

OPERATION and CARE MANUAL



CABINET, FOOD HOLDING ELECTRONIC CONTROL

MODEL: 500-S/HD MARINE (230V)

202933



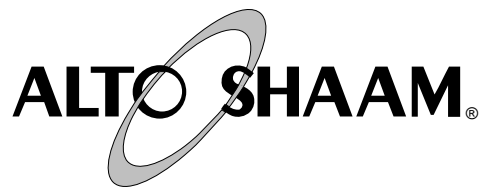
COOK/HOLD/SERVE SYSTEMS

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DELIVERY

This Alto-Shaam appliance has been thoroughly tested and inspected to insure 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 have been delivered in one or more packages. Check to ensure that all standard items and options have been received with each model as ordered.

Save all the information and instructions packed with the appliance. Complete and return the warranty card to the factory as soon as possible to assure prompt service in the event of a warranty parts and labor claim.

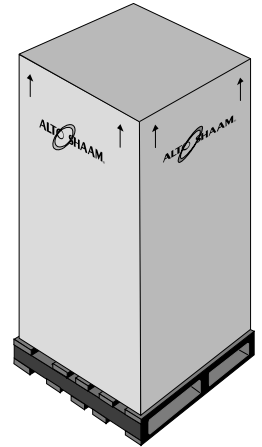
This manual must be read and understood by all people using or installing the equipment model. Contact the Alto-Shaam service department if you have any questions concerning installation, operation, or maintenance.

NOTE: All claims for warranty must include the full model number and serial number of the unit.

UNPACKING

1. Carefully remove the appliance from the carton or crate.

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



2. Read all instructions in this manual carefully before initiating the installation of this appliance.

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 service department.*

3. 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 AND PRECAUTIONS

Knowledge of proper procedures is essential to the safe operation of electrically and/or gas energized equipment. In accordance with generally accepted product safety labeling guidelines for potential hazards, the following signal words and symbols may be used throughout this manual.

DANGER

Used to indicate the presence of a hazard that **will** cause severe personal injury, death, or substantial property damage if the warning included with this symbol is ignored.

WARNING

Used to indicate the presence of a hazard that **can** cause personal injury, possible death, or major property damage if the warning included with this symbol is ignored.

CAUTION

Used to indicate the presence of a hazard that can or will cause minor or moderate personal injury or property damage if the warning included with this symbol is ignored.

CAUTION

Used to indicate the presence of a hazard that can or will cause minor personal injury, property damage, or a potential unsafe practice if the warning included with this symbol is ignored.

NOTE:

Used to notify personnel of installation, operation, or maintenance information that is important but not hazard related.

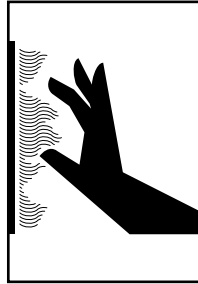
1. This appliance is intended to hold or process foods for the purpose of human consumption. No other use for this appliance is authorized or recommended.
2. This appliance is intended for use in commercial establishments where all operators are familiar with the purpose, limitations, and associated hazards of this appliance. Operating instructions and warnings must be read and understood by all operators and users.
3. Any troubleshooting guides, component views, and parts lists included in this manual are for general reference only and are intended for use by qualified technical personnel.
4. 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.

INSTALLATION



DANGER

IMPROPER INSTALLATION, ALTERATION, ADJUSTMENT, SERVICE OR MAINTENANCE COULD RESULT IN SEVERE INJURY, DEATH OR CAUSE PROPERTY DAMAGE.



CAUTION

METAL PARTS OF THIS EQUIPMENT BECOME EXTREMELY HOT WHEN IN OPERATION. TO AVOID BURNS, ALWAYS USE HAND PROTECTION WHEN OPERATING THIS APPLIANCE.

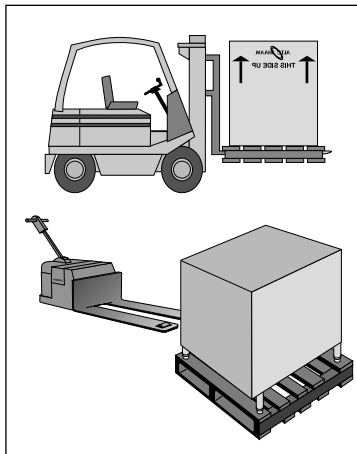


CAUTION

TO PREVENT PERSONAL INJURY, USE CAUTION WHEN MOVING OR LEVELING THIS APPLIANCE.

