

ALTO-SHAAM.

# Hot Holding Rotisserie Companion



SHOWN WITH PASS-THROUGH OPTION

## Models:

**AR-7H** MANUAL CONTROL

**AR-7H** ELECTRONIC CONTROL

- **INSTALLATION**
- **OPERATION**
- **MAINTENANCE**

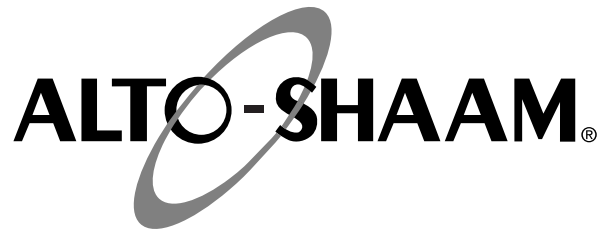
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[www.alto-shaam.com](http://www.alto-shaam.com)



Consult instructions for  
operation and use.





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Always refer to the wire diagram(s) included with the unit for most current version.

**Warranty**

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## Delivery

This Alto-Shaam appliance has been thoroughly tested and inspected to ensure only the highest quality unit is provided. Upon receipt, check for any possible shipping damage and report it at once to the delivering carrier. *See Transportation Damage and Claims section located in this manual.*

This appliance, complete with unattached items and accessories, may be delivered in one or more packages. Ensure all standard items and options have been received with each model as ordered.

Save all the information packed with the appliance. Register online at [www.alto-shaam.com](http://www.alto-shaam.com) to ensure prompt service in the event of a warranty parts and labor claim.

This manual must be read and understood by all people using or installing the equipment model. Contact the Alto-Shaam Service Department if you have any questions concerning installation, operation, or maintenance.

1-800-558-8744; [servicedept@alto-shaam.com](mailto:servicedept@alto-shaam.com)

The serial number is required for all inquiries. Always include both model and serial number(s) in any correspondence regarding the appliance.

Model: \_\_\_\_\_

Serial number: \_\_\_\_\_

Purchased from: \_\_\_\_\_

Date installed: \_\_\_\_\_ Voltage: \_\_\_\_\_



## CAUTION



Appliance and accessories may be heavy. To prevent serious injury, always use a sufficient number of trained and experienced workers when moving or leveling appliance and handling accessories.

## Unpacking

- Carefully remove the appliance from the carton or crate.

**NOTICE:** Do not discard the carton and other packaging material until you have inspected the unit for hidden damage and tested it for proper operation.



- Read all instructions in this manual carefully before installing this appliance, using the appliance or performing routine maintenance. Following procedures other than those indicated in this guide to use and clean the appliance is considered inappropriate and may cause damage, injury or fatal accidents, in addition to invalidating the guarantee and relieving Alto-Shaam of all liability.
- DO NOT DISCARD THIS MANUAL.** This manual is considered part of the appliance and is provided for the owner or manager of the business and for training personnel. *Additional manuals are available from Alto-Shaam.*
- Remove all protective plastic film, packaging materials, and accessories from the appliance before connecting electrical power. Store any accessories in a convenient place for future use.

## ENVIRONMENTAL CONDITIONS

- Operational Environmental Conditions
- Unit must acclimate to room temperature of the environment in which it is placed. 24 hours is recommended.
- Ambient temperature range of 60°F to 110°F (16°C to 43°C).
- Relative humidity of less than 95% non-condensation.
- Atmospheric pressure range of 50KPa to 106KPa.

- This appliance is intended to cook, hold or process foods for the purpose of human consumption. No other use for this appliance is authorized and is therefore considered dangerous. The appliance must not be used to cook food containing flammable materials (such as food with alcohol). Substances with a low flash point can ignite spontaneously and cause a fire.
- This appliance is intended for use in commercial establishments where all operators are familiar with the purpose, limitations, and associated hazards of this appliance. Operating instructions and warnings must be read and understood by all operators and users. We recommend regular training of your staff to avoid the risk of accident or damage to the unit. Operators must also receive regular safety instructions.
- Any trouble shooting guides, component views, and parts lists included in this manual are for general reference only and are intended for use by qualified and trained technicians.
- This manual should be considered a permanent part of this appliance. This manual and all supplied instructions, diagrams, schematics, parts lists, notices, and labels must remain with the appliance if the item is sold or moved to another location.

Knowledge of proper procedures is essential to the safe operation of electrically and/or gas energized equipment. The following signal words and symbols may be used throughout this manual.

**⚠ DANGER**

Indicates a hazardous situation that, if not avoided, will result in death or serious injury.


**⚠ WARNING**

Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

**⚠ CAUTION**

Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

**NOTICE:** Indicates information considered important, but not hazard-related (e.g., messages relating to property damage).

 **NOTICE:** For appliances delivered for use in any location regulated by the following directive (2012/19/EU -WEEE):

**Do not** dispose of electrical or electronic appliances with other municipal waste.

# INSTALLATION

## ⚠️ WARNING



Improper installation, alteration, adjustment, service, cleaning, or maintenance could result in property damage, severe injury, or death.

Read and understand the installation, operating and maintenance instructions thoroughly before installing, servicing, or operating this equipment.

## ⚠️ CAUTION



Appliance and accessories may be heavy. To prevent serious injury, **always** use a sufficient number of trained and experienced workers when moving or leveling appliance and handling accessories.

## ⚠️ CAUTION



To prevent personal injury or property damage:

Always use hand protection when operating this appliance to avoid burns. Metal parts of this equipment become extremely hot when in operation.

## WARNING

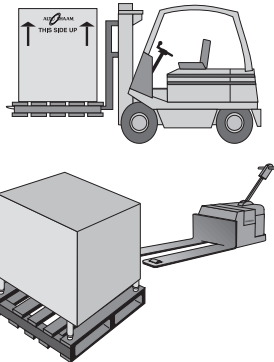


For your safety

**DO NOT** store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.

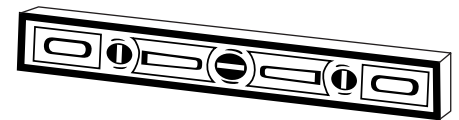
## SITE INSTALLATION

In order to maintain established National Sanitation Foundation standards, all counter-mounted models must be sealed to the counter with a R.T.V. or silastic meeting N.S.F. requirements or have legs of a sufficient 6" (152mm) height to provide minimum unobstructed space beneath the unit.



1. The appliance must be installed on a non-combustible, level surface.
2. **DO NOT** install this appliance in any area where it may be affected by any adverse conditions such as steam, grease, dripping water, high temperatures, or any other severely adverse conditions.
3. For both safety and convenience, the holding cabinet must be installed in a location to provide easy access to the controls and should be positioned at a safe and convenient height to provide easy loading and unloading of hot products.
4. This appliance must be kept free and clear of any obstructions blocking access for maintenance or service.
5. The holding cabinet can be stacked with another holding cabinet or a matching rotisserie oven. Complete stacking instructions are located in this manual.

A number of adjustments are associated with initial installation and start-up. It is important that these adjustments be conducted by a qualified service technician. Installation and start-up adjustments are the responsibility of the dealer or user. These adjustments include but are not limited to thermostat calibration, door adjustment, leveling, electrical hook-up and installation of optional casters or legs.



## LEVELING

Level the appliance from side-to-side and front-to-back with the use of a spirit level.

We recommend checking the level periodically to make certain the floor has not shifted nor the appliance moved.

NOTE: Failure to properly level this appliance can cause improper function.

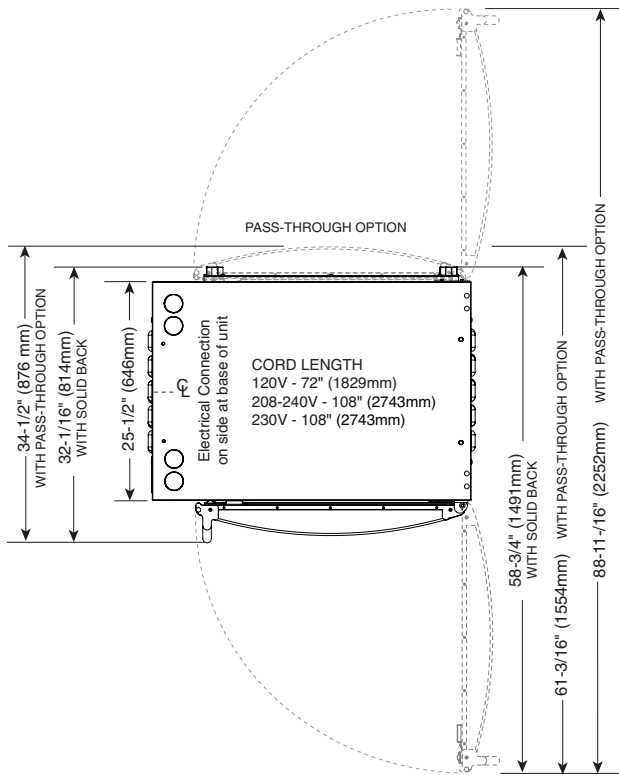
## MINIMUM CLEARANCE REQUIREMENTS

A 6" (152mm) minimum clearance must be allowed at the back and both sides of the unit. Warranty will become null and void if these directions are not followed.

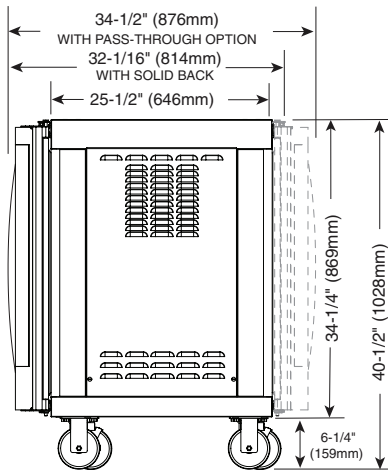
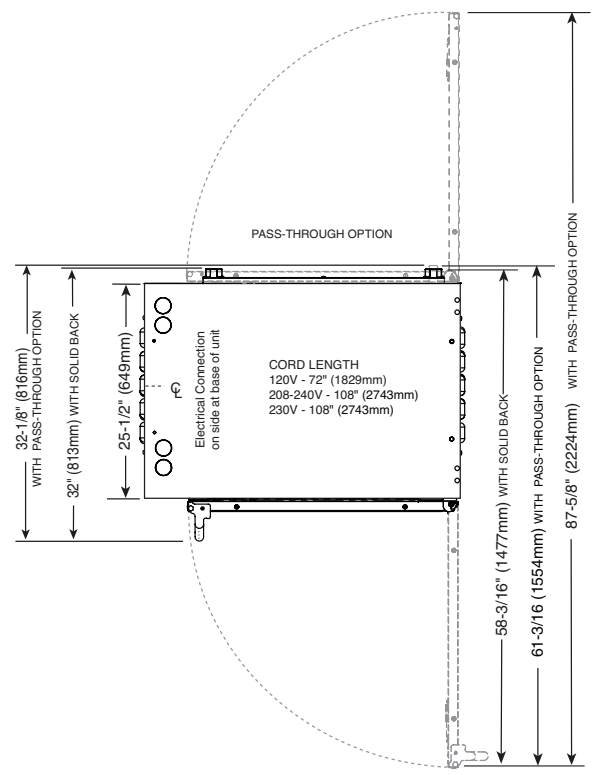
# INSTALLATION

## SITE INSTALLATION

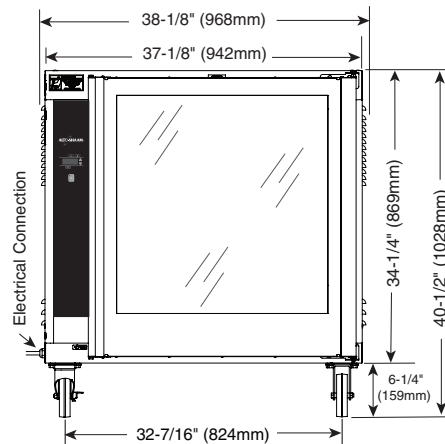
**DOUBLE PANE CURVED GLASS DOOR**



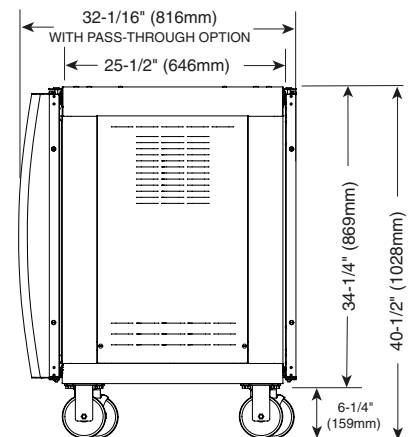
**SINGLE PANE FLAT GLASS DOOR**



**SIDE VIEW**



**FRONT VIEW**



**SIDE VIEW**

<b>WEIGHT</b>	
Net: 269 lbs (122 kg)	
<b>PRODUCT\PAN CAPACITY</b>	
60 lbs (27 kg) MAXIMUM	
FULL-SIZE SHEET PANS*: Eight (8) 18" x 26" x 1" (457mm x 660mm x 25mm)	HALF-SIZE SHEET PANS*: Up to Sixteen (16) 18" x 13" x 1" (457mm x 330mm x 25mm)
CHICKEN BOATS: Up to 24 (6 per shelf)	

\*WITH ADDITIONAL WIRE SHELVES

## ELECTRICAL CONNECTION

### **WARNING**



To prevent serious injury, death, or property damage:

All electrical connections must be made by a qualified and trained service technician in accordance with applicable electrical codes.



