

Hoshizaki America, Inc.

Cubelet Icemaker / Dispenser

Model
DT-400BAH-OS



“A Superior Degree
of Reliability”

www.hoshizaki.com

INSTRUCTION MANUAL



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Revised: 6-14-2010

IMPORTANT

Only qualified service technicians should attempt to install, service, or maintain this 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, 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 Service
(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.

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I. Specifications

A. Nameplate Rating

HOSHIZAKI ICE MAKER	
MODEL NUMBER	DT-400BAH-OS
SERIAL NUMBER	
AC SUPPLY VOLTAGE	115-120/60/1
AMPERES	10.0
DESIGN PRESSURE	HI-460PSI LO-290PSI
REFRIGERANT	404A 1 LB 1 OZ

**MOTOR-COMPRESSOR THERMALLY PROTECTED,
NOT INTENDED FOR OUTDOOR USE!**

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

ICE MAKER
946Z

186090

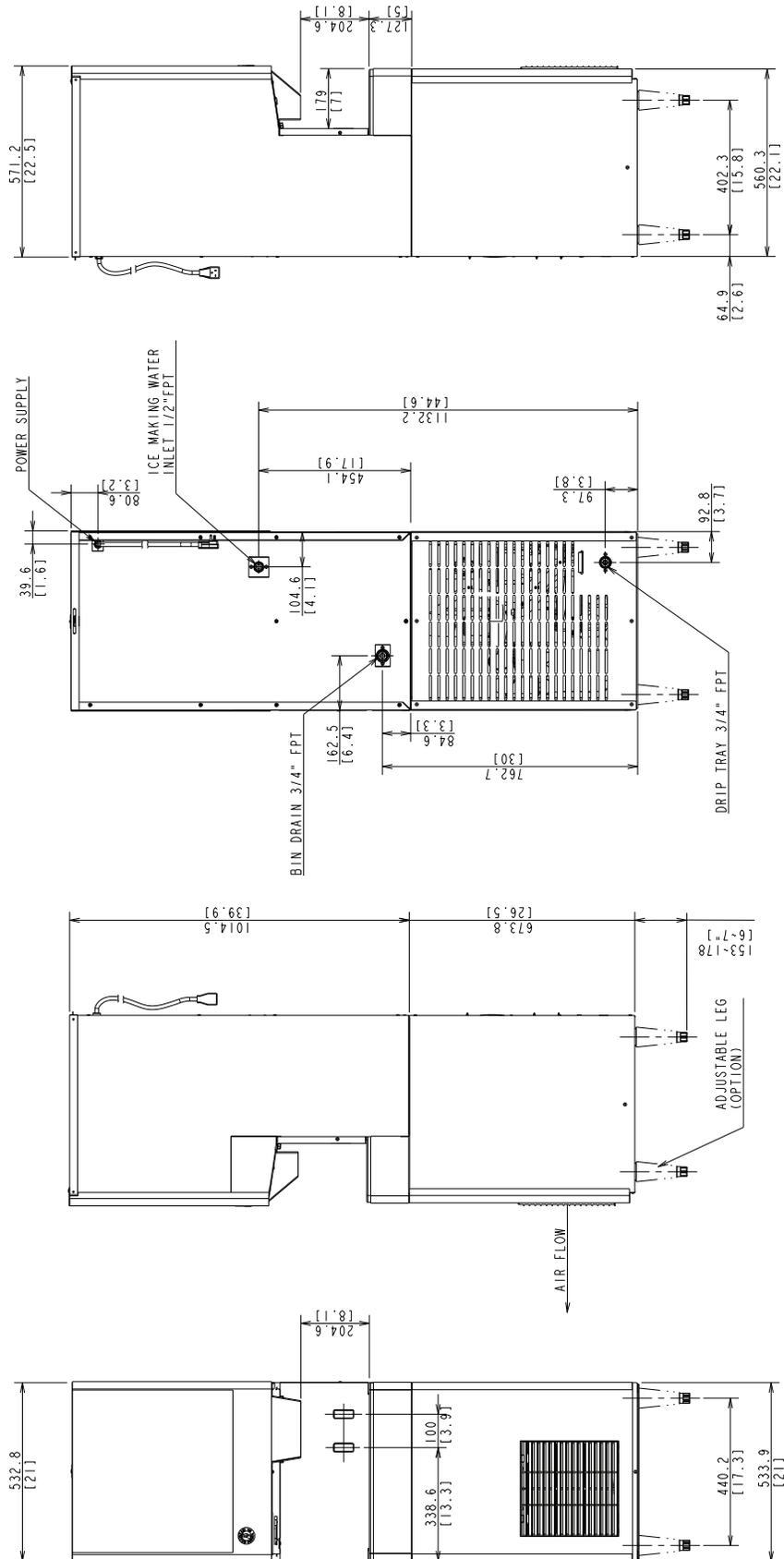
See the nameplate for electrical and refrigeration specifications. This nameplate is located on the rear panel.

Since this nameplate is located on the rear panel of the icemaker, it cannot be read when the back of the icemaker is against a wall or against another piece of kitchen equipment. Therefore, the necessary electrical and refrigeration information is also on the rating label, which can be easily seen by removing only the lower front panel of the icemaker.