SITE INSTALLATION

This Alto-Shaam appliance must be installed in a location that will permit it to function for its intended purpose and to allow adequate clearance for ventilation, proper cleaning, and maintenance access.



MINIMUM CLEARANCE REQUIREMENTS

BACK	3" (76mm)
LEFT SIDE	1" (25mm)
RIGHT SIDE	1" (25mm)
TOP	2" (51mm)

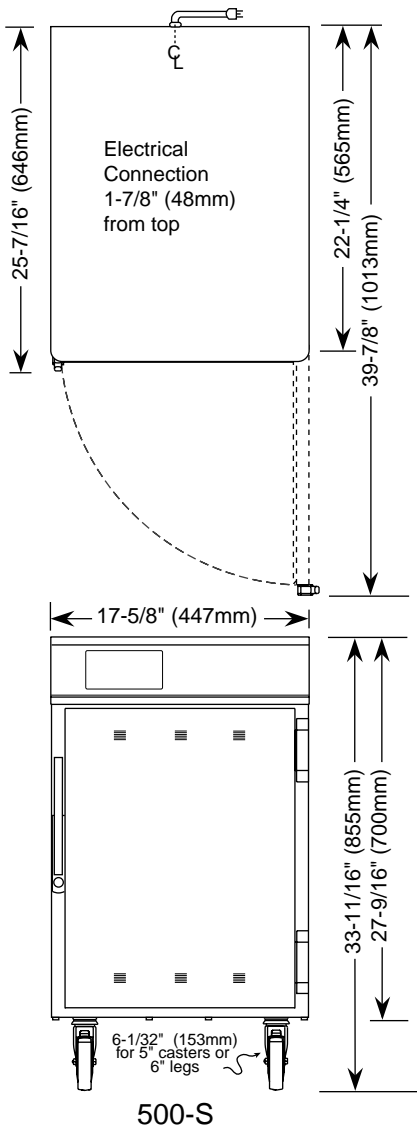
WEIGHT

NET:	104 lb (47 kg)
SHIP:	118 lb (53 kg)

1. This appliance must be installed on a stable and 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. This appliance must be kept free and clear of any obstructions blocking access for maintenance or service.

INSTALLATION

SITE INSTALLATION



PRODUCT \ PAN CAPACITY		
60 lbs (27kg) MAXIMUM		
VOLUME MAXIMUM: 37.5 QUARTS (47.5 LITERS)		
Five (5)	FULL-SIZE PANS: 20" x 12" x 2-1/2"	GASTRONORM 1/1: (530mm x 325mm x 65mm)
Four (4)	20" x 12" x 4"	(530mm x 325mm x 100mm)
Ten (10)	HALF-SIZE PANS 10" x 12" x 2-1/2"	GASTRONORM 1/2: (265mm x 325mm x 65mm)
Eight (8)	10" x 12" x 4"	(265mm x 325mm x 100mm)

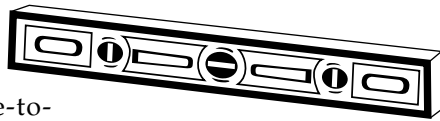
OPTIONS & ACCESSORIES			
<input type="checkbox"/> Carving Holder, Prime Rib	HL-2635	<input type="checkbox"/> Legs, Flanged, 6" (152mm)	LG-32067
<input type="checkbox"/> Casters, Rigid 5" (127mm)	CS-23576	<input type="checkbox"/> Shelf, Stainless Steel	SH-2326
<input type="checkbox"/> Casters, Swivel 5" (127mm)	CS-23575	HACCP Network Options (ELECTRONIC CONTROL ONLY)	
<input type="checkbox"/> Drip Pan*	PN-2122	REFER TO SPECIFICATION #9015, DATED 10/05 OR AFTER FOR APPLICABLE PART NUMBERS	
*WILL DECREASE PAN CAPACITY BY ONE SHELF		<input type="checkbox"/> HACCP Documentation	
<input type="checkbox"/> Drip Tray - External	4018	<input type="checkbox"/> HACCP with Kitchen Management	

SITE INSTALLATION

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 door adjustment, leveling, electrical hook-up and installation of optional casters or legs.

