



HOSHIZAKI

Instruction Manual

Modular Cuber

Models
IM-544SAK



hoshizakiamerica.com

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⚠ 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 will adversely affect safety, performance, component life, and warranty coverage and may result in costly water damage. 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 Hoshizaki Technical Support Department for assistance.

Phone: 1-800-233-1940; (770) 487-2331

E-mail: tech-support@hoshizaki.com

HOSHIZAKI AMERICA, INC.

618 Highway 74 South

Peachtree City, GA 30269

Attn: Hoshizaki Technical Support Department

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

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

<p><u>Risk of Fire or Explosion</u> <u>Flammable Refrigerant Used</u></p> <ul style="list-style-type: none"> • Only qualified service technicians should install and service the appliance. • No installation, operation, or maintenance should be undertaken until the technician has thoroughly read this Instruction Manual. All safety precautions must be followed. • No service should be undertaken until the technician has thoroughly read the Service Manual available at www.hoshizakiamerica.com. All safety precautions must be followed. • This appliance to be installed in accordance with the Safety Standard for Refrigeration Systems ANSI/ASHRAE 15. • Follow handling instructions carefully in compliance with national regulations. • Do not use mechanical devices or other means to accelerate the defrosting process or to clean, 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. 	<ul style="list-style-type: none"> • 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. • Component parts shall be replaced with like components. So as to minimize the risk of possible ignition due to incorrect parts. • Dispose of properly in accordance with federal or local regulations. • Do not pierce or burn. • Be aware that refrigerants may not contain an odor. • Do not damage the refrigeration circuit. • See nameplate for R-290 refrigerant charge: <ul style="list-style-type: none"> • If greater than 114 g (4 oz.), do not install in public corridor or lobby. • If greater than 152 g (5.3 oz.), do not install within 6 m (20 ft) of open flame. • 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).
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⚠ DANGER continued

- 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.
- 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 appliance 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.
- Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges, or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.
- Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.
- This appliance shall be used on a dispenser unit/ice storage bin without electrical components or one designed to be used with flammable refrigerants, and of a size or type as indicated in this manual.

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

- Seuls des techniciens de service qualifiés doivent installer et entretenir l'appareil.
- Aucune installation, opération ou maintenance ne doit être entreprise avant que le technicien n'ait lu attentivement ce manuel d'instructions. Toutes les précautions de sécurité doivent être suivies.
- Aucune opération d'entretien ne doit être entreprise avant que le technicien n'ait lu attentivement le manuel d'entretien disponible sur le site www.hoshizakiamerica.com. Toutes les précautions de sécurité doivent être suivies.
- Cet appareil doit être installé conformément à la norme de sécurité pour les systèmes de réfrigération ANSI/ASHRAE 15.
- Suivez attentivement les instructions de manutention conformément aux règlements nationaux.
- Ne pas utiliser de dispositifs mécaniques ou d'autres moyens pour accélérer le processus de dégivrage ou pour nettoyer, autres que ceux recommandés par le fabricant.
- 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.
- L'entretien doit être effectué par du personnel formé et certifié pour la manipulation de réfrigérants inflammables afin de réduire au minimum le risque d'inflammation dû à des pièces incorrectes ou à un entretien inadéquat.

⚠ DANGER continued

- Les pièces doivent être remplacées par des pièces similaires, de manière à réduire au minimum le risque d'inflammation dû à des pièces incorrectes.
- Mettre au rebut conformément aux règlements fédéraux ou locaux.
- Ne pas percer ou brûler.
- Attention, les fluides frigorigènes peuvent ne pas dégager d'odeur.
- Ne pas endommager les composants du circuit de réfrigération.
- Voir plaque signalétique pour la charge de réfrigérant R-290:
 - Si elle est supérieure à 114 g (4 oz.), ne pas l'installer dans un couloir public ou un hall d'entrée.
 - Si elle est supérieure à 152 g (5.3 oz.), ne pas l'installer à moins de 6 m (20 pi) d'une flamme nue.
- 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 placer aucune source d'inflammation potentielle à l'intérieur ou à proximité de l'appareil.
- Ne pas obstruer les ouvertures de ventilation dans l'enceinte de l'appareil ou dans la structure d'encastrement.
- Aucune source potentielle d'inflammation ne doit être utilisée pour rechercher ou détecter des fuites de réfrigérant.
- Ne pas utiliser d'appareils électriques à l'intérieur de l'appareil, sauf s'ils sont du type recommandé par le fabricant.
- Ne pas entreposer dans cet appareil des substances explosives telles que des bombes aérosols contenant un gaz propulseur inflammable.
- Vérifier que le câblage ne sera pas soumis à l'usure, à la corrosion, à une pression excessive, à des vibrations, à des arêtes vives ou à tout autre effet environnemental négatif. Le contrôle doit également prendre en compte les effets du vieillissement ou des vibrations continues provenant de sources telles que les compresseurs ou les ventilateurs.
- S'assurer que la zone est à l'air libre ou qu'elle est correctement ventilée avant de pénétrer dans le système ou d'effectuer un travail à chaud. Une certaine ventilation doit être maintenue pendant la durée des travaux. La ventilation doit permettre de disperser en toute sécurité tout réfrigérant libéré et, de préférence, de l'expulser dans l'atmosphère.
- Cet appareil doit être utilisé sur un distributeur/bac de stockage à glace sans composants électriques ou conçu pour être utilisé avec des réfrigérants inflammables, et d'une taille ou d'un type conforme aux indications du manuel d'instructions.


WARNING

The 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 and may result in costly water damage.

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

- This appliance is not intended for use above 2,000 m (6,561 ft). Installation above 2,000 m (6,561 ft) may adversely affect safety, performance, and component life.
- 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.
- 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**

GROUNDING. 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 power cord 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 control switch or plug with damp hands.
- To reduce the risk of electric shock, make sure the control switch is in the "OFF" position before plugging in or unplugging the appliance.
- Unplug the appliance before servicing.
- 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 use an extension cord.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified persons in order to avoid a hazard. Upon replacement, the GREEN ground wire in the power cord must be connected to the designated grounding screw.
- Do not make any alterations to the appliance. Alterations could result in electric shock, injury, fire, or damage to the appliance.
- Appliance is heavy. Use care when lifting or positioning. Work in pairs when needed to prevent injury or damage.

⚠ WARNING continued

- 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.
- Do not splash, pour, or spray water directly onto or into the appliance. This might cause short circuit, electric shock, corrosion, or failure.
- Children should be properly supervised around the appliance.
- Do not climb, stand, or hang on the appliance or allow children or animals to do so. Serious injury could occur or the appliance could be damaged.
- 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.
- 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 appliance.