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

B. Dimensions / Connections

Unit: mm [inch]



II. Installation and Operating Instructions

A. Checks Before Installation

IMPORTANT

1. Install in accordance with all applicable national, state, and local regulations.
2. Ensure all components, fasteners, and thumbscrews are securely in place after installation.
3. Remove the shipping carton, tape, and packing material. If any are left in the icemaker, it will not work properly.

- 1) Remove the panels to prevent damage when installing the icemaker. See "II.B. How to Remove Panels."
- 2) Remove the package containing the accessories.
- 3) 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.
- 4) Check that the refrigerant lines do not rub or touch lines or other surfaces, and that the fan blade turns freely.
- 5) Check that the compressor is snug on all mounting pads.
- 6) See the nameplate on the rear panel, and check that your voltage supplied corresponds with the voltage specified on the nameplate.

B. How to Remove Panels

See Fig. 1

- Upper Front Panel: Remove the screw. Lift up and towards you.
- Top Panel: Remove the thumbscrew. Lift up at front slightly, push rearward and lift off.
- Apron Panel: Remove the screws and pull towards you.
- Side Panel: Remove the screws. Slide forward slightly, and lift off.
- Lower Front Panel: Remove the screw and pull towards you.

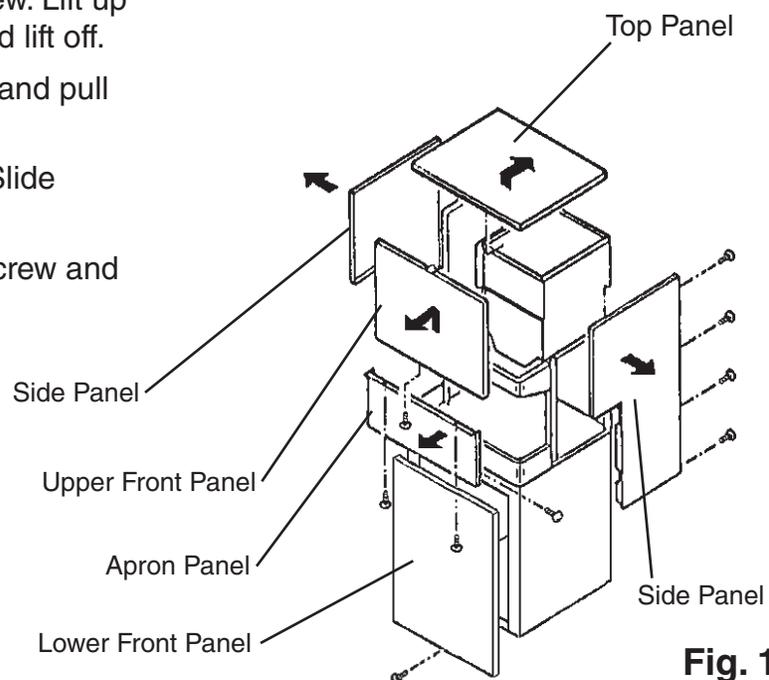


Fig. 1

C. Location

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.D. Preparing the Icemaker for Long Storage."

IMPORTANT

DT-400BAH-OS: Sunlight, direct and indirect, can have an effect on the operation of the dispense sensors. If a problem is noticed, the machine should be moved out of direct sunlight and/or farther away from any outside windows.

For best operating results:

- Icemaker should not be located next to ovens, grills, or other high heat producing equipment.
- Avoid choosing a site where dripping is not allowed.
- Allow 6" (15 cm) clearance at rear, and top for proper air circulation and ease of maintenance and/or service should they be required.
- Location should provide a firm and level foundation for the equipment.

D. Setup

- 1) Attach the four adjustable legs provided to the bottom of the icemaker.
- 2) Position the icemaker in the selected permanent location.
- 3) Level the icemaker in both the left-to-right and front-to-rear directions.

E. Electrical Connection

See Fig. 2

WARNING

The GREEN ground wire in the factory-installed power cord is connected to a screw on the bracket where the cord enters the machine. If it becomes necessary to remove or replace the power cord, be sure to connect the power cord's ground wire to this screw upon reattachment.

- Electrical connections must be installed in accordance with applicable national, state, and local regulations.
- The icemaker requires an independent power supply. See the nameplate for proper voltage and breaker/fuse size.
- Usually an electrical permit and services of a licensed electrician are required.
- The maximum allowable voltage variation is ± 10 percent of the nameplate rating.