LEVELING

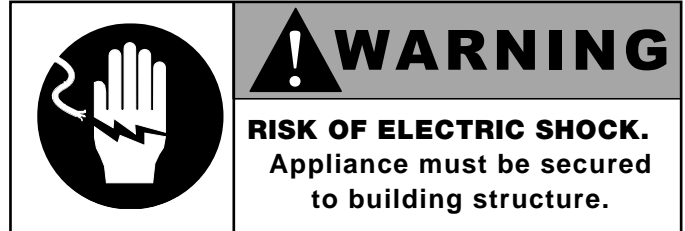
Level the appliance from side-to-side and back-to-back with the use of a spirit level. For ovens installed with casters, it is important that the installation surface be level due to the probability of frequent oven repositioning.



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

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

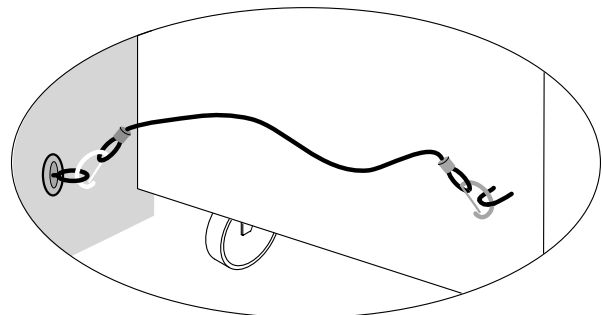
RESTRAINT REQUIREMENTS —MOBILE EQUIPMENT



Any appliance that is not furnished with a power supply cord but that 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 of be the locking type.
3. Such mobile appliances or appliances on mobile stands must be installed with the use of a flexible connector secured to the building structure.

A mounting connector for a restraining device is located on the lower back flange of the appliance chassis or on an oven stand, approximately 18" (457mm) from the floor. A flexible connector is not supplied by nor is it available from the factory.



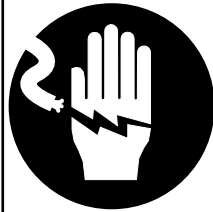
INSTALLATION

ELECTRICAL CONNECTION



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

The appliance must be installed by a qualified service technician. The cabinet must be properly grounded in accordance with the National Electrical Code and applicable local codes.



! DANGER
ENSURE POWER SOURCE MATCHES VOLTAGE STAMPED ON APPLIANCE NAMEPLATE

For 230V units: 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.




NOTE: The appliance must be connected to an electrical circuit that is protected by an external GFCI outlet.



! DANGER
To avoid electrical shock, 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.


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.

ELECTRICAL						
VOLTAGE	PHASE	CYCLE/HZ	AMPS	kW		CORD & PLUG INCLUDED
230	1	50/60	4.2	.99		CEE 7/7, 220-230V PLUG

OPERATING INSTRUCTIONS

USER SAFETY INFORMATION

	CAUTION
	Metal parts of this equipment become extremely hot when in operation. To avoid burns, always use hand protection when operating this oven.

The Alto-Shaam cook and hold oven is intended for use in commercial establishments by qualified operating personnel 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.

START-UP OPERATION



BEFORE INITIAL USE:

Interior oven surfaces must be heated to remove surface oils and the accompanying odor produced during the first use of the oven.

1. Wipe all wire shelves, side racks and the full cabinet interior with a clean, damp cloth. Install the side racks and shelves. Shelves are installed with the curved edge toward the back of the unit.
2. Close the oven doors, press the ON key and set the temperature to 200°F (93°C) by using the UP/DOWN arrow keys.
3. Allow the oven to cycle for approximately 2 hours or until no odor is detected.

PREHEATING:

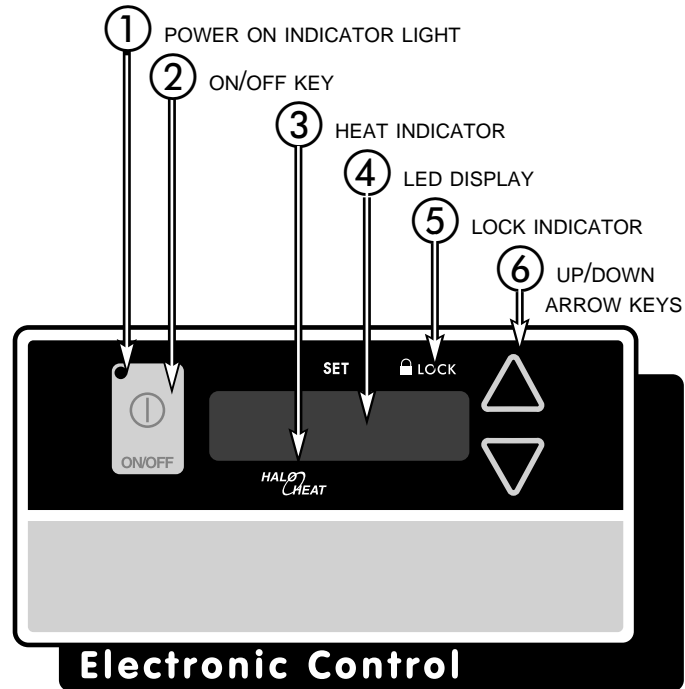
Always preheat the appliance for a minimum of 30 minutes before holding product. Follow the operating instructions indicated on the next page of this manual.

	DANGER
	AT NO TIME SHOULD THE INTERIOR OR EXTERIOR BE STEAM CLEANED, HOSED DOWN, OR FLOODED WITH WATER OR LIQUID SOLUTION OF ANY KIND. <u>DO NOT USE WATER JET TO CLEAN.</u> <u>SEVERE DAMAGE OR ELECTRICAL HAZARD COULD RESULT.</u> WARRANTY BECOMES VOID IF APPLIANCE IS FLOODED.

	 DANGER
	DISCONNECT UNIT FROM POWER SOURCE BEFORE CLEANING OR SERVICING.

OPERATING INSTRUCTIONS

ELECTRONIC CABINET CONTROL IDENTIFICATION



OPERATING INSTRUCTIONS

ELECTRONIC HOLDING CABINET CONTROL SET-UP

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.

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 either "ON" or "OFF" is shown in the LED display. Release arrow key when desired mode is displayed.

FAHRENHEIT/CELSIUS



With the control off, to choose between Fahrenheit and Celsius, press and hold the UP arrow key until either °F or °C is shown in LED display. Release key when desired setting is displayed.

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.

ELECTRONIC HOLDING CABINET CONTROL OPERATION



1. Preheat at 200°F (93°C) for 30 minutes.

Press the ON key, and set the temperature to 200°F (93°) by using the UP/DOWN arrow keys.

Allow a minimum of 30 minutes preheating time before loading the holding cabinet with hot food. Closing the vents on the inside of the door will speed the preheating process. The LED heat indicator light will go "Out" after approximately 30 minutes preheat time, or when the air temperature inside the unit reaches the temperature set by the operator. The Set indicator will light up anytime the temperature is set or reset.

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 keys

THIS WILL NOT NECESSARILY BE THE FINAL SETTING.

The proper temperature range and OPEN or CLOSED door vent position 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

ELECTRONIC HOLDING CABINET SPECIAL FEATURES

HEAT RECOVERY

The patented SureTemp™ heat recovery system in this unit will immediately compensate for any loss of heat when the door is opened. In order to maintain a more consistent cavity temperature, the control will automatically apply heat to the unit'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 solid state electronic control will sound three rapid beeps every ten seconds until the door is closed.

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.

When product is removed from a high temperature cooking environment for immediate transfer into equipment with the lower temperature required for hot food holding, condensation can form on the outside of the product and on the inside of plastic containers used in self-service applications. Allowing the product to release the initial steam and heat produced by high temperature cooking can alleviate this condition. 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	140°F	60°C
BEEF ROAST — Med/Well Done	160°F	71°C
BEEF BRISKET	160° — 175°F	71° — 79°C
CORN BEEF	160° — 175°F	71° — 79°C
PASTRAMI	160° — 175°F	71° — 79°C
PRIME RIB — Rare	140°F	60°C
STEAKS — Broiled/Fried	140° — 160°F	60° — 71°C
RIBS — Beef or Pork	160°F	71°C
VEAL	160° — 175°F	71° — 79°C
HAM	160° — 175°F	71° — 79°C
PORK	160° — 175°F	71° — 79°C
LAMB	160° — 175°F	71° — 79°C
POULTRY		
CHICKEN — Fried/Baked	160° — 175°F	71° — 79°C
DUCK	160° — 175°F	71° — 79°C
TURKEY	160° — 175°F	71° — 79°C
GENERAL	160° — 175°F	71° — 79°C
FISH/SEAFOOD		
FISH — Baked/Fried	160° — 175°F	71° — 79°C
LOBSTER	160° — 175°F	71° — 79°C
SHRIMP — Fried	160° — 175°F	71° — 79°C
BAKED GOODS		
BREADS/ROLLS	120° — 140°F	49° — 60°C
MISCELLANEOUS		
CASSEROLES	160° — 175°F	71° — 79°C
DOUGH — Proofing	80° — 100°F	27° — 38°C
EGGS — Fried	150° — 160°F	66° — 71°C
FROZEN ENTREES	160° — 175°F	71° — 79°C
HORS D'OEUVRES	160° — 180°F	71° — 82°C
PASTA	160° — 180°F	71° — 82°C
PIZZA	160° — 180°F	71° — 82°C
POTATOES	180°F	82°C
PLATED MEALS	180°F	82°C
SAUCES	140° — 200°F	60° — 93°C
SOUP	140° — 200°F	60° — 93°C
VEGETABLES	160° — 175°F	71° — 79°C

