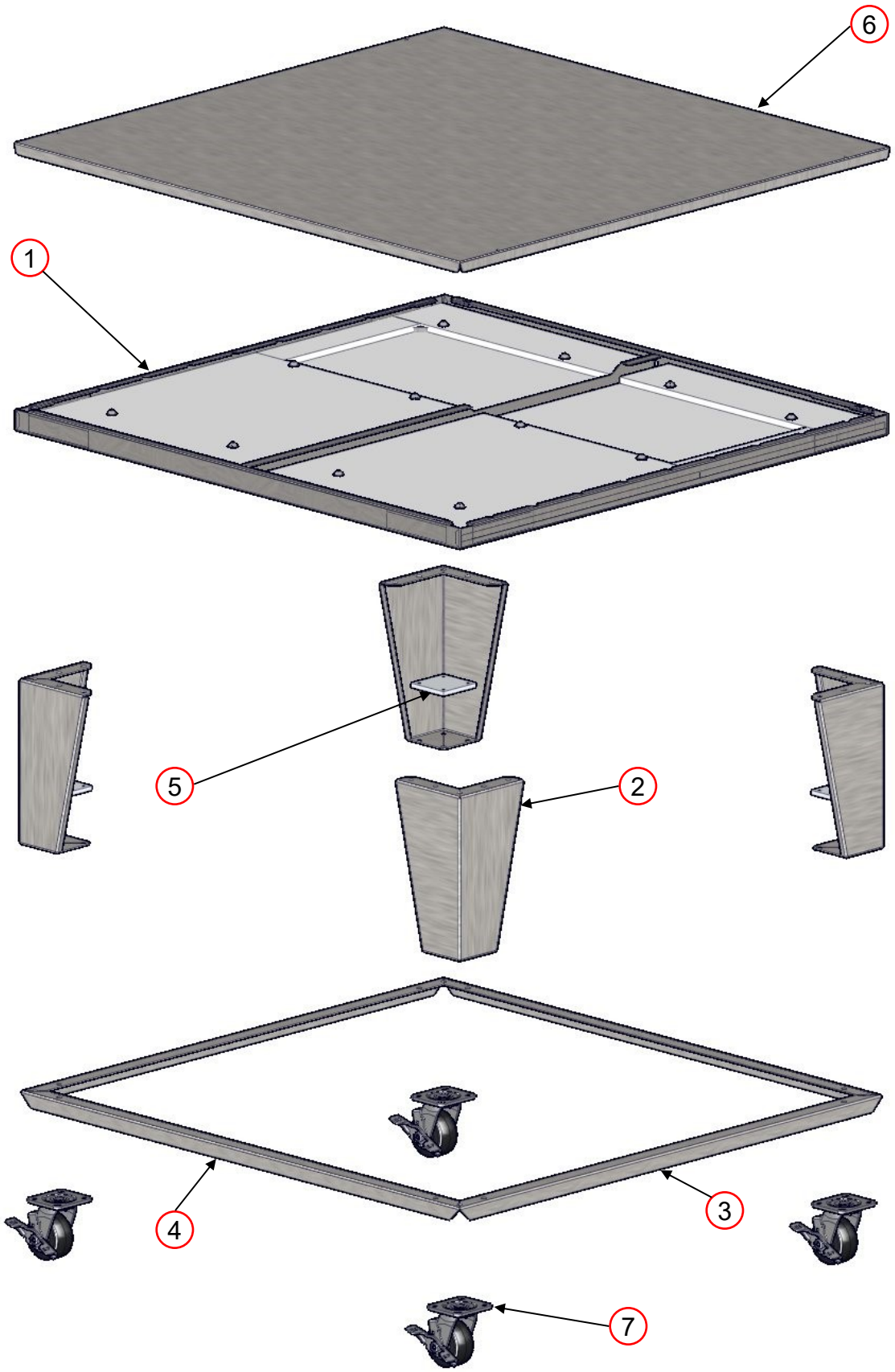
Split Belt



CONVEYOR		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	XA 7000	Conveyor Assembly
2	XA 7200	Conveyor Bearing Assembly
3	XM 4006	Chain Guard Lower
4	XM 7303	Conveyor Shaft Idle
5	XM 7304	Conveyor Shaft Drive SB INSIDE
6	XM 7305	Conveyor Shaft Drive SB OUTSIDE
7	XM 9508	Chain Guard
8	XP 7206	Shaft Collar
9	XP 7403	Conveyor Roll Notched
10	XP 7404	Conveyor Roll Plain
11	XP 9503	Conveyor Sprocket Driven 15
12	XP 9505	Roller Chain
13	XP 9505-SB	Roller Chain Split Belt
14	XP 9506	Conveyor Belt

Conveyor information required:

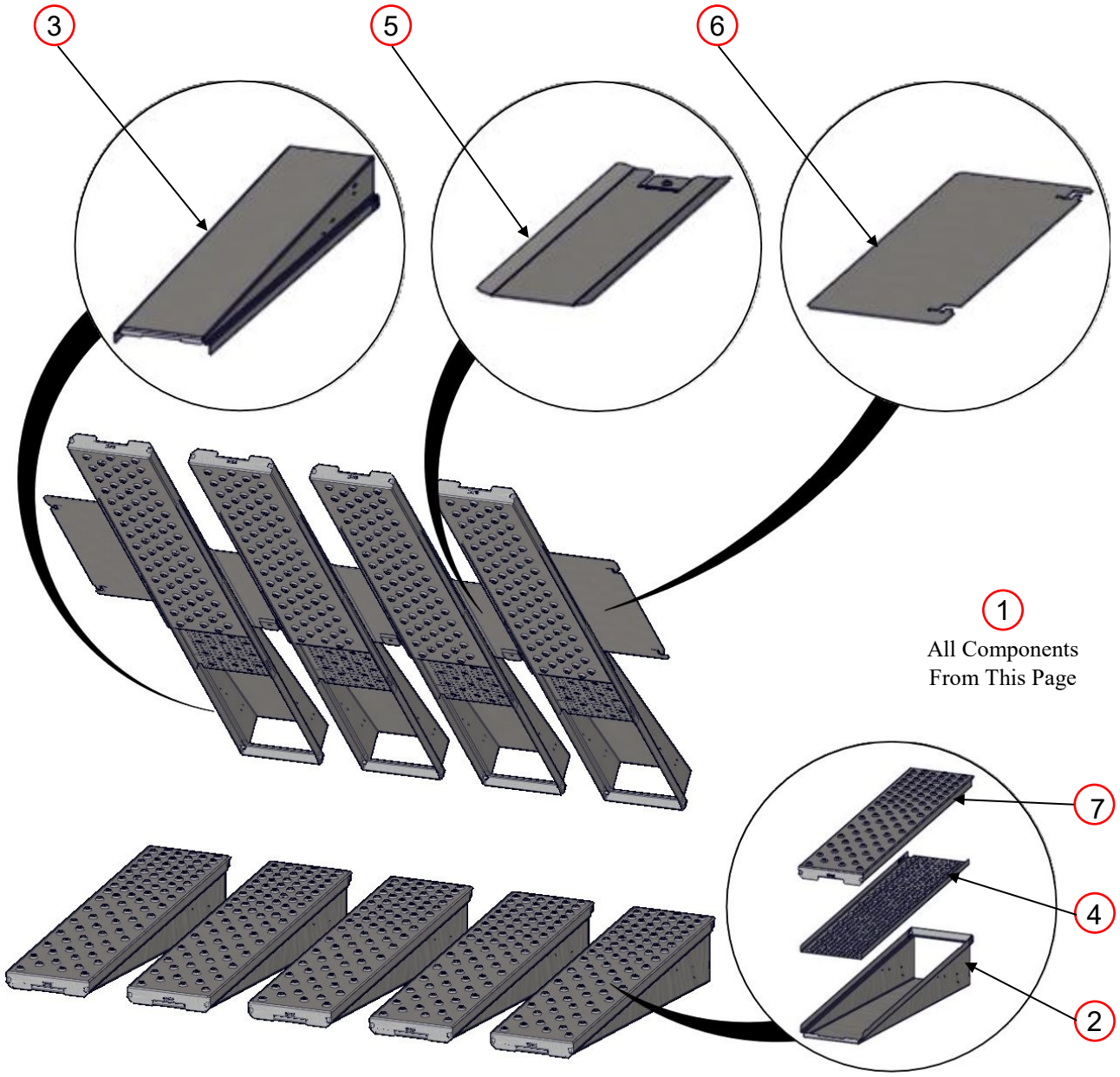
- Oven Size
- Right or Left Hand Controls


6
1
5
2
4
3
7

BASE		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	XA 1001	Base Assembly Bare
2	XM 1003-15	Base Leg
3	XM 1006	Side Leg Angle
4	XM 1007	Front/Back Leg Angle
5	XM 1008	Bolster Plate
6	XM 1010	Oven Lid
7	XP 1004	Caster

Base information required:

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

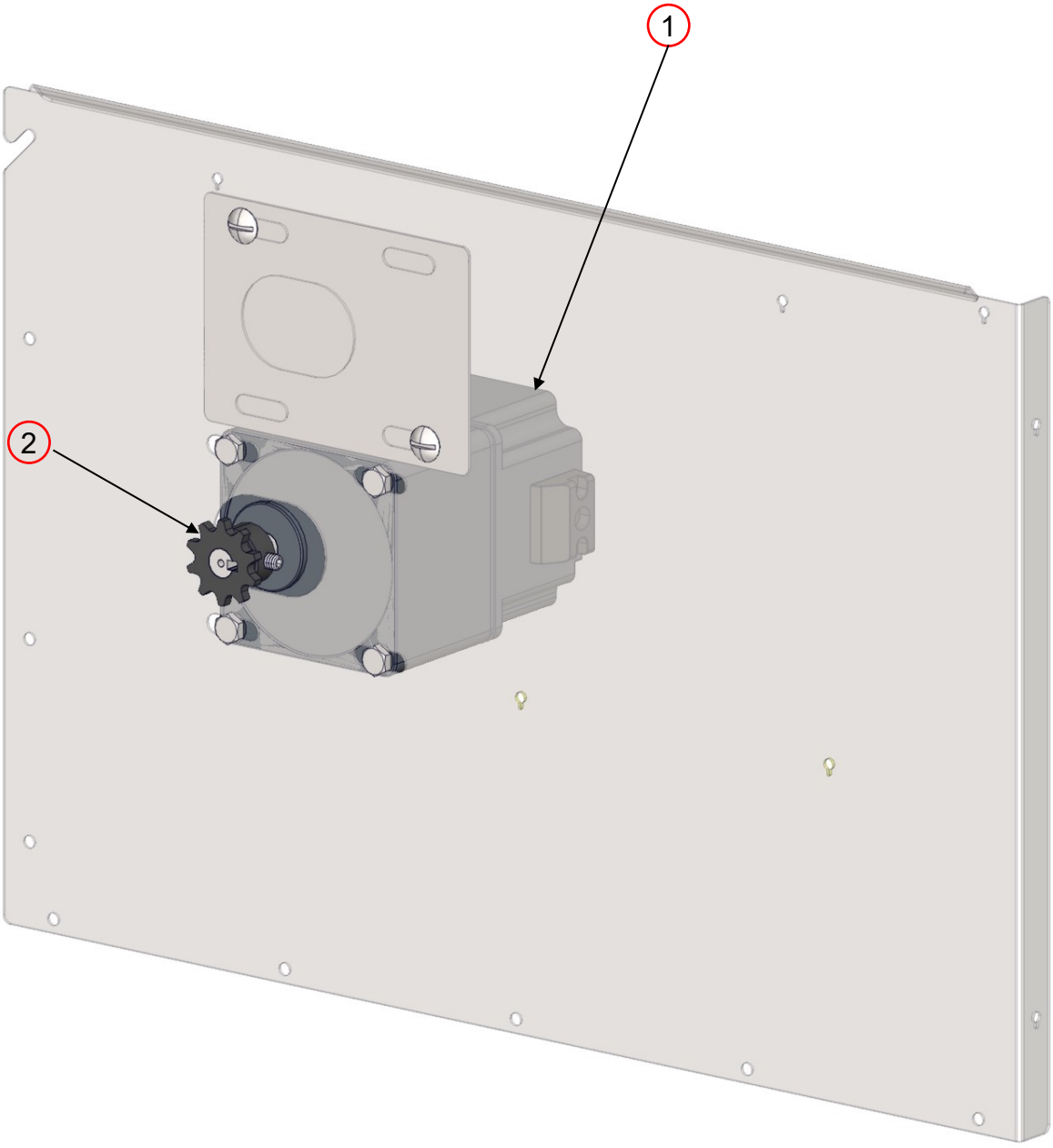

3
5
6
1
All Components
From This Page
7
4
2

FINGERS		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	XA 8Hxxxx	Finger Group Assembly
2	XA 8001-B	Finger Body Bottom
3	XA 8001-T	Finger Body Top
4	XM 8004	Finger Inner Plate Perforated
5	XM 8024	Return Air Plate
6	XM 8025	Endloss Plate
7	XM 8xxx	Finger Outer Plate

Finger information required:

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

Standard Belt

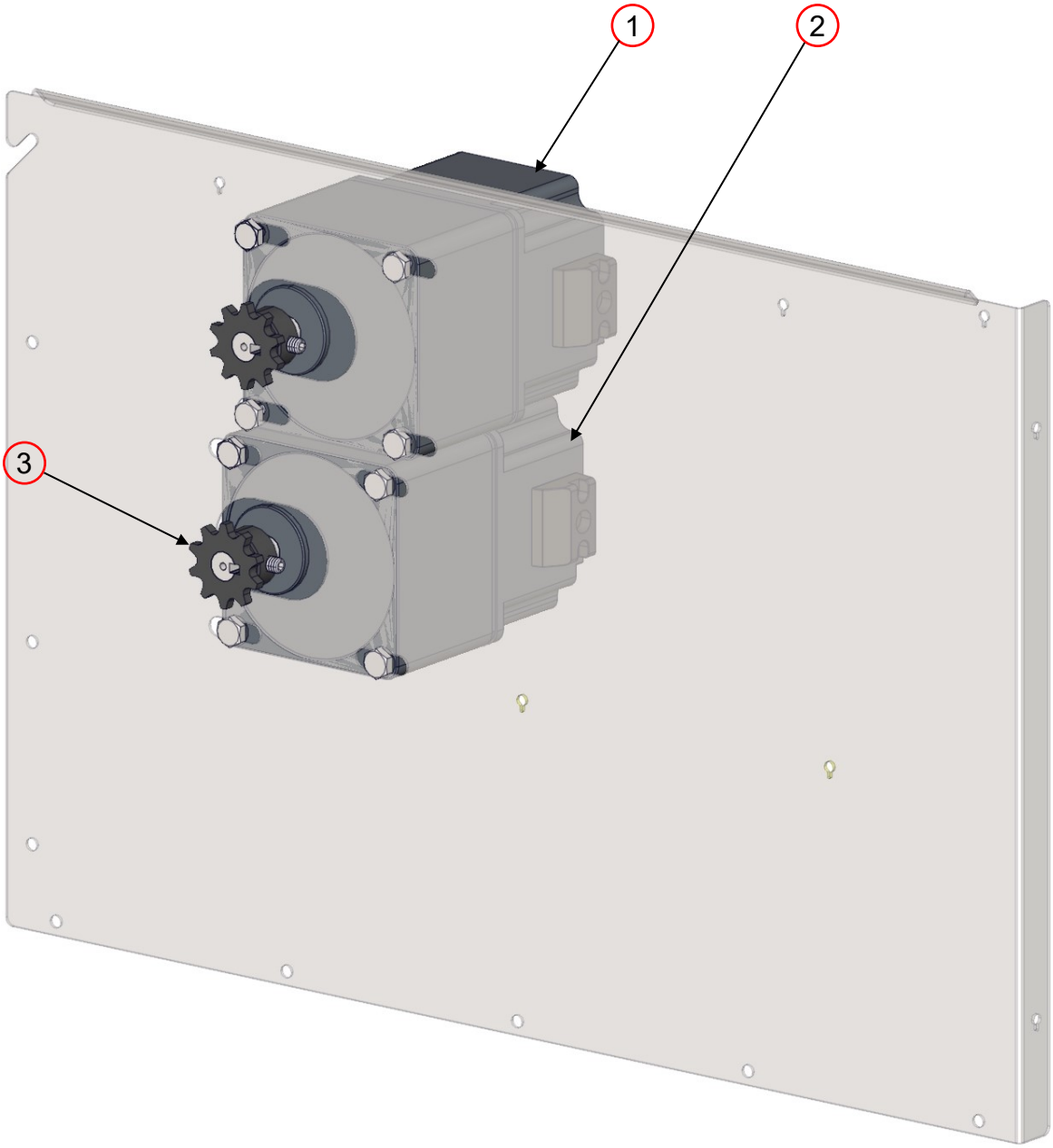


CONTROL BOX FRONT - Standard Belt		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	XA 4117A-ZD ST	Conveyor Motor Assembly ZD Standard
2	XP 4155A-12mm	Sprocket Conveyor Drive 10T

Control Box Front information required:

- Size of Oven

Split Belt

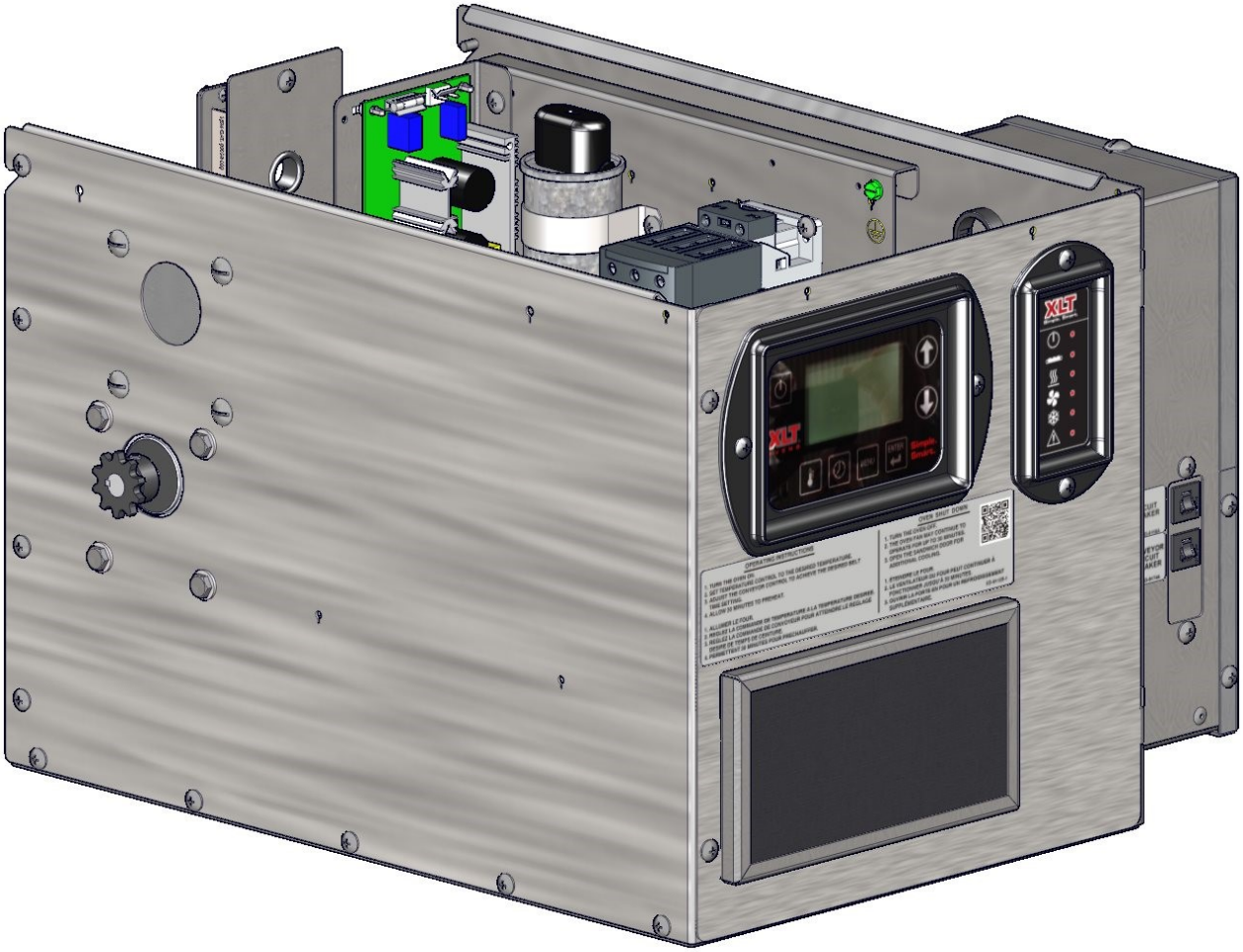


CONTROL BOX FRONT - Split Belt		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	XA 4117A-ZD SB	Conveyor Motor Assembly ZD Split
2	XA 4117A-ZD ST	Conveyor Motor Assembly ZD Standard
3	XP 4155A-12mm	Sprocket Conveyor Drive 10T

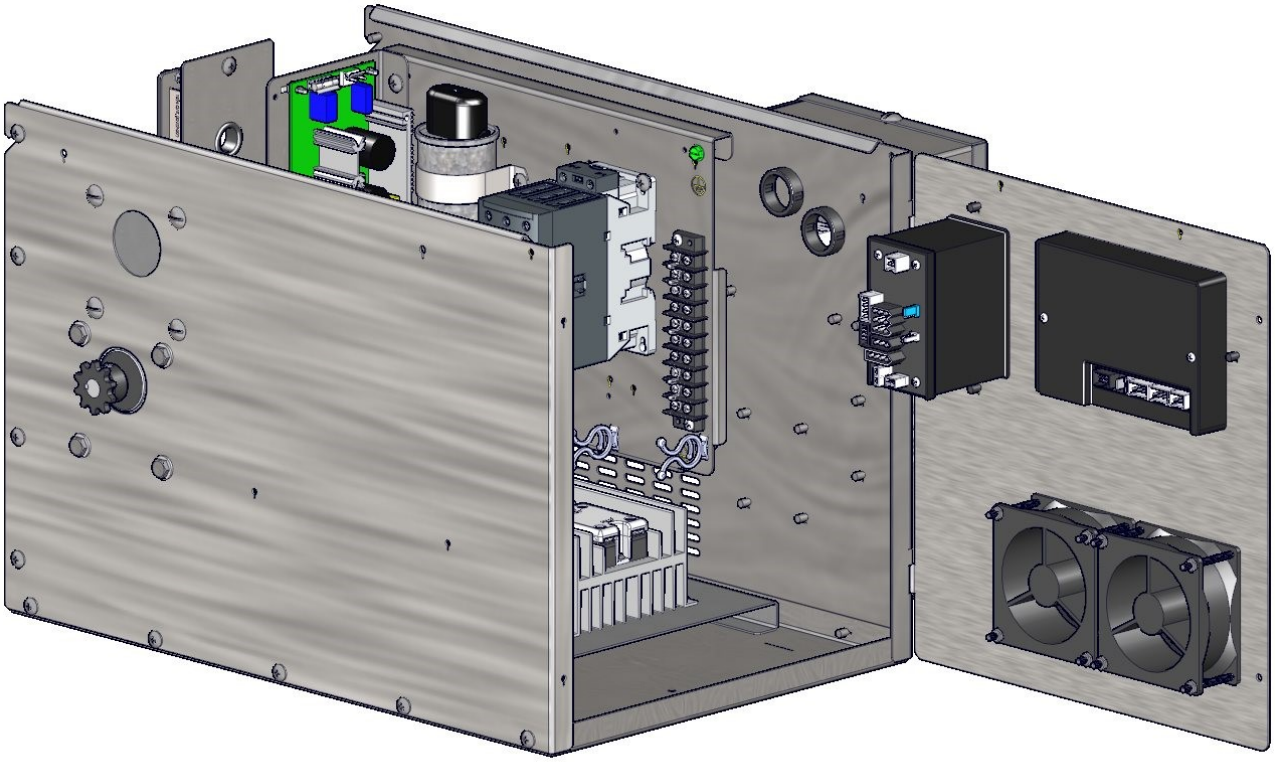
Control Box Front information required:

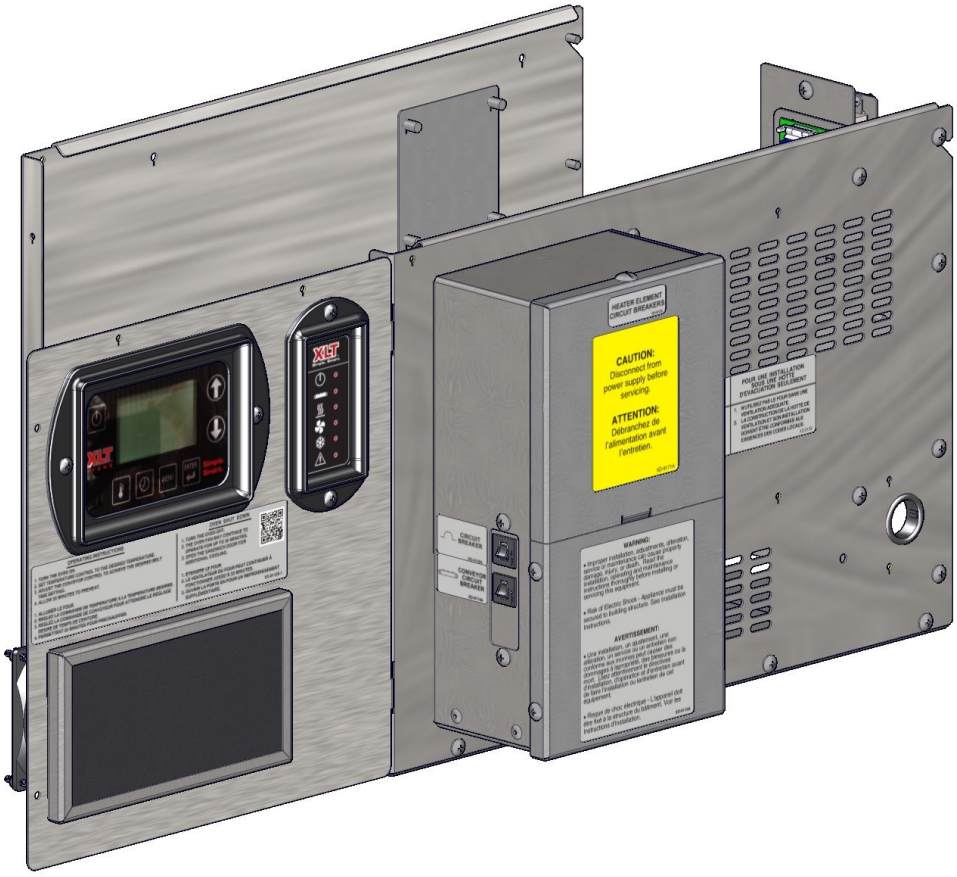
- Size of Oven

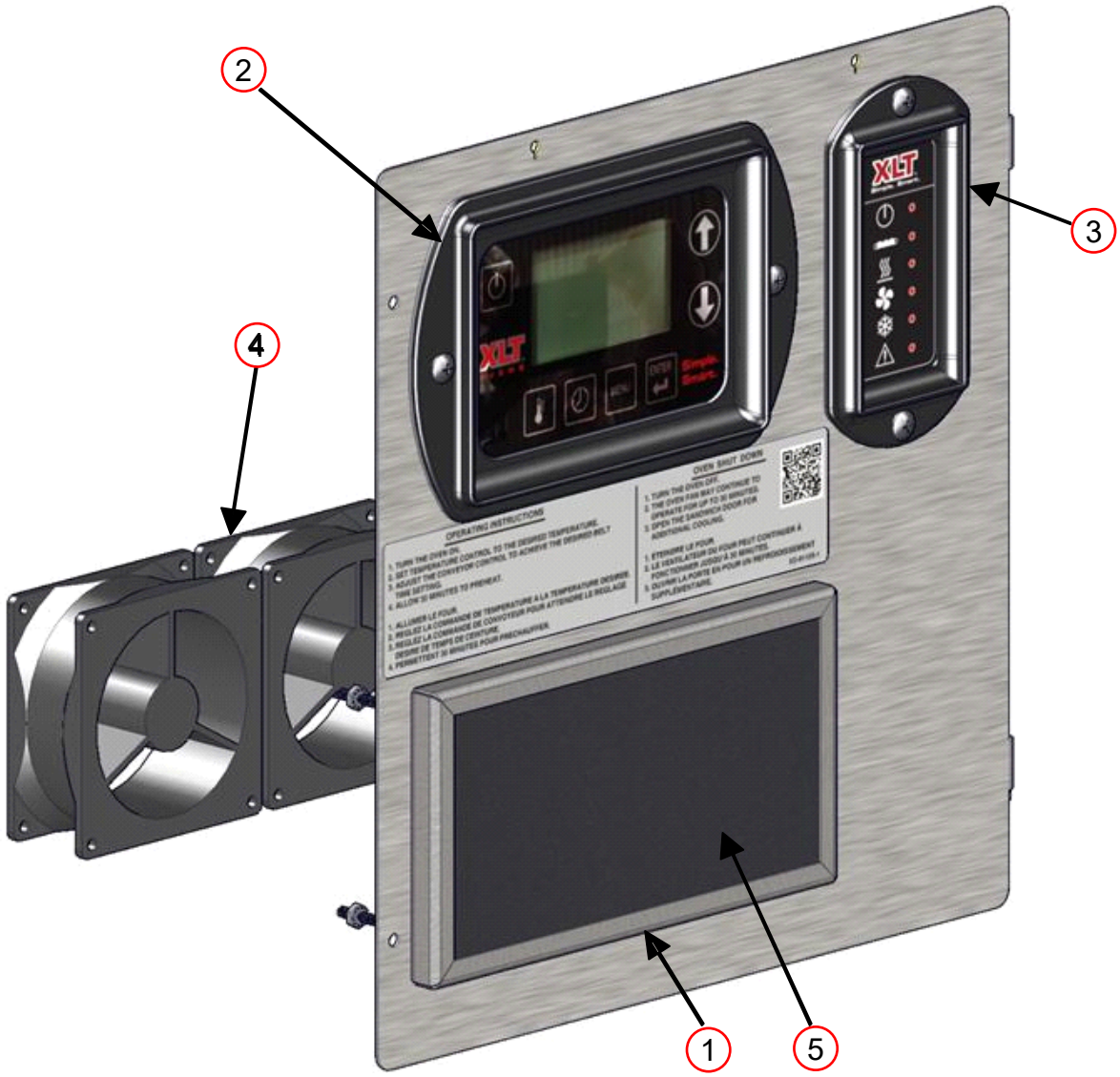
Operating Position (shown with lid removed)



Service Position



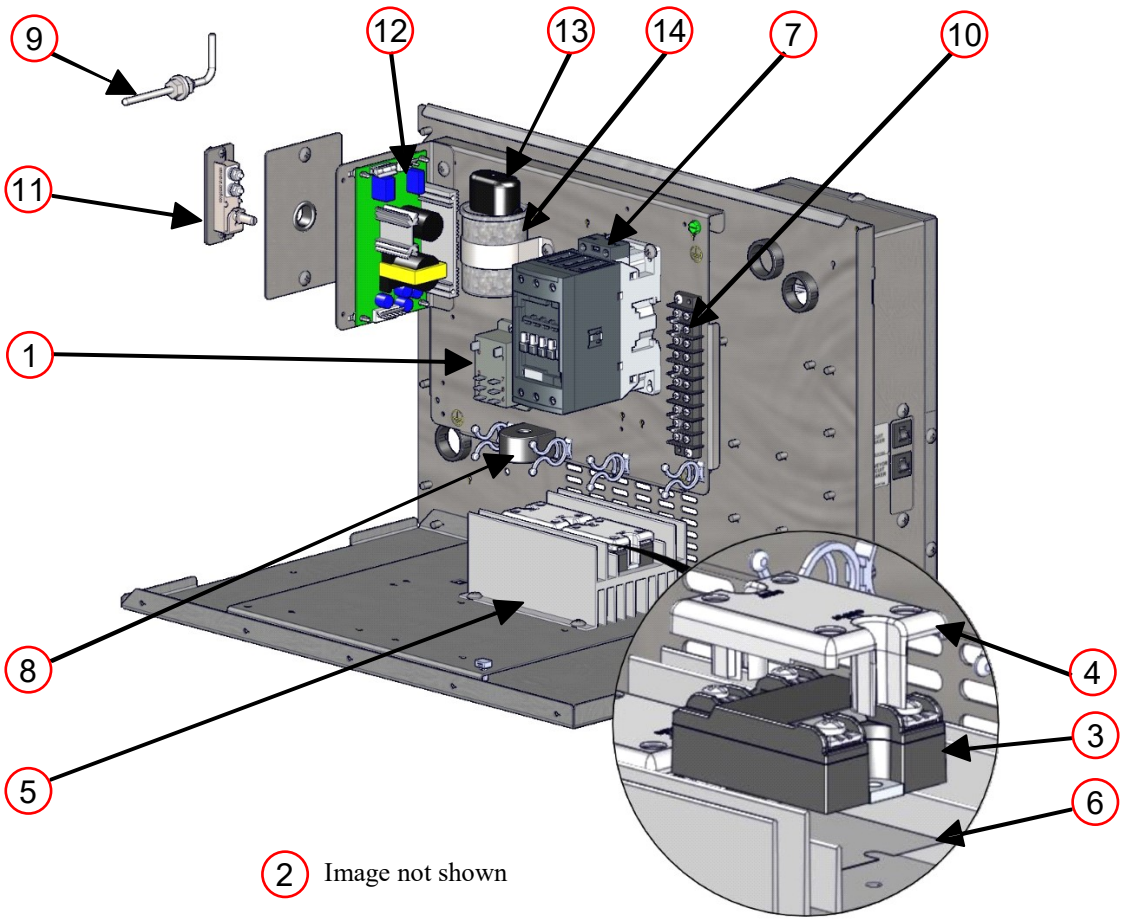




CONTROL PANEL		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	SP 4520-EL	Fan Guard / Filter Repl Kit ELE
2	XP 4170-LUI	Large User Inferface LUI
3	XP 4175-MC	Oven Machine Control OMC
4	XP 4501-EL	Cooling Fan EL M3
5	XP 4520-EL	Fan Filter

Control Panel information required:

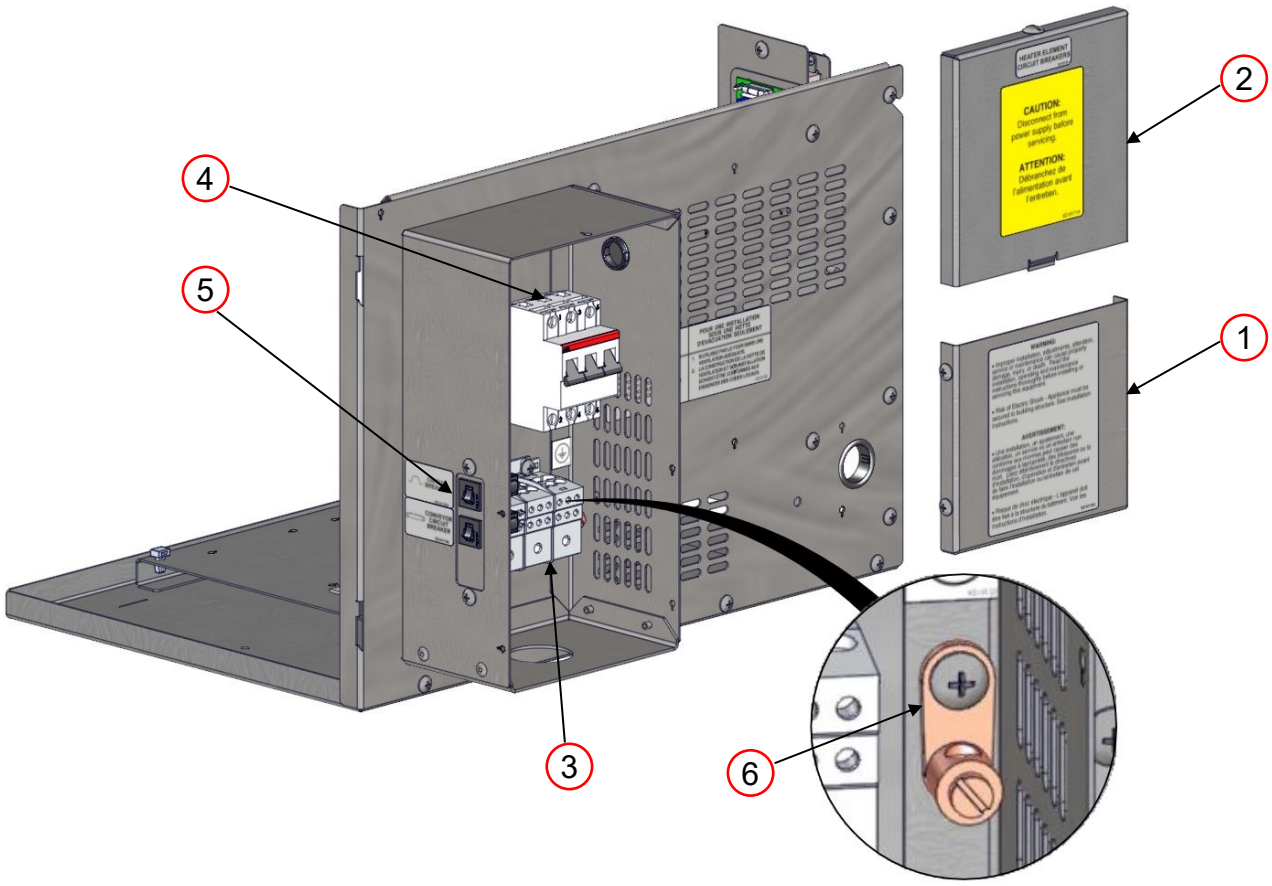
- Size of Oven
- Voltage
- Circuit Breaker amp rating
- Conveyor Belt direction



CONTROL BOX INTERIOR		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	HP 2067-24VDC	Oven Fan Motor Relay R1
2	XH-4117A-Elan	Conveyor Motor Jumper Harness
3	XP 4305-90	Solid State Relay, 90 Amp SSR
4	XP 4305-90-COV	Solid State Relay Cover
5	XP 4305-90-HS	Solid State Relay Heat Sink
6	XP 4305-90-PAD	Solid State Relay Thermal Pad
7	XP 4306-70	Contactor, 70 Amp C1-C2
8	XP 4310	Current Sensor CS
9	XP 4509-90	Thermocouple Type K 39 TC
10	XP 4701-10	Terminal Strip 10 Place TS
11	XP 4713	High Limit Switch S3
12	RP 4717	Power Supply PS
13	XP 5012	Capacitor Boot
14	XP 5014-30	Capacitor Baldor 3/4 HP 30uF CAP

Control Box Interior information required:

- Size of Oven
- Voltage

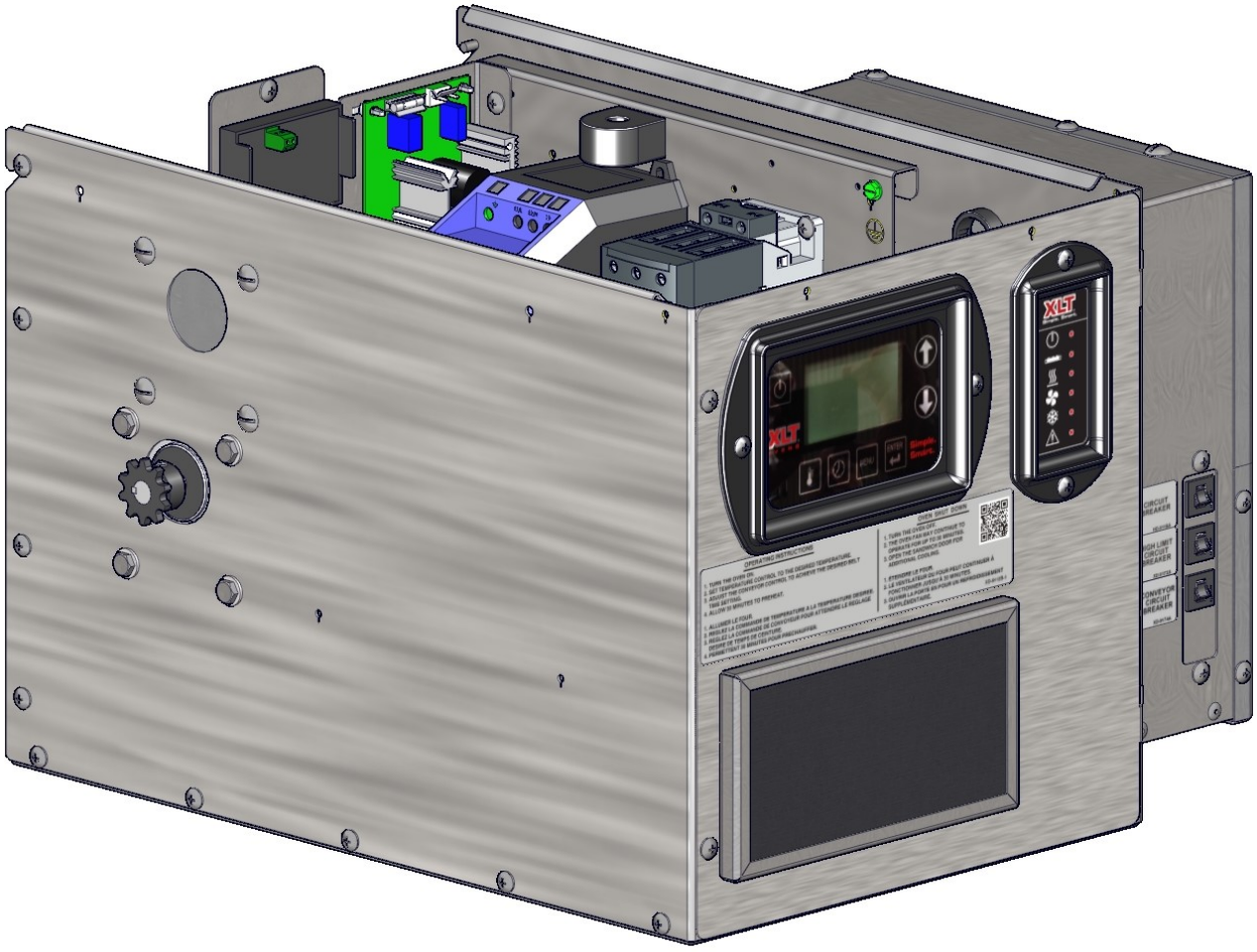


CONTROL BOX REAR		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	XM 4052	Circuit Breaker Cover EL Bottom
2	XM 4053	Circuit Breaker Cover EL Top
3	XP 4302	Power Block Electric PB
4	XP 4303	3 Pole Circuit Breaker EL CB
5	XP 4515-CB	Circuit Breaker CB
6	XP 4707	Ground Lug Copper World

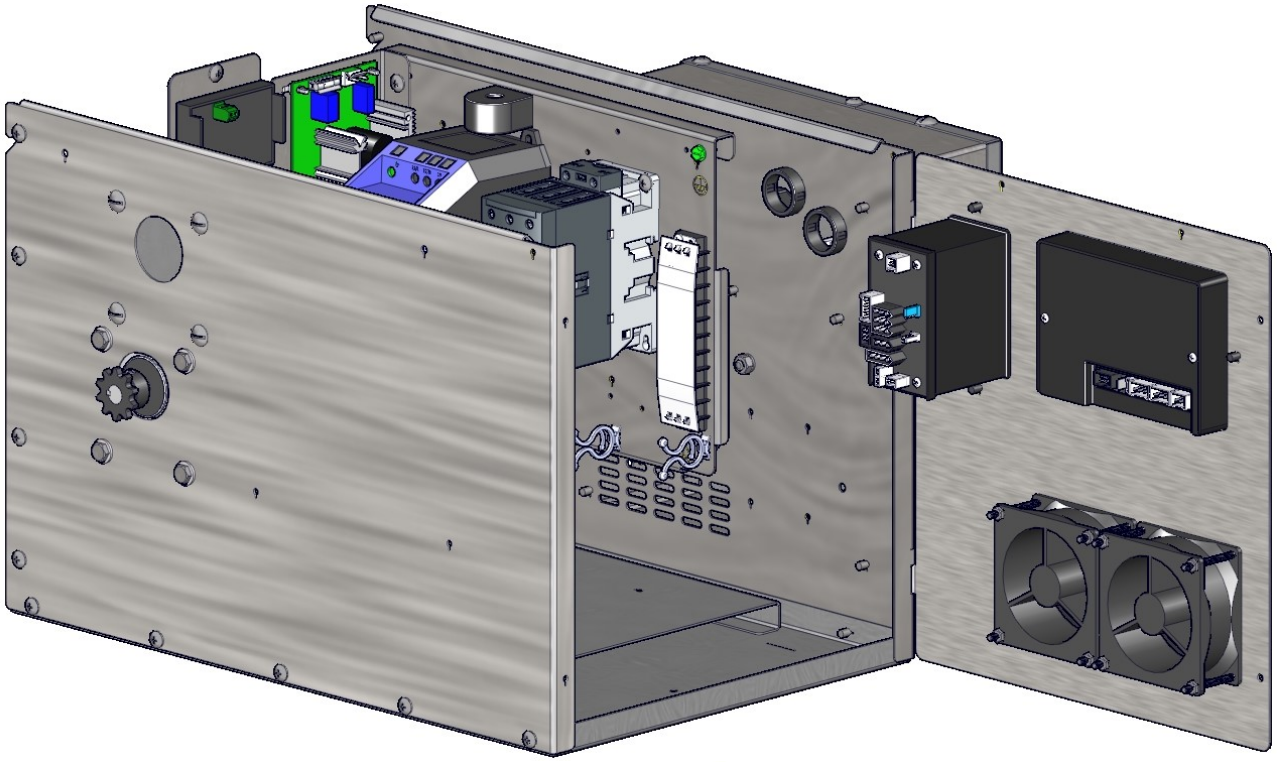
Control Box Rear information required:

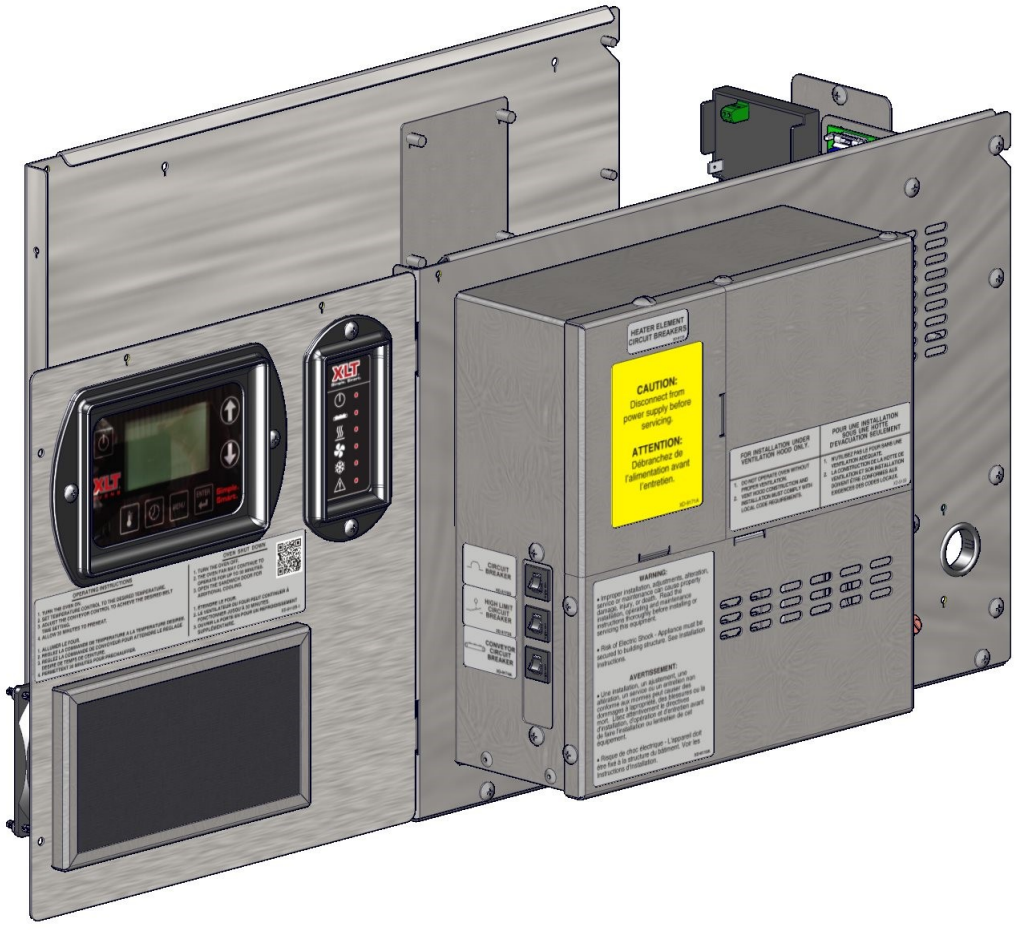
- Size of Oven
- Circuit Breaker amp rating
- Voltage

Operating Position (shown with lid removed)



Service Position

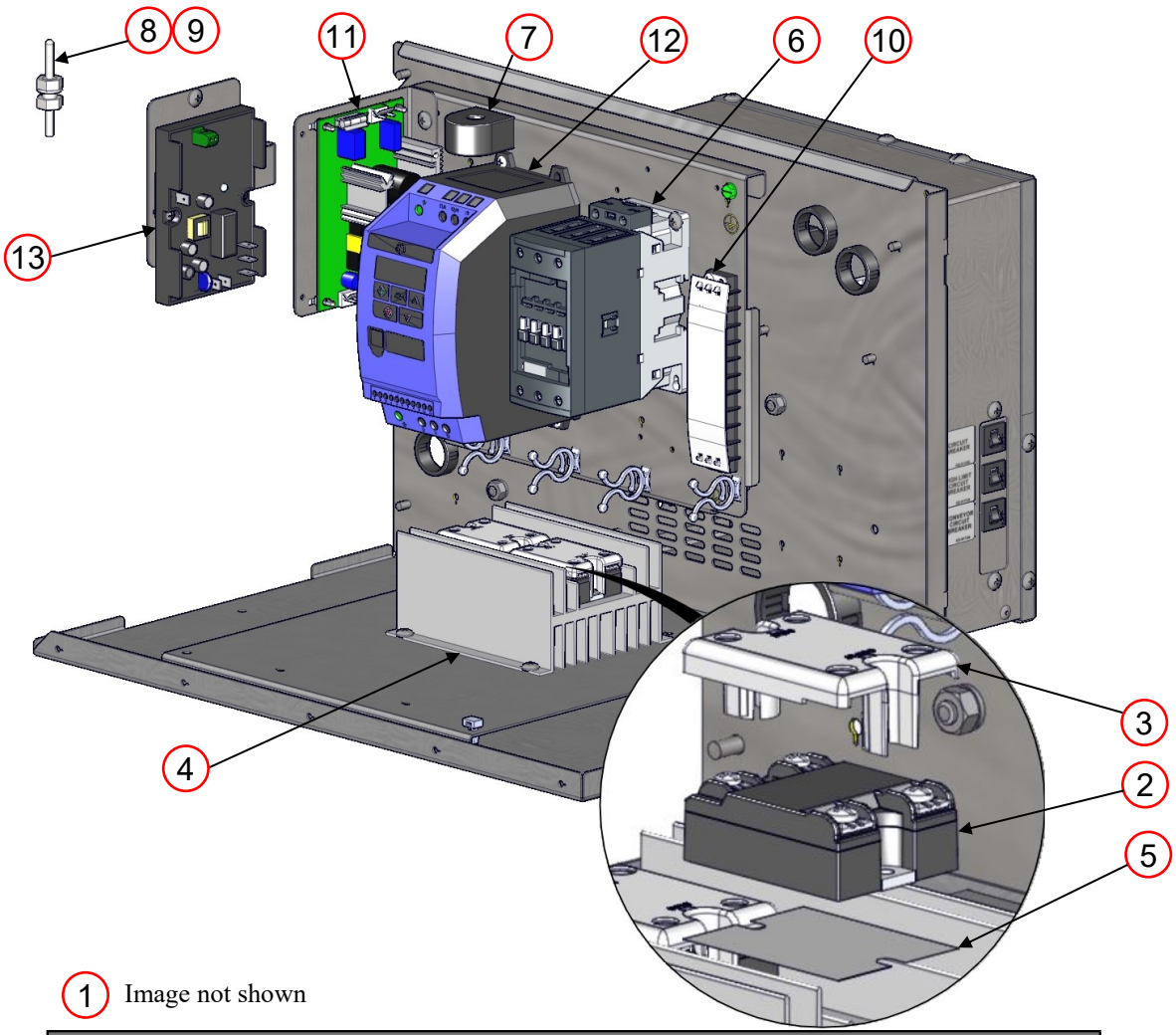




CONTROL PANEL		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	SP 4520-EL	Fan Guard / Filter Repl Kit ELE
2	XP 4170-LUI	Large User Inferface LUI
3	XP 4175-MC	Oven Machine Control OMC
4	XP 4501-EL	Cooling Fan EL M3
5	XP 4520-EL	Fan Filter

Control Panel information required:

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

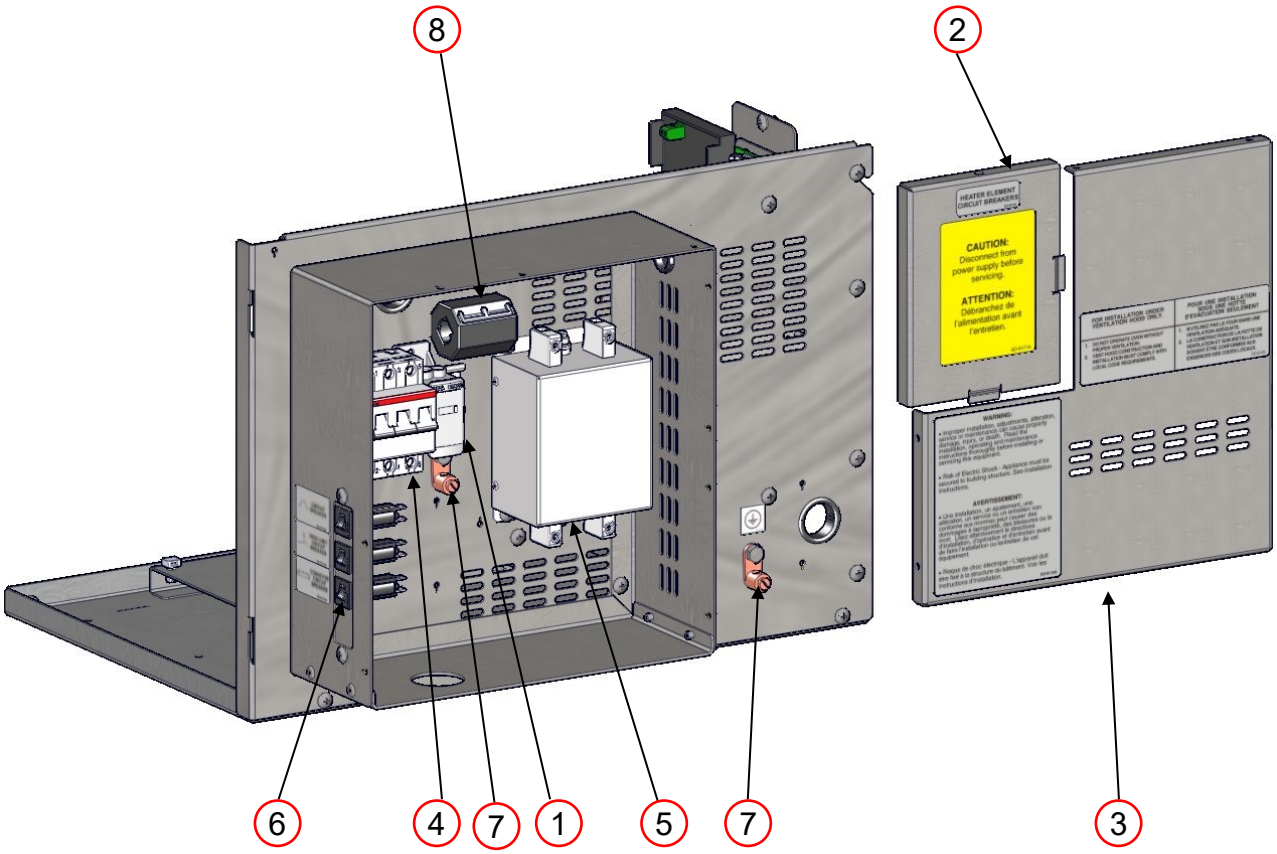


1 Image not shown

CONTROL BOX INTERIOR		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	XH-4117A-Elan	Conveyor Motor Jumper Harness
2	XP 4305-75	Solid State Relay 75A SSR
3	XM 4305-COV	SSR Cover
4	XP 4305-90-HS	Solid State Relay Heat Sink
5	XP 4305-90-PAD	Solid State Relay Thermal Pad
6	XP 4306-70	Contactor, 70 Amp C1-C2
7	XP 4310	Current Sensor
8	XP 4510-90	Thermocouple Type K 90 TC
9	XP 4512	RTD Class B Element
10	XP 4701-10	Terminal Strip 10 Place TS
11	RP 4717	Power Supply PS
12	XP 4718-4.3	VFD Invertek Optidrive E3
13	XP 4723	Elan High Limit Switch S3

Control Box Back information required:

- Size of Oven
- Voltage

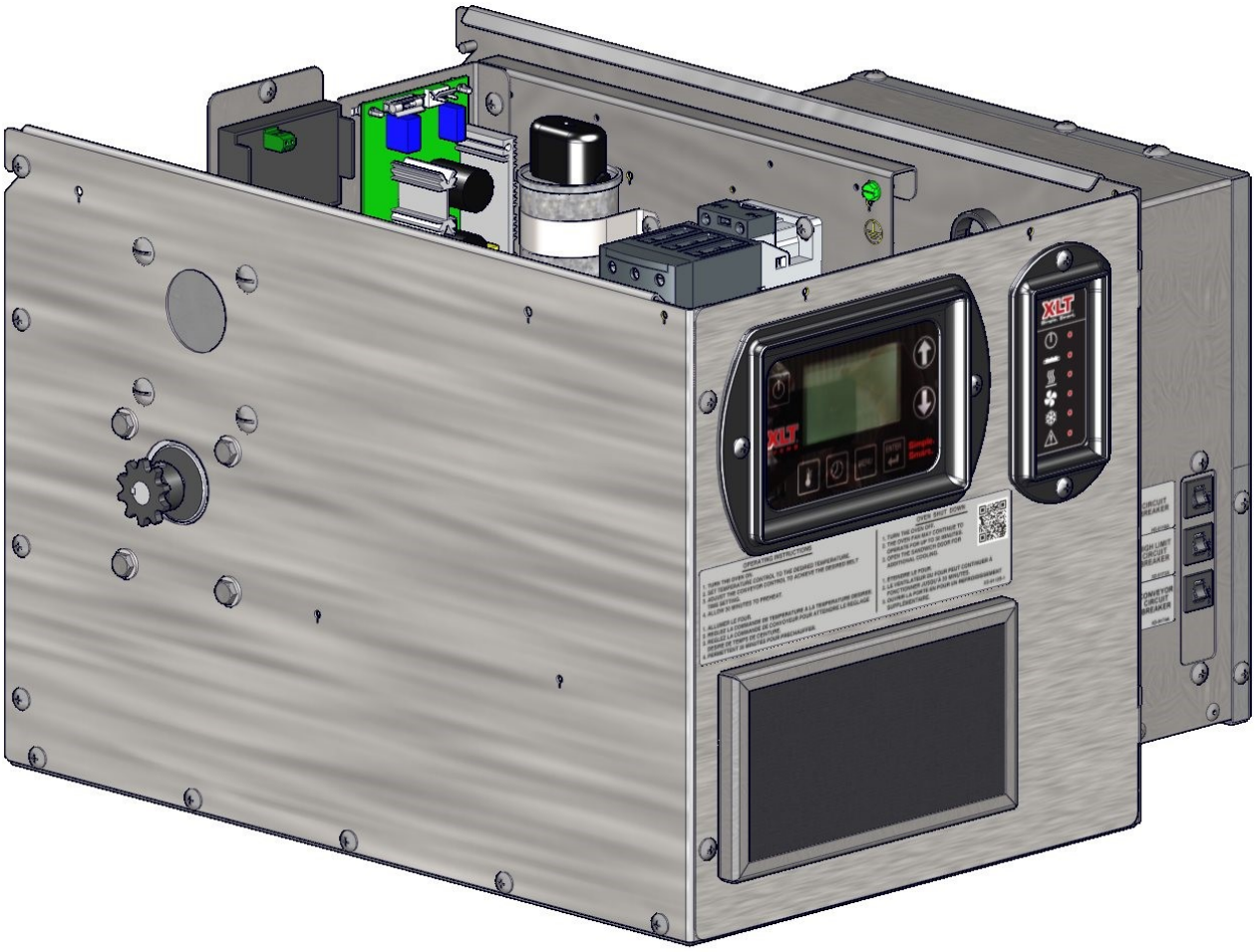


CONTROL BOX REAR		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	RP 4302	Power Block Electric PB
2	XM 4058	Circuit Breaker Cover EL Upper LH
3	XM 4062	Circuit Breaker Cover EL Lower
4	XP 4303	3 Pole Circuit Breaker EL CB
5	XP 4314	EMI Power Filter FLT1
6	XP 4515-CB	Circuit Breaker CB
7	XP 4707	Ground Lug Copper World
8	XP 9303	Ferrite Bead FB1

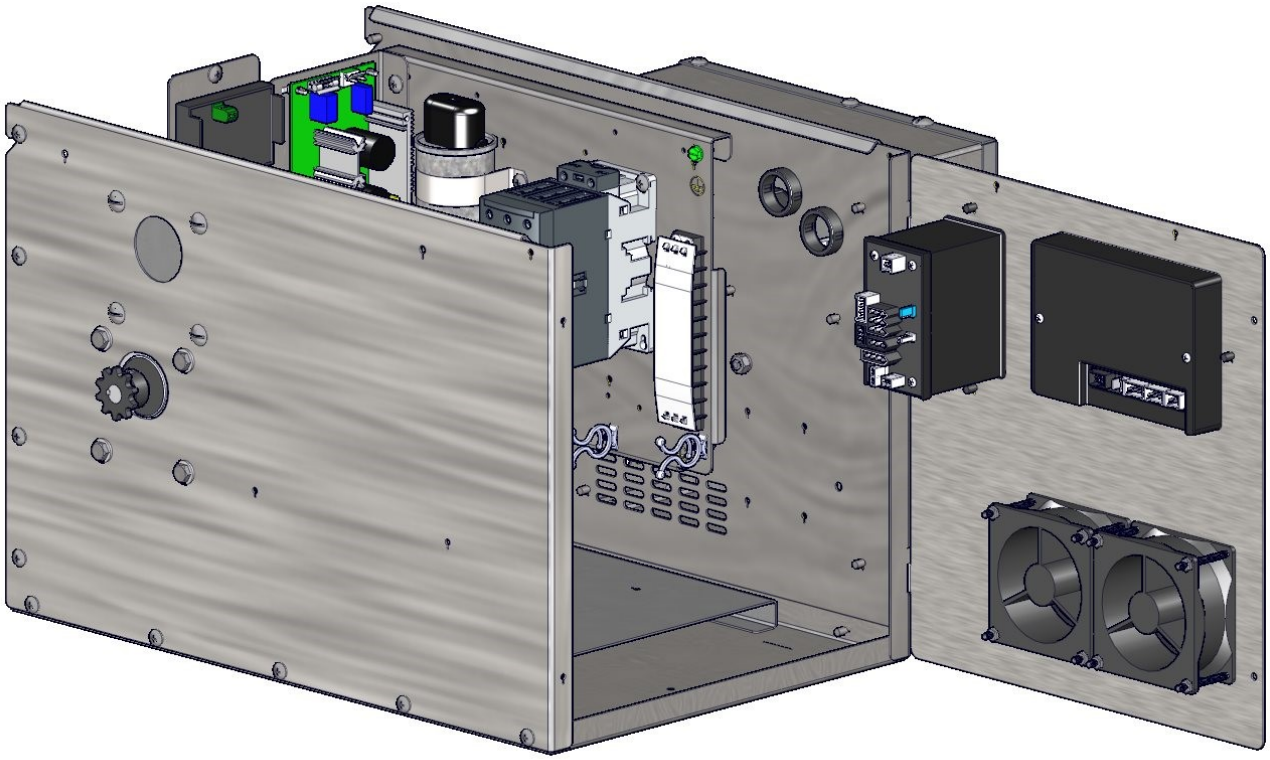
Control Box Rear information required:

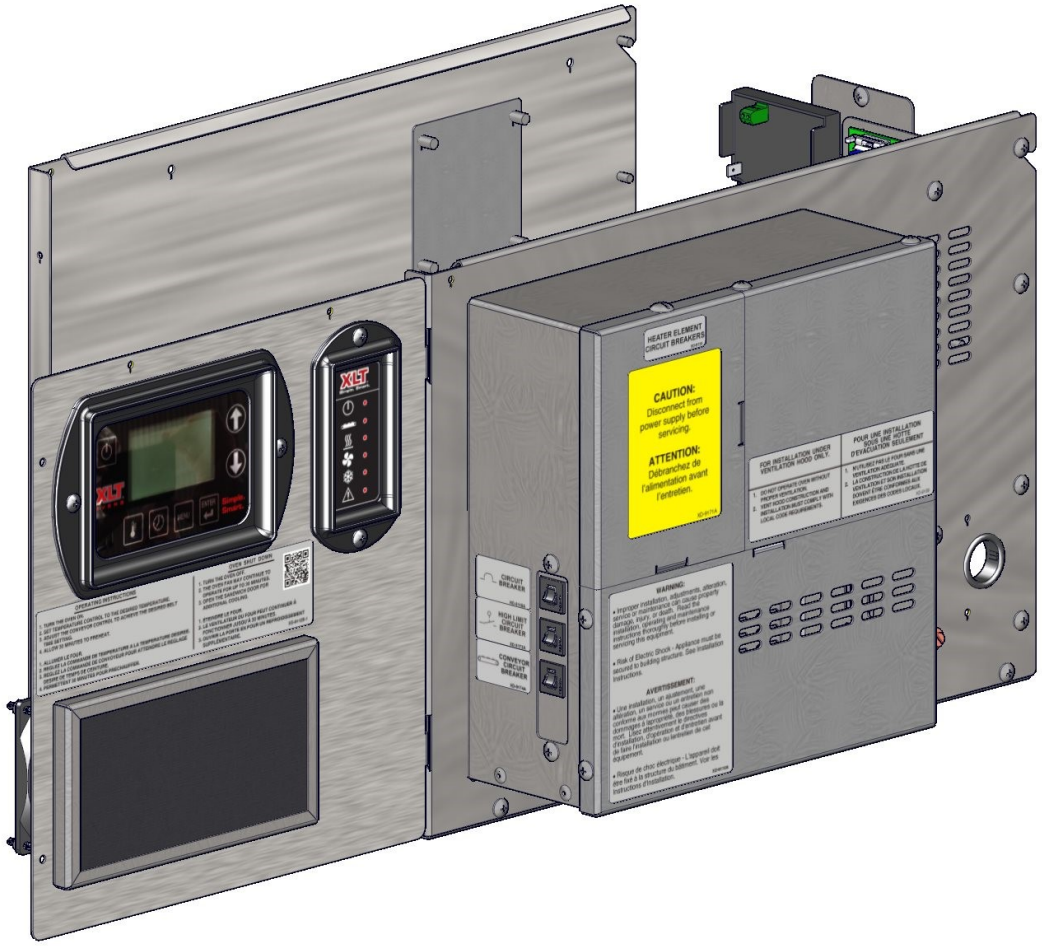
- Size of Oven
- Circuit Breaker amp rating
- Voltage

Operating Position (shown with lid removed)



Service Position

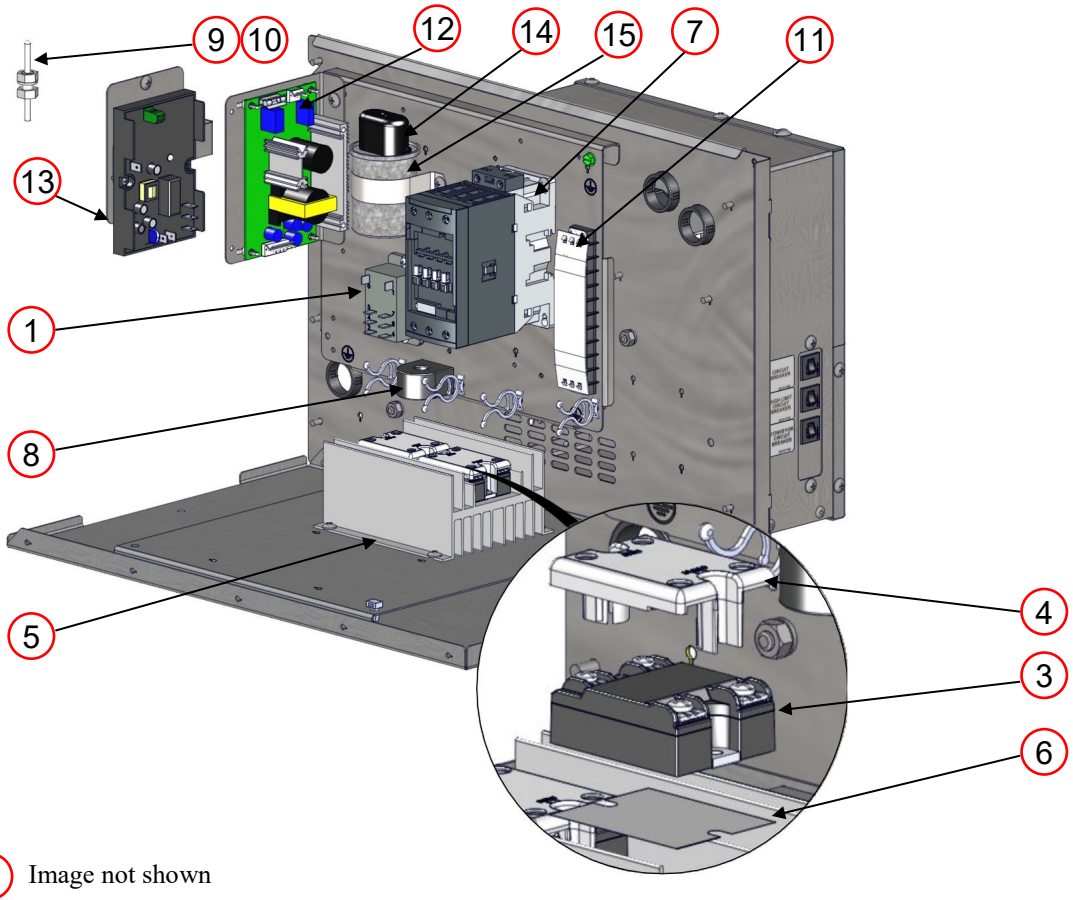




CONTROL PANEL		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	SP 4520-EL	Fan Guard / Filter Repl Kit ELE
2	XP 4170-LUI	Large User Inferface LUI
3	XP 4175-MC	Oven Machine Control OMC
4	XP 4501-EL	Cooling Fan EL M3
5	XP 4520-EL	Fan Filter

