



Modular Ice Machines

Models: _____

#194MCF322A
#194MCH322A
#194MCF422A
#194MCH422A
#194MCF430A
#194MCH430A
#194MCF530A
#194MCH530A
#194KMCF322BA
#194KMCH322BA

#194KMCF422BA
#194KMCH422BA
#194KMCF430BA
#194KMCH430BA
#194KMCF530BA
#194KMCH530BA
#194BIN23022
#194BIN27530
#194KMCF322LA
#194KMCH322LA

#194KMCF422LA
#194KMCH422LA
#194KMCF430LA
#194KMCH430LA
#194KMCF530LA
#194KMCH530LA
#194BIN40022
#194BIN54030
#194KMCF322HA
#194KMCH322HA

#194KMCF422HA
#194KMCH422HA
#194KMCF430HA
#194KMCH430HA
#194KMCF530HA
#194KMCH530HA
#194HBN12022
#194HBN18030
#194ADAP2230

Note:

Read this manual in its entirety prior to equipment setup, operation, and maintenance.

www.Avantcolce.com

Contents

Warnings	3
Installation	4
Startup and Operation	9
Operating Instructions	10
Control Panel	11
Other Special Protection - Shutdown	12
Cleaners / Sanitizers	15
Maintenance	16
Cleaning Instructions	17
Service Call	21
Troubleshooting	22
Hotel Ice Dispenser User's Manual	23
General Information	24
Dimensioned Illustration	25
Product Description	27
Unpacking	28
Installation	29
General Care and Cleaning	33
Maintenance	35
Adjustments	36
Troubleshooting	37



NEMA 5-15P

Warnings

DANGER – RISK OF FIRE OR EXPLOSION. FLAMMABLE REFRIGERANT USED. TO BE REPAIRED ONLY BY TRAINED SERVICE PERSONNEL. DO NOT PUNCTURE REFRIGERANT TUBING.

PELIGRO – RIESGO DE INCENDIO O EXPLOSION. REFRIGERANTE INFLAMABLE UTILIZADO. PARA SER REPARADO SOLAMENTE POR PERSONAL DE SERVICIO CALIFICADO. NO PINCHAR LA TUBERÍA REFRIGERANTE.

DANGER – RISQUE DE FEU OU D'EXPLOSION. LE FRIGORIGÈNE EST INFLAMMABLE. CONFIER LES RÉPARATIONS À UN TECHNICIEN SPÉCIALISÉ. NE PAS PERFORER LA TUBULURE CONTENANT LE FRIGORIGÈNE.

CAUTION – RISK OF FIRE OR EXPLOSION. FLAMMABLE REFRIGERANT USED. CONSULT REPAIR MANUAL/OWNER'S GUIDE BEFORE ATTEMPTING TO SERVICE THIS PRODUCT. ALL SAFETY PRECAUTIONS MUST BE FOLLOWED.

ATENCIÓN – RIESGO DE INCENDIO O EXPLOSIÓN. REFRIGERANTE INFLAMABLE UTILIZADO. CONSULTE EL MANUAL DE REPARACIÓN / GUÍA DEL PROPIETARIO ANTES DE INTENTAR DAR SERVICIO A ESTE PRODUCTO. DEBEN CUMPLIR CON TODAS LAS PRECAUCIONES DE SEGURIDAD.

ATTENTION – RISQUE DE FEU OU D'EXPLOSION. LE FRIGORIGÈNE EST INFLAMMABLE. CONSULTER LE MANUEL DU PROPRIÉTAIRE/GUIDE DE RÉPARATION AVANT DE TENTER UNE RÉPARATION. TOUTES LE MESURES DE SÉCURITÉ DOIVENT ÊTRE RESPECTÉES.

CAUTION – RISK OF FIRE OR EXPLOSION DUE TO PUNCTURE OF REFRIGERANT TUBING; FOLLOW HANDLING INSTRUCTIONS CAREFULLY. FLAMMABLE REFRIGERANT USED.

ATENCIÓN – RIESGO DE INCENDIO O EXPLOSIÓN DEBIDO A LA PERFORACION DE LA TUBERÍA REFRIGERANTE; SIGA LAS INSTRUCCIONES DE MANIPULACIÓN CON CUIDADO. REFRIGERANTE INFLAMABLE UTILIZADO.

