ALTO-SHAAM

Service Manual

Prodigi®

PRO Control

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10-10E	10-10G
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REV.01
5/23

EN

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Manufacturer’s Information

Manufacturer

Alto-Shaam, Inc.

P.O. Box 450

W164 N9221 Water Street

Menomonee Falls, WI 53052

Original instructions

The content in this manual is written in American English.

Alto-Shaam 24/7 Emergency Repair Service

Call	Call 800-558-8744 to reach our 24-hour emergency service call center for immediate access to local authorized service agencies outside standard business hours. The emergency service access is provided exclusively for Alto-Shaam equipment and is available throughout the United States through Alto-Shaam's toll free number.
Availability	Emergency service access is available seven days a week, including holidays.

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The Meaning of Signal Words

This manual contains signal words where needed. These signal words must be obeyed to reduce the risk of death, personal injury, or equipment damage. The meaning of these signal words is explained below.

DANGER

Danger indicates a hazardous situation which, if not avoided, will result in serious injury or death.

WARNING

Warning indicates a hazardous situation which, if not avoided, could result in serious injury or death.

CAUTION

Caution indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE Notice indicates a situation which, if not avoided, could result in property damage.

NOTE: Note indicates additional information that is important to a concept or procedure.

Safety Precautions

Before you begin

Read and understand all instructions in this manual.

Electrical precautions

Obey these electrical precautions when using the appliance:

- Connect the appliance to a properly grounded outlet. Do not use the appliance if it is not properly grounded. Consult an electrician if there is any doubt that the outlet used is properly grounded.
- Keep the cord away from hot surfaces.
- Do not attempt to service the appliance or its cord and plug.
- Do not operate the appliance if it has a damaged cord or plug.
- Do not immerse the cord or plug in water.
- Do not let the cord hang over the edge of a table or counter.
- Do not use an extension cord.

Usage precautions

Obey these usage precautions when using the appliance:

- Only use this appliance for its intended use of heating or cooking.
- Always keep liquids, or foods that can become liquid when heated, level and at or below eye level where they can be seen.
- Use utensils and protective clothing such as dry oven mitts when loading and unloading the appliance.
- Use caution when using the appliance. Floors adjacent to the appliance may become slippery.
- Do not cover or block any of the openings of this appliance.
- Do not cover racks or any other part of this appliance with metal foil.
- Do not use this appliance near water such as a sink, in a wet location, near a swimming pool, or similar locations.
- Do not unplug or disconnect the appliance immediately after cooking. The cooling fans must stay on to protect electrical components.

Maintenance precautions

Obey these maintenance precautions when maintaining the appliance:

- Obey precautions in the manual, on tags, and on labels attached to or shipped with the appliance.
- Only clean the appliance when oven is OFF.
- Do not store the appliance outdoors.
- Do not clean the appliance with metal scouring pads.
- Do not use corrosive chemicals when cleaning the appliance.
- Do not use a hose or water jet to clean the appliance.
- Do not use the appliance cavity for storage.
- Do not leave flammable materials, cooking utensils, or food inside the appliance when it is not in use.
- Do not remove the top cover or side panels. There are no user-serviceable components inside.

Operator training

All personnel using the appliance must have proper operator training. Before using the appliance:

- Read and understand the operating instructions contained in all the documentation delivered with the appliance.
- Know the location and proper use of all controls.
- Keep this manual and all supplied instructions, diagrams, schematics, parts lists, notices, and labels with the appliance if the appliance is sold or moved to another location.
- Contact Alto-Shaam for additional training if needed.

Operator qualifications

Only trained personnel with the following operator qualifications are permitted to use the appliance:

- Have received proper instruction on how to use the appliance.
- Have demonstrated their ability with commercial kitchens and commercial appliances.

The appliance must not be used by:

- Persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision concerning use of the appliance by person responsible for their safety.
- People impaired by drugs or alcohol.

- Children should be supervised to ensure that they do not play with the appliance.
- Children shall neither clean nor maintain the appliance.

Condition of appliance

Only use the appliance when:

- All controls operate correctly.
- The appliance is installed correctly.
- The appliance is clean.
- The appliance labels are legible.

Servicing the appliance

- Only trained personnel are permitted to service or repair the appliance. Repairs that are not performed by an authorized service partner or trained technician will void the warranty and relieve Alto-Shaam of all liability. Original manufacturer's replacement parts may be substituted; however, these parts must be of equal quality and specifications as those provided by Alto-Shaam.
- To prevent serious injury, death or property damage, have the appliance inspected and serviced at least every twelve (12) months by an authorized service partner or trained technician.
- Contact Alto-Shaam for the authorized service partner in your area.

Sound power

The A-weighted sound pressure level is below 70 dB(A).

Personal Protective Equipment (PPE)

Wear the following Personal Protective Equipment (PPE) while cleaning the appliance:

- Protective gloves
- Protective clothing
- Eye protection
- Face protection

Service Technician Training

Only trained personnel are permitted to service or repair the appliance. Service technicians must be knowledgeable in current codes and standards as stated by the appropriate agencies, such as:

- The National Fire Protection Association (NFPA)
- National Electrical Code (NEC)
- The Service Technician's employer

How to Turn On and Turn Off the Oven

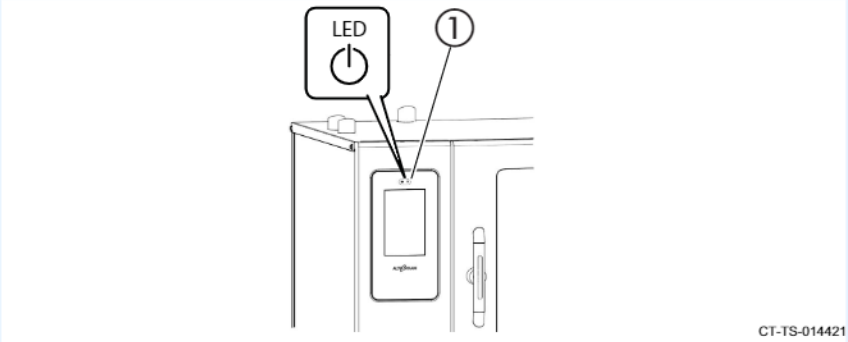
Before you begin

- The oven must be connected to electric power.
- Make sure the gas supply is connected.
- Make sure the water supply is connected.

Turning on the oven

To turn on the oven, do the following.

Step	Action
1.	**Touch** the ON/OFF button ①.

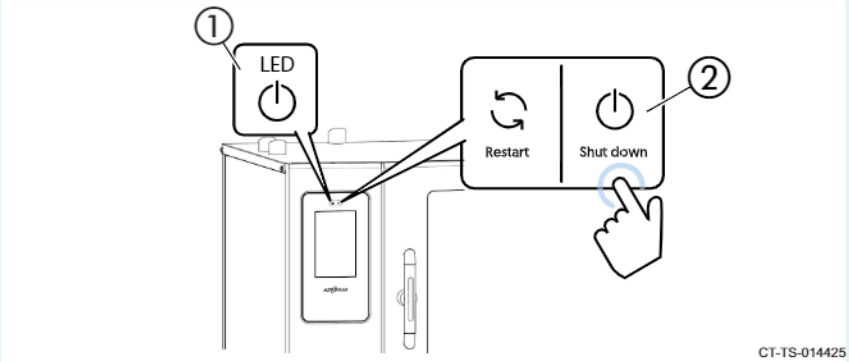


The oven is now on.

Turning off the oven

To turn off the oven, do the following.

2.	**Touch** and hold the ON/OFF button ① until the “Shut Down Options” screen displays. **Touch** “Shut down” ②.



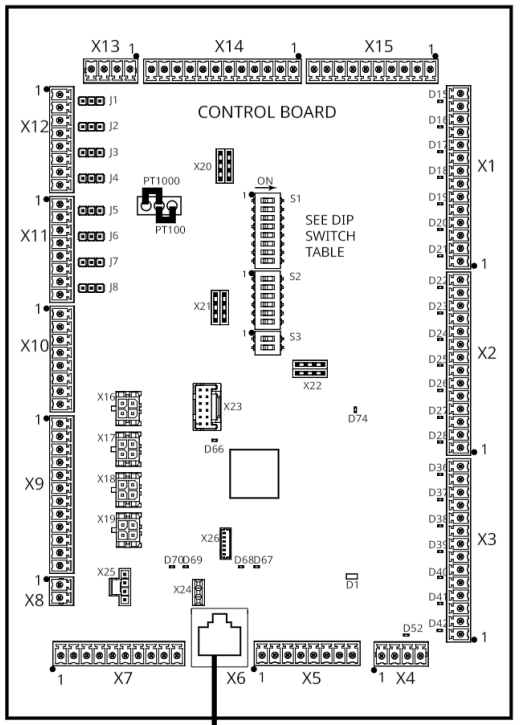
The oven is now off.

