

VALIANCE®

by  **HOSHIZAKI**

Instruction Manual

VSR27A-8

VSR48A-12

VSR60A-16

WARNING

Only qualified service technicians should install and service the appliance. To obtain the name and phone number of your local Hoshizaki Certified Service Representative, visit www.hoshizakiamerica.com. No installation, operation, or maintenance should be undertaken until the technician has thoroughly read this Instruction Manual. No service should be undertaken until the technician has thoroughly read the service manual available at www.hoshizakiamerica.com. Likewise, the owner/manager should not proceed to operate the appliance until the installer has instructed them on its proper operation. Failure to install, operate, and maintain the appliance in accordance with this manual may adversely affect safety, performance, component life, and warranty coverage. Proper installation is the responsibility of the installer. Product failure or property damage due to improper installation is not covered under warranty.

Hoshizaki provides this manual primarily to assist qualified service technicians in the installation, operation, maintenance, and service of the appliance.

Should the reader have any questions or concerns which have not been satisfactorily addressed, please call, send an e-mail message, or write to the Technical Support Department for assistance.

Phone: (800) 227-3172

HOSHIZAKI AMERICA, INC.

E-mail: tech-support@hoshizaki.com

618 Highway 74 South

Peachtree City, GA 30269 USA

Attn: Technical Support Department

Web Site: www.hoshizakiamerica.com

NOTE: To expedite assistance, all correspondence/communication **MUST** include the following information:

- Model Number _____
- Serial Number _____
- Complete and detailed explanation of the problem.

IMPORTANT

This manual should be read carefully before the appliance is installed and operated. Read the warnings and guidelines contained in this manual carefully as they provide essential information for the continued safe use and maintenance of the appliance. Retain this manual for any further reference that may be necessary

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Important Safety Information

Important Safety Information

Throughout this manual, notices appear to bring your attention to situations which could result in death, serious injury, damage to the appliance, or damage to property.

	R-290 Class A3 Flammable Refrigerant Used
⚠ 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.
NOTICE	Indicates a situation that, if not avoided, could result in damage to the appliance or property.
IMPORTANT	Indicates important information about the use and care of the appliance.

⚠ DANGER

Risk of Fire or Explosion

Flammable Refrigerant Used

- Follow handling instructions carefully in compliance with government regulations.
- Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.
- Do not puncture refrigerant tubing. Risk of fire or explosion due to puncture of refrigerant tubing; follow handling instructions carefully.
- Component parts shall be replaced with like components.
- Servicing shall be done by trained service personnel with certified competence in handling flammable refrigerants to minimize the risk of possible ignition due to incorrect parts or improper service.
- Consult instruction manual / service manual before attempting to install or service this product. All safety precautions must be followed.
- Dispose of properly in accordance with federal or local regulations.

- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance, or an operating electric heater).
- Do not pierce or burn.
- Be aware that refrigerants may not contain an odor.
- Do not place any potential ignition sources in or near the appliance.
- Keep clear of obstruction all ventilation openings in the appliance enclosure or in the structure for building-in.
- Before making repairs, ensure the area is adequately ventilated before breaking into the refrigeration circuit.
- No potential sources of ignition are to be used in the searching for or detection of refrigerant leaks.
- Do not use electrical appliances inside the food storage compartments unless they are of the type recommended by the manufacturer.
- Do not store explosive substances such as aerosol cans with a flammable propellant in this appliance.
- Do not damage the refrigeration circuit.

⚠ DANGER

Risque De Feu Ou D'Explosion
Le Frigorigène Est Inflammable

- Suivre attentivement les instructions de manipulation conformément à la réglementation gouvernementale.
- N'utilisez pas de dispositifs mécaniques ou d'autres moyens pour accélérer le processus de dégivrage, autres que ceux recommandés par le fabricant.
- Ne pas perforer la tubulure contenant le frigorigène. Risque de feu ou d'explosion si la tubulure contenant le frigorigène est perforée; suivre les instructions de manutention avec soin.
- Les pièces des composants doivent être remplacées par des pièces et accessoires équivalents.
- L'entretien doit être effectué par un personnel de service agréé par l'usine et possédant une compétence certifiée dans la manipulation de réfrigérants inflammables afin de minimiser le risque d'inflammation possible en raison de pièces incorrectes ou d'un entretien inapproprié.
- Consulter le manuel du propriétaire/ guide de réparation avant de tenter une réparation. Toutes les mesures de sécurité doivent être respectées.
- Éliminer conformément aux règlements fédéraux ou locaux.
- L'appareil doit être entreposé dans un local ne contenant pas de sources d'inflammation permanentes (flammes nues, appareil à gaz ou dispositif de chauffage électrique en fonctionnement, par exemple).
- Ne pas percer ou brûler.
- Attention, les fluides frigorigènes peuvent ne pas dégager d'odeur.
- Ne placez aucune source d'inflammation potentielle dans ou près de l'appareil.
- Gardez dégagées toutes les ouvertures de ventilation dans l'enceinte de l'appareil ou dans la structure à encaster.
- Avant d'effectuer des réparations, assurez-vous que la zone est correctement ventilée avant d'entrer dans le circuit de réfrigération.
- Aucune source potentielle d'inflammation ne doit être utilisée lors de la recherche ou de la détection de fuites de réfrigérant.
- N'utilisez pas d'appareils électriques à l'intérieur des compartiments de stockage des aliments sauf s'ils sont du type recommandé par le fabricant.
- Ne stockez pas de substances explosives telles que des bombes aérosol contenant un propulseur inflammable dans cet appareil.
- N'endommagez pas le circuit frigorifique.