This appliance must be adequately grounded in accordance with local electrical codes or, in the absence of local codes, with the current edition of the National Electrical Code ANSI/NFPA No. 70. In Canada, all electrical connections are to be made in accordance with CSA C22.1, Canadian Electrical Code Part 1 or local codes.



CE-approved appliances include an equipotential-bonding terminal marked with the symbol shown on the left. Provisions for earthing are to be made in accordance with IEC:2010 60335-1 section 27 or local codes.

### **DANGER**



**ELECTRICAL CONNECTIONS MUST BE MADE BY A QUALIFIED SERVICE TECHNICIAN IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES.**

### **CAUTION**



Power source must match voltage identified on appliance rating tag. The rating tag provides essential technical information required for any appliance installation, maintenance or repairs. Do not remove, damage or modify the rating tag.

The appliance must be installed by a qualified service technician. The oven must be properly grounded in accordance with the national electrical code and applicable local codes.

Plug the unit into a properly grounded receptacle only, positioning the unit so that the plug is easily accessible in case of an emergency. Arcing will occur when connecting or disconnecting the unit unless all controls are in the "off" position.

Proper receptacle or outlet configuration or permanent wiring for this unit must be installed by a licensed electrician in accordance with applicable local electrical codes.

After wiring and power connection has been completed, turn the main power switch to the "on" position. The main power switch can be left "on" for daily use, but should be turned "off" when cleaning or performing maintenance or repairs to the rotisserie.

#### REGARDING INTERNATIONAL STANDARD UNITS:

If the unit is not equipped with flexible cord with plug, an all-pole country approved disconnection device which has a contact separation of at least 3mm in all poles must be incorporated in the fixed wiring for disconnection. When using a cord without a plug, the green/yellow conductor shall be connected to the terminal which is marked with the ground symbol. If a plug is used, the socket outlet must be easily accessible. If the power cord needs replacement, use a similar one obtained from the distributor.

### **WARNING**



**For CE approved appliances:** To prevent an electrical shock hazard between the appliance and other appliances or metal parts in close vicinity, an equalization-bonding stud is provided. An equalization-bonding lead must be connected to this stud and the other appliances/metal parts to provide sufficient protection against potential difference.

The terminal is marked with the following symbol. Provisions for earthing are to be made in accordance with IEC:2010 60335-1 section 27 or local codes.








#### Hard wired models:

Hard wired models must be equipped with a country certified external allpole disconnection switch with sufficient contact separation.

If a power cord is used for the connection of the product an oil resistant cord like H05RN or H07RN or equivalent must be used.

Ground fault or residual current protection device must accommodate a leakage current that may exceed 10mA.

**NOTICE:** Where local codes and CE regulatory requirements apply, appliances must be connected to an electrical circuit that is protected by an external GFCI outlet.

ELECTRICAL						
Voltage	Phase	Hz	Amps	kW		
120	1	60	15.0	1.8	NEMA 5-20P 20A, 125V PLUG	
208	1	60	8.5	1.8	NEMA 6-15P	
240	1	60	9.5	2.3	15A, 250V PLUG	
230	1	50/60	9.0	2.1	CEE 7/7 PLUG RATED 250V	
					CH2-16P PLUG RATED 250V	

Wire diagrams are located in the inside access panel of the unit.

# INSTALLATION

## STACKING COMBINATIONS & INSTALLATION REQUIREMENTS

### **STACKING COMBINATIONS** (FACTORY INSTALLED)

#### **AR-7H** companion holding cabinet *over* **AR-7H** companion holding cabinet

Requires 6" (152mm) leg assembly [5001414](#) or 5" (127mm) casters [4007](#) and stacking assembly [5009711](#) for applications within the United States. Applications outside the U.S. require 6" (152mm) legs with flanged feet [5001761](#) bolted to the floor.

[OVERALL HEIGHT: 76-7/8" (1953mm)]

#### **AR-7E** rotisserie *over* **AR-7H** companion holding cabinet

Requires 6" (152mm) leg assembly [5001414](#) or 5" (127mm) casters [4007](#) and stacking assembly ([5008787](#), [5008948](#) or [5008922](#) - depending on voltage - see pg 8) for applications within the United States. Applications outside the U.S. requires 6" (152mm) legs with flanged feet [5001761](#) bolted to the floor.

[OVERALL HEIGHT: 76-7/8" (1953mm)]

#### **AR-7EVH** rotisserie with ventless hood *over* **AR-7H** companion holding cabinet

Requires 6" (152mm) legs with flanged feet [5001761](#) bolted to the floor.

[OVERALL HEIGHT: 90-13/16" (2307mm)]

### CAUTION



STACKING APPLICATIONS  
OUTSIDE THE U.S. REQUIRE  
FLANGED FEET AND MUST BE  
BOLTED TO THE FLOOR.

### CAUTION



MAKE CERTAIN TO FASTEN EACH  
OF THE FOUR HOLES

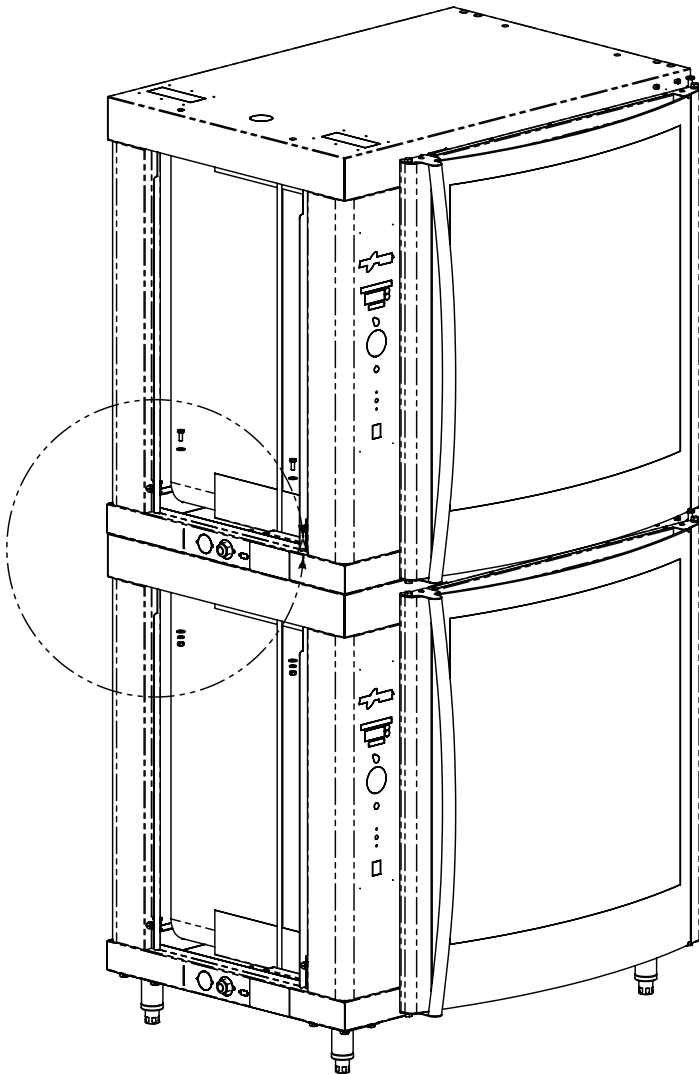
## STACKING INSTRUCTIONS

The holding cabinet can be stacked with an identical holding cabinet or a matching rotisserie oven in either the top or bottom position.

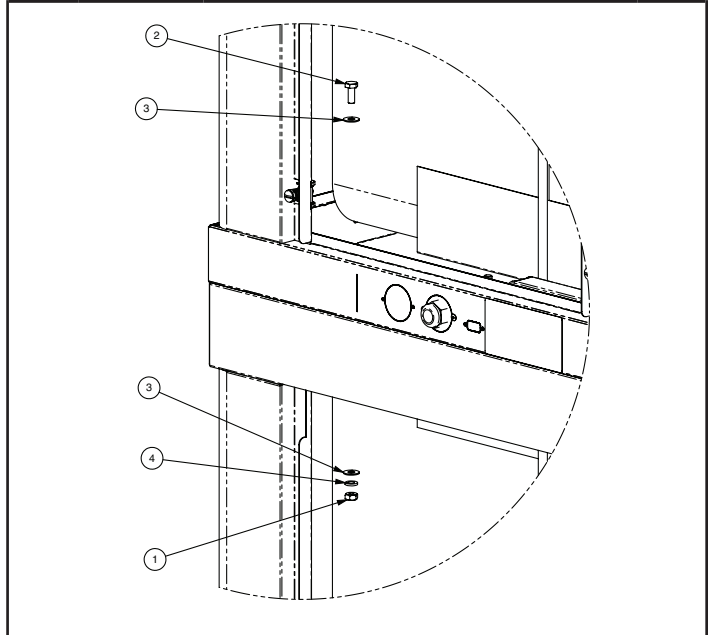
Only screws, lock washers, and hex nut are required to fasten units together when stacking a rotisserie on top of a matching holding cabinet or a holding cabinet on top of a holding cabinet. Additional stacking hardware is required for all other combinations (SEE PREVIOUS PAGE).

All fastening holes have been prepunched. If the rotisserie oven is positioned at the bottom of a stacked configuration, make certain the oven is on a non-combustible surface. The stacking combination also requires the minimum clearance of 6" (152mm) at the back and both sides.

- 1 Remove the two side access panels of both units.
- 2 Carefully lift and place the upper unit into position aligning on bottom unit.
- 3 Secure units together by inserting a hex head screw, a flat washer, and a lock washer in each hole of the top unit and screwing them into the inserts provided on the top of the lower unit. Securely tighten all four screws.
- 4 Replace the side panels on both units.



AR-7H OVER AR-7H HOLDING CABINET STACKING ASSEMBLY (5009711)



ITEM NO.	PART NO.	PART DESCRIPTION	QTY
1	<a href="#">NU-2437</a>	NUT, 1/4-20 HEX S/S	4
2	<a href="#">SC-27385</a>	SCREW, 1/4-20 X 3/4" LG HEX HEAD	4
3	<a href="#">WS-22094</a>	WASHER, 1/4", FLAT, 5/8 OD 18-8 SS	8
4	<a href="#">WS-2294</a>	WASHER 1/4" SPLIT	4

# INSTALLATION

## How to Connect the Appliance to the Floor

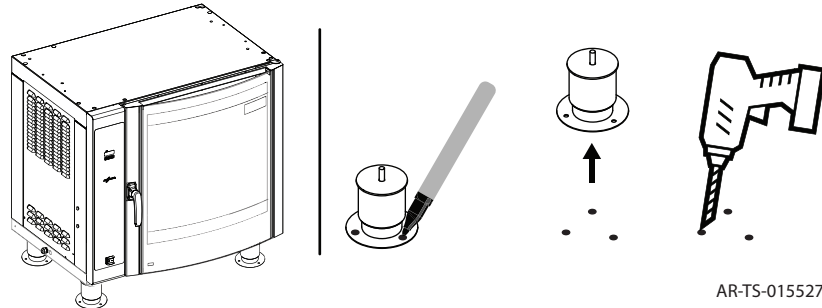
### Before you begin

- Make sure the appliance has the appropriate feet which allow connecting to the floor.
- Make sure you have an appropriate lifting device to lift the weight of the appliance.
- Make sure you have the appropriate tools and fasteners to connect the appliance to the floor.

### Procedure

To connect the appliance to the floor, do the following.

Step	Action
1.	<b>Make sure</b> the power cord is not connected to the power source.
2.	<b>Set</b> the appliance in its operating position.
3.	<b>Make sure</b> the appliance is level.
4.	<b>Make</b> marks on the floor to identify the holes of each foot flange.
5.	<b>Move</b> the appliance to allow room to drill.
6.	<b>Drill</b> holes to fit your fasteners.
7.	<b>Align</b> the appliance over the holes.
8.	<b>Connect</b> the appliance to the floor with the fasteners.



### Result

The appliance is now connected to the floor.


AR-7H — OPTIONS & ACCESSORIES		
DESCRIPTION		PART NUMBER
<b>DOOR OPTIONS</b>	SINGLE PANE FLAT GLASS WITH HANDLE	5009591
	SINGLE PANE FLAT GLASS WITHOUT HANDLE	5009815
<b>DOOR HANDLE</b>	FOR SINGLE PANE GLASS DOOR ON NON-CONTROL SIDE	HD-26900
<b>CONTROL OPTION KIT</b>	FOR SOFTWARE DOCUMENTATION	5000886
<b>LEGS</b>	ASSEMBLY, 6" (152mm)	5001414
	ASSEMBLY, FLANGED FEET, 6" (152mm)	5001761
<b>STACKING ASSEMBLY</b> (FACTORY INSTALLED)	AR-7H OVER AR-7H	5009711
	AR-7E OVER AR-7H (208-240V, 1PH)	5008787
	AR-7E OVER AR-7H (208-240V, 3PH)	5008948
	AR-7E OVER AR-7H (380-415V)	5008922
<b>SHELF</b>	SHELF, CHROME PLATED WIRE	SH-2851
	SHELF, STAINLESS STEEL WIRE	SH-24720
<b>STAND, STAINLESS STEEL</b>	WITH STORAGE SHELF	FR-26550
	OPEN (AR-7H OVER 750-S OR 6•10ESiN)	5002058

## OPERATING INSTRUCTIONS

### START-UP

1. The unit should be installed level, and should NOT be installed in any area where it may be affected by steam, grease, dripping water, high temperatures or any other severely adverse conditions.
2. Before operating the cabinet, clean both the interior and exterior of the unit with a clean, damp cloth and mild soap solution. Rinse carefully.
3. Clean and install the cabinet side racks. Shelves should be positioned with the curved end up and toward the back of the unit.
4. Before operating the unit, become familiar with the operation of the controls. Read this manual carefully and retain it for future reference.

