Hoshizaki America, Inc.

Modular Crescent Cuber
Serenity Series

Model
KMS-1401MLH

Including
Condensing Unit Models SRK-14H/3

INSTRUCTION MANUAL

"A Superior Degree of Reliability"

www.hoshizaki.com

Issued: 11-5-2009

IMPORTANT

Only qualified service technicians should install, service, and maintain the icemaker. No installation, service, or maintenance should be undertaken until the technician has thoroughly read this Instruction Manual. Likewise, the owner/manager should not proceed to operate the icemaker until the installer has instructed them on its proper operation. Failure to install, operate, and maintain the equipment in accordance with this manual may adversely affect safety, performance, component life, and warranty coverage.

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

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

HOSHIZAKI AMERICA, INC.
618 Highway 74 South
Peachtree City, GA 30269

Attn: Hoshizaki Technical Support Department

Phone: 1-800-233-1940 Technical Support
(770) 487-2331
Fax: 1-800-843-1056
(770) 487-3360
E-mail: techsupport@hoshizaki.com

Web Site: www.hoshizaki.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 icemaker is installed and operated. Only qualified service technicians should install, service, and maintain the icemaker. Read the warnings contained in this booklet carefully as they give important information regarding safety. Please retain this booklet for any further reference that may be necessary.

CONTENTS

Important Safety Information

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

⚠ WARNING **Indicates a hazardous situation which could result in death or serious injury.**

CAUTION **Indicates a situation which could result in damage to the unit.**

IMPORTANT **Indicates important information about the use and care of the unit.**

⚠ WARNING

This icemaker 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 eventual damage caused by improper, incorrect, and unreasonable use.
To reduce the risk of death, electric shock, serious injury, or fire, follow basic precautions including the following:

- 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 severe damage to equipment.
- This unit requires an independent power supply. See the nameplate for proper voltage and breaker/fuse size. Failure to use a proper breaker or fuse can result in a tripped breaker, blown fuse, or damage to existing wiring. This could lead to heat generation or fire.
- **THIS UNIT MUST BE GROUNDED.** Failure to properly ground this unit could result in death or serious injury.
- This unit should be disassembled or repaired only by qualified service personnel to reduce the risk of electric shock, injury, or fire.
- Do not make any alterations to the unit. Alterations could result in electric shock, injury, fire, or damage to the unit.

I. Specifications

A. Nameplate Rating

1. KMS-1401MLH

HOSHIZAKI ICE MAKER

MODEL NUMBER	KMS-1401MLH
SERIAL NUMBER	
AC SUPPLY VOLTAGE	115-120/60/1
PUMP	120V 1.2FLA 60W
OTHER	115V 0.8A
DESIGN PRESSURE	HI-467PSI LO-230PSI
REFRIGERANT	R-404A

NOT INTENDED FOR OUTDOOR USE!
WARNING: RISK OF ELECTRICAL SHOCK, WHICH CAN CAUSE INJURY OR DEATH. DISCONNECT ALL REMOTE ELECTRICAL POWER SUPPLIES BEFORE SERVICING UNIT.

Hoshizaki America, Inc.
Peachtree City, GA
www.hoshizaki.com

c UL us LISTED
ICE MAKER WITHOUT STORAGE MEANS LESS CONDENSING UNIT
946Z

NSF
COMPONENT

AHRI CERTIFIED
www.ahridirectory.org
Automatic Commercial Ice-Makers
AHRI Standard 810

See the nameplate for electrical and refrigeration specifications. This nameplate is located on the rear panel.

IMPORTANT

This icemaker is designed for connection to Hoshizaki Remote Condensing Unit, Model SRK-14H or SRK-14H3 only! CONNECTION TO ANOTHER REMOTE CONDENSING UNIT WILL VOID WARRANTY.

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

2. Remote Condensing Unit Model SRK-14H

HOSHIZAKI CONDENSING UNIT

MODEL NUMBER	SRK-14H
SERIAL NUMBER	
AC SUPPLY VOLTAGE	208-230/60/1 (3 WIRE WITH NEUTRAL FOR 115V)
COMPRESSOR	230V 10.3RLA 65.5LRA
FAN	115V 2.6FLA (total) 126W
OTHER	115V 0.4A
MAXIMUM FUSE SIZE	20 AMPS
MAX. HACR BREAKER(USA ONLY)	20 AMPS
MAX. CIRC. BREAKER (CANADA ONLY)	20 AMPS
MINIMUM CIRCUIT AMPACITY	20 AMPS
DESIGN PRESSURE	HI-467PSI LO-230PSI
REFRIGERANT	R-404A 16 LB. 5 OZ.

FOR OUTDOOR USE
MOTOR-COMPRESSOR THERMALLY PROTECTED

WARNING: RISK OF ELECTRICAL SHOCK, WHICH CAN CAUSE INJURY OR DEATH. DISCONNECT ALL REMOTE ELECTRICAL POWER SUPPLIES BEFORE SERVICING UNIT.

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Peachtree City, GA
www.hoshizaki.com

c UL US LISTED
REFRIGERANT CONDENSER
18Z6

See the nameplate for electrical and refrigeration specifications. This nameplate is located on the side panel.

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

3. Remote Condensing Unit Model SRK-14H3

HOSHIZAKI CONDENSING UNIT

MODEL NUMBER	SRK-14H3
SERIAL NUMBER	
AC SUPPLY VOLTAGE	208-230/60/3
COMPRESSOR	230V 8.8RLA 82.0LRA
FAN	115V 2.6FLA (total) 126W
OTHER	115V 0.4A
MAXIMUM FUSE SIZE	20 AMPS
MAX. HACR BREAKER(USA ONLY)	20 AMPS
MAX. CIRC. BREAKER (CANADA ONLY)	20 AMPS
MINIMUM CIRCUIT AMPACITY	20 AMPS
DESIGN PRESSURE	HI-467PSI LO-230PSI
REFRIGERANT	R-404A 16 LB. 5 OZ.

FOR OUTDOOR USE
MOTOR-COMPRESSOR THERMALLY PROTECTED

WARNING: RISK OF ELECTRICAL SHOCK, WHICH CAN CAUSE INJURY OR DEATH. DISCONNECT ALL REMOTE ELECTRICAL POWER SUPPLIES BEFORE SERVICING UNIT.

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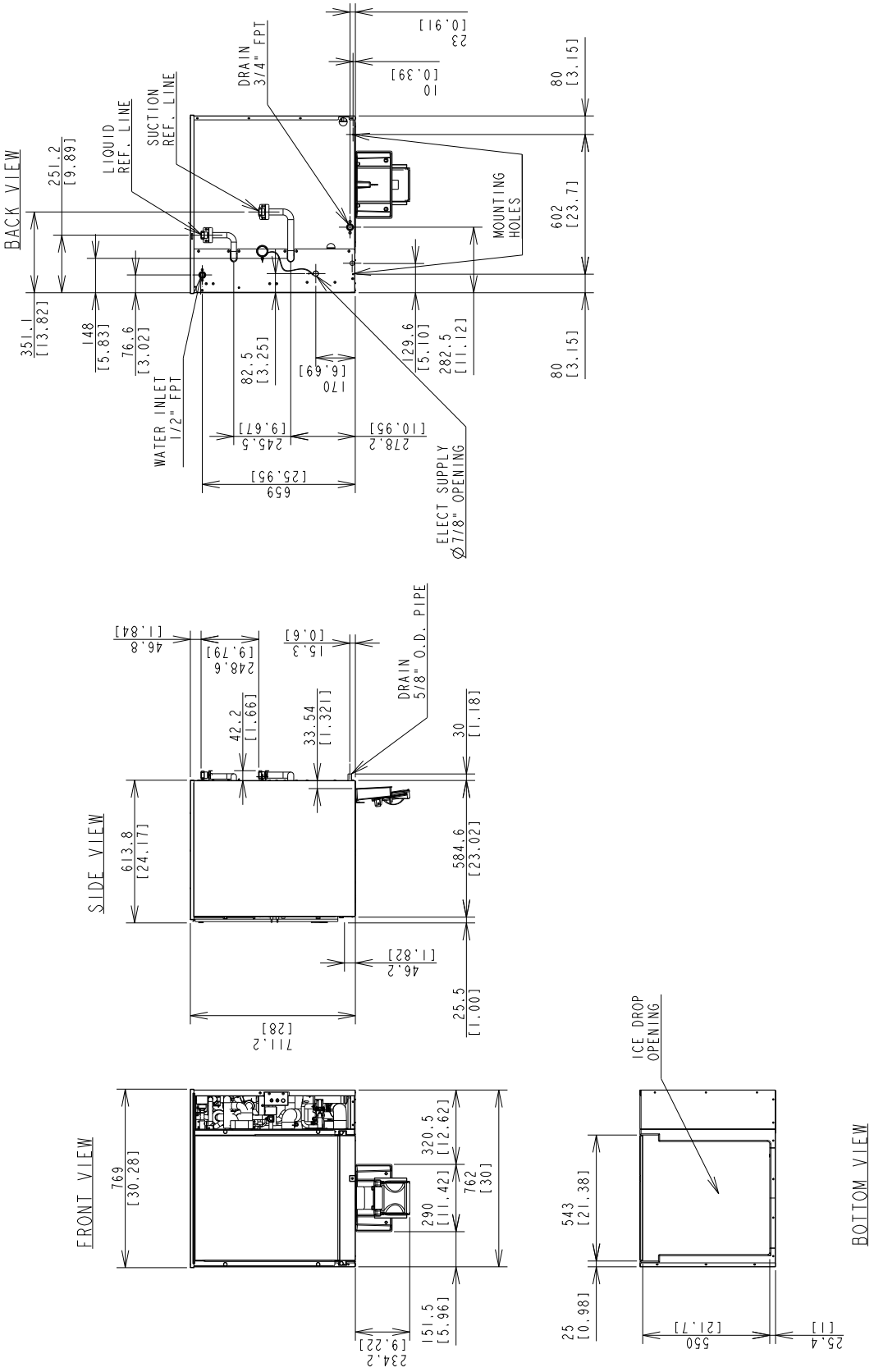
See the nameplate for electrical and refrigeration specifications. This nameplate is located on the side panel.

