



### 1200-UP Marine

208-240V - #205492

- **Installation**
- **Operation**
- **Maintenance**

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Consult instructions  
for operation and use.



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This Alto-Shaam appliance has been thoroughly tested and inspected to ensure only the highest quality appliance 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, including unattached items and accessories, may be delivered in one or more packages. Ensure all standard items and options have been received with each appliance as ordered. Save all the information packed with the appliance. Register the appliance online at [www.alto-shaam.com/en/support/warranty-registration](http://www.alto-shaam.com/en/support/warranty-registration) 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 appliance. Contact the Alto-Shaam Tech Team Service Department if you have any questions concerning installation, operation, or maintenance.

1-800-558-8744; 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.

**Environmental Conditions**

- Operational Environmental Conditions
- Before use, appliance must acclimate to room temperature in the environment 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.

# Transportation Damage and Claims



All Alto-Shaam equipment is sold Free on Board (F.O.B.) shipping point, and when accepted by the carrier, such shipments become the property of the consignee.

Should damage occur in shipment, do not put the appliance into service until the damage has been inspected by an authorized Alto-Shaam service provider.

Shipping damages are a matter between the carrier and the consignee. In such cases, the carrier is assumed to be responsible for the safe delivery of the merchandise, unless negligence can be established on the part of the shipper.

1. Make an immediate inspection while the appliance is still in the truck or immediately after it is moved to the receiving area. Do not wait until after the appliance is moved to a storage area.
2. Do not sign a delivery receipt or a freight bill until a proper count has been made and inspection of all appliances are received.

3. Note all damage to packages directly on the carrier's delivery receipt.
4. Make certain the driver signs the delivery receipt. If the driver refuses to sign, make a notation of this refusal on the receipt.
5. If the driver refuses to allow inspection, write the following on the delivery receipt: **Driver refuses to allow inspection of containers for visible damage.**
6. Contact the carrier's office immediately upon finding damage, and request an inspection. Mail a written confirmation to the carrier's office with the time, date, and the person called.
7. Save any packages and packing material for further inspection by the carrier.
8. Promptly file a written claim with the carrier and attach copies of all supporting paperwork.

Alto-Shaam will continue our policy of assisting our customers in collecting claims which have been properly filed and actively pursued. Alto-Shaam cannot, however, file any damage claims, assume the responsibility of any claims, or accept deductions in payment for such claims.

Record the model and serial number of the appliance for easy reference. Always refer to both model and serial number in any contact with Alto-Shaam regarding this appliance.

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

Serial Number: \_\_\_\_\_

Date Installed: \_\_\_\_\_

Voltage: \_\_\_\_\_

Purchased From: \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_



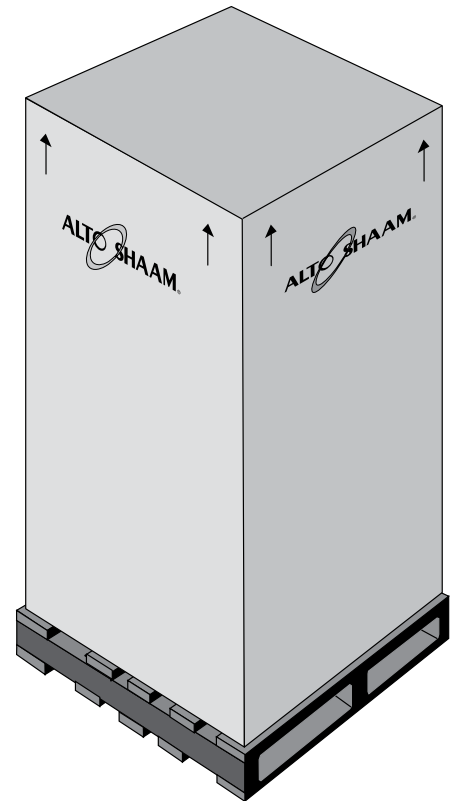
**Alto-Shaam has established a twenty-four hour emergency service call center to offer immediate customer access to a local authorized service agency outside of standard business hours. The emergency service access is provided exclusively for Alto-Shaam equipment and is available throughout the United States through the use of Alto-Shaam's toll-free number. Emergency service access is available seven days a week including holidays.**

- Carefully remove the appliance from the carton or crate.

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

Do not discard this manual. This manual is considered to be part of the appliance and is to be provided to the owner or manager of the business or to the person responsible for training operators. Additional manuals are available from the manufacturer.


- 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 voiding the warranty and relieving Alto-Shaam of all liability.
- 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.



## Safety Procedures

- The 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.
- The 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. Alto-Shaam recommends regular staff training to avoid the risk of accident or damage to the appliance. Operators must also receive regular safety instructions.
- Any troubleshooting 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.

**NOTICE:** For equipment delivered for use in any location regulated by the following directive: 2012/95/EC WEEE



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

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).



Indicates that referral to operating instructions is a mandatory action. If not followed the operator could suffer personal injury.



Indicates that referral to operating instructions is recommended to understand operation of equipment.