ATTENTION – RISQUE DE FEU OU D'EXPLOSION SI LA TUBULURE CONTENTANT LE FRIGORIGÈNE EST PERFORÉE; SUIVRE LES INSTRUCTIONS DE MANUTENTION AVEC SOIN. LE FRIGORIGÈNE EST INFLAMMABLE.

CAUTION – RISK OF FIRE OR EXPLOSION DUE TO FLAMMABLE REFRIGERANT USED. FOLLOW HANDLING INSTRUCTIONS CAREFULLY IN COMPLIANCE WITH LOCAL GOVERNMENT REGULATIONS.

ATENCIÓN – RIESGO DE INCENDIO O EXPLOSIÓN DEBIDO A REFRIGERANTE INFLAMABLE UTILIZADO. SIGA LAS INSTRUCCIONES DE MANIPULACIÓN CON CUIDADO CONFORME A LAS REGLAS DE LA MUNICIPALIDAD.

ATTENTION – RISQUE DE FEU OU D'EXPLOSION SI LE FRIGORIGÈNE EST INFLAMMABLE. SUIVRE LES INSTRUCTIONS DE MANUTENTION AVEC SOIN CONFORMÉMENT AUX RÈGLEMENTATION GOUVERNEMENTALE LOCAUX.

Installation

This product cannot be used in outdoor environments. Not intended for use by children or persons with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge.

- The installation, repair, or maintenance of this ice machine must be carried out by professional and qualified personnel. Electric shock, fire, or personal injury may result from incorrect operation.
- After the ice machine is delivered, keep the machine upright for at least 24 hours to have the refrigerant be fully precipitated before startup. Otherwise, the compressor may be damaged.
- When handling, keep the cabinet upright with the inclination not exceeding 45°F. Do not invert the machine or lay it horizontally. This ice machine should not be placed in wet or easily splashed areas.
- The grounding of this ice machine cannot be connected to a gas pipe, water pipe, telephone line or lightning rods, etc.
- There are rotating components in this ice machine. Do not insert slim objects into ventilation or exhaust ports, or serious mechanical damage and injury may occur.
- Do not store volatile or flammable substances in this ice machine or it may result in an explosion or fire.
- Do not store any sundries or freeze any food in the storage bin. Keep the ice scoop clean.
- The ice machine must be placed on a floor sufficient enough to support its weight. An insufficient base may cause the equipment to fall over and cause injury.
- There should be sufficient ventilation space around the ice machine. See page 7 for clearance requirements.
- Only the power supply specified on the machine nameplate can be used with this ice machine.
- This ice machine cannot be connected to hot water.
- The outlet for this ice maker must be reliably grounded with leakage protection.
- The ice machine must be disconnected from power before manual cleaning, repairing, and maintenance.
- Before cleaning, repairing, and maintenance, the remaining ice in the ice bin should be removed from the ice machine to avoid contamination to ice.
- Do not splash water directly onto the surface of the ice machine during the cleaning process; otherwise, it may cause a short circuit, leakage, or other faults.
- Flammable foaming agent is used during the foaming process. The ice maker should be disposed of and recycled by qualified personnel and institutions.
- The ice machine should be properly managed to ensure that children will not play with the machine.
- When the ice machine malfunctions, turn off the power and contact professional personnel to be repaired.

This ice machine is fully automatic. With proper installation and connection to potable water and power source, the ice making will start properly. When the ice cubes fill up the storage bin, the machine will automatically stop. The ice machine is generally used in the following and similar occasions:

- Indoor, ambient controlled environments only.
- The kitchen area of a store/restaurant, office or other workplace, hotel or restaurant, catering, and similar non-retail occasions.
- This ice machine is not intended for residential use.



C Pure creates specialty water filters to be used with common restaurant equipment, ensuring that the water utilized by the equipment is both clean and clear. These filters are easily installed into water lines, and their cartridges can be quickly swapped out for fast, easy, and efficient replacements. The water filters below are approved for use with Avantco Ice Machines. Failure to use and maintain an appropriate water filter will void warranty coverage on your Avantco Ice Machine. For installation instructions, refer to the C Pure water filtration manual or contact a C Pure water filtration dealer.