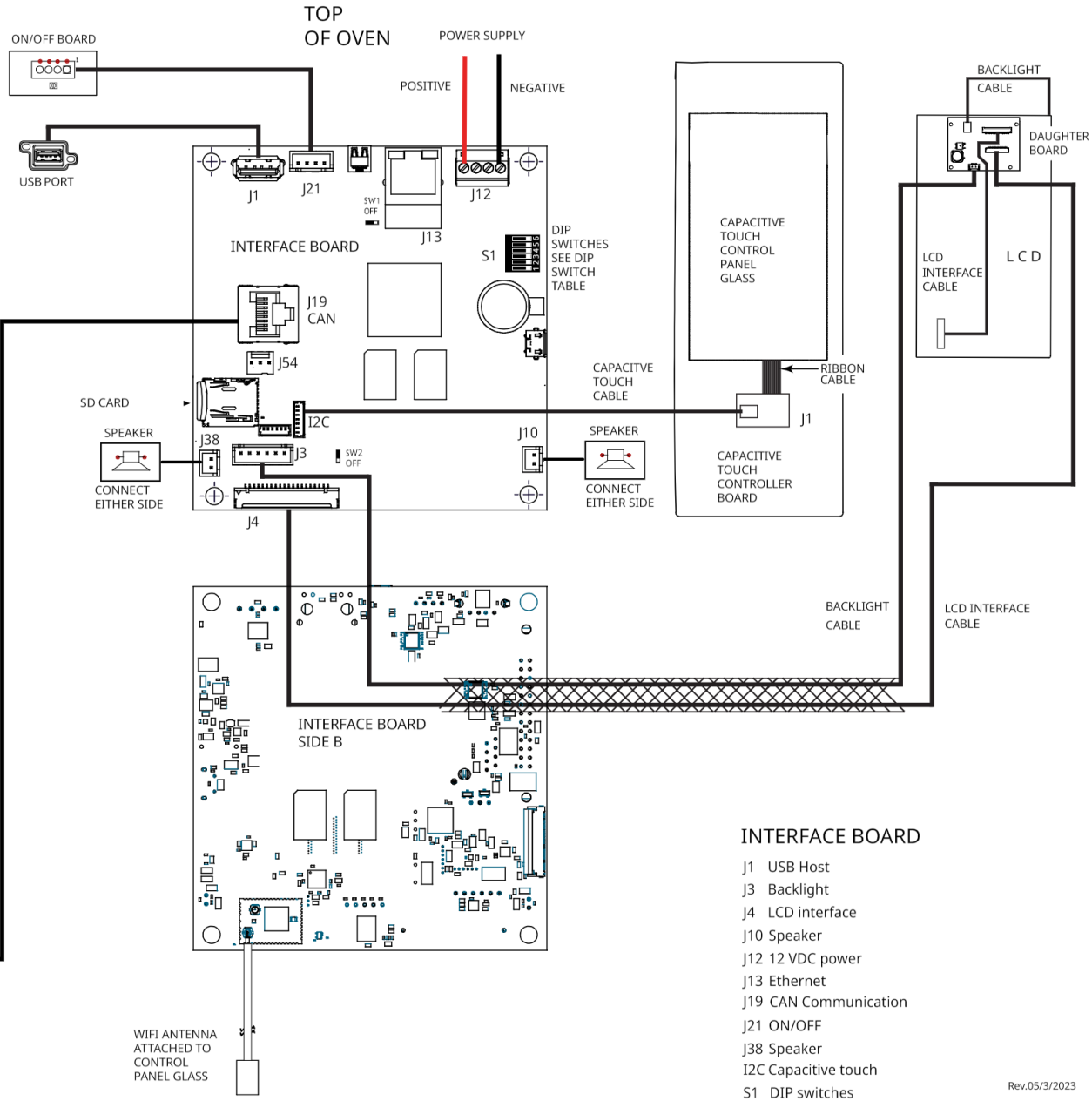
THIS DIAGRAM IS SUBJECT TO CHANGE WITHOUT NOTICE

ALWAYS USE THE ELECTRICAL SCHEMATIC FOR ACTUAL CONNECTIONS

PRODIGI PRO - AMPIRE
CAPACITIVE TOUCH

NOT TO SCALE





INTERFACE BOARD

- J1 USB Host
- J3 Backlight
- J4 LCD interface
- J10 Speaker
- J12 12 VDC power
- J13 Ethernet
- J19 CAN Communication
- J21 ON/OFF
- J38 Speaker
- I2C Capacitive touch
- S1 DIP switches

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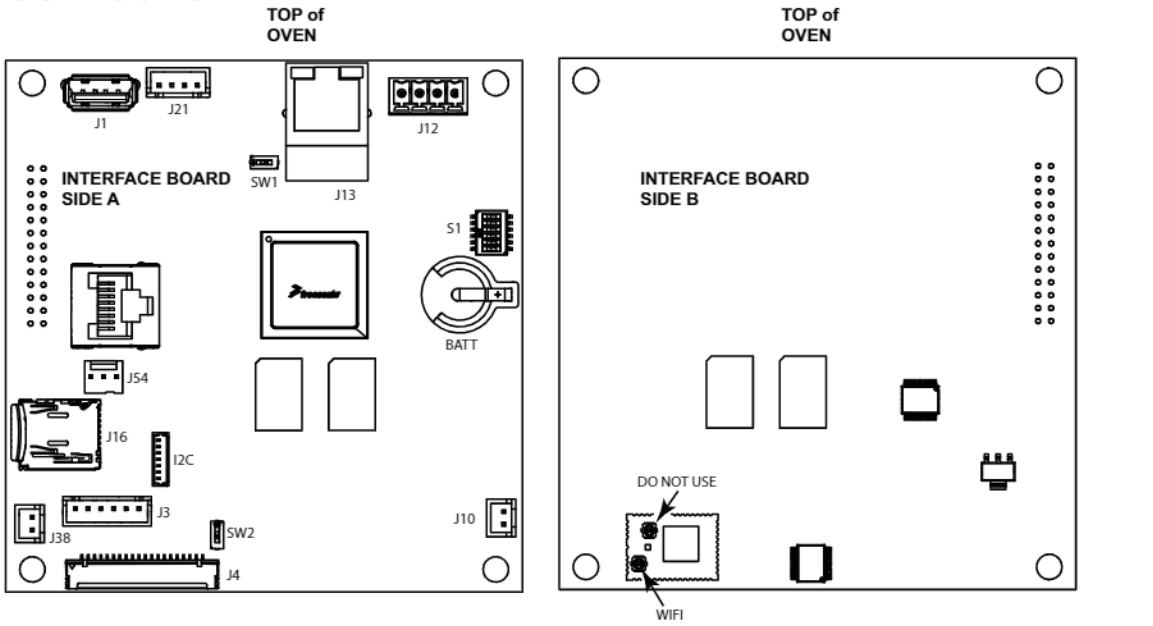
Interface Board



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Ref.	Description
BATT	Clock battery
I2C	Capacitive touch cable
J1	USB connections
J3	Display back light
J4	LCD interface
J10	Speaker
J12	12 VDC power
J13	Ethernet
J16	8 GB micro SD card
J21	ON/OFF board
J38	Speaker
J54	RS 485/232 LVIO
S1	DIP switches (see table)
SW1	DIP switch (off)
SW2	DIP switch (off)

Product	Screen Orientation	SW 6	SW 5	SW 4	SW 3	SW 2	SW 1
Vector H	Landscape	OFF	OFF	OFF	OFF	OFF	OFF
Cook & Hold	Landscape	OFF	OFF	ON	OFF	OFF	OFF
Vector F Electric	Portrait	OFF	ON	ON	OFF	OFF	ON
Vector F Gas	Portrait	OFF	ON	ON	ON	OFF	ON
-	-	-	-	-	-	-	-
Converge DX	Landscape	ON	OFF	OFF	OFF	OFF	OFF
Converge SX	Landscape	ON	OFF	OFF	OFF	ON	OFF
Prodigi Pro Electric	Portrait	OFF	OFF	OFF	ON	OFF	ON
Prodigi Pro Gas	Portrait	ON	OFF	ON	ON	OFF	ON
Prodigi Classic Elect	Portrait	OFF	OFF	OFF	ON	ON	ON
Prodigi Classic Gas	Portrait	ON	OFF	ON	ON	ON	ON