- To prevent serious injury, death or property damage, the appliance should be inspected and serviced at least every twelve (12) months by an authorized service partner or trained technician.
- **Only** allow an authorized service partner or trained technician to service or to repair the appliance. Installation or repairs that are not performed by an authorized service partner or trained technician, or the use of non-factory authorized parts will void the warranty and relieve Alto-Shaam of all liability.
- When working on this appliance, observe precautions in the literature, on tags, on labels attached to or shipped with the appliance and other safety precautions that may apply.
- If the appliance is installed on casters, freedom of movement of the appliance must be restricted so that utility connections (including gas, water, and electricity) cannot be damaged when the appliance is moved. If the appliance is moved, ensure that all utility connections are properly disconnected. If the appliance is returned to its original position, ensure that retention devices and utility connections are properly connected.
- **Only** use the appliance when it is stationary. Mobile appliance racks, mobile plate racks, transport trolleys, and appliances on casters can tip over when being moved over an uneven floor or threshold and cause serious injury.
- **Always** apply caster brakes on mobile appliances or accessories when these are not being moved. These items could move or roll on uneven floors and cause property damage or serious injury.
- Be extremely careful when moving appliances because the food trays may contain hot fluids that may spill, causing serious injury.
- **Always** open the appliance door very slowly. Escaping hot vapors or steam can cause serious injury or death.

### **WARNING**

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

Children should be supervised to ensure that they do not play with the appliance.

# 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



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.

## ⚠️ 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.

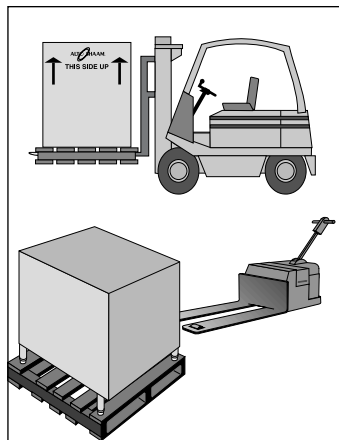
## ⚠️ WARNING



To prevent personal injury, death or property damage:

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

The Alto-Shaam Hot Food Holding Cabinet must be installed in a location that will permit the oven to function for its intended purpose and to allow adequate clearance for ventilation, proper cleaning, and maintenance access.



Emissions testing conducted by Underwriters Laboratories, Inc.® was found to be in compliance with the applicable requirements of NFPA96: 2004 Edition, Par. 4.1.1.2. U.L emissions sampling of grease laden vapor resulted in a total of 0.55 milligrams per cubic meter with no visible smoke and is considered representative of all oven models in the line. Based on these results, hood installation and/or outside venting should not be a requirement in most areas. Verify local codes for locations where more restrictive codes are applicable.

Minimum Clearance Requirements	
Rear	3" (76mm)
Top	2" (51mm)
Left side , Right side	1" (25mm)

1. The appliance must be installed on a stable and level surface free of vibration and suitably strong enough to support the combined weights of the appliance plus the maximum product load weight.
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 adverse conditions.
3. This appliance must be kept free and clear of any combustible materials.
4. This appliance must be kept free and clear of any obstructions blocking access for maintenance or service.

## NOTICE

If the appliance has been unplugged for an extended period of time, the Real Time Clock may require recharging. Turn main breaker to the unit off for 10 seconds and then restore power. For more information, see Error Code E-60 in the Troubleshooting section of this manual.



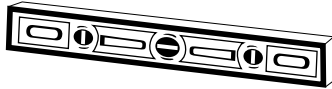
A number of adjustments are associated with initial installation and start-up. It is important that these adjustments be conducted by a qualified service technician. Installation and start-up adjustments are the responsibility of the dealer or user. These adjustments include but are not limited to thermostat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

### Leveling

Place the appliance on a stable, non-combustible level horizontal surface. For appliance installed with casters, it is important that the floor surface be level due to the probability of frequent oven repositioning.

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

**NOTE:** Failure to properly level this appliance may result in spills from a semi-liquid product.



## WARNING



ELECTRIC SHOCK HAZARD.

To prevent SERIOUS INJURY or DEATH, your appliance must be secured to building structure to prevent unintended movement.

