



CS-200 with Breath Guard

### Models:

**CS-100**

**CS-200**



CS-100 with Breath Guard

- **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 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

### 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 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 this receipt. If he 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 of 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: \_\_\_\_\_

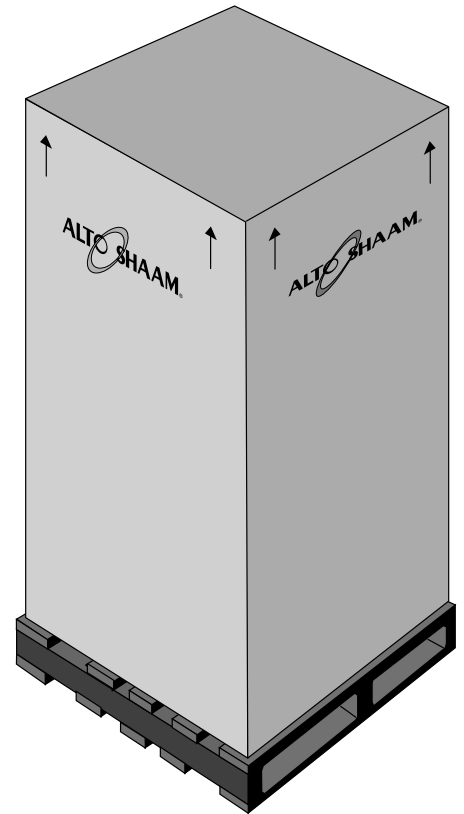
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**Alto-Shaam has established a twenty-four hour emergency service call center to offer immediate customer access to a local authorized service agency outside of standard business hours. The emergency service access is provided exclusively for Alto-Shaam 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.
- 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 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 Alto-Shaam Tech Team Service Department.
- 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.

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.

**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.

- 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.

### 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

Food contamination and cutting hazard.

The heat lamp used in this appliance is coated to resist shattering. A shattered heat lamp could cause personal injury and contaminate the food being served in this appliance.

Use only Alto-Shaam coated heat lamps that meet or exceed the National Sanitation Foundation (NSF) standards in this appliance.

1. The appliance, complete with unattached items and accessories, may be delivered in one or more packages. Check to ensure all accessories ordered have been received.
2. The hot food holding carving station is designed to be mounted directly on top of a Halo Heat® Cook & Hold oven or holding cabinet. The carving station can also be used as a free-standing unit.

Heated cabinet mounted carving stations:

Remove the 1" (25mm) legs prior to placing the carving station on top of the Halo Heat Cook & Hold oven or holding cabinet. Appliance must be installed on a stable and level surface.

Free-standing carving stations:

Ensure that the 1" (25mm) legs are in place prior to placing the carving station on a work surface. Failure to operate the carving station without the 1" (25mm) legs prior to heating the carving station could result in damage to the surface on which the carving station is placed, may pose a potential fire hazard, and nullifies the validity of the UL listing mark. The appliance must be installed on a stable and level surface.

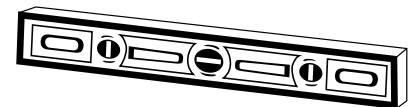
3. Do not install this appliance in any area where it may be affected by any adverse conditions such as steam, grease, dripping water, or high temperatures.

4. Do not install the carving station near any cold air source, freezer, air conditioning vents, or in any area where outside air temperature fluctuation can affect performance.
5. This appliance must be kept free and clear of any obstructions blocking access for maintenance or service.
6. Lift the Breath Guard up and slide into place in brackets found in the front of the appliance.

A number of adjustments are associated with initial installation and start-up. Installation and start-up adjustments are the responsibility of the dealer or user. These adjustments include but are not limited to leveling, electrical hook-up and installation of lamps.