**⚠ WARNING**

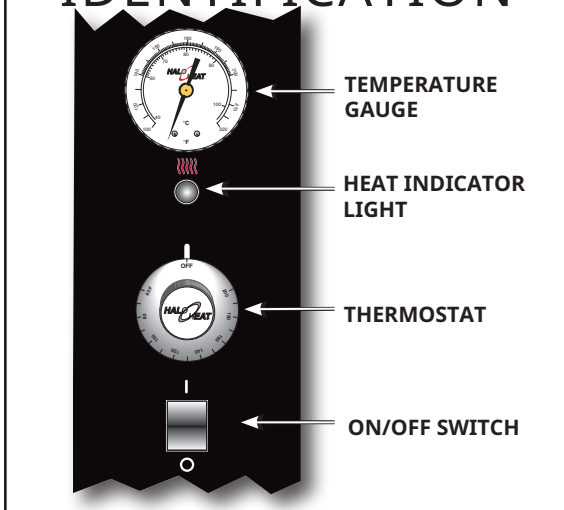


To prevent serious personal injury, death, or property damage:

**Do not** steam clean, hose down or flood the interior or exterior with water or liquid solution of any kind. **Do not** use water jet to clean. Failure to observe this precaution will void the warranty.

# OPERATING INSTRUCTIONS

## MANUAL CONTROL IDENTIFICATION



## THERMOSTAT AND HEAT LIGHT SEQUENCE

Whenever the thermostat is turned ON the heat indicator light will indicate the power ON/OFF condition of the heating cable, and consequently, the cycling of the cabinet as it maintains the dialed cavity temperature. If the light does not illuminate after normal start-up, the main power source, thermostat, and/or light must be checked. If the warming cabinet does not hold the temperature as dialed, the calibration of the thermostat must be checked. If the warming cabinet fails to heat or heats continuously with the thermostat OFF, the thermostat must be initially checked for proper operation. If these items are checked and found to be in order, a continuity and resistance check of the heating cable should be made. SEE CIRCUIT DIAGRAM.

## THERMOSTAT CALIBRATION

The thermostat is precision calibrated at the factory. Normally, no adjustment or recalibration is necessary unless the thermostat has been mishandled in transit, changed or abused while in service. A thermostat with a sensing bulb operates on hydraulic pressure, consequently, any bending of the bulb results in a change in its volume, and alters the accuracy of the thermostat calibration.

A thermostat should be checked or recalibrated by placing a quality, thermal indicator at the center of an empty holding cavity. **DO NOT CALIBRATE WITH ANY FOOD PRODUCT IN THE CABINET.** The thermostat should be set at 160°F (71°C), and should be allowed to stabilize at that setting for a minimum of one hour. Following temperature stabilization, the center of the thermal swing of the air temperature within the cabinet should approximately coincide with the thermostat dial setting.

If calibration is necessary, the calibration screw should be adjusted with great care. The calibration screw of the thermostat is located in the thermostat dial shaft. With the shaft held stationary, a minute, clockwise motion of the calibration screw appreciably lowers the thermostat setting. A reverse, or counter-clockwise motion appreciably raises the thermostat setting. After achieving the desired cycling of the thermostat, the calibration screw must be sealed. Place a few drops of enamel sealant directly on the calibration screw. **(RED NAIL POLISH OR EQUIVALENT IS ACCEPTABLE.)**

## HEATING PROCEDURE

### 1. PREHEAT AT 200°F (93°C) FOR 30 MINUTES.

When the ON/OFF Switch is turned to the ON position and the thermostat is turned clockwise, the indicator light will illuminate and will remain lit as long as the unit is calling for heat. Allow a minimum of 30 minutes of preheating before loading the holding cabinet with food. The indicator light will go OUT after approximately 30 minutes, or when the air temperature inside the unit reaches the temperature set by the operator.

### 2. LOAD THE CABINET WITH HOT FOOD ONLY.

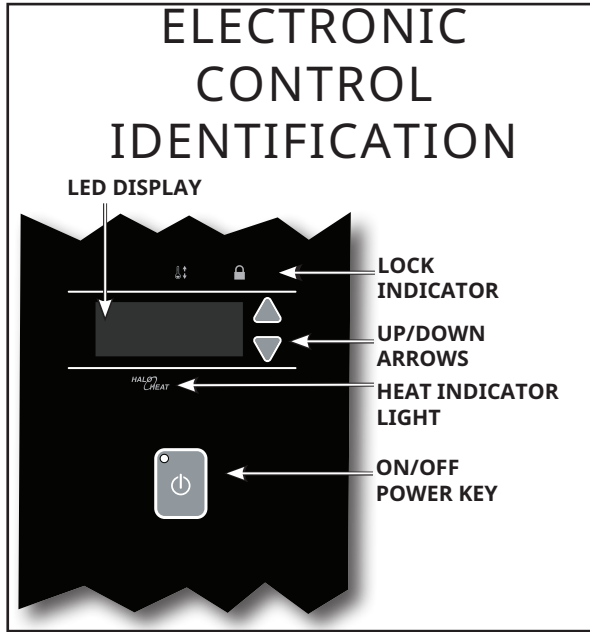
The purpose of the holding cabinet is to maintain hot food at proper serving temperatures. Only hot food should be placed into the cabinet. Before loading the unit with food, use a food thermometer to make certain all food products are at an internal temperature range of 140° to 160°F (60° to 71°C). All food not within the proper temperature range should be heated before loading into the holding cabinet.

### 3. RESET THE THERMOSTAT TO 160°F (71°C).

Check to make certain the cabinet door is securely closed, and reset the thermostat to 160°F (71°C). **THIS WILL NOT NECESSARILY BE THE FINAL SETTING.**

The proper temperature range for the food being held will depend on the type and quantity of product. When holding food for prolonged periods, it is advisable to periodically check the internal temperature of each item to assure maintenance of the proper temperature range.

# OPERATING INSTRUCTIONS



## ON/OFF KEY

Press the on/off key once and the power indicator light will illuminate. Press and hold the on/off key until the LED display turns off (at least three seconds) and power indicator light goes out.

## UP DOWN ARROW KEY

The up and down arrow keys are used for a variety of settings when selecting the holding temperature. If an arrow key is pressed and released the display will show the current set temperature for two seconds. If an arrow key is held (at least eight seconds), the value will change at a rapid rate. If the arrow key is pressed and released in rapid succession, the set temperature will change by increments of one degree.

## CALIBRATION INSTRUCTIONS

Turn the unit on with a quality monitoring thermocouple in the center of the cavity, and allow the unit to reach and stabilize at a hold temperature of 160°F (70°C). After the unit is stable, check the monitoring thermocouple against the set temperature, and adjust the offset by pressing the up and down arrows at the same time (for 8 seconds) until a temperature offset value is displayed. Change the value by pressing either the up button to increase the offset in a positive direction or the down button to decrease the offset temperature in a negative direction. For example, if the monitored temperature is 155°F (68°C) and the set temperature is 160° (70°C), the offset should be adjusted by -5 to bring the monitored temperature to 160° (70°C).

## ENABLE/DISABLE BEEPER

A beeper sounds when an error code is displayed. To choose between beeper on and beeper off mode, the control must be off, then press and hold the down arrow key until the current beeper state ("ON" or "OFF") is displayed on the screen. Toggle between the states by pressing either the UP or DOWN arrow.

## FAHRENHEIT/CELSIUS

With the control off, to choose between Fahrenheit and Celsius, press and hold the up arrow key until the current scale is displayed on the screen. Press either UP or DOWN arrow to toggle between the two options.

The control has a four-digit LED display. When the display is on, it will show current holding temperature, as well as diagnostic information.

## CONTROL LOCK

The warmer controls can be locked so that no changes can be made to the set temperature.

To lock the display, press and hold the ON/OFF key and the Up Arrow key at the same time. The lock LED will illuminate. When the lock LED is illuminated, additional programming will not be functional other than the key sequence required to unlock the panel.

To unlock the display, press and hold the ON/OFF key and the Down Arrow key at the same time. The lock LED will extinguish. The panel keys will resume normal function.

## HEATING PROCEDURE

### 1. PREHEAT AT 200°F (93°C) FOR 30 MINUTES.

Press the ON key, and set the temperature to 200°F (93°C) by using the UP/DOWN arrow keys. Allow a minimum of 30 minutes preheating time before loading the holding cabinet with food. The LED heat indicator light will illuminate while the heating wraps are energized.

### 2. LOAD WITH HOT FOOD ONLY.

The purpose of the holding cabinet is to maintain hot food at proper serving temperature. Only **hot** food should be placed into the cabinet. Before loading the cabinet with food, use a food thermometer to make certain all products are at an internal temperature range of 140° to 160°F (60° to 71°C). Any food product not within the proper temperature range should be heated before loading into the holding cabinet.

### 3. RESET THE CONTROL TO 160°F (71°C).

Check to make certain the cabinet door is securely closed, and reset to 160°F (71°C) by using the UP/DOWN key. **THIS WILL NOT NECESSARILY BE THE FINAL SETTING.** The proper temperature range will depend on the type and quantity of product. When holding food for prolonged periods, it is advisable to periodically check the internal temperature of each item with a food thermometer to assure maintenance of the proper temperature range of 140° to 160°F (60° to 71°C).

# OPERATING INSTRUCTIONS

## GENERAL HOLDING GUIDELINES

Chefs, cooks and other specialized food service personnel employ varied methods of cooking. Proper holding temperatures for a specific food product must be based on the moisture content of the product, product density, volume, and proper serving temperatures. Safe holding temperatures must also be correlated with palatability in determining the length of holding time for a specific product.

Halo Heat maintains the maximum amount of product moisture content without the addition of water, water vapor, or steam. Maintaining maximum natural product moisture preserves the natural flavor of the product and provides a more genuine taste. In addition to product moisture retention, the gentle properties of Halo Heat maintain a consistent temperature throughout the cabinet without the necessity of a heat distribution fan, thereby preventing further moisture loss due to evaporation or dehydration.

In an enclosed holding environment, too much moisture content is a condition which can be relieved. A product achieving extremely high temperatures in preparation must be allowed to decrease in temperature before being placed in a controlled holding atmosphere. If the product is not allowed to decrease in temperature, excessive condensation will form increasing the moisture content on the outside of the product. To preserve the safety and quality of freshly cooked foods however, a maximum of 1 to 2 minutes must be the only time period allowed for the initial heat to be released from the product.

Most Halo Heat holding equipment is provided with a thermostat control between 60° and 200°F (16° to 93°C). If the unit is equipped with vents, close the vents for moist holding and open the vents for crisp holding.

If the unit is equipped with a thermostat indicating a range of between 1 and 10, use a metal-stemmed indicating thermometer to measure the internal temperature of the product(s) being held. Adjust the thermostat setting to achieve the best overall setting based on internal product temperature.

Holding Temperature Range		
Meat	Fahrenheit	Celsius
Beef Roast — Rare	130°F	54°C
Beef Roast — Med/Well Done	155°F	68°C
Beef Brisket	160°F–175°F	71°C–79°C
Corn Beef	160°F–175°F	71°C–79°C
Pastrami	160°F–175°F	71°C–79°C
Prime Rib — Rare	130°F	54°C
Steaks — Broiled/Fried	140°F–160°F	60°C–71°C
Ribs — Beef Or Pork	160°F	71°C
Veal	160°F–175°F	71°C–79°C
Ham	160°F–175°F	71°C–79°C
Pork	160°F–175°F	71°C–79°C
Lamb	160°F–175°F	71°C–79°C
Poultry		
Chicken — Fried/Baked	160°F–175°F	71°C–79°C
Duck	160°F–175°F	71°C–79°C
Turkey	160°F–175°F	71°C–79°C
General	160°F–175°F	71°C–79°C
Fish/Seafood		
Fish — Baked/Fried	160°F–175°F	71°C–79°C
Lobster	160°F–175°F	71°C–79°C
Shrimp — Fried	160°F–175°F	71°C–79°C
Baked Goods		
Breads/Rolls	120°F–140°F	49°C–60°C
Miscellaneous		
Casseroles	160°F–175°F	71°C–79°C
Dough — Proofing	80°F–100°F	27°C–38°C
Eggs — Fried	150°F–160°F	66°C–71°C
Frozen Entrees	160°F–175°F	71°C–79°C
Hors d'oeuvres	160°F–180°F	71°C–82°C
Pasta	160°F–180°F	71°C–82°C
Pizza	160°F–180°F	71°C–82°C
Potatoes	180°F	82°C
Plated Meals	140°F–165°F	60°C–74°C
Sauces	140°F–200°F	60°C–93°C
Soup	140°F–200°F	60°C–93°C
Vegetables	160°F–175°F	71°C–79°C
The holding temperatures listed are suggested guidelines only. All food holding should be based on internal product temperatures. Always follow local health (hygiene) regulations for all internal temperature requirements.		

Food flavor and aroma are usually so closely related that it is difficult, if not impossible, to separate them. There is also an important, inseparable relationship between cleanliness and food flavor. Cleanliness, top operating efficiency, and appearance of equipment contribute considerably to savory, appetizing foods. Good equipment that is kept clean, works better and lasts longer.

