



# Heated Shelf Merchandiser



HSM-48/5S



HSM-24/5S



HSM-36/3S-CT



HSM-24/3S-CT

## HOT FOOD HOLDING

**HSM-48/5S**

**HSM-36/5S**

**HSM-24/5S**

**HSM-48/4S**

**HSM-36/4S**

**HSM-24/4S**

**HSM-36/3S-CT**

**HSM-24/3S-CT**

## Operator's Manual

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Menomonee Falls, Wisconsin 53052-0450 U.S.A.

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Consult instructions for  
operation and use.

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## Delivery

The Alto-Shaam merchandiser is thoroughly tested and inspected to ensure only the highest quality equipment is provided. Upon receipt, inspect for any possible shipping damage and report it at once to the delivering carrier. See the **Transportation Damage and Claims** section.

The merchandiser, complete with unattached items and accessories, may be delivered in one or more packages. Confirm that all standard items and options have been received as ordered. Save all the information packed with the merchandiser. 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 with 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.

## 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.



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.**

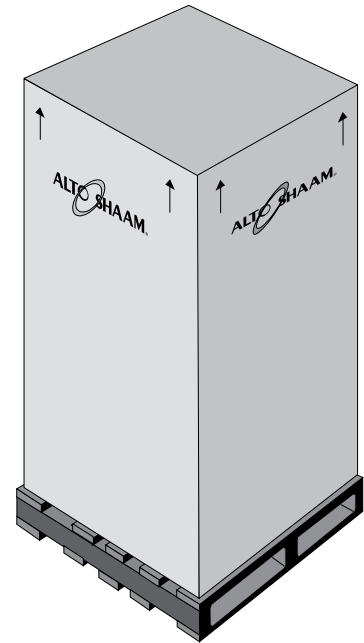
# Unpacking

- Remove the merchandiser from the carton or crate.

**NOTE:** Do not discard the carton and other packaging material until the merchandiser has been inspected for hidden damage and tested for proper operation.

Do not discard this manual. This manual is considered to be part of the merchandiser 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 service department.

- Read all instructions in this manual before installing the merchandiser, using the merchandiser or performing routine maintenance. Following procedures other than those indicated in this guide to use and clean the merchandiser is considered inappropriate and may cause damage, injury or fatal accidents, in addition to invalidating the warranty and relieving Alto-Shaam of all liability.
- Remove all protective plastic film, packaging materials, and accessories from the merchandiser before connecting electrical power. Store any accessories in a convenient place for future use.



	HSM-48/5S	HSM-36/5S	HSM-24/5S
<b>Exterior Dimensions</b>	79-7/8" x 48" x 27-5/16" (2029mm x 1218mm x 692mm)	79-7/8" x 36" x 27-5/16" (2029mm x 914mm x 692mm)	79-7/8" x 24" x 27-5/16" (2029mm x 609mm x 692mm)
<b>Weight</b>	Net: 563 lb (255 kg)	Net: 496 lb (225 kg)	Net: 406 lb (184 kg)
	Ship: 772 lb (350 kg)	Ship: 652 lb (296 kg)	Ship: 550 lb (249 kg)
	Crate Dimensions (L x W x H): 56" x 63" x 89" (1422mm x 1600mm x 2261mm)	Crate Dimensions (L x W x H): 56" x 45" x 89" (1422mm x 1143mm x 2261mm)	Crate Dimensions (L x W x H): 36" x 36" x 89" (914mm x 914mm x 2261mm)
	HSM-48/4S	HSM-36/4S	HSM-24/4S
<b>Exterior Dimensions</b>	79-7/8" x 48" x 27-5/16" (2029mm x 1219mm x 694mm)	79-7/8" x 36" x 27-5/16" (2029mm x 914mm x 694mm)	79-7/8" x 24" x 27-5/16" (2029mm x 609mm x 694mm)
<b>Weight</b>	Net: 555 lb (252 kg)	Net: 485 lb (220 kg)	Net: 395 lb (179 kg)
	Ship: 690 lb (313 kg)	Ship: 586 lb (266 kg)	Ship: 490 lb (222 kg)
	Crate Dimensions (L x W x H): 56" x 63" x 89" (1422mm x 1600mm x 2261mm)	Crate Dimensions (L x W x H): 56" x 45" x 87" (1422mm x 1143mm x 2210mm)	Crate Dimensions (L x W x H): 36" x 36" x 84" (914mm x 914mm x 2134mm)
		HSM-36/3S-CT	HSM-24/3S-CT
<b>Exterior Dimensions</b>		45-3/4" x 36" x 27-5/16" (1162mm x 914mm x 692mm)	45-3/4" x 24" x 27-5/16" (1163mm x 609mm x 692mm)
<b>Weight</b>		Net: 311 lb (141 kg)	Net: 250 lb (113 kg)
		Ship: 417 lb (189 kg)	Ship: 300 lb (136 kg)
		Crate Dimensions (L x W x H): 56" x 45" x 65" (1422mm x 1143mm x 1651mm)	Crate Dimensions (L x W x H): 36" x 36" x 60" (914mm x 914mm x 1524mm)



## CAUTION



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



## CAUTION

To prevent injury or property damage:  
**Always** apply both caster brakes on mobile carts, appliances, or accessories when stationary.  
Appliances on casters can move or roll on uneven floors.

- The merchandiser is intended to hold pre-packaged food for human consumption. No other use for this merchandiser is authorized by the manufacturer or its agents and is therefore considered dangerous.
- The merchandiser is intended for use in commercial establishments where all operators are familiar with the purpose, limitations, and associated hazards of this merchandiser. 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 merchandiser. 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 merchandiser. This manual and all supplied instructions, diagrams, schematics, parts lists, notices, and labels must remain with the merchandiser if the item is sold or moved to another location.

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

## **DANGER**

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

## **WARNING**

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

## **CAUTION**

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

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

**NOTICE:** For 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 merchandiser 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 merchandiser. 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 merchandiser, observe precautions in the literature, on tags, on labels attached to or shipped with the merchandiser and other safety precautions that may apply.
- If the merchandiser is installed on casters, freedom of movement of the merchandiser must be restricted so that utility connections (electricity) cannot be damaged when the merchandiser is moved. If the merchandiser is moved, make sure all utility connections are disconnected. When returning the merchandiser to its original position, make sure that retention devices and utility connections are connected.
- **Only** use the merchandiser when it is stationary. Merchandisers on casters can tip over when being moved over an uneven floor or threshold and cause serious injury.
- **Always** apply caster brakes on mobile merchandisers 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 merchandisers because the food trays may contain hot fluids that may spill, causing serious injury.

## WARNING

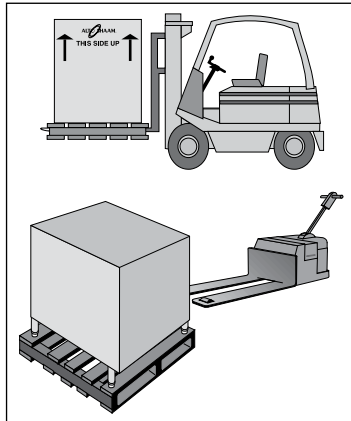


This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision concerning use of the appliance by person responsible for their safety.

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

This merchandiser, and any accessories, may be delivered in one or more packages. Make sure all accessories that were ordered have been received.

Lift the merchandiser from the pallet with a fork lift truck positioned at the rear of the merchandiser. Care must be taken when moving the merchandiser into position to protect the glass components. Floor-standing merchandisers have heavy-duty, swivel casters with brakes.



## 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

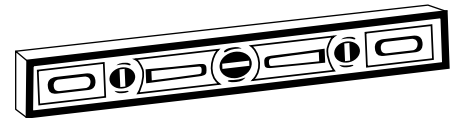


Improper installation, alteration, adjustment, service, cleaning, or maintenance could result in property damage, severe injury, or death.

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

Alto-Shaam heated shelf merchandisers are designed for the purpose of holding hot food at a temperature for safe consumption. The merchandiser must be installed on a level surface in a location that will permit the equipment to function for its intended purpose and allow adequate access for proper cleaning and maintenance.

Level the merchandiser from side to side and front to back.



Do not install the merchandiser near a cold air source, such as a freezer, air conditioning vents, or in any area where outside air fluctuation can affect performance. This merchandiser must not be affected by steam, grease, dripping water, high temperatures, or any other adverse conditions.

In order to maintain NSF standards, floor models must be equipped with casters or 6" (152mm) legs and countertop models must be equipped with 4" (102mm) legs or sealed at the bottom by NSF approved sealant.

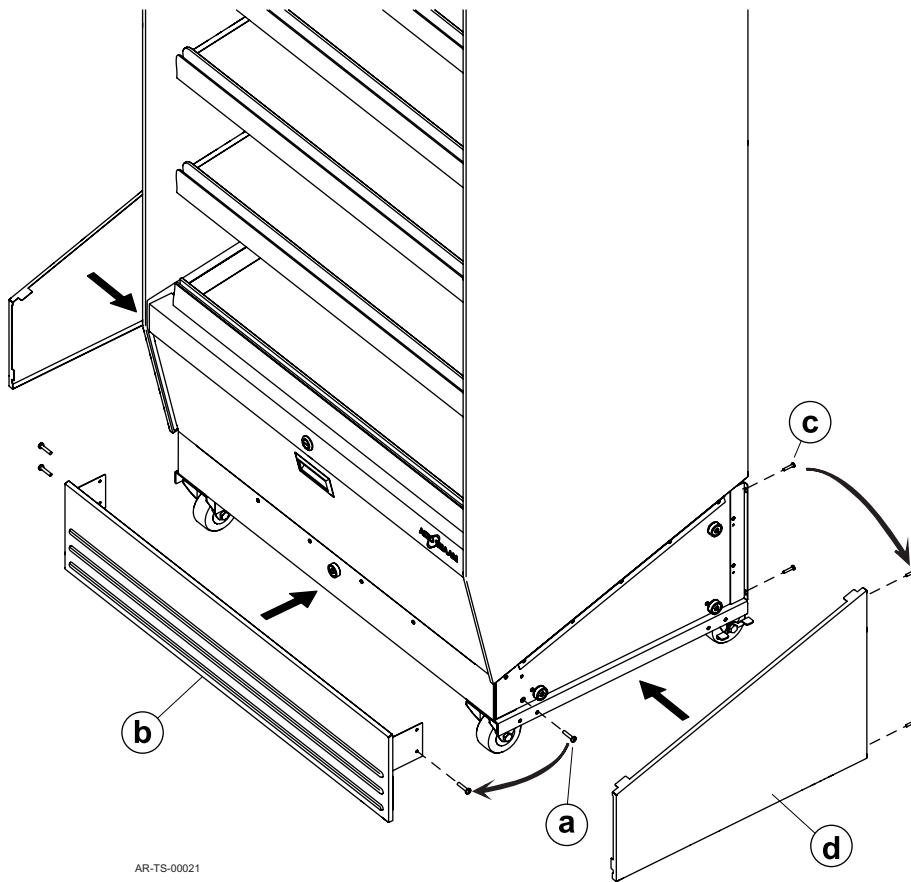
### CLEARANCE REQUIREMENTS

4" (102mm) rear clearance

## Installing the Skirt

Merchandisers with casters include three skirt panels that need to be installed once the merchandizer is in position. Perform the procedure below to install the skirt panels.

1. Remove the screws **(a)**.
2. Slide the front skirt panel **(b)** into position and secure it with the screws removed in step 1.
3. Remove the screws **(c)** from the rear of the merchandizer.
4. Slide the side skirt **(d)** into position and secure it with the screws removed in step 3.
5. Repeat for the other side skirt.