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

B. Dimensions/Connections

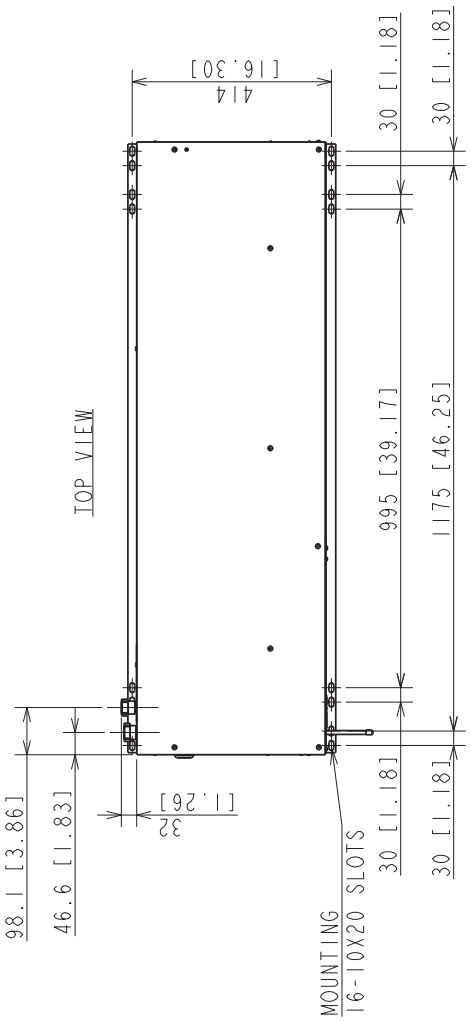
1. KMS-1401MLH

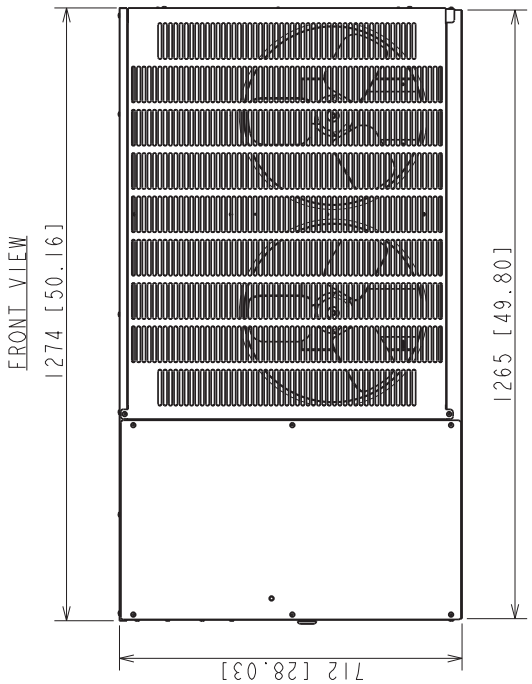
Unit: mm [in.]

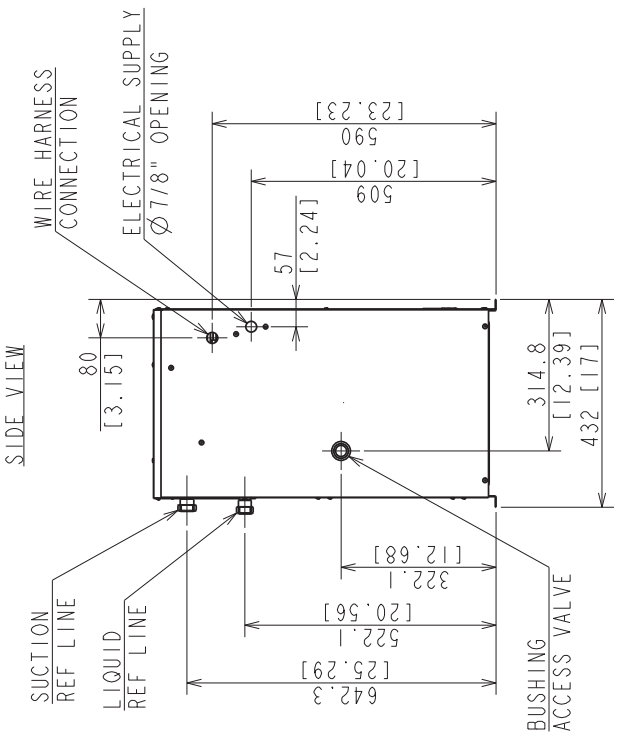


2. Remote Condensing Unit Model SRK-14H/3

Unit: mm [in.]







Note: Legs are included with condensing unit.
Leg height is 380 mm (14.96 in.).

II. Installation and Operating Instructions

⚠ WARNING

1. This icemaker must be installed in accordance with all applicable national, state, and local regulations.
2. **CHOKING HAZARD:** Ensure all components, fasteners, and thumbscrews are securely in place after installation. Make sure that none have fallen into the dispenser unit/storage bin.

A. Location

1. Icemaker

CAUTION

1. This icemaker is not intended for outdoor use. Normal operating ambient temperature should be within 45°F to 100°F (7°C to 38°C); Normal operating water temperature should 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.
2. This 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 "III.C. Preparing the Icemaker for Long Storage."

For best operating results:

- Icemaker should not be located next to ovens, grills, or other high heat producing equipment.
- No clearance is required for proper operation.
- Avoid choosing a site where dripping is not allowed.
- Location should provide a firm and level foundation for the equipment.

2. Remote Condensing Unit

CAUTION

The remote condensing unit is intended for outdoor use. Normal operating ambient temperature should be within -20°F to 122°F (-29°C to 50°C). Operation of the remote condensing unit, for extended periods, outside of this normal temperature range may affect icemaker performance.

The icemaker must be coupled with the appropriate remote condensing unit as listed below.

Hoshizaki Icemaker	Hoshizaki Remote Condensing Unit
KMS-1401MLH	SRK-14H/3

The remote condensing unit must be positioned in a permanent site under the following guidelines:

- A firm and flat site.
- A dry and well ventilated area with 24" (61 cm) clearance in both front and rear for proper air circulation and ease of maintenance and/or service should they be required. See Fig. 1.
- The maximum line set length is 66 feet.
- Vertical distance between the remote condensing unit and icemaker should not exceed 33 feet above or 10 feet below the icemaker. These distances are measured fitting to fitting. See Fig. 2.
- If the vertical distance between the remote condensing unit and the icemaker is greater than 20 feet (not to exceed 33 feet), an oil-trap (5/8" OD tubing) must be installed in the suction line. The oil-trap must be located halfway between the icemaker and remote condensing unit. This ensures sufficient oil return to the compressor.

CAUTION

Failure to install the equipment within these guidelines may adversely affect performance, component life, and warranty coverage.

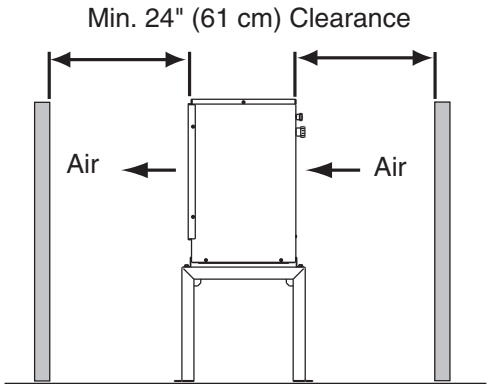


Fig. 1

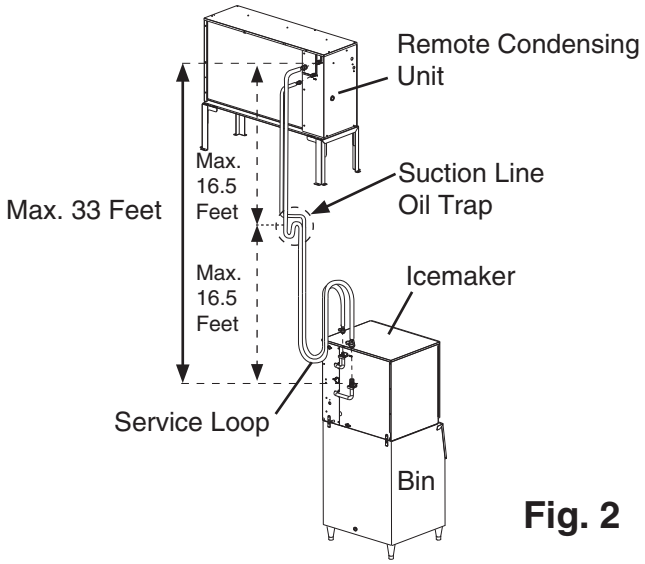


Fig. 2

B. Checks Before Installation

- Visually inspect the exterior of the shipping containers and immediately report any damage to the carrier. Upon opening the containers, 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 icemaker or remote condensing unit, they will not work properly.
- Ensure all components, fasteners, and thumbscrews are securely in place after installation.

1. Icemaker

- Remove the panels to prevent damage when installing the icemaker. (See "II.C. How to Remove Panels.")
- Remove the package containing the accessories.
- Remove the protective plastic film from the panels. If the icemaker is exposed to the sun or to heat, remove the film after the icemaker cools.
- Check that the refrigerant lines do not rub or touch lines or other surfaces.
- This icemaker can be installed on a dispenser unit or storage bin 30" wide or wider. Hoshizaki Ice Storage Bin, Model B-500 series is recommended. For further options, contact your local Hoshizaki distributor.
- **This icemaker is designed for connection to Hoshizaki Remote Condensing Unit, Model SRK-14H or SRK-14H3 only!**
  NOTE: CONNECTION TO ANOTHER REMOTE CONDENSING UNIT WILL VOID WARRANTY.

2. Remote Condensing Unit

- Remove the shipping carton, tape, and packing material.
- See the nameplate on the remote condensing unit. Check that your voltage supplied corresponds with the voltage specified on the nameplate.

⚠ WARNING

Electrical connections must be installed in accordance with applicable national, state, and local regulations.

- Remove the panels to prevent damage when installing the remote condensing unit (See "II.C. How to Remove Panels.")
- Remove the package containing the accessories.
- Check that the refrigerant lines do not rub or touch lines or other surfaces, and that the fan blades turn freely.
- Check that the compressor is snug on all mounting pads.