Control Panel information required:

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

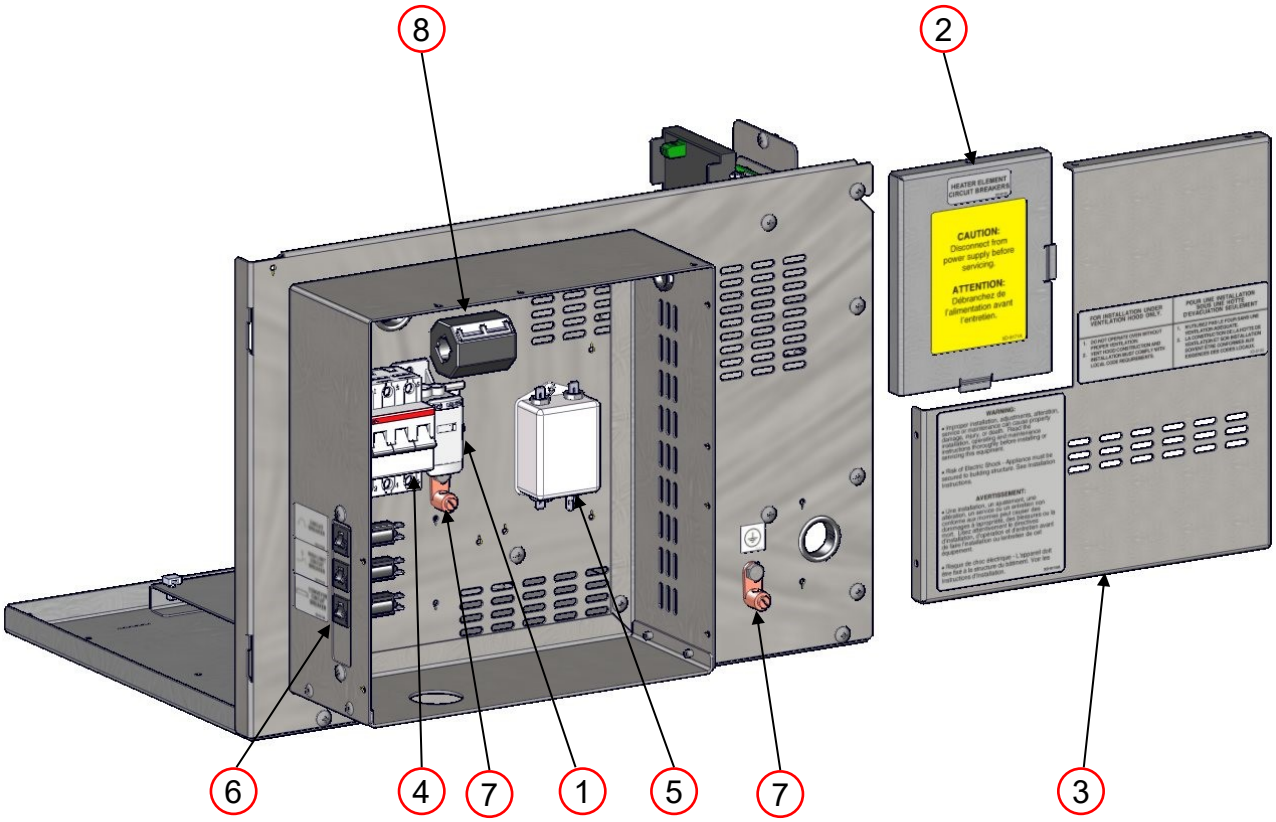


2 Image not shown

CONTROL BOX INTERIOR		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	HP 2067-24VDC	Oven Fan Motor Relay R1
2	XH-4117A-Elan	Conveyor Motor Jumper Harness
3	XP 4305-75	Solid State Relay 75A SSR
4	XM 4305-COV	SSR Cover
5	XP 4305-90-HS	Solid State Relay Heat Sink
6	XP 4305-90-PAD	Solid State Relay Thermal Pad
7	XP 4306-70	Contactor, 70 Amp C1-C2
8	XP 4310	Current Sensor CS
9	XP 4510-90	Thermocouple Type K 90 TC
10	XP 4512	RTD Class B Element
11	XP 4701-10	Terminal Strip 10 Place TS
12	RP 4717	Power Supply PS
13	XP 4723	Elan High Limit Switch S3
14	XP 5012	Capacitor Boot
15	XP 5014-30	Capacitor Baldor 3/4 HP 30uF CAP

Control Box Back information required:

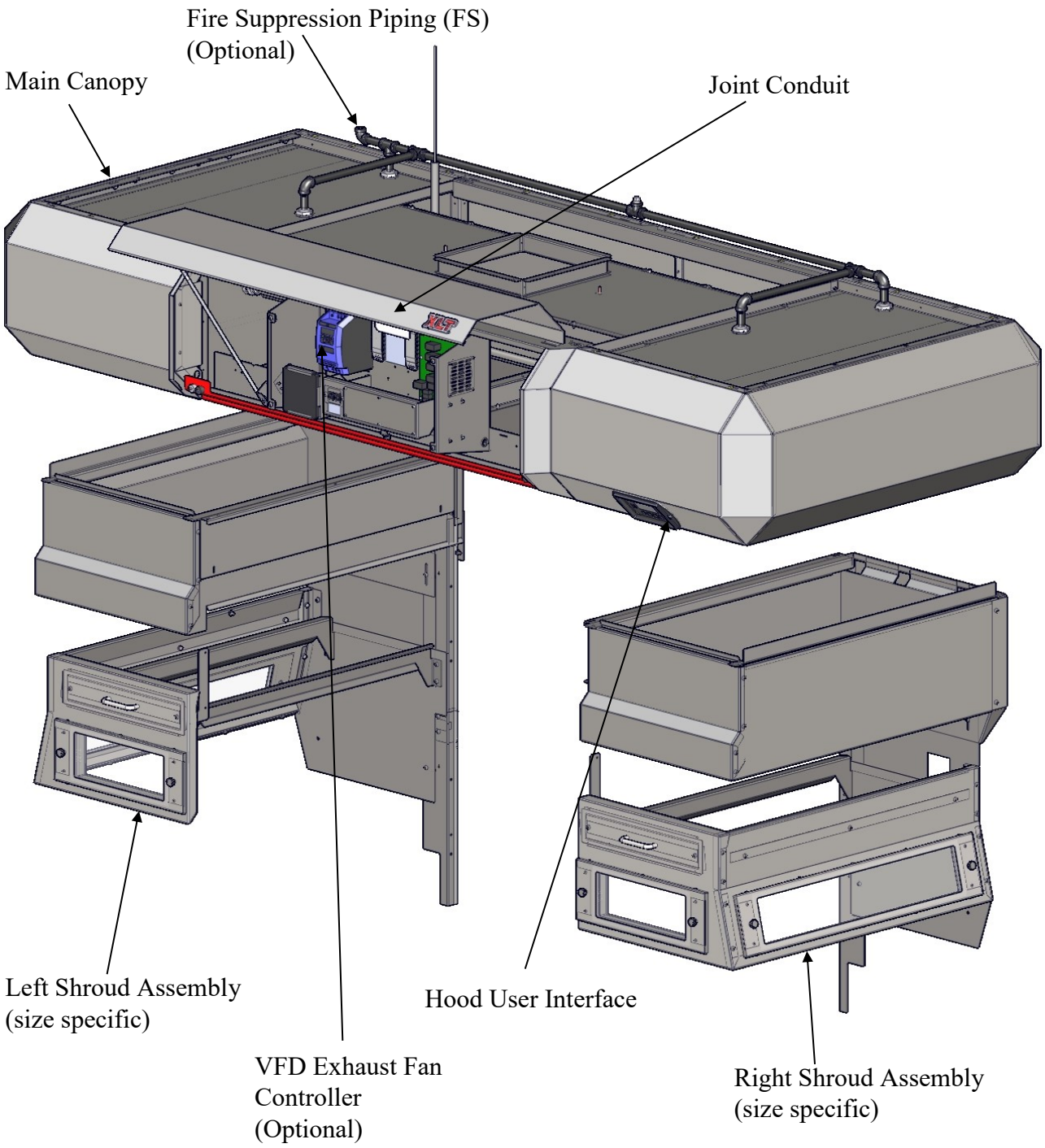
- Size of Oven
- Voltage



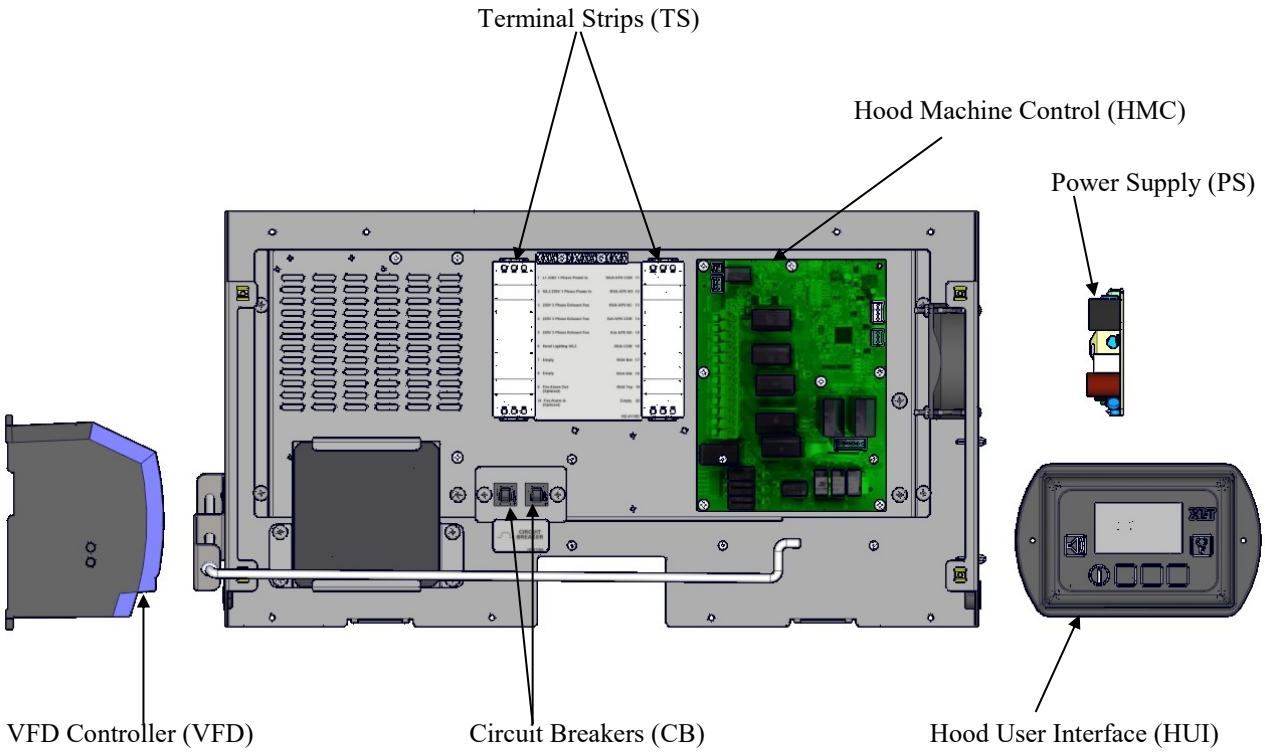
CONTROL BOX REAR		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	RP 4302	Power Block Electric PB
2	XM 4058	Circuit Breaker Cover EL Upper LH
3	XM 4062	Circuit Breaker Cover EL Lower
4	XP 4303	3 Pole Circuit Breaker EL CB
5	XP 4320	EMI Power Filter FLT1
6	XP 4515-CB	Circuit Breaker CB
7	XP 4707	Ground Lug Copper World
8	XP 9303	Ferrite Bead FB1

Control Box Rear information required:

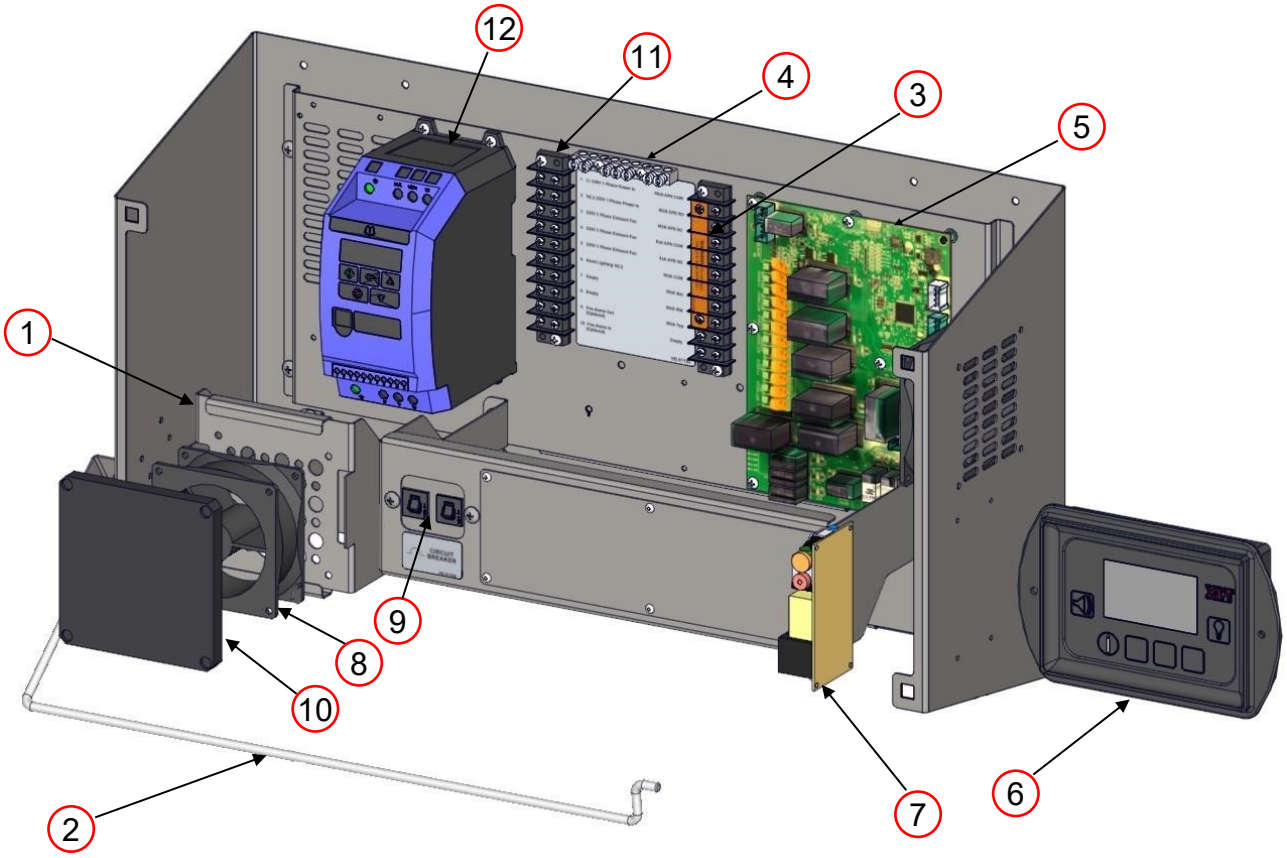
- Size of Oven
- Circuit Breaker amp rating
- Voltage


Fire Suppression Piping (FS)
(Optional)
Main Canopy
Joint Conduit
Left Shroud Assembly
(size specific)
VFD Exhaust Fan
Controller
(Optional)
Hood User Interface
Right Shroud Assembly
(size specific)

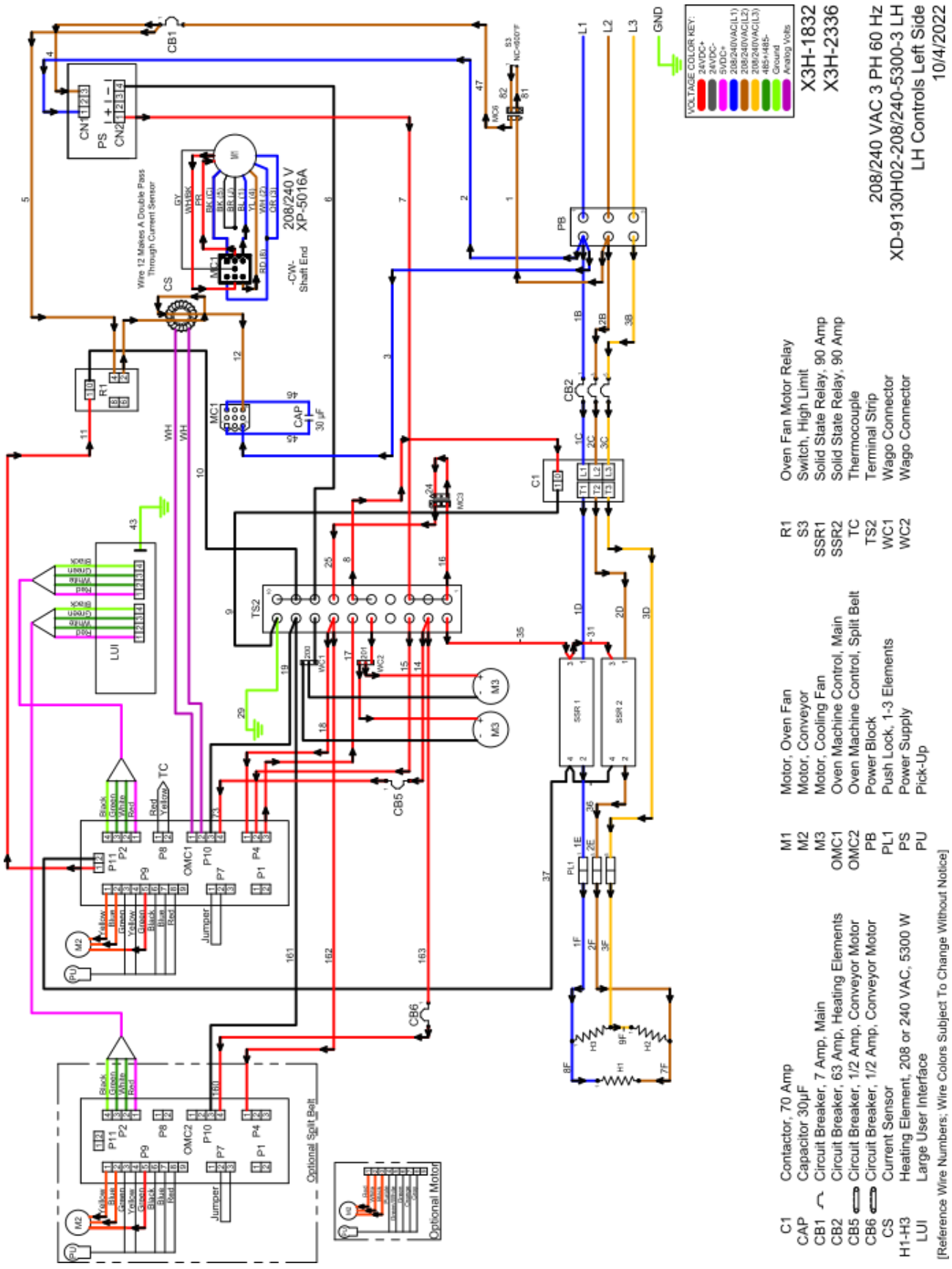
VFD Control Box

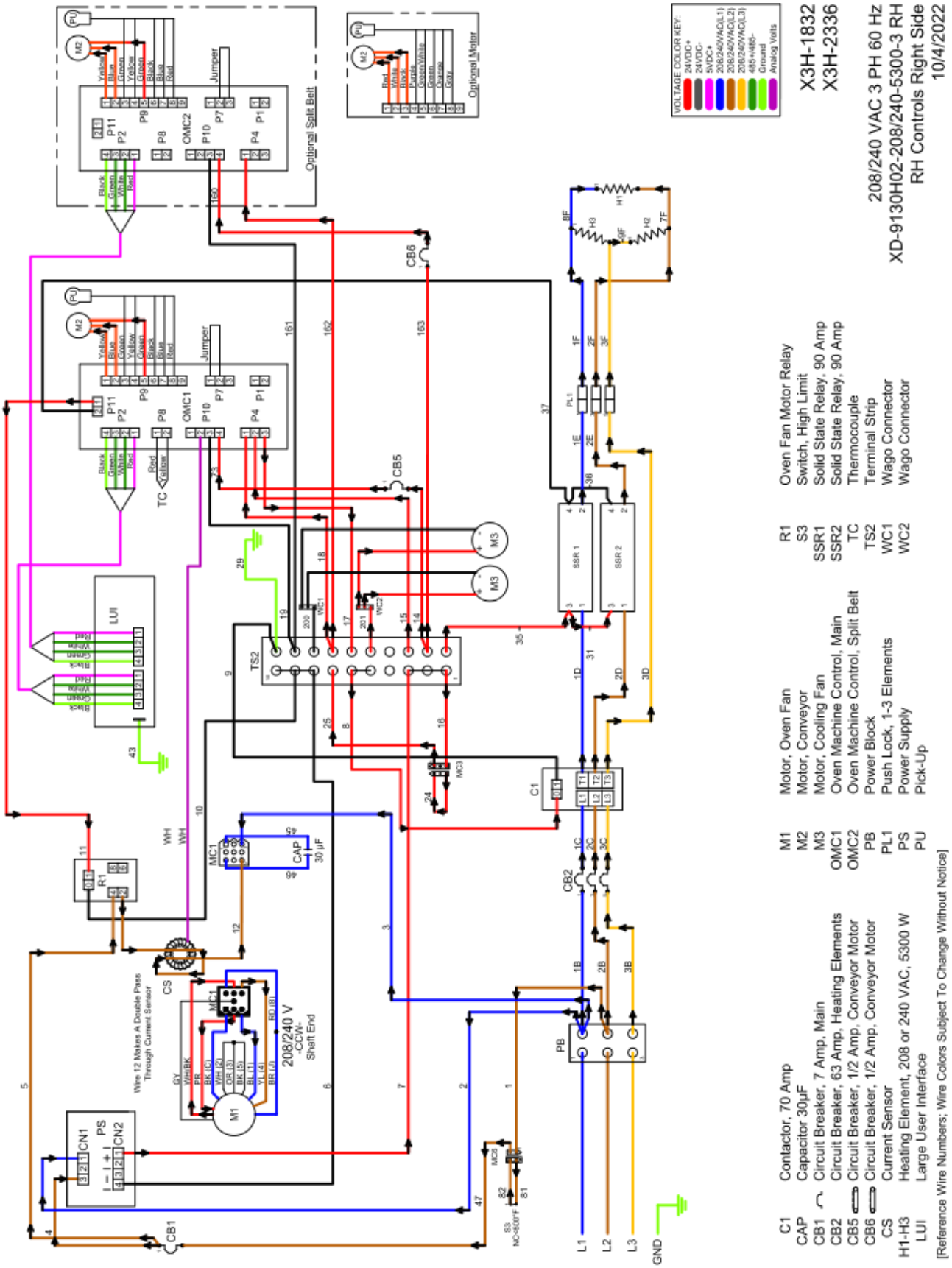


VFD Control Box (Cover removed)