The holding temperatures listed are suggested guidelines only.

CARE AND CLEANING

CLEANING AND PREVENTIVE MAINTENANCE

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 a 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. Always use the proper cleaning agent at the manufacturer's recommended strength. Contact your local cleaning supplier for product recommendations.

CLEANING MATERIALS

The cleaning function can usually be accomplished with the proper cleaning agent and a soft, clean cloth. When more aggressive methods must be employed, 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.

	<p>! CAUTION</p> <p>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.</p>
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CARE AND CLEANING

EQUIPMENT CARE

Under normal circumstances, this oven 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.



CLEAN DAILY

1. Disconnect unit from power source, and let cool.
2. Remove all detachable items such as wire shelves, side racks, and drip pans. Clean these items separately.
3. Wipe the interior metal surfaces of the oven with a paper towel to remove loose food debris.
4. Clean the interior metal surfaces of the cabinet with a damp clean cloth or sponge and any good commercial detergent.



- NOTE:** 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. 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 control panel, door vents, door handles, and door gaskets thoroughly since these areas harbor food debris.
 7. Rinse surfaces by wiping with sponge and clean warm water.



8. Remove excess water with sponge and wipe dry with a clean cloth or air dry. Leave doors open until interior is completely dry. Replace side racks and shelves.
9. Wipe door gaskets and control panel dry with a clean, soft cloth.
10. 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.
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.

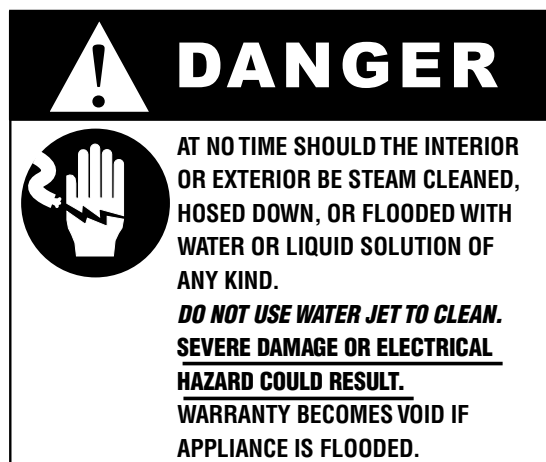
Always follow appropriate state or local health (hygiene) regulations regarding all applicable cleaning and sanitation requirements for equipment.

CLEAN THE DOOR VENTS

Door vents need to be inspected and cleaned as required.

CHECK OVERALL CONDITION OF OVEN ONCE A MONTH

Check the oven once a month for physical damage and loose screws. Correct any problems before they begin to interfere with the operation of the oven.



DO NOT USE OVEN IF CONTROLS ARE NOT PROPERLY FUNCTIONING

Refer to the Trouble Shooting Guide located in this manual or call an authorized service technician.