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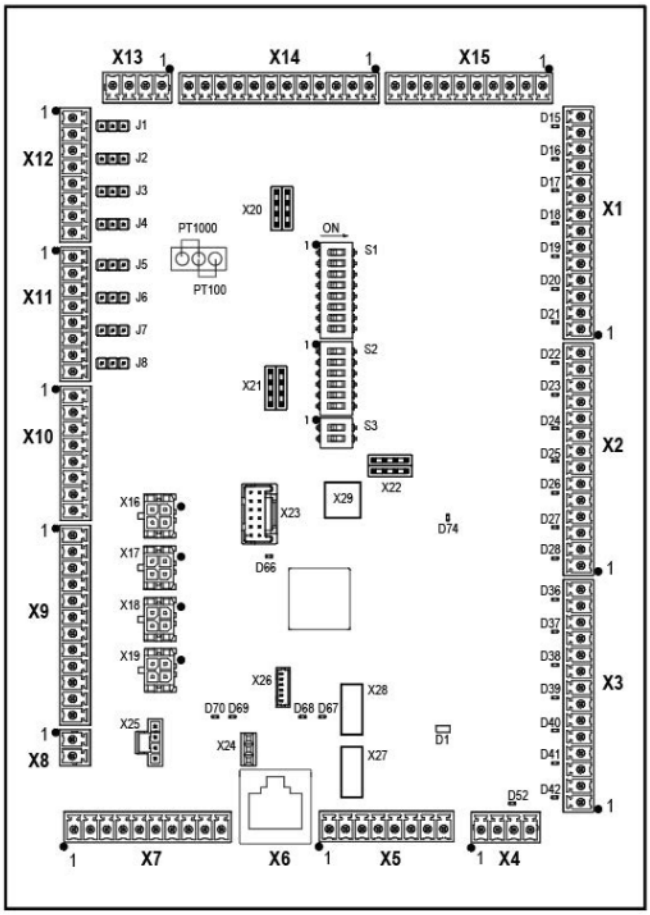
Control Board



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DIP SWITCH TABLE S1

	1	2	3	4	5	6	7	8
ON	BOILER	GAS	CLASSIC	ROLL-IN	OPTION	V-HOOD	MULTI-POINT PROBE	SPARE
OFF	BOILER-LESS	ELECTRIC	PRO	TABLE TOP	NO OPTION	NO V-HOOD	SINGLE-POINT PROBE	SPARE

DIP SWITCH TABLE S2

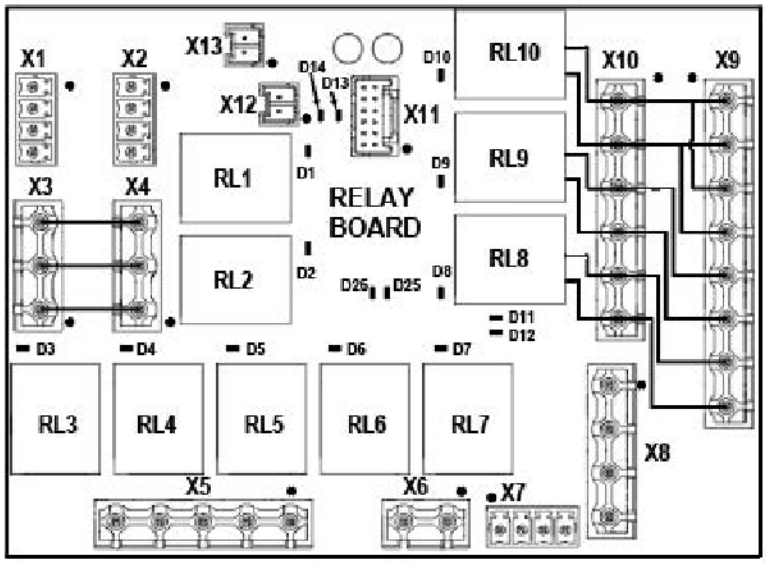
	1	2	3	4	5	6
ON	N/A	PRODIGI	N/A	N/A	N/A	N/A
OFF	N/A	CMC	N/A	N/A	N/A	N/A

DIP SWITCH TABLE S3

	1	2
ON	N/A	N/A
OFF	N/A	N/A

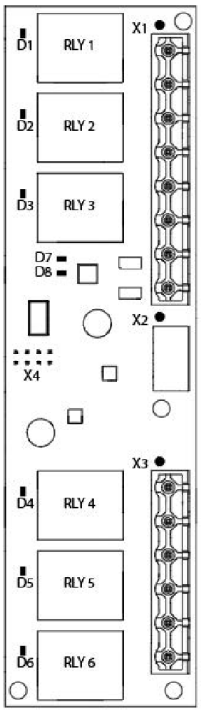
Ref.	Pin(s)	Description	Ref.	Pin(s)	Description
D1	-	Green / Red LED 5V	X11	1-2	B10, Product Temp Probe
D15-D28	-	Yellow LEDs - Function Outputs	-	3-8	Not Used
D36-D42	-	Yellow LEDs - Function Outputs	X12	1-2	N6, Cavity Temp Probe
D52	-	Amber LED 12V at 5V Converter	-	3-8	Not Used
D66	-	White Led - Heart Beat Blinking	X13	1-4	RGB Door Handle Lights
D67-D68	-	Blue LEDs - Rx - Tx Blinking	X14	1-2	Pressure Switch - Water Supply
D69-D70	-	Not Used	-	3-12	Not Used
D74	-	Green LED 3.3V	X15	1-2	Door Switch
J1- J8	-	Probe Jumpers 100Ω, or 1000Ω	-	3-4	Not used
S1	-	DIP Switches - See Table on EI Schematic	-	5-6	Steam Relief Valve Switch 1 (SW-1)
S2	-	DIP Switches - See Table on EI Schematic	-	7-8	Steam Relief Valve Switch 2 (SW-2)
S3	-	DIP Switches - See Table on EI Schematic	-	9-10	Not Used
X1	1-14	Not Used	X16	1	PWM to RB - Upper Burner
X2	1-2	RLY 50 VFD(s) - Power Enable	-	2	Not Used
-	3-4	RLY 51 VFD - 20.20 - Lower - 440-480 Volt	-	3	Not Used
-	5-14	Not Used	-	4	Hall Effect from RB - Upper Burner
X3	1	Not Used	X17	1	PWM to RB - Lower Burner
-	2	Cavity LED	-	2	Not Used
-	3	Not Used	-	3	Not Used
-	4	Cavity LED - 20.10, 20.20	-	4	Hall Effect from RB - Lower Burner
-	5-8	Not Used	X18	-	Not Used
-	9-12	Steam Relief Valves (RV) Browning Valves	X19	-	Not Used
-	13-14	Not Used	X20	-	Not Used
X4	-	12 VDC Supply - Jumpers to IB	X21	-	Not Used
X5	1-2	N7, High Limit - Test	X22	-	Interface to Option Board X4
-	3-8	Not Used	X23	-	Comm Cable to Relay Board X11
X6	-	CB - IB Communication	X24	-	Not Used
X7	1-2	Fan Motor - High Limit - Upper - Classic	X25	-	Not Used
-	3-4	Fan Motor - High Limit - Lower - Classic	X26	-	Not Used
-	5-10	Not Used	X27	-	VFD(s) Communication - S600
X8	-	Not Used	X28	-	Not Used
X9	-	Not Used	X29	-	Not Used
X10	1-2	B3 - Water Temp Probe - Condensate	-	-	-
-	3-4	Not Used	-	-	-
-	5-6	B5 - Probe- Steam Bypass	-	-	-
-	7-8	Not Used	-	-	-

Relay Board



Ref.	Pin(s)	Description	Ref.	Pin(s)	Description
D1 - D10	-	Yellow LEDs - Function Outputs	X3	1-3	Fan Motor - Upper - Classic
D11	-	Green LED Lower Gas Function Check	X4	1-3	Fan Motor - Lower - Classic
D12	-	Green LED Upper Gas Function Check	X5	1	NO Contact RL6 - Y4 Cleaning Pump
D13	-	Amber LED 12V	-	2	NO Contact RL5 - Y3 Water
D14	-	Green LED - 5VDC	-	3	NO Contact RL4 - Y2 Water
D25	-	Red LED - Lower Gas Alarm	-	4	NO Contact RL3 - Y1 Steam Valve
D26	-	Red LED - Upper Gas Alarm	-	5	Common RL 3 - RL 6
RL-1	-	Fan Motor - High Speed - Classic	X6	1-2	RL7 - Smoker
RL-2	-	Fan Motor - Low Speed - Classic	X7	1-2	Flame Sensor - Upper (Gas)
RL-3	-	Y1 Water Solenoid	-	3-4	Flame Sensor - Lower (Gas)
RL-4	-	Y2 Water solenoid	X8	1-2	Upper Alarm (Gas)
RL-5	-	Y3 Water solenoid	-	3-4	Lower Alarm (Gas)
RL-6	-	Y4 Cleaning Pump	X9	1-2	Heat Demand - Upper (Gas)
RL-7	-	Smoker	-	3-4	Heat Demand - Lower (Gas)
RL-8	-	Reset - Lower (Gas)	-	5-6	Reset - Upper (Gas)
-	-	K45 Contactor (Electric)	-	7-8	Reset - Lower (Gas)
RL-9	-	Reset - Upper (Gas)	X10	1-2	K41 Contactor (Electric)
-	-	K44 Contactor (Electric)	-	3-4	K44 Contactor (Electric)
RL-10	-	Heat Demand Upper and Lower (Gas)	-	5-6	K45 Contactor (Electric)
-	-	K41 Contactor (Electric)	X11	-	Comm Cable to Control Board X23
X1	1	Combustion Blower - Upper - GND	X12	1	Combustion Blower Lower - HES to CB
-	2	Hall Effect (HES) - In	-	2	CB PWM Signal
-	3	Pulse Width Modulation (PWM) - Out	X13	1	Combustion Blower Upper - HES to CB
-	4	12 VDC	-	2	CB PWM Signal
X2	1	Combustion Blower - Lower - GND	-	-	-
-	2	Hall Effect (HES) - In	-	-	-
-	3	Pulse Width Modulation (PWM) - Out	-	-	-
-	4	12 VDC	-	-	-