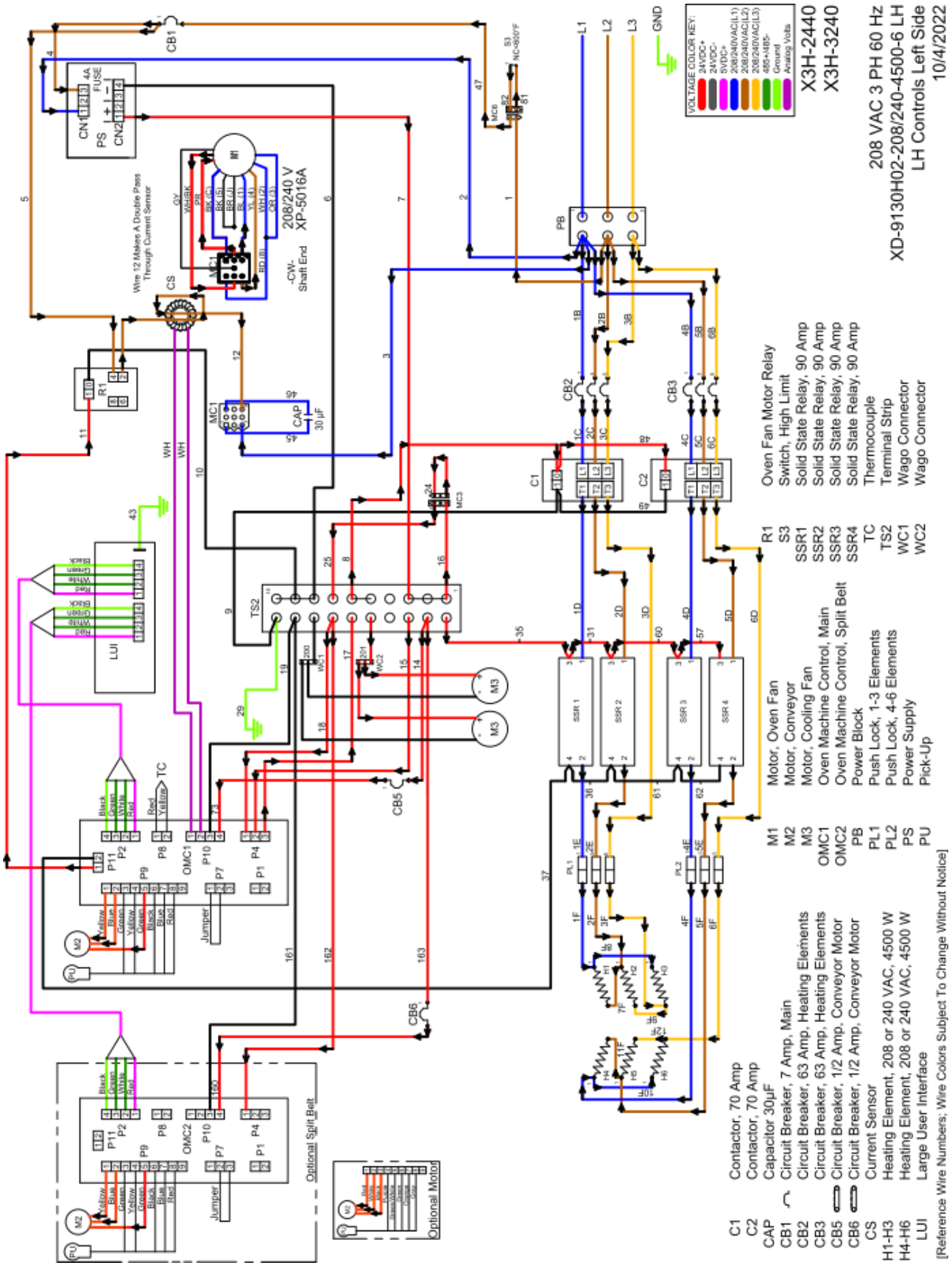


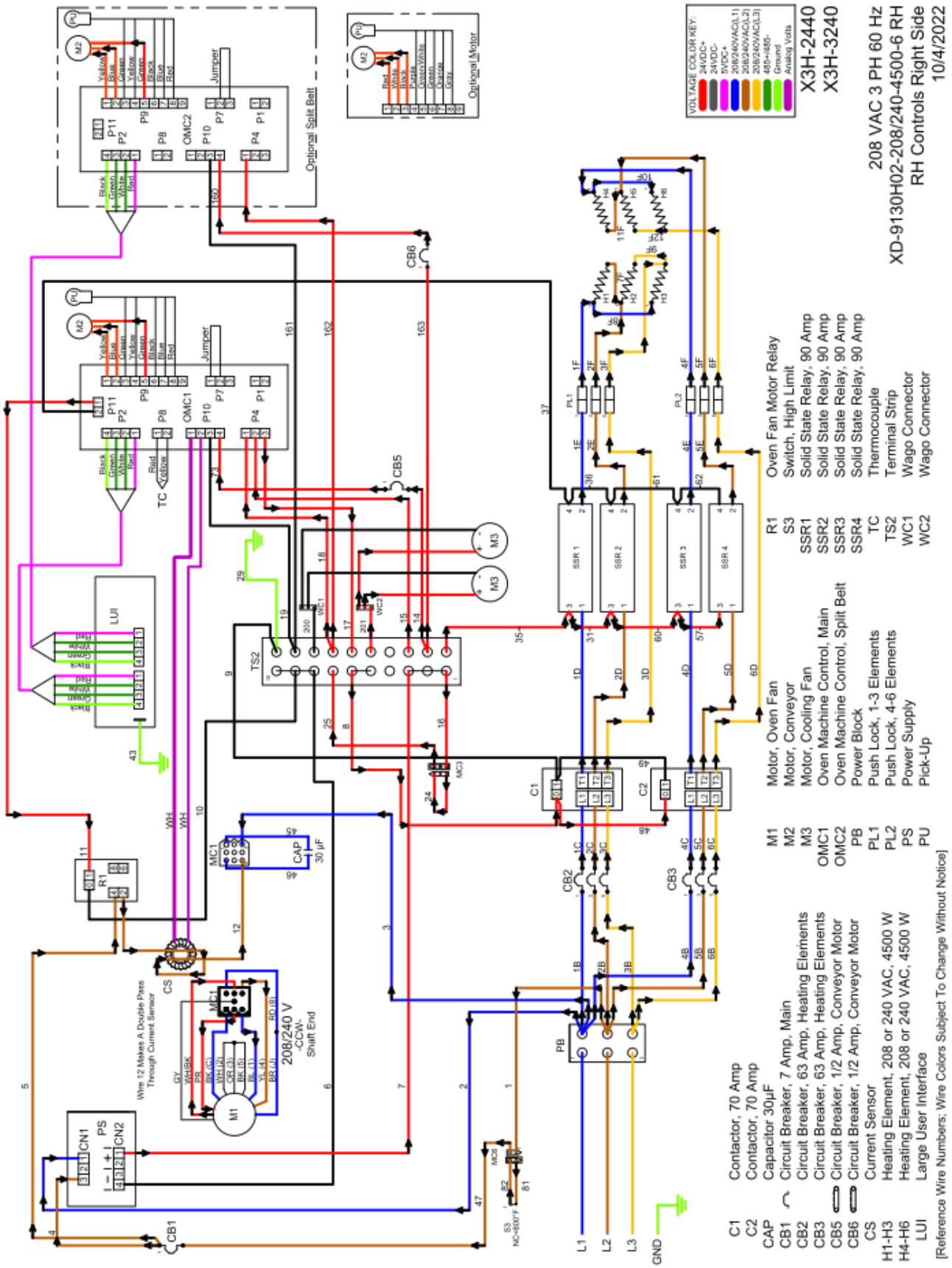
VFD W/ FIRE SUPPRESION		
ITEM	**PART NUMBER**	**DESCRIPTION**
1	02-1-4004	Fan Mount
2	96-0-4014	Prop Rod
3	HD-9130	No Voltage Label
4	HP-2058	Ground Bar 7 POS
5	HP-2070-MC	Hood Machine Control HMC
6	HP-2071-UI	Hood User Interface HUI
7	RP-4717	Power Supply PS
8	XP-4501-EL	FPPG Fan EL M2
9	XP-4514-CB-10A	Circuit Breaker 10.0 Amp
10	XP-4520-GA	Fan Filter
11	XP-4701-10	Terminal Strip 10 Place TS
12	XP-4718-4.3	VFD Invertek Optidrive E3


X3H-1832
X3H-2336
208/240 VAC 3 PH 60 Hz
XD-9130H02-208/240-5300-3 LH
LH Controls Left Side
10/4/2022
VOLTAGE COLOR KEY:
24VDC+
24VDC-
5VDC+
208/240VAC(L1)
208/240VAC(L2)
208/240VAC(L3)
485+485-
Ground
Analog Volts
C1 Contactor, 70 Amp
CAP Capacitor 30µF
CB1 Circuit Breaker, 7 Amp, Main
CB2 Circuit Breaker, 63 Amp, Heating Elements
CB5 Circuit Breaker, 1/2 Amp, Conveyor Motor
CB6 Circuit Breaker, 1/2 Amp, Conveyor Motor
CS Current Sensor
H1-H3 Heating Element, 208 or 240 VAC, 5300 W
LUI Large User Interface
M1 Motor, Oven Fan
M2 Motor, Conveyor
M3 Motor, Cooling Fan
OMC1 Oven Machine Control, Main
OMC2 Oven Machine Control, Split Belt
PB Power Block
PL1 Push Lock, 1-3 Elements
PS Power Supply
PU Pick-Up
R1 Oven Fan Motor Relay
S3 Switch, High Limit
SSR1 Solid State Relay, 90 Amp
SSR2 Solid State Relay, 90 Amp
TC Thermocouple
TS2 Terminal Strip
WC1 Wago Connector
WC2 Wago Connector
[Reference Wire Numbers; Wire Colors Subject To Change Without Notice]


X3H-1832
X3H-2336
208/240 VAC 3 PH 60 Hz
XD-9130H02-208/240-5300-3 RH
RH Controls Right Side
10/4/2022
VOLTAGE COLOR KEY:
24VDC+
24VDC-
5VDC+
208/240VAC(L1)
208/240VAC(L2)
208/240VAC(L3)
485+/485-
Ground
Analog Volts
Optional Split Belt
Optional Motor
Jumper
LUI
TC
CS
PS
CB1
CB2
CB5
CB6
TS2
SSR 1
SSR 2
CAP
30 µF
208/240 V
-CCW-
Shaft End
Wire 12 Makes A Double Pass Through Current Sensor
C1 Contactor, 70 Amp
CAP Capacitor 30µF
CB1 Circuit Breaker, 7 Amp, Main
CB2 Circuit Breaker, 63 Amp, Heating Elements
CB5 Circuit Breaker, 1/2 Amp, Conveyor Motor
CB6 Circuit Breaker, 1/2 Amp, Conveyor Motor
CS Current Sensor
H1-H3 Heating Element, 208 or 240 VAC, 5300 W
LUI Large User Interface
M1 Motor, Oven Fan
M2 Motor, Conveyor
M3 Motor, Cooling Fan
OMC1 Oven Machine Control, Main
OMC2 Oven Machine Control, Split Belt
PB Power Block
PL1 Push Lock, 1-3 Elements
PS Power Supply
PU Pick-Up
R1 Oven Fan Motor Relay
S3 Switch, High Limit
SSR1 Solid State Relay, 90 Amp
SSR2 Solid State Relay, 90 Amp
TC Thermocouple
TS2 Terminal Strip
WC1 Wago Connector
WC2 Wago Connector
[Reference Wire Numbers; Wire Colors Subject To Change Without Notice]

OVEN SCHEMATIC - STANDARD 208/240 VAC LH

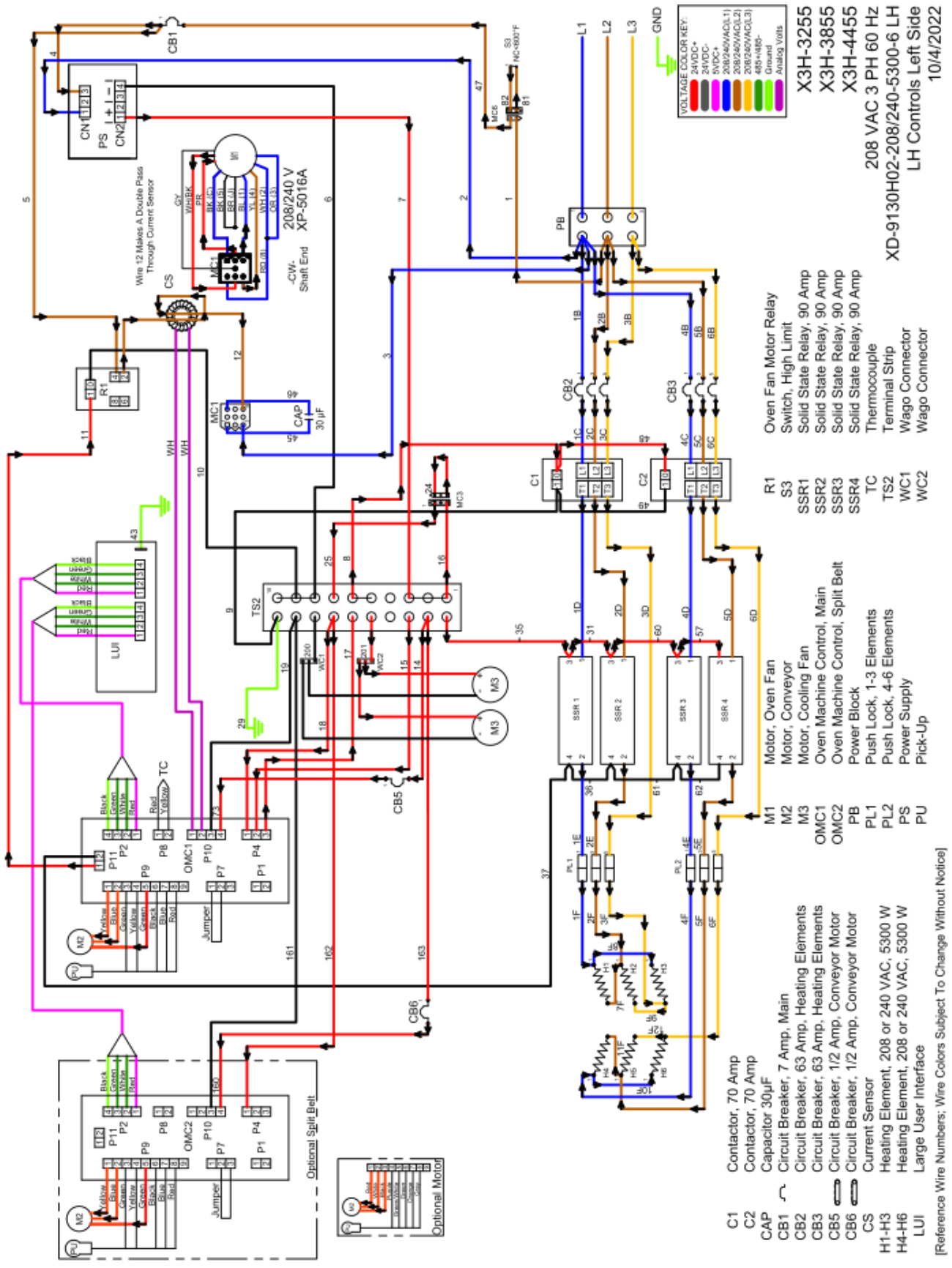


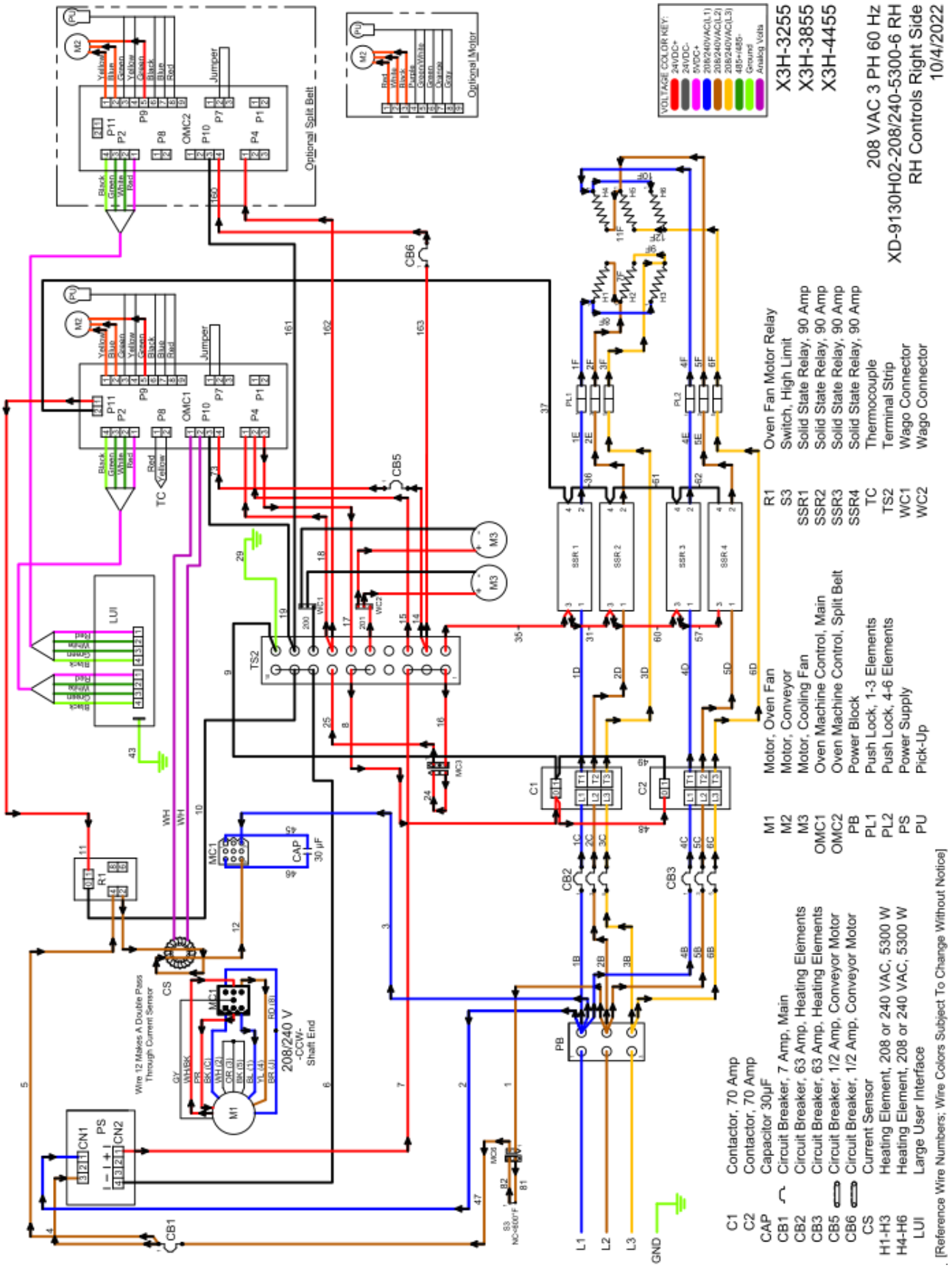


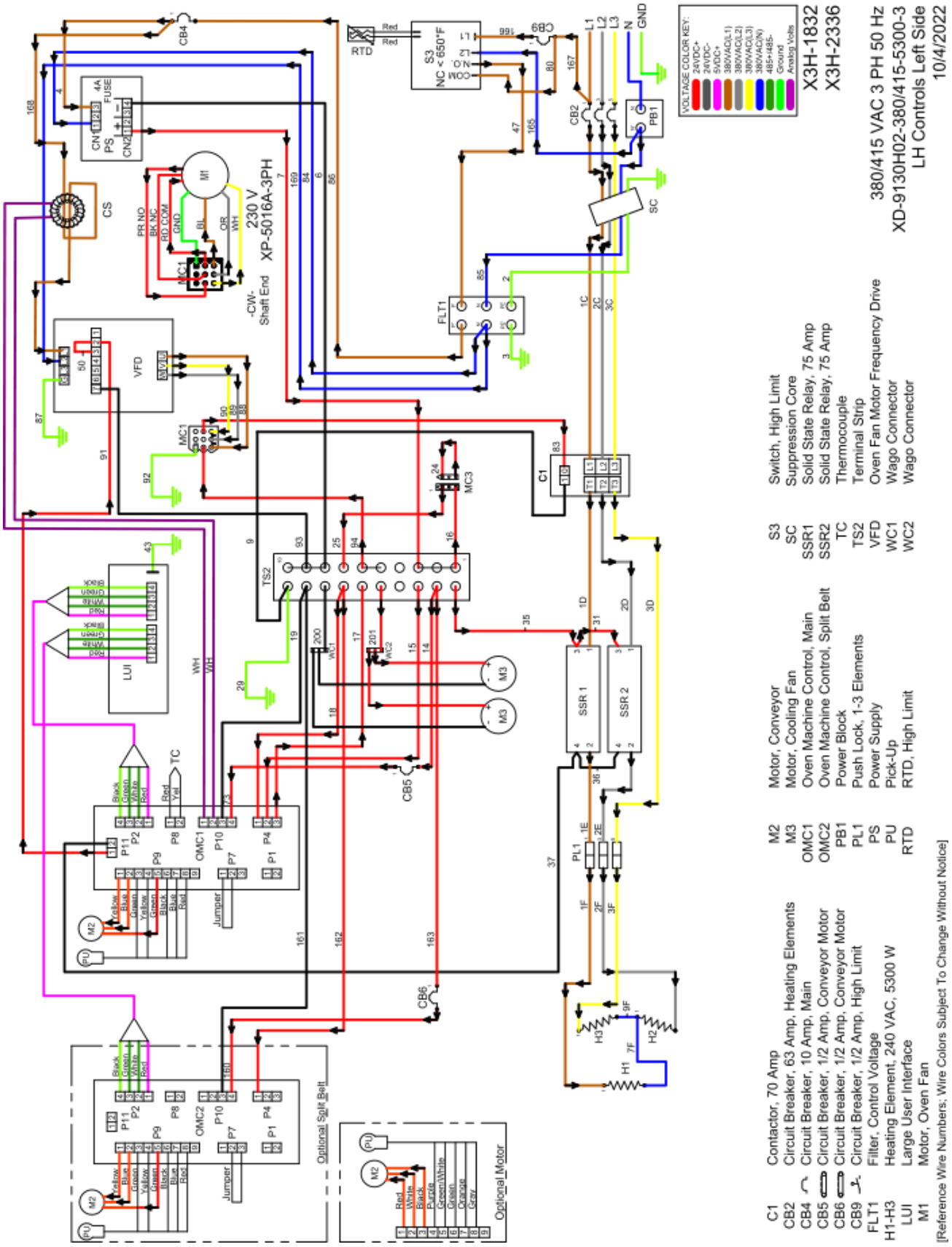
C1	Contactor, 70 Amp	M1	Motor, Oven Fan
C2	Contactor, 70 Amp	M2	Motor, Conveyor
CAP	Capacitor 30µF	M3	Motor, Cooling Fan
CB1	Circuit Breaker, 7 Amp, Main	OMC1	Oven Machine Control, Main
CB2	Circuit Breaker, 63 Amp, Heating Elements	OMC2	Oven Machine Control, Split Belt
CB3	Circuit Breaker, 63 Amp, Heating Elements	PB	Power Block
CB5	Circuit Breaker, 1/2 Amp, Conveyor Motor	PL1	Push Lock, 1-3 Elements
CB6	Circuit Breaker, 1/2 Amp, Conveyor Motor	PL2	Push Lock, 4-6 Elements
CS	Current Sensor	PS	Power Supply
H1-H3	Heating Element, 208 or 240 VAC, 4500 W	PU	Pick-Up
H4-H6	Heating Element, 208 or 240 VAC, 4500 W	R1	Oven Fan Motor Relay
LUI	Large User Interface	S3	Switch, High Limit
		SSR1	Solid State Relay, 90 Amp
		SSR2	Solid State Relay, 90 Amp
		SSR3	Solid State Relay, 90 Amp
		SSR4	Solid State Relay, 90 Amp
		TC	Thermocouple
		TS2	Terminal Strip
		WC1	Wago Connector
		WC2	Wago Connector