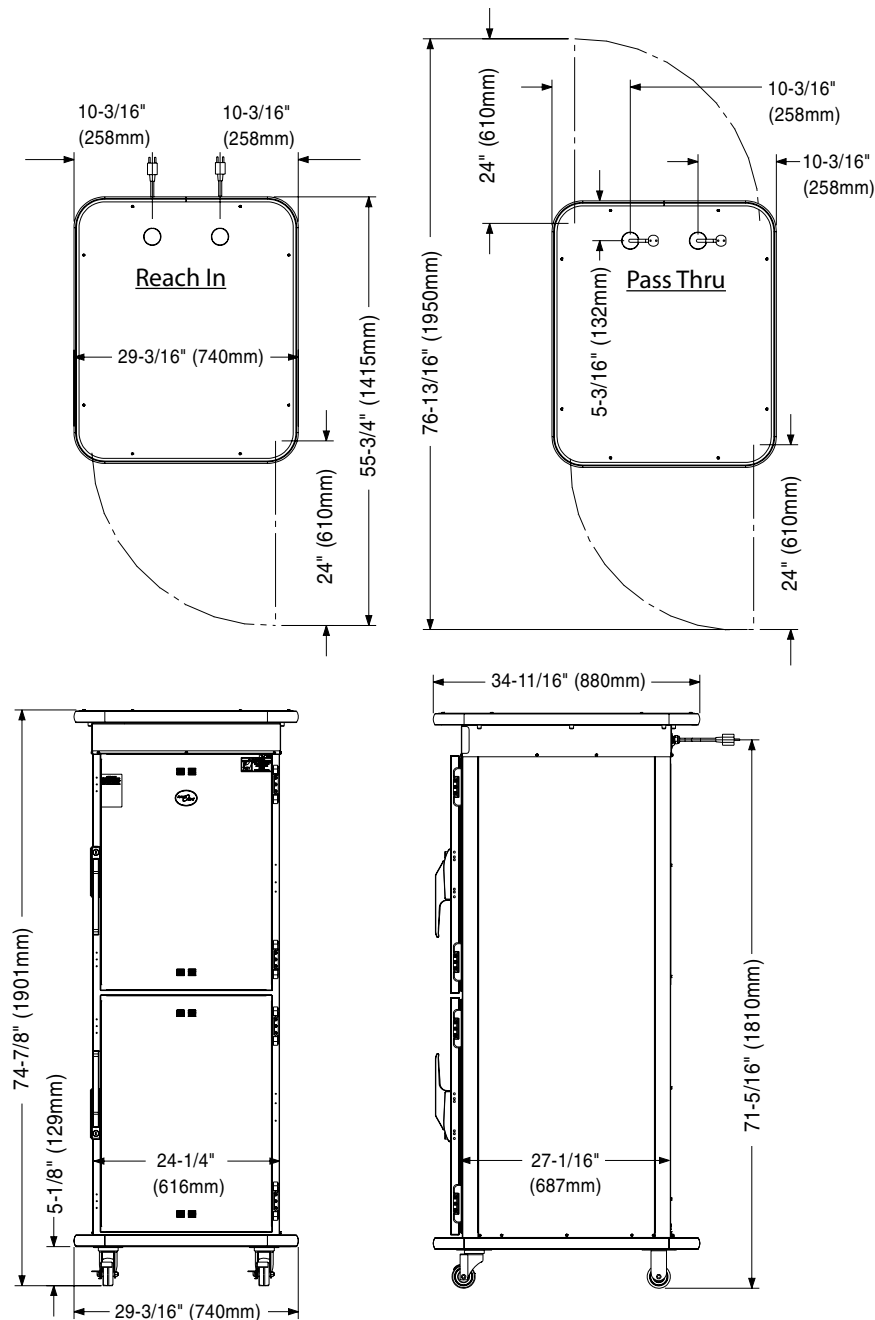
### Restraint Requirements for Mobile Equipment

Any appliance that is not furnished with a power supply cord but includes a set of casters must be installed with a tether. Adequate means must be provided to limit the movement of this appliance without depending on or transmitting stress to the electrical conduit. The following requirements apply:

1. Casters must be a maximum height of 6" (152mm).
2. Two of the casters must be the locking type.
3. Mobile appliances or appliances on mobile stands must be installed with the a flexible connector secured to the building structure.

A mounting connector for a restraining device is located on the upper back flange of the appliance. A flexible connector is not supplied by nor is it available from the factory.

# Dimensions



<b>Capacity</b> (each compartment)			
192 lbs (87kg) maximum volume maximum: 120 quarts (152 liters)			
<b>Full-size pans:</b>		<b>Gastronorm 1/1:</b> with additional shelves	
Six (6)	20" x 12" x 2-1/2"	(530mm x 325mm x 65mm)	up to 16 pans
Six (6)	20" x 12" x 4"	(530mm x 325mm x 100mm)	up to 10 pans
		<b>Gastronorm 2/1:</b>	
Three (3)	20" x 24" x 2-1/2"	(530mm x 650mm x 65mm)	up to 8 pans
Three (3)	20" x 24" x 4"	(530mm x 650mm x 100mm)	up to 5 pans
<b>Full-size sheet pans:</b>			
Three (3)	18" x 26" x 1"		up to 16 pans

<b>Accessories</b>	
Legs, Flanged, 6" (152mm)	LG-23067
Pan Grid, Wire 18" x 26" (457mm x 660mm)	PN-2115
Pan, Water Reservoir	1775
Pan Cover, Water Reservoir	1774
Shelf, Stainless Steel Wire	SH-23738
Universal Pan Slide	SR-24762



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.

## 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.

**NOTE:** A rating tag is permanently mounted on the appliance. Ensure power source matches the voltage identified on the tag.

Plug appliance into a properly grounded receptacle **only**, positioning the appliance so the power supply cord is easily accessible in case of an emergency.

Arcing will occur when connecting or disconnecting the appliance unless the controller is OFF.

### 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.

**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.

## 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.

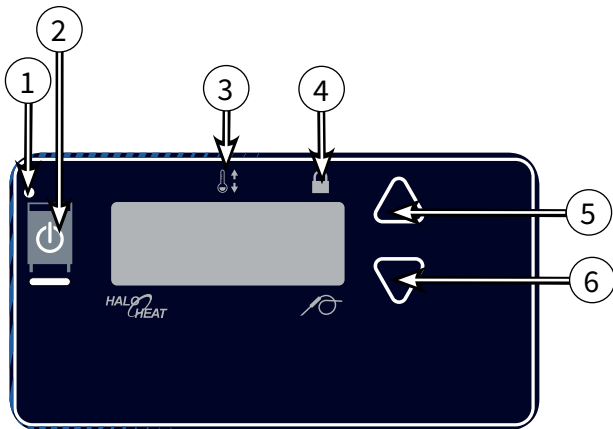


CE-approved appliances include an equipotential-bonding terminal marked with the symbol shown on the left. Provisions for earthing are to be made in accordance with IEC:2010 60335-1 section 27 or local codes.