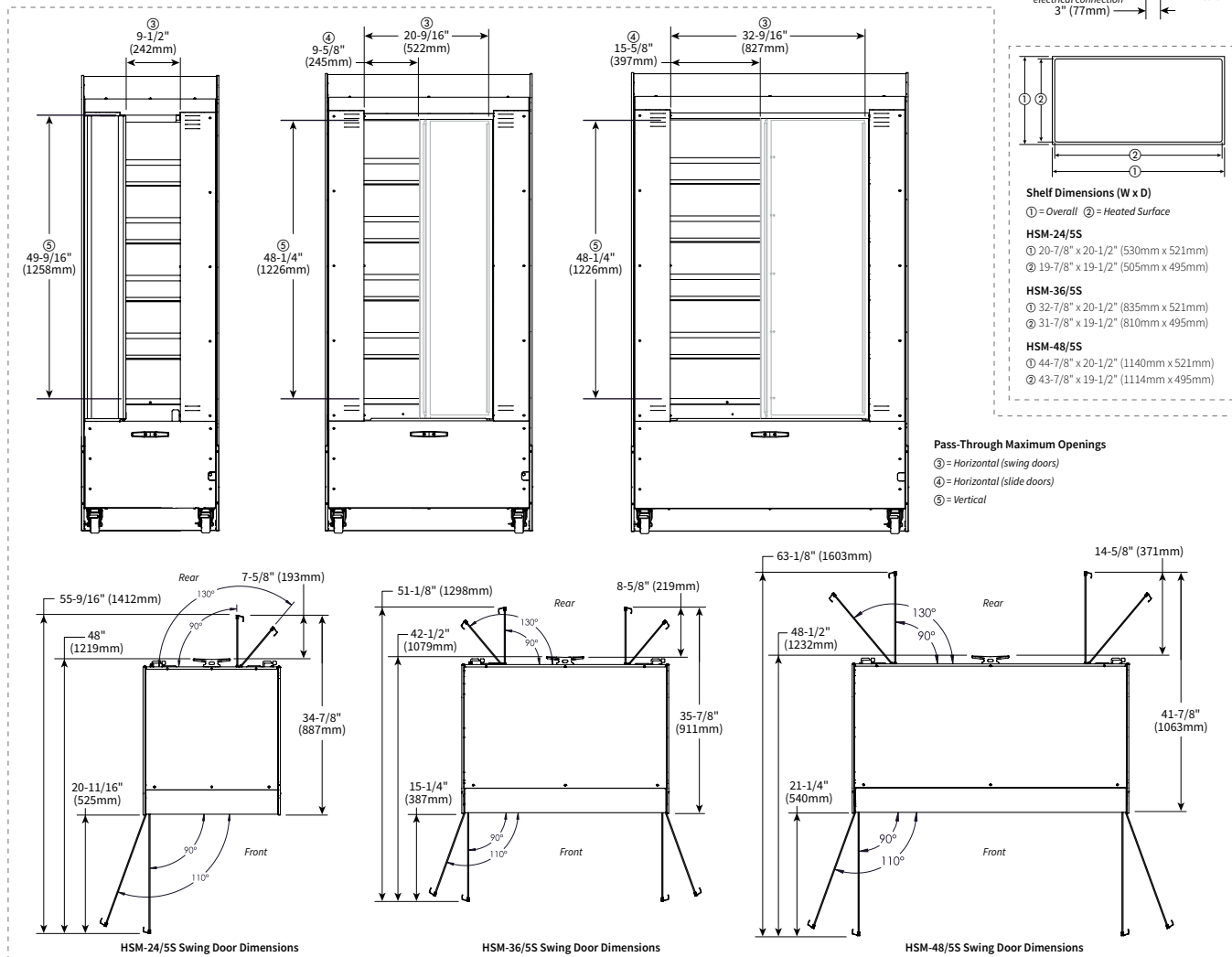
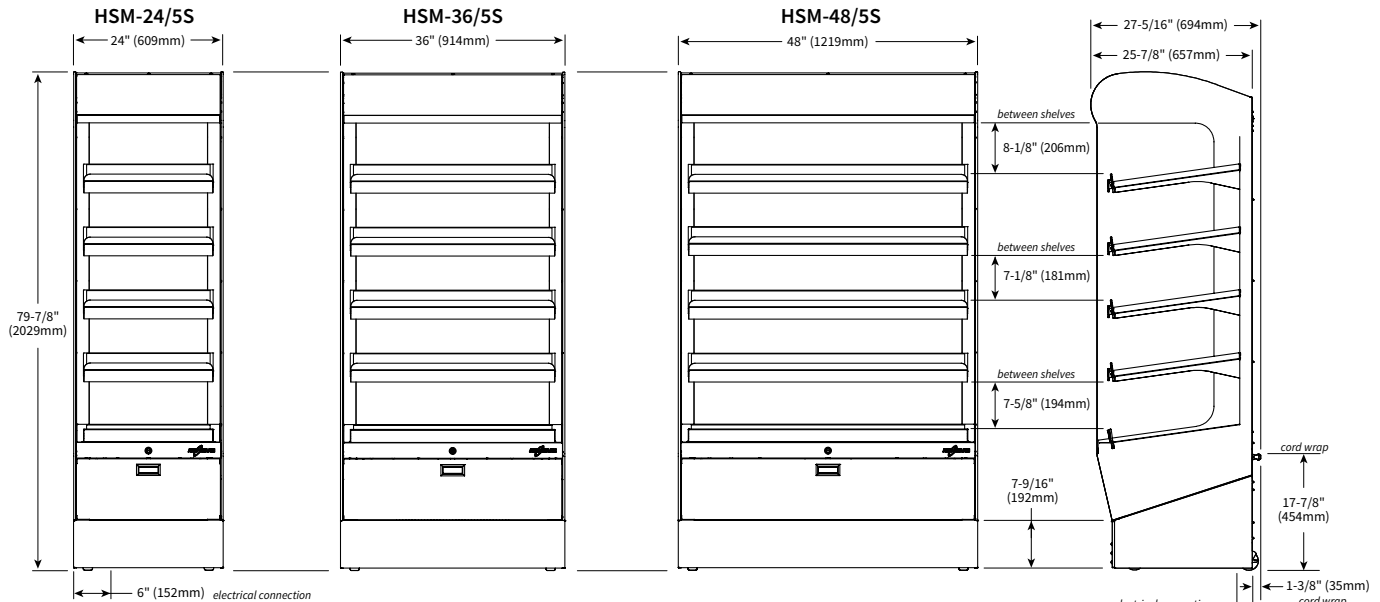
## HSM-24/5S, HSM-36/5S, HSM-48/5S

### Net Weight

**HSM-24/5S** 406 lb (184 kg)

**HSM-36/5S** 496 lb (225 kg)

**HSM-48/5S** 563 lb (255 kg)



# Dimensions

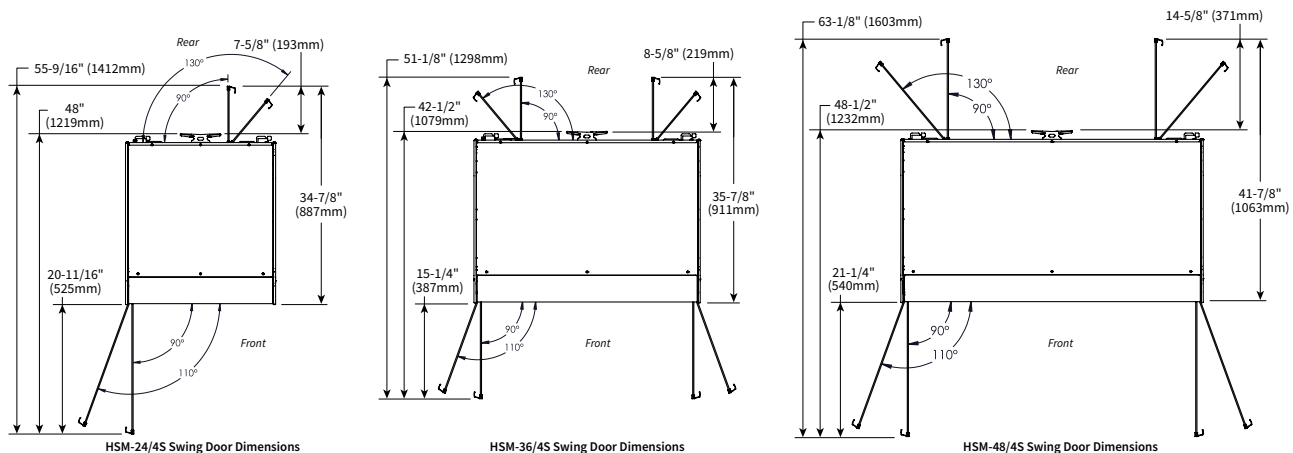
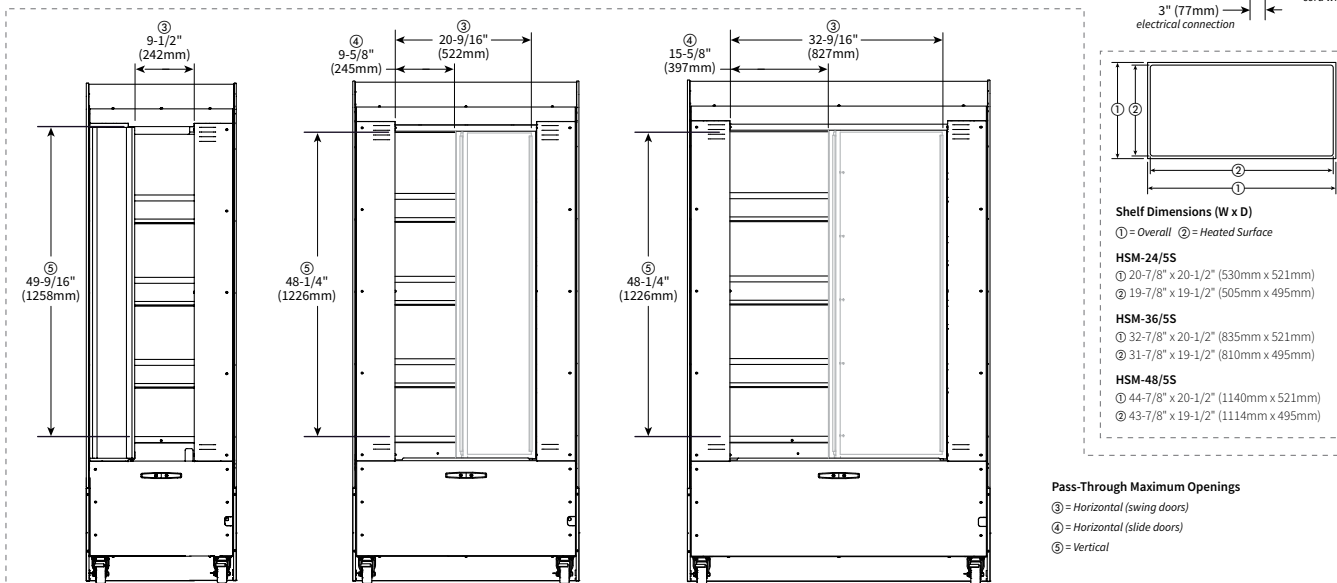
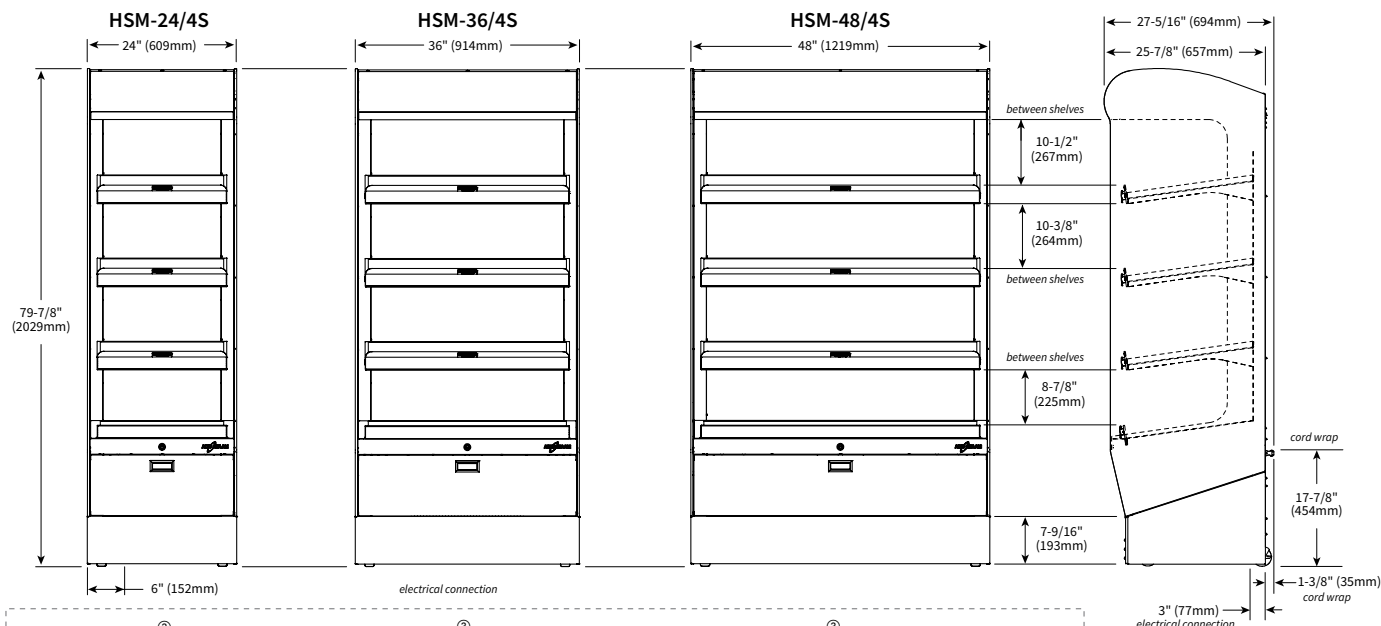
## HSM-24/4S, HSM-36/4S, HSM-48/4S