SANITATION

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 no 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 thorough 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 are 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**

INTERNAL FOOD PRODUCT TEMPERATURES		
HOT FOODS		
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)
COLD FOODS		
DANGER ZONE	ABOVE 40°F	(ABOVE 4°C)
SAFE ZONE	36°F TO 40°F	(2°C TO 4°C)
FROZEN FOODS		
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)

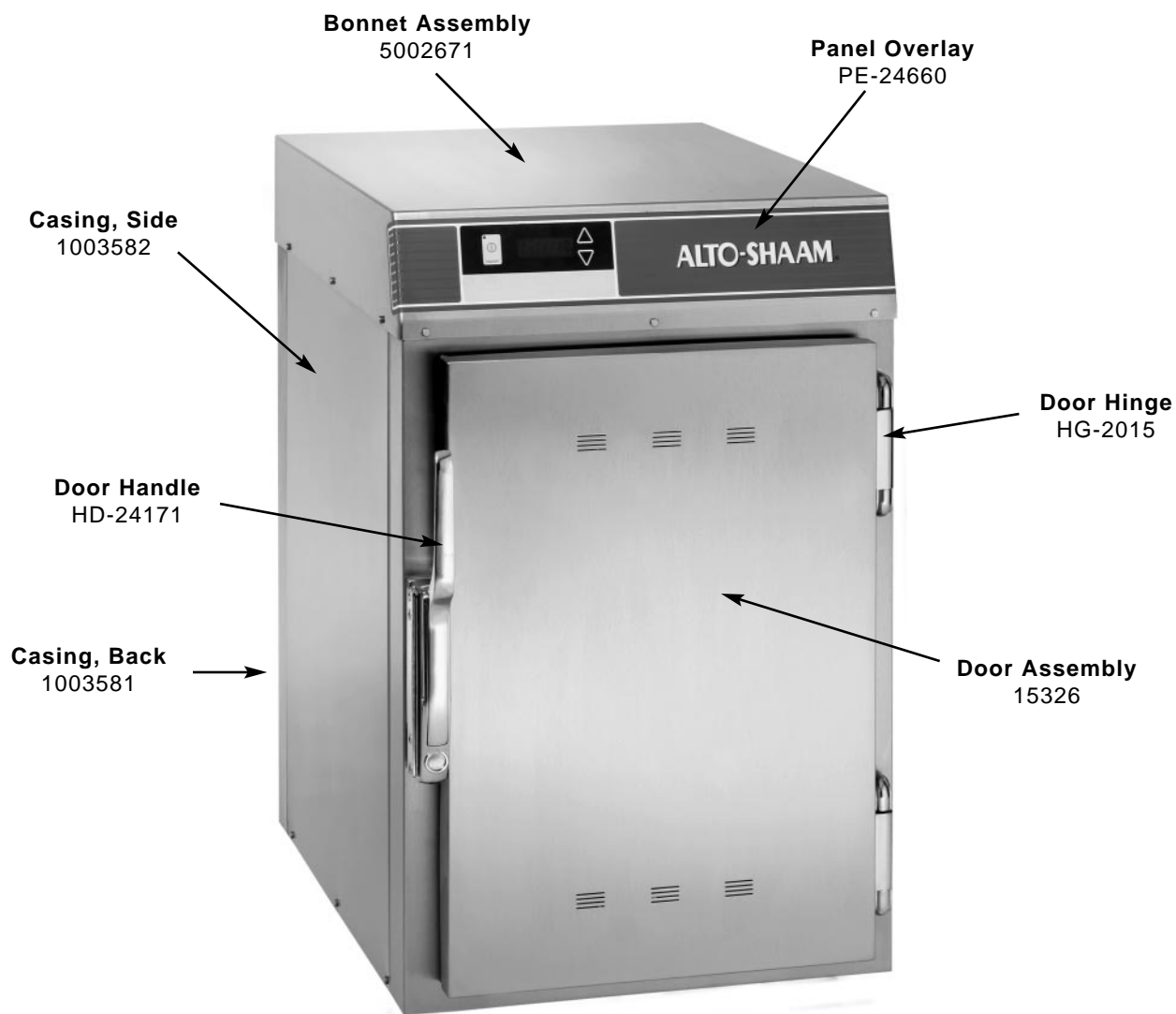
TROUBLE SHOOTING CHECKLIST

TROUBLESHOOTING CHECK LIST FOR CABINETS WITH ELECTRONIC CONTROL		
TROUBLE	POSSIBLE CAUSE	REMEDY
Unit does not operate.	Insufficient power supply. Defective power cord or plug.	Check power source. Check and replace if necessary.
No display in electronic control.	Faulty power supply board. Faulty electronic control.	Check line voltage for 24V across pins 7 and 8 on the power supply board and across terminals J9 and J10 on the electronic control. Replace control.
Cannot control temperature but sensor and electronic control checks O.K.	Faulty relay Heating element grounded.	Replace relay. Replace element.
Temperature readout incorrect.	Dirty or faulty sensor. Faulty control.	Check sensor at 32°F (0°C). If Ohm reading is 100, replace display. If Ohm reading is not 100, replace sensor.