WARNING

This appliance should be destined only to the use for which it has been expressly conceived. Any other use should be considered improper and therefore dangerous. The manufacturer cannot be held responsible for injury or damage resulting from improper, incorrect, and unreasonable use. Failure to install, operate, and maintain the appliance in accordance with this manual will adversely affect safety, performance, component life, and warranty coverage.

To reduce the risk of death, electric shock, serious injury, or fire, follow basic precautions including the following:

- Only qualified service technicians should install and service this appliance.
- Wear appropriate personal protective equipment (PPE) when servicing the appliance.
- The appliance must be installed in accordance with applicable national, state, and local codes and regulations.
- Appliance is heavy. Use care when lifting or positioning. Work in pairs when needed to prevent injury or damage. Do not lift using the top section or the doors/drawers.
- To reduce the risk of electric shock, do not touch the plug with damp hands.
- Unplug the appliance before servicing.
- The appliance requires an independent power supply of proper capacity. See the nameplate for electrical specifications. Failure to use an independent power supply of proper capacity can result in a tripped breaker, blown fuse, damage to existing wiring, or component failure. This could lead to heat generation or fire.
- Unplug the appliance from the electrical outlet prior to maintenance.
- **THE APPLIANCE MUST BE GROUNDED:** The appliance is equipped with a NEMA 5-15 three-prong grounding plug  to reduce the risk of potential shock hazards. It must be plugged into a properly grounded, independent 3-prong wall outlet. If the outlet is a 2-prong outlet, it is your personal responsibility to have a qualified electrician replace it with a properly grounded, independent 3-prong wall outlet. Do not remove the ground prong from the plug and do not use an adapter plug. Failure to follow these instructions may result in death, electric shock, or fire.
- The GREEN ground wire in the factory-installed power cord is connected to the appliance. If it becomes necessary to remove or replace the power cord, be sure to connect the power cord's ground wire.
- Do not use an extension cord.
- Do not use an appliance with a damaged power cord. The power cord should not be altered, jerked, bundled, weighed down, pinched, or tangled. Such actions could result in electric shock or fire. To unplug the appliance, be sure to pull the plug, not the cord, and do not jerk the cord.
- Do not splash, pour, or spray water directly onto or into the appliance. This might cause short circuit, electric shock, corrosion, or failure.
- Do not make any alterations to the appliance. Alterations could result in electric shock, injury, fire, or damage to the appliance.

WARNING, continued

- The appliance is designed only for temporary storage of food. Employ sanitary methods. Use for any other purposes (for example, storage of chemicals or medical supplies such as vaccine and serum) could cause deterioration of stored items.
- 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 or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- Do not climb, stand, or hang on the appliance or door or allow children or animals to do so. Do not climb into the appliance or allow children or animals to do so. Death or serious injury could occur or the appliance could be damaged.
- Be careful not to pinch fingers when opening and closing the doors. Be careful when opening and closing the doors when children are in the area.
- Open and close the doors with care. Doors opened too quickly or forcefully may cause injury or damage to the appliance or surrounding equipment.
- Do not use combustible spray or place volatile or flammable substances in or near the appliance. They might catch fire.
- Keep the area around the appliance clean. Dirt, dust, or insects in the appliance could cause harm to individuals or damage to the equipment.
- All foods should be wrapped in plastic film or stored in sealed containers. Otherwise foods may dry up, pass their smells onto other foods, cause frost to develop, result in poor appliance performance, or increase the likelihood of cross-contamination. Certain dressings and food ingredients, if not stored in sealed containers, may accelerate corrosion of the evaporator, resulting in failure.
- Do not load any shelf with more than 120 lb. (54.5 kg) of product. They might fall off and cause injury.
- Do not place anything on top of the appliance. Foreign objects or moisture could enter the appliance and result in electric shock or fire.
- Do not block the appliance air inlet or outlet, otherwise cooling performance may be reduced.
- Do not tightly pack the appliance. Allow some space between items to ensure good air flow. Also allow space between items and interior surfaces.
- Do not place any product on the floor of the appliance. All product must be placed on properly installed shelves.
- Do not put warm or hot products in the appliance. Let them cool first, or they will raise the appliance temperature and could deteriorate other foods in the appliance or overload the appliance.
- Food storage and handling must comply with applicable codes and regulations.
- Do not store items near the air outlet. They might freeze up and crack or break causing a risk of injury or contamination of other food.

WARNING, continued

- This appliance must be installed and located appropriately, following the installation instructions before its use.
- Do not touch the cold surfaces of the appliance with wet or moist hands. Skin can stick to these cold surfaces.
- Do not store gasoline or other flammable liquids or gases, near this or other electrical equipment.
- Do not store explosive materials in this appliance.
- Keep your fingers away from grills; the spaces between doors and appliance are small, so be careful when closing doors when children are around. Unplug the appliance before cleaning or performing any repair.
- Keep clear of obstruction all ventilation openings in the appliance enclosure or in the structure for building-in.
- Means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.

NOTICE

- This appliance is for commercial use only.
- Protect the floor when moving the appliance to prevent damage to the floor.
- Keep ventilation openings, in the appliance enclosure or in the built-in structure, clear of obstruction. Do not place anything on top of the appliance. Blockage of airflow could negatively affect performance and damage the appliance.
- Do not allow the appliance to bear any outside weight.
- To prevent deformation or cracks, do not spray insecticide onto the plastic parts or let them come into contact with oil.
- To avoid damage to the gasket, use only the door handle when opening and closing.
- Appliance must be handled in compliance with ASHRAE 15 safety standards.