Modular Ice Machines

Item Number	Ice Shape	Ice Production Per 24 Hours	Filtration System	Replacement Cartridge
194MCF322A	Full Dice	344 lb.	790OCLOKITM	790OCLOCARTM
194MCH322A	Half Dice	350 lb.	790OCLOKITM	790OCLOCARTM
194MCF422A	Full Dice	399 lb.	790OCLOKITM	790OCLOCARTM
194MCH422A	Half Dice	420 lb.	790OCLOKITM	790OCLOCARTM
194MCF430A	Full Dice	397 lb.	790OCLOKITM	790OCLOCARTM
194MCH430A	Half Dice	400 lb.	790OCLOKITM	790OCLOCARTM
194MCF530A	Full Dice	497 lb.	790OCLOKITM	790OCLOCARTM
194MCH530A	Half Dice	500 lb.	790OCLOKITM	790OCLOCARTM

Modular Ice Machines with Bin

Item Number	Ice Shape	Ice Production Per 24 Hrs.	Filtration System	Replacement Cartridge
194KMCF322BA	Full Dice	344 lb.	790OCLOKITM	790OCLOCARTM
194KMCH322BA	Half Dice	350 lb.	790OCLOKITM	790OCLOCARTM
194KMCF422BA	Full Dice	399 lb.	790OCLOKITM	790OCLOCARTM
194KMCH422BA	Half Dice	420 lb.	790OCLOKITM	790OCLOCARTM
194KMCF430BA	Full Dice	397 lb.	790OCLOKITM	790OCLOCARTM
194KMCH430BA	Half Dice	400 lb.	790OCLOKITM	790OCLOCARTM
194KMCF530BA	Full Dice	497 lb.	790OCLOKITM	790OCLOCARTM
194KMCH530BA	Half Dice	500 lb.	790OCLOKITM	790OCLOCARTM
194KMCF322LA	Full Dice	344 lb.	790OCLOKITM	790OCLOCARTM
194KMCH322LA	Half Dice	350 lb.	790OCLOKITM	790OCLOCARTM
194KMCF422LA	Full Dice	399 lb.	790OCLOKITM	790OCLOCARTM
194KMCH422LA	Half Dice	420 lb.	790OCLOKITM	790OCLOCARTM
194KMCF430LA	Full Dice	400 lb.	790OCLOKITM	790OCLOCARTM
194KMCH430LA	Half Dice	397 lb.	790OCLOKITM	790OCLOCARTM
194KMCF530LA	Full Dice	497 lb.	790OCLOKITM	790OCLOCARTM
194KMCH530LA	Half Dice	500 lb.	790OCLOKITM	790OCLOCARTM