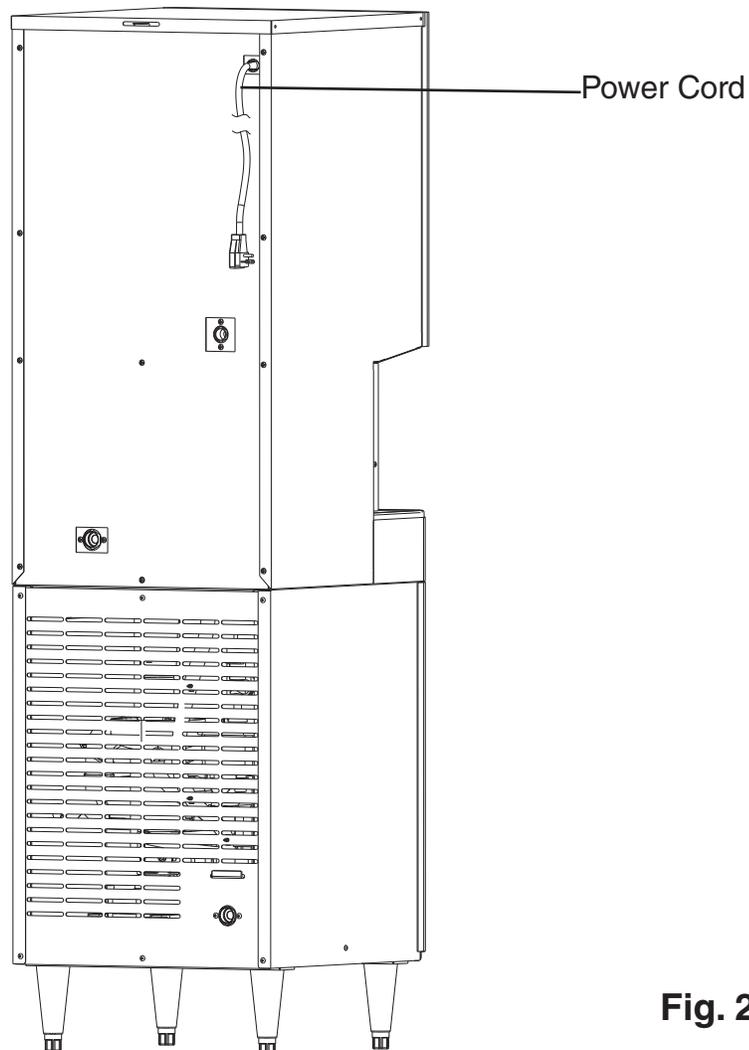


Fig. 2

F. Water Supply and Drain Connections

See Fig. 3

CAUTION

To prevent damage to the equipment, do not operate this 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.

- Water supply inlet is 1/2" female pipe thread (FPT).
- A water supply line shut-off valve and drain valve should be installed. A minimum of 3/8" nominal copper water tubing is recommended for the water supply lines.
- 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 minimum recommended drain line is 3/4" nominal hard pipe.
- Drain outlets are 3/4" FPT.
- 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 and the floor drain.
- This icemaker must be installed in accordance with applicable national, state, and local regulations.
- A plumbing permit and services of a licensed plumber may be required in some areas.