### Net Weight

**HSM-24/4S** 395 lb (179 kg)

**HSM-36/4S** 485 lb (220 kg)

**HSM-48/4S** 555 lb (252 kg)

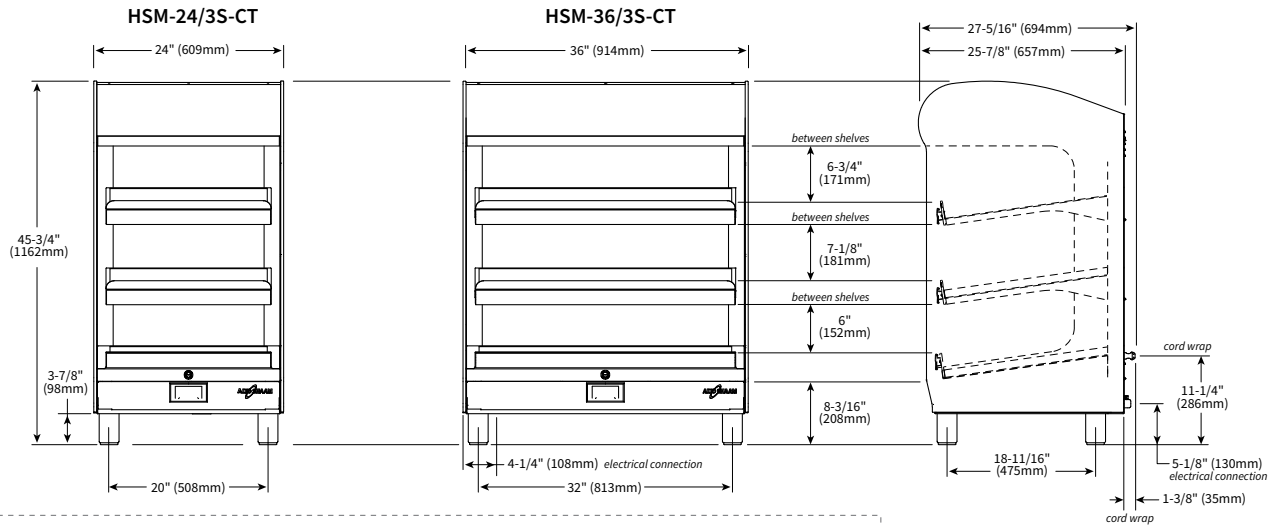


## HSM-24/3S-CT, HSM36/3S-CT

### Net Weight

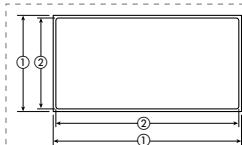
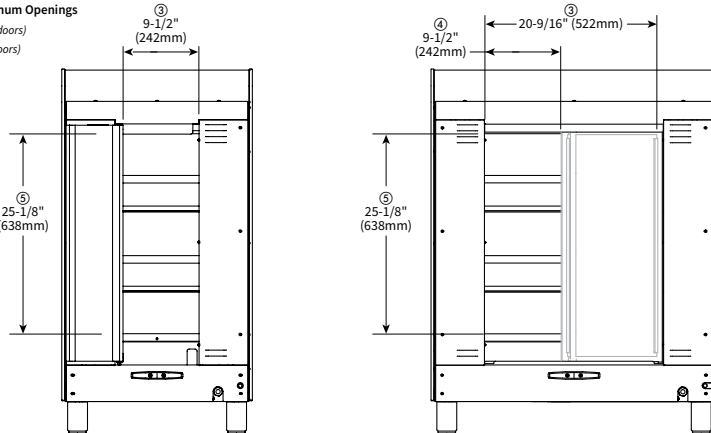
**HSM-24/3S-CT** 250 lb (113 kg)

**HSM-36/3S-CT** 311 lb (141 kg)



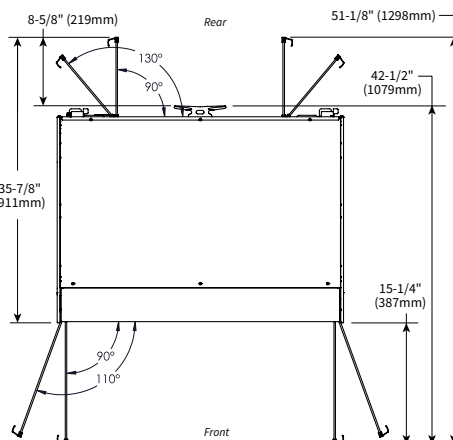
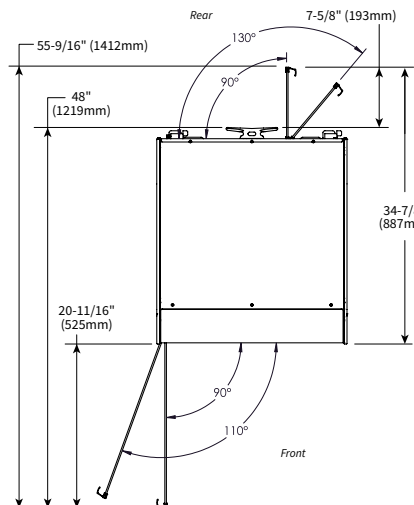
### Pass-Through Maximum Openings

- ③ = Horizontal (swing doors)
- ④ = Horizontal (slide doors)
- ⑤ = Vertical



### Shelf Dimensions (W x D)

- HSM-24/3S-CT**
  - ① 20-7/8" x 20-1/2" (530mm x 521mm)
  - ② 19-7/8" x 19-1/2" (505mm x 495mm)
- HSM-36/3S-CT**
  - ① 32-7/8" x 20-1/2" (835mm x 521mm)
  - ② 31-7/8" x 19-1/2" (810mm x 495mm)



An identification tag is permanently mounted on the cabinet. Permanent wiring or electrical outlets for this merchandiser must be installed by a licensed electrician in accordance with local, country, or national codes.

This merchandiser must be connected to a dedicated circuit: (see below)

HSM-48 — 30 Amp circuit

HSM-36 — 20 Amp circuit

HSM-24 — 20 Amp circuit

In the event of an emergency, always position the merchandiser so the power supply cord is easily accessible. Plug the unit into a properly grounded receptacle **only**. Arcing will occur when connecting or disconnecting the unit unless all controls are in the **off** position.

## 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.



## 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



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.
















## WARNING



### Electrical Grounding Instructions:

This appliance may be equipped with a three-pronged (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle.

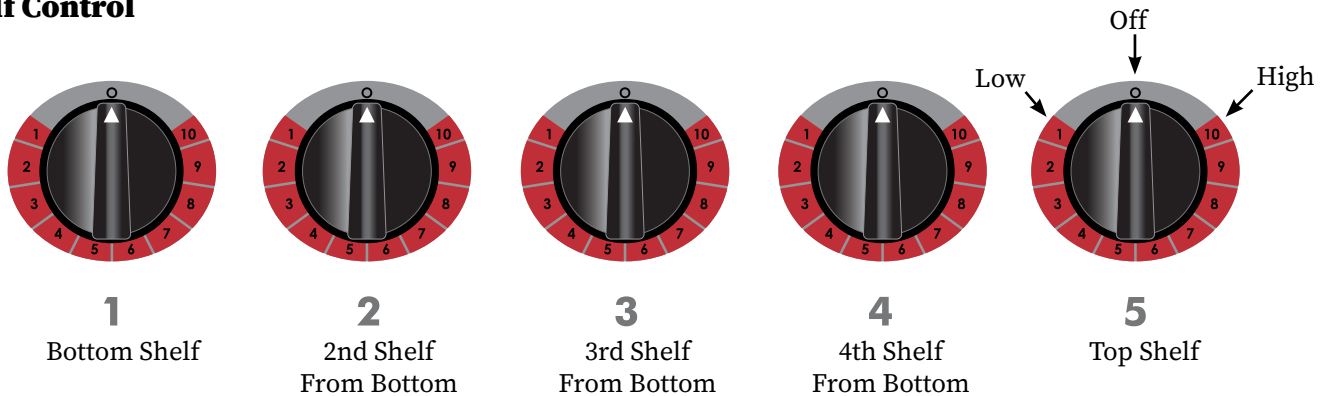
Do not cut or remove the grounding prong from this plug. Removing the grounding prong may result in serious injury, death or property damage.

Electrical							
	V	Ph	Hz	A	kW	Dedicated Circuit Breaker	Plug Configuration
HSM-48/5S	208 – 240	1	60	19.0 – 21.9	4.0 – 5.3	30	cord, no plug
	230	1	50/60	20.0	4.6	30	cord, no plug
HSM-36/5S	208 – 240	1	60	14.4 – 16.7	3.0 – 4.0	20	cord, no plug
	230	1	50/60	15.0	3.5	20	 CEE 7/7
HSM-24/5S	208 – 240	1	60	10.8 – 12.5	2.3 – 3.0	20	 NEMA 6-20P 20A - 250V PLUG
	230	1	50/60	11.5	2.9	20	 CEE 7/7
HSM-48/4S	208 – 240	1	60	15.5 – 17.9	3.2 – 4.3	30	cord, no plug
HSM-36/4S	208 – 240	1	60	11.6 – 13.3	2.4 – 3.2	20	cord, no plug
HSM-24/4S	208 – 240	1	60	8.7 – 10.0	1.8 – 2.4	20	 NEMA 6-20P 20A - 250V PLUG
HSM-36/3S-CT	208 – 240	1	60	8.8 – 9.2	1.9 – 2.5	20	 NEMA 6-20P 20A - 250V PLUG
	230	1	50/60	9.0	2.1	20	 CEE 7/7  CH2-16P  BS 1363
HSM-24/3S-CT	120	1	60	15.0	1.8	20	 NEMA 5-20P 20A - 125V PLUG
	208 – 240	1	60	6.5 – 7.5	1.4 – 1.8	20	 NEMA 6-20P 20A - 250V PLUG
	230	1	50/60	7.0	1.8	20	 CEE 7/7  CH2-16P  BS 1363

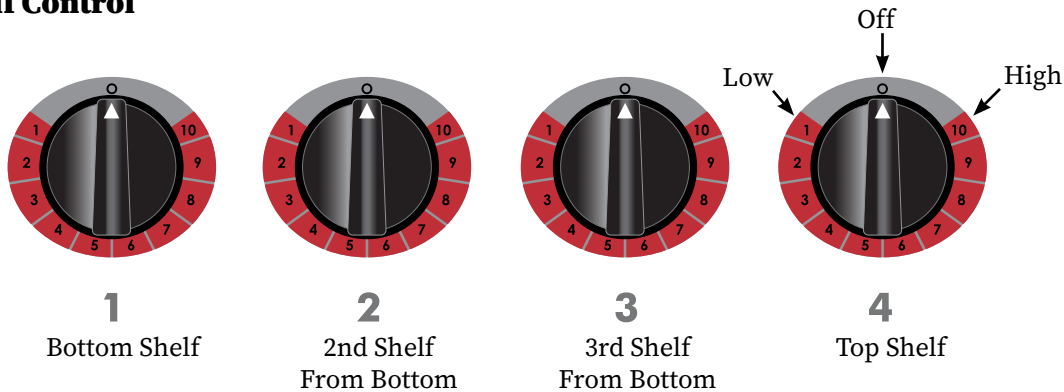
**Wire diagrams are included in the literature package supplied with the merchandiser.**

# Control Identification

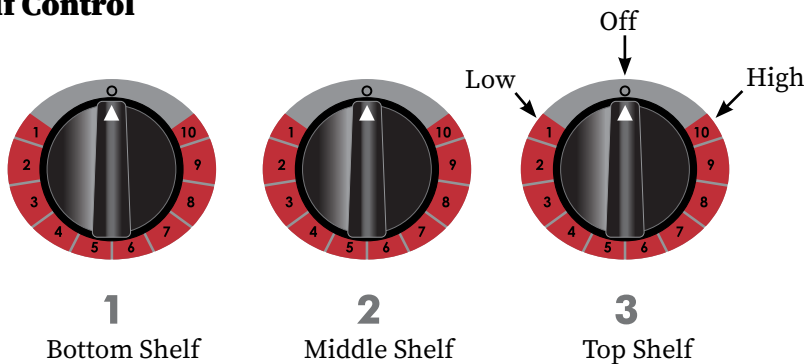
## 5-Shelf Control



## 4-Shelf Control



## 3-Shelf Control



**CHEF TIP:** Use the top shelf for the highest heat assignment, and the bottom shelf for the lowest heat assignment. The proper temperature range for the food being held depends on the food type, the packaging, and the quantity of product. Apply the first item in, first item out method to all merchandisers. Wipe spills immediately with hot water and a mild soap to minimize end-of-the-day cleanup.

### User Safety Information

The multi-shelf hot food holding merchandiser has heated shelves intended to be used with pre-packaged hot food. All operators must be familiar with the purpose, limitations, and associated hazards of this merchandiser. Operating instructions and warnings must be read and understood by all operators and users.