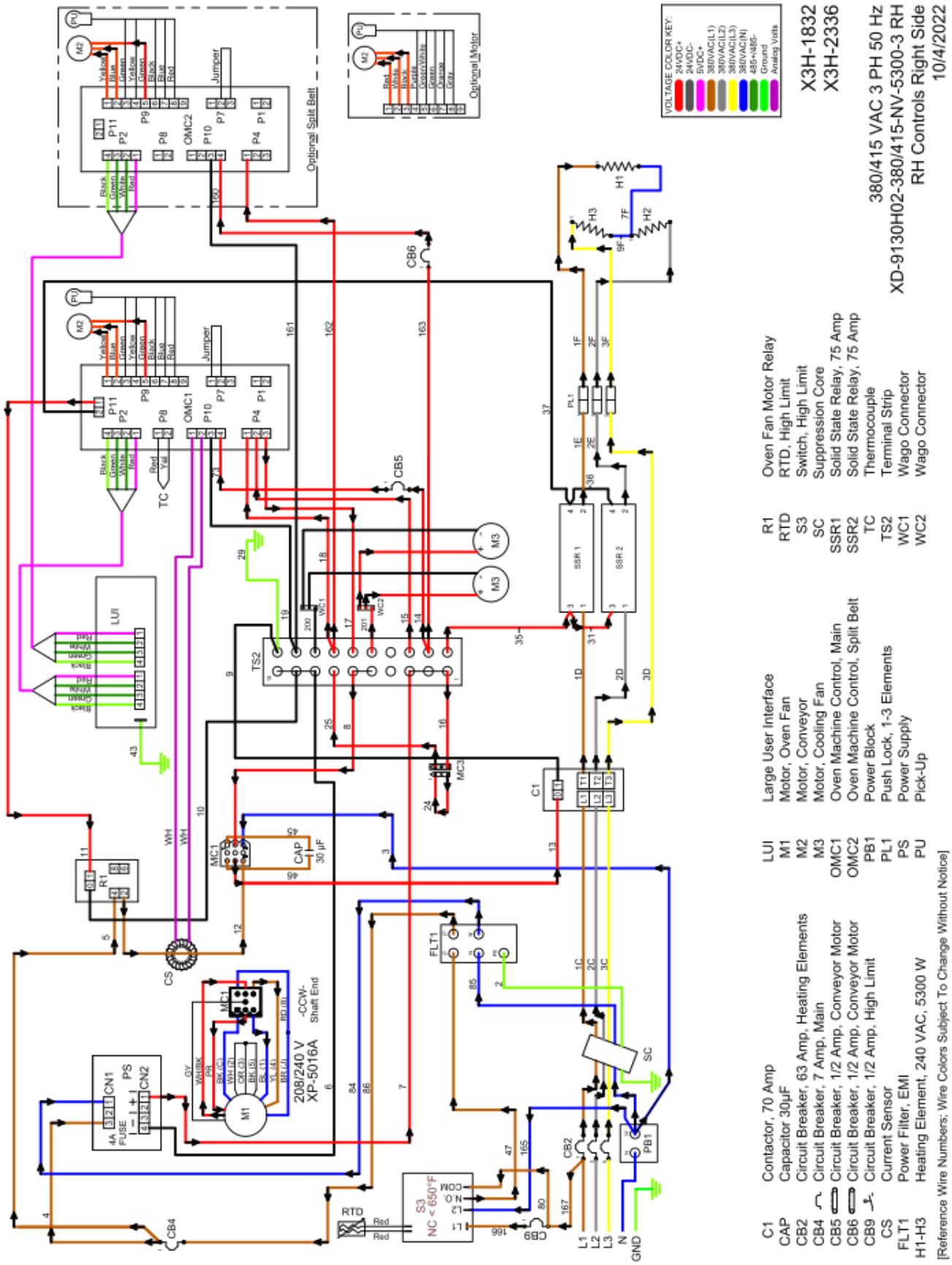
[Reference Wire Numbers; Wire Colors Subject To Change Without Notice]

OVEN SCHEMATIC - STANDARD 208/240 VAC LH




X3H-3255
X3H-3855
X3H-4455
208 VAC 3 PH 60 Hz
XD-9130H02-208/240-5300-6 RH
RH Controls Right Side
10/4/2022
VOLTAGE COLOR KEY:
24VDC+
24VDC-
5VDC+
208/240V/AC(L1)
208/240V/AC(L2)
208/240V/AC(L3)
485+/485-
Ground
Analog Volts
Optional Split Belt
Optional Motor
Jumper
Wire 12 Makes A Double Pass Through Current Sensor
208/240 V
-CCW-
Shaft End
CAP
30 µF
TC
LUI
TS2
SSR 1
SSR 2
SSR 3
SSR 4
PS
CN1
CN2
L1
L2
L3
GND
M1 Motor, Oven Fan
M2 Motor, Conveyor
M3 Motor, Cooling Fan
OMC1 Oven Machine Control, Main
OMC2 Oven Machine Control, Split Belt
PB Power Block
PL1 Push Lock, 1-3 Elements
PL2 Push Lock, 4-6 Elements
PS Power Supply
PU Pick-Up
R1 Oven Fan Motor Relay
S3 Switch, High Limit
SSR1 Solid State Relay, 90 Amp
SSR2 Solid State Relay, 90 Amp
SSR3 Solid State Relay, 90 Amp
SSR4 Solid State Relay, 90 Amp
TC Thermocouple
TS2 Terminal Strip
WC1 Wago Connector
WC2 Wago Connector
C1 Contactor, 70 Amp
C2 Contactor, 70 Amp
CAP Capacitor 30µF
CB1 Circuit Breaker, 7 Amp, Main
CB2 Circuit Breaker, 63 Amp, Heating Elements
CB3 Circuit Breaker, 63 Amp, Heating Elements
CB5 Circuit Breaker, 1/2 Amp, Conveyor Motor
CB6 Circuit Breaker, 1/2 Amp, Conveyor Motor
CS Current Sensor
H1-H3 Heating Element, 208 or 240 VAC, 5300 W
H4-H6 Heating Element, 208 or 240 VAC, 5300 W
LUI Large User Interface
[Reference Wire Numbers; Wire Colors Subject To Change Without Notice]


X3H-1832
X3H-2336
380/415 VAC 3 PH 50 Hz
XD-9130H02-380/415-5300-3
LH Controls Left Side
10/4/2022
VOLTAGE COLOR KEY:
24VDC+
24VDC-
5VDC+
380VAC(L1)
380VAC(L2)
380VAC(L3)
380VAC(N)
485+485-
Ground
Analog Volts
C1 Contactor, 70 Amp
CB2 Circuit Breaker, 63 Amp, Heating Elements
CB4 Circuit Breaker, 10 Amp, Main
CB5 Circuit Breaker, 1/2 Amp, Conveyor Motor
CB6 Circuit Breaker, 1/2 Amp, Conveyor Motor
CB9 Circuit Breaker, 1/2 Amp, High Limit
FLT1 Filter, Control Voltage
H1-H3 Heating Element, 240 VAC, 5300 W
LUI Large User Interface
M1 Motor, Oven Fan
M2 Motor, Conveyor
M3 Motor, Cooling Fan
OMC1 Oven Machine Control, Main
OMC2 Oven Machine Control, Split Belt
PB1 Power Block
PL1 Push Lock, 1-3 Elements
PS Power Supply
PU Pick-Up
RTD RTD, High Limit
S3 Switch, High Limit
SC Suppression Core
SSR1 Solid State Relay, 75 Amp
SSR2 Solid State Relay, 75 Amp
TC Thermocouple
TS2 Terminal Strip
VFD Oven Fan Motor Frequency Drive
WC1 Wago Connector
WC2 Wago Connector
[Reference Wire Numbers; Wire Colors Subject To Change Without Notice]
Optional Split Belt
Optional Motor



C1	Contactor, 70 Amp	
CAP	Capacitor 30µF	
CB2	Circuit Breaker, 63 Amp, Heating Elements	
CB4	Circuit Breaker, 7 Amp, Main	
CB5	Circuit Breaker, 1/2 Amp, Conveyor Motor	
CB6	Circuit Breaker, 1/2 Amp, Conveyor Motor	
CB9	Circuit Breaker, 1/2 Amp, High Limit	
CS	Current Sensor	
FLT1	Power Filter, EMI	
H1-H3	Heating Element, 240 VAC, 5300 W	

LUI	Large User Interface	
M1	Motor, Oven Fan	
M2	Motor, Conveyor	
M3	Motor, Cooling Fan	
OMC1	Oven Machine Control, Main	
OMC2	Oven Machine Control, Split Belt	
PB1	Power Block	
PL1	Push Lock, 1-3 Elements	
PS	Power Supply	
PU	Pick-Up	

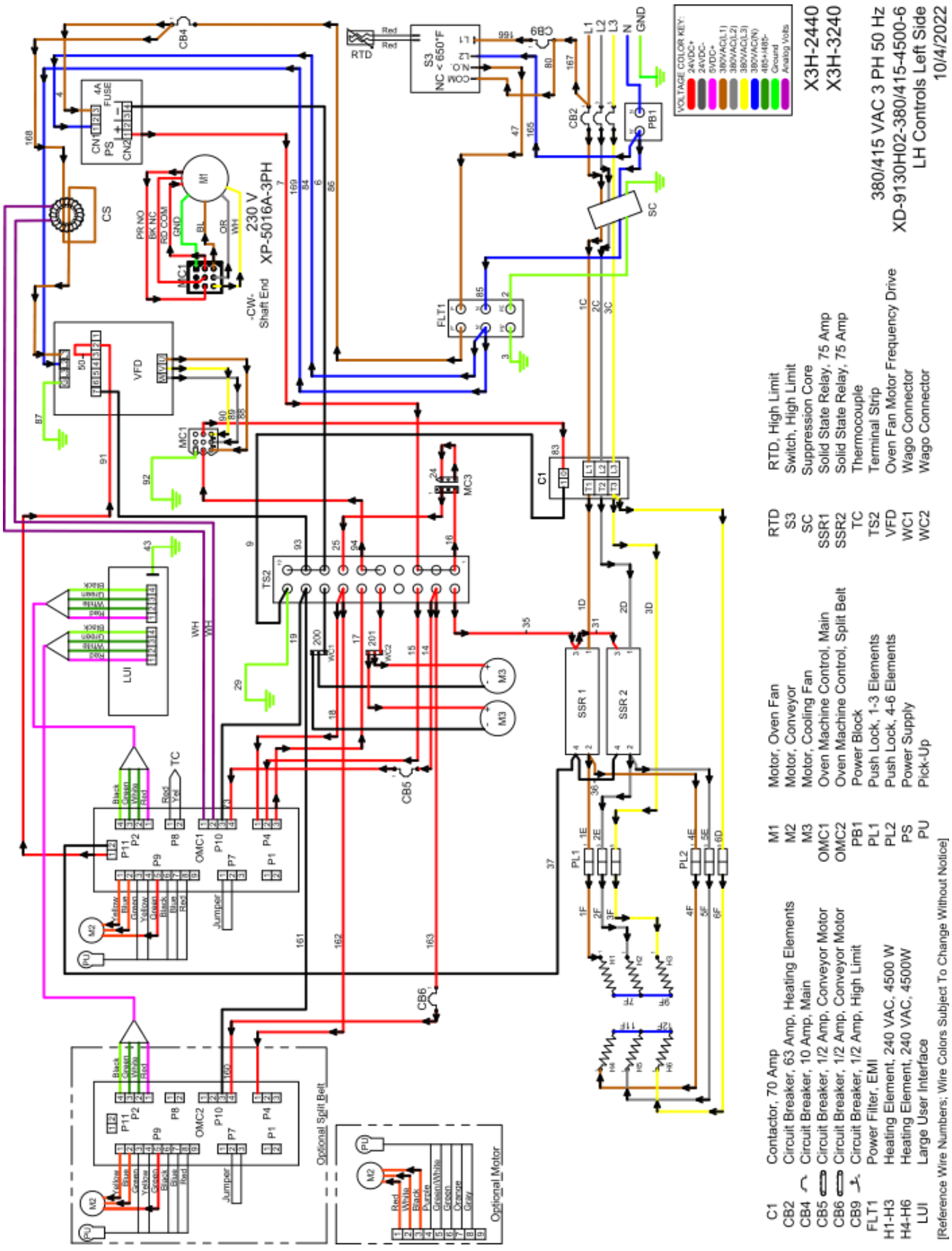
R1	Oven Fan Motor Relay	
RTD	RTD, High Limit	
S3	Switch, High Limit	
SC	Suppression Core	
SSR1	Solid State Relay, 75 Amp	
SSR2	Solid State Relay, 75 Amp	
TC	Thermocouple	
TS2	Terminal Strip	
WC1	Wago Connector	
WC2	Wago Connector	

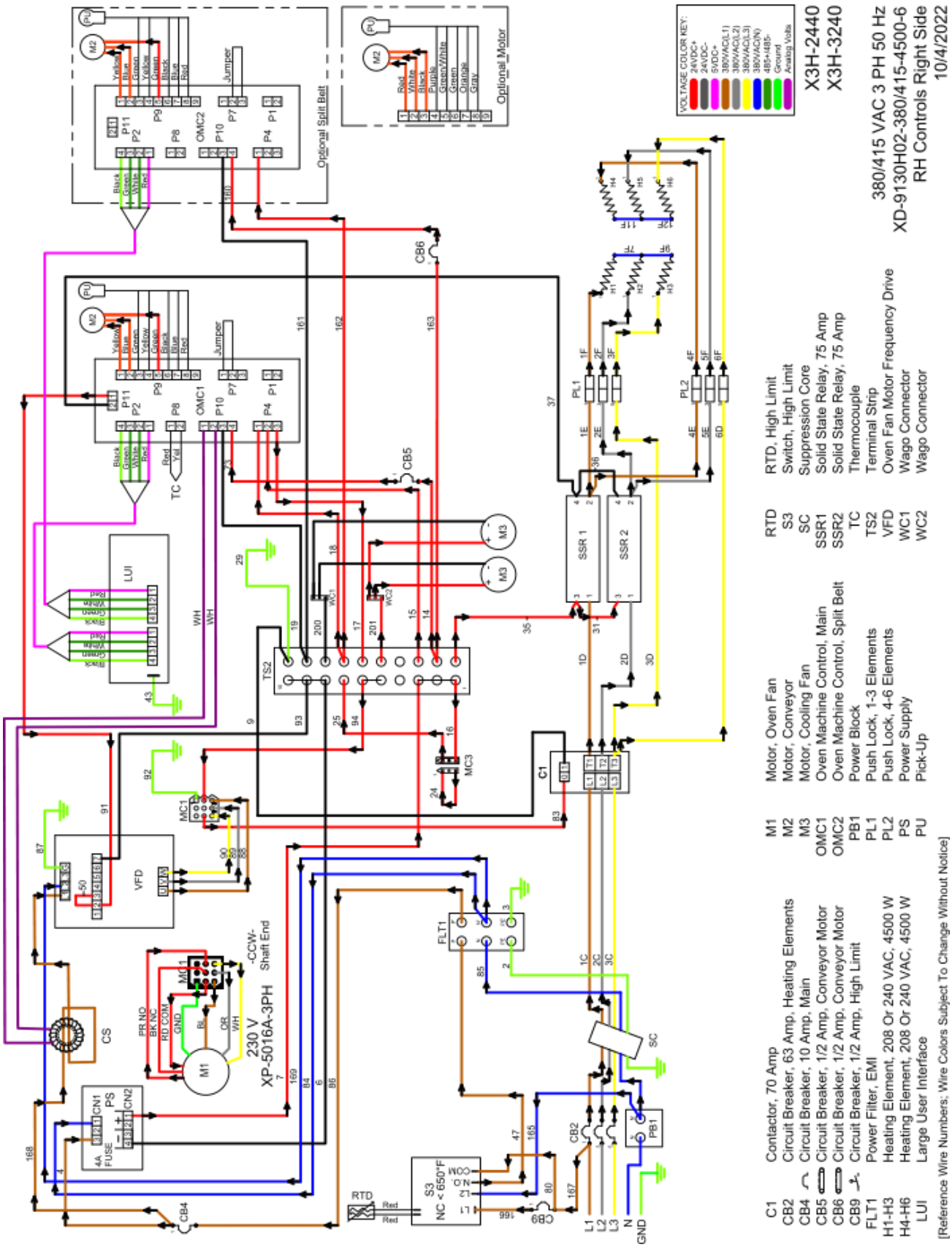
X3H-1832
X3H-2336

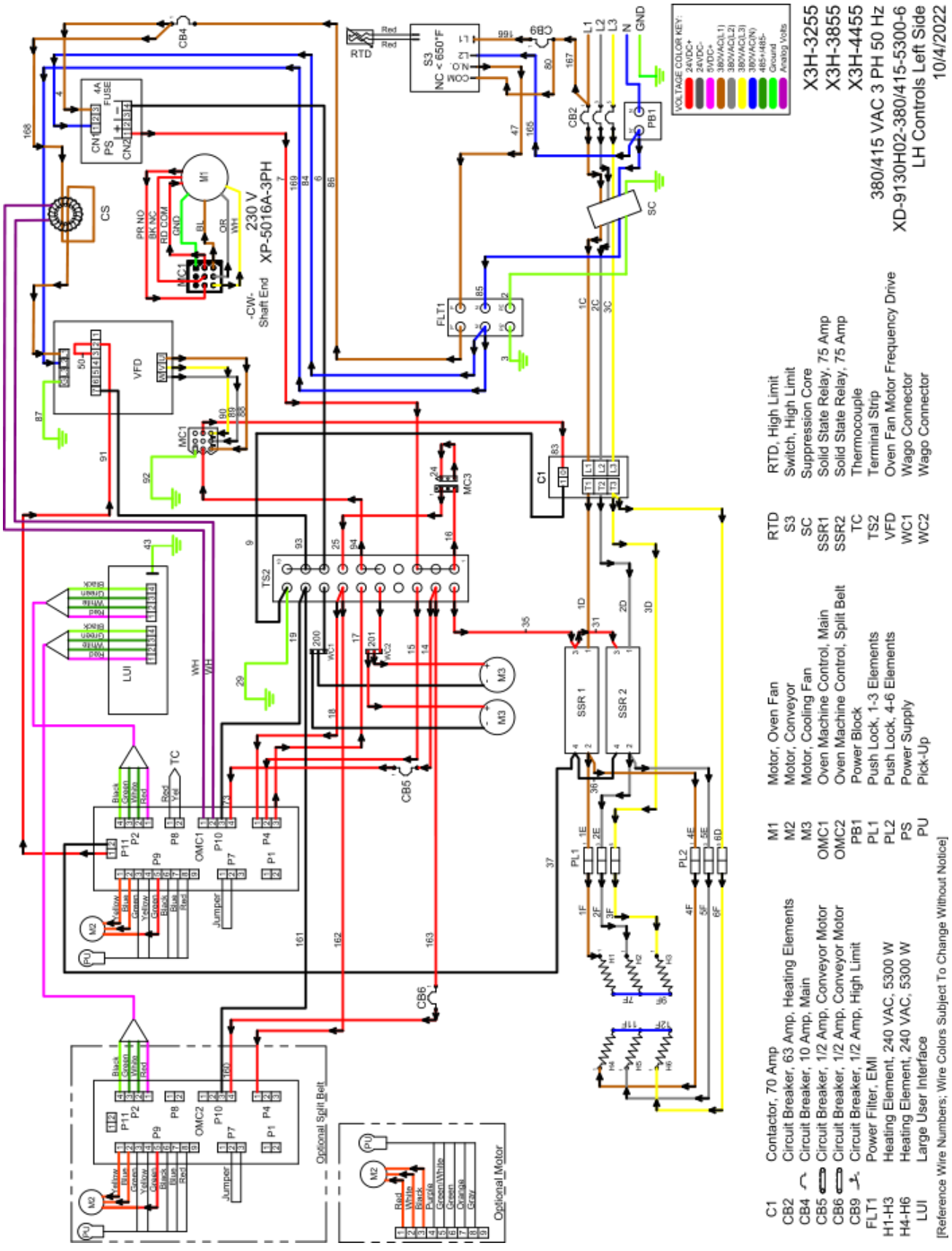
380/415 VAC 3 PH 50 Hz
XD-9130H02-380/415-NV-5300-3 RH
RH Controls Right Side
10/4/2022

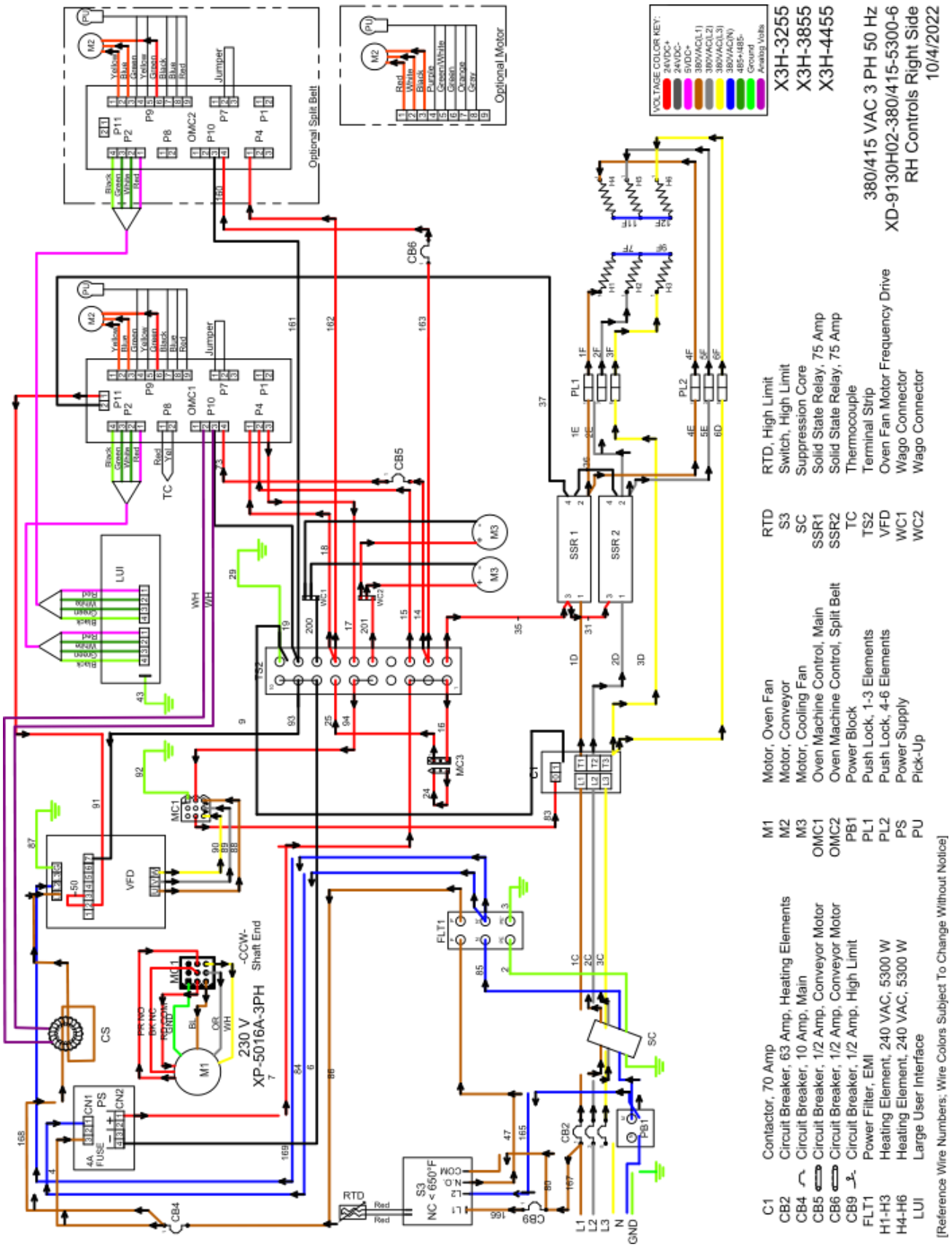
[Reference Wire Numbers; Wire Colors Subject To Change Without Notice]