SERVICE

SERVICE VIEW - EXTERIOR



SERVICE VIEW - EXTERIOR PARTS LIST

DESCRIPTION	QTY.	PART NUMBER
1. BONNET ASSEMBLY	1	.5002671
2. BOTTOM SPOT ASSEMBLY*	1	.5002667
3. CASING BACK, HEAVY DUTY*	1	.1003581
4. CASING SIDE, HEAVY DUTY*	2	.1003582
5. CASTER, SWIVEL*	2	.CS-23575
6. CASTER, RIGID*	2	.CS-23576
7. DOOR ASSEMBLY, RH	1	.15326
8. DOOR GASKET*	1	.GS-23790
9. DOOR HANDLE	1	.HD-24171
10. DOOR HINGE	2	.HG-2015
11. INSULATION, 1/2" BOARD*	2	.IN-2003
INSULATION, 1" BOARD*	3	.IN-22265
12. PANEL OVERLAY	1	.PE-24660
13. SHELF, S/S WIRE*	2	.SH-2326
14. SIDE RACK FOR SHELF, S/S*	2	.11885

* (NOT SHOWN)

MODEL 500-S MARINE CABLE HEATING SERVICE KIT

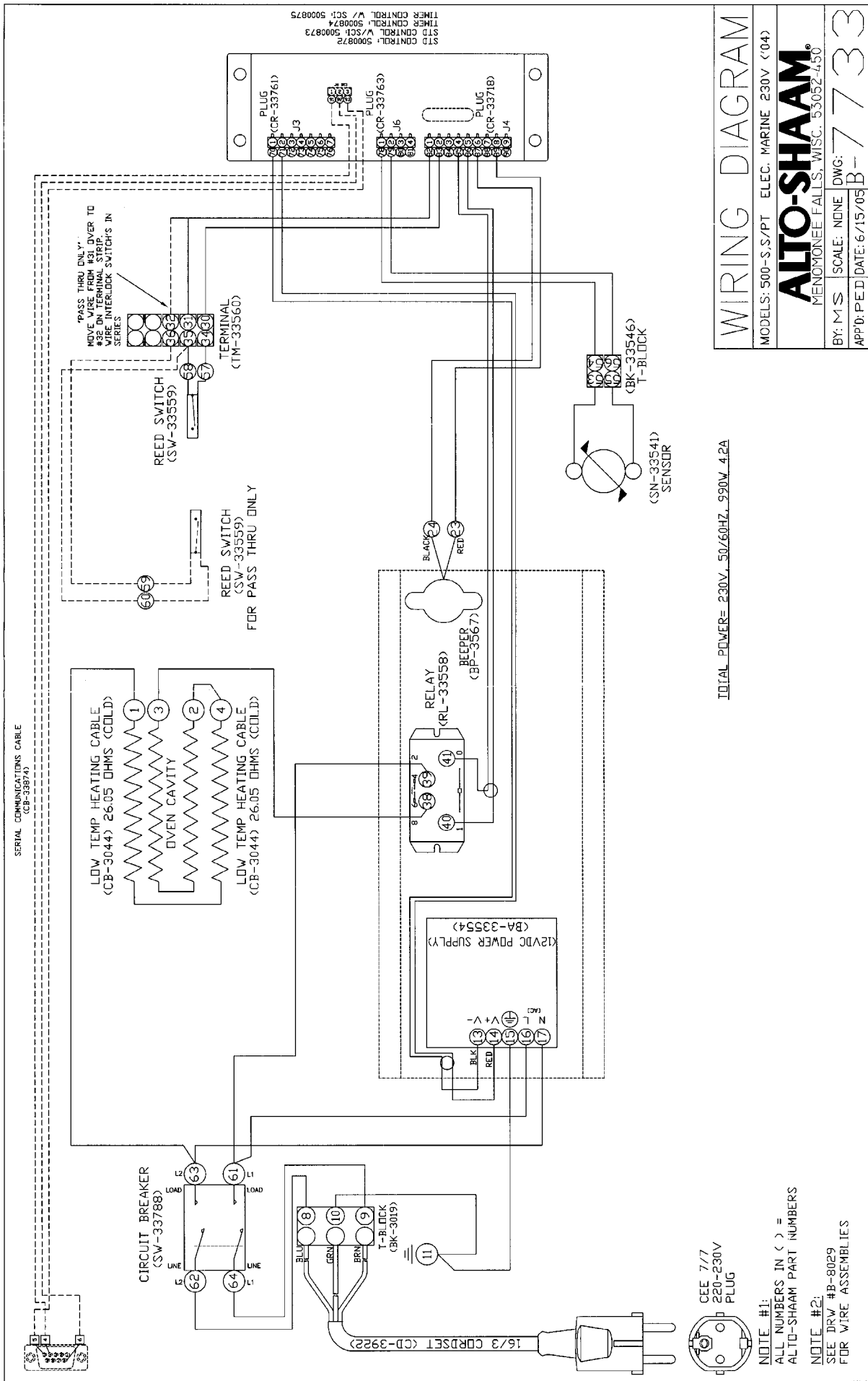
No. 4878 (one kit per unit cavity)