NOTICE

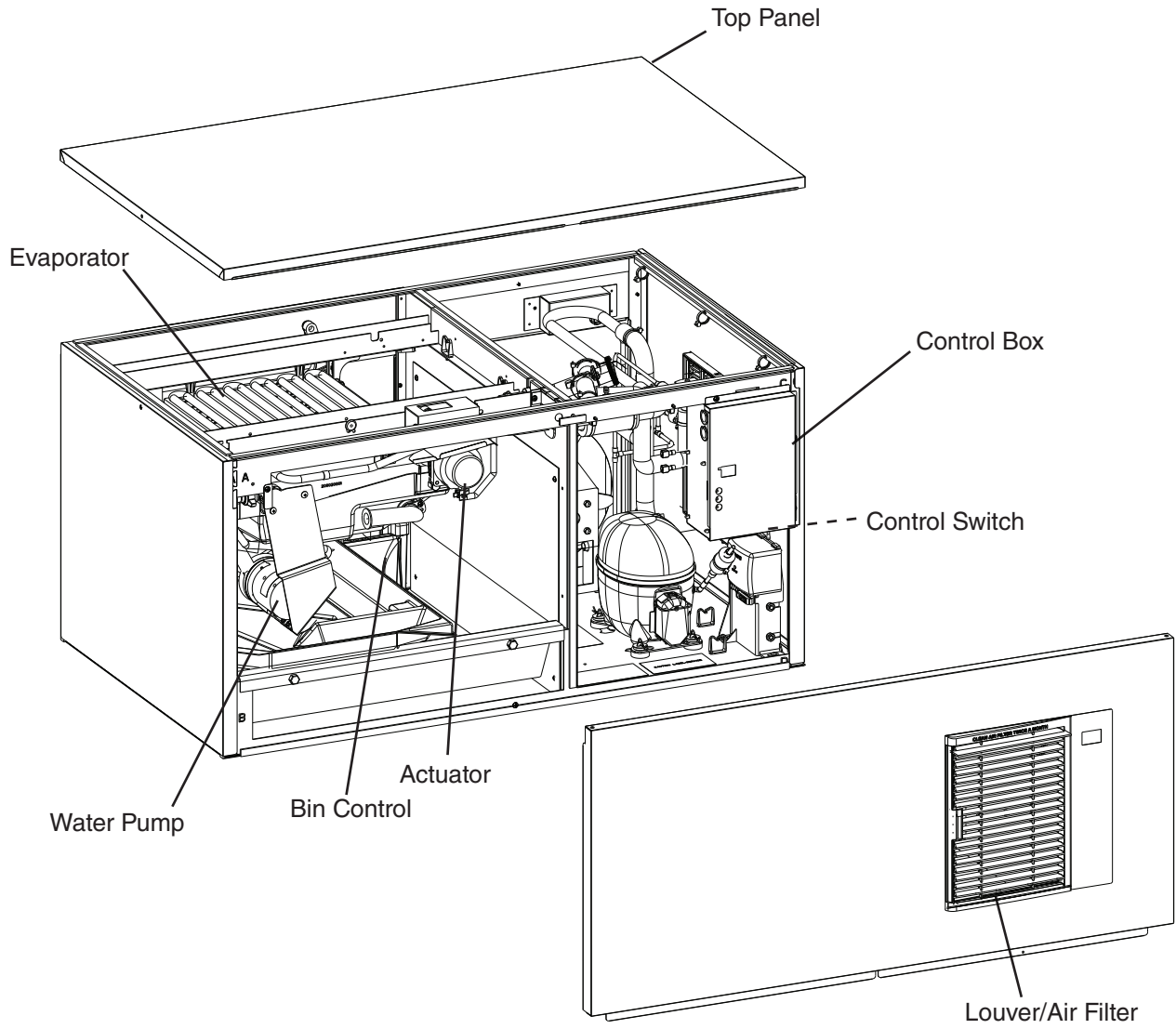
- Follow the water supply, drain connection, and maintenance instructions carefully to reduce the risk of costly water damage.
- In areas where water damage is a concern, install in a contained area with a floor drain.
- Install the icemaker in a location that stays above freezing. Normal operating ambient temperature must be within 45°F to 100°F (7°C to 38°C).

NOTICE

- Do not leave the appliance on during extended periods of non-use, extended absences, or in sub-freezing temperatures. To properly prepare the appliance for these occasions, follow the instructions in "V. Preparing the Appliance for Periods of Non-Use."
- If water collects in the bin and will not drain, turn off the icemaker and close the water supply line shut-off valve. Call for service.
- If water seeps from the base of the appliance, turn off the appliance and close the water supply line shut-off valve. Call for service. Failure to do so could lead to costly water damage.
- Do not place objects on top of the appliance.
- The ice storage bin is for ice use only. Do not store anything else in the ice storage bin.
- Protect the floor when moving the appliance to prevent damage to the floor.
- Do not allow the appliance to bear any outside weight.

I. Specifications

A. Construction



B. Electrical and Refrigerant Data

The rating label and nameplate provide electrical and refrigerant data. The rating label can be seen by removing the front panel. The nameplate is located on the rear panel. For certification marks, see the nameplate.

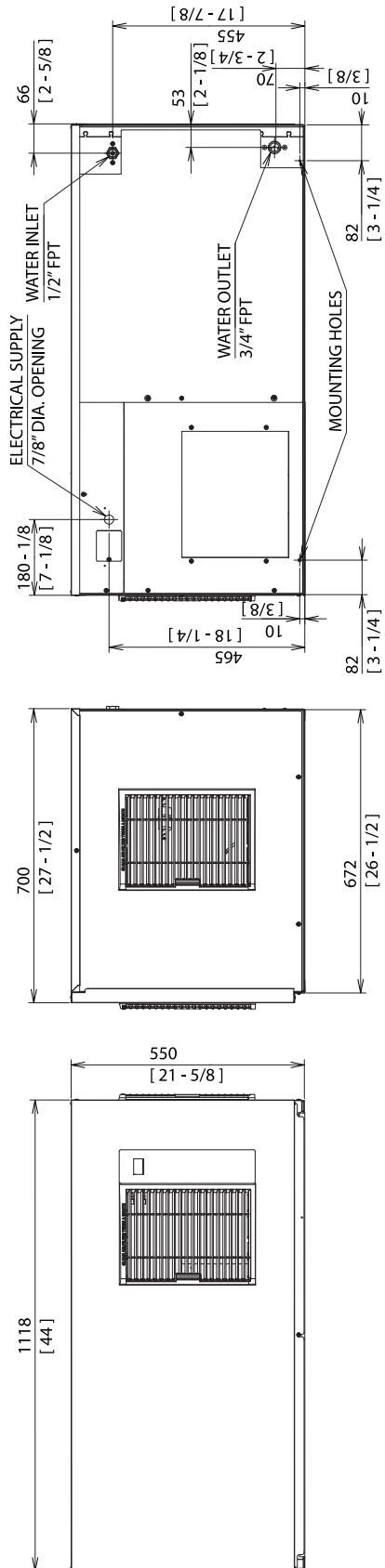
We reserve the right to make changes in specifications and design without prior notice.