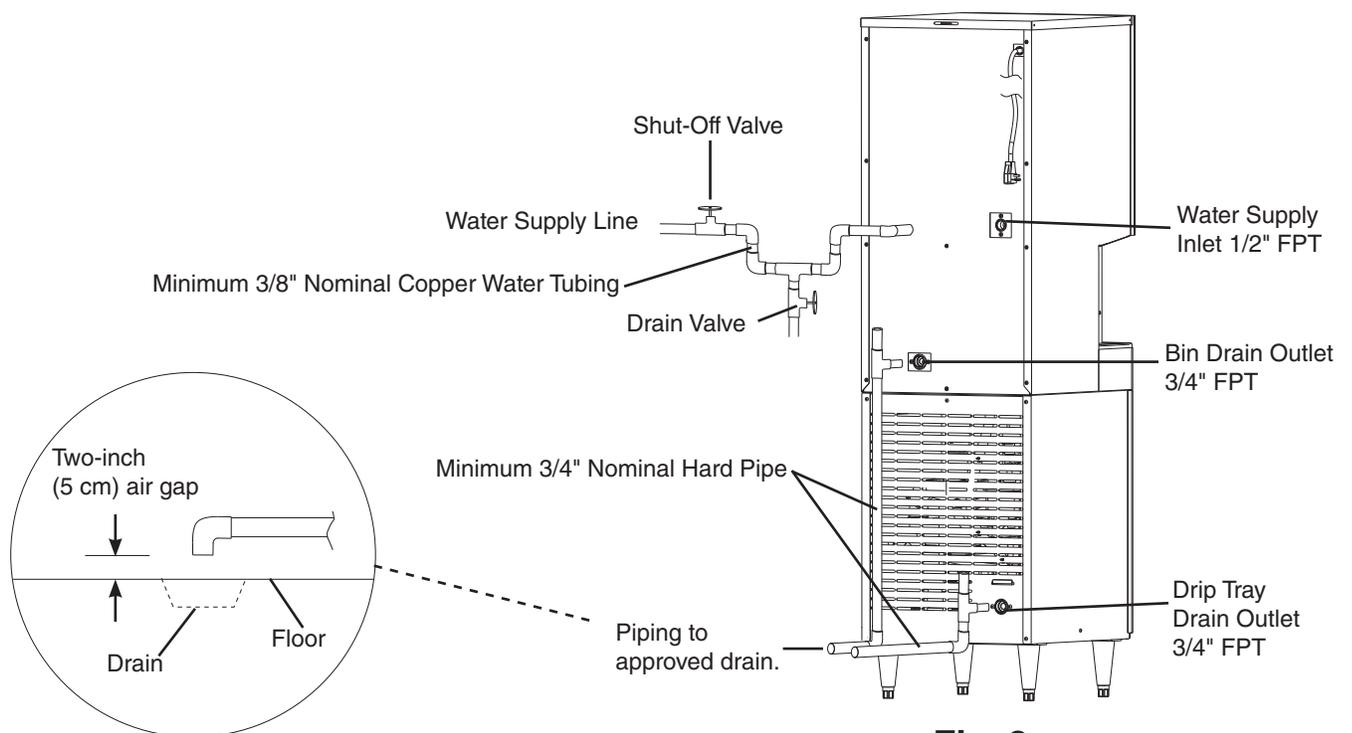


Fig. 3

G. Final Checklist

- 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 is within +45°F to +90°F (+7°C to +32°C) all year around?
- 3) Is there at least a 6" (15 cm) clearance behind and above the icemaker for maintenance or service?
- 4) Have the shipping carton, tape, and packing material been removed from the icemaker?
- 5) Are all components, fasteners, and thumbscrews securely in place?
- 6) Have all electrical and piping connections been made?
- 7) Has the power supply voltage been checked or tested against the nameplate rating? Has a proper ground been installed to the icemaker?
- 8) 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?
- 9) 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?
- 10) 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?
- 11) Has the end user been given the name and telephone number of an authorized service agent?
- 12) Has the warranty card been filled out and forwarded to the factory for warranty registration?

H. Startup

CAUTION

1. All parts are factory-adjusted. Improper adjustments may result in failure.
2. If the icemaker is turned off, wait for at least 3 minutes before restarting the icemaker to prevent damage to the compressor.

- 1) Make sure the icemaker is unplugged and the power switch on the control box is in the "OFF" position.
- 2) Clean the storage bin.
- 3) Open the water supply line shut-off valve and check for water leaks.
- 4) Plug the icemaker into the electrical outlet.
- 5) Move the power switch on the control box to the "ON" position.
- 6) Move the dispense mode switch to the desired setting, "PORTION" or "CONTINUOUS."
- 7) Move the control switch to the "ICE" position to start the automatic icemaking process.
- 8) Check the bin control for correct operation. Move the actuator located on the inside of the bin top panel. The compressor should stop about 90 seconds later. The gear motor should stop about 60 seconds after the compressor stops.
- 9) Replace the panels in their correct positions.