### Leveling

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



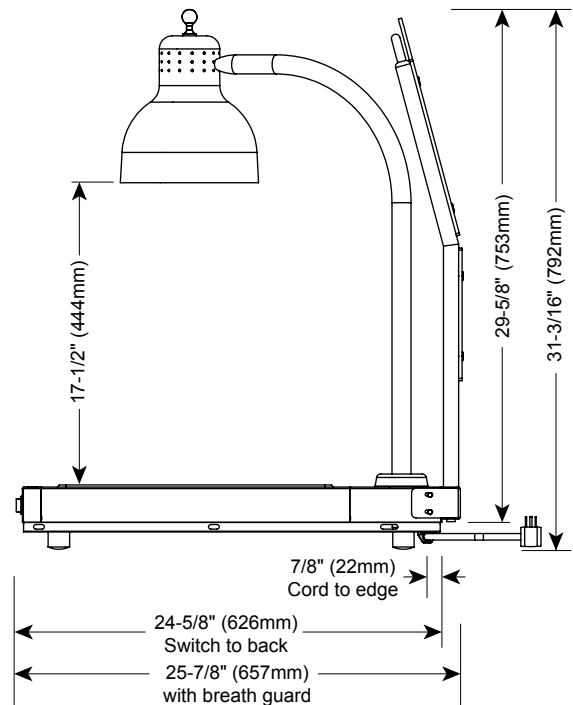
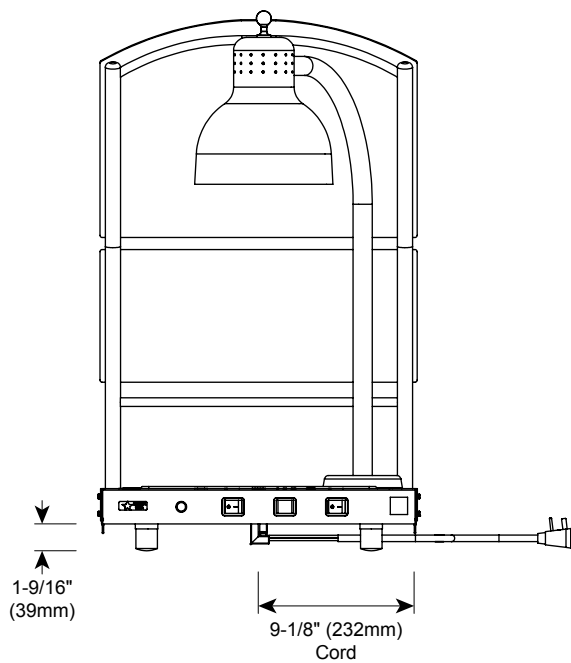
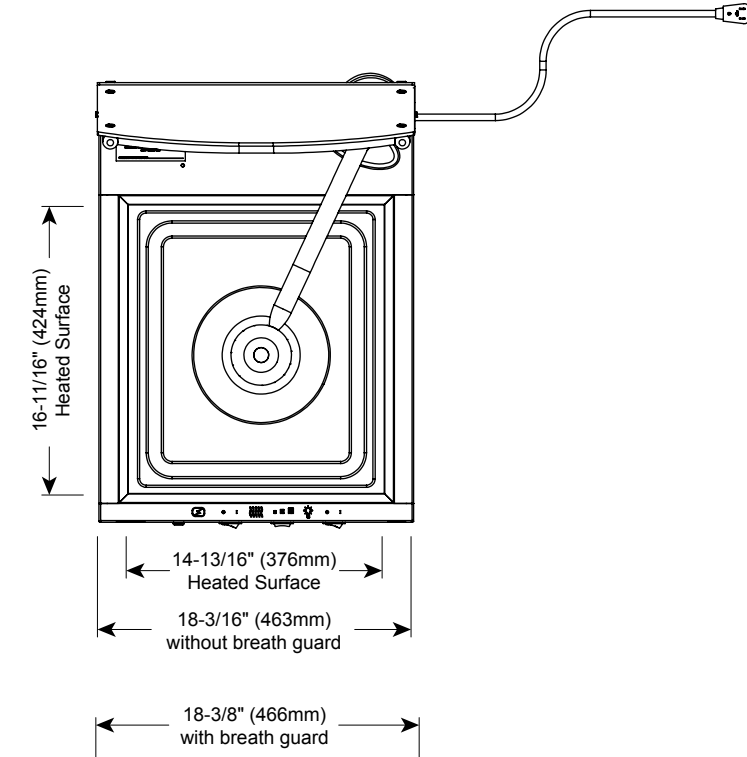
**NOTICE:** Failure to properly level this appliance can cause improper function.



CS-100

Heated product capacity	
Weight, maximum	40 lbs (18 kg)
Meat size	Small steamship round

Accessories	
Cutting Board - 13-3/4" x 16" x 1/2" (349mm x 406mm x 13mm)	BA-28482
Carving Holder - Prime Rib	HL-2635
Carving Holder - Steamship	4459

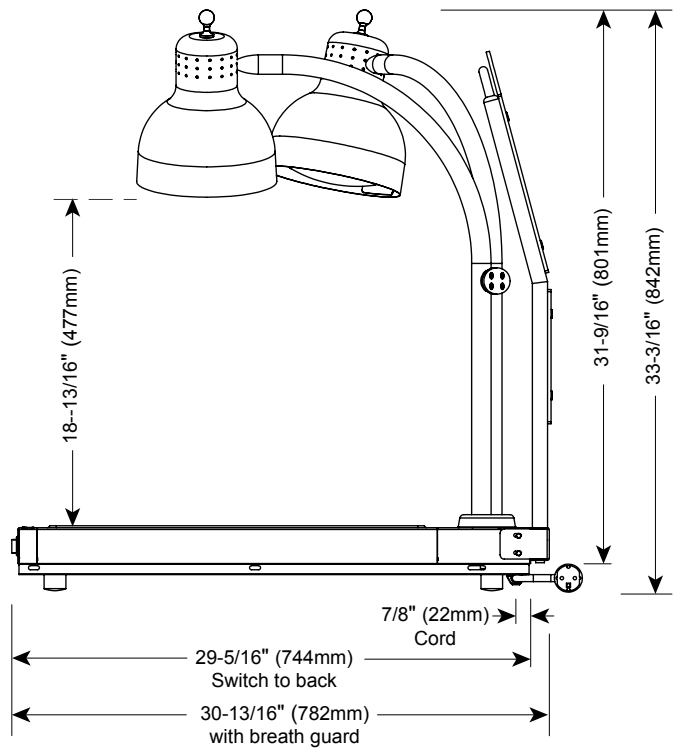
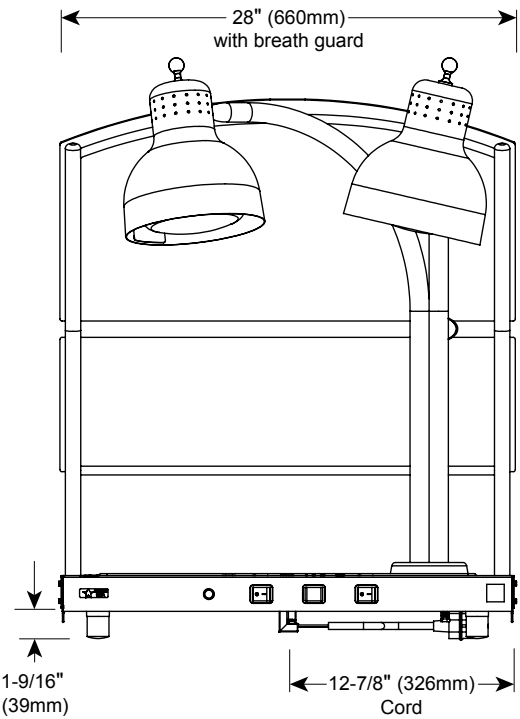
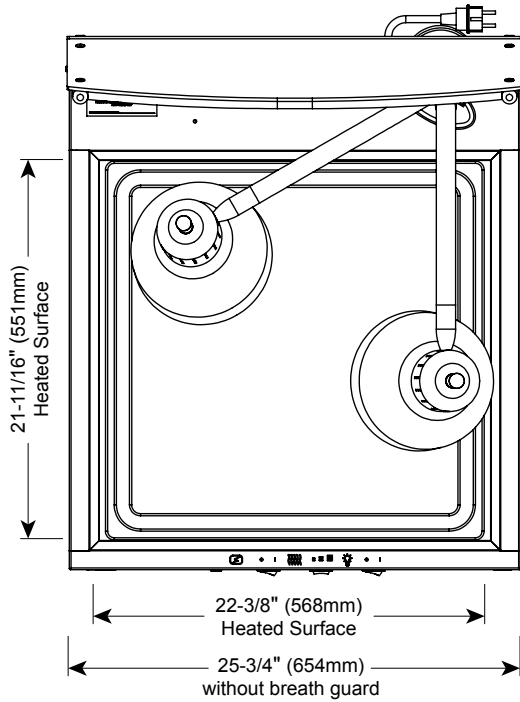