1. IM-544SAK

Model Number	IM-544SAK
AC SUPPLY VOLTAGE	~115/60/1
COMPRESSOR	115V 9.0RLA 49.5LRA
PUMP	120V 0.55FLA 62W
FAN	115V 1.0FLA 1/15HP
ACTUATOR	115V 0.04FLA 10.5W
OTHER	115-120V 0.16A
MAXIMUM FUSE SIZE	15 AMPS
MAX. HACR BREAKER (USA ONLY)	15 AMPS
MAX. CIRCUIT BREAKER (CANADA ONLY)	15 AMPS
MINIMUM CIRCUIT AMPACITY	15 AMPS
DESIGN PRESSURE KPA (PSI)	HI-2730 (396) LO-1310 (190)
REFRIGERANT g (oz.)	R-290 140 (4.9)
CLIMATIC CLASS	5
INSULATION BLOWING GAS	HFO 1233zd(E)
MINIMUM ROOM FLOOR AREA m ² (ft ²)	6.7 (72.1)
HARVEST RATE	≤1,000 LB/DAY (BATCH)

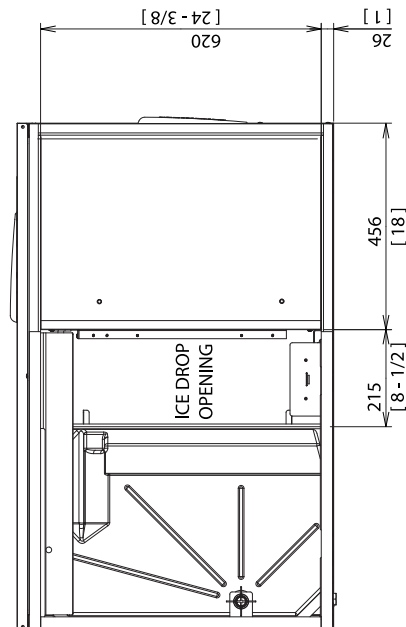
C. Dimensions/Connections

Unit: mm [inches]



NOTICE

- Allow 6" (15-cm) clearance at rear, left side, and top and 12" (30-cm) clearance at right side for proper air circulation.
- The storage bin opening must match the bottom opening as in the illustration.



The storage bin opening must match the bottom ice drop opening as in the illustration.

II. Installation and Operating Instructions

⚠ WARNING

- This appliance must be installed in accordance with applicable national, state, and local codes and regulations.
- This appliance to be installed in accordance with the Safety Standard for Refrigeration Systems ANSI/ASHRAE 15.
- Failure to install, operate, and maintain the appliance in accordance with this manual will adversely affect safety, performance, component life, and warranty coverage and may result in costly water damage.
- **CHOKING HAZARD:** Ensure all components, fasteners, and thumbscrews are securely in place after installation. Make sure that none have fallen into the ice storage bin.

A. Location

1. General

The appliance is not intended for outdoor use.

This appliance uses an A3 flammable refrigerant. For refrigerant charge and room floor area requirement, see the table below.

⚠ DANGER



R-290 Class A3 Flammable Refrigerant Used

Model	R-290 Refrigerant Charge g (oz.)	Minimum Room Floor Area (operating or storage) Superficie Minimale du Local (service ou stockage) m ² (ft ²); m ² (pi ²)
IM-544SAK	140 (4.9)	6.7 (72.1)



≥ Area m² (ft²) (see "Minimum Room Floor Area" above)
 ≥ Superficie m² (pi²) (voir « Superficie Minimale du Local » ci-dessus)

⚠ DANGER continued

R-290 Refrigerant Charge:

- If greater than 114 g (4 oz.), do not install in public corridor or lobby.
- If greater than 152 g (5.3 oz.), do not install within 6 m (20 ft) of open flame.

R-290 De réfrigérant:

- Si elle est supérieure à 114 g (4 oz.), ne pas l'installer dans un couloir public ou un hall d'entrée.
- Si elle est supérieure à 152 g (5.3 oz.), ne pas l'installer à moins de 6 m (20 pi) d'une flamme nue.

This appliance is not intended for use above 2,000 m (6,561 ft). Installation above 2,000 m (6,561 ft) may adversely affect safety, performance, and component life.

NOTICE

- The icemaker is not intended for outdoor use. Normal operating ambient temperature must be within 45°F to 100°F (7°C to 38°C); Normal operating water temperature must be within 45°F to 90°F (7°C to 32°C). Operation of the icemaker, for extended periods, outside of these normal temperature ranges may affect icemaker performance.
- The icemaker will not work at sub-freezing temperatures. To prevent damage to the water supply line, drain the icemaker if the air temperature is going to go below 32°F (0°C). See "IV. Preparing the Icemaker for Periods of Non-Use."

- The icemaker should not be located next to ovens, grills, or other high heat producing equipment.
- Allow 6" (15-cm) clearance at rear, left side, and top and 12" (30-cm) clearance at right side for air-cooled models.
- The location should provide a firm and level foundation for the appliance.

B. Checks Before Installation

- Visually inspect the exterior of the shipping container and immediately report any damage to the carrier. Upon opening the container, any concealed damage should also be immediately reported to the carrier.
- Remove the shipping carton, tape, and packing material. If any are left in the appliance, it will not work properly.
- See the nameplate on the rear panel, and check that your voltage supplied corresponds with the voltage specified on the nameplate.
- Remove the panels to prevent damage when installing the appliance. See "II.C. How to Remove Panels."
- Remove the package containing the accessories.
- Remove the protective plastic film from the panels. If the appliance is exposed to the sun or to heat, remove the film after the appliance cools.
- Check that the refrigerant lines do not rub or touch lines or other surfaces, and that the fan blade (if applicable) turns freely.
- Check that the compressor is snug on all mounting pads.
- The appliance can be installed on a storage bin 44" wide or wider. The recommended storage bin is Hoshizaki ice storage bin, Model B-700 series. For further options, contact your local Hoshizaki distributor.