Electrical (each compartment)					
V	Ph	Hz	A	kW	
208-240V	1	50/60	7.2 - 8.3	1.5 - 2.0	 NEMA 6-15P

Wire diagrams located inside bonnet.

# Operation



1. Preheat the holding cabinet at 200°F (93°C) for 30 minutes before loading hot food.
  - a) Press the ON/OFF button ②. The ON/OFF status indicator ① will illuminate.  
To reduce preheat time, rotate the vents inside the door to close them.
  - b) Press the up arrow button ⑤ or the down arrow button ⑥ until the controller shows 200°F (93°C).
    - Press and release the button to change the holding temperature by one degree.
    - Press and hold the button to change the holding temperature by ten degrees.
 The heat indicator ③ illuminates and preheat starts.
2. Wait thirty (30) minutes.
3. Place hot food in the holding cabinet.

## WARNING

Only food which has been heated to an internal temperature of 140°F to 160°F (60°C to 71°C) should be placed in the holding cabinet.

Select at least one food item in every pan and insert a food thermometer into the center to check internal temperature. Heat any food items which are below the minimum temperature before placing them in the holding cabinet.

5. Close the holding cabinet door securely.
6. Press the down arrow button ⑥ until the controller shows 160°F (71°C).
  - Press and release the button to change the holding temperature by one degree.
  - Press and hold the button to change the holding temperature by ten degrees.

### How to Display Set-Point and Actual Holding Temperature

To display the actual compartment temperature, press the up arrow button ⑤. The actual compartment temperature will display for a short time and then the controller will return to the set-point holding temperature.

### How to Change Controller from Fahrenheit to Celsius

**NOTE:** The factory default is Fahrenheit.

With the controller OFF, press and hold the up arrow button ⑤ until the controller shows °C.

Press either arrow button to change from °C to °F.

**NOTE:** The last selected setting is retained by the control board if there is a power failure.

### How to Enable/Disable the Beeper

**NOTE:** The factory default is ON.

With the controller OFF, press and hold the down arrow button ⑥. The controller will display "OFF".

Press either arrow button to turn the Beeper on.

### How to Lock the Controller

The controller lock prohibits the set temperature from being changed.

Press and hold the ON/OFF button ② and the up arrow button ⑤ simultaneously. The lock status indicator ⑤ will illuminate.

To unlock the controller, press and hold the ON/OFF button ② and the down arrow button ⑥ simultaneously. The lock status indicator ⑤ will go out.

### SureTemp™ Heat Recovery

The patented SureTemp™ heat recovery system in this appliance will immediately compensate for any loss of heat when the door is opened. In order to maintain a more consistent compartment temperature, the control will automatically apply heat to the appliance's interior while the door is open and for a short time after the door is closed. If the door remains open for more than three minutes, the control will sound three rapid beeps every ten seconds until the door is closed.

**How to Proof Dough**

With the addition of a pan of water, this holding cabinet can be used for proofing dough. A water reservoir pan (#1775) and pan cover (#1774) is available as an accessory from Alto-Shaam.

1. Remove dough from retarder or refrigerator and allow covered dough to come to room temperature.
2. Set holding temperature to 95°F (35°C).
3. Pour approximately 2 quarts (c. 2 liters) of 140°F to 180°F (60°C to 82°C) water into the optional water reservoir pan and place the pan on the bottom surface of the compartment.
4. Preheat holding cabinet for 45 to 60 minutes.
5. Remove covering and place dough in preheated holding cabinet.
6. Allow dough to remain in the holding cabinet until it nearly doubles in size.
7. Remove dough from the holding cabinet and bake according to product manufacturer's directions. Brush with egg wash if desired.

**NOTE:** The above proofing procedure is a suggested guideline only. Due to variation from product to product, including quality and product weight, close adherence the product manufacturer's instructions is strongly recommended.

# 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 appliance is equipped with vents, close the vents for moist holding and open the vents for crisp holding.

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.		

## 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 residue 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.

## Cleaning and Preventative Maintenance

### **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.

### **WARNING**



To prevent serious injury, death, or property damage, **always** disconnect the appliance from the power source before cleaning or servicing.

### How to Clean the Holding Cabinet

1. Disconnect appliance from power source and let cool.
  2. Remove and wash wire shelves, side racks/pan slides, drip tray, and drip pan with hot soapy water.
  3. Wipe the interior of the holding cabinet with a paper towel to remove loose food debris.
  4. Clean the interior with a damp clean cloth or sponge and any good commercial detergent.
 

**NOTICE:** Never use abrasive cleaning compounds, chloride-based cleaners, or cleaners containing quaternary salts. Never use hydrochloric acid (muriatic acid) on stainless steel.
  5. Spray heavily soiled areas with a water soluble degreaser and let stand for 10 minutes, then remove soil with a plastic scouring pad.
  6. Wipe the control panel, door vents, door handles, and door gaskets.
  7. Rinse surfaces by wiping with a sponge and clean warm water.
  8. Remove excess water with a sponge and wipe dry with a clean cloth or air dry. Leave door(s) open until interior is completely dry.
  9. Wipe the interior with a sanitizing solution that is approved for use on stainless steel food contact surfaces.
  10. Replace the side racks/pan slides, drip tray, drip pan and shelves.
 