Option Board



Ref.	Description	Ref.	Pin(s)	Description
RLY 1	Relay - Hood Low	X 1	1-2	Hood Low
RLY 2	Relay - Hood High	-	3-4	Hood High
RLY 3	Relay - Grease Pump - PRO ONLY	-	5-6	Grease Pump - PRO ONLY
RLY 4	Relay - Liquid Soap - PRO ONLY	-	7-8	Hood Function Test
RLY 5	Relay - Not Used	X 2	-	Not Used
RLY 6	Relay - Not Used	X 3	1-2	Soap Pump - PRO ONLY
D 1- 6	LED - Function Outputs	-	3-6	Not Used
D-7	12 VDC	X 4	-	Interface Pins to CB
D-8	5 VDC	-	-	-

Maintenance Schedule

Requirements

- See topic *How to Clean the Oven*.
- Make sure the oven is cooled down and off—inside of chamber 140°F (60°C) or less.

Daily

For daily maintenance, do the following.

- **Remove** any spills with disposable paper wipes or a damp cloth.
- **Wipe** the outside of the oven with a damp cloth.
- **Wipe** the oven gaskets with soap and water.
- **Inspect** the oven gaskets for damage.
- **Wipe** the front door glass.
- **Check** the product probe.
- **Check** the screen for cracking or peeling. Contact Technical Service if needed.

Weekly

For weekly maintenance, do the following.

- **Clean** the entire oven. **Make sure** to use a non-abrasive nylon scrub pad.
- Do not spray the cleaner directly into the fan openings located in the rear of the oven.
- **Inspect** the oven cavity lamp.
- **Inspect** the oven cavity for signs of grease/carbon buildup.
- **Check** behind the fan panel inside the oven cavity for signs of grease/carbon buildup.
- **Check** behind the fan panel inside the oven cavity for signs of scale buildup.
- **Inspect** the heat exchanger for any signs of major deformation. If yes, immediately remove from service and take corrective action.
- **Inspect** the heat exchanger for any loose/disconnected pipes or flanges. If yes, immediately remove from service and take corrective action.
- **Inspect** the convection elements for signs of cracking, deformation, or damage.
- **Clean** the ventless hood grease filters.

Monthly

For monthly maintenance, do the following.

- **Clean** out the drip tray line.
- **Check** the supplied water filtration and change as needed.
- **Check** for software updates.
- **Check** lighting.
- **Inspect** and test the proper draining of the oven cavity.
- **Inspect** the drain lines for leaks or clogs.

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- **Inspect** the oven cavity for any signs of scale buildup.
- **Inspect** the ventless hood paper filter (replace as needed).
- **Test** the ventless hood drain for proper drainage and signs of leaking.
- De-scale as needed.

Yearly

For yearly maintenance, do the following.

> **NOTE:** Must be performed by a qualified professional.

- **Replace** the steam bypass hose.
- **Inspect** and test the humidity control.
- **Inspect** all drain hoses and clamps.
- **Inspect** all steam water injection lines and clamps for leaks or potential issues.
- **Inspect** wiring to heating elements. Re-tighten or secure as needed. Record the amp draw.
- **Inspect** the cleaning system pump and hoses for leaks and proper operation.
- **Inspect** and test the proper draining of the oven cavity.
- **Inspect** the upper browning valve hose.
- **Inspect** the low pressure relief valve and hose.
- **Inspect** the convection element seal from the electrical compartment.
- **Inspect** the gas heat exchanger seal from the electrical compartment.
- **Inspect** the N6 oven temperature probe seal.
- **Inspect** the hand shower handle and hose.
- **Check** operation of all electrical cooling fans.
- **Test** steam injection solenoid.
- **Test** condensate solenoid.
- **Check** all electrical connections are properly connected and secure to the boards.
- **Check** door hinges and handles. Tighten, secure, or adjust as needed.
- **Check** door gaskets for damage and seal.
- **Run** the oven in convection mode and test operation.
- **Run** the oven in steam mode and test operation.
- De-scale as needed.
- For ovens shipped to New Zealand or Australia, **inspect** the back flow preventer check valve per AS/NZ3500.1 and AS/NZ3500.2

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- **Inspect** all drain hoses and clamps.
- **Inspect** all steam water injection lines and clamps for leaks or potential issues.
- **Inspect** wiring to heating elements. Re-tighten or secure as needed. Record the amp draw.
- **Inspect** wiring to the steam element. Re-tighten or secure as needed. Record the amp draw.
- **Inspect** the cleaning system pump and hoses for leaks and proper operation.
- For ovens shipped to New Zealand or Australia, **inspect** the back flow preventer check valve per AS/NZ3500.1 and AS/NZ3500.2

- **Check** operation of all electrical cooling fans.
- **Check** all electrical connections are properly connected and secure to the boards.
- **Check** door hinges and handles. Tighten, secure, or adjust as needed.
- **Check** door gaskets for damage and seal.

- **Test** steam injection solenoid.
- **Test** condensate solenoid.
- **Run** each chamber in convection mode and test operation.
- **Run** each chamber in steam mode and test operation.

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Error Codes

Code	Component	Description	Troubleshooting steps
E-5	2 - Convection fan	Convection fan (upper) under speed	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-5	2 - Convection fan	Lower convection fan under speed	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-10	44 - Cavity sensor	Cavity sensor short	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-10	47 - Food probe	Food probe short	1. Investigate food probe for damage. Replace if damaged. 2. Power down control using on/off icon. 3. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 4. Resume use of oven. If error reappears contact a service provider.
E-10	52 - Steam injector	Steam injector sensor short	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-10	55 - Tank	Tank sensor short	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-11	44 - Cavity sensor	Cavity sensor open	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.