Model Number	Bin Width	Recommended Hoshizaki Ice Storage Bin
IM-544SAK	44" or Wider	B-700 Series

For further options, contact your local Hoshizaki distributor.

C. How to Remove Panels

See Fig. 1

- Front Panel: Loosen the screw. Lift up and towards you.
- Top Panel: Remove the screws and lift up.
- Left Side Panel: Slide forward slightly, and then lift off.
- Right Side Panel: Remove the screws and pull towards you.

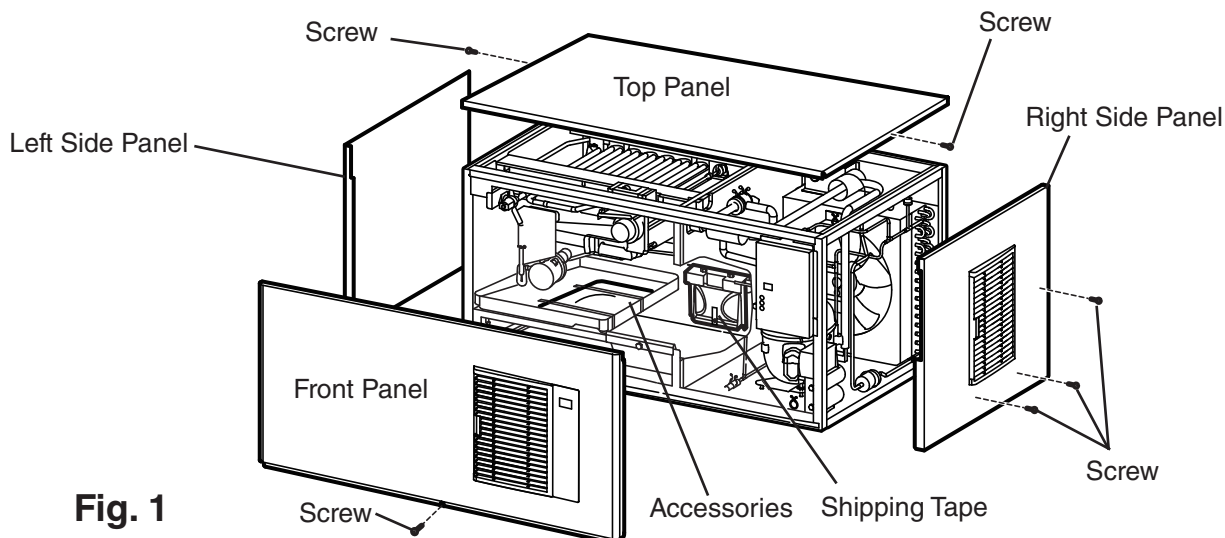


Fig. 1

D. Setup

1. Ice Storage Bin and Icemaker Setup

⚠ WARNING

- Do not use the frame to lift the appliance. Lift the appliance from the base.
- The installer must ensure the ice storage bin is compatible with the icemaker, and the ice storage bin and icemaker are properly attached and secured.

- 1) Unpack the storage bin, and attach the four adjustable legs provided (bin accessory) to the bottom of the storage bin.
- 2) Position the storage bin in the selected permanent location.
- 3) Unpack the appliance and remove all shipping cartons, tape and packing material.
- 4) Remove the panels to prevent damage when installing the appliance. See "II. B. How to Remove Panels."
- 5) Remove the protective plastic film from the panels. If the unit is exposed to the sun or to heat, remove the film after the unit cools. **NOTICE! Do not use the side frame to lift the icemaker. See Fig. 1. Lift the icemaker from the base.**
- 6) Remove the package containing the accessories. See Fig. 1.
- 7) Remove the shipping tape holding the bin control switch. See Fig. 1.
- 8) Place the icemaker on top of storage bin.
- 9) Secure the icemaker to the storage bin using the two mounting brackets and the bolts provided. See Fig. 2.
- 10) Level the icemaker and ice storage bin in both the left-to-right and front-to-rear directions. Adjust the ice storage bin legs to make the icemaker level.

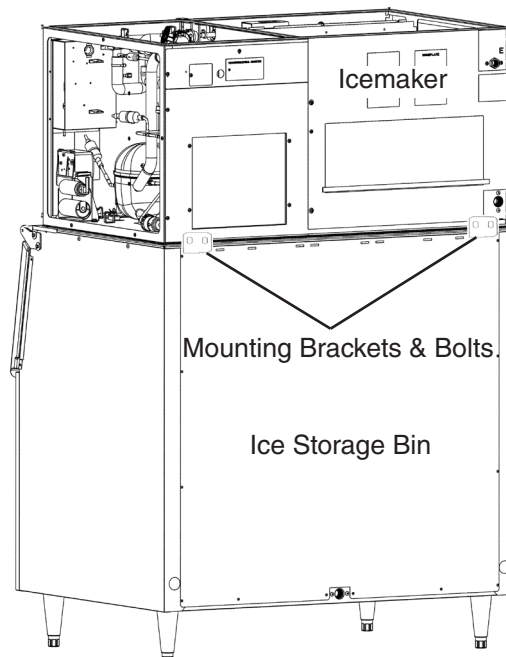


Fig. 2

E. Electrical Connection

⚠ WARNING

- Electrical connection must be hard-wired and 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 damage.
- The icemaker 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 ICEMAKER MUST BE GROUNDED.** Failure to properly ground the appliance could result in death or serious injury.
- Electrical connection must be made in accordance with the instructions on the "WARNING" tag, provided with the pig tail leads in the junction box. See Fig. 3.

- Usually an electrical permit and services of a licensed electrician are required.
- The maximum allowable voltage variation is ± 6 percent of the nameplate rating.
- The white lead must be connected to the neutral conductor of the power source. **NOTICE! Miswiring may result in severe damage to the icemaker.**
- The opening for the power supply connection is 7/8" DIA to fit a 1/2" trade size conduit.

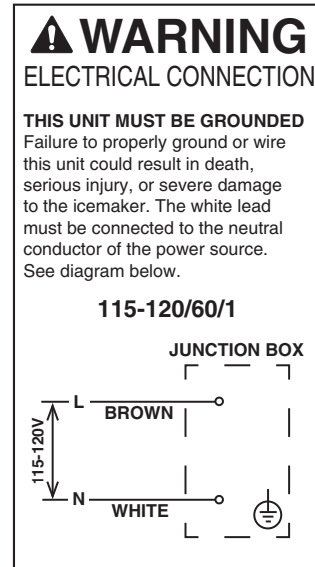


Fig. 3

F. Water Supply and Drain Connections

See Fig. 4

⚠ WARNING

- Water supply and drain connections must be installed in accordance with applicable national, state, and local regulations.
- Connect to potable water supply only. Do not connect to a hot-water supply.