# Installation

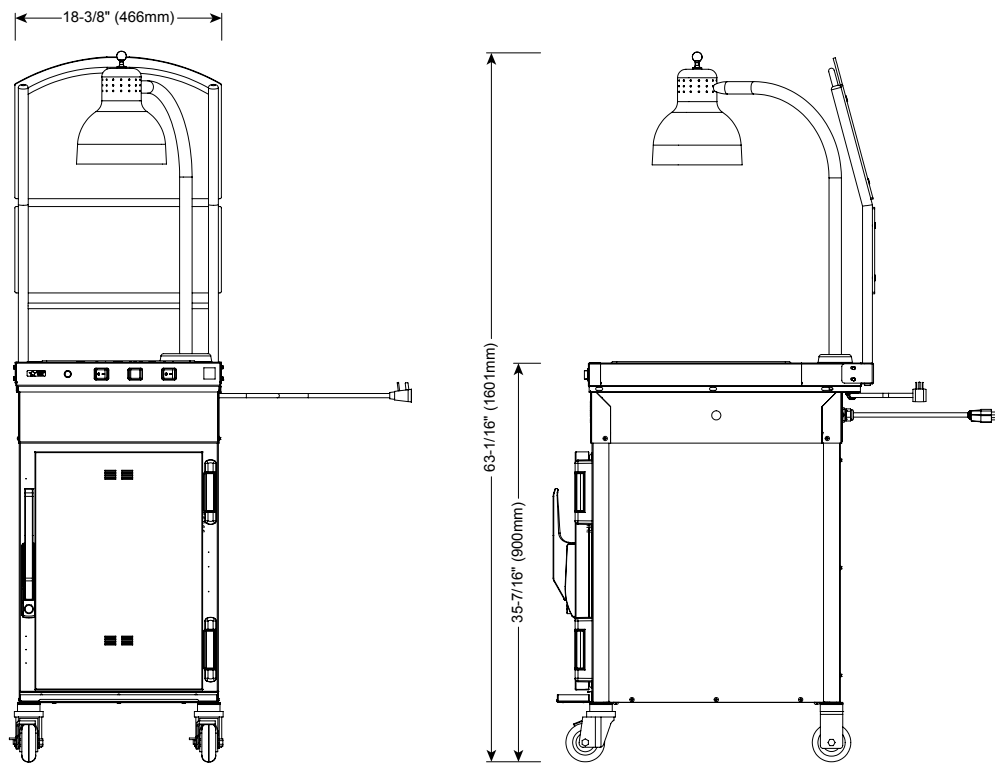
## CS-200

Heated product capacity	
Weight, maximum	70 lbs (31.7 kg)
Meat size	Large steamship round

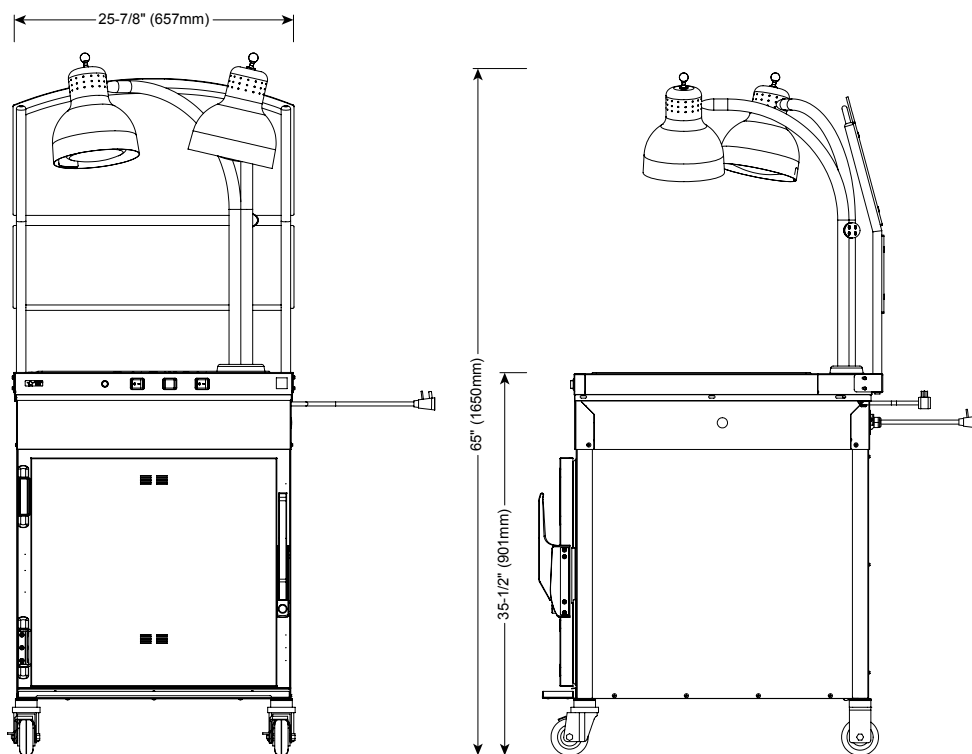
Accessories	
Full-Size Cutting Board - 21-5/8" x 21-5/8" x 1/2" (550mm x 550mm x 13mm)	BA-28066
Half-Size Cutting Board 10-3/4" x 21-5/8" x 1/2" (273mm x 550mm x 13mm)	BA-29244
Carving Holder - Prime Rib	HL-2635
Carving Holder - Steamship	4459



**CS-100 over 500**



**CS-200 over 750**



# 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.

## 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.

## WARNING



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

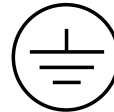
Read and understand the installation, operating and maintenance instructions thoroughly before installing, servicing, or operating this equipment.