Most food imparts its own particular aroma and many foods also absorb existing odors. Unfortunately, during this absorption there is not distinction between GOOD and BAD odors. The majority of objectionable flavors and odors troubling food service operations are caused by bacteria growth. Sourness, rancidity, mustiness, stale or other OFF flavors are usually the result of germ activity.

The easiest way to insure full, natural food flavor is through comprehensive cleanliness. This means good control of both visible soil (dirt) and invisible soil (germs). A through approach to sanitation will provide essential cleanliness. It will assure an attractive appearance of equipment, along with maximum efficiency and utility. More importantly, a good sanitation program provides one of the key elements in the prevention of food-borne illnesses.

A controlled holding environment for prepared foods is just one of the important factors involved in the prevention of food-borne illnesses. Temperature monitoring and control during receiving, storage, preparation, and the service of foods are of equal importance.

The most accurate method of measuring safe temperatures of both hot and cold foods is by internal product temperature. A quality thermometer is an effective tool for this purpose, and should be routinely used on all products that require holding at a specific temperature.

A comprehensive sanitation program should focus on the training of staff in basic sanitation procedures. This includes personal hygiene, proper handling of raw foods, cooking to a safe internal product temperature, and the routine monitoring of internal temperatures from receiving through service.

Most food-borne illnesses can be prevented through proper temperature control and a comprehensive program of sanitation. Both these factors are important to build quality service as the foundation of customer satisfaction. Safe food handling practices to prevent food-borne illness is of critical importance to the health and safety of your customers.

HACCP, an acronym for Hazard Analysis (at) Critical Control Points, is a quality control program of operating procedures to assure food integrity, quality, and safety. Taking steps necessary to augment food safety practices is both cost effective and relatively simple. While HACCP guidelines go far beyond the scope of this manual, additional information is available by contacting:

**CENTER FOR FOOD SAFETY AND APPLIED NUTRITION  
FOOD AND DRUG ADMINISTRATION  
1-888-SAFEFOOD**

<b>INTERNAL FOOD PRODUCT TEMPERATURES</b>		
<b>HOT FOODS</b>		
DANGER ZONE	40° TO 140°F	(4° TO 60°C)
CRITICAL ZONE	70° TO 120°F	(21° TO 49°C)
SAFE ZONE	140° TO 165°F	(60° TO 74°C)
<b>COLD FOODS</b>		
DANGER ZONE	ABOVE 40°F	(ABOVE 4°C)
SAFE ZONE	36° TO 40°F	(2° TO 4°C)
<b>FROZEN FOODS</b>		
DANGER ZONE	ABOVE 32°F	(ABOVE 0°C)
CRITICAL ZONE	0° TO 32°F	(-18° TO 0°C)
SAFE ZONE	0°F or below	(-18°C or below)

# CARE AND CLEANING

## Protecting Stainless Steel Surfaces



It is important to guard against corrosion in the care of stainless steel surfaces. Harsh, corrosive, or inappropriate chemicals can completely destroy the protective surface layer of stainless steel. Abrasive pads,

steel wool, or metal implements will abrade surfaces causing damage to this protective coating and will eventually result in areas of corrosion. Even water, particularly hard water that contains high to moderate concentrations of chloride, will cause oxidation and pitting that result in rust and corrosion. In addition, many acidic foods spilled and left to remain on metal surfaces are contributing factors that will corrode surfaces.

Proper cleaning agents, materials, and methods are vital to maintaining the appearance and life of this appliance. Spilled foods should be removed and the area wiped as soon as possible but at the very least, a minimum of once per day. Always thoroughly rinse surfaces after using a cleaning agent and wipe standing water as quickly as possible after rinsing.

## Cleaning Agents

Use non-abrasive cleaning products designed for use on stainless steel surfaces. Cleaning agents must be chloride-free compounds and must not contain quaternary salts. Never use hydrochloric acid (muriatic acid) on stainless steel surfaces. Failure to observe this precaution will void the warranty. Always use the proper cleaning agent at the manufacturer's recommended strength. Contact your local cleaning supplier for product recommendations.

## Cleaning Materials

Cleaning can usually be accomplished with the proper cleaning agent and a soft, clean cloth. When more aggressive methods are needed, use a non-abrasive scouring pad on difficult areas and make certain to scrub with the visible grain of surface metal to avoid surface scratches. Never use wire brushes, metal scouring pads, or scrapers to remove food residue. Failure to observe this precaution will void the warranty.

## NOTICE



To protect stainless steel surfaces, completely avoid the use of abrasive cleaning compounds, chloride based cleaners, or cleaners containing quaternary salts. **Never** use hydrochloric acid (muriatic acid) on stainless steel. **Never** use wire brushes, metal scouring pads or scrapers.



## WARNING



To prevent **serious personal injury, death, or property damage:**

The appliance must be cleaned thoroughly to avoid deposits of grease and or food residues inside the appliance that may catch fire. If fat deposits and/or food waste inside the appliance ignite, shut down the appliance immediately and keep the appliance door closed to extinguish the fire. If further extinguishing is required, disconnect the appliance from the main power and use a fire extinguisher (do not use water to extinguish a grease fire!). Failure to clean the appliance properly invalidates the warranty and relieves Alto-Shaam of all liability.

# CARE AND CLEANING

## EQUIPMENT CARE

Under normal circumstances, this cabinet should provide you with long and trouble free service. There is no preventative maintenance required, however, the following Equipment Care Guide will maximize the potential life and trouble free operation of this oven. The cleanliness and appearance of this equipment will contribute considerably to operating efficiency and savory, appetizing food. Good equipment that is kept clean works better and lasts longer.



### **WARNING**



Electric shock hazard.  
Perform lockout/tagout procedures before cleaning or servicing this appliance.

### **CAUTION**



To prevent personal injury or property damage:

Always use hand protection when operating this appliance to avoid burns. Metal parts of this equipment become extremely hot when in operation.

## CLEAN DAILY

1. Press the electrical power switch to the "off" position.
2. Allow holding cabinet surfaces to cool.
3. Disconnect the cabinet from the electrical power source.
4. Remove all detachable items such as wire shelves and side racks. Wash all detached items separately in a ware washing area or sink. Do not use abrasive or corrosive cleaners.
5. Wipe the interior metal surfaces of the cabinet with a paper towel to remove loose food debris.
6. Clean interior with a damp cloth or sponge and any good commercial detergent at the recommended strength.
7. Spray heavily soiled areas with a water soluble degreaser and let stand for 10 minutes. After 10 minutes, remove soil with a plastic scouring pad.  
**NOTE:** Avoid the use of abrasive cleaning compounds, chloride based cleaners, or cleaners containing quaternary salts. To protect metal finish on stainless steel, never use hydrochloric acid (muriatic acid) on stainless steel.
8. Remove excess water with sponge and wipe dry with a clean cloth or air dry. Leave door open until interior is completely dry. Always replace all removable parts including drip pan and grease deflection trays before operating.
9. Interior can be wiped with a sanitizing solution after cleaning and rinsing. This solution must be approved for use on stainless steel food contact surfaces.
10. Wipe control panel and door handle(s) thoroughly since these areas harbor food debris and bacteria. Dry the control panel with a clean, soft cloth.
11. To help maintain the protective film coating on polished stainless steel, clean the exterior of the cabinet with a cleaner recommended for stainless steel surfaces. Spray the cleaning agent on a clean cloth and wipe with the grain of the stainless steel. For optional color coated exterior surfaces, wipe with a damp cloth or sponge and wipe dry with a clean cloth.
12. Clean glass doors with a standard, commercial glass cleaner.

### **CAUTION**



Always follow appropriate state or local health (hygiene) regulations regarding all applicable cleaning and sanitation requirements for equipment.

### **WARNING**



To prevent serious personal injury, death, or property damage:

**Do not** steam clean, hose down or flood the interior or exterior with water or liquid solution of any kind. **Do not** use water jet to clean. Failure to observe this precaution will void the warranty.

# SERVICE

## TROUBLESHOOTING GUIDE - ELECTRONIC CONTROL

Code	Description	Possible Causes
E-10	<b>Cavity air sensor shorted</b>	Cavity air sensor reading < 5°F (-15°C). Verify sensor integrity.
E-11	<b>Cavity air sensor open</b>	Cavity air sensor reading > 517°F (269°C). Verify sensor integrity.
E-20	<b>Product probe is shorted</b> <i>Oven will cook in time only</i>	Product probe reading < 5°F (-15°C). Verify sensor integrity.
E-21	<b>Product probe is open</b> <i>Oven will cook in time only</i>	Product Probe reading > 517°F (269°C). Verify sensor integrity.
E-30	<b>Under temperature</b>	Unit has been more than 25°F (14°C) below set point for longer than 90 minutes.
E-31	<b>Over temperature</b>	Unit has been more than 60°F (33°C) above the maximum set-point for longer than 3 minutes. Holding Cabinets with this error code are more than 145°F (81°C) above the maximum set-point.
E-32	<b>Safety switch open (Aux hi-limit switch)</b>	Contact factory.
E-38	<b>Internal software error</b>	Contact factory.
E-39	<b>Sensor error</b>	Contact factory.
E-50	<b>Temp. measurement error</b>	Contact factory.
E-51	<b>Temp. measurement error</b>	Contact factory.
E-60	<b>Real time clock error</b>	Data set to factory default. Ensure that date and time are correct if applicable.
E-61	<b>Real time clock error</b>	Contact factory.
E-64	<b>Clock is not oscillating</b>	Contact factory.
E-70	<b>Configuration connector error (DIP switch)</b>	Refer to the electrical schematic and ensure dip switches on the control match the settings called out on the schematic. If the dip switch settings are correct, according to the schematic, replace the control.
E-78	<b>Voltage low</b>	Voltage below 90 VAC on a 125 VAC unit, or below 190 VAC on a 208-240 VAC unit. Adjust DC voltage. See "How to Adjust DC Voltage" in this manual.
E-79	<b>Voltage high</b>	Voltage over 135 VAC on a 125 VAC unit, or over 250 VAC on a 208-240 VAC unit. Adjust DC voltage. See "How to Adjust DC Voltage" in this manual.
E-80	<b>EEPROM Error</b>	Ensure that all temperatures and times are properly set. Contact factory if problem persists.
E-81	<b>EEPROM Error</b>	Contact factory.
E-82	<b>EEPROM Error</b>	Contact factory.
E-83	<b>EEPROM Error</b>	Contact factory.
E-85	<b>EEPROM Error</b>	All timers, if previously on, are now off. Possible bad EEPROM.
E-86	<b>EEPROM Error</b>	Stored HACCP memory corrupted. HACCP Address reset to 1. Possible bad EEPROM. Contact factory if problem persists.
E-87	<b>EEPROM Error</b>	Stored offsets corrupted. Offsets reset to 0. Control may need a recalibration. Possible bad EEPROM. Contact factory if problem persists.
E-88	<b>EEPROM Error</b>	All timer set-points are reset to 1 minute. Timers, if previously on, are now off. Possible bad EEPROM.
E-90	<b>Button stuck</b>	A button has been held down for > 60 seconds. Adjust control. Error will reset when the problem has been resolved.
E-91	<b>Input failure</b>	Contact factory.
E-dS	<b>Datakey error</b>	Datakey digital signature incompatible. Cycle power, and install compatible Datakey if error persists.
E-dT	<b>Datakey error</b>	Datakey incompatible with control. Install compatible Datakey.
E-dU	<b>Datakey unplugged</b>	Install Datakey and cycle power to control to clear error.
dLto	<b>Datalogger has timed out</b>	Cycle power. Contact factory if error persists.
dLSD	<b>Micro SD card not plugged in</b>	Plug in SD card and cycle power. Contact factory if error persists.
<b>NOTE:</b> If in doubt, always cycle the power to the control and contact factory if the problem persists.		

Part numbers and drawings are subject to change without notice.

## TROUBLESHOOTING GUIDE - MANUAL CONTROL

TROUBLE	POSSIBLE CAUSE	REMEDY
Unit does not operate.	Insufficient power supply Defective power cord or plug Defective power switch. Defective thermostat.	Check power source. Check and replace if necessary. Check and replace if necessary. Replace thermostat and calibrate.
Cannot control temperature.	Defective thermostat. Grounded element.	Replace thermostat and calibrate. Replace element (check element to ground Ohm element @ 27.7 Ohms).
Temperature gauge readout incorrect.	Defective temperature gauge Calibration off.	Replace temperature gauge. Calibrate according to instructions found on page 9.

### DANGER



To prevent serious injury, death, or property damage, **always** lock-out or post breaker panel until service work has been completed.

### WARNING



Electric shock hazard.

Perform lockout/tagout procedures before cleaning or servicing this appliance.



This section is provided for the assistance of qualified and trained service technicians only and is not intended for use by untrained or unauthorized service personnel. Failure to observe this precaution may void the warranty.



### DANGER



ELECTRICAL CONNECTIONS MUST BE MADE BY A QUALIFIED SERVICE TECHNICIAN IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES.