NOTICE

- Water supply line size is critical to the operation of the appliance. Failure to provide adequate water supply to the appliance may result in damage to the appliance, damage to property, and may void the warranty.
- Normal operating water temperature should be within 45°F to 90°F (7°C to 32°C). Operation of the appliance, for extended periods, outside of this normal temperature range may affect appliance performance.
- Water supply pressure must be a minimum of 10 PSIG (68 kPaG) and a maximum of 113 PSIG (779 kPaG). If the pressure exceeds 113 PSIG (779 kPaG), the use of a pressure reducing valve is required.
- External filters, strainers, or softeners may be required depending on water quality. Contact your local Hoshizaki Certified Service Representative or local Hoshizaki distributor for recommendations.
- In areas where water damage is a concern, install in a contained area with a floor drain.
- Water line installation to the appliance is not warranted by Hoshizaki.
- Be sure there is sufficient extra water supply line and drain line for the appliance to be pulled out for service.
- Water-hammer issues must be resolved by a qualified plumber before installing the appliance. Water hammer can cause appliance damage that may lead to water leakage or flooding.
- A minimum of 3/4" nominal ID hard pipe or equivalent is required for the drain line. Installing a smaller diameter drain line will reduce water flow and may lead to water leakage or flooding.
- To prevent damage to the appliance, do not operate the appliance when the water supply is off, or if the pressure is below 10 PSIG (68 kPaG). Do not run the appliance until the proper water pressure is reached.

- A plumbing permit and services of a licensed plumber may be required in some areas.
- The icemaker drain line and ice storage bin drain line, must be run separately.
- Drain lines must have 1/4" fall per foot (2-cm per 1 m) on horizontal runs to get a good flow. A vented tee connection is also required for proper flow.
- Drain lines should not be piped directly to the sewer system. An air gap of a minimum of 2 vertical inches (5-cm) should be between the end of the drain pipes from the icemaker, dispenser unit/ice storage bin, and water-cooled condenser (if applicable) and the floor drain.

1. Icemaker

Icemaker Water Supply Inlet	Minimum Icemaker Water Supply Line Size	Icemaker Drain Outlet	Minimum Icemaker Drain Line Size
1/2" Female Pipe Thread (FPT)	1/4" Nominal ID Copper Water Tubing or Equivalent	3/4" Female Pipe Thread (FPT)	3/4" Nominal ID Hard Pipe or Equivalent

- An icemaker water supply line shut-off valve and drain valve must be installed.