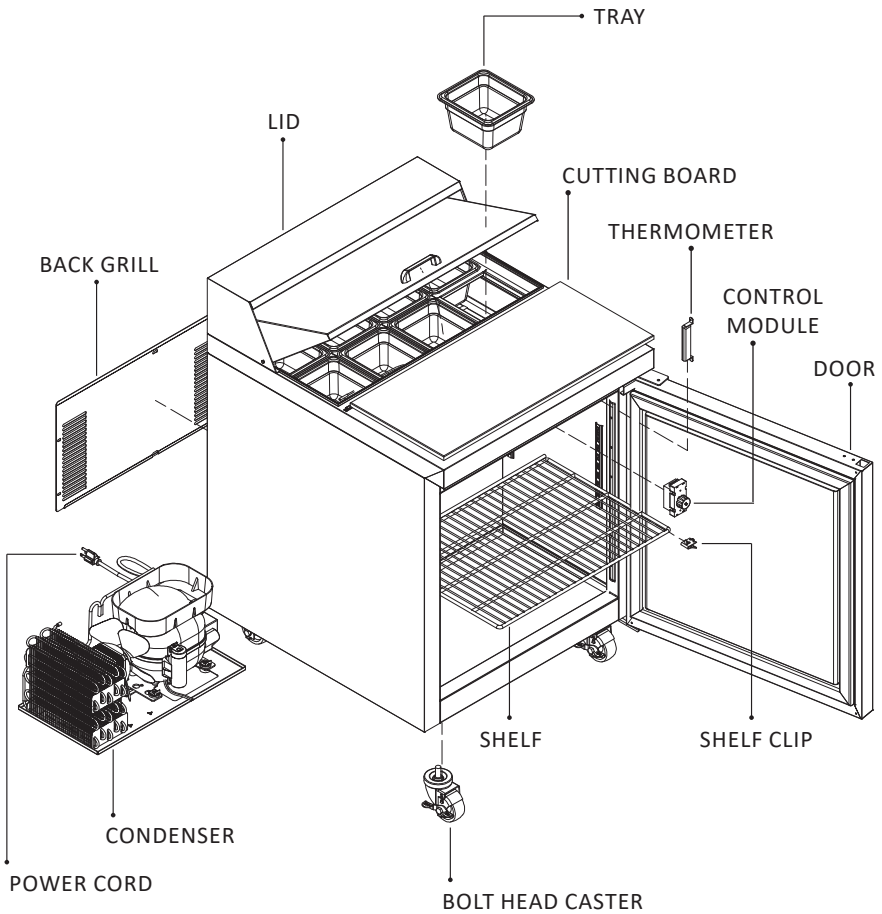
GENERAL SAFETY

- Avoid prolonged exposure of the appliance to direct sunlight.
- Only original parts should be used to service this appliance.



Know your Appliance

Refrigerated Kitchen Equipment Prep Table



Check for Shipping Damage

Prior to leaving the factory, each appliance is thoroughly inspected and performance tested to assure proper operating temperatures.

Check the crate thoroughly for signs of shipping damage. If external damage exists, internal damage is also probable. Uncrating should be done while the carrier's representative is present. Otherwise, the appliance should be uncrated as soon as possible, preferably within five (5) days. The manufacturer is not responsible for in-transit damage and the consignee must file any required damage claims directly with the carrier. If the damage is severe and obvious, write a brief description of the evidence on the carrier's delivery receipt, and above the carrier representative's signature. Call the distributor or dealer immediately, indicating that the appliance was damaged.

If no obvious crate damage is present, within two hours of receiving the appliance from the carrier, remove the packaging to inspect for concealed damage.

If concealed damage is found, call the carrier immediately, **save all crating materials**, and file the necessary freight claim with the carrier.

Check for accessories: Check that the shelves are inside the appliance, including the four clips or supports for each shelf.

Installation instructions

WARNING

- This appliance must be installed in accordance with all applicable national, state, and local regulations.
- Appliance is heavy. Use care when lifting or positioning. Work in pairs when needed to prevent injury or damage.
- Do not tilt the appliance more than 45°.

Handling the Appliance

1. Always move the appliance in an upright position. Do not set the appliance on its side or upside down as you may damage the appliance and spill the compressor oil.
2. If lifting the appliance, hold it from its base. It is recommended to use a dolly.
3. Do not let the appliance fall abruptly.

Location

WARNING

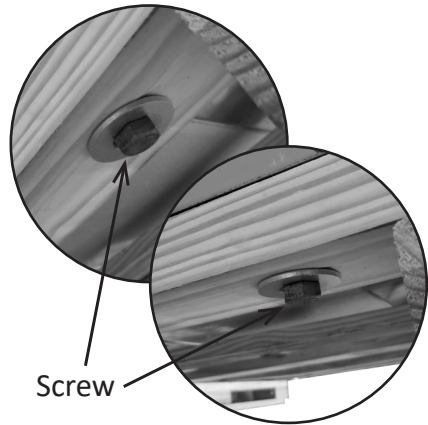
- This appliance is not intended for outdoor use.

1. Place the appliance on a surface solid enough to prevent vibration and strong enough to support the combined weight of the appliance and the product load. Quick guideline: Estimate 35 pounds per cubic foot of storage space.
2. Appliances should never be placed in front of windows or glass doors where sunlight will be in direct contact with the appliances. If an appliance is located near a window or glass door, provide an adequate shade to block the sun's rays.
3. Ambient temperature must be between 45°F (7°C) and 100°F (38°C). Low ambient temperatures below 45°F (7°C) are as harmful as high ambient temperatures. Extreme temperatures will definitely affect the performance of the appliance.
4. Failure to properly level the appliance could hinder proper drainage and door operation.
5. Clearance: Leave a space of at least 2" between the back of the appliance and the wall to provide adequate air circulation of the unit compartment.
6. The appliance must be placed in the required clear space for safe performance.