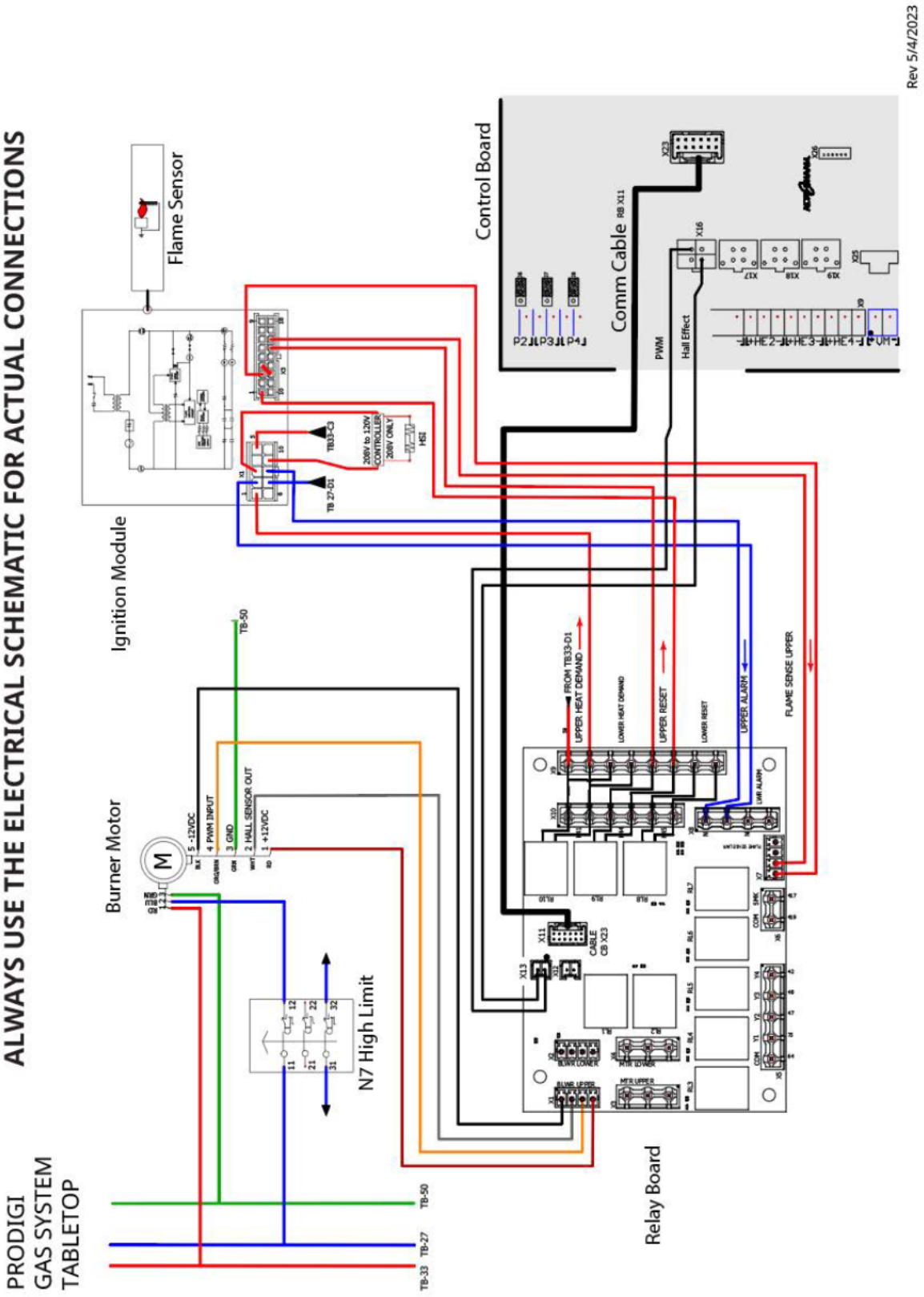
Code	Component	Description	Troubleshooting steps
E-11	52 - Steam injector	Stem injector sensor open	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-11	55 - Tank	Tank sensor open	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-31	2 - Convection fan (Classic control)	Motor (upper) over temperature	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-31	2 - Convection fan (Classic control)	Lower motor over temperature	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-31	2 - Convection fan	Motor VFD (upper) over temperature	1. Make sure cooling fan(s) are operating. 2. Make sure exhaust vents are clean and free of debris. 3. Make sure oven clearances are met. 4. Ambient temperature greater than 105°F (41°C).
E-31	2 - Convection fan	Lower motor VFD over temperature	1. Make sure cooling fan(s) are operating. 2. Make sure exhaust vents are clean and free of debris. 3. Make sure oven clearances are met. 4. Ambient temperature greater than 105°F (41°C).
E-31	44 - Cavity sensor	Chamber over temperature	1. If the oven has experienced an over temperature condition allow the oven to cool down for a minimum of 30 minutes. 2. Press the high limit reset button. 3. Resume cooking operation. If error reappears contact service provider.
E-31	55 - Tank	Tank sensor over temperature	1. If the oven has experienced an over temperature condition allow the oven to cool down for a minimum of 30 minutes. 2. Press the high limit reset button. 3. Resume cooking operation. If error reappears contact service provider.

Code	Component	Description	Troubleshooting steps
E-31	8 - Control Board	Control board too warm	1. Make sure cooling fan(s) are operating. 2. Make sure exhaust vents are clean and free of debris. 3. Make sure oven clearances are met. 4. Ambient temperature greater than 105°F (41°C). 5. Check the door gasket for damage and proper seal.
E-31	9 - Interface Board	Interface board too warm	1. Make sure cooling fan(s) are operating. 2. Make sure exhaust vents are clean and free of debris. 3. Make sure oven clearances are met. 4. Ambient temperature greater than 105°F (41°C). 5. Check the door gasket for damage and proper seal.
E-55	56 - Vent valve	Vent (upper) not open	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-55	56 - Vent valve	Lower vent valve not open	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-62	2 - Convection fan	Motor VFD (upper) over current	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-62	2 - Convection fan	Lower motor VFD over current	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-66	2 - Convection fan	VFD (upper) error	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-66	2 - Convection fan	Lower VFD error	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.

Code	Component	Description	Troubleshooting steps
E-78	19 - Voltage sensor	Voltage monitor too low	1. Check to make sure the unit plug is fully seated in the electrical outlet. 2. Reset the main circuit breaker for the oven. If error reappears contact service provider.
E-78	2 - Convection fan	VFD (upper) under voltage	1. Check to make sure the unit plug is fully seated in the electrical outlet. 2. Reset the main circuit breaker for the oven. If error reappears contact service provider.
E-78	2 - Convection fan	Lower VFD under voltage	1. Check to make sure the unit plug is fully seated in the electrical outlet. 2. Reset the main circuit breaker for the oven. If error reappears contact service provider.
E-79	19 - Voltage sensor	Voltage monitor too high	1. Check to make sure the unit plug is fully seated in the electrical outlet. 2. Reset the main circuit breaker for the oven. If error reappears contact service provider.
E-79	2 - Convection fan	VFD (upper) over voltage	1. Check to make sure the unit plug is fully seated in the electrical outlet. 2. Reset the main circuit breaker for the oven. If error reappears contact service provider.
E-79	2 - Convection fan	Lower VFD over voltage	1. Check to make sure the unit plug is fully seated in the electrical outlet. 2. Reset the main circuit breaker for the oven. If error reappears contact service provider.
E-80	2 - Convection fan	VFD (upper) memory error	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-80	2 - Convection fan	Lower VFD memory error	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-88	1 - Heater	Gas ignition failure (upper)	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or turning off the breaker. 3. Inspect the top of oven for anything blocking the exhaust flue of the oven. 4. Make sure the ventilation hood is turned on and working properly. 5. Make sure the gas line is properly connected to the unit and the gas shut off valve is in the open position. 6. Resume cook operation. If error reappears turn the oven off, shut off the gas supply to the oven and immediately contact service provider.

Code	Component	Description	Troubleshooting steps
E-88	1 - Heater	Lower gas ignition failure	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or turning off the breaker. 3. Inspect the top of oven for anything blocking the exhaust flue of the oven. 4. Make sure the ventilation hood is turned on and working properly. 5. Make sure the gas line is properly connected to the unit and the gas shut off valve is in the open position. 6. Resume cook operation. If error reappears turn the oven off, shut off the gas supply to the oven and immediately contact service provider.
E-90	1 - Heater	Gas blower failure (upper)	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-90	1 - Heater	Lower gas blower failure	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-93	8 - Control Board	State synchronization error between the interface board and control board	1. Clear error by pressing the check mark on the display to accept the error. 2. If the error persists contact Alto-Shaam Technical Support.
E-94	10 - Control Board Communications	Communication error between Interface Board and Control Board	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-94	2 - Convection fan	VFD (upper) communication error	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-94	2 - Convection fan	Lower VFD communication error	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.
E-102	59 - Ventless hood	Ventless hood filter Fault	1. Check if filters are installed. 2. Check if filters are clogged. 3. Check operation of hood fan.

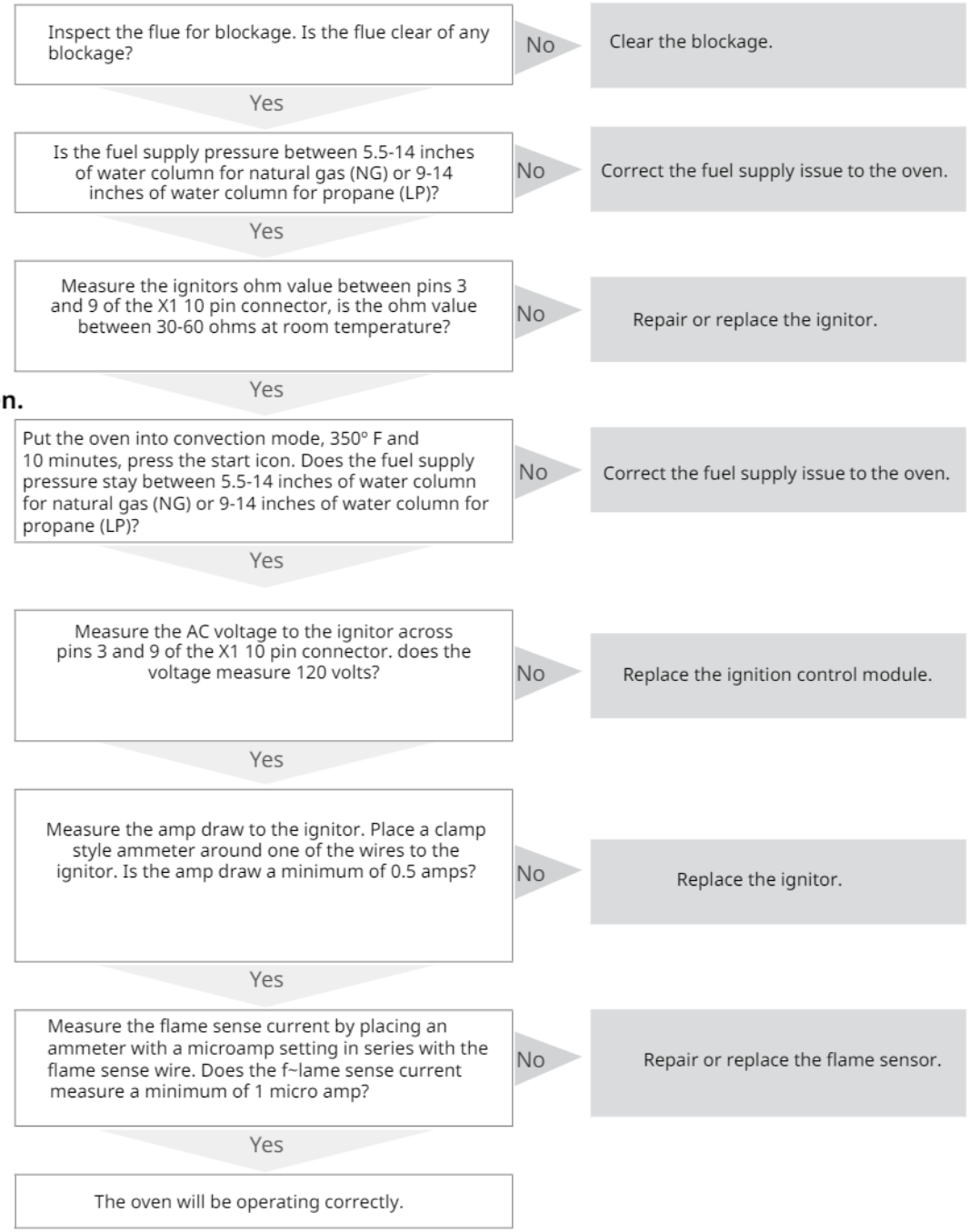
Code	Component	Description	Troubleshooting steps
E-105	6 - Chamber	Low water pressure	1. Water supply not connected. 2. Water supply is shut off. 3) Water supply to unit blocked or obstructed (check filter).
E-109	6 - Chamber	Chamber high limit	1. If the oven has experienced an over temperature condition, allow the oven to cool down for a minimum of 30 minutes. 2. Press the high limit reset button. 3. Resume cooking operation. If error reappears contact service provider.
E-606	6 - Chamber	Error during cleaning cycle	1. Manually Clean Oven. 2. Manually Rinse Oven. 3. Ensure chemicals removed before use. 4. Resume use of oven. If error repeats contact service provider.
E-999	48 - Personality handler	IB and CB dip switch settings not set correctly	1. Power down control using on/off icon. 2. Cycle power to the oven either by unplugging the unit or by turning the main power switch off and then back on. 3. Resume use of oven. If error reappears contact a service provider.