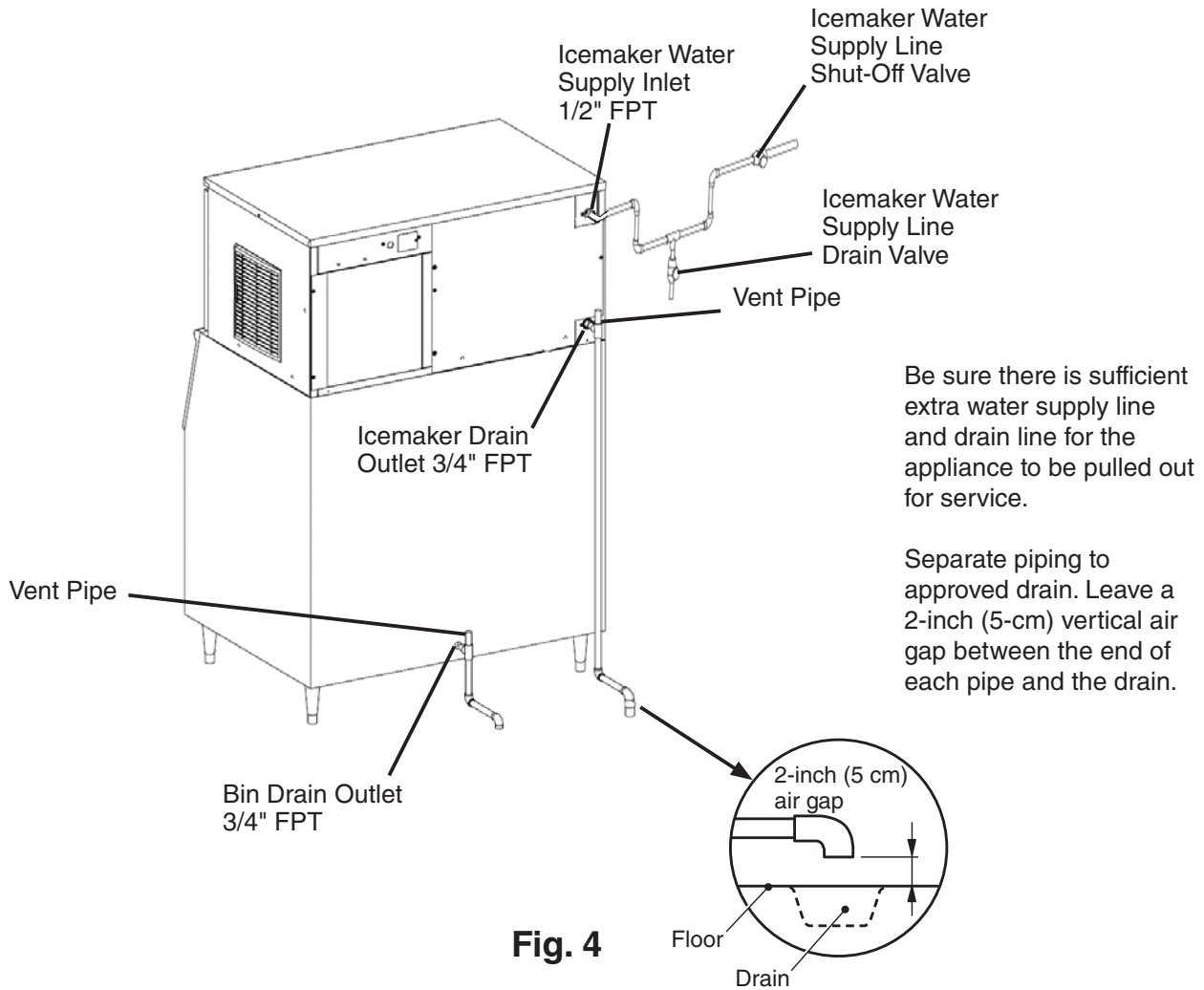


Fig. 4

G. Final Checklist

1. Pre-Startup

- 1) Is the icemaker level?
- 2) Is the icemaker in a site where the ambient temperature is within 45°F to 100°F (7°C to 38°C) and the water temperature within 45°F to 90°F (7°C to 32°C) all year around?
- 3) Is there at least 6" (15-cm) clearance at rear, left side, and top and 12" (30-cm) clearance at right side?
- 4) Have the shipping carton, tape, and packing material been removed from the appliance?
- 5) Have all electrical and water connections been made? Do electrical and water connections meet applicable national, state, and local code and regulation requirements?
- 6) Has the power supply voltage been checked or tested against the nameplate rating? Has a proper ground been installed to the icemaker?
- 7) Are the water supply and drain lines sized as specified? Are the water supply line shut-off valve(s) and drain valve(s) installed? Has the water supply pressure been checked to ensure a minimum of 10 PSIG (68 kPaG) and a maximum of 113 PSIG (779 kPaG)?
- 8) Is the compressor snug on all mounting pads? Have the refrigerant lines been checked to make sure they do not rub or touch other lines or surfaces? Has the fan blade (if applicable) been checked to make sure it turns freely?
- 9) Are all components, fasteners, and thumbscrews securely in place?
- 10) Continue to "III. Operating Instructions."

2. Post-Startup

⚠ WARNING
CHOKING HAZARD: Ensure all components, fasteners, and thumbscrews are securely in place after installation. Make sure that none have fallen into the dispenser unit/ice storage bin.

- 1) Has the bin control operation been confirmed?
- 2) Are all components, fasteners, and thumbscrews securely in place?
- 3) 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?
- 4) Has the end user been given the contact information of an authorized service agent?
- 5) Has the warranty registration been completed and submitted to the factory?

III. Operating Instructions



R-290 Class A3 Flammable Refrigerant Used

⚠ DANGER

Risk of Fire or Explosion. Flammable Refrigerant Used.

- Be sure to follow all Important Safety Information located at the beginning of this manual.
- Failure to install, operate, and maintain the appliance in accordance with this manual will adversely affect safety, performance, component life, and warranty coverage and may result in costly water damage.
- Keep clear of obstruction all ventilation openings in the appliance enclosure or in the structure for building-in.

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

- Veuillez à respecter toutes les consignes de sécurité importantes figurant au début de ce manuel.
- Le fait de ne pas installer, utiliser et entretenir l'appareil conformément à ce manuel aura des conséquences négatives sur la sécurité, les performances, la durée de vie des composants et la couverture de la garantie, et peut entraîner des dégâts des eaux coûteux.
- Ne pas obstruer les ouvertures de ventilation dans l'enceinte de l'appareil ou dans la structure d'encastrement.

A. Important Notes About Usage

NOTICE

- Protect the floor when moving the appliance to prevent damage to the floor.
- If water collects in the bin and will not drain, turn off the appliance and close the water supply line shut-off valve. Call for service.
- Do not leave the appliance on during extended periods of non-use, extended absences, or in sub-freezing temperatures. To properly prepare the appliance for these occasions, follow the instructions in "V. Preparing the Appliance for Periods of Non-Use."
- Do not place objects on top of the appliance.
- The ice storage bin is for ice use only. Do not store anything else in the ice storage bin.

B. Startup and Bin Control Check

⚠ WARNING

- All parts are factory-adjusted. Improper adjustments may adversely affect safety, performance, component life, and warranty coverage.
- Do not put your hands into the back of the storage bin or the baffle on top of the storage bin. Ice may drop off the icemaker, a hard block of ice may suddenly break down, or the icemaking mechanism may suddenly move, resulting in injury.

NOTICE

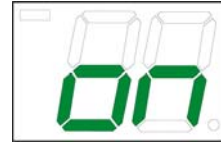
- If the appliance is turned off, wait for at least 3 minutes before restarting the appliance to prevent damage to the compressor.
- To prevent damage to the water pump, do not leave the control switch in the "WASH" position for extended periods of time when the water tank is empty.
- At startup, confirm that all internal and external connections are free of leaks.

- 1) Open the water supply line shut-off valve(s).
- 2) Remove the front panel.
- 3) Move the control switch to the "ICE" position.
- 4) Replace the front panel in its correct position.
- 5) Turn on the power supply and allow the icemaker to operate for a total of 10 minutes.
- 6) Remove the front panel, then move the service switch to the "OFF" position.
- 7) Replace the front panel in its correct and allow the icemaker to drain for 2 minutes.
- 8) Turn off the power supply.
- 9) Remove the front panel, then move the control switch to the "ICE" position. Replace the front panel in its correct position.
- 10) Clean the ice storage bin liner using a neutral cleaner. Rinse thoroughly after cleaning.
- 11) Turn on the power supply to start the automatic icemaking process.
- 12) During the first 5 minutes of the freeze cycle, confirm bin control operation by pressing and holding the bin control's actuator paddle until the icemaker shuts down. The icemaker should shut down in approximately 15 seconds.

C. Control Board Display

1. Normal Operation

Display for normal operation is "on". See the figure on the right.



2. Error Code

The unit will show an error code and safely stop if the unit is operating outside of acceptable parameters. See the figure below. If an error code appears, please contact your local Hoshizaki Certified Service Representative for assistance.

- E1: Abnormal freeze cycle
- E2: Abnormal harvest cycle
- EE: Other



IV. Maintenance

The appliance must be maintained in accordance with the instruction manual and labels provided. Consult with your local Hoshizaki Certified Service Representative about maintenance service. To obtain the name and phone number of your local Hoshizaki Certified Service Representative, visit www.hoshizakiamerica.com.

WARNING

- Items listed under "IV.A. User Maintenance Schedule" may be performed by the user; otherwise, only qualified service technicians should service the appliance.
- Failure to install, operate, and maintain the equipment in accordance with this manual will adversely affect safety, performance, component life, and warranty coverage.
- To reduce the risk of electric shock, do not touch the power switch or control switch with damp hands.
- **Before Performing Maintenance/Service:** Move the power switch to the "OFF" position and turn off the power supply. Lockout/Tagout to prevent the power supply from being turned back on inadvertently. Power switch in "OFF" position does not de-energize all loads.
- **CHOKING HAZARD:** Ensure all components, fasteners, and thumbscrews are securely in place after any maintenance is done to the appliance. Make sure that none have fallen into the ice storage bin.