Modular Ice Machines with Hotel Dispenser

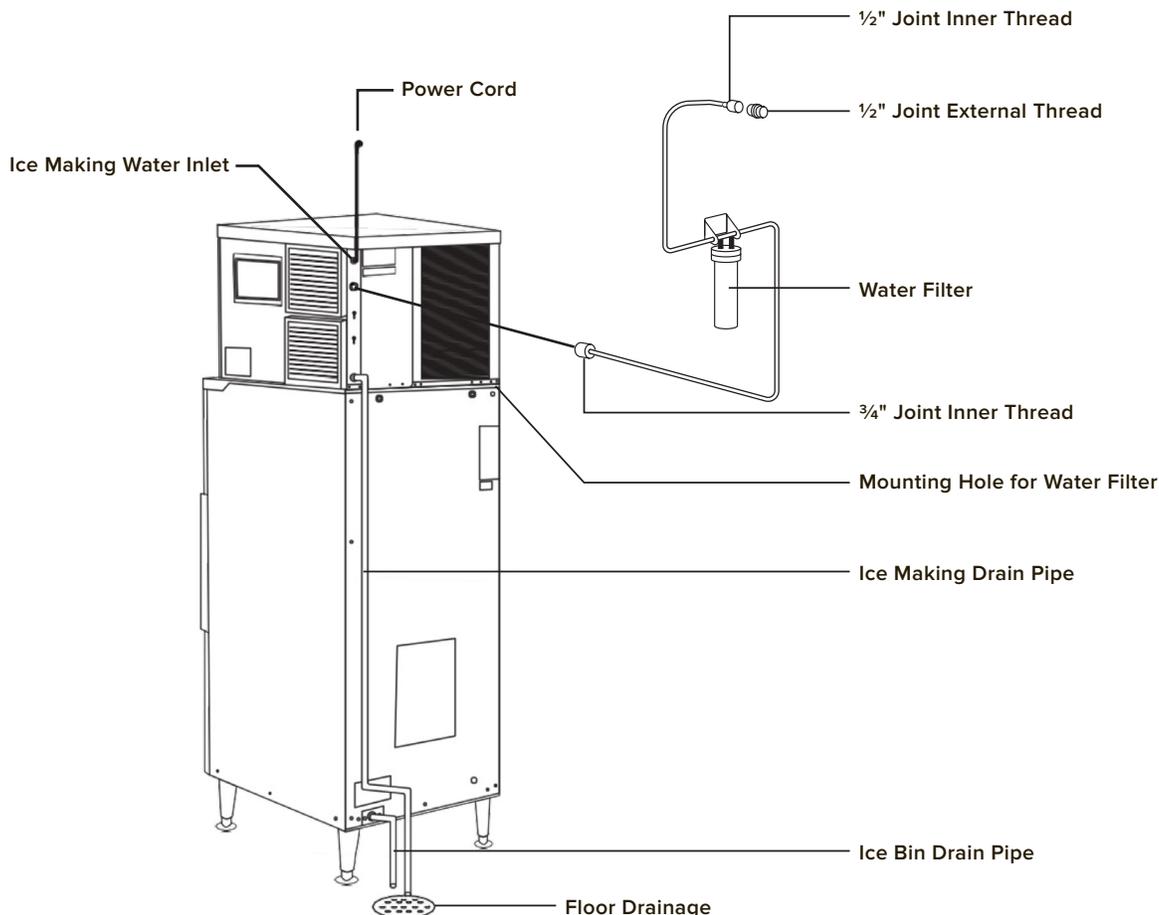
Item Number	Ice Shape	Ice Production Per 24 Hrs.	Replacement Cartridge	Replacement Cartridge
194KMCF322HA	Full Dice	344 lb.	790OCLOKITM	790OCLOCARTM
194KMCH322HA	Half Dice	350 lb.	790OCLOKITM	790OCLOCARTM
194KMCF422HA	Full Dice	399 lb.	790OCLOKITM	790OCLOCARTM
194KMCH422HA	Half Dice	420 lb.	790OCLOKITM	790OCLOCARTM
194KMCF430HA	Full Dice	397 lb.	790OCLOKITM	790OCLOCARTM
194KMCH430HA	Half Dice	400 lb.	790OCLOKITM	790OCLOCARTM
194KMCF530HA	Full Dice	497 lb.	790OCLOKITM	790OCLOCARTM
194KMCH530HA	Half Dice	500 lb.	790OCLOKITM	790OCLOCARTM

Installation

The ice machine should be installed in a proper location meeting the following conditions:

- Power supply: The rated voltage indicated on the machine nameplate $\pm 6\%$.
- Water source: Potable water, with water pressure from 18.75 PSI to 80 PSI; water temperature: 90°F.
- The ice machine should be kept away from heat sources, should be prohibited to use in an extremely high or low temperature environment, and should avoid direct sunlight.
- There should be sufficient ventilation space around the ice machine; the distance from the ice maker to the wall should be no less than 12" for the front, 6" for the sides, and 8" for the rear.
- The ice machine must be placed on a floor sufficient to support its weight.
- The socket for the ice maker must be reliably grounded and have leakage protection.
- Proper floor drainage must be provided near the installation location of the ice machine.

Schematic Diagram



Installation Steps

1. Check to see if the ice machine is in good condition and the accessories are all present; check the machine model and the machine nameplate.
2. Clean the ice storage bin and the food area inside with a sponge soaked in warm water and soap. Then rinse with potable water and dry.
3. Place the ice machine in the operation area; ensure that the machine is placed on a leveled floor so the water flows evenly into the evaporator.
4. The compressor chamber is located below the front of the ice bin where the compressor and condenser are installed. It requires good ventilation, so the ice maker must have ventilation space of more than 8" in the rear, 6" on the sides, and 12" in the front.
5. The bottom of the ice machine is equipped with adjustable legs for level adjustment and clearance for floor cleaning.
6. Connect the machine's inlet water filter and water line referring to the installation instructions of your water filter brand; if the installation site is already equipped with a drinking water system, the water filter may not be needed.
7. Connect the machine to the water supply using the 3/4" inlet fitting supplied with the machine. It is recommended to install a water ball valve (not supplied with this machine) on the water supply line.
8. Connect the drain line to the drain connector. To achieve a proper draining, it is recommended that the drain pipe should have a difference in level of more than 1" per 3'. Confirm that the drain line is not blocked. It is recommended that the drain line be connected to an open drainage port.
9. Any joint in the drain line must not be higher than the machine drainage port; any joint in the drain line cannot be higher than the previous joint.
10. Confirm the power requirements stated in the machine's nameplate; ensure that the power supply meets the requirements.
11. A circuit breaker or switch with leakage protector and reliable grounding is required.
12. Turn off the switch on the power line and connect the machine to the power source.