#### Before Initial Use:

1. Remove all packing material from the merchandiser.
2. Remove and wash any detachable items with hot, soapy water. Dry with a clean, damp lint-free cloth.
3. Remove all visible grease or oil from the merchandiser.
4. Clean the interior and exterior of the merchandiser 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 merchandiser glass with glass cleaner or distilled vinegar.
6. Operate the merchandiser with food for a period of 15 minutes using setting 9 to remove surface oils and any accompanying odor.

#### Special Instructions:

1. Do not allow liquids or food to come in direct contact with the anodized-aluminum shelves.
2. Use hand protection when handling hot items.
3. Be certain that any hot foods are in the appropriate high-temperature heat-tested containers.
4. It is recommended that plastic or paper containers be used. Pans or dishes can scratch the anodized-aluminum.
5. Do not overheat, this may cause some containers to melt.
6. Do not stack containers.

#### Heating Characteristics

The heated anodized-aluminum surface provides even heat transfer. Hot food in heat-tested containers are in direct contact with the anodized-aluminum top.



### CAUTION

To prevent personal injury, property damage, or damage to the merchandiser:

Treat the glass with care. Glass can shatter or chip.



### CAUTION



To prevent **personal injury** or **property damage**:

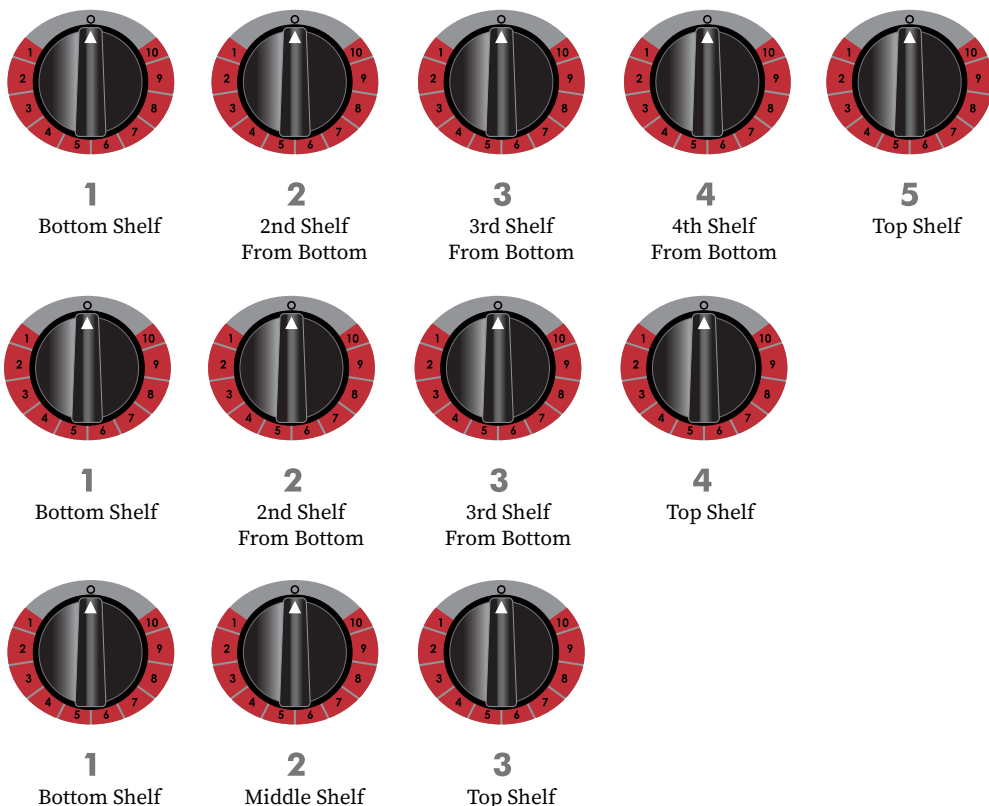
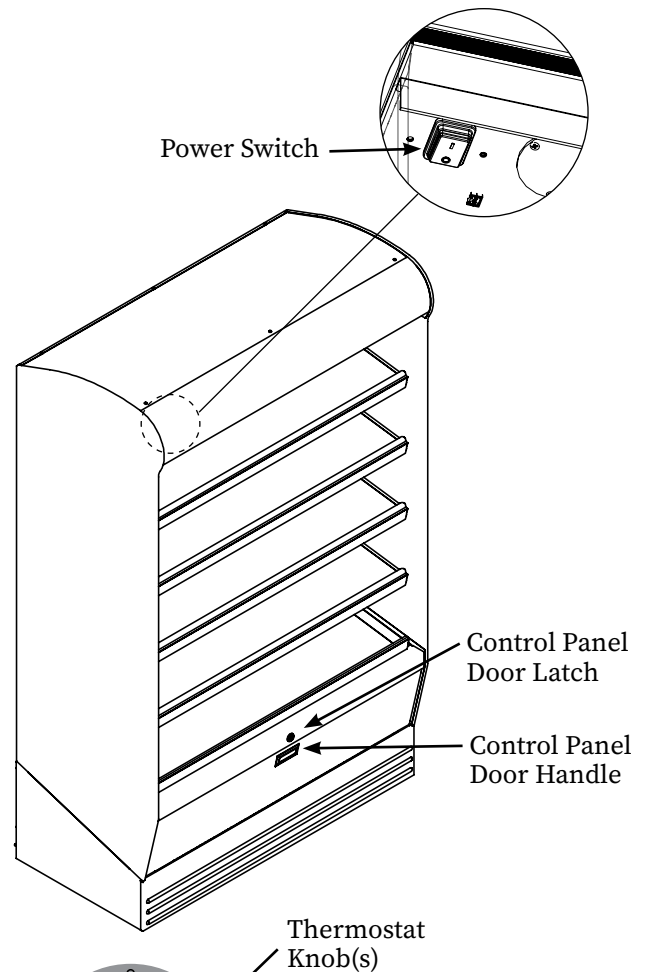
**Always** use hand protection when operating this appliance to avoid burns. Metal parts of this equipment become extremely hot when in operation.

# Operation

1. Make sure the merchandiser is connected to the appropriate power source.
2. Locate the power switch below the top canopy on the left side of the merchandiser.
3. Press the power switch to the ON (I) position.
4. Turn the control panel door latch with a coin or flat head screwdriver.
5. Use the control panel door handle to pull the door open.
6. Turn the thermostat knob(s) to a predetermined number and preheat the merchandiser for 30 minutes.

Each shelf has a thermostat control numbered from 1 to 10, with 10 being the hottest. When the thermostat is turned clockwise to the determined number, the indicator light—found above each shelf—illuminates and remains illuminated as long as the shelf is being heated.

7. Before loading food into the merchandiser, use a meat thermometer to make certain all food products have reached an internal temperature of 160°F (71°C) or higher. If any food product is not at the proper serving temperature, use a Halo Heat® cooking and holding oven or Combitherm® oven to bring the food product within the correct temperature range.
8. Load pre-packaged hot foods into the merchandiser. Periodically check the internal temperature of each food item to ensure maintenance of the proper temperature range.





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.

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

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

## 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

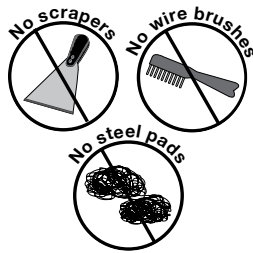


To prevent **serious personal injury, death, or property damage:**

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.

## How to Clean the Merchandiser.

1. Press the On/Off switch to the OFF (O) position.  
Disconnect the merchandiser from the power source.  
Allow the merchandiser to cool.
2. Remove, cover or wrap, and store food product under refrigeration.
3. Clean the exterior of the merchandiser 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. Clean the exterior of the cabinet with a cleaner recommended for stainless steel surfaces to maintain the protective film coating on any polished stainless steel.
4. Clean the anodized-aluminum shelves and other interior components with a mild soap and hot water.
5. Spray heavily-soiled areas with a water-soluble degreaser and let stand for 10 minutes, then remove the soil with a plastic scouring pad.
6. Clean the control panel, vents, handles, and gaskets thoroughly since these areas harbor food debris.



**NOTICE:** Never use of abrasive cleaning compounds, chloride based cleaners, or cleaners containing quaternary salts.

Never use hydrochloric acid (muriatic acid) on stainless steel.

7. Wipe the interior surfaces with a sanitizing solution after cleaning and rinsing. This solution must be approved for use on food contact surfaces.
8. Clean the merchandiser 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**



Electric shock hazard.

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

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		
Hot Foods		
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
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°F to 32°F	-18°C to 0°C
Safe Zone	0°F or Below	-18°C or Below

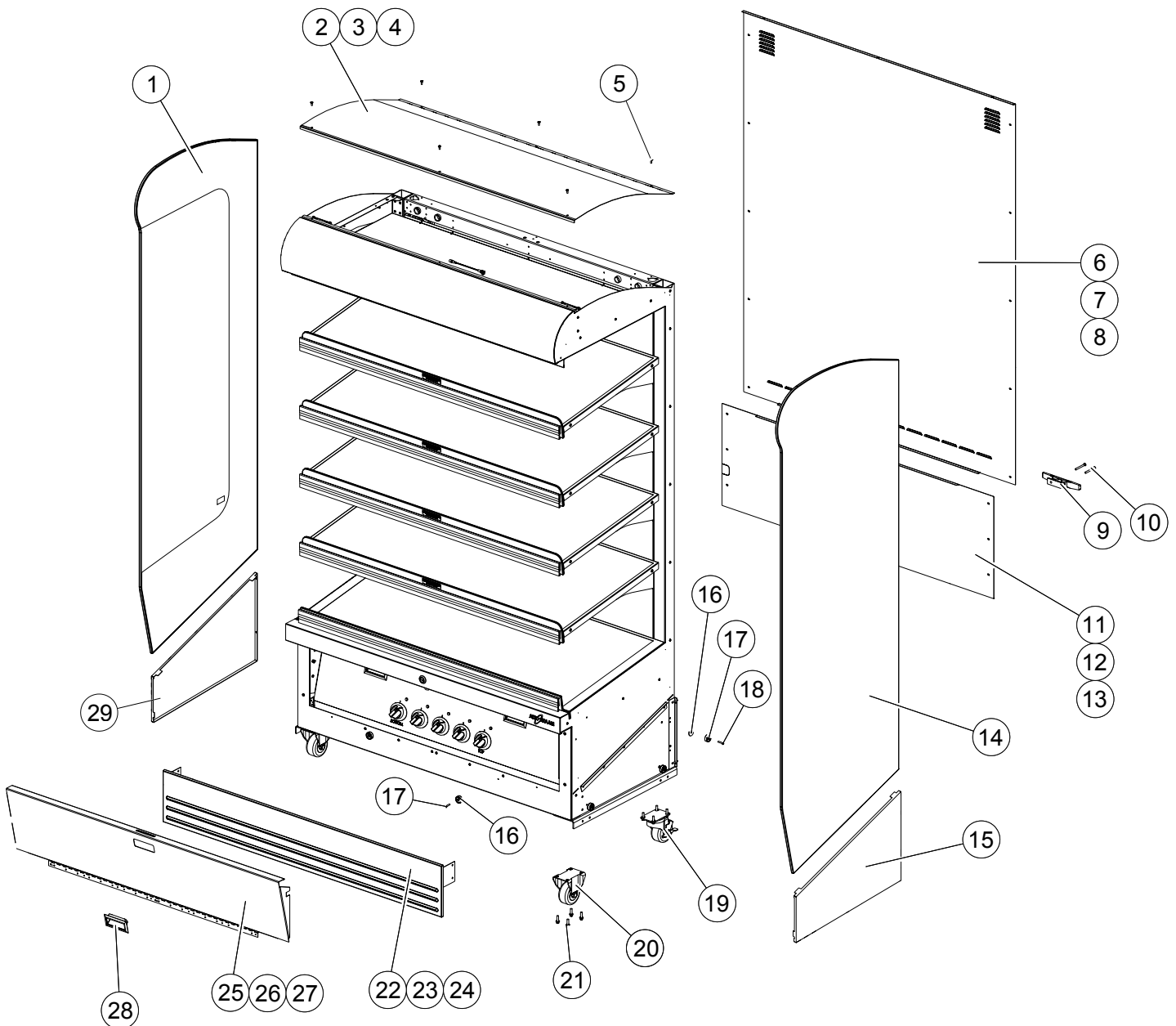
Hazard Analysis (at) Critical Control Points (HACCP), is a quality control program of operating procedures to assure food integrity, quality, and safety. Taking steps necessary to augment food safety practices is both cost effective and relatively simple. Additional HACCP information is available by contacting:

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

**HSM-5S, HSM-4S Shelf Frame Components****⚠ WARNING**

Electric shock hazard.

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



Serial number is required for all inquiries.  
Part numbers and drawings are subject to change without notice.

## HSM-5S, 4S Shelf Frame Components Parts List

**WARNING**

Electric shock hazard.