Remove the Crate and Skid

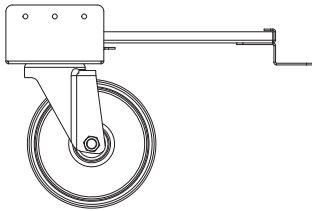
1. Remove the external packaging (corrugated board and plastic wrapping). Check for concealed damage. If any damage is identified, immediately forward a complaint to the transportation company.
2. Move the appliance to its final location, before removing the skid.
3. Using a screwdriver remove the screws that attaches the skid to the appliance.



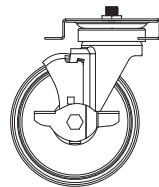
Level the Appliance

To install casters:

Casters are supplied as optional appliance. Only use original casters or the base of the appliance might suffer damages. When installing the casters it is important to hand tighten securely against the base rail reinforcement assembly (see image). The top edge of the caster must make firm contact with the reinforcement assembly.



Non-locking caster



Locking caster

NOTE:

Locking casters must be placed in FRONT of the appliance.

Electrical Installation

Electrical Connection

WARNING

- Electrical connection must meet national, state, and local electrical code requirements. Failure to meet these code requirements could result in death, electric shock, serious injury, fire, or severe damage to appliance.
 - This appliance requires an independent power supply of proper capacity. See the nameplate for electrical specifications. Failure to use an independent power supply of proper capacity can result in a tripped breaker, blown fuse, damage to existing wiring, or component failure. This could lead to heat generation or fire.
 - **THIS APPLIANCE MUST BE GROUNDED:** This appliance is equipped with a NEMA 5-15 three-prong grounding plug  to reduce the risk of potential shock hazards. It must be plugged into a properly grounded, independent 3-prong wall outlet. If the outlet is a 2-prong outlet, it is your personal responsibility to have a qualified electrician replace it with a properly grounded, independent 3-prong wall outlet. Do not remove the ground prong from the plug and do not use an adapter plug. Failure to follow these instructions may result in death, electric shock, or fire.
 - To reduce the risk of electric shock, do not touch the power switch or plug with damp hands.
 - Do not use an extension cord.
 - Do not use an appliance with a damaged power cord. The power cord should not be altered, jerked, bundled, weighed down, pinched, or tangled. Such actions could result in electric shock or fire. To unplug the appliance, be sure to pull the plug, not the cord, and do not jerk the cord.
 - The GREEN ground wire in the factory-installed power cord is connected to the appliance. If it becomes necessary to remove or replace the power cord, be sure to connect the power cord's ground wire.
-
- Usually an electrical permit and services of a licensed electrician are required.
 - The maximum allowable voltage variation is ± 10 percent of the nameplate rating.

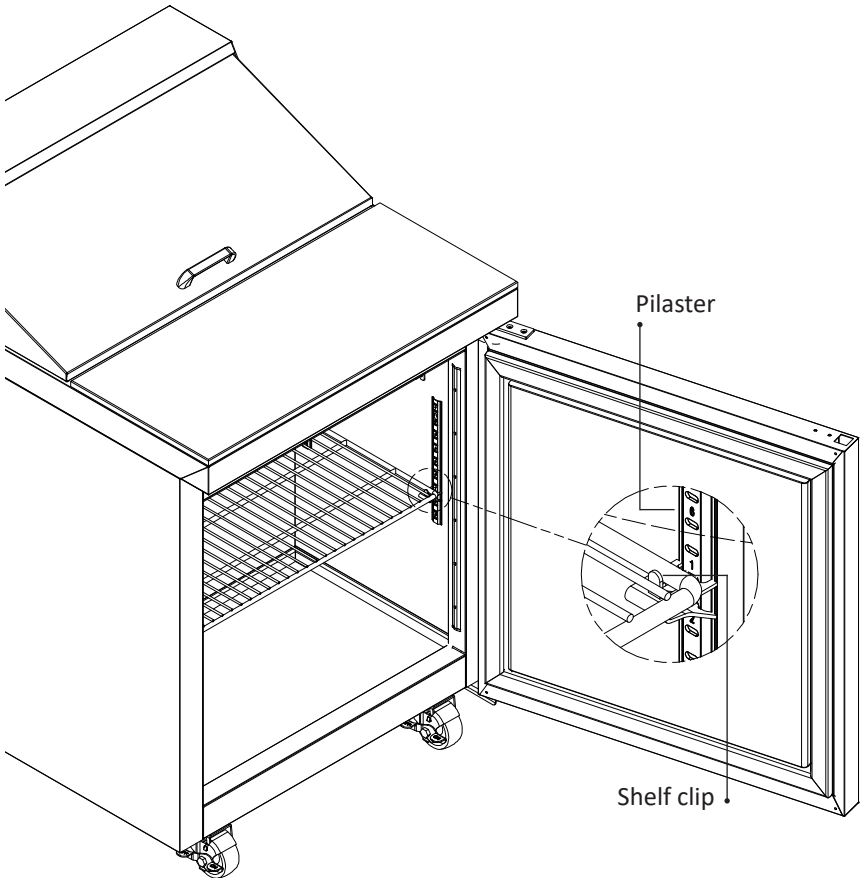
Electrical and Refrigerant Data

See the nameplate for electrical and refrigerant data. The nameplate is located inside the appliance.