NOTE: The filter flow direction should be correctly installed as per the direction marker on the filter head cover or the filter body. The filter cartridge should be replaced every 3 to 6 months.

Installing an Adapter

Item Number	Adapter	Bin Options
194MCF322A	194ADAP2230	194BIN27530, 194BIN54030
194MCH322A	194ADAP2230	194BIN27530, 194BIN54030
194MCF422A	194ADAP2230	194BIN27530, 194BIN54030
194MCH422A	194ADAP2230	194BIN27530, 194BIN54030

How to Use 194ADAP2230:

1. Place 194ADAP2230 on top of your 30" ice bin.
2. Once the adapter is on the ice bin, place your 22" ice machine on top of the adapter.
3. Nothing else is required for set-up. If preferred, you can seal the adapter to the ice machine with a gasket.

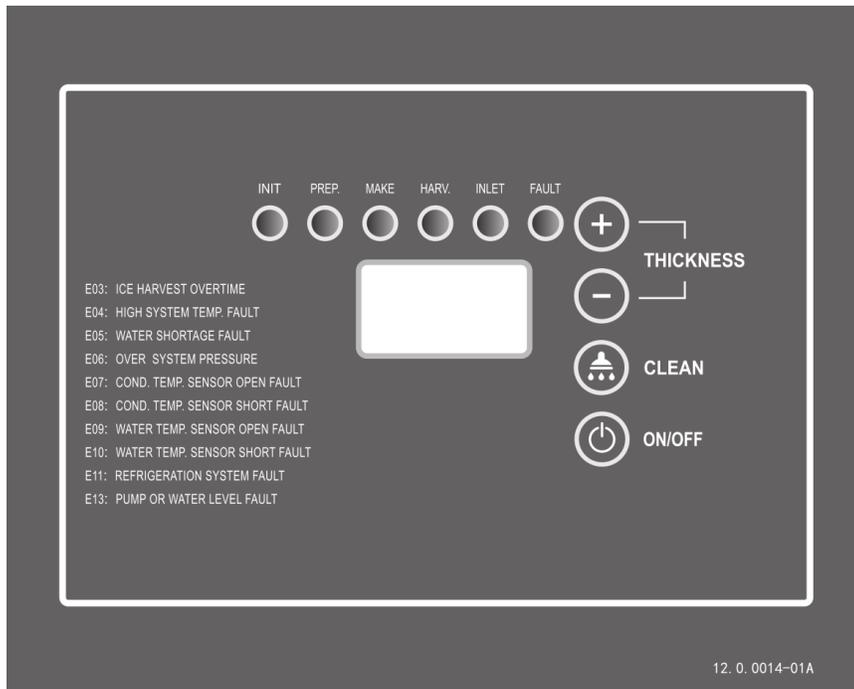
Startup and Operation

1. Before you start up the machine, check and confirm:
 - The packaging tape inside the ice machine has been removed.
 - The accessories or items in the ice bin have been taken out.
 - The ice machine has been adjusted to a leveled state.
 - The water line has been connected and the water valve is open.
 - The plug has been connected to the power supply and the power switch is off.
 - The ambient temperature, water temperature, and pressure of the water supply meet the above requirements.
2. Startup: Turn on the power switch. After powering on, the machine begins to make ice automatically.
3. For normal operation, confirm:
 - There is water in the water trough and no overflow occurs.
 - The pump is working properly and water is flowing evenly in the evaporator.
 - The compressor is running normally, and the temperature of the evaporator and the ice-making water is gradually decreasing.
 - For air cooled machines, make sure the fan is running normally, and there is stable airflow in the inlet and outlet of the ice machine.
 - The ice machine has no abnormal noise.
 - The ice machine has no abnormal vibration.
 - It takes about 10 to 20 minutes to make one batch of ice, depending on the ambient temperature and the temperature of the water. The higher the temperature is, the longer the ice making will take.
 - Ice cubes can be properly harvested from the machine.