Rev 5/4/2023
THIS DIAGRAM IS SUBJECT TO CHANGE WITHOUT NOTICE
ALWAYS USE THE ELECTRICAL SCHEMATIC FOR ACTUAL CONNECTIONS
PRODIGI
GAS SYSTEM
TABLETOP
Flame Sensor
Control Board
Comm Cable P8 X11
Ignition Module
Burner Motor
N7 High Limit
Relay Board
TB-50
TB-27
TB-33
5 -12VDC
4 PWM INPUT
3 GND
2 HALL SENSOR OUT
1 +12VDC
FROM TB33-01
UPPER HEAT DEMAND
LOWER HEAT DEMAND
UPPER RESET
LOWER RESET
UPPER ALARM
FLAME SENSE UPPER
CABLE CB X23
PWM
Hall Effect
208V to 120V CONTROLLER
208V ONLY
HSI

E88 Error - Gas Ignition Failure

This troubleshooting tree is based on a 7-20 120 volt oven.
Remove the side panel.
Open the control panel and place it onto the support hooks.
Install a manometer onto the MIN test port.
Monitor the LEDs on the relay board.

Powering up the oven.



- This troubleshooting tree is based on a 7-20 208/240V 3ph oven.

Prodigi: Oven Dead — No Display or Operation

Is electrical power connected to the oven?	No	Supply electrical power to the oven by turning on the main circuit breaker or plugging the oven in.
Yes		
Is the voltage correct at the power source?	No	Inspect and/or reset the circuit breaker.
Yes		
Is the voltage correct at the main terminal blocks (L1/2/3)?	No	Repair or replace the faulty cord, plug, or wiring.
Yes		
Is the voltage correct at the line side of the electromagnetic interference (EMI) Filter?	No	Repair the wiring between the main terminal block and the EMI Filter.
Yes		
Is the voltage correct at the load side of the EMI Filter?	No	If there is no voltage on the load side of the filter replace the EMI filter.
Yes		
Is the voltage correct at circuit breaker C/B 20 to L2 on the main terminal block?	No	Reset or replace circuit breaker C/B 20.
Yes		
Is the voltage correct at circuit breaker C/B 5 to L1 on the main terminal block?	No	Reset or replace circuit breaker C/B 5.
Yes		
Is the voltage correct across L and N terminals at the DC power supply?	No	Inspect/Repair the wiring between terminal block TB 33-1 and the power supply terminal L, and between terminal block TB 27-1 and the power supply terminal N.
Yes		
Is there 12 VDC output from the DC power supply?	No	Disconnect power at the main breaker and remove the DC wires from the power supply. Apply power to oven. Measure 12 VDC directly at the output of the power supply. If DC voltage is not present replace the power supply. If there is DC voltage present inspect the DC circuit for shorts.
Yes		
Is there 12 VDC across the Control Board (CB) connector X4 pins 1-4?	No	Repair the wiring between the power supply and the control board (CB) connector X4.
Yes		
Is there 12 VDC across the interface board (IB) connector J12 pins 1-4?	No	Repair the wiring between control board (CB) connector X4 and IB connector J12.
Yes		
Locate the back-light connector J3 on the IB. **PRO** (the left pin, pin 1 is the common pin). Measure DC voltage from pin 1 to pin 2, pin 1 to 4, and pin1 to 6. **Classic** red to black, red to black. Is there 12 VDC across each measurement?	No	Replace the Interface Board.
Yes		
Check the back-light cable for breaks or pinched wires. Check continuity of the wires. Is the cable in good condition?	No	Replace the back-light cable.
Yes		
Replace the Display assembly.		

Prodigi Pro, Electric: No Convection Heat

Is the convection fan motor spinning?
- No → See “Convection Motor Is Not Spinning”.
- Yes ↓

Is the N6 oven temperature probe below set point?
- No → The convection element contactors will not be energized until the N6 probe is below set point.
- Yes ↓

Are the K41 and K44 convection element contactors being energized.
- No → Measure the AC voltage across the coil of K41 and K44 convection element contactors. If voltage is present, replace faulty contactor(s). If voltage is not present, determine which leg of AC voltage is missing and correct.
  - A1 is L1 and it is supplied to K41 from the RB connector X10 pin 1.
  - A1 is L1 and it is supplied to K44 from the RB connector X10 pin 3.
  - A1 (turbo option)is supplied to K45 from the RB connector X10 pin 3.
  - A2 is L2 and is supplied to K44 and K41 (NON-Turbo) from the N7 high limit terminal 11.
  - A2 (turbo option) is supplied to K45 and then jumped over to A2 on K44 and K41.
- Yes ↓

Is there AC voltage being supplied to terminals 2-4-6 on the K41/K44 contactor's?
- No → Repair the wiring issue between the main terminal blocks TB1-1, TB6-1, TB11-1 and the K41/K44 contactors.
- Yes ↓

Is there AC voltage across terminals 1-3-5 on the K41/K44 contactor's?
- No → Replace faulty contactor(s).
- Yes ↓

Is there AC voltage across element loops at the convention elements?
- No → Repair the wiring between contactors and elements.
- Yes ↓

Are all element loops drawing current?
- No → Replace faulty element assembly.

Prodigi: Electric, No Steam Production — Steam at 212°F (100°C)

**Steam below 212°F (100°C) – B5 will cycle off the Y1 solenoid at 10°F below the set temperature (example: Set Temp 200°F, B5 cycles Y1 off at 190°F)

Is the convection fan motor spinning?
- No → See “Convection Motor Is Not Spinning”.
- Yes ↓

Is the B5 probe below set point 204° F/ 96° C ? (In the service screen)
- No → The oven will not call for steam production until the B5 probe is below set point. If the B5 probe is reading incorrectly, test the probe and replace it if necessary.
- Yes ↓

Are the K41 and K44 convection element contactors being energized?
- No → Measure the AC voltage across the coil of K41 and K44 convection element contactors. If voltage is present, replace faulty contactor(s). If voltage is not present, determine which leg of AC voltage is missing and correct.
  - A1 is L1 and it is supplied to K41 from the RB connector X10 pin 1.
  - A1 is L1 and it is supplied to K44 from the RB connector X10 pin 3.
  - A1 (turbo option)is supplied to K45 from the RB connector X10 pin 3.
  - A2 is L2 and is supplied to K44 and K41 (NON-Turbo) from the N7 high limit terminal 11.
  - A2 (turbo option) is supplied to K45 and then jumped over to A2 on K44 and K41.
- Yes ↓

Is there AC voltage being supplied to terminals 2-4-6 on the K41/K44 contactor's?
- No → Repair the wiring issue between the main terminal blocks TB1-1, TB6-1, TB11-1 and the K41/K44 contactors.
- Yes ↓

Is there AC voltage across terminals 1-3-5 on the K41/K44 contactor's?
- No → Replace faulty contactor(s)
- Yes ↓

Is there AC voltage across the element loops at the convection elements?
- No → Repair the wiring between contactors and the elements.
- Yes ↓

Are all element loops drawing current?
- No → Replace the faulty element assembly.
- Yes ↓

Is the Y1 solenoid valve being energized?
- No → Determine which line is missing at the solenoid:
  - A1 is L1 supplied from Relay Board (RB) connector X05 pin 4.
  - A2 is supplied from terminal block TB 27-B1.
- Yes ↓

Is the solenoid valve opening?
- No → Replace faulty solenoid.
- Yes ↓

Is water being injected into the fan wheel inside the oven?
- No → Correct the obstruction between the solenoid valve and the injection pipe
- Yes ↓

Oven will begin producing steam in 2-5 minutes.