## 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.

1. An identification tag is permanently mounted on the carving station.
2. If necessary, a proper receptacle or outlet configuration as required for this unit, must be installed by a licensed electrician in accordance with applicable, local electrical codes.
3. Plug carving station into a properly grounded receptacle **only**, positioning the unit so the power supply cord is easily accessible in case of an emergency. Arcing will occur when connecting or disconnecting the unit unless all switches are in the Off (O) position.


**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 - CS-100					
V	PH	Hz	A	kW	
120	1	60	4.2	0.5	NEMA 5-15P 15A - 120V PLUG
230	1	50/60	2.2	0.5	PLUGS RATED 250V
	CEE 7/7		CH2-16P		BS 1363
					AS/NZS 3112

Electrical - CS-200					
V	PH	Hz	A	kW	
120	1	60	6.3	0.75	NEMA 5-15P 15A - 120V PLUG
230	1	50/60	3.26	0.75	PLUGS RATED 250V
	CEE 7/7		CH2-16P		BS 1363
					AS/NZS 3112

Wire diagrams are located on the bottom of the unit.

⚠
WARNING



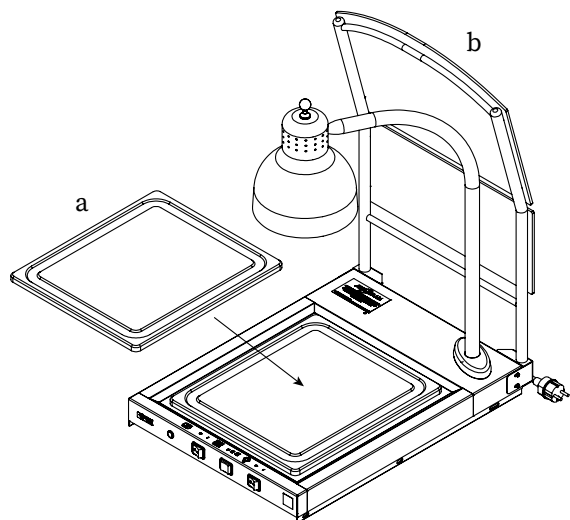
To prevent serious injury, death, or property damage, **always** disconnect the appliance from the power source before cleaning or servicing.

Before initial use or after removing the appliance from storage:

1. Remove all packing material from the appliance.
2. Remove and wash any detachable items such as the cutting board and breath guard with hot, soapy water. Dry with a clean, damp lint-free cloth.
3. Remove all visible grease or oil from the appliance.
4. Clean the exterior of the appliance with a mild soap and water solution. Apply the solution with a clean, damp cloth. Do not use commercial or household cleaners that contain ammonia. Wipe with a clean, damp cloth to remove all detergent residue. Dry with a clean, lint-free cloth.
5. Clean the appliance glass with glass cleaner or distilled vinegar.
6. Install cutting board (a) and breath guard (b).

**NOTICE:** Do not use knives or utensils on the hot metal surface. Install cutting board before using.

The appliance is now ready for operation.



## Operating procedures

### 1. Set rocker switches

Set rocker switch for heated surface to the On (I) position. Set 3-way rocker switch to the desired holding temperature (low/medium/high). Set rocker switch for the lamp(s) to the On (I) position.

### 2. Preheat the carving station

Preheat the carving station for a minimum of 30 minutes.

### 3. Transfer hot foods to the carving station

The hot food product must be at the proper internal temperature before transferring food to the cutting board. Use a thermometer to check the internal temperature of the food being held. Adjust the carving station temperature to give the best overall setting based on the internal product temperature. If any food product is not at the proper serving temperature, use a Halo Heat® Cook & Hold oven or Combitherm® CombiOven to bring the product within the correct temperature range.

### 4. Check food temperature

Since proper temperature range depends on the type of products and the quantities being held, it is necessary to periodically use a thermometer to check each item to ensure that the correct temperatures are being maintained. Local health regulations may vary regarding minimum serving temperatures. Proper temperature range is 140°F to 160°F (60°C to 71°C) or higher.

<b>Average Heated Surface Temperature</b>	
<b>Setting</b>	<b>Temperature</b>
Low	127°F (53°C)
Medium	160°F (71°C)
High	180°F (82°C)

# 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°F and 200°F (16°C to 93°C). If the unit 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 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.

# Cleaning and Preventative Maintenance

## Equipment Care

The cleanliness and appearance of this equipment will contribute considerably to operating efficiency and savory, appetizing food. Equipment that is kept clean works better and lasts longer.



## Thoroughly clean the appliance after each use

1. Remove the food from the carving station.
2. Set the heated surface rocker switch and the lamp switch to the Off (O) position. Disconnect the appliance from the power source. Allow the appliance to cool.
3. Remove and wash the cutting board after each use. Sanitize the cutting board following applicable state or local health sanitation ordinances. Allow the cutting board to air dry while lying on a clean, flat surface to prevent warping. If the board becomes warped, heating will restore flexibility to facilitate flattening.
4. Clean the exterior of the appliance with a mild soap and water solution. Apply the solution with a clean, damp cloth. Do not use commercial or household cleaners that contain ammonia. Wipe with a clean, damp cloth to remove all detergent residue. Dry with a clean, lint-free cloth.