A. User Maintenance Schedule

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

Maintenance Schedule		
Frequency	Area	Task
Daily	Scoop	Clean the ice scoop using a neutral cleaner. Rinse thoroughly after cleaning.
Bi-Weekly	Air Filters	Inspect. Wash with warm water and neutral cleaner if dirty.
Monthly	Appliance Exterior	Wipe down with a clean, soft cloth. Use a damp cloth containing a neutral cleaner to wipe off oil or dirt build up. Clean any chlorine staining (rust colored spots) using a non-abrasive cleanser.

B. Service Maintenance Schedule

The service maintenance schedule below is a guideline; service maintenance items are to be performed by qualified service technicians only. More frequent maintenance may be required depending on water quality, the appliance's environment, and local sanitation regulations.

Maintenance Schedule		
Frequency	Area	Task
Monthly	External Water Filters	Check for proper pressure and change if necessary.
	Icemaker Exterior	Wipe down with a clean, soft cloth. Use a damp cloth containing a neutral cleaner to wipe off oil or dirt build up. Clean any chlorine staining (rust colored spots) using a non-abrasive cleanser.
	Underside of Icemaker and Top Kits; Bin Door and Snout	Wipe down with a clean cloth and warm water.
Yearly	Icemaker and Ice Storage Bin	Clean and sanitize per the cleaning and sanitizing instructions provided in this manual. See "IV.C. Cleaning and Sanitizing Instructions."
	Water Supply Inlet	Close the icemaker water supply line shut-off valve and drain the water system. Clean the water supply inlet screen.
	Water Hoses	Inspect the water hoses and clean/replace if necessary.
	Condenser	Inspect. Clean if necessary by using a brush or vacuum cleaner. More frequent cleaning may be required depending on location.
	Icemaker	Inspect for oil spots, loose components, fasteners, and wires.

C. Cleaning and Sanitizing Instructions

The appliance must be cleaned and sanitized at least once a year. More frequent cleaning and sanitizing may be required in some water conditions.

WARNING

- To prevent injury to individuals and damage to the appliance, do not use ammonia type cleaners.
- Carefully follow any instructions provided with the bottles of cleaning and sanitizing solution.
- Always wear liquid-proof gloves and goggles to prevent the cleaning and sanitizing solutions from coming into contact with skin or eyes.
- After cleaning and sanitizing, do not use ice made from the cleaning and sanitizing solutions. Be careful not to leave any solution on the parts or in the ice storage bin.

NOTICE

To prevent damage to the water pump, do not leave the control switch in the "WASH" position for extended periods of time when the water tank is empty.

1. Cleaning Procedure

- 1) Dilute 4 fl. oz. (118 ml) of Hoshizaki "Scale Away" with 0.8 gal. (3.0 l) of warm water.
IMPORTANT! For safety and maximum effectiveness, use the solution immediately after dilution.
- 2) Turn off the power supply.
- 3) Remove all ice from the storage bin.
- 4) Remove the front panel.
- 5) Remove the screw, then move the water tank drain pipe to the drain position. See Fig. 5. Use the screw to secure the water tank drain pipe in the drain position.

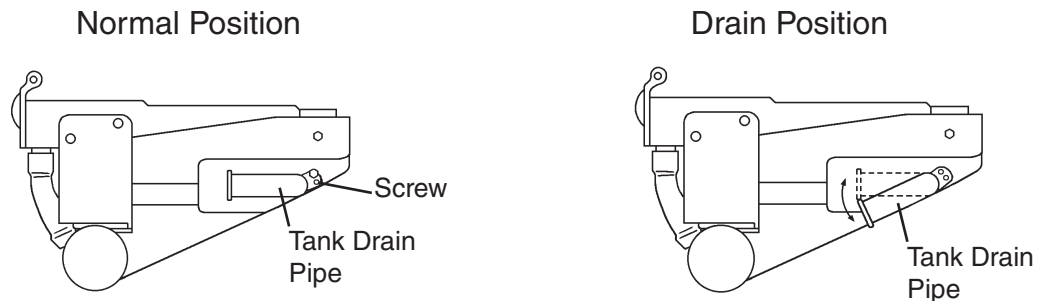


Fig. 5

- 6) Make sure the control switch is in the "ICE" position, then replace the front panel.
- 7) Close the icemaker water supply line shut-off valve.
- 8) Turn on the power supply for 3 minutes. The water tank drains and cubes are removed from the evaporator.
- 9) Turn off the power supply.
- 10) Remove the front panel and top panel.
- 11) Move the control switch to the "WASH" position.
- 12) Slowly pour the cleaning solution over the top of the evaporator and into the water tank. Do not splash or spill the solution onto other parts.
- 13) Replace the front panel and top panel in their correct positions.
- 14) Turn on the power supply to start the washing process.
- 15) Turn off the power supply after 30 minutes.
- 16) Open the icemaker water supply line shut-off valve.
- 17) Remove the front panel.
- 18) Move the control switch to the "ICE" position.
- 19) Replace the front panel.
- 20) Turn on the power supply for 3 minutes. The water tank drains.
- 21) Turn off the power supply.
- 22) Repeat steps 20 and 21 three more times to rinse thoroughly.
Note: If not sanitizing the icemaker, go to step 19 in "IV.C.2. Sanitizing Procedure - Following Cleaning Procedure."

2. Sanitizing Procedure - Following Cleaning Procedure

- 1) Dilute 0.27 fl. oz. (8.08 ml) of a 7.5% sodium hypochlorite solution (chlorine bleach) with 0.8 gal. (3.0 l) of warm water. **IMPORTANT! For safety and maximum effectiveness, use the solution immediately after dilution.**
- 2) Close the icemaker water supply line shut-off valve.
- 3) Turn on the power supply for 3 minutes. The water tank drains.
- 4) Turn off the power supply.
- 5) Remove the front panel and top panel.
- 6) Move the control switch to the "WASH" position.
- 7) Slowly pour the sanitizing solution over the top of the evaporator and into the water tank. Do not splash or spill the solution onto other parts.
- 8) Replace the front panel and top panel in their correct positions.
- 9) Turn on the power supply to start the sanitizing process.
- 10) Turn off the power supply after 15 minutes.
- 11) Open the icemaker water supply line shut-off valve.
- 12) Remove the front panel.
- 13) Move the control switch to the "ICE" position.
- 14) Replace the front panel.
- 15) Turn on the power supply for 3 minutes. The water tank drains.
- 16) Turn off the power supply.
- 17) Repeat steps 15 and 16 three more times to rinse thoroughly.
- 18) Repeat steps 1 through 17 one more time.
- 19) Remove the front panel.
- 20) Remove the screw, then move the water tank drain pipe to the normal position. See Fig. 5. Use the screw to secure the water tank drain pipe in the normal position.
- 21) Replace the front panel.
- 22) Clean the storage bin liner using a neutral cleaner. Rinse thoroughly after cleaning.
- 23) Turn on the power supply to start the automatic icemaking process.