**NOTE:** Shelves must be installed with the curved end up and toward the back of the compartment.
  11. Spray a clean cloth with a cleaning solution approved for stainless steel and wipe the exterior of the cabinet.
  12. Clean door glass with glass cleaner or distilled vinegar.
- Always follow appropriate state or local health (hygiene) regulations regarding all applicable cleaning and sanitation requirements for equipment.



## Cleaning and Preventative Maintenance

<b>Preventative Maintenance Checklist</b>	
<b>Daily</b>	
	Perform daily cavity cleaning as stated in the cleaning section of this manual
	Clean out front drip tray as recommended in the cleaning section of this manual
<b>Monthly</b>	
	Inspect door gasket
	Inspect door window gasket
	Inspect cavity door vent slides for proper operation
	Inspect side racks, shelves and shelf supports to ensure nothing is damaged or in need of replacement
	Calibrate removable product probe
	Clean out cooling fan intake and exhaust vents
	Visually inspect the smoke element (Cook & Hold smoker oven only). If any visual signs of deformation, cracks or breaks are seen, remove the oven from service and contact an Alto-Shaam authorized service technician for service.
<b>Every 12 months (Inspection by a factory authorized technician)</b>	
	Open control area and inspect/tighten all wiring
	Inspect all electrical components
	Test elements for electrical short to ground. Replace/repair as needed.
	Visually inspect the cavity for structural integrity
	Inspect door gasket. Replace if needed.
	Visually inspect any door handles and hinges. Replace/repair as needed.
	Remove any loose handle and hinge screws. Loctite and then properly secure the screws.
	Inspect smoke element and smoke element wiring (Cook & Hold smoker oven only)
	Inspect and test product probe and product probe receptacle (where applicable)
	Inspect and test control and control functions
	Inspect temperature control knobs. Replace if needed.
	Inspect casters. Repair/replace as needed.
	Inspect perimeter bumper. Repair/replace as needed.
	Inspect power cord. Tighten cord connection inside the appliance control area
	Replace cooling fans (where applicable)
	Perform cavity temperature calibration per manufacturer's recommended calibration procedures
	Check site voltage
	Set voltage switch (where applicable)
	Test/Replace independent indicator lights (where applicable)
	Confirm proper current draw of heating elements

## Food Safety

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, operating efficiency, and appearance of equipment contribute considerably to savory, appetizing foods.

Most food imparts its own particular aroma and many foods also absorb existing odors. Unfortunately, during this absorption there is not a 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 undesirable flavors are usually the result of germ activity.

The easiest way to ensure full, natural food flavor is through comprehensive cleanliness. This means good control of both visible soil (dirt) and invisible soil (germs). A thorough approach to sanitation will provide essential cleanliness. It will ensure 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 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 food temperatures from the time the food is received through the time the food is served.

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 thermometer is an effective tool for this purpose, and should be routinely used on all products that require holding at a specific temperature.

Internal Food Product Temperatures		
<b>Hot Foods</b>		
Danger Zone	40°F to 140°F	4°C to 60°C
Critical Zone	70°F to 120°F	21°C to 49°C
Safe Zone	140°F to 165°F	60°C to 74°C
<b>Cold Foods</b>		
Danger Zone	Above 40°F	Above 4°C
Safe Zone	36°F to 40°F	2°C to 4°C
<b>Frozen Foods</b>		
Danger Zone	Above 32°F	Above 0°C
Critical Zone	0°F to 32°F	-18°C to 0°C
Safe Zone	0°F or Below	-18°C or Below

Hazard Analysis (at) Critical Control Points (HACCP), 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. Additional HACCP information is available by contacting:

Center for Food Safety and Applied Nutrition  
 Food and Drug Administration  
 Phone: 1-888-SAFEFOOD  
[www.foodsafety.gov](http://www.foodsafety.gov)

Code	Description	Possible Causes
E-10	<b>Cavity air sensor shorted</b>	Cavity air sensor reading < 5°F (-15°C). Verify sensor integrity. See sensor test instructions below.
E-11	<b>Cavity air sensor open</b>	Cavity air sensor reading > 517°F (269°C). Verify sensor integrity. See sensor test instructions below.
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. See sensor test instructions below.
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. See sensor test instructions below.
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 wiring diagram for the particular model and ensure dip switches on the control match the settings called out on the WD. If the dip switch settings are correct according to the print 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. Correct voltage.
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. Correct voltage.
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.		

### To test probe and air sensor:

Test probe and air sensor by placing sensor in ice water bath and using an ohmmeter set on the ohm scale.

The reading should be 100 ohms resistance. If it is more than 2 ohms higher or lower, sensor needs to be replaced.

## Troubleshooting

### Thermostat Accuracy

To verify that the compartment temperature matches the temperature displayed on the controller:

1. Ensure the appliance voltage matches the power source.
2. With the exception of the wire shelves, completely empty the holding cabinet.
3. Ensure the air temperature sensor, located inside the holding compartment is completely clean.
4. Suspend a quality thermometer from the center of the holding compartment.
5. Close cabinet door and set the holding temperature anywhere between 60°F and 200°F (16°C to 93°C).
6. Allow the temperature to stabilize for a minimum of one hour.

**Do not open the cabinet door(s) during the temperature stabilization period.**

7. Compare the temperature displayed on the controller with the reading on the thermometer.

If the reading on the thermometer does not match the temperature on the controller, the air sensor may be faulty.