C. How to Remove Panels

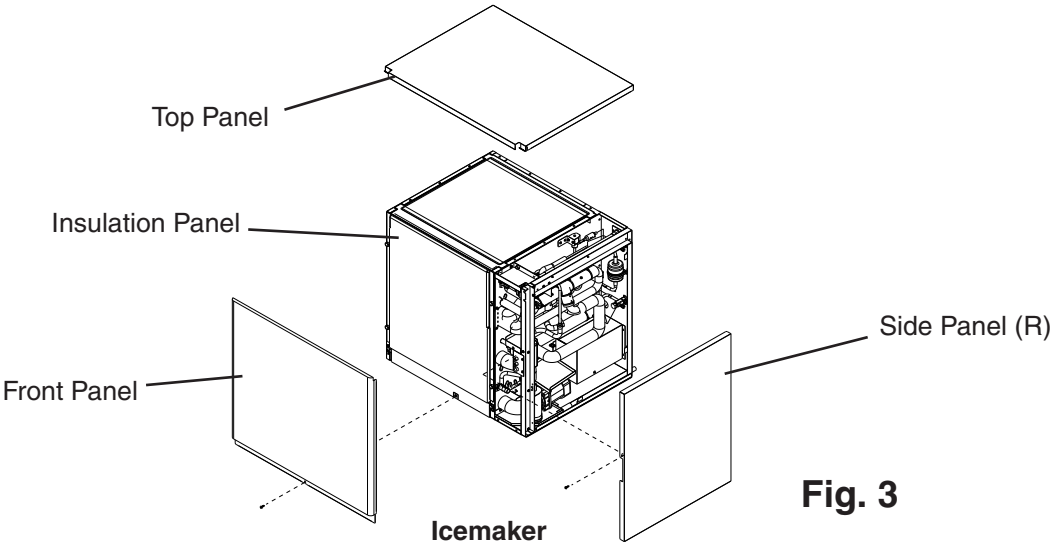
1. Icemaker

• Front Panel: Remove the screw. Lift up and towards you.

• Top Panel: Lift off.

• Side Panel (R): Remove the screw. Slide forward slightly and lift off.

• Insulation Panel: Remove the thumbscrews. Lift up slightly and pull towards you.



Icemaker

Fig. 3

2. Remote Condensing Unit

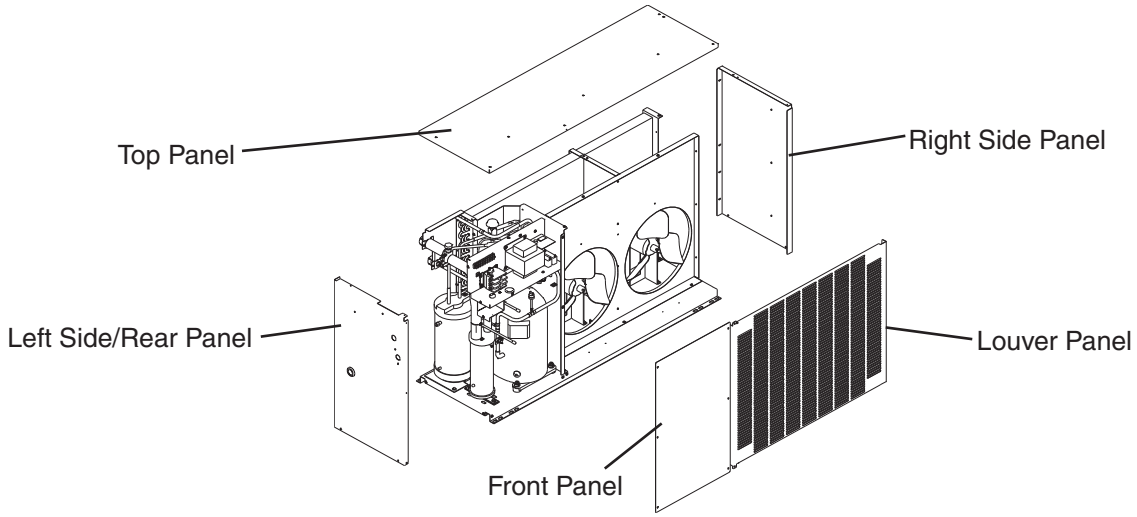
• Top Panel: Remove the screws and lift off.

• Front Panel: Remove the screws and lift off.

• Left Side/Rear Panel: Remove the screws and lift off.

• Louver Panel: Remove the screws and lift off.

• Right Side Panel: Remove the screws and lift off.



Remote Condensing Unit

Fig. 4

D. Installation of the Icemaker

CAUTION

1. Power supply and ground wire to the icemaker are supplied from the remote condensing unit. For details, see section "II.F. Electrical Connection."
2. Before operating the icemaker, the bin control must be installed correctly. Failure to properly install the bin control could result in ice backup and unit damage.

1. Setup

a) Dispenser Unit

When mounting the icemaker on top of a dispenser unit, gasket material must be placed around the dispenser top kit opening. Gasket material may be obtained through your local Hoshizaki Distributor.

CAUTION

The dispenser unit top kit opening MUST match the icemaker water tank opening. A smaller opening may result in water leaking out of the unit.

1) Follow the dispenser unit manufacturer's setup instructions.

2) Make sure the dispenser unit top kit opening and the icemaker water tank opening match. If not, cut the dispenser unit top kit to the dimensions needed to match the icemaker water tank opening. See Fig. 5.

3) Cut the gasket material to the dimensions shown in the table below.

Index No.	Description	Gasket Length	Part Number	Qty.
1	Gasket	L=608 mm	4A0808L01	2
2		L=543 mm		2

4) Adhere the four gaskets around the opening on the top of the dispenser unit top kit. See Fig. 6.

5) Using food grade silicone, seal the corner seams where the gaskets meet.

Unit: mm

Icemaker Water Tank Opening

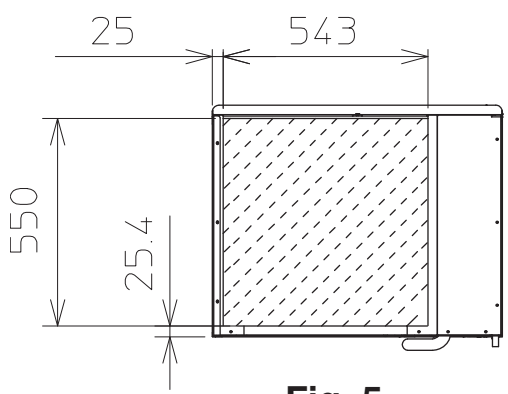


Fig. 5

Dispenser Unit Top Kit Opening

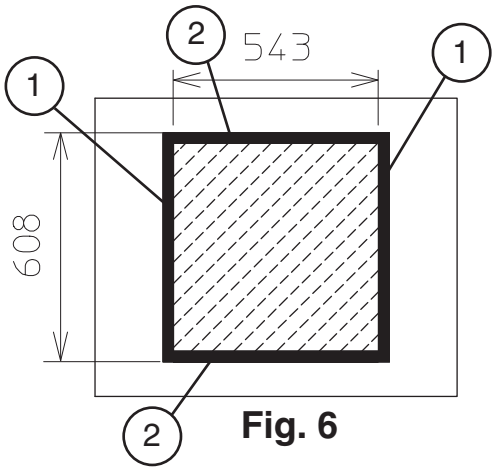


Fig. 6

6) Position the dispenser unit in the selected permanent location.

7) Place the icemaker on top of the dispenser unit and secure.

8) Level the icemaker and dispenser unit in both the left-to-right and front-to-rear directions.

b) Ice Storage Bin

HS-0224 Mechanical Bin Control Extension Kit and an HS top kit (see table below) are required when installing on a standard ice storage bin. For ordering information, contact your local Hoshizaki Distributor or Hoshizaki Technical Support at 1-800-233-1940.

Ice Storage Bin	HS Top Kit
B-500	HS-2129
B-700	HS-2130
B-800	HS-2131
B-900	HS-2132

1) Unpack the ice storage bin, and attach the 4 adjustable legs provided (bin accessory) to the bottom of the storage bin.

2) Install the HS top kit (see table above). Follow the installation instructions included with the HS kit.

3) Position the ice storage bin in the selected permanent location.

4) Place the icemaker on top of the ice storage bin and secure.

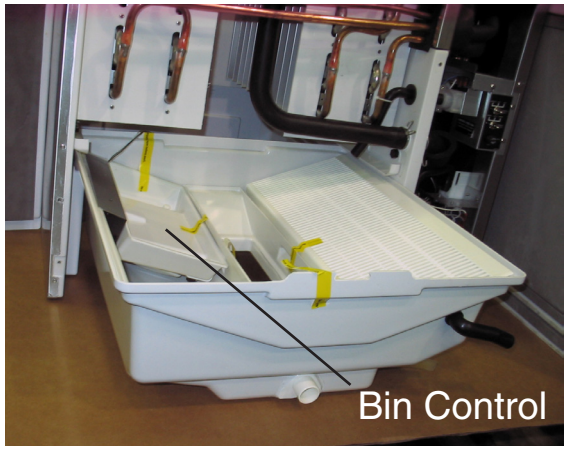
5) Level the icemaker and ice storage bin in both the left-to-right and front-to-rear directions.

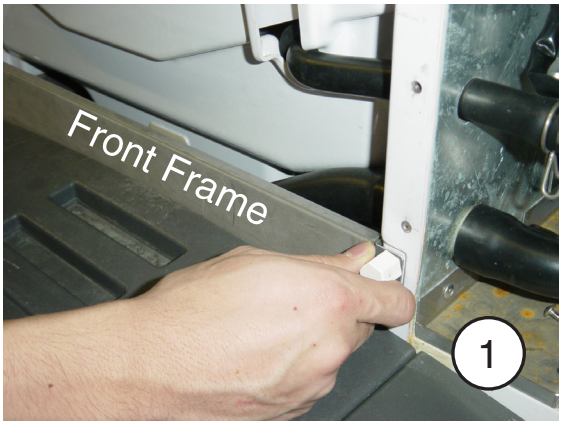
6) Install the HS-0224 mechanical bin control extension kit. Follow the installation instructions included with the HS kit.

2. Bin Control Installation

Follow the instructions below for bin control installation.