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

Item	Part	Description	Qty
1	GL-38414	Panel, Left, Tempered Glass, 9.5mm <i>Factory replacement only</i>	1
2	1019990	Top Cover Panel, HSM-24	1
3	1020846	Top Cover Panel, HSM-36	1
4	1020376	Top Cover Panel, HSM-48	1
5	SC-22779	Screw, M4 x 0.8 x 10mm Pan	1
6	1020187	Upper Back Panel, HSM-24	1
7	1020852	Upper Back Panel, HSM-36	1
8	1020572	Upper Back Panel, HSM-48	1
9	E2097HR	Hanger 6-1/2" Rope Cleat 7/16 Black Nylon	1
10	SC-35259	Screw, M5 x 0.8 X 50mm Flat	2
11	5022844R	Lower Back Panel Assembly, HSM-24	1
12	5022739R	Lower Back Panel Assembly, HSM-36	1
13	5022835R	Lower Back Panel Assembly, HSM-48	1
14	GL-38413	Panel, Right, Tempered Glass, 9.5mm <i>Factory replacement only</i>	1
15	1020116	Lower End Cap Panel, Right	1
16	1020152	Magnet, Disk	8
17	MA-38245	Magnet, NEO, Nickel Plated	8
18	SC-22765	Screw, M4 x 0.7 X 20mm Pan	8
19	CS-38565	Caster, Swivel, 3", Lock, Flat	2
20	CS-38902	Caster, Rigid, 3", Flat	2
21	67338	Screw, M6 X 1 X 20mm Hex FLG	16
22	5021895	Kick Panel Assembly, HSM-24	1
23	5022308	Kick Panel Assembly, HSM-36	1
24	5022029	Kick Panel Assembly, HSM-48	1
25	5021878R	Control Panel Cover Assembly, HSM-24	1
26	5022274R	Control Panel Cover Assembly, HSM-36	1
27	5022110R	Control Panel Cover Assembly, HSM-48	1
28	HD-28789	Handle, Pull Recessed, Black	1
29	1020531	Lower End Cap Panel, Left	1

Serial number is required for all inquiries.  
Part numbers and drawings are subject to change without notice.

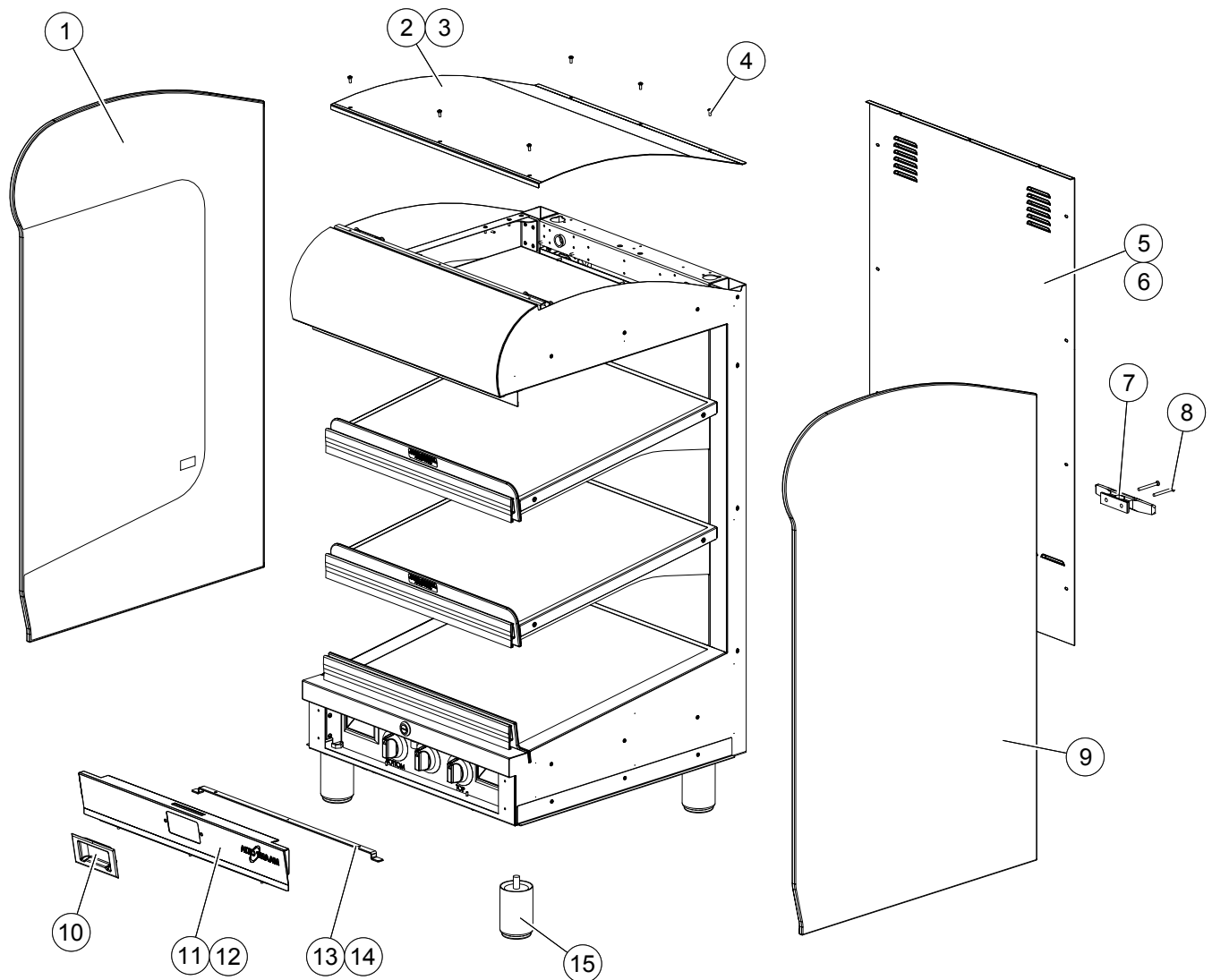
**HSM Countertop Frame Components**

**⚠ WARNING**

Electric shock hazard.

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

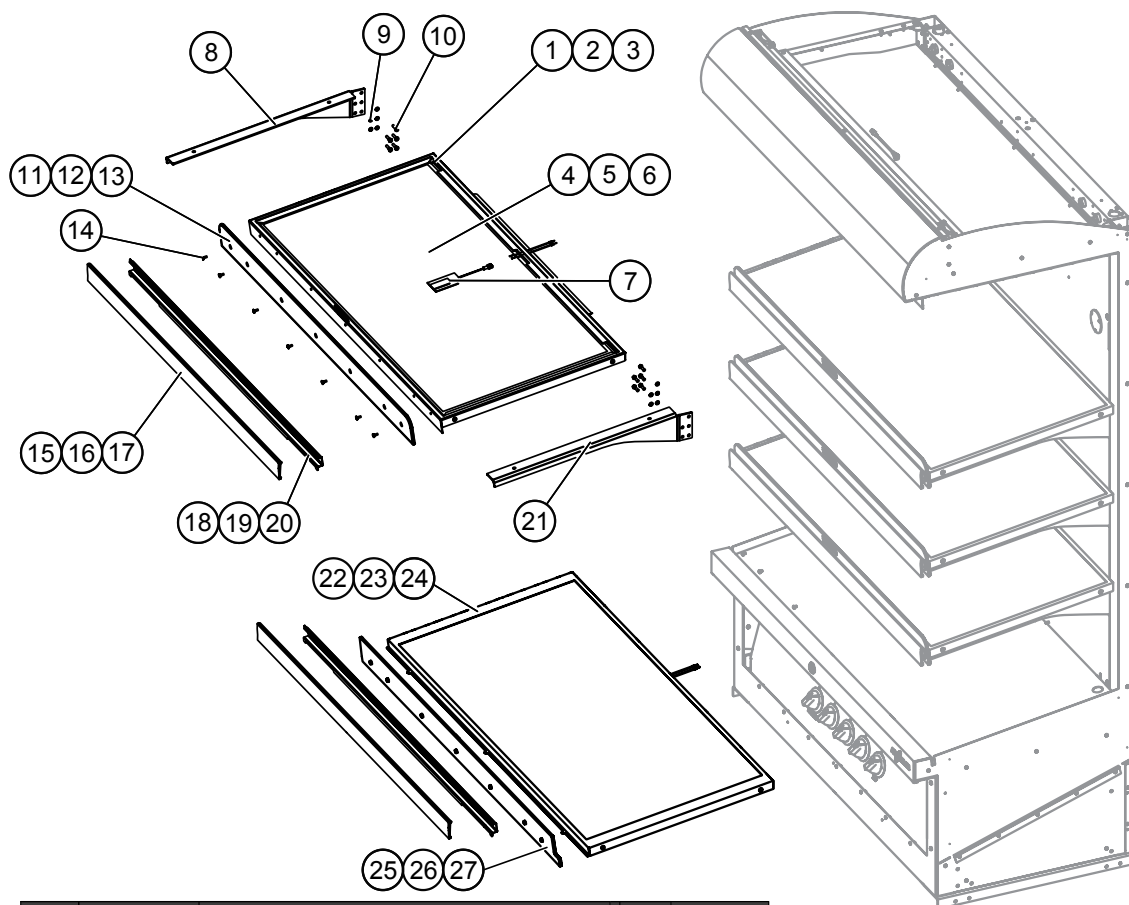
Item	Part	Description	Qty
1	5022869R	Kit, Side Glass, Lef	
2	1019990	Top Cover Panel, HSM-24	1
3	10208456	Top Cover Panel, HSM-36	1
4	SC22273	Screw, M4 x 0.7 x 10mm Pan	6
5	5023072R	Kit, Back Cover Panel, HSM-24/CT	1
6	5022860R	Kit, Back Cover Panel, HSM-36/CT	1
7	E2097HR	Hanger 6-1/2" Ropse Cleat	1
8	SC-35259	Screw, M5 x 0.8 x 50mm Flat	2
9	5022868R	Kit, Side Glass, Right	1
10	HD-38498	Handle, Recessed, Stainless Steel	1
11	1021453	Front Control Panel, HSM-24/CT	1
12	1021395	Front Control Panel, HSM-36/CT	1
13	1017418	Attach Strip, HSM-24/CT	1
14	1017453	Attach Strip, HSM-36/CT	1
15	LG-29644	Leg, 4", Adjustable	4



Serial number is required for all inquiries.  
 Part numbers and drawings are subject to change without notice.



## HSM Shelf Components - All Models



563 lb (255 kg)

Item	Part	Description	Qty	Qty-CT
1	5021795R	Shelf Assembly, HSM-24	4	2
2	5022261R	Shelf Assembly, HSM-36	4	2
3	5022099R	Shelf Assembly, HSM-48	4	2
4	5022832R	Element, Foil Heat Pad, HSM-24	4	2
5	5022825R	Element, Foil Heat Pad, HSM-36	4	2
6	5022840R	Element, Foil Heat Pad, HSM-48	4	2
7	5023623	Kit, Sensor Replacement	1	1
8	1016906	Shelf Support Arm, Left	4	2
9	WS-22301	Washer, M5 Split Lock	40	20
10	SC-38830	Screw, M5 x 0.8 x 20mm Pan	40	20
11	GD-36676	Shelf Guard, Lexan, HSM-24	4	2
12	GD-36677	Shelf Guard, Lexan, HSM-36	4	2
13	GD-37136	Shelf Guard, Lexan, HSM-48	4	2
14	SC-23141	Screw, M4 x 0.7 x 12mm Flat	35	21
15	GD-38897	Shelf Guard, Clear, HSM-24	5	3
16	GD-38571	Shelf Guard, Clear, HSM-36	5	3
17	GD-38898	Shelf Guard, Clear, HSM-48	5	3
18	1022864	Bracket, Guard Standoff, HSM-24	5	3
19	1022493	Bracket, Guard Standoff, HSM-36	5	3
20	1022865	Bracket, Guard Standoff, HSM-48	5	3
21	1016907	Shelf Support Arm, Right	4	2
22	5017351R	Base Shelf Assembly, HSM-24	1	1
23	5018302R	Base Shelf Assembly, HSM-36	1	1
24	5018410R	Base Shelf Assembly, HSM-48	1	1
25	5022839R	Shelf Guard, Base, HSM-24	1	1
26	5022749R	Shelf Guard, Base, HSM-36	1	1
27	5022847R	Shelf Guard, Base, HSM-48	1	1

**⚠ WARNING**

**⚡** Electric shock hazard.

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

Serial number is required for all inquiries.  
Part numbers and drawings are subject to change without notice.