**Always** verify that the circuit breaker is turned to the On position and your appliance is receiving power **before** calling your authorized Alto-Shaam Service Agent.

## NOTICE

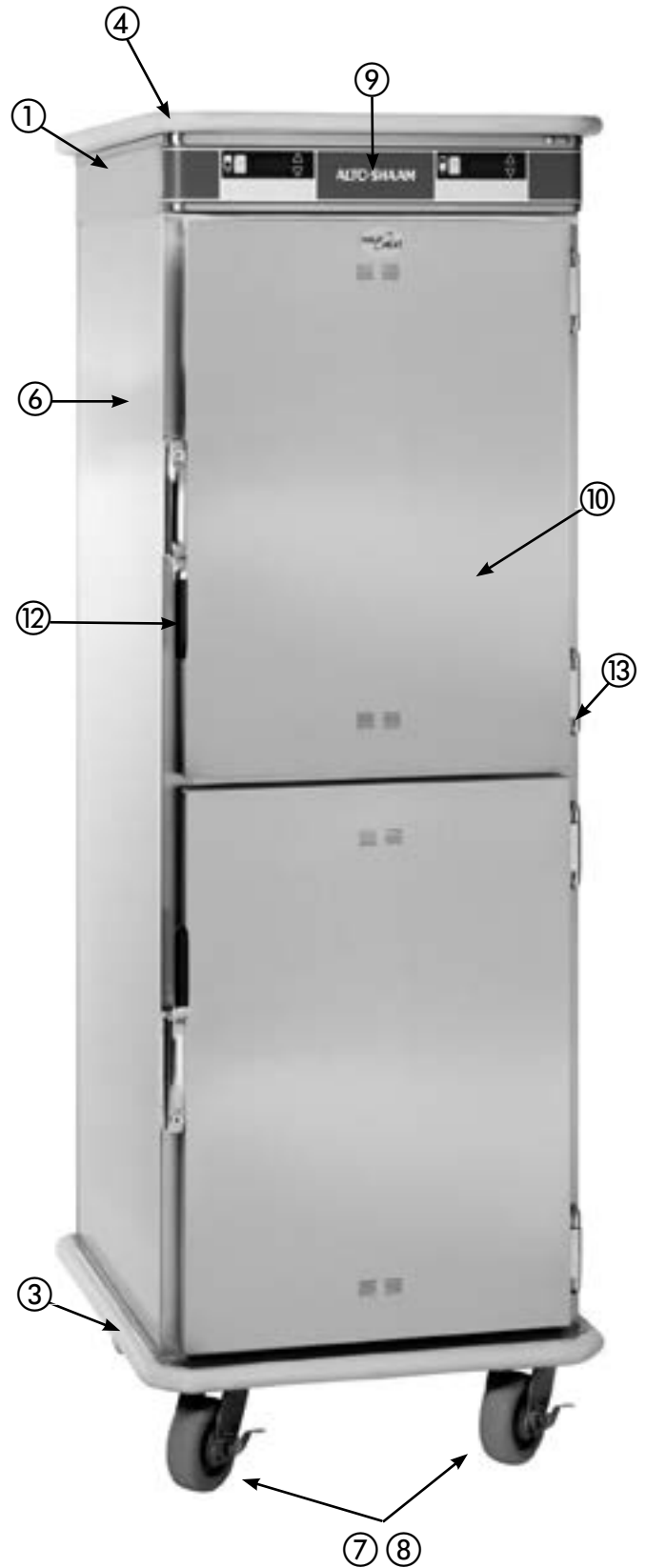
This section is provided for the assistance of qualified and trained service technicians only and is not intended for use by untrained or unauthorized service personnel. Do not attempt to repair or service the oven beyond this point. Contact Alto-Shaam for the nearest authorized service agent. Repairs made by any other service agents without prior authorization by Alto-Shaam will void the warranty.

### **WARNING**

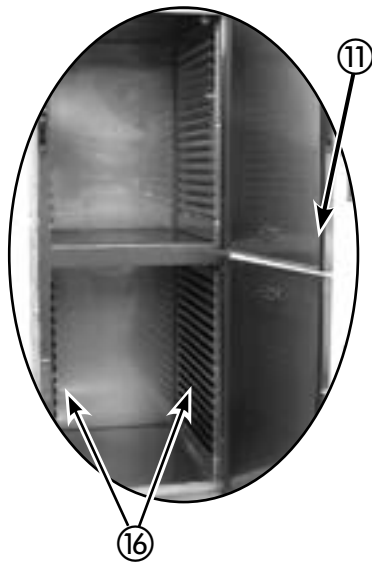


To prevent serious injury, death, or property damage, **always** disconnect the appliance from the power source before cleaning or servicing.

Item	Description	Part No.	Qty
1	Bonnet Assembly	5011823	1
2	Bottom Assembly (not shown)	5002289	1
3	Bumper Assembly, Bottom	5004090	1
4	Bumper Assembly, Top	5004139	1
5	Casing Back (NOT SHOWN)	1003141	1
6	Casing, Sides	1003142	2
7	Caster, 3" (76mm), rigid	CS-28658	2
8	Caster, 3" (76mm), swivel with brake	CS-28659	2
9	Control Panel Overlay	PE-24511	1
10	Door Assembly	5008892	2
11	Door Gasket	GS-23796	2
12	Door Handle with Lock	HD-24172	2
13	Door Hinge	HG-2015	4
14	Insulation (not shown)	IN-2003	2
15	Shelf (not shown)	SH-23738	6
16	Side Rack	SR-25271	8



**Interior**



Part numbers and drawings are subject to change without notice.