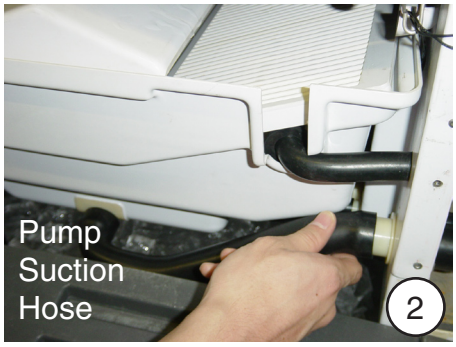
1) Remove the front frame: Remove the two thumbscrews and lift off.

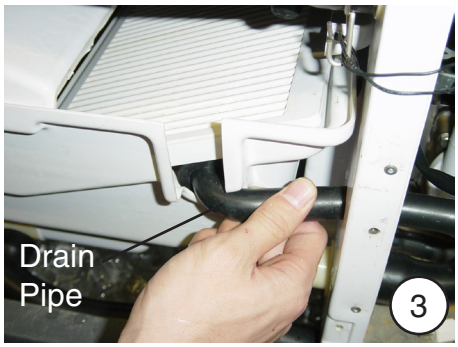




2) Disconnect the pump suction hose from the plastic pipe.

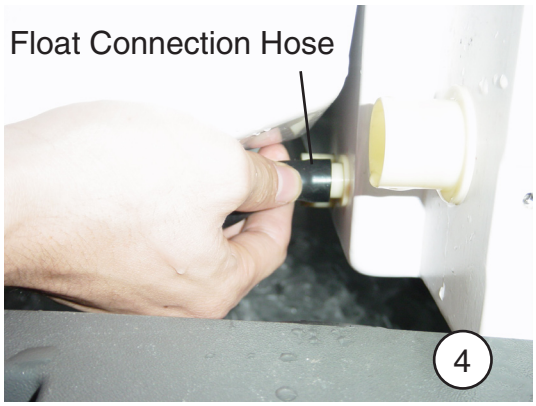
3) Disconnect the drain pipe from the plastic pipe.

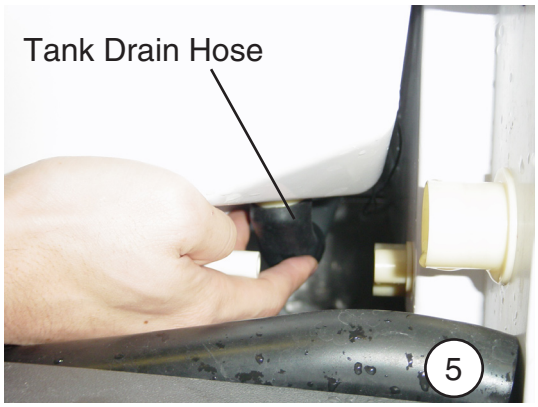




4) Disconnect the float connection hose from the plastic pipe.

5) Disconnect the tank drain hose from the tank. Although the tank can be removed at this point, do not remove it yet because the bin control is taped to the tank.





CAUTION

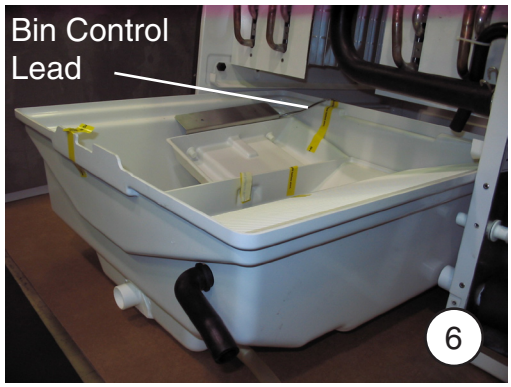
The bin control lead is routed through the back of the icemaker. If care is not taken when removing the tank, the lead could be severed.

6) Pull out the tank only as far as shown in 6.

7) Remove the cube guide, then remove the bin control assembly.

8) **Being careful not to pull the bin control lead,** remove the tank completely from the icemaker.

9) Remove the remaining pieces of tape from the tank and leave the tank out of the icemaker for now.



a) Dispenser Unit

10) Loosen the 2 outer switch cover thumbscrews from the switch cover. See Fig. 7.

11) Remove the 2 inner switch cover thumbscrews. Slide the bin control out of the switch mount.

12) Mount the bin control to the extension bracket (accessory bag) using the 2 thumbscrews from the accessory bag. Route the bin control wire from the outer corner of the bin control up through the gap in the extension bracket.

13) Using the 2 thumbscrews removed in step 11, mount the extension bracket to the switch cover.

14) Slide the outer switch cover thumbscrews (bin control assembly) into the slots on the switch bracket.

15) Slide the bin control assembly all the way back until the switch mount is flush with the dispenser unit bin wall. See Fig. 8.

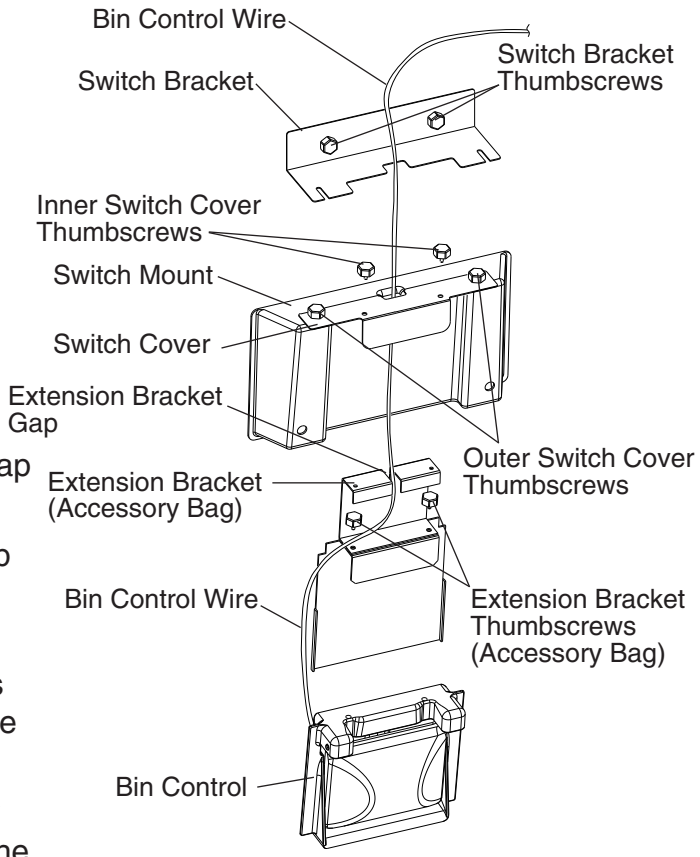
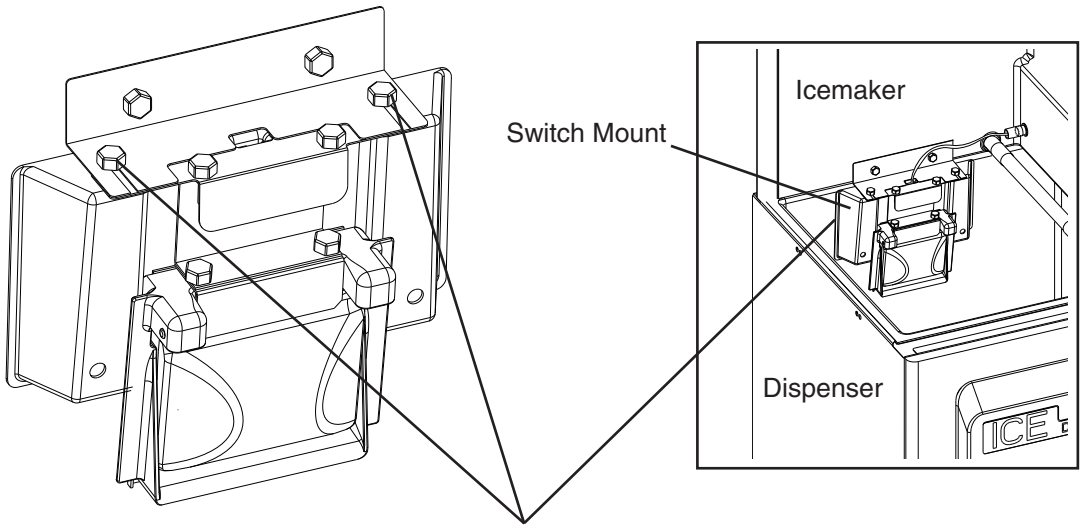


Fig. 7

CAUTION

On dispenser unit applications, DO NOT leave a gap between the bin control and the wall of the dispenser. If a gap is left between the bin control and the wall of the dispenser unit, ice may get between them and damage the bin control. Therefore, make sure there is no gap.



Dispenser Unit : Slide the bin control assembly all the way back until the switch mount is flush with the dispenser unit bin wall

Fig. 8

16) Pull the bin control lead so that there is no slack in the ice drop area, then secure the hose that the lead runs through with a cable tie. See Fig. 9.

17) Replace the tank in the icemaker and reconnect the 4 hoses.

18) Replace the front frame and insulation in their correct positions and secure with the thumbscrews.

19) Replace the panels in their correct positions.

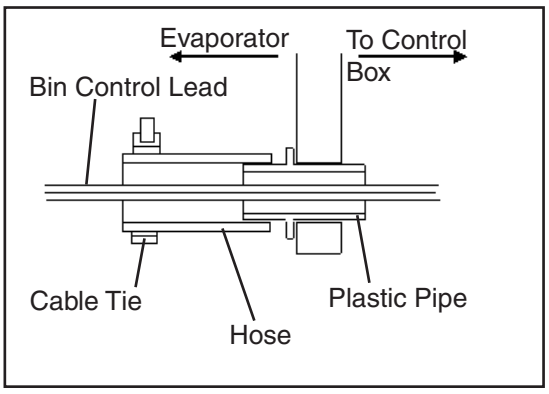


Fig. 9

b) Ice Storage Bin

See "II.D.1.b) Ice Storage Bin Application.

E. Installation of the Remote Condensing Unit

⚠ WARNING

1. Installation of remote condensing unit must be performed by properly trained and EPA-certified service personnel.
2. Failure to install the equipment within these guidelines may adversely affect safety, performance, component life, and warranty coverage
3. Power supply and ground wire to the icemaker are supplied from the remote condensing unit. For details, see section "II.F. Electrical Connection."

1. Setup

1) Secure the legs to the remote condensing unit with the 16 bolts and nuts provided. See Fig. 10.

2) The legs have 8 mounting holes. Secure the legs with 8 bolts (not included).