**NOTICE:** Avoid the use of abrasive cleaning, compounds, chloride based cleaners, or cleaners containing quaternary salts. Never use hydrochloric acid (muriatic acid) on stainless steel.

5. Wipe surfaces with a sanitizing solution after cleaning and rinsing. This solution must be approved for use on stainless steel food contact surfaces.
6. Clean the appliance glass with glass cleaner or distilled vinegar.

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

## ⚠ WARNING



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



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.

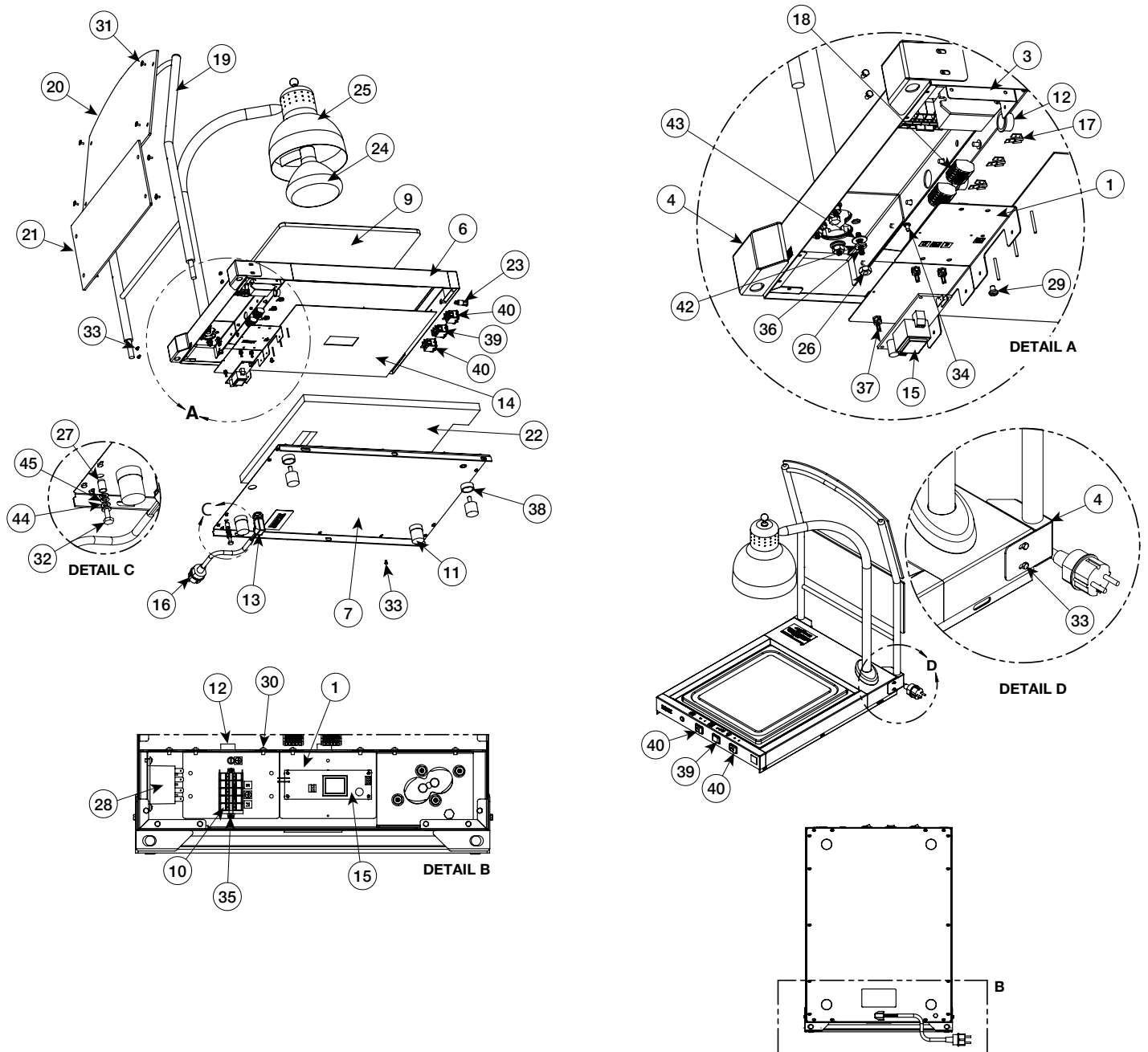
A controlled holding environment for prepared foods is just one of the important factors involved in the prevention of food-borne illnesses. Temperature monitoring and control during receiving, storage, preparation, and the service of foods are of equal importance.

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)