### CABLE REPLACEMENT KIT

#### CABLE HEATING SERVICE KIT NO. 4876

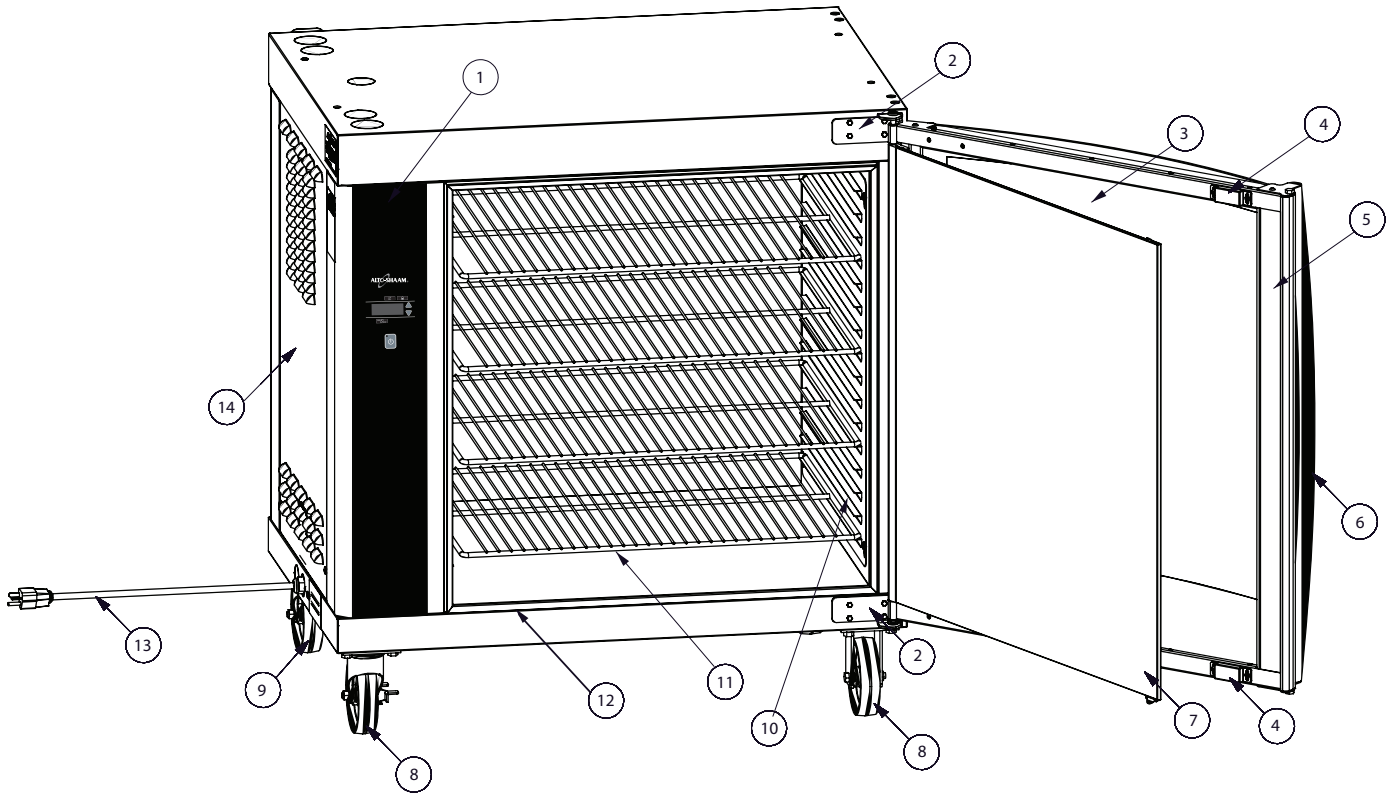
##### INCLUDES:

CB-3044	CABLE HEATING ELEMENT.....	210 FEET
CR-3226	RING CONNECTOR.....	8
IN-3488	INSULATION CORNER.....	8 FEET
BU-3105	SHOULDER BUSHING.....	8
BU-3106	CUP BUSHING.....	8
SL-3063	INSULATING SLEEVE.....	8
TA-3540	HIGH TEMPERATURE TAPE.....	1 ROLL
ST-2439	STUD, 10/32.....	8
NU-2215	HEX NUT.....	16

Part numbers and drawings are subject to change without notice.

# SERVICE

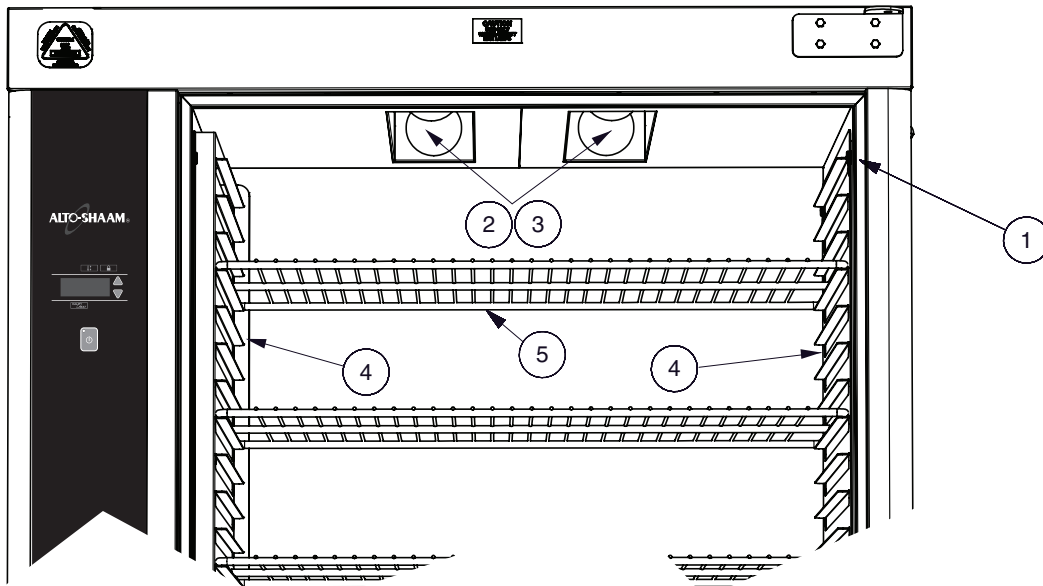
## FULL ASSEMBLY SERVICE VIEW (CURVED DOOR SHOWN)



* NOT SHOWN		MODEL >	MANUAL		ELECTRONIC	
ITEM	DESCRIPTION		PART NO.	QTY	PART NO.	QTY
1	CONTROL PANEL OVERLAY		<a href="#">PE-26003*</a>	1	<a href="#">PE-25746</a>	1
2	HINGES, CURVED DOOR	TOP	<a href="#">1007672</a>	2	<a href="#">1007672</a>	2
		BOTTOM	<a href="#">1007673</a>	2	<a href="#">1007673</a>	2
	HINGES, FLAT DOOR	TOP	<a href="#">1002596*</a>	2	<a href="#">1002596*</a>	2
		BOTTOM	<a href="#">1002597*</a>	2	<a href="#">1002597*</a>	2
3	OUTER GLASS ONLY, CURVED		5007824	1	5007824	1
4	DOOR MAGNETS		<a href="#">MA-27568</a>	2	<a href="#">MA-27568</a>	2
5	DOOR ASSEMBLY COMPLETE, CURVED GLASS	CONTROL SIDE	<a href="#">5005773</a>	1	<a href="#">5005773</a>	1
		NON-CONTROL SIDE	<a href="#">5006426*</a>	1	<a href="#">5006426*</a>	1
6	HANDLE		<a href="#">HD-26900</a>	1	<a href="#">HD-26900</a>	1
7	INNER GLASS	CONTROL SIDE	<a href="#">5006779</a>	1	<a href="#">5006779</a>	1
		NON-CONTROL SIDE	<a href="#">5008322</a>	1	<a href="#">5008322</a>	1
8	CASTERS	SWIVEL	<a href="#">CS-2026</a>	2	<a href="#">CS-2026</a>	2
9		RIGID	CS-2025	2	CS-2025	2
10	SIDE RACKS	LEFT-HAND	5004361	1	5004361	1
		RIGHT-HAND	5001901	1	5001901	1
11	SHELF, STAINLESS STEEL		<a href="#">SH-24720</a>	4	<a href="#">SH-24720</a>	4
12	GASKET, DOOR		<a href="#">GS-25753</a>	2	<a href="#">GS-25753</a>	2
13	CORDSET	120V, 72" (1829mm)	<a href="#">CD-3397</a>	1	<a href="#">CD-3397</a>	1
		208/240V, 108" (2743mm)	<a href="#">CD-33840</a>	1	<a href="#">CD-33840</a>	1
		230V, 108" (2743mm)	<a href="#">CD-3922</a>	1	<a href="#">CD-3922</a>	1
		230V, 108" (2743mm)	CD-36231	1	CD-36231	1
14	PANEL, CONTROL SIDE ACCESS		CONTACT FACTORY WITH SERIAL #			

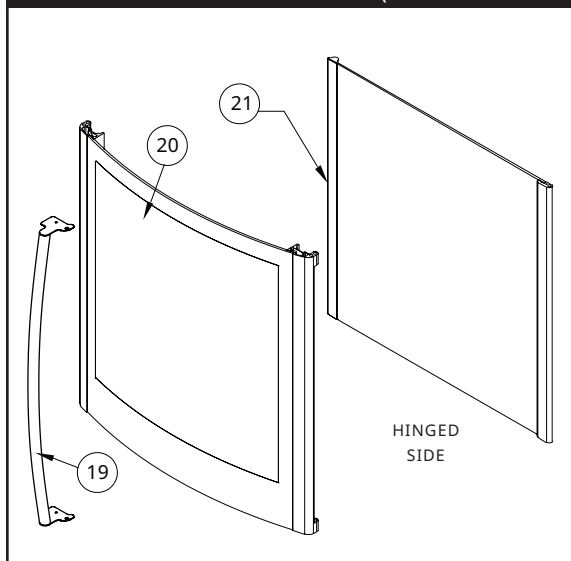
Part numbers and drawings are subject to change without notice.

## INTERIOR SERVICE VIEW



ITEM	DESCRIPTION	MODEL >	MANUAL		ELECTRONIC	
			PART NO.	QTY	PART NO.	QTY
1	GASKET, DOOR		<a href="#">GS-25753</a>	2	<a href="#">GS-25753</a>	2
2	LAMP	120V	<a href="#">LP-33598</a>	4	<a href="#">LP-33598</a>	4
		208/240V & 230V	<a href="#">LP-33803</a>	4	<a href="#">LP-33803</a>	4
3	LAMP RECEPTACLE		<a href="#">RP-3952</a>	4	<a href="#">RP-3952</a>	4
4	SIDE RACKS	LEFT-HAND	5001901	1	5001901	1
		RIGHT-HAND	5004361	1	5004361	1
5	SHELF		<a href="#">SH-24720</a>	4	<a href="#">SH-24720</a>	4

## DOOR ASSEMBLY (CURVED DOOR, CONTROL SIDE SHOWN)



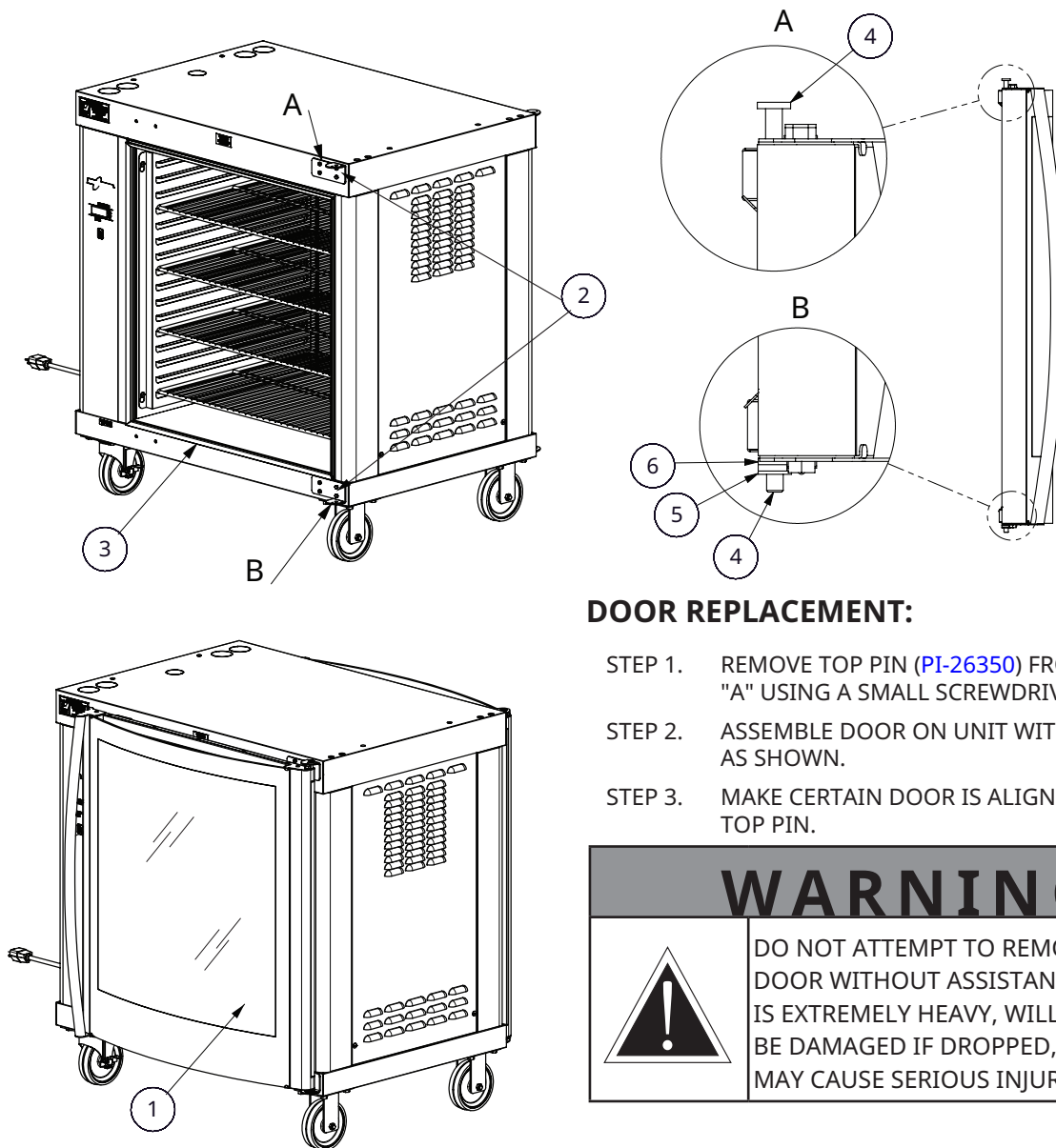
ITEM	DESCRIPTION	PART NO.	QTY
1	HANDLE, DOOR	<a href="#">HD-26900</a>	1
2	DOOR, OUTER GLASS	5007824	1
3	DOOR, INNER GLASS	CONTROL SIDE <a href="#">5006779</a>	1
		NON-CONTROL SIDE <a href="#">5008322</a>	1

FASTENERS REQUIRED		
DESCRIPTION	PART NO.	QTY
WASHER, DOOR SPACE, BOTTOM	<a href="#">1002143</a>	1
WASHER, FLAT, M8	<a href="#">WS-22298</a>	1
SCREW, 5/16-18 X 5/8	<a href="#">SC-2900</a>	3
PIN, DOOR, TOP	<a href="#">PI-26350</a>	1
PIN, DOOR, BOTTOM	<a href="#">PI-26352</a>	1
NUT, HEX JAM 5/16-18	<a href="#">NU-25897</a>	1
SCREW, INSERT	<a href="#">SC-25781</a>	1
SCREW, 8-32 X 3/8	<a href="#">SC-22378</a>	6

Part numbers and drawings are subject to change without notice.