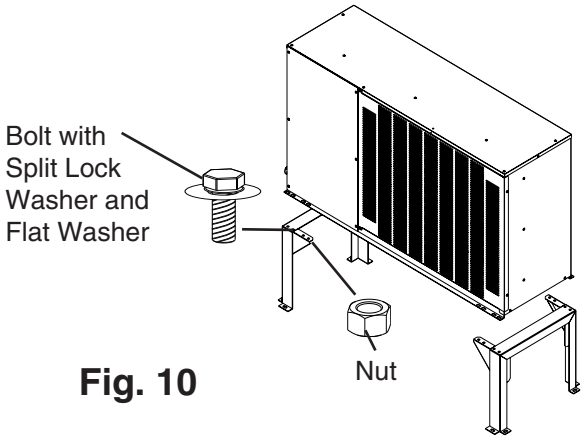


Fig. 10

2. Line Set

CAUTION

The icemaker, line set, and remote condensing unit must contain the same type of refrigerant. Mixing of refrigerants will result in improper operation and possible damage to the refrigeration system.

- Precharged factory line sets, available as optional equipment from Hoshizaki America, are recommended. For details see "II.E.2.a) Factory Line Set Installation." Field fabricated line sets are allowed. For details, see "II.E.2.b) Field Fabricated Line Set Installation."

- The maximum line set length is 66 feet.
- Vertical distance between the remote condensing unit and icemaker should not exceed 33 feet above or 10 feet below the icemaker. These distances are measured fitting to fitting. See Fig. 2.
- If the vertical distance between the remote condensing unit and the icemaker is greater than 20 feet (not to exceed 33 feet), an oil-trap (5/8" OD tubing) must be installed in the suction line. The oil-trap must be located halfway between the icemaker and remote condensing unit. This ensures sufficient oil return to the compressor.

a) Factory Line Set Installation

1) Route the factory line set (5/8" OD suction line and 1/2" OD liquid line) from the remote condensing unit to the icemaker. Leave a service loop behind the icemaker to allow the icemaker to be pulled out for service. See Fig. 11. Factory fabricated line sets are precharged and do not need to be evacuated. If the line set is too long or too short, see "II.E.2.a)(1) Factory Line Set Modification."

CAUTION

1. Ensure that there are no traps and no kinks in the line set.
2. Do not coil extra line set.

2) Connect the refrigerant lines to the appropriate male fittings on the icemaker first and then at the remote condensing unit. Make a proper connection as follows:
   a. Remove the protective covers from the male fitting and female coupling.
   b. Apply Polyol Ester (POE) refrigerant oil or Parker Super O Lube to the entire male fitting, including O-ring, diaphragm, and threads before making the connection. See Fig. 12.

CAUTION

Do not use thread sealant on the fittings. Use POE refrigerant oil or Parker Super O Lube only.

   c. Make sure the male fitting and female coupling are properly aligned, then start the connection by hand to ensure that it is not cross threaded.
   d. Tighten the connection with a wrench until it is tight. At this point, the nut has covered most of the threads on the male fitting.
   e. Mark a reference line on the female coupling and the remote condensing unit or icemaker panel. Using a backup wrench on the back of the female coupling, tighten the six-sided nut of the female coupling an additional 1/6 turn. See Fig. 13.

(1) Factory Line Set Modification

1) Recover the line set charge through the Schrader access ports on the Parker quick connect couplings and store it in an approved container. Do not discharge the refrigerant into the atmosphere. Remove the extra line set length or add extra tubing. When adding extra tubing, insulate the additional copper tubes separately. Braze the connections.

2) Use an electronic leak detector or soap bubbles to check for leaks. Add a trace of refrigerant to the lines through the Schrader access ports on the Parker quick connect couplings (if using an electronic leak detector), and then raise the pressure using nitrogen gas (140 PSIG). **WARNING! DO NOT use R-404A as a mixture with pressurized air for leak testing**.

3) Evacuate through the Schrader access ports on the Parker quick connect couplings and charge with R-404A refrigerant vapor to a pressure of 15 to 30 PSIG. Go to step 2 in "II.E.2.a) Factory Line Set Installation."

b) Field Fabricated Line Set Installation

1) Route a 5/8" OD copper tube suction line and a 1/2" OD copper tube liquid line between the remote condensing unit and the icemaker. Leave a service loop behind the icemaker to allow the icemaker to be pulled out for service. See Fig. 11.

CAUTION

1. Ensure that there are no unnecessary traps and no kinks in the line set.
2. Do not coil extra line set. Fabricate the line set to the proper length.

2) Insulate the two copper tubes separately.

3) Install Parker quick connect couplings on each end. HS-0231, a universal quick connect coupling kit available as optional equipment from Hoshizaki America, is recommended. **CAUTION! Before brazing, remove the Schrader valve core from the access port. When brazing, protect the coupling by using a wet cloth to prevent the coupling from overheating.**

4) Allow the coupling to cool, then replace the Schrader valve core.

5) Use an electronic leak detector or soap bubbles to check for leaks. Add a trace of refrigerant to the to the lines through the Shrader access ports on the Parker quick connect couplings (if using an electronic leak detector), and then raise the pressure using nitrogen gas (140 PSIG). **WARNING! DO NOT use R-404A as a mixture with pressurized air for leak testing.**

6) Evacuate through the Shrader access ports on the Parker quick connect couplings and charge with R-404A refrigerant vapor to a pressure of 15 to 30 PSIG.

7) Connect the refrigerant lines to the appropriate male fittings on the icemaker first and then at the remote condensing unit. Make a proper connection as follows:
   a. Remove the protective covers from the male fitting and female coupling.
   b. Apply Polyol Ester (POE) refrigerant oil or Parker Super O Lube to the entire male fitting, including O-ring, diaphragm, and threads before making the connection. See Fig. 12.

CAUTION

Do not use thread sealant on the fittings. Use POE refrigerant oil or Parker Super O Lube only.

   c. Make sure the male fitting and female coupling are properly aligned, then start the connection by hand to ensure that it is not cross threaded.
   d. Tighten the connection with a wrench until it is tight. At this point, the nut has covered most of the threads on the male fitting.
   e. Mark a reference line on the female coupling and the remote condensing unit or icemaker panel. Using a backup wrench on the back of the female coupling, tighten the six-sided nut of the female coupling an additional 1/6 turn. See Fig. 13.