Prodigi, Gas: No Steam Production — Steam at 212°F (100°C)

**Steam below 212°F (100°C) – B5 will cycle off the Y1 solenoid at 10°F below the set temperature (example: Set Temp 200°F, B5 cycles Y1 off at 190°F)

Is the convection fan motor spinning?	No	See “Convection Motor Is Not Spinning”.
Yes		
Is the Steam Bypass Temperature Probe B5 below the set point? 204° F/ 96° C (In the service screen)	No	The oven will not call for steam production until the B5 probe is below the set point. If the B5 probe is reading incorrectly, test the probe and replace if necessary.
Yes		
Is the burner igniting?	No	See “No Combustion On A Call For Heat”.
Yes		
Is the Y1 Solenoid valve being energized?	No	Determine which AC line is missing at the Y1 solenoid valve. • A1 is L1 supplied from the Relay Board (RB) connector X5 pin 4. • A2 is L2 supplied from terminal block TB27-B1.
Yes		
Is the Y1 solenoid valve opening?	No	Replace the faulty solenoid valve.
Yes		
Is water being injected into the fan wheel inside the oven?	No	Remove the obstruction between the Y1 solenoid valve and the injection pipe
Yes		
The oven will begin producing steam in 2 to 5 minutes.		

Prodigi Pro Only: Convection Motor Is Not Spinning (E05)

Is the convection fan wheel physically blocked?
- Yes → Remove the obstruction from the fan wheel and retest.
- No ↓

Is the Controller Area Network (CAN) cable properly seated at Variable Frequency Drive (VFD) S600 connector and the Control Board (CB) connector X27?
- No → Repair the connection and retest.
- Yes ↓

Is there continuity from end to end on all CAN cable wires?
- No → Replace the faulty CAN cable and retest.
- Yes ↓

Reconnect the cable, Measure AC voltage on the Variable Frequency Drive (VFD) at S105 across L & N. Is there AC voltage present?
- No → Determine which leg of AC power is missing. L (L1) on the S105 gets voltage from Circuit Breaker C/B 4. Check that the C/B is not tripped. N (L2) gets power from Relay 50. Make sure Relay 50 is energized and closing.
- Yes ↓

Is there a solid green LED light on the VFD?
- No → If the LED light on the VFD is blinking, please reference the Touch Motor Control Error Codes page in the Service Manual.
- Yes ↓

When running a cook mode, does the fan start to spin?
- No → Check voltage out of the VFD on any two wires using connector S500 (brown, blue, and black wires). If there is AC voltage Replace the faulty motor.
- Yes ↓

With the motor running, does the Revolutions Per Minute (RPM) appear in the service screen?
- No → Check the Hall Effect sensor wiring from the motor.
- Yes ↓

Replace the VFD.

Touch Motor Control Error Codes

The LED is located on the variable frequency drive (VFD) ① of the oven.

Type of Error	Indication	Cause of Error
Undervoltage	LED flashing sequence, with 1 flash per period.	Voltage of intermediate circuit is less than 250V.
Overvoltage	LED flashing sequence, with 2 flashes per period.	Voltage of intermediate circuit exceeds 445V.
Excess Temperature	LED flashing sequence, with 3 flashes per period.	Temperature sensor in the power unit is more than 199°F (93°C).
Current Peak	LED flashing sequence, with 4 flashes per period.	Blocked motor, detected by current peak monitoring from 900 rpm rotating field.
Overcurrent	LED flashing sequence, with 5 flashes per period.	Intermediate circuit current exceeds 4.0A.
Short-circuit	LED flashing sequence, with 6 flashes per period.	Release of interrupt at intermediate circuit current larger than 53.0A.
Power on	LED flashing sequence, with 7 flashes per period.	Effective mains voltage does not correspond to jumper setting 115V/230V.
Watchdog	LED flashing sequence, with 8 flashes per period.	Watchdog of the microcontroller released, program crash.

Prodigi: No Grease Collection Operation

Is the oven equipped with a grease collection (GC) pump?
- No → Grease collection system is not available.
- Yes ↓

Is the control set up to operate a GC system?
- No → Make sure the control board DIP switch S1-#5 is in the "ON" position. Turn on grease collection in option set up screen. Contact the Alto-Shaam Technical Support
- Yes ↓

Is grease collection activated in the cooking program?
- No → Activate grease collection in the program and retest.
- Yes ↓

Is the grease collection pump being energized on its timed cycle?
- No → Determine which leg of the power is missing and correct.
  - A1 is L1 being switched from Option Board (OB) connector X1 pin 5
  - A2 is L2 supplied by TB 27-E3.
- Yes ↓

Is the grease collection pump running?
- No → Replace the faulty grease collection pump.
- Yes ↓

Remove pump and clear obstruction between condensate pan and pump, or between pump and grease collection bin.

Prodigi: No Liquid Clean Injection

Is the oven equipped with a Liquid Cleaning (LC) system?
- No → Liquid cleaning system is not available.
- Yes ↓

Is the control set up to operate liquid cleaning chemical injection?
- No → Make sure the control board DIP switch S1-#5 is in the "ON" position. Turn on liquid clean injection in option set up screen. Contact the Alto-Shaam Technical Support
- Yes ↓

Is the liquid soap injection(LSI) Pump being energized on its timed cycle?
- No → Determine which leg of the power is missing and correct.
  - A1 is L1 supplied from the Option Board (OB) connector X3 pin 1. This circuit is fuse protected by LSI F15 fuse. Test fuse and replace if bad.
  - A2 is L2 supplied from the Terminal block (TB) 46-A4.
- Yes ↓

Is the LSI Pump running?
- No → Replace the faulty LSI pump.
- Yes ↓

Is the LSI pump hose connected to a chemical jug?
- No → Connect the hose to the chemical jug and retest.
- Yes ↓

Is there chemical inside the chemical jug?
- No → Replace the chemical jug and retest.
- Yes ↓

Is the hose between the LSI pump and the liquid chemical jug free of obstruction or pinching?
- No → Replace or correct as needed.
- Yes ↓

Are you able to prime the LSI pump through the service mode function?
- No → Inspect the LSI Pump hose and replace as needed.
- Yes ↓

Retest the cleaning cycle.

Prodigi: No Smoke Production During the Smoke Cycle

Make sure the smoke tray is installed with soaked wood chips and that the smoke icon has been selected on the touch control.
Steam production and humidity control vents take priority over smoke production.
The smoke option is not available with a vent-less hood.

Is there voltage to the smoke element?

No

- Check circuit breaker C/B 8 and reset if tripped.
- Measure AC voltage at connector X6 pin 1 on the relay board (RB) to terminal block TB 27 D3.
- If no voltage is present, measure AC voltage at RB connector X6 pin 2 to TB 27 D3.
- If there is voltage then replace the RB.

Yes

Measure the amperage to smoker element by clamping an ammeter on one wire. Is there amperage?

No

Check wiring at smoke element. Replace smoke element.

Yes

Smoke element will be working.

Prodigi: No Rinse Water During the Cleaning Cycle

During the Rinse Cycle, is the Y3 solenoid being energized?

No → Determine which leg of the power is missing at the Y3 solenoid and correct.
- A1 is L1 supplied from the Relay Board (RB) connector X5 pin 2.
- A2 is L2 supplied from terminal block TB27-B3.

Yes

Is the Y3 solenoid opening?

No → Replace the faulty solenoid.

Yes

Is water present at the injection pipe in the oven?

No → Clean or repair water manifold and/or hose from manifold to the injection pipe.

Yes

Is the injection pipe clear of debris?

No → Repair or replace the injection pipe as needed.

Yes

The rinse water plumbing will be working properly.

Prodigi: Cleaning System is Not Operating

Is the Y4 cleaning pump being energized at its timed cycle?

No → Determine which leg of the power is missing at the Y4 wash pump and correct.
- A1 is L1 from the Relay Board (RB) connector X5 pin 1.
- A2 is L2 supplied from terminal block TB 27-B4.