OVEN SCHEMATIC - WORLD 380/415 VAC LH

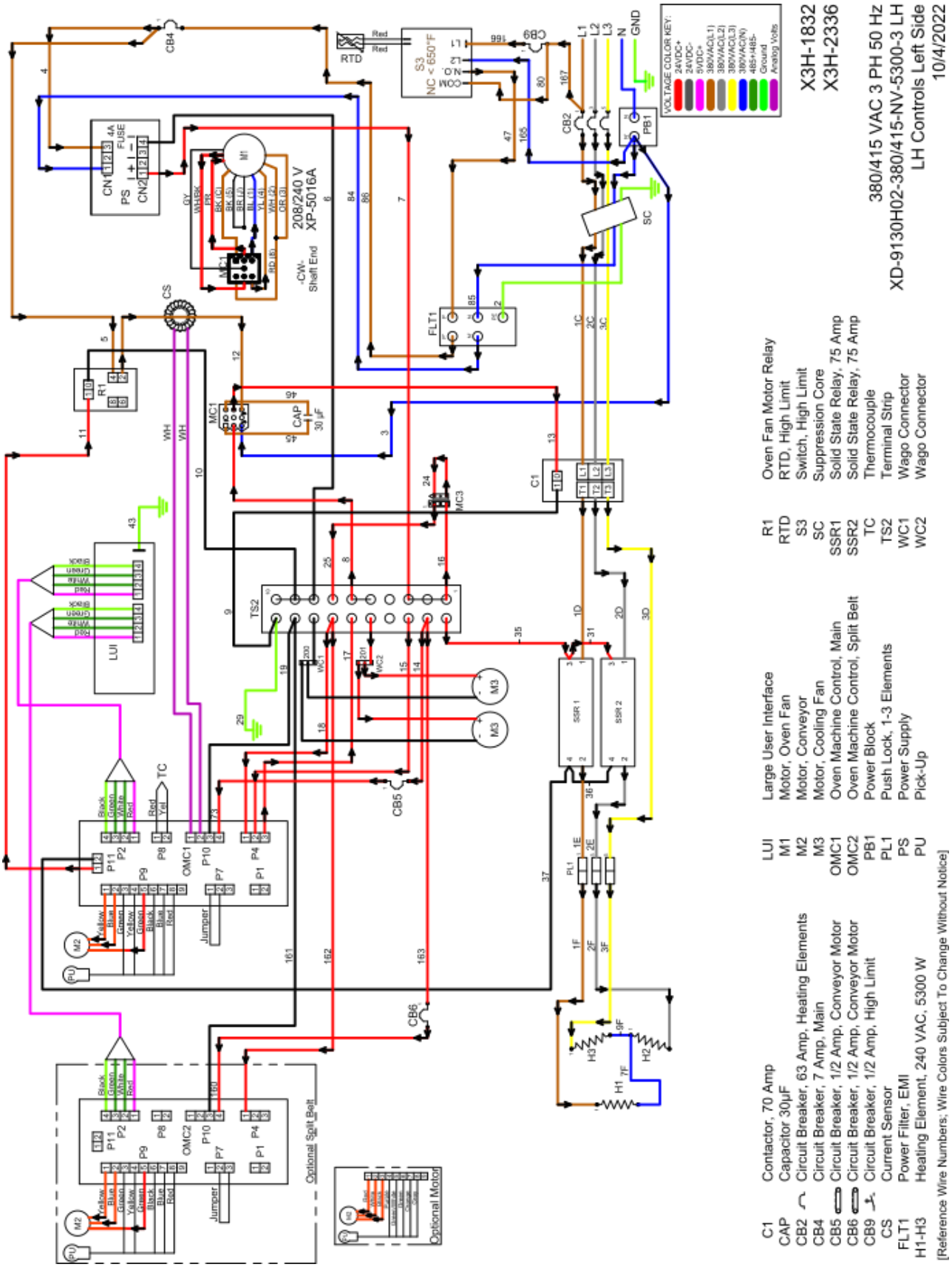



X3H-2440
X3H-3240
380/415 VAC 3 PH 50 Hz
XD-9130H02-380/415-4500-6
RH Controls Right Side
10/4/2022
VOLTAGE COLOR KEY:
24VDC+
24VDC-
5VDC+
380VAC(L1)
380VAC(L2)
380VAC(L3)
380VAC(N)
485+
485-
Ground
Analog Volts
C1 Contactor, 70 Amp
CB2 Circuit Breaker, 63 Amp, Heating Elements
CB4 Circuit Breaker, 10 Amp, Main
CB5 Circuit Breaker, 1/2 Amp, Conveyor Motor
CB6 Circuit Breaker, 1/2 Amp, Conveyor Motor
CB9 Circuit Breaker, 1/2 Amp, High Limit
FLT1 Power Filter, EMI
H1-H3 Heating Element, 208 Or 240 VAC, 4500 W
H4-H6 Heating Element, 208 Or 240 VAC, 4500 W
LUI Large User Interface
M1 Motor, Oven Fan
M2 Motor, Conveyor
M3 Motor, Cooling Fan
OMC1 Oven Machine Control, Main
OMC2 Oven Machine Control, Split Belt
PB1 Power Block
PL1 Push Lock, 1-3 Elements
PL2 Push Lock, 4-6 Elements
PS Power Supply
PU Pick-Up
RTD RTD, High Limit
S3 Switch, High Limit
SC Suppression Core
SSR1 Solid State Relay, 75 Amp
SSR2 Solid State Relay, 75 Amp
TC Thermocouple
TS2 Terminal Strip
VFD Oven Fan Motor Frequency Drive
WC1 Wago Connector
WC2 Wago Connector
[Reference Wire Numbers; Wire Colors Subject To Change Without Notice]
Optional Split Belt
Optional_Motor
Jumper
OMC1
OMC2
LUI
VFD
SSR 1
SSR 2
TS2
MC1
MC3
C1
FLT1
CB2
CB4
CB5
CB6
CB9
PB1
PL1
PL2
SC
CS
PS
M1
M2
M3
RTD
S3
TC
CB86
CB5
CB4
CB2
CB9
-CCW-
Shaft End
230 V
XP-5016A-3PH
L1
L2
L3
N
GND

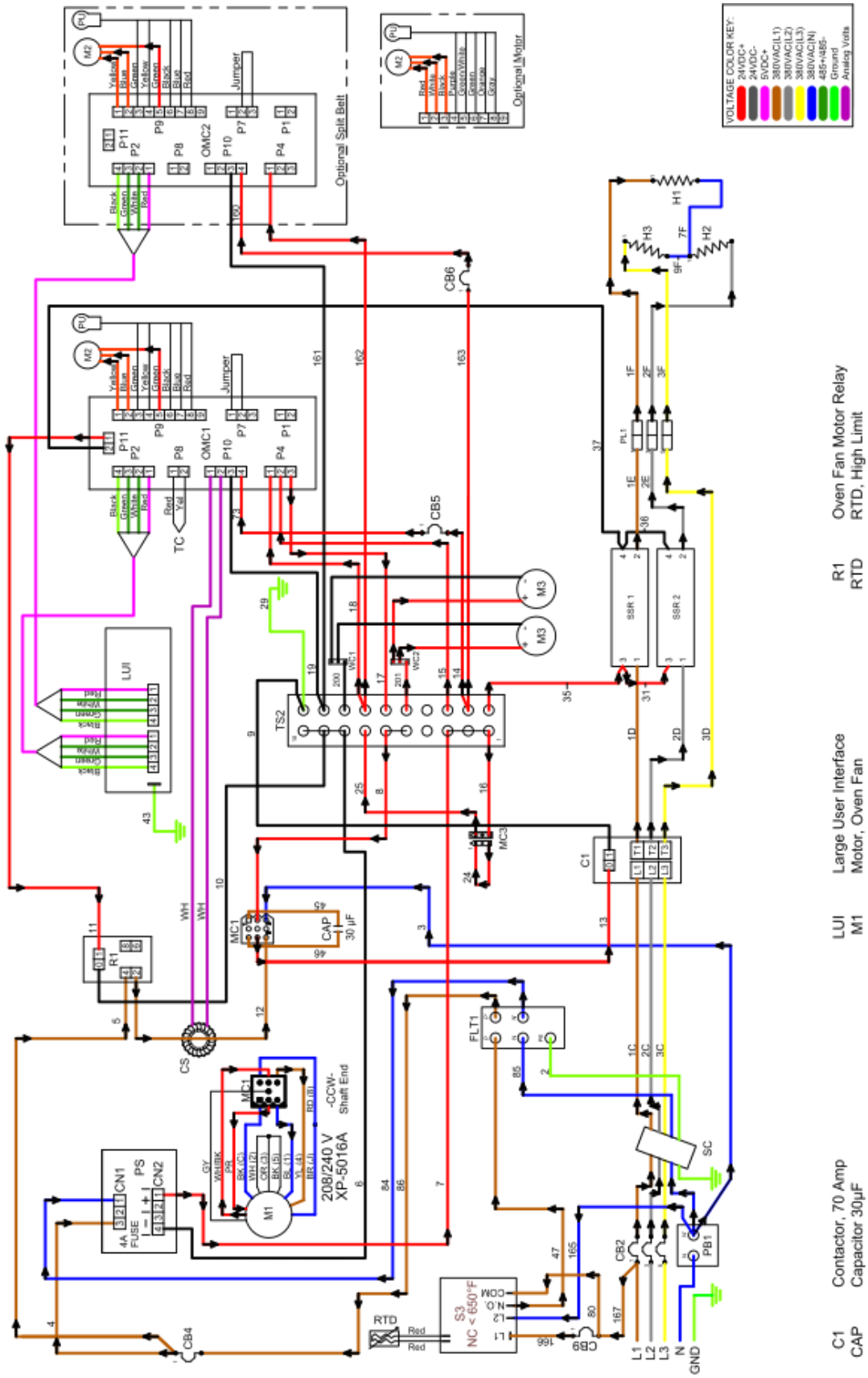

X3H-3255
X3H-3855
X3H-4455
380/415 VAC 3 PH 50 Hz
XD-9130H02-380/415-5300-6
LH Controls Left Side
10/4/2022
VOLTAGE COLOR KEY:
24VDC+
24VDC-
5VDC+
380/AC(L1)
380/AC(L2)
380/AC(L3)
380/AC(N)
485+/485-
Ground
Analog Volts
RTD, High Limit
Switch, High Limit
Suppression Core
Solid State Relay, 75 Amp
Solid State Relay, 75 Amp
Thermocouple
Terminal Strip
Oven Fan Motor Frequency Drive
Wago Connector
Wago Connector
Motor, Oven Fan
Motor, Conveyor
Motor, Cooling Fan
Oven Machine Control, Main
Oven Machine Control, Split Belt
Power Block
Push Lock, 1-3 Elements
Push Lock, 4-6 Elements
Power Supply
Pick-Up
Contactor, 70 Amp
Circuit Breaker, 63 Amp, Heating Elements
Circuit Breaker, 10 Amp, Main
Circuit Breaker, 1/2 Amp, Conveyor Motor
Circuit Breaker, 1/2 Amp, Conveyor Motor
Circuit Breaker, 1/2 Amp, High Limit
Power Filter, EMI
Heating Element, 240 VAC, 5300 W
Heating Element, 240 VAC, 5300 W
Large User Interface
[Reference Wire Numbers; Wire Colors Subject To Change Without Notice]
Optional Split Belt
Optional Motor


X3H-3255
X3H-3855
X3H-4455
380/415 VAC 3 PH 50 Hz
XD-9130H02-380/415-5300-6
RH Controls Right Side
10/4/2022
VOLTAGE COLOR KEY:
24VDC+
24VDC-
5VDC+
380VAC(L1)
380VAC(L2)
380VAC(L3)
380VAC(N)
485+/485-
Ground
Analog Volts
C1 Contactor, 70 Amp
CB2 Circuit Breaker, 63 Amp, Heating Elements
CB4 Circuit Breaker, 10 Amp, Main
CB5 Circuit Breaker, 1/2 Amp, Conveyor Motor
CB6 Circuit Breaker, 1/2 Amp, Conveyor Motor
CB9 Circuit Breaker, 1/2 Amp, High Limit
FLT1 Power Filter, EMI
H1-H3 Heating Element, 240 VAC, 5300 W
H4-H6 Heating Element, 240 VAC, 5300 W
LUI Large User Interface
M1 Motor, Oven Fan
M2 Motor, Conveyor
M3 Motor, Cooling Fan
OMC1 Oven Machine Control, Main
OMC2 Oven Machine Control, Split Belt
PB1 Power Block
PL1 Push Lock, 1-3 Elements
PL2 Push Lock, 4-6 Elements
PS Power Supply
PU Pick-Up
RTD RTD, High Limit
S3 Switch, High Limit
SC Suppression Core
SSR1 Solid State Relay, 75 Amp
SSR2 Solid State Relay, 75 Amp
TC Thermocouple
TS2 Terminal Strip
VFD Oven Fan Motor Frequency Drive
WC1 Wago Connector
WC2 Wago Connector
[Reference Wire Numbers; Wire Colors Subject To Change Without Notice]
Optional Split Belt
Optional Motor
Jumper
LUI
VFD
SSR 1
SSR 2
CB6
CB5
CB4
CB2
CB9
PB1
FLT1
MC1
MC3
TS2
PL1
PL2
SC
CS
M1
M3
TC
RTD
S3
230 V
XP-5016A-3PH
-CCW-
Shaft End
L1
L2
L3
N
GND

78 OVEN SCHEMATIC - WORLD NON VFD 380/415 VAC LH



C1	Contactor, 70 Amp	LUI	Large User Interface	R1	Oven Fan Motor Relay
CAP	Capacitor 30µF	M1	Motor, Oven Fan	RTD	RTD, High Limit
CB2	Circuit Breaker, 63 Amp, Heating Elements	M2	Motor, Conveyor	S3	Switch, High Limit
CB4	Circuit Breaker, 7 Amp, Main	M3	Motor, Cooling Fan	SC	Suppression Core
CB5	Circuit Breaker, 1/2 Amp, Conveyor Motor	OMC1	Oven Machine Control, Main	SSR1	Solid State Relay, 75 Amp
CB6	Circuit Breaker, 1/2 Amp, Conveyor Motor	OMC2	Oven Machine Control, Split Belt	SSR2	Solid State Relay, 75 Amp
CB9	Circuit Breaker, 1/2 Amp, High Limit	PB1	Power Block	TC	Thermocouple
CS	Current Sensor	PL1	Push Lock, 1-3 Elements	TS2	Terminal Strip
FLT1	Power Filter, EMI	PS	Power Supply	WC1	Wago Connector
H1-H3	Heating Element, 240 VAC, 5300 W	PU	Pick-Up	WC2	Wago Connector



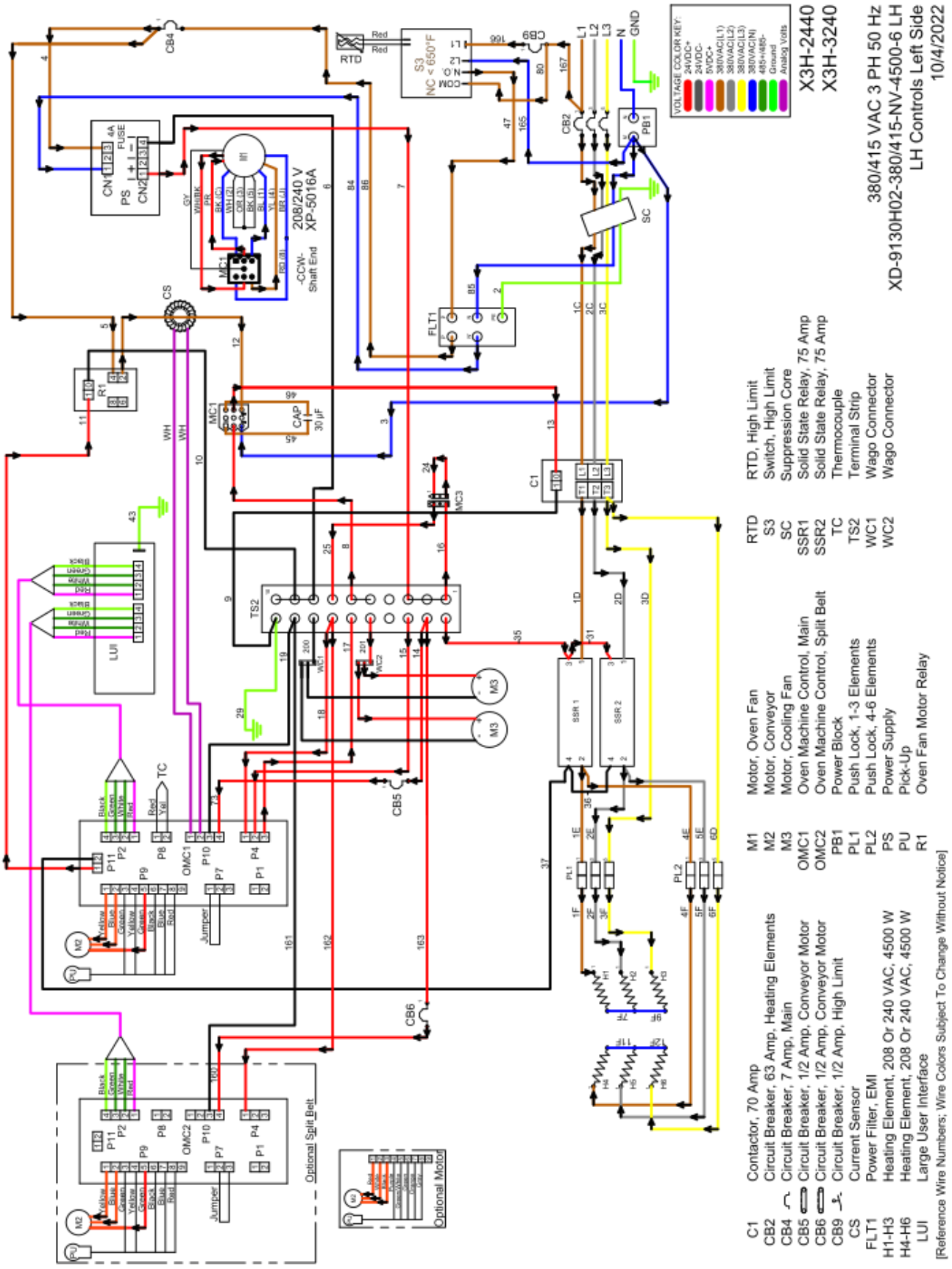
X3H-1832
X3H-2336

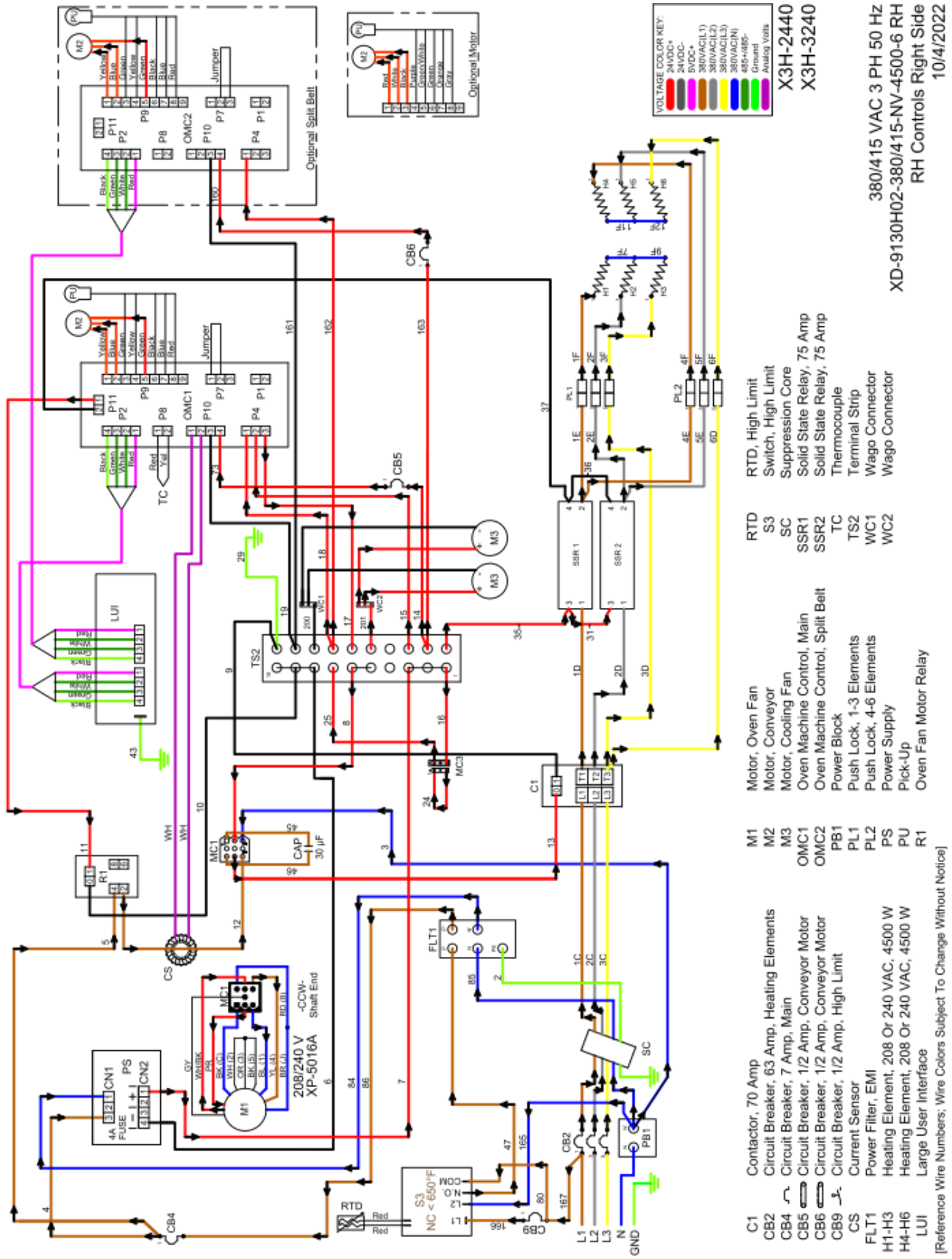
380/415 VAC 3 PH 50 Hz
XD-9130H02-380/415-NV-5300-3 RH
RH Controls Right Side
10/4/2022

		R1	Oven Fan Motor Relay
		RTD	RTD, High Limit
		S3	Switch, High Limit
		SC	Suppression Core
		SSR1	Solid State Relay, 75 Amp
		SSR2	Solid State Relay, 75 Amp
		TC	Thermocouple
		TS2	Terminal Strip
		WC1	Wago Connector
		WC2	Wago Connector
C1	Contactor, 70 Amp	LUI	Large User Interface
CAP	Capacitor 30µF	M1	Motor, Oven Fan
CB2	Circuit Breaker, 63 Amp, Heating Elements	M2	Motor, Conveyor
CB4	Circuit Breaker, 7 Amp, Main	M3	Motor, Cooling Fan
CB5	Circuit Breaker, 1/2 Amp, Conveyor Motor	OMC1	Oven Machine Control, Main
CB6	Circuit Breaker, 1/2 Amp, Conveyor Motor	OMC2	Oven Machine Control, Split Belt
CB9	Circuit Breaker, 1/2 Amp, High Limit	PB1	Power Block
CS	Current Sensor	PL1	Push Lock, 1-3 Elements
FLT1	Power Filter, EMI	PS	Power Supply
H1-H3	Heating Element, 240 VAC, 5300 W	PU	Pick-Up