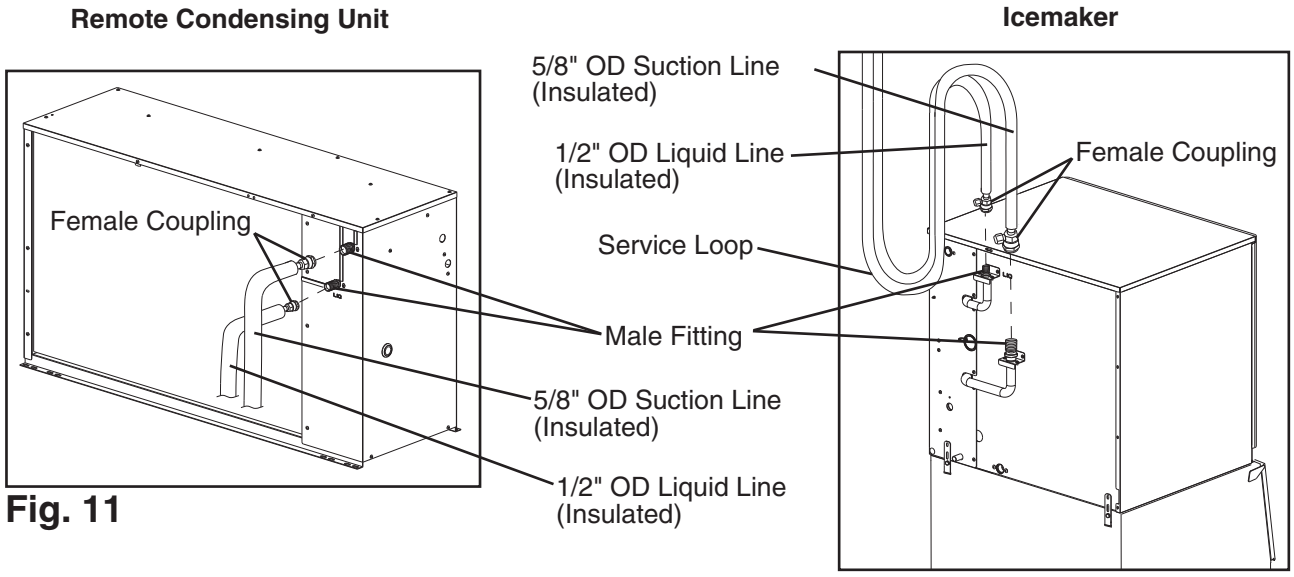


Fig. 11

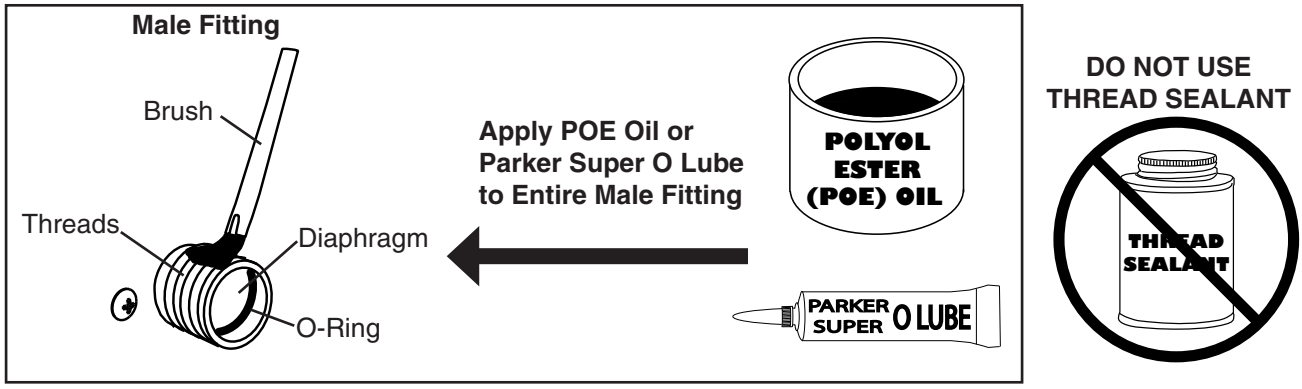


Fig. 12

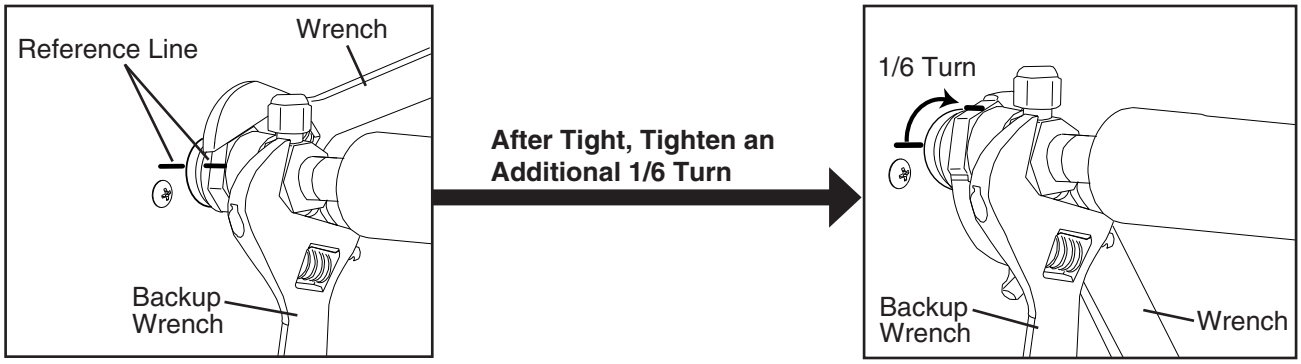


Fig. 13

F. Electrical Connection

1. Icemaker

Power supply and ground connection to the icemaker are supplied from the remote condensing unit via the wire harness provided.

⚠ WARNING

1. Icemaker power supply and ground provided from the remote condensing unit via the wire harness. Do not connect the wire harness leads to an external power source.
2. **THE ICEMAKER MUST BE GROUNDED.** Failure to properly ground this unit could result in death, serious injury, or severe damage to equipment.
3. To reduce the risk of electric shock, do not connect the remote condenser unit power supply until after all wire harness connections have been made.

- Usually an electrical permit and services of a licensed electrician are required.
- The opening for the wire harness connection is 7/8" DIA to fit a 1/2" trade size conduit.

1) Route the wire harness from the icemaker to the remote condensing unit.

2. Remote Condensing Unit

⚠ WARNING

1. Electrical connection must be hard-wired to the remote condensing unit 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 severe damage to equipment.
2. This unit requires an independent power supply. See the nameplate for proper voltage and breaker/fuse size. Failure to use a proper breaker or fuse can result in a tripped breaker, blown fuse, or damage to existing wiring. This could lead to heat generation or fire.
3. **THIS UNIT MUST BE GROUNDED.** Failure to properly ground this unit could result in death or serious injury.
4. Electrical connections must be made in accordance with the instructions on the "WARNING" tag, provided with the pig tail leads in the remote condensing unit junction box. See Fig. 14a and 14b.

- Usually an electrical permit and services of a licensed electrician are required.
- The maximum allowable voltage variation is ±10 percent of the nameplate rating.
- On single phase models, the white lead must be connected to the neutral conductor of the power source. Miswiring results in severe damage to the icemaker.
- On three phase models, the transformer's voltage tap switch must be positioned to match incoming voltage at startup.
- **CAUTION! On three phase models, connect the highest incoming voltage supply ("stinger leg") to the red power supply wire (red common wire to the compressor).**
- The openings for the power supply and wire harness connections are 7/8" DIA to fit a 1/2" trade size conduit.

1) Connect the wire harness to the appropriate terminals on the remote condensing unit's terminal board. Be sure to connect the ground wire (included in the wire harness). Use the wire harness supplied, or fabricate a wire harness using wire of an appropriate gage and outdoor rating. Use the wiring label or Fig. 15 as a reference.

2) Supply power from the electrical panel to the remote condensing unit. This differs from KM style installations.

3) Connect the wire leads in the power supply junction box to the power supplied from the disconnect or electrical panel. Connect a ground wire to the ground screw.

⚠ WARNING

1. Be sure the ground circuit and wire harness connections for both units have been properly installed.
2. The remote condensing unit should have power for a minimum of 4 hours prior to startup to prevent compressor damage.

4) Replace all removed parts and panels in their correct positions.

5) Turn on the power supply to the remote condensing unit.

SRK-14H

⚠ WARNING

ELECTRICAL CONNECTION

THIS UNIT MUST BE GROUNDED
Failure to properly ground or wire this unit could result in death, serious injury, or severe damage to the icemaker. The white lead must be connected to the neutral conductor of the power source.
See diagram below.

208-230/60/1
(3 wire with neutral for 115V)

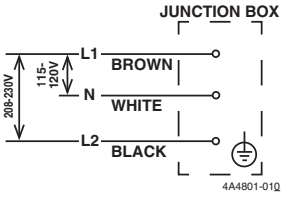


Fig. 14a

SRK-14H3

⚠ WARNING

ELECTRICAL CONNECTION

THIS UNIT MUST BE GROUNDED
Failure to properly ground or wire this unit could result in death, serious injury, or severe damage to the icemaker.
This unit must be connected to a three-phase power source.
The transformer's voltage tap switch must be positioned to match incoming voltage at startup.
See diagram below.

208-230/60/3

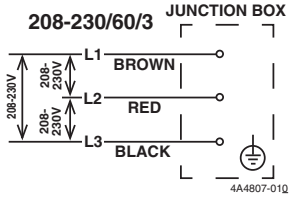
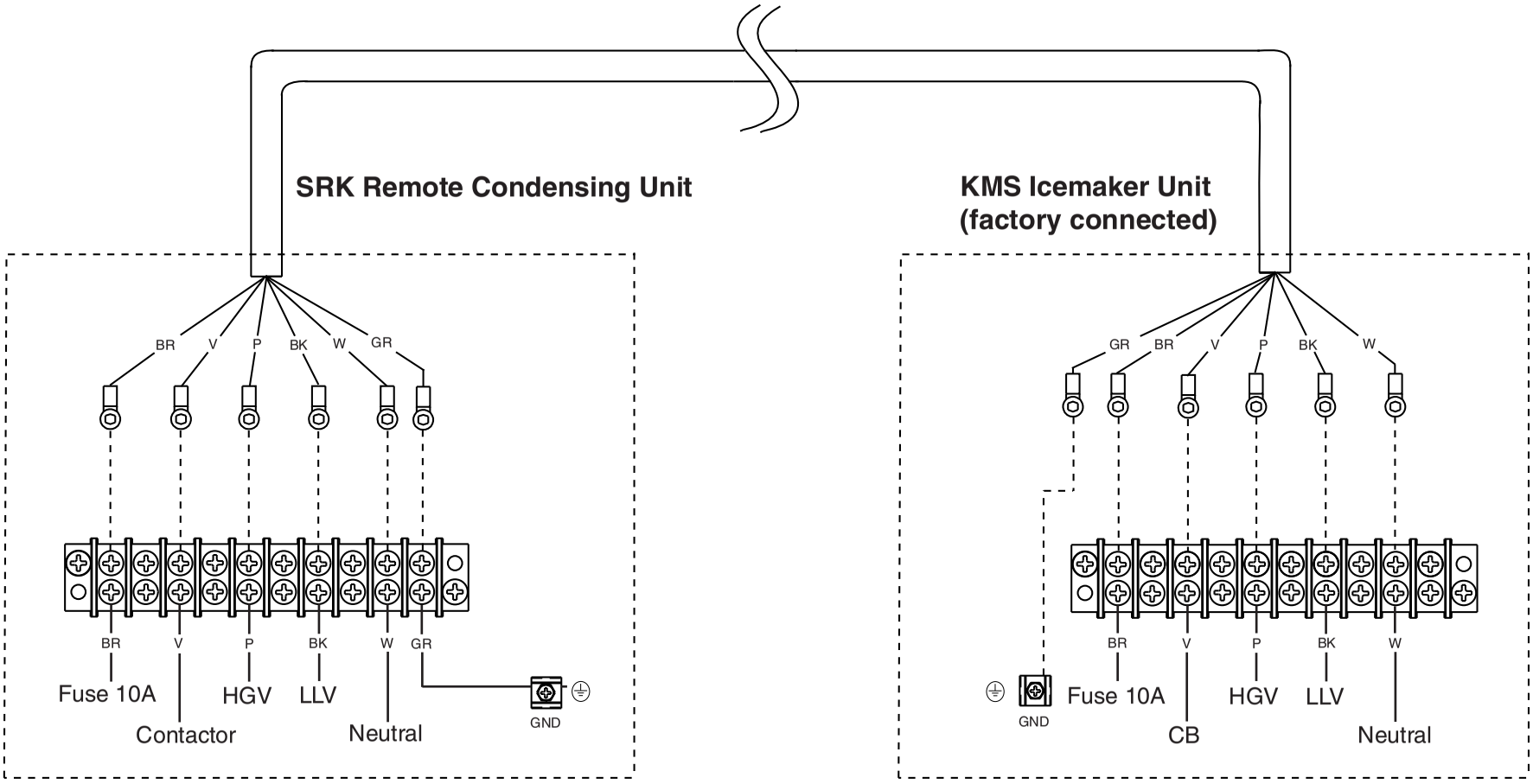