# SERVICE

## DOUBLE PANE CURVED GLASS DOOR



### DOOR REPLACEMENT:

- STEP 1. REMOVE TOP PIN (PI-26350) FROM BRACKET "A" USING A SMALL SCREWDRIVER.
- STEP 2. ASSEMBLE DOOR ON UNIT WITH SPACERS AS SHOWN.
- STEP 3. MAKE CERTAIN DOOR IS ALIGNED AND REINSERT TOP PIN.

## WARNING

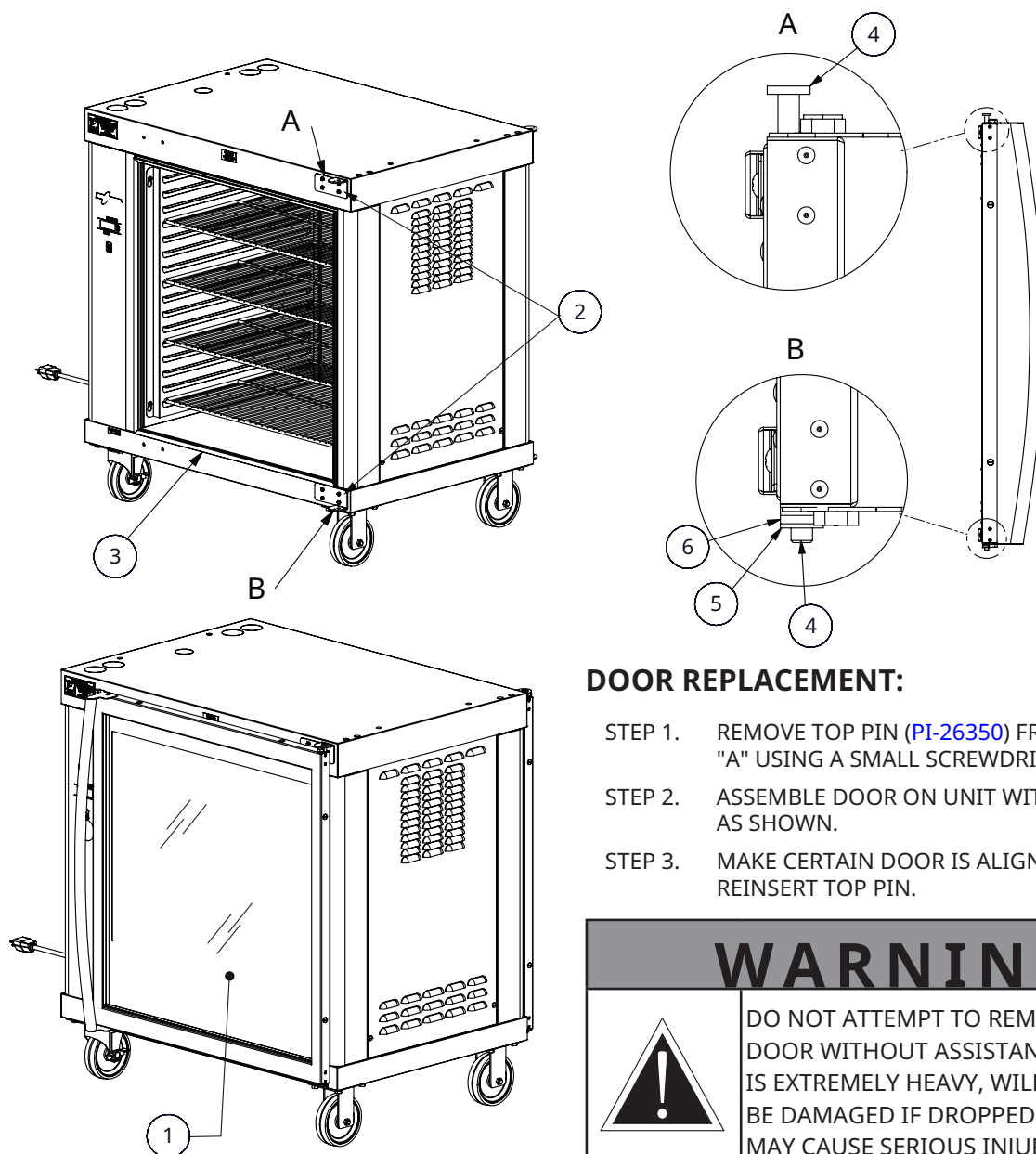


DO NOT ATTEMPT TO REMOVE THE DOOR WITHOUT ASSISTANCE. THE DOOR IS EXTREMELY HEAVY, WILL BE DAMAGED IF DROPPED, AND MAY CAUSE SERIOUS INJURY.

*NOT SHOWN		MODEL >	MANUAL		ELECTRONIC	
ITEM	DESCRIPTION		PART NO.	QTY	PART NO.	QTY
1	DOOR ASSEMBLY, CURVED	CONTROL SIDE	5005773	1	5005773	1
		NON-CONTROL SIDE*	5006426	1	5006426	1
2	HINGES, DOOR	TOP	1007672	1	1007672	1
		BOTTOM	1007673	1	1007673	1
3	GASKET, DOOR		GS-25753	2	GS-25753	2
4	PIN, DOWEL	TOP	PI-26350	2	PI-26350	2
		BOTTOM	PI-26352	2	PI-26352	2
5	WASHER		WS-22298	1	WS-22298	1
6	SPACER		1002143	1	1002143	1

Part numbers and drawings are subject to change without notice.

## SINGLE PANE FLAT GLASS DOOR



### DOOR REPLACEMENT:

- STEP 1. REMOVE TOP PIN (PI-26350) FROM BRACKET "A" USING A SMALL SCREWDRIVER.
- STEP 2. ASSEMBLE DOOR ON UNIT WITH SPACERS AS SHOWN.
- STEP 3. MAKE CERTAIN DOOR IS ALIGNED AND REINSERT TOP PIN.

## WARNING



DO NOT ATTEMPT TO REMOVE THE DOOR WITHOUT ASSISTANCE. THE DOOR IS EXTREMELY HEAVY, WILL BE DAMAGED IF DROPPED, AND MAY CAUSE SERIOUS INJURY.

*NOT SHOWN		MODEL >	MANUAL		ELECTRONIC	
ITEM	DESCRIPTION		PART NO.	QTY	PART NO.	QTY
1	DOOR ASSEMBLY, FLAT	CONTROL SIDE	5009591	1	5009591	1
		NON-CONTROL SIDE*	5009815	1	5009815	1
2	HINGES, DOOR	TOP	1002596	1	1002596	1
		BOTTOM	1002597	1	1002597	1
3	GASKET, DOOR		GS-25753	2	GS-25753	2
4	PIN, DOWEL	TOP	PI-26350	2	PI-26350	2
		BOTTOM	PI-26352	2	PI-26352	2
5	WASHER		WS-22298	1	WS-22298	1
6	SPACER		1002143	1	1002143	1

Part numbers and drawings are subject to change without notice.

# SERVICE

## STAINLESS STEEL BACK PANEL

### BACK REPLACEMENT:

**STEP 1:** REMOVE REAR DOOR, RUBBER GASKET, HINGES, AND 28 SCREWS FROM GASKET CHANNEL

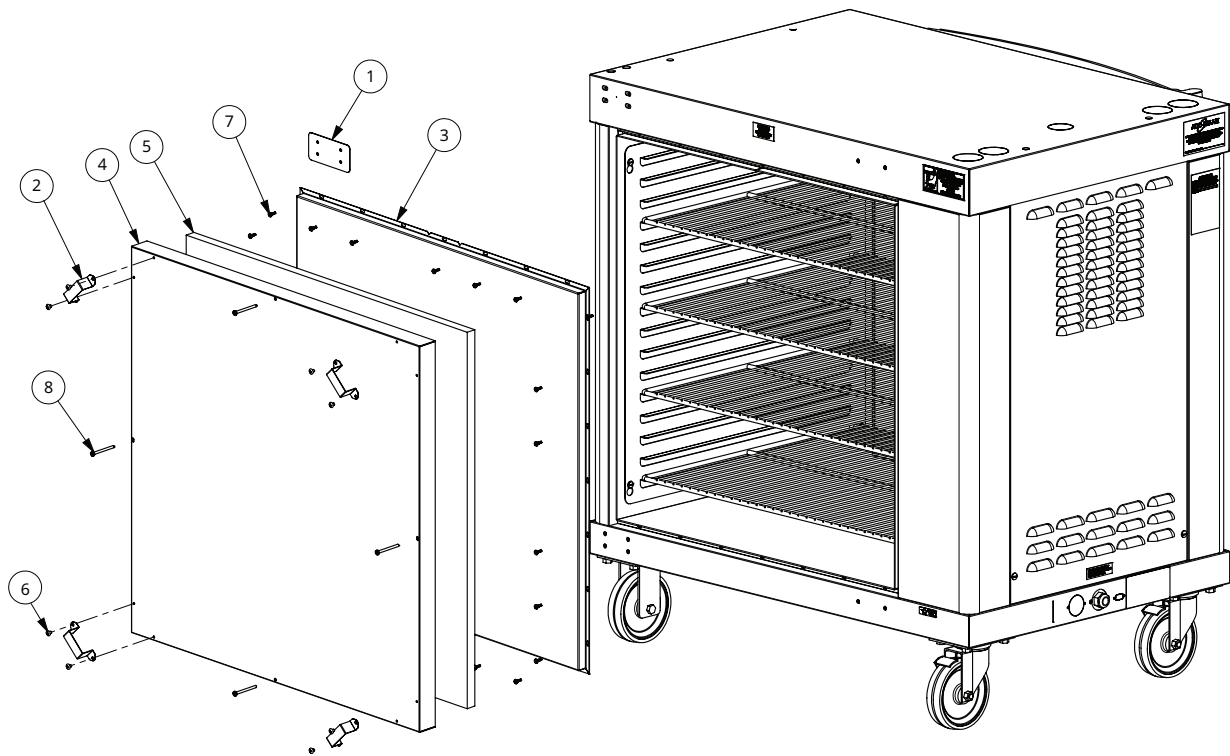
**STEP 2:** ATTACH INNER BACK PANEL WITH 24: [SC-25849](#)

**STEP 3:** INSERT [IN-2003](#) INTO OUTER BACK PANEL

**STEP 4:** ATTACH OUTER BACK PANEL WITH 4: SC-27843

**STEP 5:** ATTACH 4 SPACER BRACKETS WITH 2 EACH: [SC-2459](#)

**STEP 6:** ATTACH 2 HINGE COVER PLATES WITH 4 EACH: [SC-23151](#)

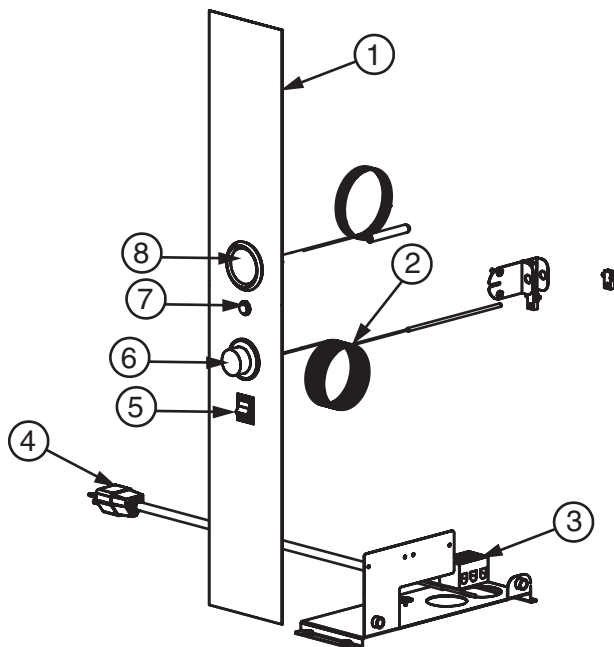


ITEM	DESCRIPTION	PART NO.	QTY
1	COVER, HINGE MOUNTING	1002446	2
2	SPACER, SOLID BACK	<a href="#">1002822</a>	4
3	PANEL, BACK, SOLID, INNER	<a href="#">1006652</a>	1
4	PANEL, BACK, SOLID	<a href="#">1006746</a>	1
5	INSULATION, FIBERGLASS, #3 DENS, 1/2" THICK	<a href="#">IN-2003</a>	2
6	8-32 X 1/4" PHIL SCREW	<a href="#">SC-2459</a>	8
7	SELF TAPPING 8-32 X 1/2	<a href="#">SC-25849</a>	24
8	SCREW, 8/32 X 2 LG.	SC-27843	4
9*	SCREW, 10-32 X 3/4	<a href="#">SC-23151</a>	8

\*NOT SHOWN

Part numbers and drawings are subject to change without notice.