Electrical and Refrigerant Data							
Model	AC Supply Voltage	Current	Rated Power	Design Pressure kPa (PSI)		Refrigerant g (oz.)	Climatic Class
		(A)	(W)	HIGH	LOW	R-290	
VSR27A-8	~115/60/1	2.1	215	2275 (330)	793 (115)	60 (2.1)	5
VSR48A-12	~115/60/1	3.8	585	2654 (385)	586 (85)	70 (2.5)	
VSR60A-16	~115/60/1	5.4	645	2654 (385)	414 (60)	90 (3.2)	

Installing the Shelves

Shelves and shelf clips (4 clips per shelf) are packed inside the appliance prior to shipment. After selecting the appropriate spacing inside the appliance, install shelf clips by inserting top of clip inside the pilaster and then press the lower section of the clip while pushing inwards until it snaps into place. Repeat until all clips are in desired location. Place shelf on clips checking that all four corners of shelves are leveled and supported by the four shelf clips.



Operating Instructions

Important Notes About Usage

	R-290 Class A3 Flammable Refrigerant Used
⚠ 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.
NOTICE	Indicates a situation that, if not avoided, could result in damage to the appliance or property.
IMPORTANT	Indicates important information about the use and care of the appliance.

⚠ DANGER	
<u>Risk of Fire or Explosion</u> <u>Flammable Refrigerant Used</u>	
• Follow handling instructions carefully in compliance with government regulations. • Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer. • Do not puncture refrigerant tubing. Risk of fire or explosion due to puncture of refrigerant tubing; follow handling instructions carefully. • Component parts shall be replaced with like components. • Servicing shall be done by trained service personnel with certified competence in handling flammable refrigerants to minimize the risk of possible ignition due to incorrect parts or improper service. • Consult instruction manual / service manual before attempting to install or service this product. All safety precautions must be followed. • Dispose of properly in accordance with federal or local regulations.	• The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance, or an operating electric heater). • Do not pierce or burn. • Be aware that refrigerants may not contain an odor. • Do not place any potential ignition sources in or near the appliance. • Keep clear of obstruction all ventilation openings in the appliance enclosure or in the structure for building-in. • Before making repairs, ensure the area is adequately ventilated before breaking into the refrigeration circuit. • No potential sources of ignition are to be used in the searching for or detection of refrigerant leaks. • Do not use electrical appliances inside the food storage compartments unless they are of the type recommended by the manufacturer. • Do not store explosive substances such as aerosol cans with a flammable propellant in this appliance. • Do not damage the refrigeration circuit.

⚠ DANGER

Risque De Feu Ou D'Explosion
Le Frigorigène Est Inflammable

- Suivre attentivement les instructions de manipulation conformément à la réglementation gouvernementale.
 - N'utilisez pas de dispositifs mécaniques ou d'autres moyens pour accélérer le processus de dégivrage, autres que ceux recommandés par le fabricant.
 - Ne pas perforer la tubulure contenant le frigorigène. Risque de feu ou d'explosion si la tubulure contenant le frigorigène est perforée; suivre les instructions de manutention avec soin.
 - Les pièces des composants doivent être remplacées par des pièces et accessoires équivalents.
 - L'entretien doit être effectué par un personnel de service agréé par l'usine et possédant une compétence certifiée dans la manipulation de réfrigérants inflammables afin de minimiser le risque d'inflammation possible en raison de pièces incorrectes ou d'un entretien inapproprié.
 - Consulter le manuel du propriétaire/ guide de réparation avant de tenter une réparation. Toutes les mesures de sécurité doivent être respectées.
 - Éliminer conformément aux règlements fédéraux ou locaux.
- L'appareil doit être entreposé dans un local ne contenant pas de sources d'inflammation permanentes (flammes nues, appareil à gaz ou dispositif de chauffage électrique en fonctionnement, par exemple).
 - Ne pas percer ou brûler.
 - Attention, les fluides frigorigènes peuvent ne pas dégager d'odeur.
 - Ne placez aucune source d'inflammation potentielle dans ou près de l'appareil.
 - Gardez dégagées toutes les ouvertures de ventilation dans l'enceinte de l'appareil ou dans la structure à encaster.
 - Avant d'effectuer des réparations, assurez-vous que la zone est correctement ventilée avant d'entrer dans le circuit de réfrigération.
 - Aucune source potentielle d'inflammation ne doit être utilisée lors de la recherche ou de la détection de fuites de réfrigérant.
 - N'utilisez pas d'appareils électriques à l'intérieur des compartiments de stockage des aliments sauf s'ils sont du type recommandé par le fabricant.
 - Ne stockez pas de substances explosives telles que des bombes aérosol contenant un propulseur inflammable dans cet appareil.
 - N'endommagez pas le circuit frigorifique.

WARNING

This appliance should be destined only to the use for which it has been expressly conceived. Any other use should be considered improper and therefore dangerous. The manufacturer cannot be held responsible for injury or damage resulting from improper, incorrect, and unreasonable use. Failure to install, operate, and maintain the appliance in accordance with this manual will adversely affect safety, performance, component life, and warranty coverage.