includes:

CB-3045	Cable Heating Element	72 feet
CR-3226	Ring Connector	4
IN-3488	Insulation Corner	1 foot
BU-3105	Shoulder Bushing	4
BU-3106	Cup Bushing	4
ST-2439	Stud	4
NU-2215	Hex Nut	8
SL-3063	Insulating Sleeve	4
TA-3540	Electrical Tape	1 roll

ELECTRICAL PARTS LIST

DESCRIPTION	QTY.	PART NUMBER
1. BEEPER	1	.BP-3567
2. CIRCUIT BREAKER	1	.SW-33788
3. CONNECTOR, 4 PIN	1	.CR-33763
4. CONNECTOR, 7 PIN	1	.CR-33761
5. CONNECTOR, 9 PIN	1	.CR-33718
6. CONTROL ASSEMBLY	1	.5000872
7. CORDSET, 230V	1	.CD-3922
8. POWER SUPPLY BOARD	1	.BA-33554
9. RELAY	1	.RL-33558
10. SENSOR	1	.SN-33541
11. SWITCH, REED	2	.SW-33559
12. TERMINAL BLOCK FOR SENSOR	1	.BK-24427
13. TERMINAL BLOCK, PORCELAIN	1	.BK-33546
14. TERMINAL BLOCK	1	.BK-3019
15. TERMINAL, CIRCUIT STRIP	1	.TM-33560



INITIAL POWER= 230V, 50/60HZ, 950W, 4.2A

WIRING DIAGRAM

MODELS: 500-S,S/PT ELEC. MARINE 230V (04)
ALTO-SHAAM
 MEMPHIS FALLS, WISC. 53052-450

BY: M/S SCALE: NONE DWG: B-7733
 APP'D: P.E.D. DATE: 6/15/05



NOTE #1:
 ALL NUMBERS IN () =
 ALTO-SHAAM PART NUMBERS
 NOTE #2:
 SEE DRW #B-8029
 FOR WIRE ASSEMBLIES

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, it is 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 equipment is still in the truck or immediately after it is moved to the receiving area. Do not wait until after the material is moved to a storage area.
2. Do not sign a delivery receipt or a freight bill until you have made a proper count and inspection of all merchandise 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. Telephone 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.

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

ALTO SHAAM LIMITED WARRANTY

Alto-Shaam, Inc. warrants to the original purchaser 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 labor warranty remains in effect one (1) year from installation or fifteen (15) months from the shipping date, whichever occurs first. Alto-Shaam will bear normal labor charges performed during standard business hours, and excluding overtime, holiday rates or any additional fees.

The parts warranty remains in effect for one (1) year from installation or fifteen (15) months from the shipping date, whichever occurs first.

However, the heating element on Halo Heat® cook/hold ovens and the refrigeration compressor on Alto-Shaam Quickchillers™ are warranted for a period of five (5) years from installation. The labor warranty is the same as stated above; namely, for one (1) year from installation or fifteen (15) months from the shipping date, whichever occurs first.

THIS WARRANTY DOES NOT APPLY TO:

1. Calibration.
2. Replacement of light bulbs and/or the replacement of display case 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 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, expressed 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 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.

ALTO-SHAAM, INC.

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: _____ Date Installed: _____
Voltage: _____ Purchased From: _____
Serial Number: _____

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