Fig. 14b

Wire Harness Connections

Fig. 15



Wire Color Code:
BK-black
BR-brown
GR-green
P-pink
V-violet
W-white

Legend:
GND-ground
HGV-hot gas valve
CB-control board
LLV-liquid line valve

G. Water Supply and Drain Connections
See Fig. 16

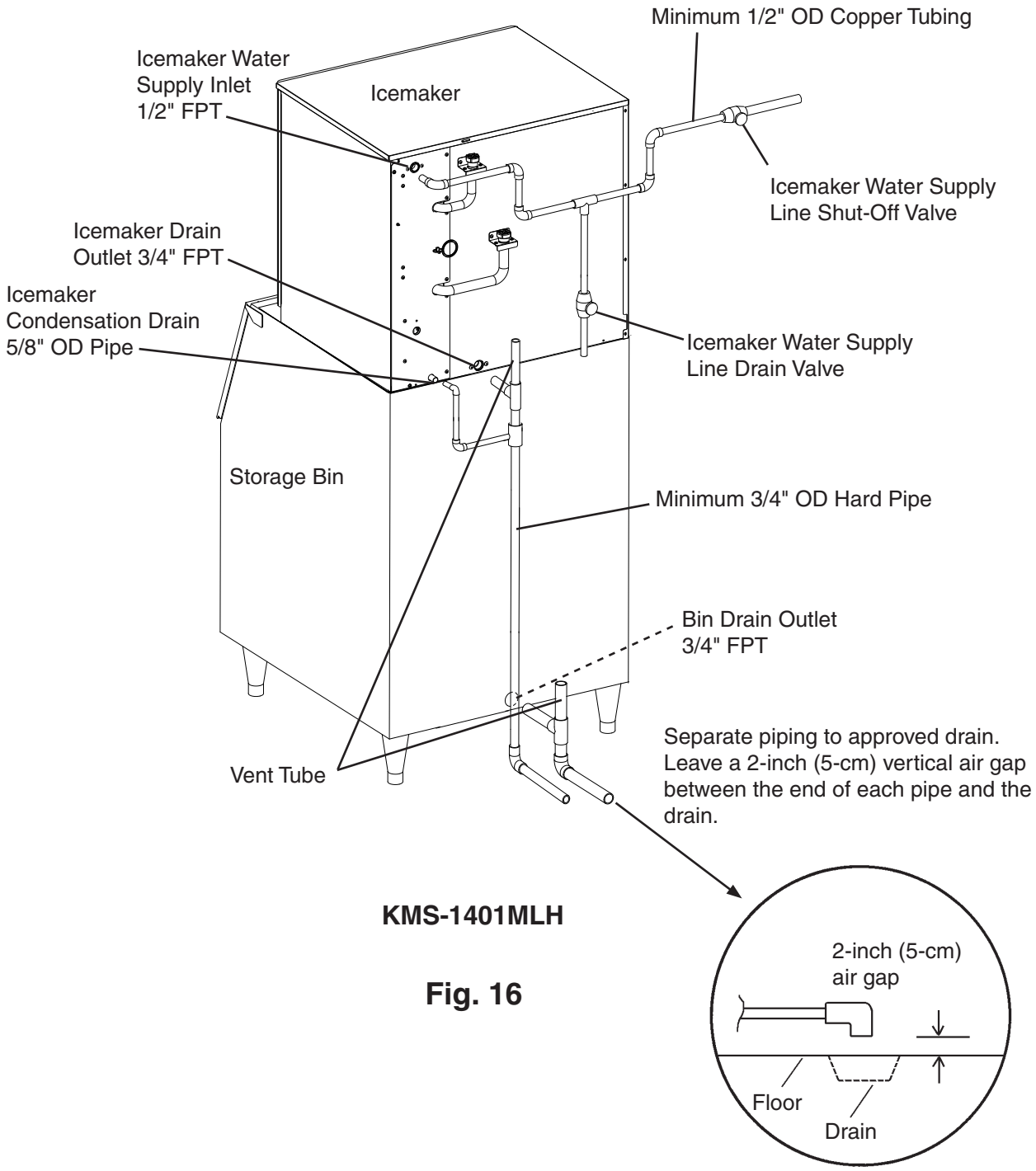
⚠ WARNING

1. Water supply and drain connections must be installed in accordance with applicable national, state, and local regulations.
2. Normal operating water temperature should be within 45°F to 90°F (7°C to 32°C). Operation of the icemaker, for extended periods, outside of this normal temperature range may affect icemaker performance.
3. To prevent damage to equipment, do not operate the icemaker when the water supply is off, or if the pressure is below 10 PSIG. Do not run the icemaker until the proper water pressure is reached.

- A plumbing permit and services of a licensed plumber may be required in some areas.
- External filters, strainers, or softeners may be required depending on water quality. Contact your local Hoshizaki distributor for recommendations.
- Water supply pressure should be a minimum of 10 PSIG and a maximum of 113 PSIG. If the pressure exceeds 113 PSIG, the use of a pressure reducing valve is required.
- The icemaker and condensation drain line(s) and dispenser unit/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, condensation drain, and dispenser unit/storage bin and the floor drain.

1. Icemaker

- Icemaker water supply inlet is 1/2" female pipe thread (FPT). A minimum of 1/2" OD copper tubing is recommended for the icemaker water supply line.
- An icemaker water supply line shut-off valve and drain valve should be installed.
- Icemaker drain outlet is 3/4" FPT. A minimum of 3/4" OD hard pipe is recommended for the icemaker drain line. Condensation drain outlet is 5/8" OD stainless tube. The condensation drain line can be connected to the icemaker drain line or can be run separately.



KMS-1401MLH

Fig. 16

H. Final Checklist

⚠ 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/storage bin.

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 24" (61 cm) clearance around the remote condensing unit for proper air circulation and ease of maintenance and service?
4) Have the shipping carton, tape, and packing material been removed from the icemaker and remote condensing unit? Are the cube guides and tank separator in their correct positions?
5) Are all components, fasteners, and thumbscrews securely in place?
6) Have all water tank hoses been reconnected after installing the bin control?
   Note: On dispenser unit applications, confirm that there is no gap between the switch mount and the dispenser unit bin wall.
7) Have all electrical and water connections been made? Do electrical and water connections meet all national, state, and local code and regulation requirements?
8) Has the power supply voltage been checked or tested against the nameplate rating? Has a proper ground been installed to the remote condensing unit and icemaker unit? On three phase model, has the transformer's voltage tap switch been positioned to match incoming voltage? For details, see section "II.F. Electrical Connection."
9) Has the electrical power supply been on to the remote condensing unit for a minimum of 4 hours?
10) Are the water supply line shut-off valve and drain valve installed? Has the water supply pressure been checked to ensure a minimum of 10 PSIG and a maximum of 113 PSIG?
    Note: The icemaker may stop running when the water supply is off, or if the pressure is below 10 PSIG. When the proper water pressure is reached, the icemaker automatically starts running again.
11) Are the compressor hold-down bolts snug? Have the refrigerant lines been checked to make sure they do not rub or touch other lines or surfaces? Have the fan blades been checked to make sure they turn freely?
12) Is the refrigerant line set tightened and free of leaks and kinks?
13) Has the end user been given the instruction manual, and instructed on how to operate the icemaker and the importance of the recommended periodic maintenance?
14) Has the end user been given the name and telephone number of an authorized service agent?
15) Has the warranty card been filled out and forwarded to the factory for warranty registration?

I. Startup

⚠ WARNING

1. All parts are factory-adjusted. Improper adjustments may adversely affect safety, performance, component life, and warranty coverage.
2. If the unit is turned off, wait for at least 3 minutes before restarting the unit to prevent damage to the compressor.
3. To prevent damage to the water pump seal, do not leave the control switch in the "SERVICE" position when the water tank is empty.
4. At startup, confirm that all internal and external connections are free of leaks.
5. The remote condensing unit should have power for a minimum of 4 hours prior to startup to prevent compressor damage.

1) Open the water supply line shut-off valve.
2) Remove the front panel.
3) Move the control switch on the control box to the "ICE" position.
4) Replace the front panel in its correct position.
5) Turn on the power supply, and allow the water tank to fill with water and the icemaker to operate for a total of 10 minutes.
6) Move the control switch to the "OFF" position, and drain the water tank by removing the front panel, front insulation panel, front frame, and suction hose. See Fig. 17.
7) Replace the removed parts, except the front panel, in their correct positions.
8) Clean the dispenser unit/storage bin liner using a neutral cleaner. Rinse thoroughly after cleaning.
9) Move the control switch to the "ICE" position to start the automatic icemaking process.
10) To confirm bin control operation, press and hold the bin control's actuator paddle during the first 5 minutes of the freeze cycle. The icemaker should shut down in approximately 15 seconds.
11) Replace the front panel in its correct position.

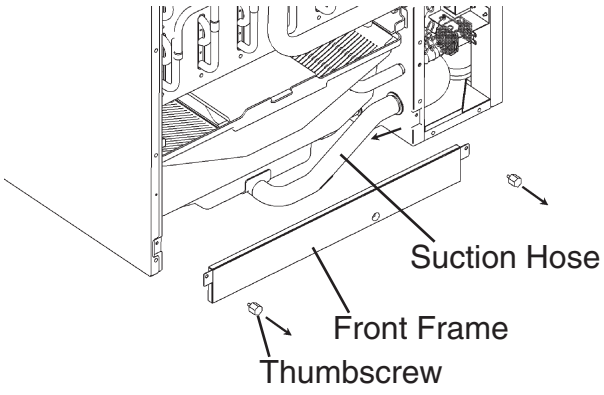


Fig. 17

III. Cleaning and Maintenance

⚠ WARNING

CHOKING HAZARD: Ensure all components, fasteners, and thumbscrews are securely in place after any cleaning or maintenance is done to the unit. Make sure that none have fallen into the dispenser unit/storage bin.

A. Cleaning and Sanitizing Instructions

Hoshizaki recommends cleaning and sanitizing this unit at least once a year. More frequent cleaning and sanitizing, however, may be required in some existing water conditions.

⚠ WARNING

1. To prevent injury to individuals and damage to the icemaker, do not use ammonia type cleaners.
2. Carefully follow any instructions provided with the bottles of cleaning and sanitizing solution.
3. Always wear liquid-proof gloves and goggles to prevent the cleaning and sanitizing solutions from coming into contact with skin or eyes.
4. To prevent damage to the water pump seal, do not operate the icemaker with the control switch in the "SERVICE" position when the water tank is empty.

1. Cleaning Procedure

1) Dilute 22 fl. oz. (650 ml) of the recommended cleaner Hoshizaki "Scale Away" or "LIME-A-WAY" (Economics Laboratory, Inc.) with 4 gal. (15 l) of warm water.

2) Remove all ice from the evaporator and the dispenser unit/storage bin.
   Note: To remove cubes on the evaporator, turn off the power supply and turn it back on after 3 minutes. The harvest cycle starts and the cubes will be removed from the evaporator.

3) Turn off the power supply. Remove the front panel.

4) Place the control switch in the "SERVICE" position. Then place the service switch in the "DRAIN" position.

5) Replace the front panel in its correct position, then turn on the power supply for 2 minutes.

6) Turn off the power supply.