Yes

Is the Y4 cleaning pump running?

No → Replace the faulty cleaning pump.

Yes

Is there water at the pump inlet?

No → Make sure the condensate pan clean out hose is unplugged and that the Y2 cooling water solenoid is operating properly.

Yes

Is there water at the water manifold inlet from the Y4 pump?

No → Inspect or replace the hose between Y4 cleaning pump and the water manifold. If the hose is okay, replace the faulty Y4 cleaning pump.

Yes

Is there water at the injection pipe?

No → Remove the obstruction between the water manifold and the injection pipe.

Yes

Is the injection pipe clear of debris?

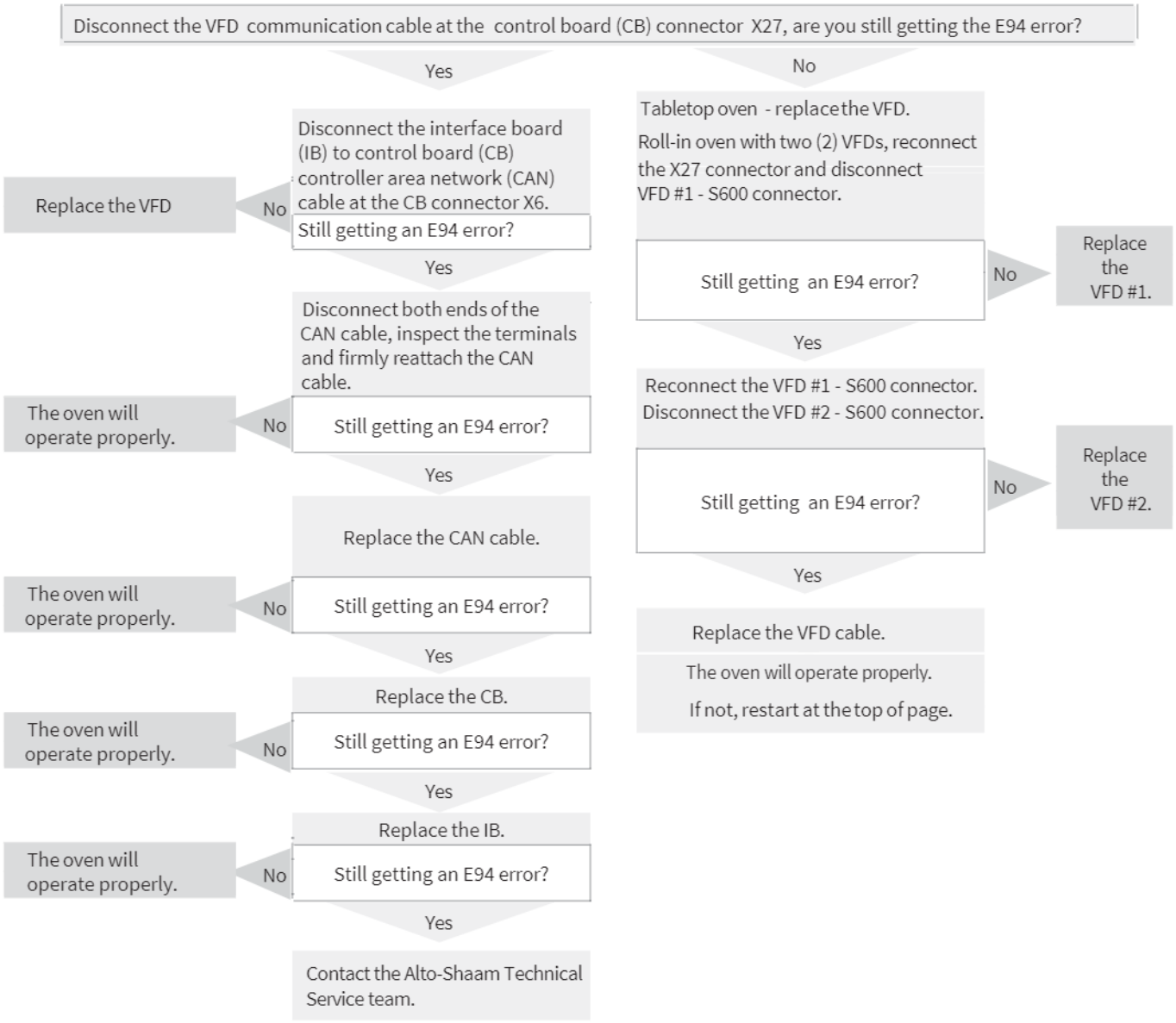
No → Clean or replace the injection pipe as needed.

Yes

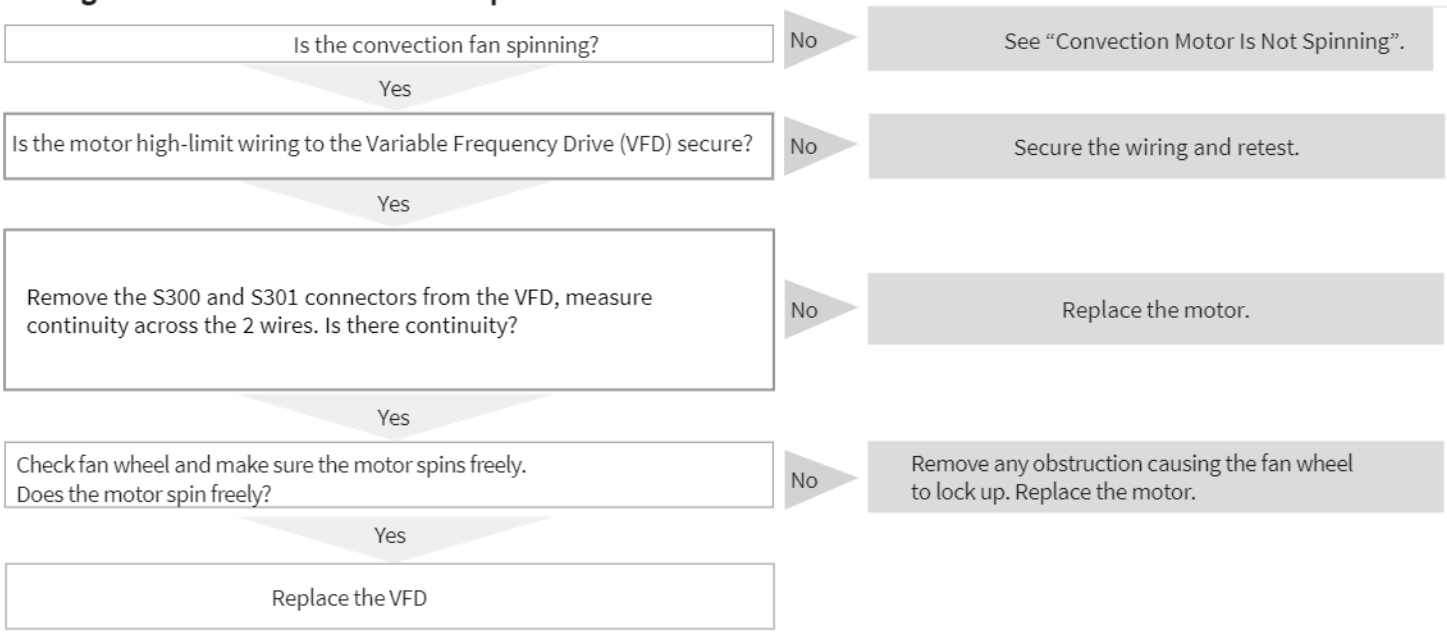
The cleaning pump and plumbing circuit will be working properly.

Prodigi PRO ONLY: Error Code E94

NOTE: The single variable frequency drive (VFD) in a table top oven will be identified as the "UPPER" or #1 VFD.
The two VFDs in a roll-in oven will be identified as the "UPPER" or #1 and the "LOWER" or #2 VFD.



Prodigi Pro: Fan Motor Over Temp E31



77790
6.10,10.10,7.20
380-415V 3Ph

77791
6.10
208-240V 1Ph

77792
6.10, 10.10, 7.20
208-240V 3Ph

77794
6.10,10.10,7.20
440-480V 3Ph

77796
10.20
208-240V 3Ph

77797
10.20
380-415V 3Ph

77798
10.20
440-480V 3Ph

77799
xx-xx xx-xx
xx-xx Ph

INTENTIONALLY BLANK

77800
xx-xx xx-xx
xx-xx Ph

INTENTIONALLY BLANK

77801
xx-xx xx-xx
xx-xx Ph

INTENTIONALLY BLANK

77802
20.20
208-240V 3Ph

77803
20.20
380-415V 3Ph

77804
20.20
440-480V 3Ph

77807
6.10,10.10,7.20,10.20
120V **NG/LP**

77808
6.10,10.10,7.20,10.20
208-240V / 380-415V **GAS**

77809
20.10,20.20
120V **GAS**

77812
20.10,20.20
208-240V **GAS**

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