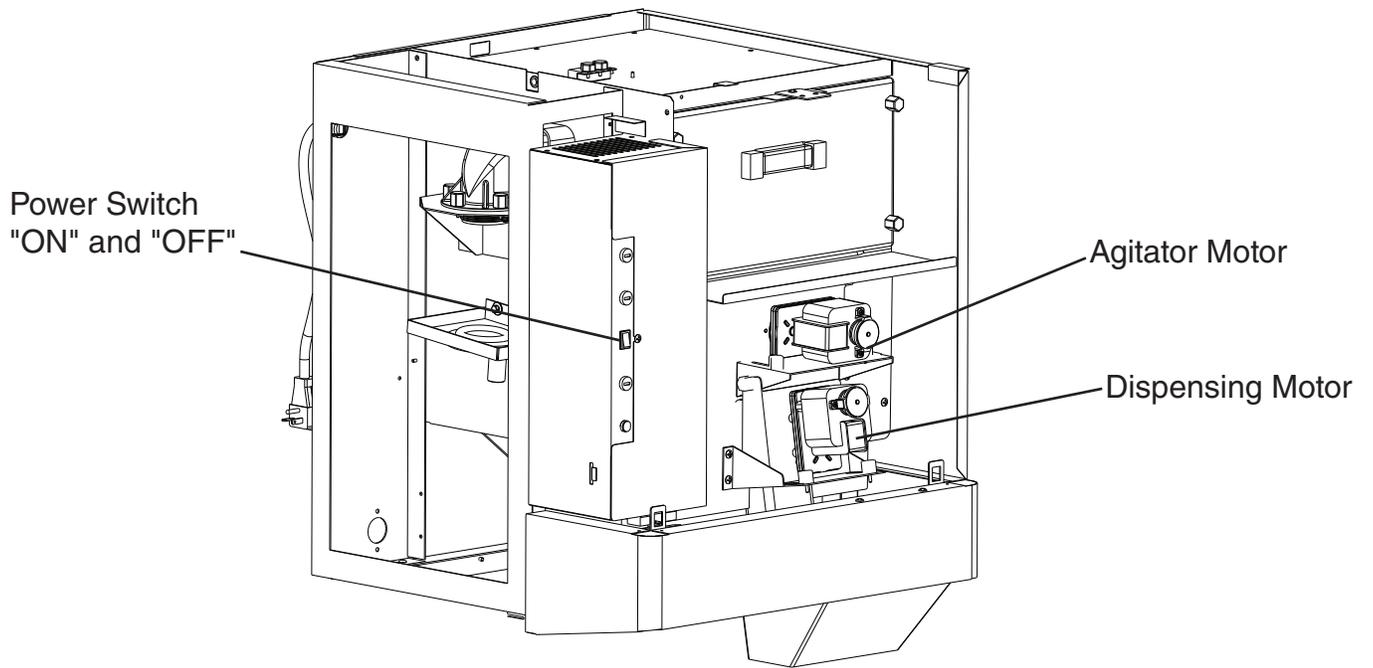


Fig. 4

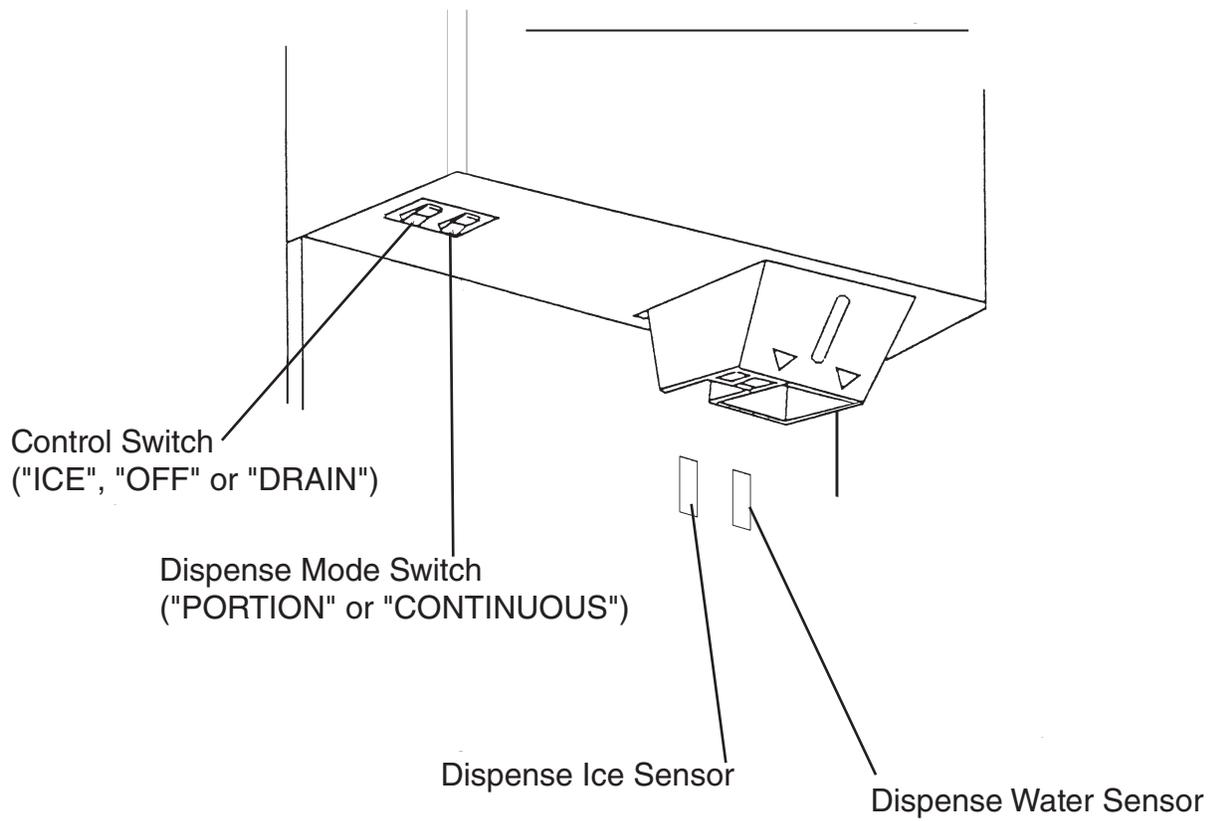


Fig. 5

I. Controls and Adjustments

1. Portion Control

A variable resistor which controls the amount of ice dispensed is located on the control board.

The figures on the label indicate dispensing time (sec.). When shipped, the portion control is set at the minimum dispensing time (0.6 sec.).

DT-400BAH-OS Approximately 0.72 oz.

Approximate amount of ice dispensed per second.

DT-400BAH-OS Approximately 1.2 oz.

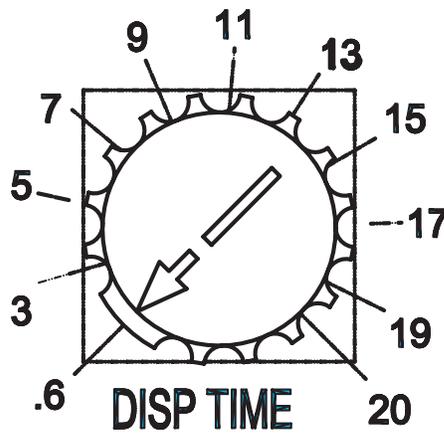


Fig. 6

III. Cleaning and Maintenance

IMPORTANT

Ensure all components, fasteners and thumbscrews are securely in place after any maintenance or cleaning is done to the equipment.