# Service

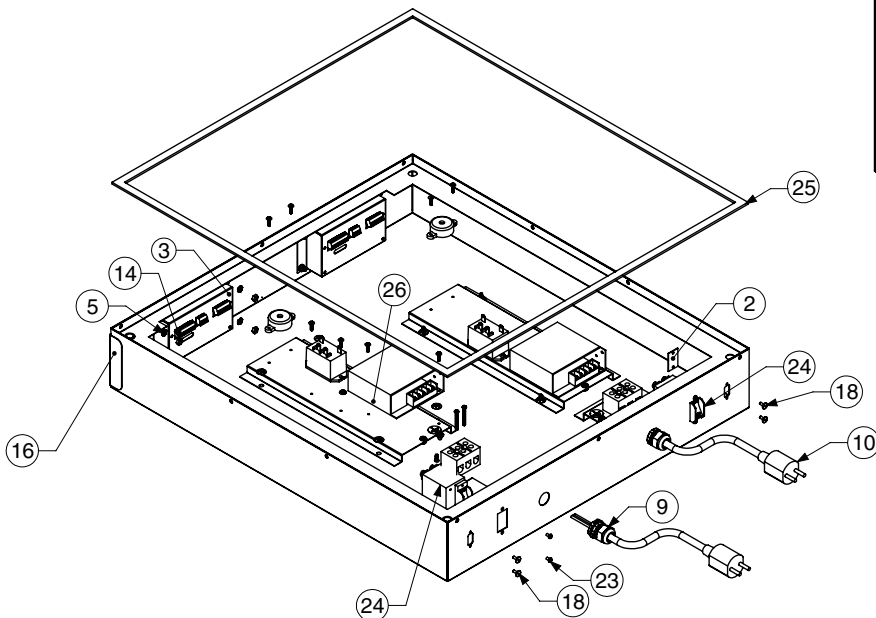
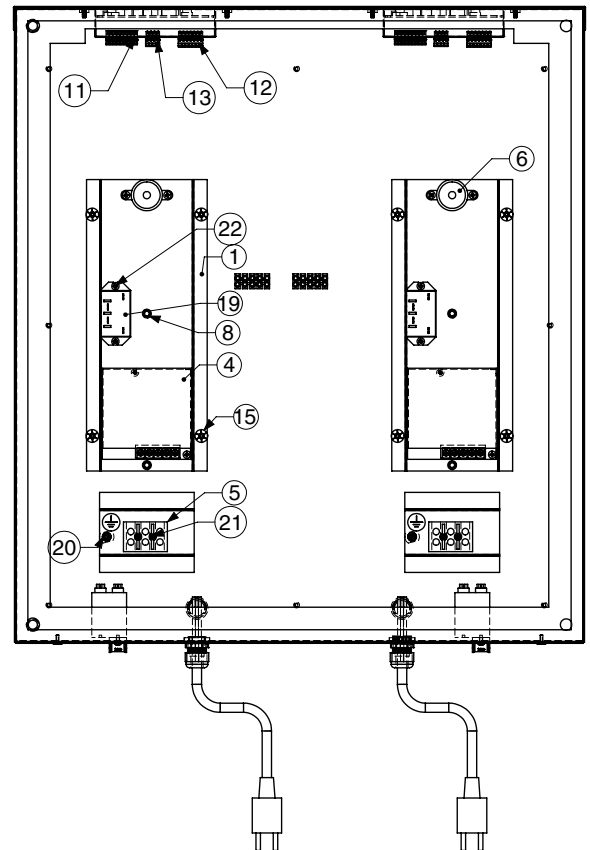
## Electrical Components