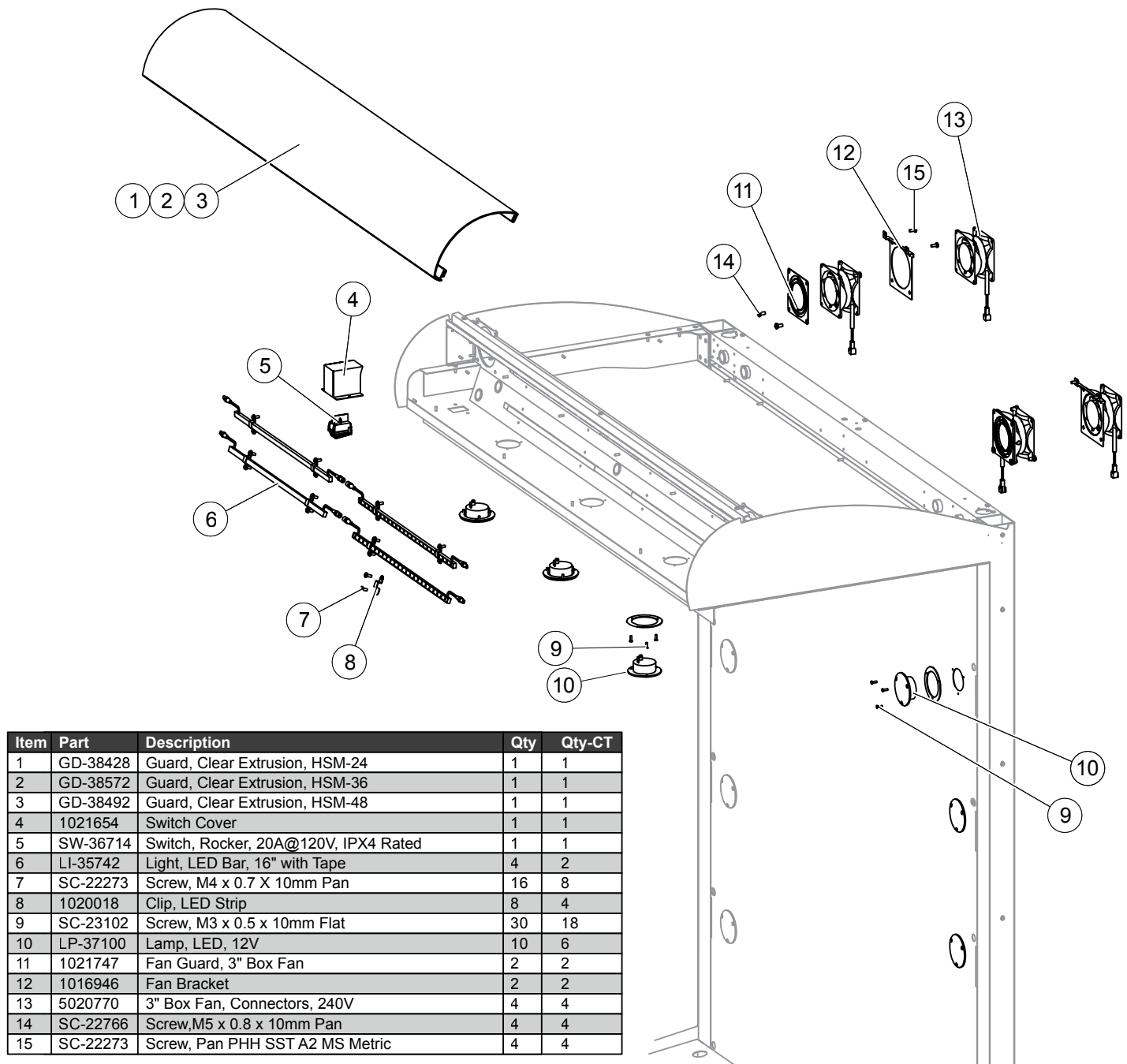
## HSM Fan and Light Components - All Models

**⚠ WARNING**

⚡

Electric shock hazard.

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



Item	Part	Description	Qty	Qty-CT
1	GD-38428	Guard, Clear Extrusion, HSM-24	1	1
2	GD-38572	Guard, Clear Extrusion, HSM-36	1	1
3	GD-38492	Guard, Clear Extrusion, HSM-48	1	1
4	1021654	Switch Cover	1	1
5	SW-36714	Switch, Rocker, 20A@120V, IPX4 Rated	1	1
6	LI-35742	Light, LED Bar, 16" with Tape	4	2
7	SC-22273	Screw, M4 x 0.7 X 10mm Pan	16	8
8	1020018	Clip, LED Strip	8	4
9	SC-23102	Screw, M3 x 0.5 x 10mm Flat	30	18
10	LP-37100	Lamp, LED, 12V	10	6
11	1021747	Fan Guard, 3" Box Fan	2	2
12	1016946	Fan Bracket	2	2
13	5020770	3" Box Fan, Connectors, 240V	4	4
14	SC-22766	Screw,M5 x 0.8 x 10mm Pan	4	4
15	SC-22273	Screw, Pan PHH SST A2 MS Metric	4	4

Serial number is required for all inquiries.  
Part numbers and drawings are subject to change without notice.

# Parts Lists

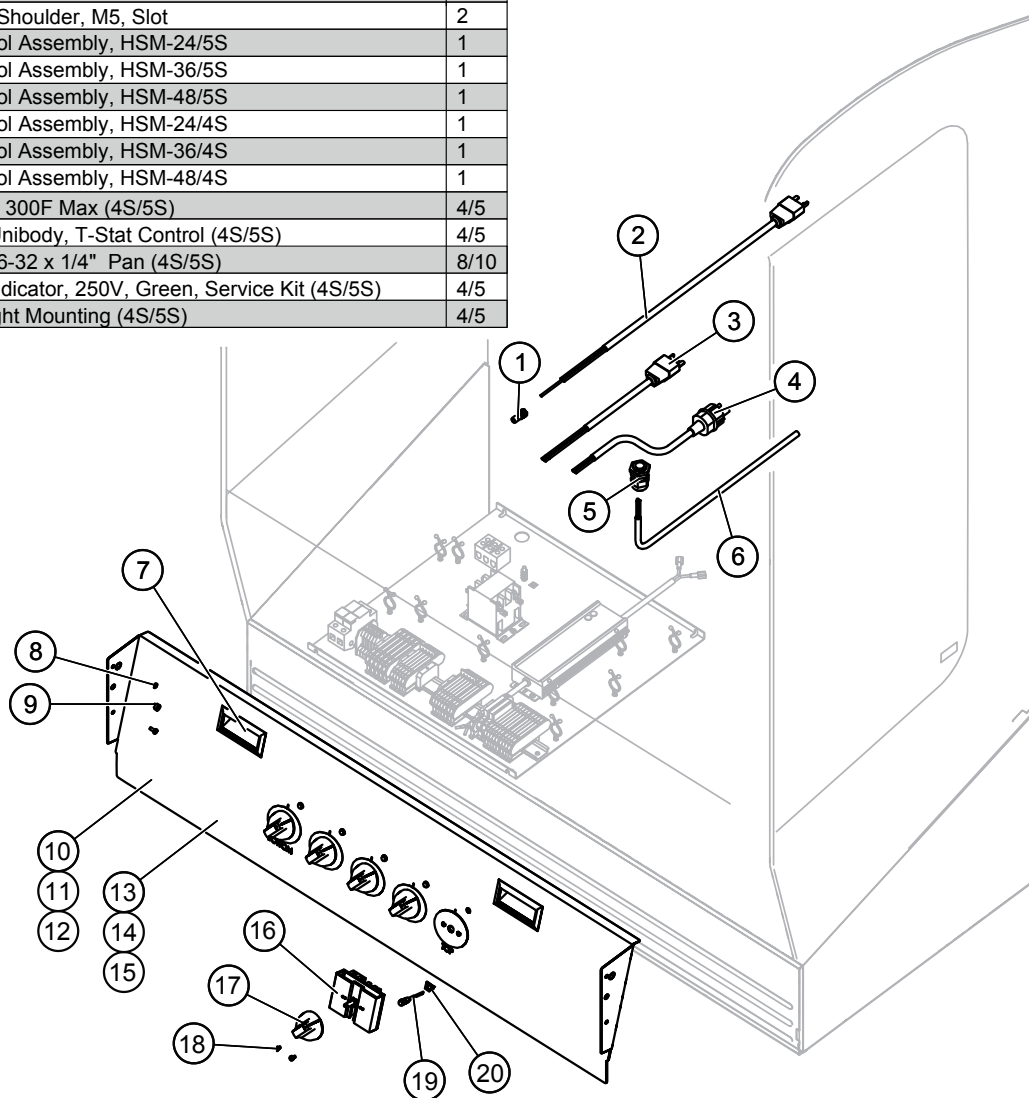
## HSM-5S, HSM-4S Shelf Base Components

**⚠ WARNING**

**⚡** Electric shock hazard.


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


Item	Part	Description	Qty
1	5013179	Equipotential Bonding Terminal	1
2	CD-3397	Cordset, 12/3 SJO, 20A-125V Plug	1
3	CD-3588	Cordset, 12/3, 250V	1
4	CD-3922	Cordset, 16AWG, 3/C, International Harmonized	1
5	BU-34717	Bushing, Strain Relief, 5.8-13.9mm	1
6	CD-33490M	Cord, 12/3, Harmonized	1
7	HD-28789	Handle, Pull Recessed, Black	1
8	SC-22273	Screw, M4 x 0.7 x 10mm Pan	4
9	SC-36459	Screw, Shoulder, M5, Slot	2
10	5021899R	5-Control Assembly, HSM-24/5S	1
11	5022264R	5-Control Assembly, HSM-36/5S	1
12	5018409R	5-Control Assembly, HSM-48/5S	1
13	5022340R	5-Control Assembly, HSM-24/4S	1
14	5022358R	5-Control Assembly, HSM-36/4S	1
15	5022368R	5-Control Assembly, HSM-48/4S	1
16	CC-36830	Control, 300F Max (4S/5S)	4/5
17	KN-36424	Knob, Unibody, T-Stat Control (4S/5S)	4/5
18	SC-22500	Screw, 6-32 x 1/4" Pan (4S/5S)	8/10
19	5022821R	Light, Indicator, 250V, Green, Service Kit (4S/5S)	4/5
20	CL-37245	Clip, Light Mounting (4S/5S)	4/5



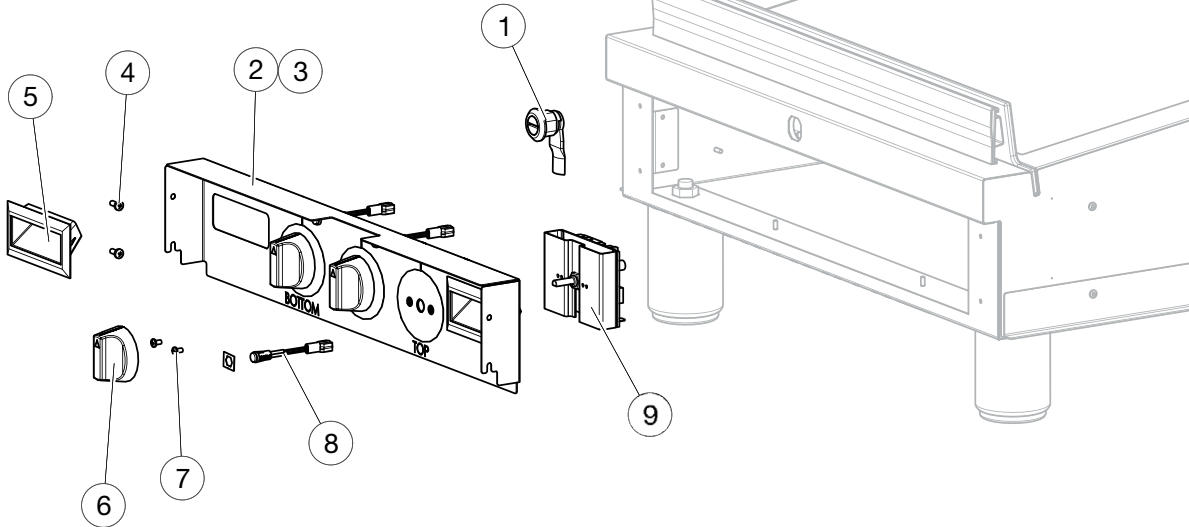
Serial number is required for all inquiries.  
Part numbers and drawings are subject to change without notice.

HSM Countertop Base Components

**WARNING**

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

Item	Part	Description	Qty
1	LT-38488	Latch	1
2	5018748R	Kit, 3-Control Assembly, HSM-24-CT	1
3	5018791R	Kit, 3-Control Assembly, HSM-36-CT	1
4	SC-22273	Screw, M4 x 0.7 x 10mm Pan	4
5	HD-28789	Handle, Pull Recessed, Black	2
6	KN-36424	Knob, T-Stat Control	3
7	SC-22500	Screw, 6-32 x 1/4" Pan	6
8	5022821R	Light, Indicator, Green, with Clip	3
9	CC-36830	Control, 300°F (149°C) Max	3



Serial number is required for all inquiries.  
Part numbers and drawings are subject to change without notice.