To reduce the risk of death, electric shock, serious injury, or fire, follow basic precautions including the following:

- Only qualified service technicians should install and service this appliance.
- Wear appropriate personal protective equipment (PPE) when servicing the appliance.
- The appliance must be installed in accordance with applicable national, state, and local codes and regulations.
- Appliance is heavy. Use care when lifting or positioning. Work in pairs when needed to prevent injury or damage. Do not lift using the top section or the doors/drawers.
- To reduce the risk of electric shock, do not touch the plug with damp hands.
- Unplug the appliance before servicing.
- The appliance requires an independent power supply of proper capacity. See the nameplate for electrical specifications. Failure to use an independent power supply of proper capacity can result in a tripped breaker, blown fuse, damage to existing wiring, or component failure. This could lead to heat generation or fire.
- **THE APPLIANCE MUST BE GROUNDED:** The appliance is equipped with a NEMA 5-15 three-prong grounding plug (⚡) to reduce the risk of potential shock hazards. It must be plugged into a properly grounded, independent 3-prong wall outlet. If the outlet is a 2-prong outlet, it is your personal responsibility to have a qualified electrician replace it with a properly grounded, independent 3-prong wall outlet. Do not remove the ground prong from the plug and do not use an adapter plug. Failure to follow these instructions may result in death, electric shock, or fire.
- Do not use an extension cord.
- Do not use an appliance with a damaged power cord. The power cord should not be altered, jerked, bundled, weighed down, pinched, or tangled. Such actions could result in electric shock or fire. To unplug the appliance, be sure to pull the plug, not the cord, and do not jerk the cord.
- The GREEN ground wire in the factory-installed power cord is connected to the appliance. If it becomes necessary to remove or replace the power cord, be sure to connect the power cord's ground wire.
- Do not make any alterations to the appliance. Alterations could result in electric shock, injury, fire, or damage to the appliance.

WARNING, continued

- The appliance is designed only for temporary storage of food. Employ sanitary methods. Use for any other purposes (for example, storage of chemicals or medical supplies such as vaccine and serum) could cause deterioration of stored items.
- Appliance is heavy. Use care when lifting or positioning. Work in pairs when needed to prevent injury or damage.
- The 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 or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be properly supervised around the appliance.
- Do not use combustible spray or place volatile or flammable substances in or near the appliance. They might catch fire.
- Do not place any product on the floor of the appliance. All product must be placed on properly installed shelves.
- Do not block air inlets or outlets, otherwise cooling performance may be reduced.
- Do not tightly pack the appliance. Allow some space between items to ensure good air flow. Also allow space between items and interior surfaces.
- Do not put warm or hot foods in the cabinet. Let them cool first, or they will raise the appliance temperature and could deteriorate other foods in the cabinet or overload the appliance.
- Food storage and handling must comply with applicable codes and regulations.
- Do not climb, stand, or hang on the appliance or doors or allow children or animals to do so. Do not climb into the appliance or allow children or animals to do so. Death or serious injury could occur or the appliance could be damaged.
- Keep the area around the appliance clean. Dirt, dust, or insects in the appliance could cause harm to individuals or damage to the equipment.
- Do not place more than 20 lb. (9 kg.) on the top panel. Items must be stable and secure to prevent items from falling off of the appliance.
- All foods should be wrapped in plastic film or stored in sealed containers. Otherwise foods may dry up, pass their smells onto other foods, cause frost to develop, result in poor appliance performance, or increase the likelihood of cross-contamination. Certain dressings and food ingredients, if not stored in sealed containers, may accelerate corrosion of the evaporator, resulting in failure.
- Care should be used when placing items on top of the appliance. Do not store liquid containers or items that could fall through the louvers on top of the appliance. This could cause electric shock or fire.
- Do not load any shelf with more than 120 lb. (54.5 kg) of product. They might fall off and cause injury.
- Do not store items near air outlets. Otherwise, items may freeze up and crack or break causing a risk of injury or contamination of other food.

NOTICE

- Install the appliance in a location that stays above freezing. Normal operating ambient temperature must be within:
Refrigerators: 45°F to 100°F (7°C to 38°C)
- Protect the floor when moving the appliance to prevent damage to the floor.
- Keep ventilation openings, in the appliance enclosure or in the built-in structure, clear of obstruction.
- Do not allow the appliance to bear any outside weight.
- To prevent deformation or cracks, do not spray insecticide onto the plastic parts or let them come into contact with oil.
- To avoid damage to the gasket, use only the door handle when opening and closing.
- Protect the floor when moving the appliance to prevent damage to the floor.
- Keep ventilation openings, in the appliance enclosure or in the built-in structure, clear of obstruction. Do not place anything on top of the appliance in an undercounter installation. There must be at least 1.5" (4 cm) overhead clearance for proper ventilation. The factory-installed rear bumpers must be in place to ensure proper rear clearance. Blockage of airflow could negatively affect performance and damage the appliance.
- Do not allow the appliance to bear any outside weight.
- To prevent deformation or cracks, do not spray insecticide onto the plastic parts or let them come into contact with oil.
- To avoid damage to the gasket, use only the door/drawer handle when opening and closing.
- To avoid damage to the top seal, do not lift the appliance by the top panel or remove the top panel.

Start up the Appliance

1. Plug in the power cord of the appliance to a wall outlet, following the recommendations about electrical installation in this manual.
2. Let the appliance run with no product load for 2 hours, or let the compressor complete three on/off cycles to assure that the temperature inside is appropriate for the products before loading them into the appliance.
3. When placing products in the appliance, you should leave small gaps between one and the other to assure free circulation of air inside the appliance.
4. Do not leave the door open for extended periods of time, to avoid increased temperature of the products.
5. Do not unplug your appliance during the night, since when you turn it back on during the day the electrical consumption will increase.
6. Do not tightly pack the appliance. Allow some space between items to ensure good air flow. Also allow space between items and interior surfaces.
7. Do not overload the appliance with product.
8. Be careful not to pinch fingers when opening and closing the door. Be careful when opening and closing the door when children are in the area.