Operating Instructions

- **Startup:** After proper installation, connect the water source and turn on the power supply to turn on the machine. Confirm that the machine is operating normally when you turn it on for the first time.
- **Self-check:** With power on for the first time, the ice maker will do a self-check and pump out any remaining water.
- **Preparing:** After the ice machine has finished the self-check, the inlet valve opens and the inlet water will flow in until it reaches the set level; then the ice maker will defrost one time.
- **Ice making:** After pre-cooling for 30 seconds, the water pump starts, the water flows through the evaporator smoothly and evenly, and the ice cubes are gradually formed in the ice cube tray.
- **Ice harvest (drop):** After the ice making process finishes and the water pump is turned off, the defrosting valve is turned on. After the hot gas enters into the evaporator, for about 1-2 minutes the ice cubes slide from the evaporator into the storage bin.
Warning: Do not put your hand into the ice storage bin during the ice-falling process to prevent the ice from hitting your hand!
- **Shutdown:** The ice maker will stop working when you push the “on/off” button on the control panel during the running process.
- **Bin full stop:** Once the ice storage bin is filled to a certain height, the ice making process will stop after 40 seconds. There is a sensor at the top of the bin which will trigger this stop in production. In order to maximize the bin space, make sure to spread around the ice that piles up in front of the sensor.
- **Repeat ice making:** When the ice cubes triggering this sensor are moved or taken away, the ice maker will go back to the ice-making process within seconds.

Control Panel



1. LED Display:
 - INIT or Self-check: Displays "ini" code.
 - PREP. or Preparing: Counts (in seconds) forwards.
 - MAKE or Ice making: Counts (in seconds) forwards prior to the water reaching 32°F. Counts seconds backwards to 0 seconds afterwards.
 - HARV. or Ice harvest: Counts (in seconds) forwards.
 - CLEAN: Displays "CLE" during cleaning and descaling; display "STL" during sanitizing; display "RIN" during rinsing.
2. LED lamps: Turns lights on/off.
3. Ice cube thickness adjustment: During the ice-making process, if you are not satisfied with the ice thickness, press the ice cube "-" button for 3 seconds, then click the button "+" or "-" on the panel to adjust the thickness of ice cube.

Note: By clicking the "+" or "-" button one time, the ice-making time is extended or shortened by 1.5 minutes.
4. Cleaning: During the normal operation, hold the cleaning button for 3 seconds to enter the cleaning process. During the cleaning process, cleaning agents and disinfectants need to be put into the water trough. When the cleaning process is finished, the ice maker will go to the ice-making process.

Note: All cleaning and sanitizing chemicals used must be nickel-safe.
5. ON/OFF: Press this button to switch the machine ON/OFF.
6. Open and close the storage bin door gently. Do not slam the door. Keep door closed when not removing ice.
7. If the ice maker is not in use for a long time, it should be energized and run for 2 to 4 hours every 2 months.

Other Special Protection - Shutdown

- If the ice machine has not detected ice harvest in three cycles, it will shut down for safety and protection. The ice maker needs to be checked.
- If the ice machine detects that the ambient temperature is too high, it will stop for safety and protection.
- The fault codes and corresponding actions are displayed as follows:

Code	Cause	How to Fix	Machine Action
E00 / E11	Refrigeration System Fault	<ol style="list-style-type: none"> 1. There is no water flowing over the evaporator. The water pump may be faulty. Replace the water pump. 2. If there is water flowing over the evaporator yet not freezing, there may be an issue with the compressor or a refrigerant leak. Replace the compressor. 	Protective shutdown
E01	Ice Water Curtain or Ice Full Switch Fault	<ol style="list-style-type: none"> 1. Check to see if there is ice stuck between the water curtain and evaporator. Remove. 2. The water curtain may be deformed. Check to see if the magnet on the water curtain (lower right when installed) lines up with the ice full switch. If not, replace the water curtain. 3. The water curtain is not installed. Install water curtain. 4. If there is still an E01 code, replace the ice full switch. 	Protective shutdown
E02	Ice-Making Overtime	<ol style="list-style-type: none"> 1. The ice is becoming too thick on the evaporator due to a faulty water level sensor. If so, replace the water level/temperature sensor. 2. Verify compressor operation. 3. Verify hot gas valve operation. 4. Verify water inlet valve is not leaking by constantly filling reservoir with water. 	Protective shutdown