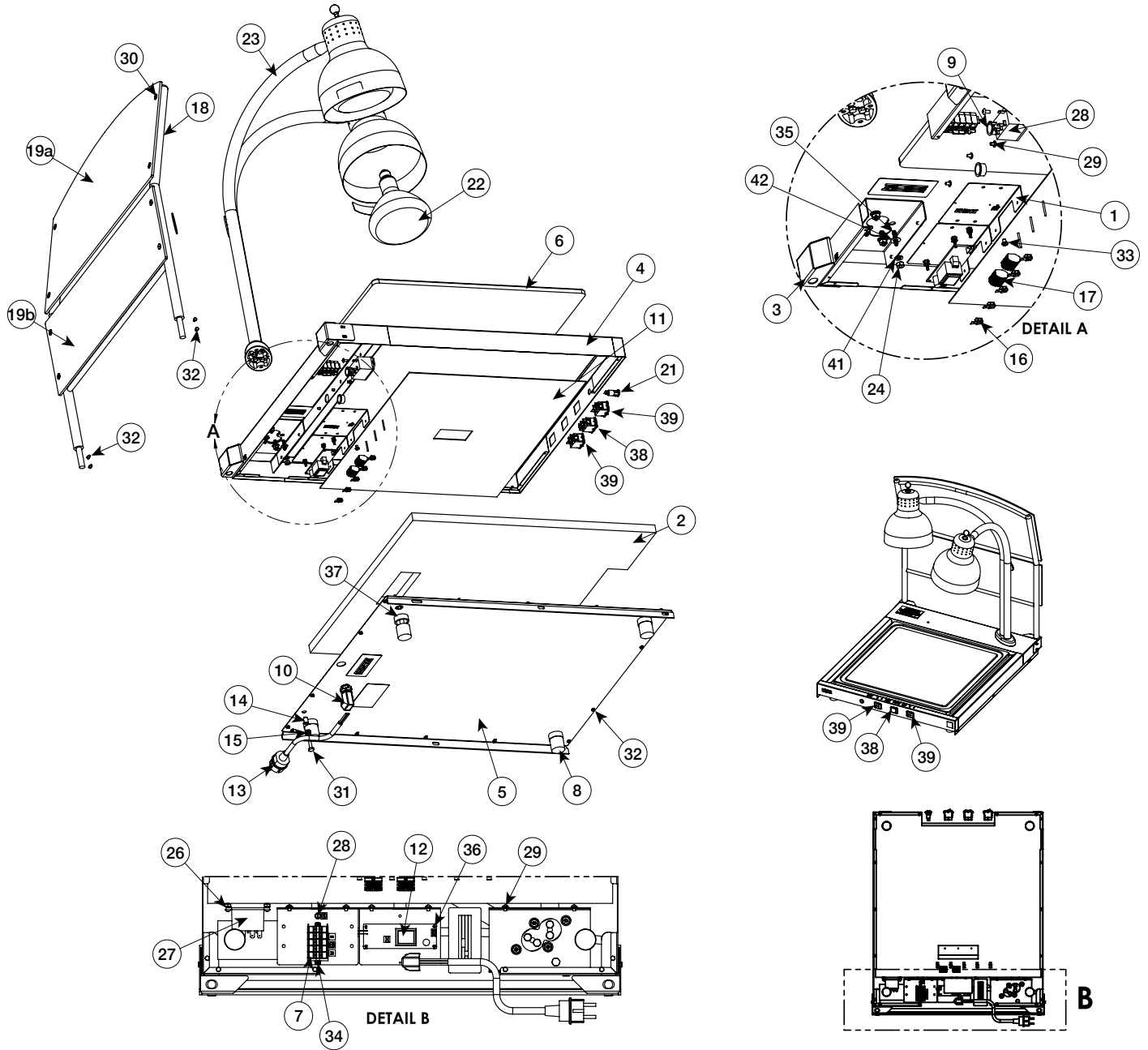
Part numbers and drawings are subject to change without notice.

## CS-100

201401/201402

Item	Description	Part No.	Qty
1	L-Bracket	1008529	2
2*	—	—	—
3	Relay Attachment L-Bracket	1011286	1
4	Breath Guard Bracket	1011870	2
5*	—	—	—
6	Top Base Panel Spot	5008801	1
7	Base Housing Cover Panel	5008802	1
8*	—	—	—
9	Cutting Board	BA-28482	1
10	Block, Modular, 5 Pole	BK-25567	1
11	Bumper, 3/8-16 Male Thread	BM-22606	4
12	3/4" White Snap Bushing	BU-3008	2
13	Bushing, Strain Relief, 90°, Black	BU-34898	1
14	Heat Pad	CB-34630	1
15	Control Board, 230V	CC-35016	1
	Control Board, 120V	CC-35015	1
16	Cordset, CEE 7/7, 16A, 250V	CD-3922	1
	Cordset, UK BS1363 8'	CD-33925	1
	Cordset, CH2-16P, 16A-250V, 2-Pole	CD-36231	1
	Cordset, NEMA 5-15P	CD-3232	1
	Cordset, AS/NZS 3112, 15A, 250V	5022145	1
17	Connector, Dual Spade, 1/4"	CR-3849	6
18	Connector-5 Conductor	CR-34646	3
19	Breath Guard Frame	FR-28484	1
20	Glass, 5mm Thick, Tempered, Upper	GL-29240	1
21	Glass, 5mm Thick, Tempered, Lower	GL-29241	1
22	Insulation, 1.000" Thick, Yellow	IN-22265	1
23	White Pilot Light, 120V	LI-3027	1
	White Pilot Light, 230V	LI-3951	1
24	Bulb, Heat Lamp, 120V	LP-35721	1
	Bulb, Heat Lamp, 230V	LP-33781	1
25	Lamp Assembly, Single, 120V	5021624	1
	Lamp Assembly, Single, 230V	5021625	1
	Socket, Replacement, 120V	SK-38370	1
	Socket, Replacement, 230V	SK-35028	1
26	Nut, 1/4-20 Hex S/S	NU-2437	4
27	Nut, Threaded Insert, M6	NU-22770	1
28	Relay, SPST 30A, 277 VAC 12VDC	RL-33558	1
29	Screw, 10-32 x 1/4" Pan Hd Ground Screw	SC-2190	1
30	Screw, 8-32 x 1/4" Phil Screw	SC-2459	9
31	Screw, 8-32 x 0.375" Flat	SC-2816	8
32	Screw, HHCS, M6 x 20, With No Marking	SC-22924	1
33	Screw 8-32 x 1/4" Hex Head	SC-24751	22
34	Screw, 6-32 x 1/4" Phillips Pan	SC-28384	4
35	Screw, M3 x 22mm, 0.5mm Pitch, Pan Head Phillips	SC-22266	2
36	Screw, Set, Hex #1/4-20 x 1.00" Lg	SC-29222	4
37	Spacer, Screw Mount Support, Nylon	SP-28159	4
38	Spacer, Nylon, 1.300" Dia	SP-38054	4
39	Switch, Rocker, Sealed, 3-Way	SW-38664	1
40	Switch, Rocker, Sealed, Double-Pole	SW-38665	2
41*	—	—	—
42	Lock Washer 1/4"	WS-2294	4
43	Washer, 1/4", Flat, 5.8 OD 18-8 S/S	WS-22094	4
44	Washer, Flat	WS-22297	2
45	Washer, Split Lock	WS-22302	2