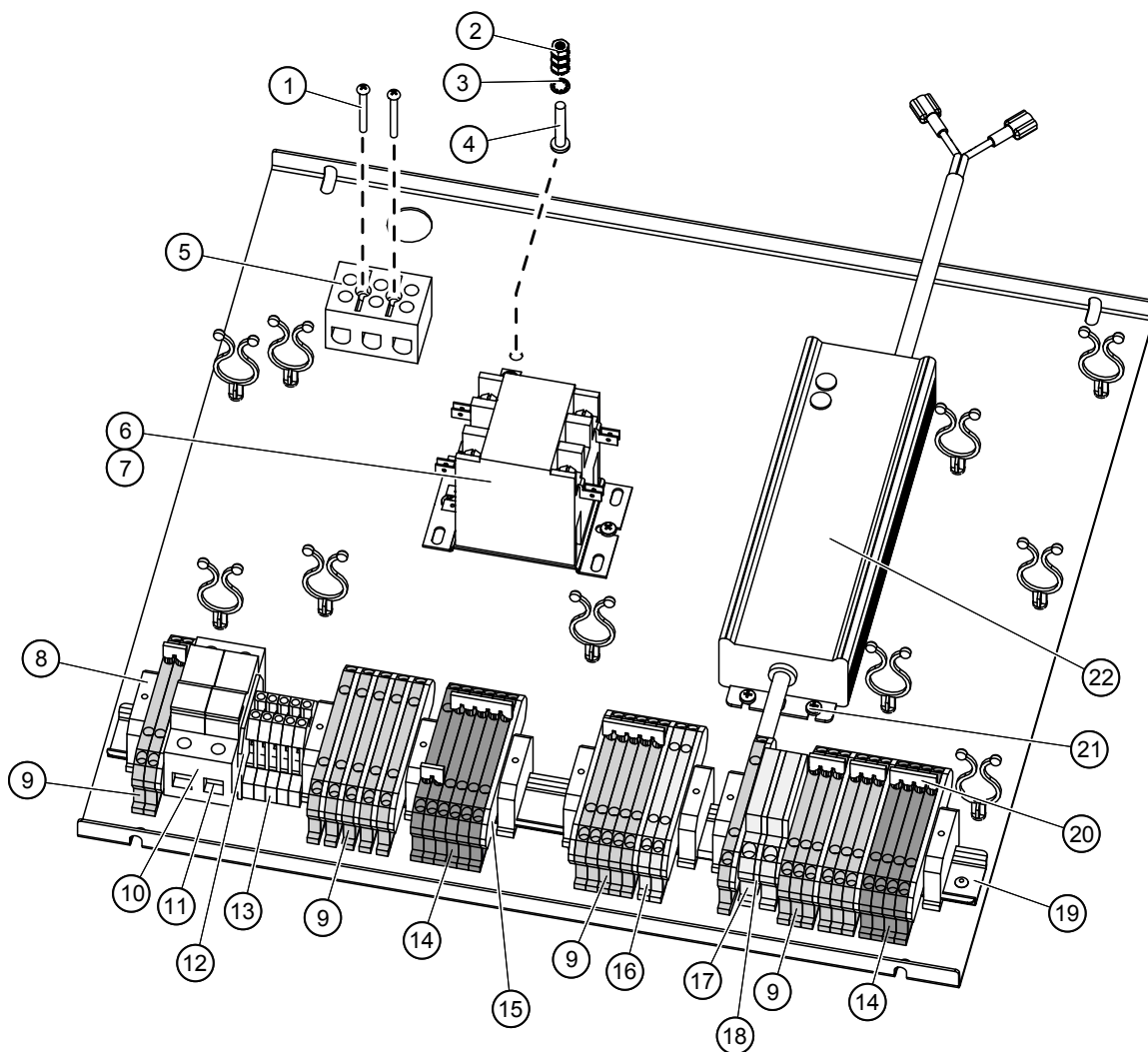
## HSM-5S, HSM-4S Shelf Control Components

**⚠ WARNING**

Electric shock hazard.

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

Item	Part	Description	Qty
1	SC-2365	Screw, 6-32 x 1-1/4" Pan	2
2	NU-36234	Nut, M5, Keps	3
3	WS-2467	Washer, Locking	1
4	SC-38128	Screw, Pan PH, Metric M5	1
5	BK-3019	T-Block	1
6	CN-3052	Contactor 208/240V 3 Pole 25A	1
7	CN-3487	Contactor 120V 2Pole 25A	1
8	TM-34305	Terminal, Screwless End	7
9	TM-34307	Terminal, 6mm, Orange, Spring	19
10	FU-34771	Fuse Holder, 2 Bank	1
11	FU-34938	Fuse, 3A	1
12	TM-3783	Terminal, Wall, 4mm (HSM-5S only)	1
13	TM-3778	Terminals, CT, Series, 4mm (HSM-5S only)	5
14	TM-34308	Terminal, 6mm, Blue, Spring	10
15	TM-34309	Terminal, End Section, Spring	13
16	TM-34306	Terminal, Ground, 6mm, Spring	2
17	TM-34311	Terminal, Fuse Holder, 8mm	2
18	TM-34315	Terminal, End Plate	2
19	1013459	DIN Rail, Solid Surface, 450mm	1
20	TM-34310	Jumper Bar	7
21	SC-22273	Screw, M4 x 0.7 x 10mm Pan	3
22	BA-38198	Power Supply with Connectors	1



Serial number is required for all inquiries.  
Part numbers and drawings are subject to change without notice.

## HSM Countertop Control Components

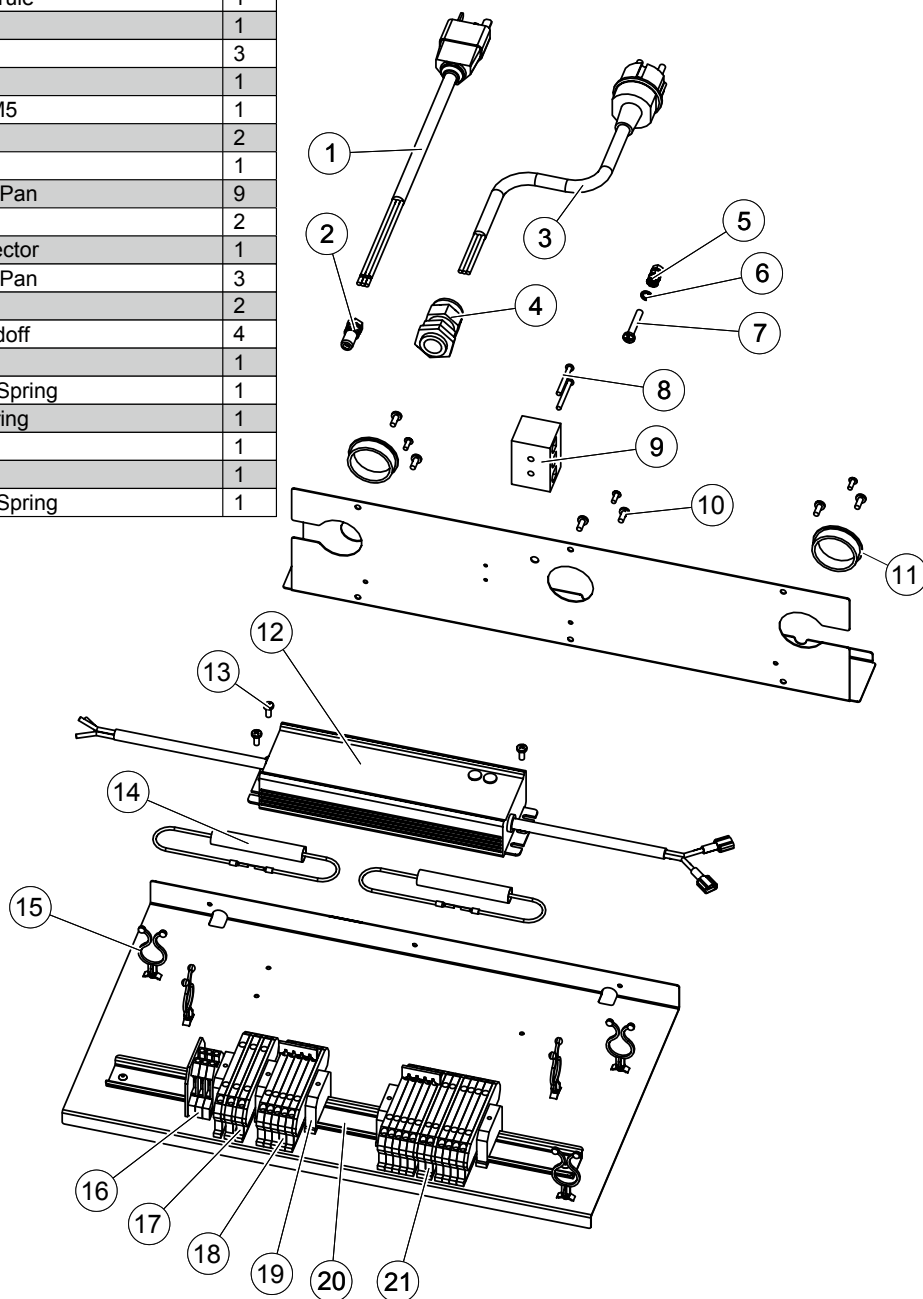
**⚠ WARNING**

⚡

Electric shock hazard.

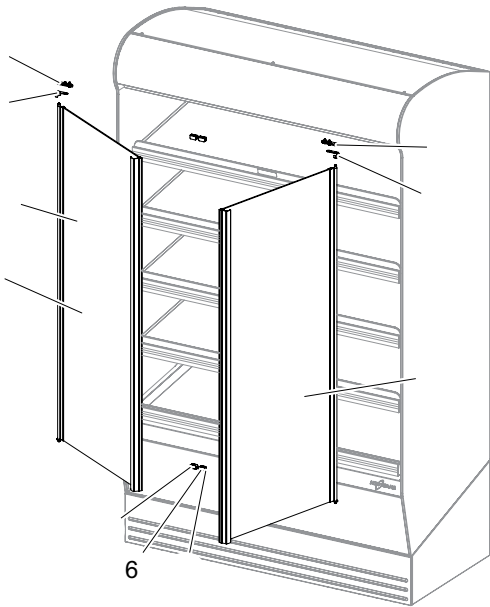
Perform lockout/tagout procedures before cleaning or servicing this appliance.


Item	Part	Description	Qty
1	5011565R	Cordset, NEMA 6-20P, with Ferrule	1
2	5013179	Equipotential Ground Stud	1
3	5013670R	Cordset, CE 7/7, with Ferrule	1
4	BU-34717	Bushing, Strain Relief	1
5	NU-36234	Nut, M5, Keps	3
6	WS-2467	Washer, Lock	1
7	SC-38128	Screw, Pan, Ph, Metric, M5	1
8	SC-2365	Screw, 6-32 x 1-1/4" Pan	2
9	BK-3019	T-Block	1
10	SC-22273	Screw, M4 x 0.7 x 10mm Pan	9
11	BU-3013	Bushing, Snap, 1-1/2"	2
12	5020740	Power Supply with Connector	1
13	SC-22273	Screw, M4 x 0.7 x 10mm Pan	3
14	5020737	Fuse Link Assembly	2
15	TI-35719	Tie, Twist Lock 0.5" Standoff	4
16	TM-3778	Terminal, Series, 4mm	1
17	TM-34307	Terminal, 6mm, Orange, Spring	1
18	TM-34308	Terminal, 6mm, Blue, Spring	1
19	TM-34305	Terminal, Screwless End	1
20	1013636	DIN Rail, Solid Surface	1
21	TM-34306	Terminal, Ground, 6mm, Spring	1




Serial number is required for all inquiries.  
Part numbers and drawings are subject to change without notice.