Code	Cause	How to Fix	Machine Action
E03	Ice Harvest Overtime	<p>If the unit can make ice after restarting the machine:</p> <ol style="list-style-type: none"> 1. There is scale buildup in the evaporator. Clean the evaporator. 2. Ice being made is too thin or too thick. Adjust the ice thickness setting. 3. When a new batch of ice drops from the evaporator, does the timer on the display panel reset to counting from 0? If not, and the timer keeps counting up, this means that the ice full sensor is not sensing the batch of ice falling. Replace the ice full sensor. 4. Verify LED lights on control board cycle ON/OFF when water curtain is opened and closed by hand. If LEDs do not cycle ON/OFF, verify proximity switch function. <p>If the unit cannot make ice after restarting the machine:</p> <ol style="list-style-type: none"> 1. If there is water in the water tank and the water flowing over the evaporator is not freezing, there may be a refrigerant leakage. Find the leak point, weld it, and re-inject gas. 2. If there is no water in the tank, check the water inlet valve function. Use a multimeter to check if the PCB supplies power to the water inlet valve. If it does, there is a problem with the inlet valve. If it does not, there is a problem with the PCB. 3. Use a multimeter to check if the PCB supplies power to the drain valve. If it does, there is an issue with the drain valve. 	Protective shutdown
E04	High System Temp. Fault	<ol style="list-style-type: none"> 1. The cooling fan is not functioning. Check to see if the fan blade is stuck. Replace fan if necessary. 2. Air filter net or condenser is dirty. Clean air filter net or condenser. 	Protective shutdown
E05	Water Shortage Fault	<ol style="list-style-type: none"> 1. No or low-pressure water supply. You may need to replace your water filter cartridge. Otherwise, there is an issue with your incoming water line. 2. If the water pressure is normal but there is water overflowing the water tank, the water level sensor may be faulty. Replace the water level sensor. 3. Water inlet valve may be faulty. <p>For new machines, check if the water inlet light flashes when restarting the machine. If it does not, and there is no water in the water tank, replace the water level sensor. If it flashes, but there is no/little water in the water tank, check the water source; there may be no water supply or the water filter is blocked.</p>	Protective shutdown
E06	Over System Pressure	<ol style="list-style-type: none"> 1. Cooling fan does not work, causing poor heat dissipation. 2. If the cooling fan is working normally there may be a problem with the high-pressure switch. Use a multimeter to measure the on/off status of the high-pressure switch. 	Protective shutdown

Code	Cause	How to Fix	Machine Action
E07	Cond. Temp. Sensor Open Fault	Verify probe wires have a good connection in the controller by disconnecting probe leads from controller and reconnecting leads to controller. Use a multimeter set to Ohm setting and verify resistance value of the probe in 32°F ice water. Value should be within 10% of 2.704 kohms.	Does not shutdown. Error LED light on every 5 seconds
E08	Cond. Temp. Sensor Short Fault	Verify probe wires have a good connection in the controller by disconnecting probe leads from controller and reconnecting leads to controller. Use a multimeter set to Ohm setting and verify resistance value of the probe in 32°F ice water. Value should be within 10% of 2.704 kohms.	Does not shutdown. Error LED light on every 5 seconds
E09	Water Temp. Sensor Open Fault	Verify probe wires have a good connection in the controller by disconnecting probe leads from controller and reconnecting leads to controller. Use a multimeter set to Ohm setting and verify resistance value of the probe in 32°F ice water. Value should be within 10% of 2.678 kohms. Note: Green and yellow wires are the temperature probe leads on the harness.	Protective shutdown
E10	Water Temp. Sensor Short Fault	Verify probe wires have a good connection in the controller by disconnecting probe leads from controller and reconnecting leads to controller. Use a multimeter set to Ohm setting and verify resistance value of the probe in 32°F ice water. Value should be within 10% of 2.678 kohms. Note: Green and yellow wires are the temperature probe leads on the harness.	Protective shutdown
E11 / E00	Refrigeration System Fault	<ol style="list-style-type: none"> 1. There is no water flowing over the evaporator. The water pump may be faulty. Replace the water pump. 2. If there is water flowing over the evaporator but not freezing, there may be an issue with the compressor or a refrigerant leak. Please replace the compressor. 	
E12	Water Level Control Fault	Water pump may be faulty. To check, restart the machine. There will be a 140 second countdown. After 60 seconds, the water pump should start. If it does not start, replace the water pump.	Protective shutdown
E13	Pump or Water Level Fault	Whichever step in the following process fails is the cause of this error code. Restart the machine. <ol style="list-style-type: none"> 1. The water tank should fill to a level specified by the water level sensor. If the tank overflows, there is an issue with the water level sensor. 2. 60 seconds after the restart, the water pump should turn on. If it does not turn on, replace the water pump. 3. After the ice batch is harvested, the drain valve will open to drain the water in the tank. Test the drain valve functionality. 	Protective shutdown