## ELECTRICAL - MANUAL CONTROL

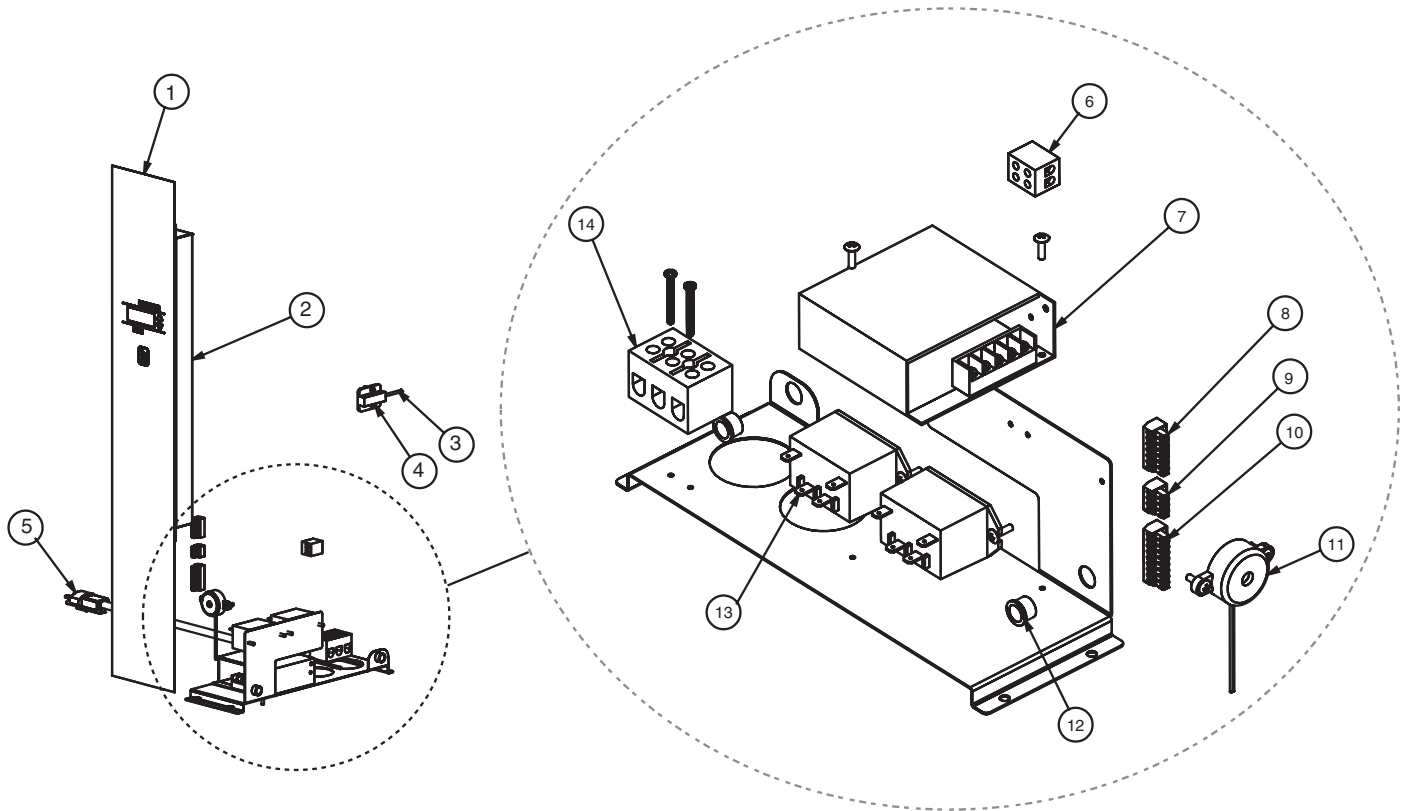


		MODEL >	MANUAL	
ITEM	DESCRIPTION		PART NO.	QTY
1	CONTROL PANEL OVERLAY		<a href="#">PE-26003</a>	1
2	THERMOSTAT, SLOW, 200°F		<a href="#">TT-3057</a>	1
3	T-BLOCK		<a href="#">BK-3019</a>	1
4	CORDSET	120V, 72" (1829mm)	<a href="#">CD-3397</a>	1
		208/240V, 108" (2743mm)	<a href="#">CD-33840</a>	1
		230V, 108" (2743mm)	<a href="#">CD-3922</a>	1
		230V, 108" (2743mm)	CD-36231	1
5	POWER SWITCH, ROCKER		<a href="#">SW-3887</a>	1
6	KNOB, THERMOSTAT	°F	<a href="#">KN-3469</a>	1
		°C	<a href="#">KN-3474</a>	1
7	INDICATOR LIGHT	120V	LI-3027	1
		208/240V	<a href="#">LI-3025</a>	1
		230V	LI-3951	1
8	TEMPERATURE GAUGE		GU-3273	1

Part numbers and drawings are subject to change without notice.

# SERVICE

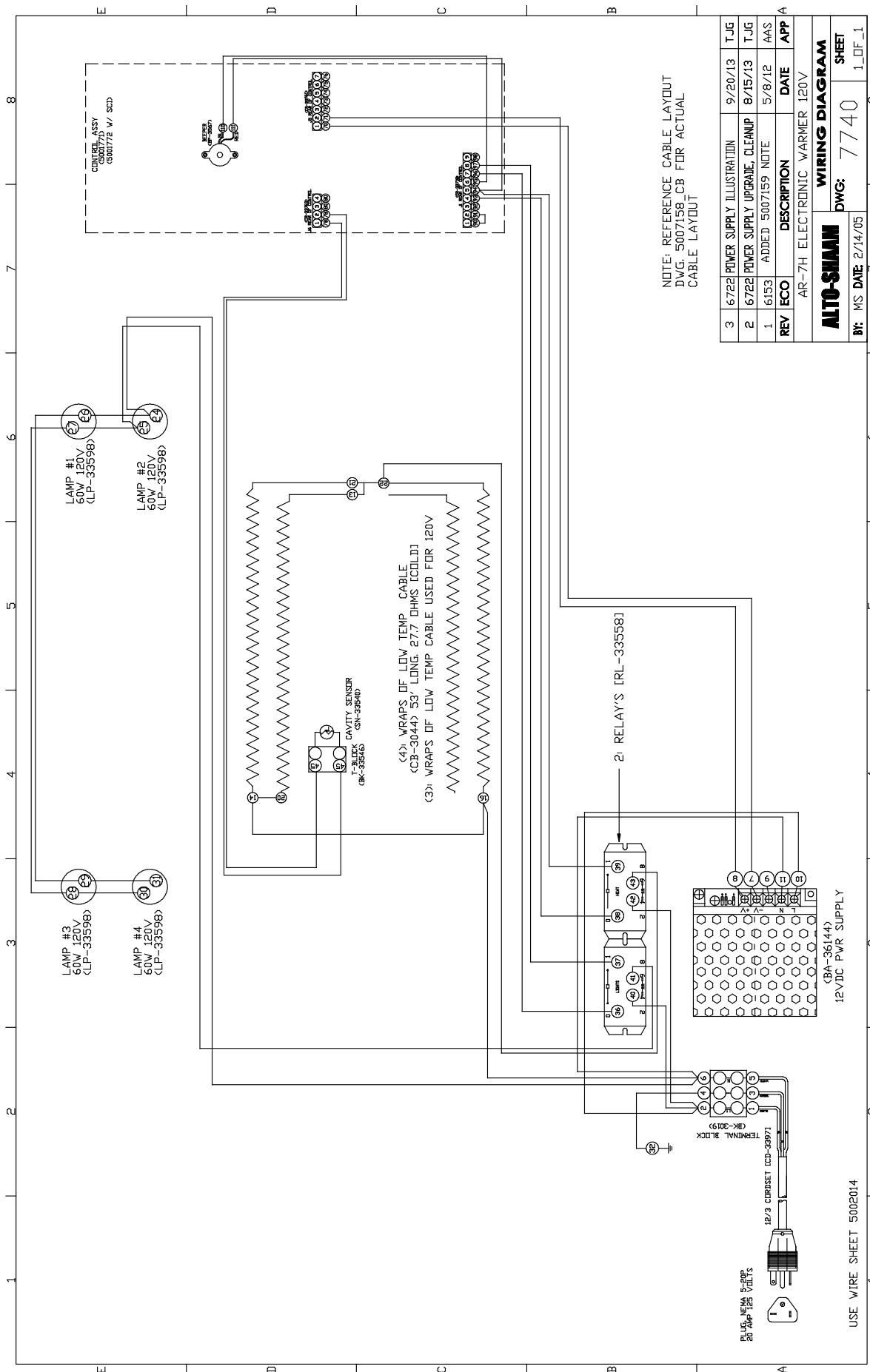
## ELECTRICAL - ELECTRONIC CONTROL

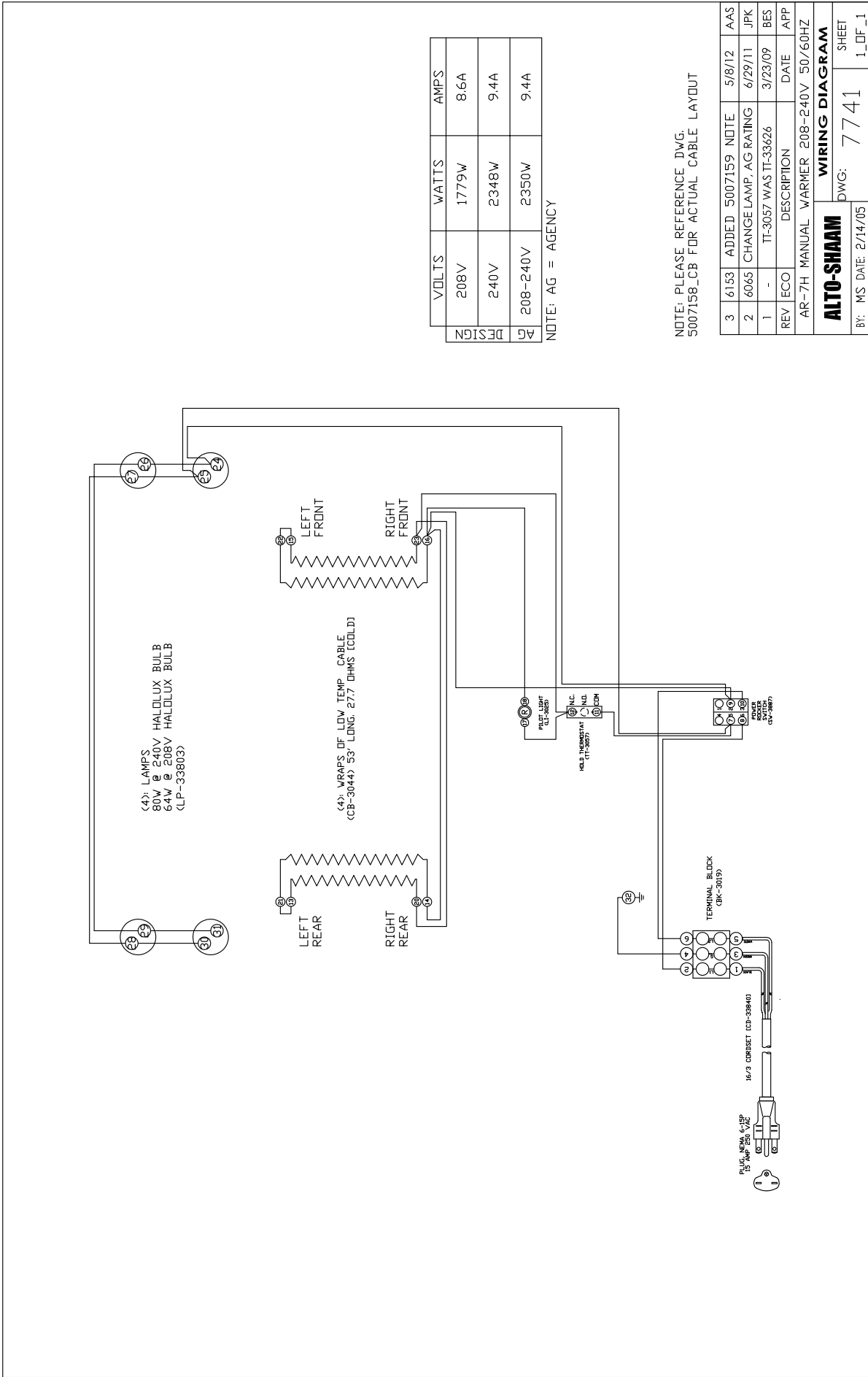


		MODEL >	ELECTRONIC	
ITEM	DESCRIPTION		PART NO.	QTY
1	CONTROL PANEL OVERLAY		<a href="#">PE-25746</a>	1
2	CONTROL, ASSEMBLY		<a href="#">5001771</a>	1
3	SENSOR, TEMPERATURE		SN-33540	1
4	BLOCK, SENSOR		<a href="#">BK-24427</a>	1
5	CORDSET	120V, 72" (1829mm)	<a href="#">CD-3397</a>	1
		208/240V, 108" (2743mm)	<a href="#">CD-33840</a>	1
		230V, 108" (2743mm)	<a href="#">CD-3922</a>	1
		230V, 108" (2743mm)	CD-36231	1
6	BLOCK, TERMINAL, PORCELAIN		<a href="#">BK-33546</a>	1
7	BOARD, POWER SUPPLY, 12V. DC., SWITCH		BK-36144	1
8	CONNECTOR, 7 PIN		<a href="#">CR-33761</a>	1
9	CONNECTOR, 4 PIN		<a href="#">CR-33763</a>	1
10	CONNECTOR, 9 PIN		<a href="#">CR-33718</a>	1
11	BEEPER		<a href="#">BP-3567</a>	1
12	BUSHING		<a href="#">BU-3006</a>	2
13	RELAY		<a href="#">RL-33558</a>	2
14	T-BLOCK		<a href="#">BK-3019</a>	1

Part numbers and drawings are subject to change without notice.