Final Checklist

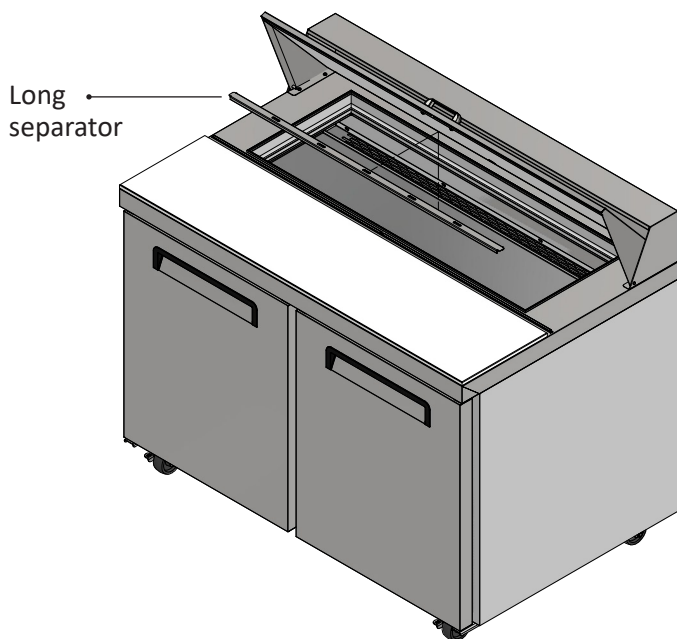
1. Is the appliance level?
2. Have the casters been properly installed and have the front casters been locked?
3. Is the appliance in a site where the ambient temperature is constantly within 45°F to 100°F (7°C to 38°C)?
4. Have the shipping carton, tape, and packing material been removed from the appliance? Has the protective plastic film been removed from both the exterior panels and the interior door/drawer panel?
5. Have the appliance and accessories been checked for shipping damage?
6. Are the factory-installed rear bumpers in place to ensure proper rear clearance? For prep table models, is there at least 10" (25 cm) clearance above the rail hood to allow the rail cover to open?
7. For prep table models, have the rail dividers, pans, rail cover, cutting board brackets, and cutting board been properly installed?
8. Has the power supply voltage been checked or tested against the nameplate rating? Is the power supply a properly grounded, independent wall outlet? Does the electrical connection meet all national, state, and local code and regulation requirements?
9. Have the refrigerant lines been checked to make sure they do not rub or touch other lines or surfaces? Has the condenser fan blade been checked to make sure it turns freely? Is the compressor securely attached?
10. Have the shelves been adjusted to the desired height?
11. Has the end user been given the instruction manual, and instructed on how to operate the appliance and the importance of the recommended periodic maintenance?
12. Has the end user been given the contact information of an authorized service agent?
13. Has the warranty card been filled out and forwarded to the factory for warranty registration?

Installation of Trays and Separators

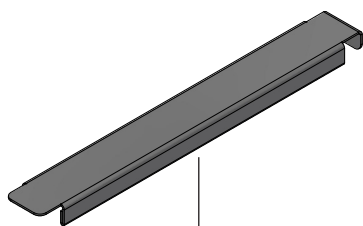
1. Remove the packaging from the trays and separators.
2. Open the lid.



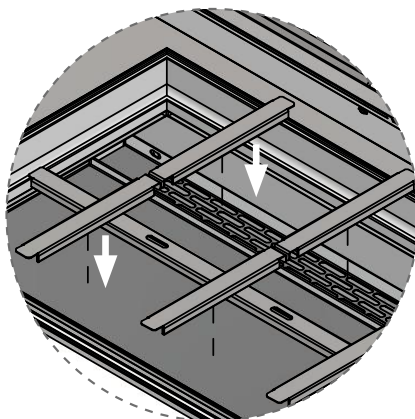
3. Place the long separator according to the width of the transparent plastic tray.



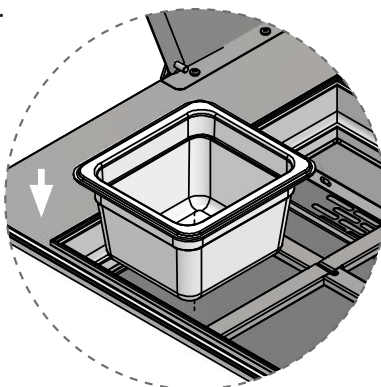
4. Place the short separators on top of the long separator according to the width of the transparent plastic tray.



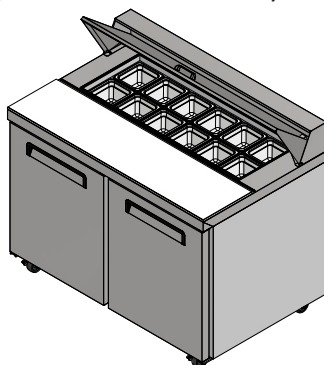
Short separator



5. Arrange the trays.



6. Verify that the trays are installed correctly.



Notes:

It is recommended to keep the lid closed when not in use.

The trays must always be installed while the equipment is in use, otherwise the evaporator may freeze or the appliance may not cool properly.

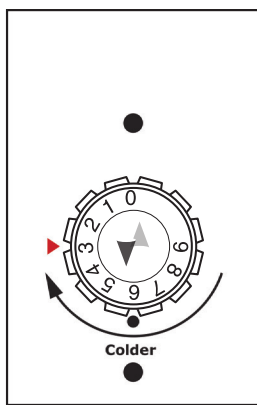
Controls and Adjustments

Control module

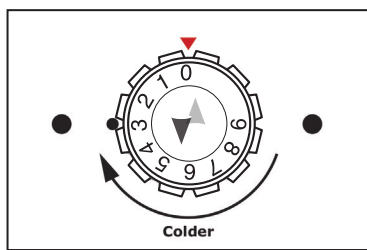
The position of the cabinet temperature control dial is preset to an appropriate temperature under normal conditions.