WARNING

1. Hoshizaki recommends cleaning this icemaker at least twice a year. More frequent cleaning, however, may be required in some existing water conditions.
2. To prevent injury to individuals, do not use any ammonia type cleaners.
3. Carefully follow any instructions provided with the bottles of cleaning and sanitizing solution.
4. Always wear liquid-proof gloves to prevent the cleaning and sanitizing solutions from coming into contact with skin.
5. Never run the icemaker when the reservoir is empty.
6. After cleaning, do not use ice made from the cleaning and sanitizing solutions. Be careful not to leave any solution in the storage bin.

A. Cleaning and Sanitizing Instructions - Water System

1. Cleaning Solution

Dilute approximately 9.6 fl. oz. (0.29 l) of Hoshizaki "Scale Away" with 1.6 gallons (6.0 l) of warm water.

2. Cleaning Procedure

- 1) Close the water supply line shut-off valve.
- 2) Move the dispense mode switch to the "CONTINUOUS" position.
- 3) Activate the dispense sensor to remove the ice from the storage bin.
- 4) Move the control switch to the "DRAIN" position, and wait about 15 minutes for the water system to drain.
- 5) Move the control switch to the "OFF" position. Remove the upper front, top and left side panels.
- 6) Move the power switch to the "OFF" position. Unplug the icemaker from the electrical outlet.
- 7) Disconnect the ice transport hose from the spout, and pour the cleaning solution into the ice transport hose. Be careful not to overfill the reservoir. Reconnect the transport hose.

Note: If there is excess scale on the extruding head, fill the evaporator assembly and reservoir as described above, then use a clamp on the reservoir hose between the reservoir and evaporator assembly to block flow. Pour additional cleaning fluid into the transport hose until the evaporator assembly is completely full. Reconnect the transport hose.

- 8) Allow the icemaker to sit for about 10 minutes before operation. If you placed a clamp on the reservoir hose in step 7, remove it before operation.
- 9) Plug the icemaker back in. Move the power switch to the "ON" position and replace the panels in their correct positions.
- 10) Move the control switch to the "ICE" position. Run the icemaker until it stops automatically.
- 11) Move the control switch to the "DRAIN" position, and wait about 15 minutes for the water system to drain.
- 12) After the water has drained, move the control switch to the "OFF" position. Remove the upper front, top and left side panels.
- 13) Move the power switch to the "OFF" position. Unplug the icemaker from the electrical outlet.
- 14) Disconnect the ice transport hose from the spout, and pour fresh water into the ice transport hose to rinse out the solution and fill the evaporator and reservoir. Be careful not to overfill the reservoir. Reconnect the transport hose.
- 15) Plug the icemaker back in. Move the power switch to the "ON" position and replace the panels in their correct positions.
- 16) Move the control switch to the "ICE" position. Run the icemaker until it stops automatically.
- 17) Move the control switch to the "DRAIN" position, and wait about 15 minutes for the water system to drain.
Note: If you do not sanitize the icemaker, go to step 14 in "4. Sanitizing Procedure."

3. Sanitizing Solution

Dilute approximately 0.82 fl. oz. (25 ml) of a 5.25% sodium hypochlorite solution (chlorine bleach) with 1.6 gallons (6.0 l) of warm water.

4. Sanitizing Procedure - Following Cleaning Procedure

- 1) Move the control switch to the "OFF" position and remove the upper front, top and left side panels.
- 2) Move the power switch to the "OFF" position. Unplug the icemaker from the electrical outlet.
- 3) Disconnect the ice transport hose from the spout, and pour the sanitizing solution into the ice transport hose. Be careful not to overfill the reservoir. Reconnect the transport hose.
- 4) Plug the icemaker back in. Move the power switch to the "ON" position and replace the panels in their correct positions.
- 5) Allow the icemaker to sit for about 10 minutes before operation, then move the control switch to the "ICE" position. Run the icemaker until it stops automatically.
- 6) Move the control switch to the "DRAIN" position, and wait about 15 minutes for the water system to drain.
- 7) Repeat steps 1 through 6 one time.

- 8) Move the control switch to the "OFF" position. Remove the upper front, top and left side panels.
- 9) Move the power switch to the "OFF" position. Unplug the icemaker from the electrical outlet.
- 10) Disconnect the ice transport hose from the spout, and pour fresh water into the ice transport hose to rinse out the solution and fill the evaporator and reservoir. Be careful not to overfill the reservoir. Reconnect the transport hose.
- 11) Plug the icemaker back in. Move the power switch to the "ON" position and replace the panels in their correct positions.
- 12) Move the control switch to the "ICE" position. Run the icemaker until it stops automatically.
- 13) Move the control switch to the "DRAIN" position, and wait about 15 minutes for the water system to drain.
- 14) After the water has drained, move the control switch to the "OFF" position. Remove the upper front, top and left side panels.
- 15) Move the power switch to the "OFF" position. Unplug the icemaker from the electrical outlet.
- 16) Open the water supply line shut-off valve. Check for water leaks.
- 17) Plug the icemaker back in. Move the power switch to the "ON" position and replace the panels in their correct positions.
- 18) Move the control switch to the "ICE" position and run the icemaker about 30 minutes.
- 19) Move the control switch to the "OFF" position.
- 20) Activate the dispense sensor to remove the ice from the storage bin. Remove the upper front, top and left side panels.
- 21) Move the power switch to the "OFF" position. Unplug the icemaker from the electrical outlet.
- 22) Remove the front cover of the storage bin. Pour warm water into the storage bin to melt any remaining ice.
- 23) Clean the storage bin with water.