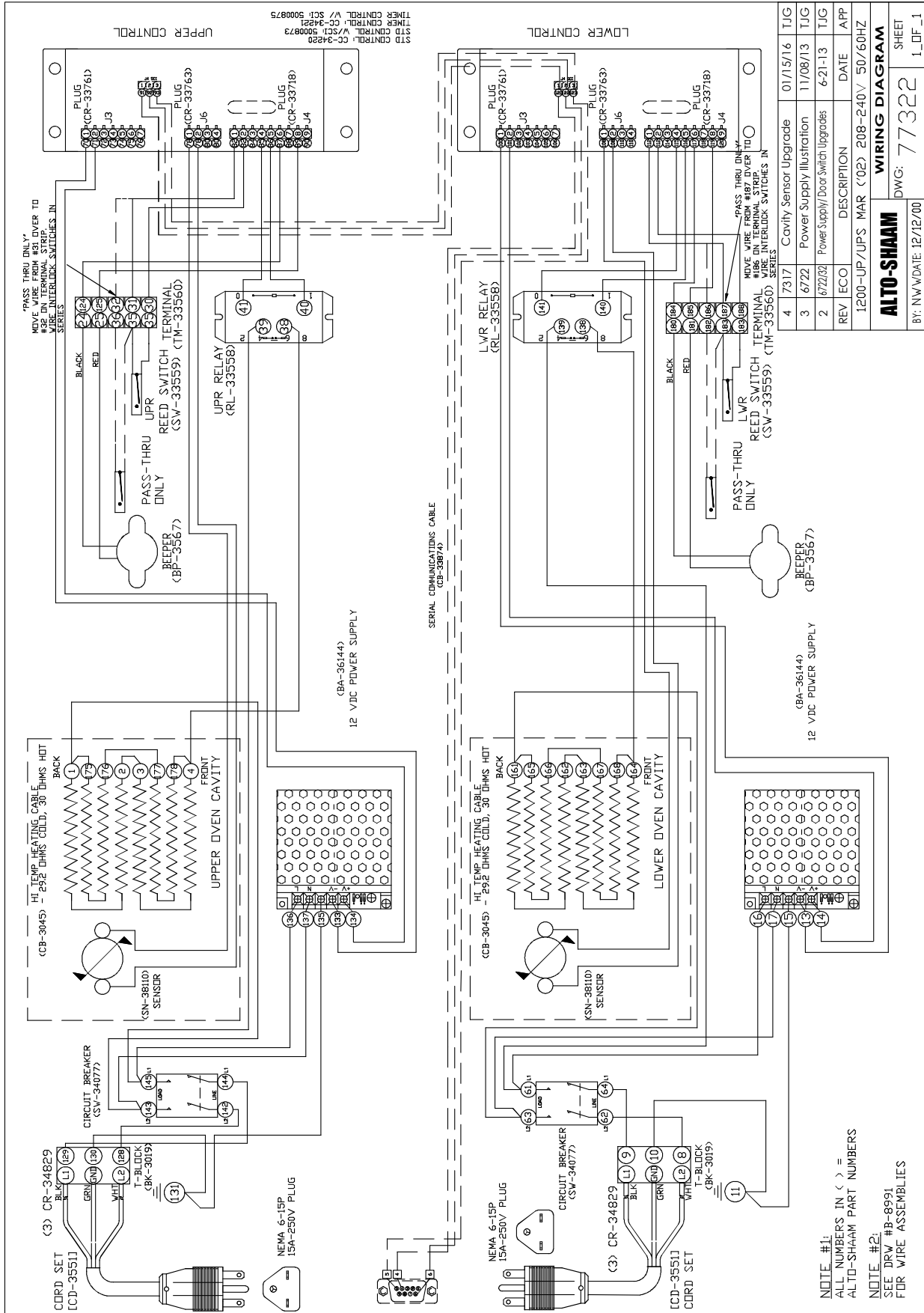
Item	Description	Part No.	Qty
1	Electronic Chassis	1002861	2
2	Cover Plate	1004462	2
3	Electronic Control Assembly	5000872	2
4	Board, Power Supply, 12V.DC	BA-33554	2
5	T-Block	BK-3019	2
6	Beeper	BP-3567	2
7	Bushing, 1/2" Hole (not shown)	BU-3006	2
8	Bushing, 5/16" Hole	BU-3009	4
9	Bushing, Straight, Strain Relief	BU-3964	2
10	Cordset, 208-240V	CD-3551	2
11	Connector 9 Pin	CR-33718	2
12	Connector, 7 Pin	CR-33761	2
13	Connector 4 Pin	CR-33763	2
14	Nut, Hex #8-32	NU-2296	8
15	Push Nut	NU-26111	8
16	Overlay	PE-24511	1
17	Plug, Hole, 13/16" (not shown)	PG-3589	3
18	Rivet, Blind, #43, Lrg Flg, Stnls	RI-2094	4
19	Relay, SPST 30A @ 277 Vac 12VDC	RL-33558	2
20	Screw, 10-32 x 1/4 Pan Hd Ground	SC-2190	2
21	Screw, 6-32 x 1 1/4" Round Hd	SC-2365	4
22	Screw, 6-32 X 1/2" Truss Hd	SC-2472	12
23	Screw, 6-32 x 1/4" Pan Hd	SC-22500	4
24	Switch, Circuit Breaker, 20 A	SW-34077	2
25	Self Adhesive Gasket	TA-25621	8ft
26	Terminal Strip (not shown)	TM-33560	2
27	Washer, #8 Ext Lock	WS-2333	8
28	Star Lock Washer	WS-2467	2

Part numbers and drawings are subject to change without notice.

### Cable Heating Service Kit (one kit per unit cavity)

Kit Number >	4881	
Description	Part No.	Qty
Cable Heating Element - 210 ft. (6401cm)	CB-3045	1
Ring Connector	CR-3226	12
Insulation Corner - 1 ft. (30,5cm)	IN-3488	1
Shoulder Bushing	BU-3105	12
Cup Bushing	BU-3106	12
Stud	ST-2439	12
Hex Nut	NU-2215	24
Insulating Sleeve	SL-3063	12
Electrical Tape	TA-3540	1 roll





REV	ECO	DESCRIPTION	DATE	APP
4	7317	Cavity Sensor Upgrade	01/15/16	TJG
3	6722	Power Supply Illustration	11/08/13	TJG
2	672202	Power Supply/Door Switch Upgrades	6-21-13	TJG
1				

BY: NAW/DATE: 12/12/00  
**ALTO-SHAAM**  
 DWG: 77322  
 SHEET 1\_DF\_1

NOTE #1:  
 ALL NUMBERS IN ( ) =  
 ALTO-SHAAM PART NUMBERS

NOTE #2:  
 SEE DRW #B-8991  
 FOR WIRE ASSEMBLIES

## Limited Warranty

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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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