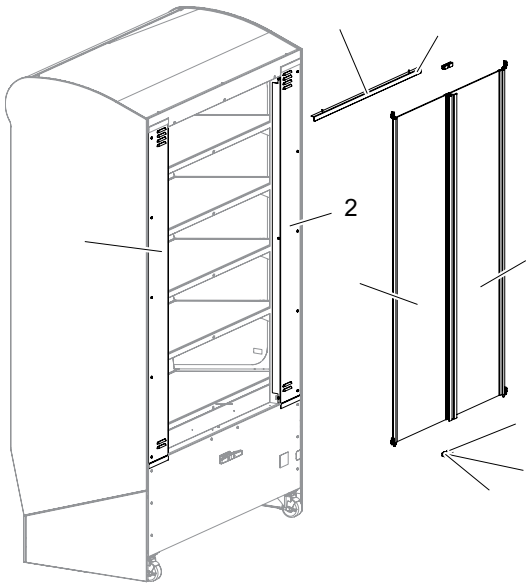
HSM-48/5S, HSM-48/4S Pass-Through: Front, Rear Swing and Rear Slide Doors



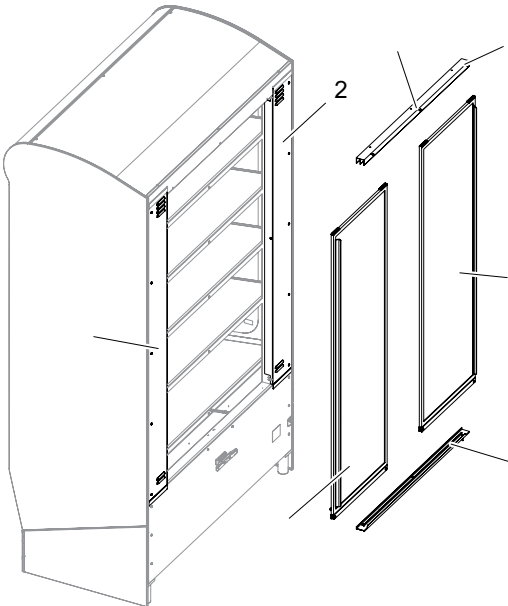
**WARNING**

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

ID	Part No.	Description	Qty
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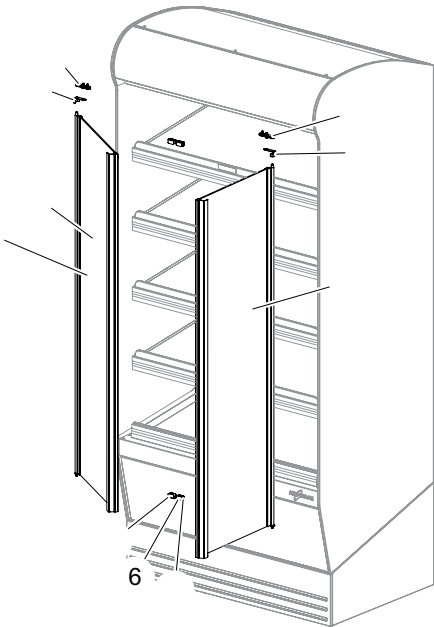


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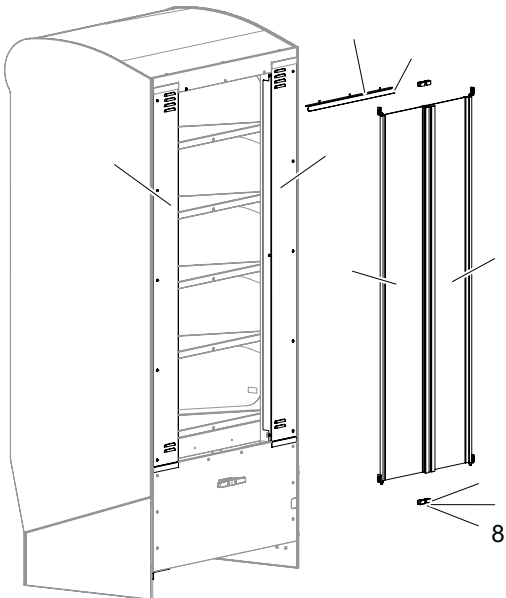
HSM-36/5S, HSM-36/4S Pass-Through: Front, Rear Swing and Rear Slide Doors



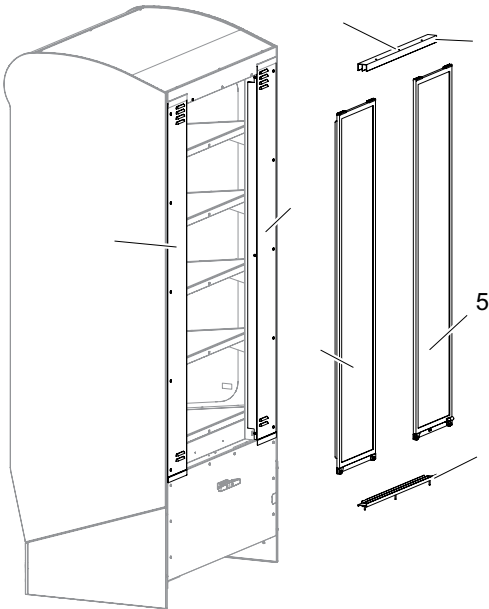
**WARNING**

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

ID	Part No.	Description	Qty
			6
	6		
6			
	6		




ID	Part No.	Description	Qty
8			




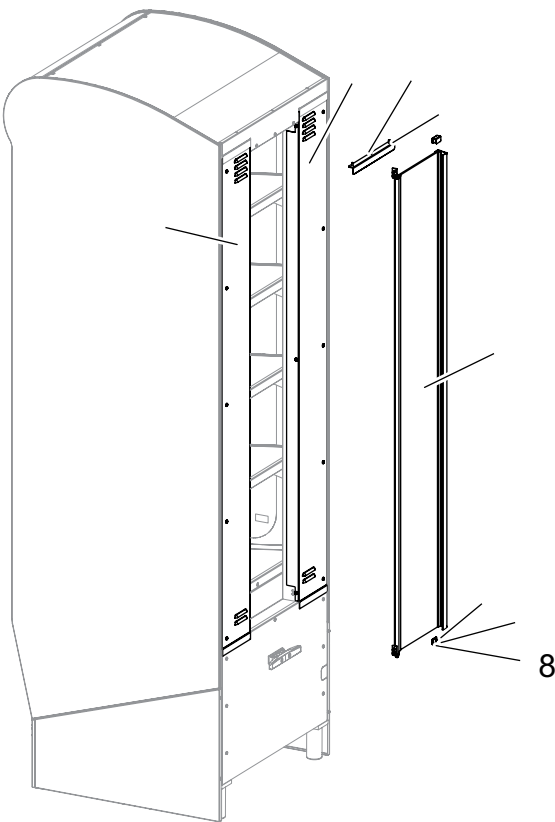
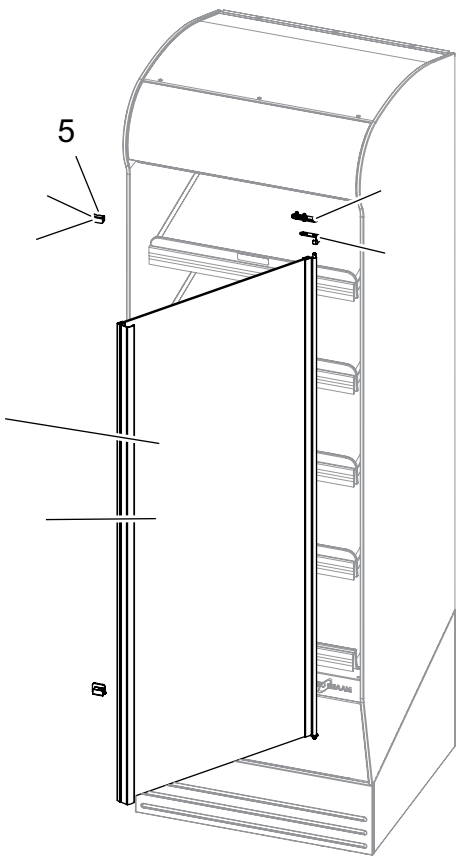
ID	Part No.	Description	Qty
	5		
5			
	5		
5			

Parts Lists

HSM-24/5S, HSM-24/4S Pass-Through: Front and Rear Swing Doors

**WARNING**

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

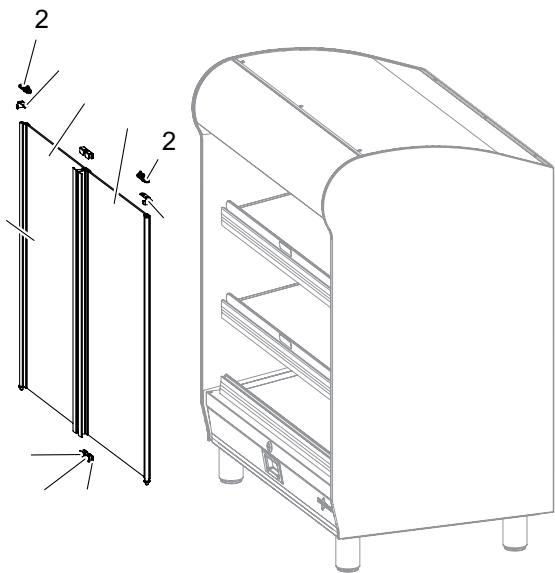


ID	Part No.	Description	Qty
	5	5	
		5	5
5			
	5		

ID	D	
	8	
8		



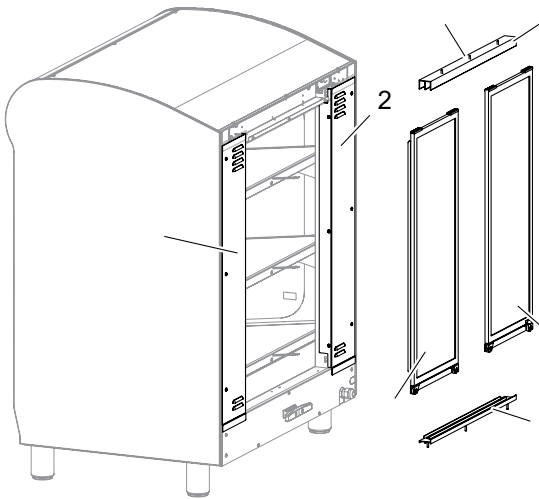
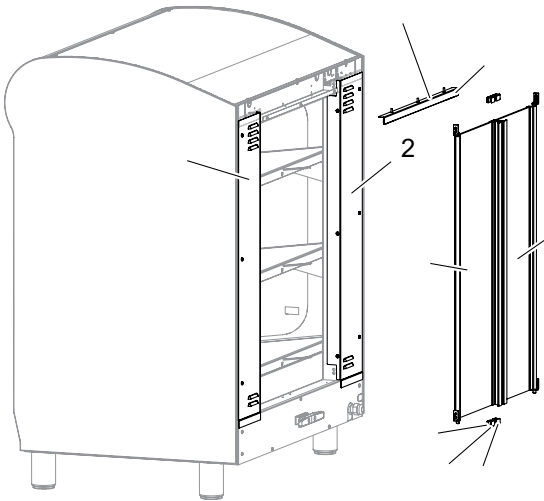
HSM-36/CT Pass-Through: Front, Rear Swing and Rear Slide Doors



**WARNING**

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


ID	D		
2	2		
	2	2	2
	2	2	2
	2	2	
	2		




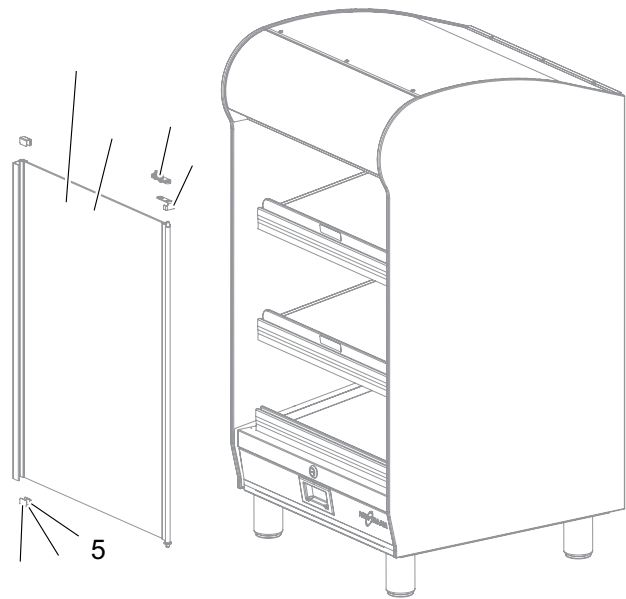
ID	Part No.	Description	Qty
	2 2		
2	2		
	2 2		
	2		2
	2 2		
	2		

ID	D		
	2	2	
2	2		
	2	2	

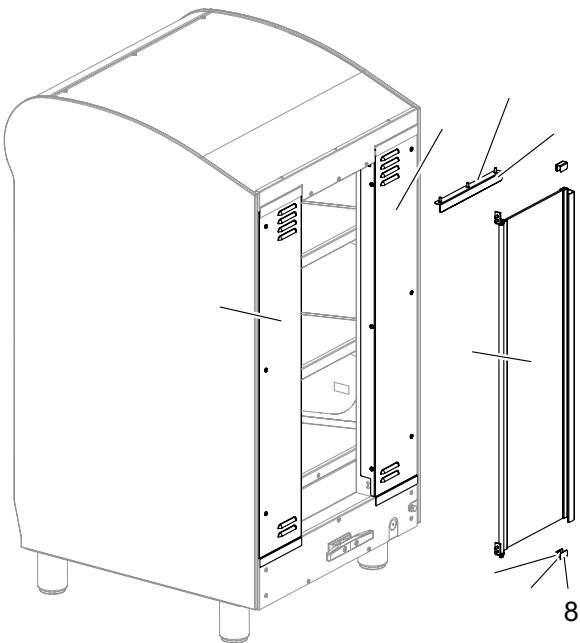
HSM-24/CT Pass-Through: Front and Rear Swing Doors

**WARNING**

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



ID	D		
	5	5	
		5	
5			
		5	5



ID	D		
8			

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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