WARNING

Do not use ice produced from the cleaning and sanitizing solution. Be sure no ice remains in the storage bin.

- 24) Replace the front cover of the storage bin, then plug the icemaker back in. Move the power switch to the "ON" position and replace the panels in their correct positions.
- 25) Move the control switch to the "DRAIN" position, and wait about 15 minutes for the water system to drain.
Note: If cleaning the dispensing components, proceed to "B. Cleaning and Sanitizing Instructions - Dispensing Components."
- 26) After the water has drained, move the control switch to the "ICE" position to start the automatic icemaking process.

B. Cleaning and Sanitizing Instructions - Dispensing Components

Perform following the cleaning and sanitizing procedures for the water system.

1. Cleaning Solution

Dilute approximately 9.6 fl. oz. (0.29 l) of recommended cleaner, Hoshizaki "Scale Away" or "LIME-A-WAY" (Economics Laboratory, Inc.), with 1.6 gallons (6.0 l) of warm water.

2. Sanitizing Solution

Dilute approximately 0.82 fl. oz. (25 ml) of a 5.25% sodium hypochlorite solution (chlorine bleach) with 1.6 gallons (6.0 l) of warm water.

3. Dispensing Components Cleaning and Sanitizing Procedure

- 1) Move the control switch to the "OFF" position and remove the upper front and top panels.
- 2) Move the power switch to the "OFF" position. Unplug the icemaker from the electrical outlet.
- 3) Remove the front cover of the storage bin
- 4) Remove the thumbscrews, first from the vertical plane and then from the horizontal plane of the motor brackets. Move the agitating motor and the dispensing motor towards you. Then remove the agitator and the auger (ice dispensing). See Fig. 7.

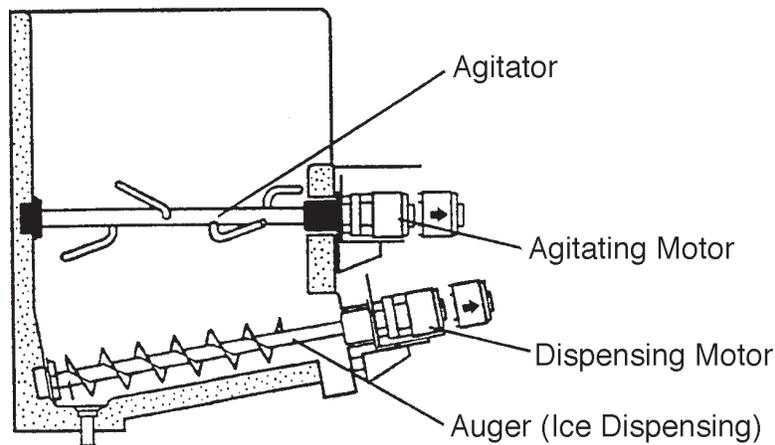


Fig. 7

- 5) Remove the bin control bracket assembly. See Fig. 8.
- 6) Remove the snap pin, shaft and actuator.
- 7) Remove the thumbscrews, spout and packing. See Fig 9.

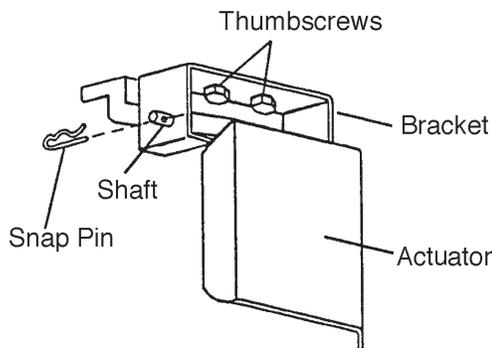


Fig. 8

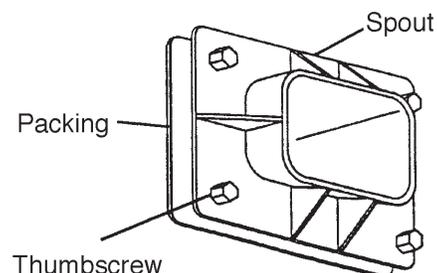


Fig. 9

- 8) Remove the thumbscrews, spout cover, ice dispensing spout, and water dispensing nozzle. See Fig. 10.