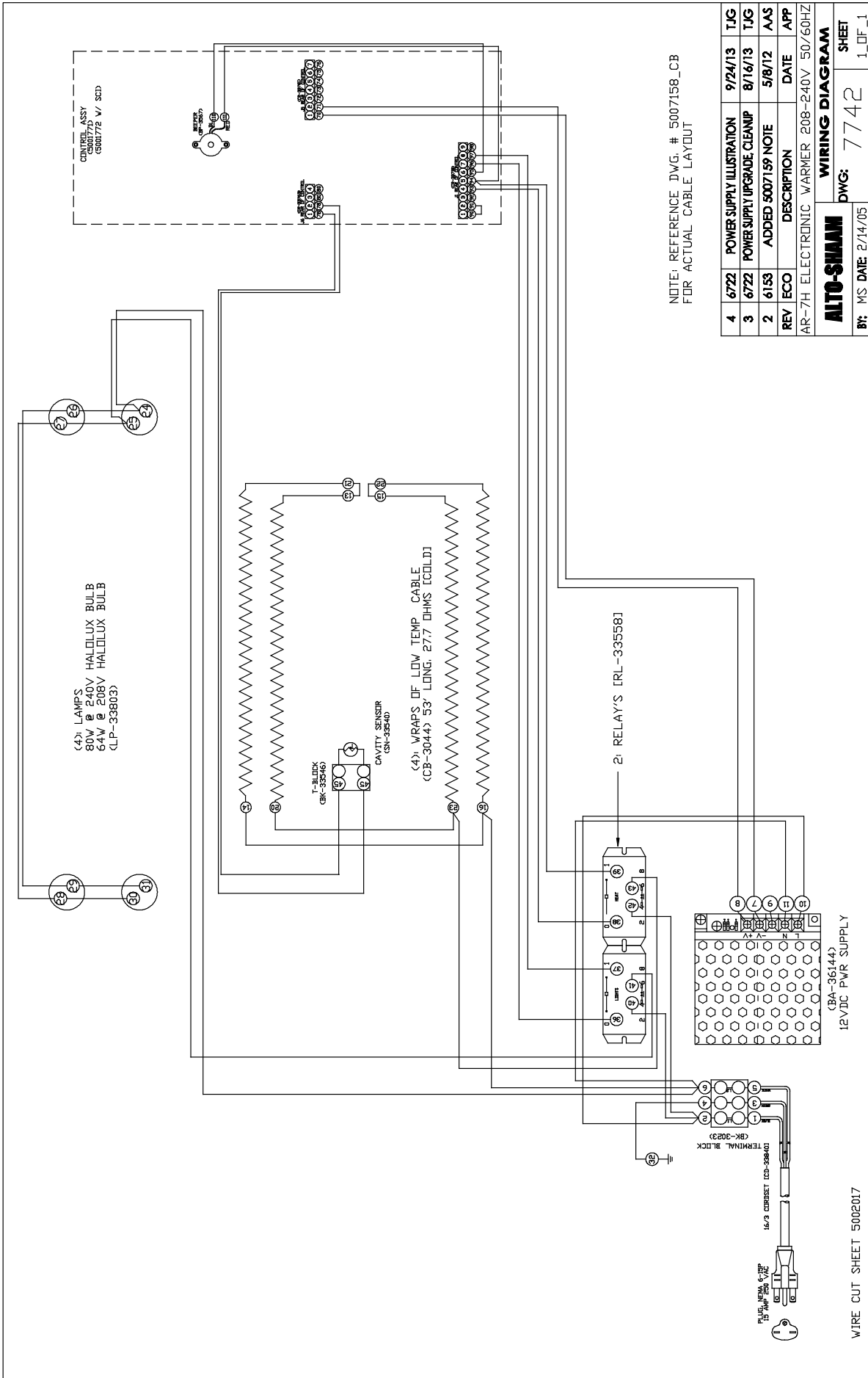
DESIGN	VOLTS	WATTS	AMPS
AG	208V	1779W	8.6A
AG	240V	2348W	9.4A
AG	208-240V	2350W	9.4A

NOTE: AG = AGENCY

NOTE: PLEASE REFERENCE DWG. 5007158\_CB FOR ACTUAL CABLE LAYOUT

3	6153	ADDED	5007159	NOTE	5/8/12	AAS
2	6065	CHANGE LAMP, AG RATING	6/29/11	JPK		
1	-	TT-3057 WAS TT-33626	3/23/09	BES		
REV	ECO	DESCRIPTION	DATE	APP		
AR-7H MANUAL WARMER 208-240V 50/60HZ						

ALTO-SHAAM		WIRING DIAGRAM	
BY: MS	DATE: 2/14/05	DWG: 7741	SHEET 1_OF_1



NOTE: REFERENCE DWG. # 5007158\_CB FOR ACTUAL CABLE LAYOUT

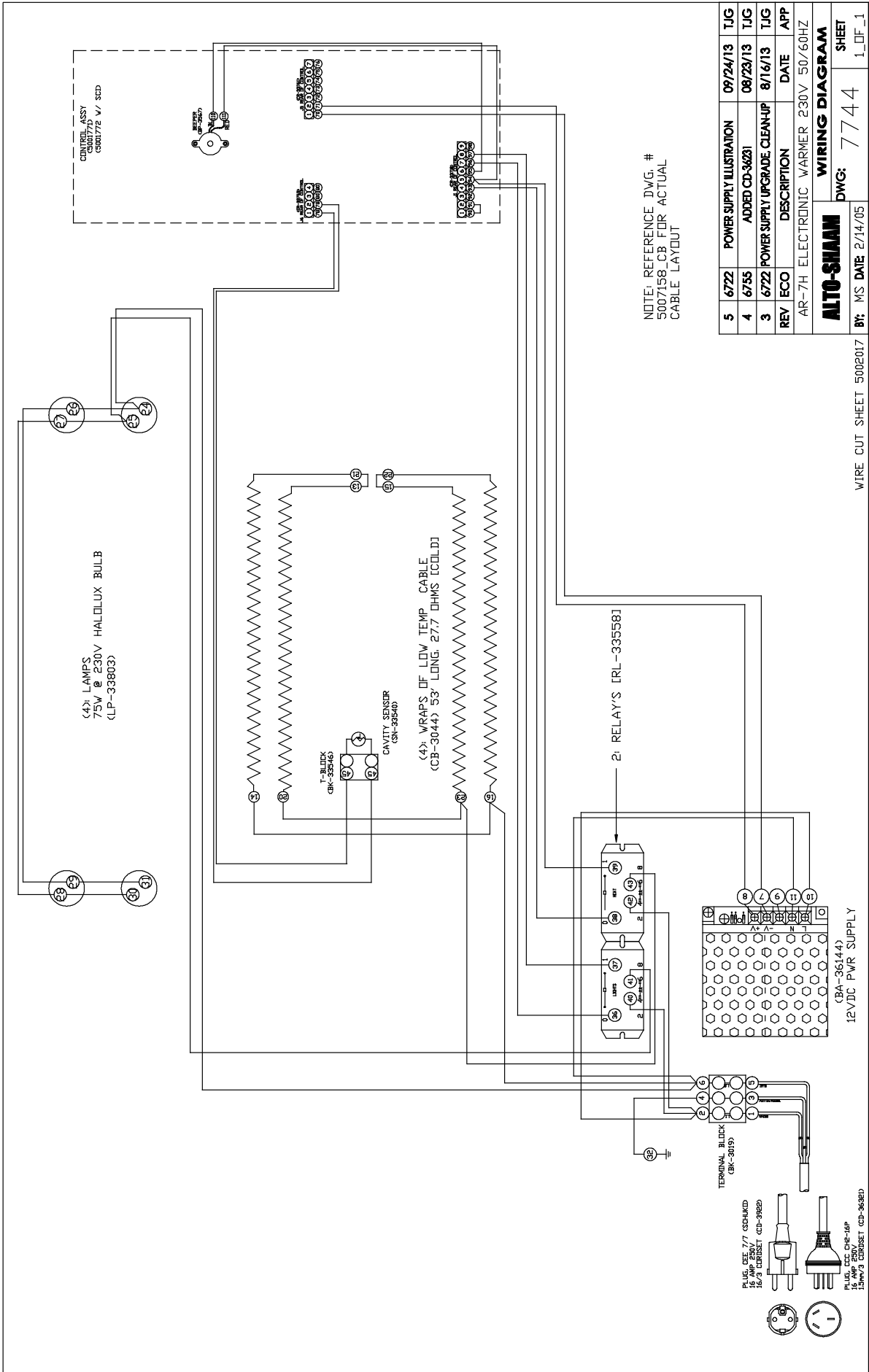
REV	ECO	DESCRIPTION	DATE	APP
4	6722	POWER SUPPLY ILLUSTRATION	9/24/13	TJG
3	6722	POWER SUPPLY UPGRADE CLEANUP	8/16/13	TJG
2	6153	ADDED 5007159 NOTE	5/8/12	AAS

AR-7H ELECTRONIC WARMER 208-240V 50/60HZ  
**AUTO-SHAM**  
 BY: MS DATE: 2/14/05 DWG: 7742 SHEET 1 OF 1

(CBA-36144)  
 12VDC PWR SUPPLY

WIRE CUT SHEET 5002017





Alto-Shaam, Inc. warrants to the original purchaser only that any original part that is found to be defective in material or workmanship will, at Alto-Shaam's option, subject to provisions hereinafter stated, be replaced with a new or rebuilt part.

### **The original parts warranty period is as follows:**

For the refrigeration compressor on Alto-Shaam Quickchillers™, five (5) years from the date of installation of appliance.

For the heating element on Halo Heat® cooking and holding ovens, as long as the original purchaser owns the oven. This excludes holding only equipment.

For all other original parts, one (1) year from the date of installation of appliance or fifteen (15) months from the shipping date, whichever occurs first.

The labor warranty period is one (1) year from the date of installation or fifteen (15) months from the shipping date, whichever occurs first.

Alto-Shaam will bear normal labor charges performed during standard business hours, excluding overtime, holiday rates or any additional fees.

To be valid, a warranty claim must be asserted during the applicable warranty period. This warranty is not transferable.

### **This warranty does not apply to:**

1. Calibration.
2. Replacement of light bulbs, door gaskets, and/or the replacement of glass due to damage of any kind.
3. Equipment damage caused by accident, shipping, improper installation or alteration.
4. Equipment used under conditions of abuse, misuse, carelessness or abnormal conditions, including but not limited to, equipment subjected to harsh or inappropriate chemicals, including but not limited to, compounds containing chloride or quaternary salts, poor water quality, or equipment with missing or altered serial numbers.
5. Damage incurred as a direct result of poor water quality, inadequate maintenance of steam generators and/or surfaces affected by water quality. Water quality and required maintenance of steam generating equipment is the responsibility of the owner/operator.
6. Damage caused by use of any cleaning agent other than Alto-Shaam's Combitherm® Cleaner, including but not limited to damage due to chlorine or other harmful chemicals. Use of Alto-Shaam's Combitherm® Cleaner on Combitherm® ovens is highly recommended.
7. Any losses or damage resulting from malfunction, including loss of product, food product, revenue, or consequential or incidental damages of any kind.
8. Equipment modified in any manner from original model, substitution of parts other than factory authorized parts, removal of any parts including legs, or addition of any parts.

This warranty is exclusive and is in lieu of all other warranties, express or implied, including the implied warranties of merchantability and fitness for a particular purpose. In no event shall Alto-Shaam be liable for loss of use, loss of revenue or profit, or loss of product, or for any indirect, special, incidental, or consequential damages. No person except an officer of Alto-Shaam, Inc. is authorized to modify this warranty or to incur on behalf of Alto-Shaam any other obligation or liability in connection with Alto-Shaam equipment.

Effective November 1, 2012

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