3. Bin Control Cleaning

Scale may build up on the bin control. Scale can cause the actuator paddle and magnet to stick. In this case, the bin control should be cleaned.

⚠ WARNING

CHOKING HAZARD: Ensure all components, fasteners, and thumbscrews are securely in place after the icemaker is serviced. Make sure that none have fallen into the ice storage bin.

- 1) Turn off the power supply.
- 2) Remove the front panel, then move the control switch to the "OFF" position.
- 3) Clear any ice away from the bin control actuator paddle.
- 4) Carefully remove the bin control cable from the cable ties in the evaporator case, then remove the bin control from the bin control bracket and move to the front of the icemaker for cleaning.
- 5) Remove the actuator paddle from the switch mount. See Fig. 6.
- 6) Wipe down the bin control with a mixture of 1 part of Hoshizaki "Scale Away" and 25 parts of warm water. Rinse the parts thoroughly with clean water.
- 7) Reassemble the bin control and replace it in its correct position.
Note: If the magnet was removed for cleaning, be sure to replace it in its correct position.
- 8) Replace the bin control cable into the cable ties in the evaporator case, then move the control switch to the "ICE" position.
- 9) Turn on the power supply to start the automatic icemaking process.
- 10) Replace the front panel in its correct position.

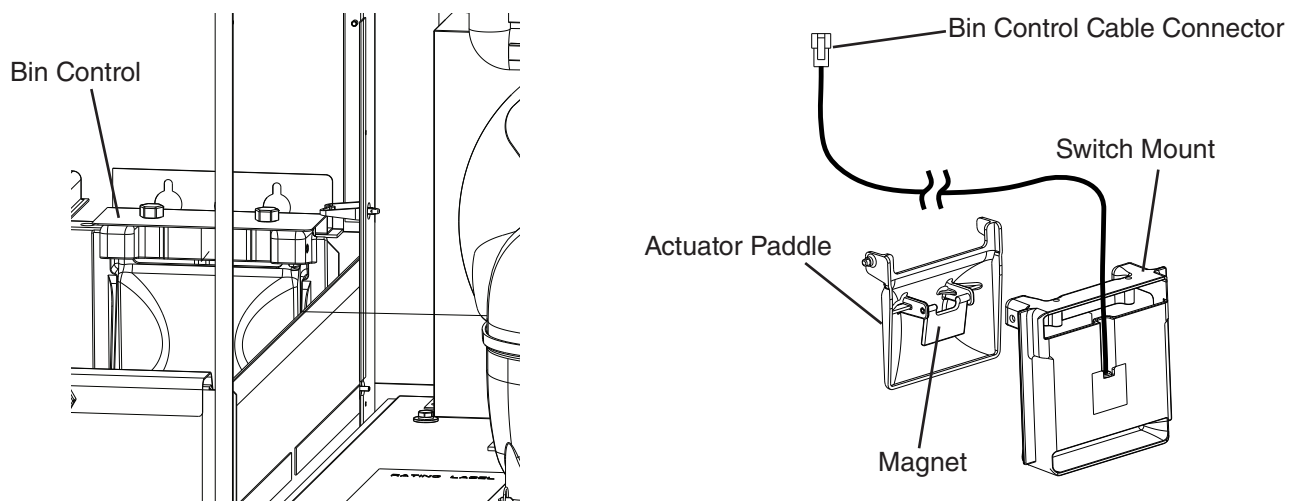


Fig. 6

V. Preparing the Appliance for Periods of Non-Use

NOTICE

- When storing the appliance for an extended time or in sub-freezing temperatures, follow the instructions below to prevent damage.
- To prevent damage to the water pump, do not leave the control switch in the "WASH" position for extended periods of time when the water tank is empty.

When the appliance is not used for two or three days under normal conditions, it is sufficient to move the control switch to the "OFF" position. When storing the appliance for an extended time or in sub-freezing temperatures, follow the instructions below.

1. Remove the water from the icemaker water supply line:

- 1) Turn off the power supply, then remove the front panel.
- 2) Move the control switch on the control box to the "OFF" position.
- 3) Close the icemaker water supply line shut-off valve, then open the icemaker water supply line drain valve.
- 4) Allow the line to drain by gravity.
- 5) Attach compressed air or carbon dioxide supply to the icemaker water supply line drain valve.
- 6) Move the control switch to the "ICE" position.
- 7) Replace the front panel in its correct position, then turn on the power supply.
- 8) Blow the icemaker water supply line out using compressed air or carbon dioxide.

2. Drain the water tank:

- 1) Turn off the power supply, then remove the front panel.
- 2) Remove the screw, and move the tank drain pipe to the drain position. See Fig. 5.
- 3) Close the icemaker water supply line.
- 4) Turn on the power supply.
- 5) Move the control switch to the "OFF" position.
- 6) Press the reset button. See Fig. 6.
The water tank will start to open.
Note: This procedure is necessary to protect the icemaker from freezing up at sub-freezing temperatures.
- 7) Turn off the power supply when the water tank has fully opened.
- 8) Move the tank drain pipe to the normal position, and secure it with the screw. See Fig. 5.
- 9) Replace the front panel.

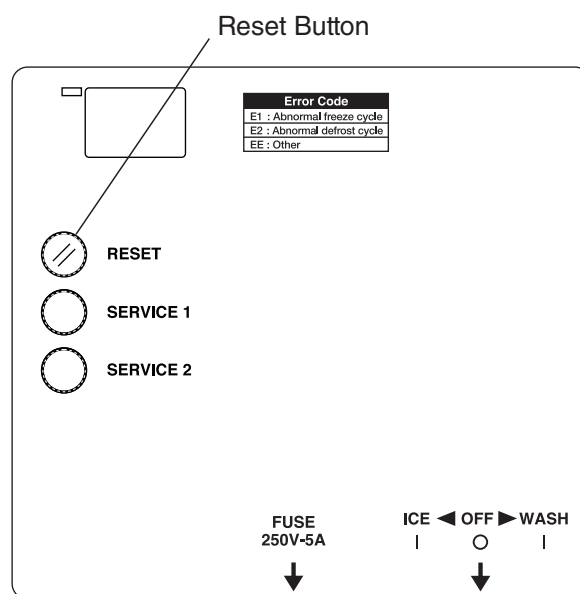


Fig. 6

VI. 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 maintenance conformément aux règlements nationaux.
- Mettre au rebut conformément aux règlements fédéraux ou locaux.
- 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 maintenance avec soin.
- 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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