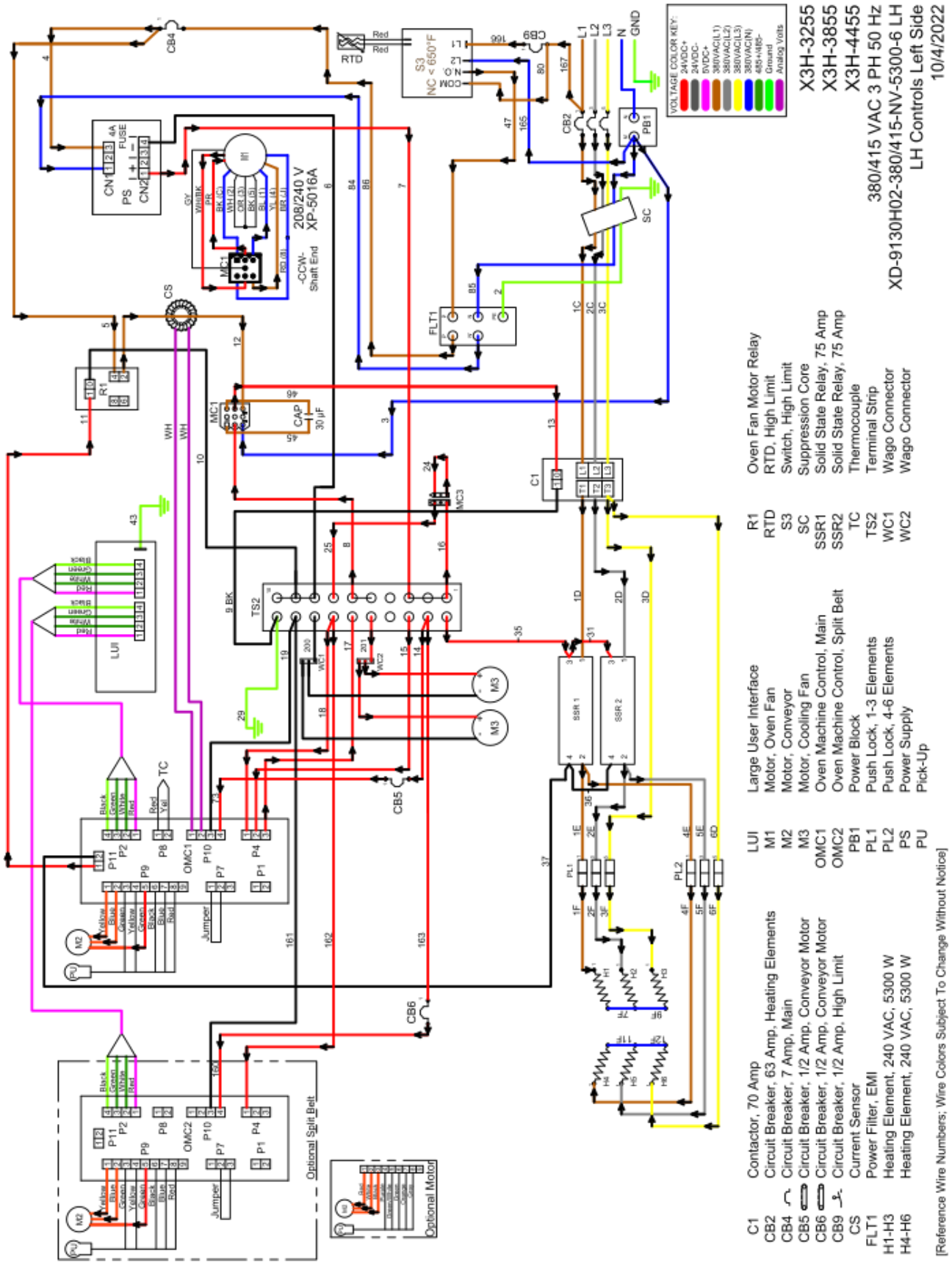
[Reference Wire Numbers; Wire Colors Subject To Change Without Notice]

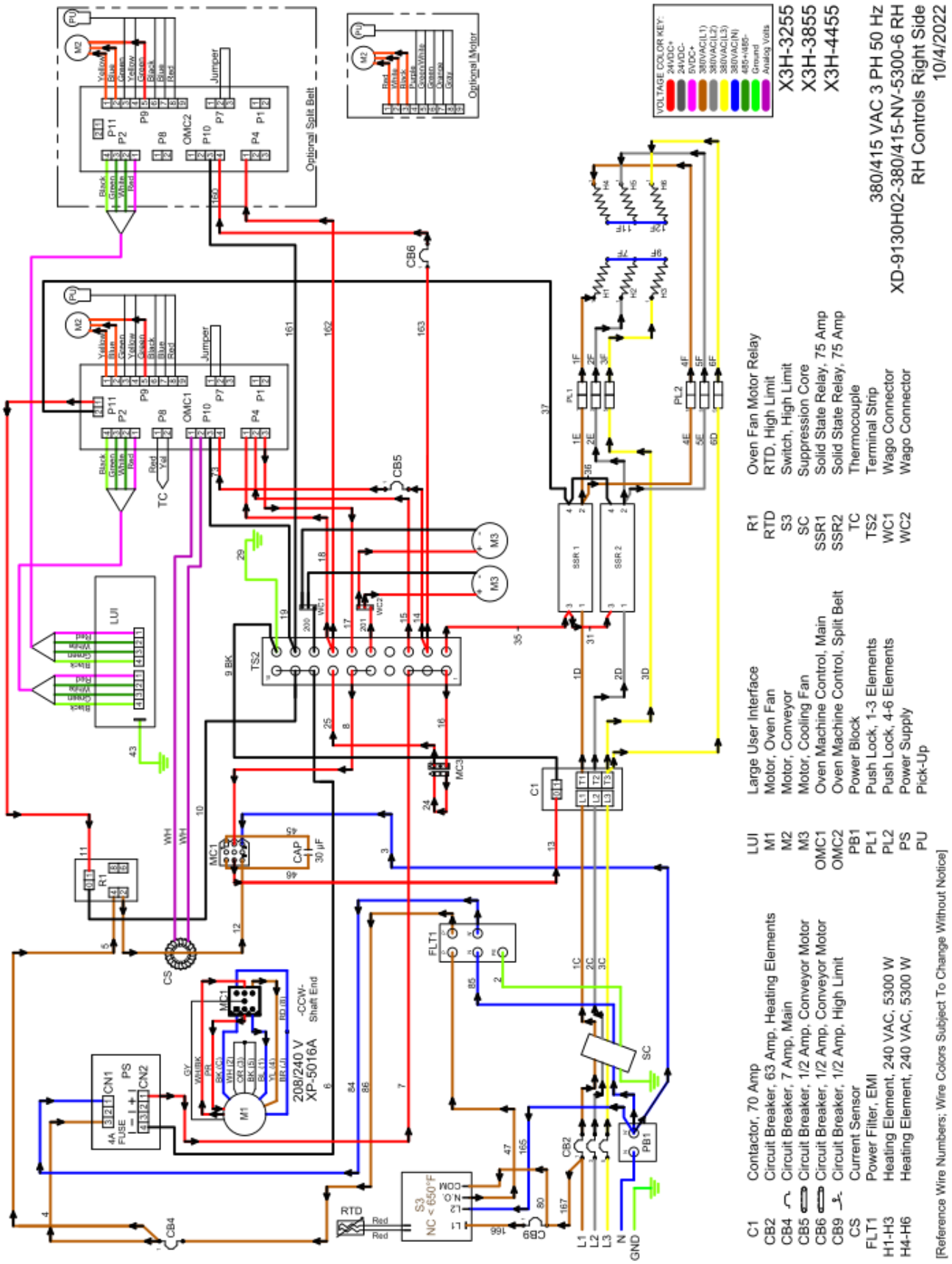
80 OVEN SCHEMATIC - WORLD NON VFD 380/415 VAC LH

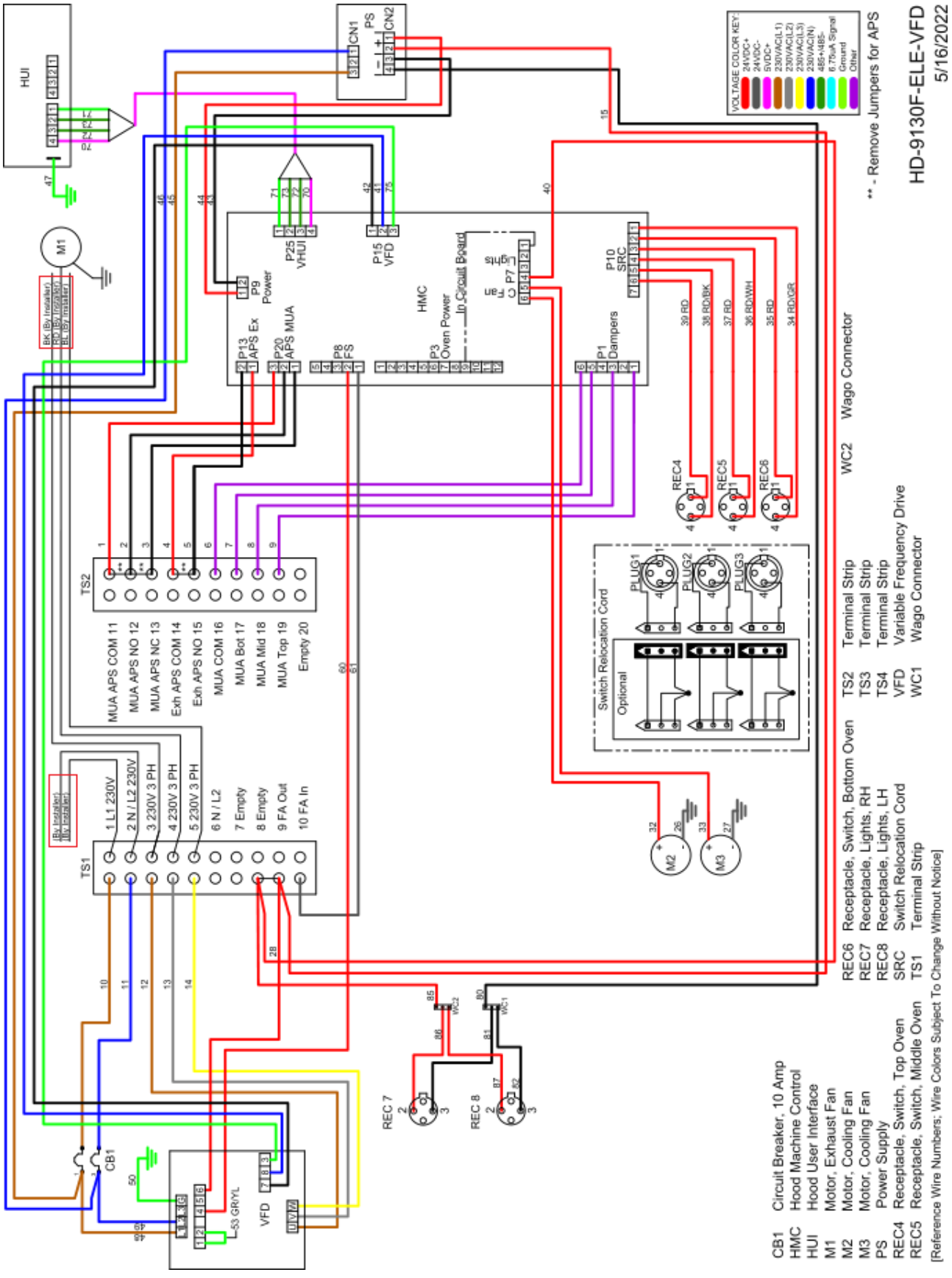



X3H-2440
X3H-3240
380/415 VAC 3 PH 50 Hz
XD-9130H02-380/415-NV-4500-6 RH
RH Controls Right Side
10/4/2022
VOLTAGE COLOR KEY:
24VDC+
24VDC-
5VDC+
380VAC(L1)
380VAC(L2)
380VAC(L3)
485+/485-
Ground
Analog Volts
Optional Split Belt
Optional Motor
Jumper
208/240 V
XP-5016A
-CCW-
Shaft End
RTD
Red
Red
S3
NC < 650°F
COM
N.O.
L2
L1
L1
L2
L3
N
GND
C1 Contactor, 70 Amp
CB2 Circuit Breaker, 63 Amp, Heating Elements
CB4 Circuit Breaker, 7 Amp, Main
CB5 Circuit Breaker, 1/2 Amp, Conveyor Motor
CB6 Circuit Breaker, 1/2 Amp, Conveyor Motor
CB9 Circuit Breaker, 1/2 Amp, High Limit
CS Current Sensor
FLT1 Power Filter, EMI
H1-H3 Heating Element, 208 Or 240 VAC, 4500 W
H4-H6 Heating Element, 208 Or 240 VAC, 4500 W
LUI Large User Interface
M1 Motor, Oven Fan
M2 Motor, Conveyor
M3 Motor, Cooling Fan
OMC1 Oven Machine Control, Main
OMC2 Oven Machine Control, Split Belt
PB1 Power Block
PL1 Push Lock, 1-3 Elements
PL2 Push Lock, 4-6 Elements
PS Power Supply
PU Pick-Up
R1 Oven Fan Motor Relay
RTD RTD, High Limit
S3 Switch, High Limit
SC Suppression Core
SSR1 Solid State Relay, 75 Amp
SSR2 Solid State Relay, 75 Amp
TC Thermocouple
TS2 Terminal Strip
WC1 Wago Connector
WC2 Wago Connector
[Reference Wire Numbers; Wire Colors Subject To Change Without Notice]

OVEN SCHEMATIC - WORLD NON VFD 380/415 VAC LH




VOLTAGE COLOR KEY:
24VDC+
24VDC-
5VDC+
380VAC(L1)
380VAC(L2)
380VAC(L3)
380VAC(N)
485+/485-
Ground
Analog Volts
X3H-3255
X3H-3855
X3H-4455
380/415 VAC 3 PH 50 Hz
XD-9130H02-380/415-NV-5300-6 RH
RH Controls Right Side
10/4/2022
Optional Split Belt
Optional Motor
Jumper
TC
RTD
S3
NC < 650°F
208/240 V
XP-5016A
-CCW-
Shaft End
CAP
30 µF
FUSE
4A
L1
L2
L3
N
GND
C1 Contactor, 70 Amp
CB2 Circuit Breaker, 63 Amp, Heating Elements
CB4 Circuit Breaker, 7 Amp, Main
CB5 Circuit Breaker, 1/2 Amp, Conveyor Motor
CB6 Circuit Breaker, 1/2 Amp, Conveyor Motor
CB9 Circuit Breaker, 1/2 Amp, High Limit
CS Current Sensor
FLT1 Power Filter, EMI
H1-H3 Heating Element, 240 VAC, 5300 W
H4-H6 Heating Element, 240 VAC, 5300 W
LUI Large User Interface
M1 Motor, Oven Fan
M2 Motor, Conveyor
M3 Motor, Cooling Fan
OMC1 Oven Machine Control, Main
OMC2 Oven Machine Control, Split Belt
PB1 Power Block
PL1 Push Lock, 1-3 Elements
PL2 Push Lock, 4-6 Elements
PS Power Supply
PU Pick-Up
R1 Oven Fan Motor Relay
RTD RTD, High Limit
S3 Switch, High Limit
SC Suppression Core
SSR1 Solid State Relay, 75 Amp
SSR2 Solid State Relay, 75 Amp
TC Thermocouple
TS2 Terminal Strip
WC1 Wago Connector
WC2 Wago Connector
[Reference Wire Numbers; Wire Colors Subject To Change Without Notice]


HD-9130F-ELE-VFD
5/16/2022
** - Remove Jumpers for APS
VOLTAGE COLOR KEY:
24VDC+
24VDC-
5VDC+
230VAC(L1)
230VAC(L2)
230VAC(L3)
230VAC(N)
485+/485-
0-10uA Signal
Ground
Other
HUI
CN1
PS
CN2
M1
P25 VHUI
P15 VFD
P9 Power
P13 APS Ex
P20 APS MUA
P8 FS
HMC
P3 Oven Power
In Circuit Board
Lights
P7
P10 SRC
P1 Dampers
39 RD
38 RD/BK
37 RD
36 RD/WH
35 RD
34 RD/GR
REC4
REC5
REC6
WC2 Wago Connector
TS2
MUA APS COM 11
MUA APS NO 12
MUA APS NC 13
Exh APS COM 14
Exh APS NO 15
MUA COM 16
MUA Bot 17
MUA Mid 18
MUA Top 19
Empty 20
PLUG1
PLUG2
PLUG3
Switch Relocation Cord
Optional
TS1
1 L1 230V
2 N / L2 230V
3 230V 3 PH
4 230V 3 PH
5 230V 3 PH
6 N / L2
7 Empty
8 Empty
9 FA Out
10 FA In
M2
M3
REC 7
REC 8
CB1
VFD
53 GRY/L
CB1 Circuit Breaker, 10 Amp
HMC Hood Machine Control
HUI Hood User Interface
M1 Motor, Exhaust Fan
M2 Motor, Cooling Fan
M3 Motor, Cooling Fan
PS Power Supply
REC4 Receptacle, Switch, Top Oven
REC5 Receptacle, Switch, Middle Oven
REC6 Receptacle, Switch, Bottom Oven
REC7 Receptacle, Lights, RH
REC8 Receptacle, Lights, LH
SRC Switch Relocation Cord
TS1 Terminal Strip
TS2 Terminal Strip
TS3 Terminal Strip
TS4 Terminal Strip
VFD Variable Frequency Drive
WC1 Wago Connector
[Reference Wire Numbers; Wire Colors Subject To Change Without Notice]

VOLTAGE COLOR KEY:
24VDC+
24VDC-
230V/AC(L1)
230V/AC(N)
Ground
HD-9130F-NV
5/16/2022
TS1
1 Empty
2 Empty
3 Empty
4 Empty
5 Hood Lamp
6 Hood Lamp
(By Installer w/Add-On Lighting Package Only)
L1 230V
(By Installer w/Add-On Lighting Package Only)
N 230V
S2
S3
S4
REC4
REC5
REC6
REC 7
REC 8
WC2
WC1
86
85
87
87a
REC4 Receptacle, Top Oven
REC5 Receptacle, Middle Oven
REC6 Receptacle, Bottom Oven
REC7 Receptacle, Lights, RH
REC8 Receptacle, Lights, LH
S2 Switch, Top Oven
S3 Switch, Middle Oven
S4 Switch, Bottom Oven
TS1 Terminal Strip
[Reference Wire Numbers; Wire Colors Subject To Change Without Notice]

Product Certifications and Applicable Codes

Standard XLT Oven Certifications[1]

XLT Gas Ovens:

1. ANSI Z83.11-2016/CSA 1.8-2016 Standard for Gas Food Service Equipment
2. ANSI /NSF 4-2016 Sanitation for Commercial Cooking Rethermalization and Powered Hot Food Holding and Transportation Equipment

XLT Electric Ovens:

1. ANSI/UL197-CSA C22.2 Commercial Electric Appliances
2. ANSI /NSF 4-2016 Sanitation for Commercial Cooking Rethermalization & Powered Hot Food Holding & Transportation Equipment

World XLT Oven Certifications[1]

XLT Gas Ovens:

1. EN 60335-1:2002 +A11, A1:2004 +A12, A2:2006 +A1 Low Voltage Directive (LVD)
2. EN 55014-1:2006 +A1:2009 +A2:2011 EN 61000-3-2:2018, EN 61000-3-3:2013 Electromagnetic Compatibility. (EMC)
3. EN 55014-2:2015 Conducted Emissions, Surge Immunity
4. BS EN 203-1:2014, Gas Heated Catering Equipment; General Safety Rules
5. BS EN 203-2-1:2006, Standard for Gas Heated Catering Equipment; Specific Requirements Ovens
6. BS EN 203-3:2009, Gas Heated Catering Equipment; Materials and Parts in Contact with Food and Other Sanitary Aspects
7. EN 60335-2-102:2004 +A1:2008 +A2:2012 Gas Appliance Regulation (GAR)

XLT Electric Ovens:

1. EN 60335-2-42:2002 +A1:2008 Safety of Household Appliances and Similar Electrical Appliances
2. EN 60335-1:2010 +A1:2013 Low Voltage Directive (LVD)
3. EN 55014-2:2015 Conducted Emissions, Surge Immunity
4. EN 61000-3-2:2014 Electromagnetic Compatibility. (EMC)
5. EN 61000-3-3:2013 +A1+A2 Voltage fluctuation
6. EN 61000-6-3:2007 +A1:2011 EMC Immunity for residential, commercial & light industrial

[1] The noted certifications for XLT ovens and XLT Hood are performed and documented by Intertek Testing Services NA Inc. 165 Main Street, Cortland, NY 13045.
Intertek is a nationally and internationally certified testing and accreditation agency.
[2] The certifications for Australia are administered and verified by the SAI Global Pty Limited 680 George Street, Sydney NSW 2000, GPO Box 5420 Sydney NSW 2001
[3] 402 Hannuri-daero, Sejong-si, 339-012, Republic of Korea

Product Certifications and Applicable Codes

Australian XLT Oven Certifications[2]

XLT Gas Ovens: (Certificate GAS40066)

1. AS 4563-2004 Commercial Catering Gas Equipment
2. AS/NZ 3350.1:2002 Safety of Household and Similar Appliances

Korea XLT Oven Certifications[3]

XLT Gas Ovens: (Certificate GA-107)

1. Meets KGS-AB338 Facility/Technical/Inspection Code For Manufacture of Commercial Gas Burning Appliances.

Standard and World XLT Hood Certifications[1]

1. UL 710 Standard for Safety Exhaust Hoods for Commercial Cooking
2. ANSI/NSF 2:2014 Sanitation Food Equipment
3. ULC-S646, Standard for Exhaust Hoods and Related Controls for Commercial and Institutional Kitchens

[1] The noted certifications for XLT ovens and XLT Hood are performed and documented by Intertek Testing Services NA Inc. 165 Main Street, Cortland, NY 13045.
Intertek is a nationally and internationally certified testing and accreditation agency.
[2] The certifications for Australia are administered and verified by the SAI Global Pty Limited 680 George Street, Sydney NSW 2000, GPO Box 5420 Sydney NSW 2001
[3] 402 Hannuri-daero, Sejong-si, 339-012, Republic of Korea

Oven Initial Start-up Checklist - Remove and Return to XLT Ovens

Fill out all information and print legibly

Start-Up Information

Customer Name:_____ Company Name: _____

Phone #: _____ Email: _____

Address:_____

City: _____ State: _____ Zip: _____ Country:_____

Follow Requirements outlined in Installation and Operation Manual

Oven Install and Start-up Requirements:

- ☐ Gas Requirements met (Gas Ovens Only)
  - One shut off valve per oven installed; if not, call XLT as this may void warranty
- ☐ Electrical Requirements met
- ☐ Clearances met
- ☐ Oven(s) installed and stacked properly

Follow Requirements outlined in Installation and Operation Manual

Hood Install and Start-up Requirements:

- ☐ Electrical Requirements met
- ☐ Clearances/ Height Requirement met
- ☐ Hood installed properly
- ☐ Shrouds installed properly
  - Ovens are under hood with shrouds attached

Oven Information

Top Oven

Serial Number: _____

Model Number:_____

Middle Oven

Serial Number: _____

Model Number:_____

Bottom Oven

Serial Number: _____

Hood Information

Serial Number: _____

Model Number:_____

XLT Ovens

PO Box 9090

Wichita, KS 67277

Start-up can be submitted via mail, fax, email or submit online (using QR code above or go to xltovens.com/startup).

Print Name:_____ Signature:_____ Date:_____

XLT Ovens
PO Box 9090
Wichita, Kansas 67277
US: 888-443-2751 FAX: 316-943-2769 INTL: +1-316-943-2751 WEB: www.xltovens.com