\* Not shown

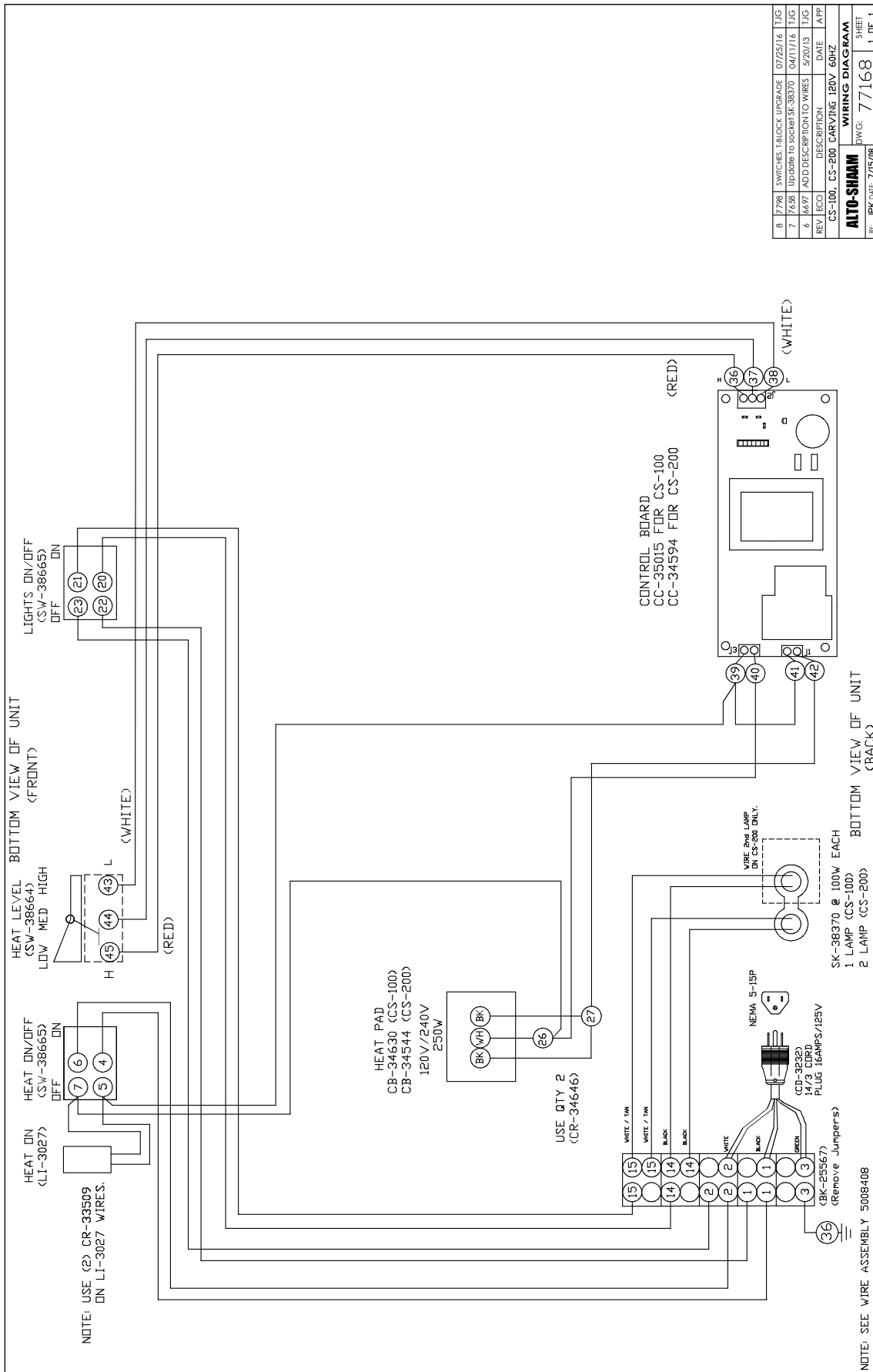


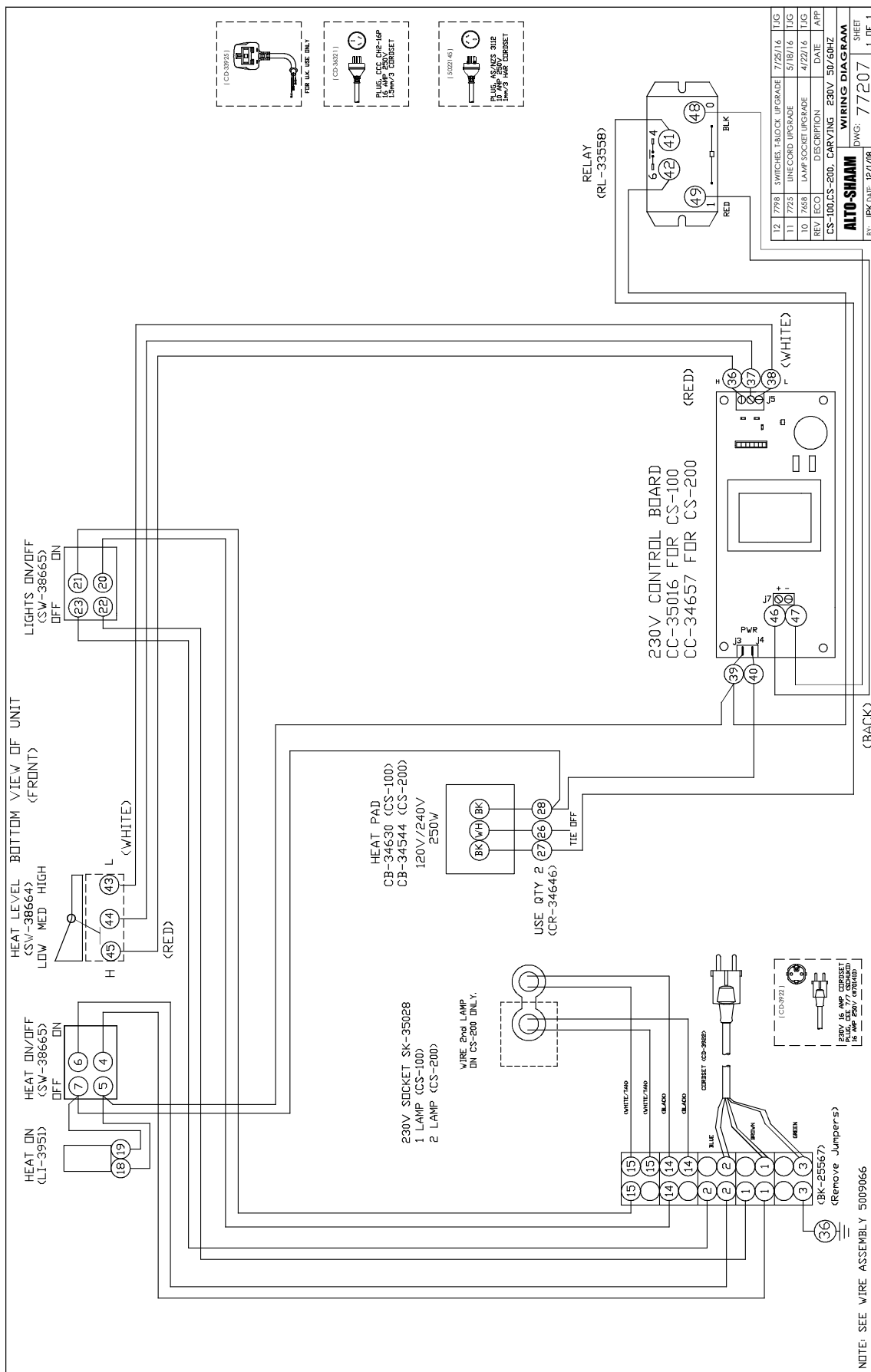
Part numbers and drawings are subject to change without notice.

Item	Description	Part No.	Qty
1	L-Bracket	1008529	2
2	Insulation	IN-22265	1
3	Breath Guard Bracket	1011870	2
4	Top Base Panel Spot	5007406	1
5	Bottom Cover Panel Hex Insert	5007447	1
6	Cutting Board	BA-28066	1
7	Block, Modular, 5 Pole	BK-25567	1
8	Bumper 3/8-16 Male Thread	BM-22606	4
9	Bushing, 3/4" White, Snap	BU-3008	2
10	Bushing, Strain Relief, 90°, Black	BU-34898	1
11	Heat Pad	CB-34544	1
12	Control Board, 230V	CC-34657	1
	Control Board, 120V	CC-34594	1
13	Cordset, CEE 7/7, 16A, 250V	CD-3922	1
	Cordset, UK BS1363 8'	CD-33925	1
	Cordset, 16A-250V CH2-16P 2 Pole	CD-36231	1
	Cordset, NEMA 5-15P	CD-3232	1
	Cordset, AS/NZS 3112, 15A, 250V	5022145	1
14	Washer, Split Lock	WS-22302	2
15	Washer, Flat	WS-22297	2
16	Connector, Dual Spade, 1/4"	CR-3849	6
17	Connector-5 Conductor	CR-34646	3
18	Frame, Weld, Breath Guard	FR-28944	1
19a	Glass, 5mm Thick, Tempered	GL-28416	1
19b	Glass, 5mm Thick, Tempered	GL-28604	1
20*	—	—	—
21	White Pilot Light, 120V	LI-3027	1
	White Pilot Light, 230V	LI-3951	1
22	Bulb, Heat Lamp, 120V	LP-35721	2
	Bulb, Heat Lamp, 230V	LP-33781	2
23	Lamp Assembly, Dual, 120V	5021622	1
	Lamp Assembly, Dual, 230V	5021623	1