To decrease temperature, move the cabinet temperature control dial to a higher number.

To increase temperature, move the cabinet temperature control dial to a lower number.



VSR27A-8



VSR48A-12, VSR60A-16

DEFROST CYCLES

The control module is programmed to perform a defrost cycle every six hours for a duration of 45 minutes or evaporator temperature reaches 5°F (-15°C). These defrosts ensure that the evaporator remains free of ice build-up, optimizing the performance of the appliance.

Cleaning and Preventive Maintenance

Your appliance requires very little maintenance. However, periodic cleaning can help maintain efficiency and prolong product life. Remember to disconnect the power source before cleaning. Remove all products and place them in another appliance.

1. Only qualified service technicians should install and service this appliance.
2. Clean once a month the condenser with a grease remover. The condenser is located in the lower part of your appliance, behind the front grill.
3. Clean the inside and the exterior of your appliance, including the shelves, with a mild soap solution. Do not use strong detergents. Wipe dry the inside of the appliance before loading product again.
4. Allow the appliance to cool down to setpoint before loading with product.
5. Do not splash, pour, or spray pressure water directly onto or into the appliance. This might cause short circuit, electric shock, corrosion, or failure.

Maintenance Schedule

The maintenance schedule below is a guideline. More frequent maintenance may be required depending on the appliance’s environment, and local sanitation regulations.

Maintenance Schedule		
Frequency	Area	Task
Bi-Weekly	Air filters	Inspect. Wash with warm water and neutral cleaner if dirty.
Bi-Yearly	Condenser	Inspect. Clean if necessary by using a brush or vacuum cleaner. More frequent cleaning may be required depending on location.

Troubleshooting

Check for correct appliance installation per the instruction manual and proper voltage per appliance nameplate.

a) Not Cooling

Not Cooling - Possible Cause	
1. Power Supply	a) Unplugged, off, blown fuse, tripped or defective circuit breaker. On three-section receptacle box, only top receptacles have power.
	b) Loose connection.
	c) Not within specifications.
2. Power Cord	a) Loose connection.
	b) Defective.
3. Control Module	a) In alarm.
	b) Defective.
4. Door Switch	a) Not engaged.
	b) Defective.
5. Door Switch Relay	a) Loose connection.
	b) Defective.
6. Fan Motors	a) Defective.
	b) Dirty condenser.
7. Wiring	a) Loose connection.
	b) Faulty.
8. Compressor Relay (ptc)	a) Defective.
9. Compressor External Protector	a) Dirty condenser.
	b) Condenser fan motor not operating.
	c) Compressor capacitor or start relay defective.
	d) Defective.
10. Compressor	a) Defective.
	b) Low voltage.
11. Condenser	a) Dirty.
12. Refrigerant/Refrigerant Lines	a) Low or overcharged.
	b) Refrigerant leak.
	c) Refrigerant lines restricted.
13. Filter Drier	a) Defective.

b) Too Much Cooling

Too much cooling - Possible Cause	
1. Cabinet Thermistor	a) Defective.

c) Extreme Condensation

Extreme condensation - Possible Cause	
1. Cabinet Thermistor	a) Loose.
	b) Installed improperly.
2. Door	a) Do not shut completely (Defective gasket or hinges not adjusted).
3. Location	a) Inadequate location.
4. Environment	a) High relative humidity (Over 75%).

d) Evaporator Frozen Up

Evaporator Frozen Up - Possible Cause	
1. Evaporator	a) Dirty.
2. Evaporator Fan Motor	a) Fan blades binding.
	b) Defective.
3. Control Module	a) Defective.
4. Compressor Relay (ptc)	a) Defective.
5. Refrigerant Charge/Refrigerant Lines	a) Low.
	b) Component restriction (cap tube or drier).

e) Defrost

Refrigerator Defrost Fails to Initiate - Possible Cause	
1. Control Module (6-hrs. defrost timer)	a) Defective.

f) No Illumination

No illumination - Possible Cause	
1. Light Switch	a) "OFF" position.
	b) Open contact.
	c) Defective.
2. Control Module	6. Control Module program.

If the problem is not eliminated after completing the suggested actions, please get in touch with customer service for technical assistance.

Decommissioning and Disposal



R-290 Class A3 Flammable Refrigerant Used

DANGER

Risk of Fire or Explosion. Flammable Refrigerant Used.

- Only qualified service technicians should install and service the appliance.
- Follow handling instructions carefully in compliance with national regulations.
- Dispose of properly in accordance with federal or local regulations.
- Do not puncture refrigerant tubing. Risk of fire or explosion due to puncture of refrigerant tubing; follow handling instructions carefully.
- Be sure to follow the full Decommissioning and Disposal information located in the Service Manual for this model. The Service Manual is available at www.hoshizakiamerica.com.

Risque D'Incendie ou D'Explosion. Fluide Frigorigène Inflammable Utilisé.

- Seuls des techniciens de service qualifiés doivent installer et entretenir l'appareil.
- Suivre attentivement les instructions de manutention conformément aux règlements nationaux.
- Mettre au rebut conformément aux règlements fédéraux ou locaux.
- Ne pas perforer la conduite de fluide frigorigène. Risque d'incendie ou d'explosion en cas de perforation d'une canalisation de fluide frigorigène; suivez attentivement les instructions de manutention.
- Veiller à respecter l'ensemble des informations relatives à la mise hors service et à la mise au rebut figurant dans le manuel d'entretien de ce modèle. Le manuel d'entretien est disponible à l'adresse suivante: www.hoshizakiamerica.com.

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