7) Remove the front panel.

8) In bad or severe water conditions, clean the float switch as described below. Otherwise, continue to step 9.
   a. Remove the right-side panel.
   b. Disconnect the vent tube from the top of the float switch assembly, then remove the float switch assembly. Remove the rubber boot from the bottom of the assembly.
   c. Twist the wire stem on top of the float switch housing to release the float, then lower it out of the housing.

d. Wipe down the float switch assembly's housing, shaft, and float with cleaning solution. Clean the inside of the rubber boot and hose with cleaning solution. Rinse the parts thoroughly with clean water.
e. Reassemble the float switch assembly and replace it and the rubber boot in their correct positions. Reconnect the vent tube.
f. Replace the right-side panel in its correct position.

9) Remove the insulation panel by removing the thumbscrews, then pour the cleaning solution into the water tank.
10) Move the service switch to the "WASH" position.
11) Replace the insulation panel and the front panel in their correct positions.
12) Turn on the power supply to start the washing process.
13) Turn off the power supply after 30 minutes. Remove the front panel.
14) Move the service switch to the "DRAIN" position.
15) Replace the front panel in its correct position, then turn on the power supply for 2 minutes.
16) Turn off the power supply, then remove the front panel.
17) Move the control switch to the "ICE" position.
18) Replace the front panel in its correct position.
19) Turn on the power supply to fill the water tank with water.
20) Turn off the power supply after 3 minutes.
21) Remove the front panel.
22) Move the control switch to the "SERVICE" position, then move the service switch to the "WASH" position.
23) Replace the front panel in its correct position.
24) Turn on the power supply to rinse off the cleaning solution.
25) Turn off the power supply after 5 minutes.
26) Remove the front panel.
27) Move the service switch to the "DRAIN" position.
28) Replace the front panel in its correct position, then turn on the power supply for 2 minutes.
29) Turn off the power supply. Remove the front panel.
30) Repeat steps 17 through 29 three more times to rinse thoroughly.
Note: If you do not sanitize the icemaker, go to step 13 in "2. Sanitizing Procedure."

2. Sanitizing Procedure - Following Cleaning Procedure

1) Dilute 2 fl. oz. (60 ml or 4 tbs) of a 5.25% sodium hypochlorite solution (chlorine bleach) with 4 gal. (15 l) of warm water.
2) Remove the insulation panel if it is in its normal position.
3) Pour the sanitizing solution into the water tank.

4) Move the service switch to the "WASH" position.

5) Replace the insulation panel and the front panel in their correct positions.

6) Turn on the power supply to start the sanitizing process.

7) Turn off the power supply after 15 minutes. Remove the front panel.

8) Move the service switch to the "DRAIN" position.

9) Replace the front panel in its correct position, then turn on the power supply for 2 minutes.

10) Turn off the power supply. Remove the front panel.

11) Repeat steps 17 through 29 in "1. Cleaning Procedure" two times to rinse thoroughly.

12) Repeat steps 1 through 11 one more time.

13) Move the control switch to the "ICE" position.

14) Replace the front panel in its correct position.

15) Clean the dispenser unit/storage bin liner using a neutral cleaner. Rinse thoroughly after cleaning.

16) Turn on the power supply to start the automatic icemaking process.

B. Maintenance

This icemaker must be maintained individually, referring to the instruction manual and labels provided with the icemaker.

⚠ WARNING

1. Only qualified service technicians should attempt to service or maintain this icemaker.
2. Disconnect power before performing service or maintenance.

1. Stainless Steel Exterior

To prevent corrosion, wipe the exterior occasionally with a clean, soft cloth. Use a damp cloth containing a neutral cleaner to wipe off oil or dirt buildup.

2. Dispenser Unit/Storage Bin and Scoop

- Wash your hands before removing ice. Use the plastic scoop provided (bin accessory).
- The dispenser unit/storage bin is for ice use only. Do not store anything else in the dispenser unit/storage bin.
- Clean the scoop and the dispenser unit/storage bin liner using a neutral cleaner. Rinse thoroughly after cleaning.

3. Condenser

Check the condenser once a year, and clean the coil if required by using a brush or vacuum cleaner. More frequent cleaning may be required depending on location.

C. Preparing the Icemaker for Long Storage

CAUTION

1. When storing the icemaker for an extended time or in sub-freezing temperatures, follow the instructions below to prevent damage.
2. To prevent damage to the water pump seal, do not operate the icemaker with the control switch in the "SERVICE" position when the water tank is empty.

When the icemaker 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 icemaker 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. Confirm that the service switch is in the "CIRC" position.
3) Remove the front insulation, front frame, right side panel, and control box cover.
4) Disconnect the white thermistor connector from the control board WHITE K3 connector, then unplug the water pump connector at the water pump.
5) Wait 3 minutes, then move the control switch to the "ICE" position. Confirm that the bin control switch is closed and calling for ice. The green "BC CLOSED" LED on the control board should be on.
6) Once LED 1 and 2 on the control board energize (the order of the LEDs from the outer edge of the control board is 1,4,3,2), close the inlet water supply line shut-off valve and open the inlet water supply line drain valve. Allow the line to drain by gravity.
7) Disconnect the harvest water valve hose in the evaporator section and blow out the water line to the harvest water valve using compressed air or carbon dioxide. This will clear water from the harvest water valve.
8) Move the control switch to the "OFF" position.
9) Move the service switch to the "WASH" position and the control switch to the "SERVICE" position.
10) Using the same hose as with the harvest water valve, blow out the wash valve using compressed air or carbon dioxide.
11) Move the service switch to the "CIRC" position and the control switch to the "OFF" position.
12) Remove the 4 hoses connected to the water tank. Allow the tank and hoses to completely drain.
13) Move the control switch to the "ICE" position.
14) Using the fill water valve hose, blow out the water line using compressed air or carbon dioxide. This will clear water from the fill water valve.
15) Move the control switch to the "OFF" position.

16) Disconnect the float switch vent hose from the drain hose tee. Move the service switch to the "DRAIN" position and the control switch to the "SERVICE" position.

17) From the tee on the drain hose, blow out the drain valve using compressed air or carbon dioxide.

18) Move the service switch to the "CIRC" position and the control switch to the "OFF" position.

19) Reconnect the thermistor to the K3 connector on the control board. Reconnect the water pump connector.

20) Close the inlet water supply line drain valve.

21) Remove all ice from the dispenser unit/storage bin and clean the dispenser unit/storage bin liner using a neutral cleaner. Rinse thoroughly after cleaning.

22) Turn off the power supply.

23) Replace all removed parts and panels in their correct positions.

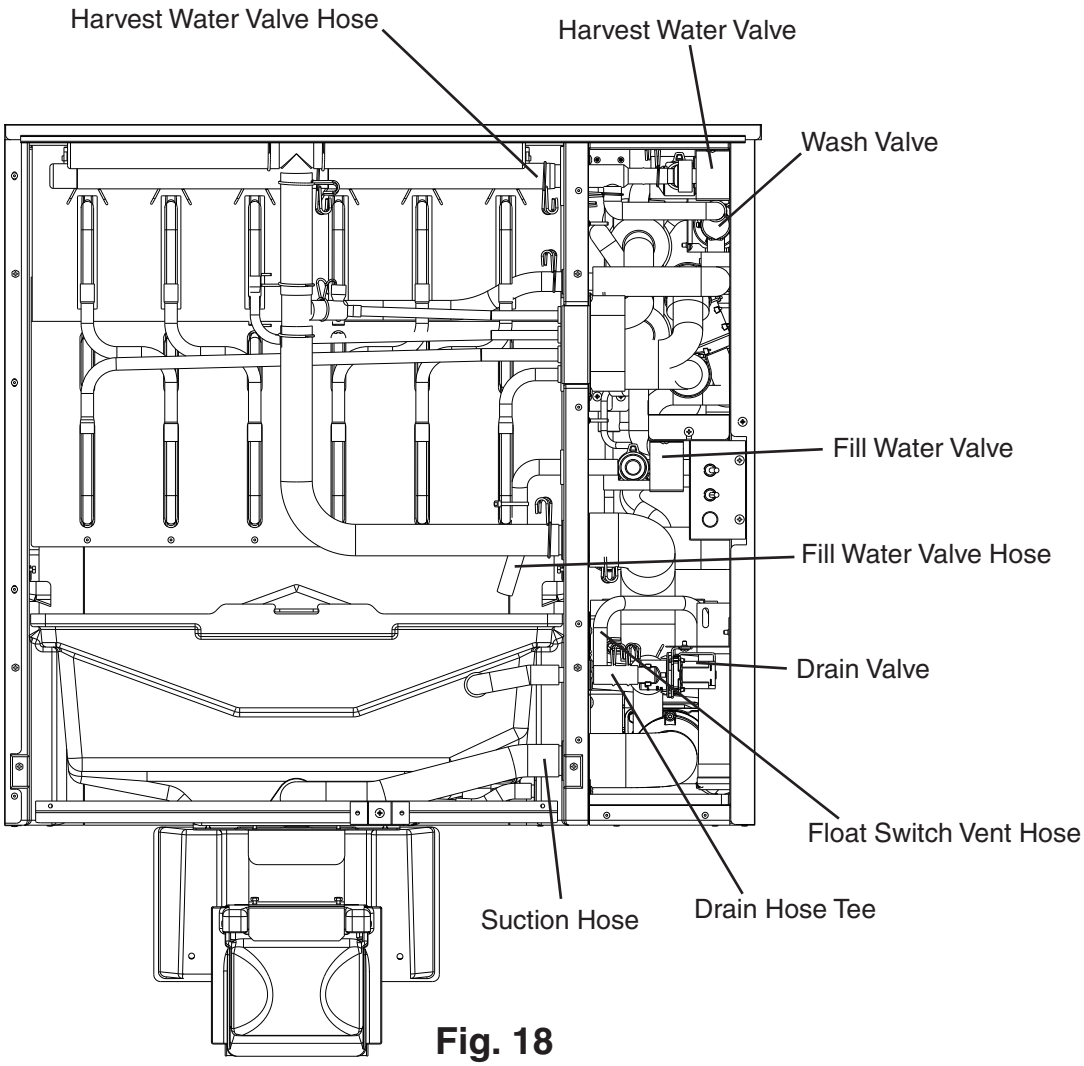


Fig. 18

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