	Socket, Replacement, 120V	SK-38370	1
	Socket, Replacement, 230V	SK-35028	1
24	Nut, 1/4-20 Hex S/S	NU-2437	4
25*	Nut, Threaded Insert, M6	NU-22770	1
26	Nut, #8-32 UNC KEPS ZP	NU-26526	2
27	Relay, SPST 30A, 277 VAC 12VDC	RL-33558	1
28	Screw, 10-32 x 1/4 Pan Hd Ground Screw	SC-2190	1
29	Screw, 8-32 x 1/4" Phil Screw	SC-2459	8
30	Screw, 8-32 x 0.375", Flat	SC-2816	8
31	Screw, HHCS, M6 x 20, With No Marks	SC-22924	1
32	Screw 8-32 x 1/4" Hex Head	SC-24751	22
33	Screw, 6-32 x 1/4" Phillips Pan	SC-28384	4
34	Screw, M3 x 22mm, 0.5mm Pitch, Pan Head Phillips	SC-22266	2
35	Screw, Sest, Hex, #1/4-20 x 1.00" Lg	SC-29222	4
36	Spacer, Screw Mount Support, Nylon	SP-28159	4
37	Spacer, Nylon, 1.300" Dia	SP-38054	4
38	Switch, Rocker, Sealed, 3-Way	SW-38664	1
39	Switch, Rocker, Sealed, Double-Pole	SW-38665	2
40*	—	—	—
41	Lock Washer 1/4"	WS-2294	4
42	Washer, 1/4", Flat, 5/8 OD 18-8 S/S	WS-22094	4

\* Not shown

# Wiring Diagrams





T/G	DATE	APP
12	7/25/16	T/JG
11	5/18/16	T/JG
10	4/22/16	T/JG
REV	DESCRIPTION	DATE
CS-100,CS-200, CARVING	230V 50/60HZ	

**WIRING DIAGRAM**  
 BY: JPK DATE: 12/1/08 DWG: 77207 SHEET 1 OF 1

# Limited Warranty

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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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