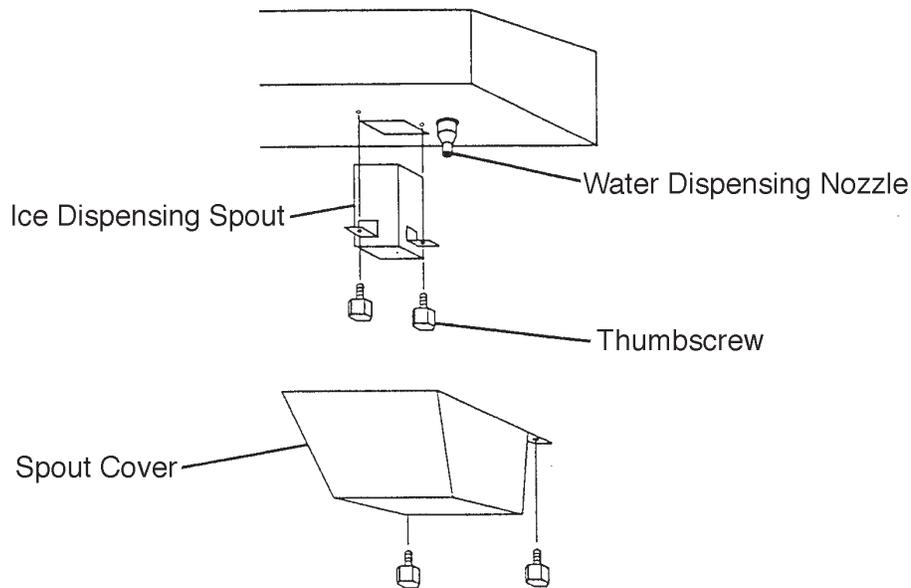


Fig. 10

- 9) Immerse the parts removed in steps 4 through 8 in the cleaning and sanitizing solutions for about 15 minutes each.
- 10) Rinse these parts thoroughly with clean water.
- 11) Thoroughly wipe the shutter located above the ice dispensing spout.
- 12) Reassemble the bin control bracket assembly.
- 13) Place the auger (ice dispensing), agitator, bin control bracket assembly, spout, packing, ice dispensing spout, water dispensing nozzle and spout cover back in position.
- 14) Clean the storage bin liner, and rinse thoroughly.
- 15) Plug the icemaker back in. Move the power switch to the "ON" position and replace all parts and panels in their correct positions.
- 16) Move the control switch to the "ICE" position to start the automatic icemaking process.

C. Maintenance

IMPORTANT

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

2. To achieve optimum icemaker performance, the following parts need periodic inspection and maintenance:

Extruding Head and Upper Bearing

Housing and Lower Bearing

Evaporator Cylinder

Auger

Gear Motor

Mechanical Seal

These parts should be inspected at least once a year or every 10,000 hours of operation. Their service life, however, depends on water quality and environment. More frequent inspection and maintenance are recommended in bad or severe water conditions.

Replacement of the following consumable parts is recommended if wear exceeds factory recommendations:

Upper Bearing

Lower Bearing

Mechanical Seal

Consult with your local distributor about inspection and maintenance service. To obtain the name and phone number of your local distributor, call Hoshizaki Technical Support at 1-800-233-1940 in the USA.

1. Icemaker and Storage Bin

- Hoshizaki recommends cleaning this icemaker at least twice a year. More frequent cleaning, however, may be required in some existing water conditions.
- The storage bin is for ice use only. Do not store anything else in the bin.

2. Air Filter

A plastic mesh air filter removes dirt and dust from the air and keeps the condenser from getting clogged. As the filter gets clogged, the icemaker's performance will be reduced. Check the filter at least twice a month. When clogged, use warm water and a neutral cleaner to wash the filter.

3. Condenser

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

4. 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 build up.

D. Preparing the Icemaker for Long Storage

WARNING

When the icemaker is not used for two or three days under normal conditions, it is sufficient to only move the control switch to the "OFF" position. When storing the icemaker for extended time or in sub-freezing temperatures, turn the water off and drain out all water from the water lines and remove the ice from the bin. The bin should be cleaned and dried. Drain the icemaker water hoses using air or carbon dioxide to prevent damage at sub-freezing temperatures.

- 1) Close the water supply line shut-off valve.
- 2) Move the control switch to the "OFF" position. See Fig. 5.
- 3) Move the dispense mode switch to the "CONTINUOUS" position. See Fig. 5.
- 4) Activate the dispense sensor to remove the ice from the storage bin.
- 5) Move the control switch to the "ICE" position.
- 6) Allow the icemaker to make ice until it stops automatically.
- 7) Move the control switch to the "OFF" position.
- 8) Remove the upper front, top and left side panels.
- 9) Move the power switch to the "OFF" position. See Fig. 4.
- 10) Unplug the icemaker from the electrical outlet.
- 11) Remove the front cover of the storage bin. Pour warm water into the storage bin, to melt any remaining ice. Dry out the storage bin.
- 12) Disconnect the transport hose. Remove any ice remaining in the hose.
- 13) Replace the storage bin cover and transport hose in their correct positions.
- 14) Plug the icemaker back in.
- 15) Move the power switch to the "ON" position. Replace the panels in their correct positions.
- 16) Move the control switch to the "DRAIN" position and wait for about 15 minutes for the water system to drain.
- 17) After the water has drained, move the control switch to the "ICE" position.
- 18) Open the potable water supply line drain valve and blow the line out using compressed air or carbon dioxide.
- 19) Close the potable water supply line drain valve.
- 20) Move the control switch to the "OFF" position. Remove the front panel.
- 21) Move the power switch to the "OFF" position.
- 22) Unplug the icemaker.
- 23) Replace the front panel in its correct position.

IMPORTANT

Before operating the icemaker again, check that the water supply line drain valve is closed, and open the water supply line shut-off valve.

HOSHIZAKI AMERICA, INC.

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