Noble Chemical offers a full line of products to clean and sanitize your commercial ice machine. These chemicals are approved for use with Avantco Ice Machines. Failure to regularly clean and sanitize your Avantco Ice Machine will void warranty coverage. For information and instructions, contact a Noble Chemical dealer. The ice machine needs to be cleaned every other month, or once a month for high yeast environments.

Cleaners

Item No.	Size	Type
147ARCTIC	16 oz.	Concentrate
147ARCTICRPT	16 oz.	Ready to use
147ARCTICR1G	1 Gallon	Ready to use

Sanitizers

Item No.	Size	Type
147QKSANICE	12 Pack/16 oz. Bottles	Concentrate
999QKSANICE	16 oz.	Concentrate

Maintenance

NOTE: Maintenance must be done by a qualified technician.

WARNING: Before maintenance or manual cleaning, be sure to shut off the water source and power supply.

Exterior Cleaning

- Frequently clean the environment around the ice machine to keep it clean. Do not block the vents.
- The outer enclosure should be cleaned with a mild detergent and then wiped clean. If necessary, use commercial stainless steel cleaners and polishes.

NOTE: Stainless steel may rust without proper maintenance.

Inlet Water Filter

- The water filter should be inspected regularly. It is recommended to replace the filter cartridge every 3 to 6 months.

Interior Cleaning

- The inside of the ice storage bin can be washed with water and cleaner solution. Rinse thoroughly with water. Repeat this process with a water and sanitizer solution.

Note: Check and confirm the water pressure is lower than the maximum allowed pressure.

- Do not flush the part above the water pump or the evaporator directly for water protection.

Condenser

- For the air-cooled ice maker, the condenser should be cleaned every three weeks. Use a soft brush or a vacuum cleaner with a brush to brush it up and down along the fin direction to avoid damage to the fins and further affecting the cooling effect.
- The condenser filter should be cleaned every 2 weeks.

NOTE: Use caution when cleaning the condenser as the edges of the fins are sharp.

Water Line

- In order to ensure food safety, the water line of the ice machine should be cleaned regularly.

Winterizing

- Turn off the water and power supply, drain the residual water from the water trough inlet pipe, and drain pipe.

NOTE: The maintenance of the ice machine is not covered by the manufacturer's warranty!

Monthly Cleaning Process

Cleaning Instructions

NOTE: Empty the bin of ice in advance.

NOTE: Clean and sanitize the bin and do a complete rinsing.

NOTE: Clean and sanitize the ice sliding board, water distribution line, water supply line, and water pump, then do a complete rinsing.

- Turn on the ice maker; push "clean" button for 3 seconds. The ice maker will begin the cleaning process. Put in the proper amount of cleaning solution manually into the water trough until it reaches the normal operating water level.
- Push the "clean" button. The ice maker will do auto-clean for about 15 minutes. Spray the evaporator with the cleaning solution in the meantime to ensure a complete clean. When finished, the LED display will flash "Clean" slowly again.
- Put in the proper amount of sanitizing solution manually into the water trough followed by the clean and sanitizing process instruction. Push the "clean" button again. The ice maker will auto-sanitize for about 15 minutes. Spray the evaporator with the sanitizing solution in the meantime to ensure complete sanitization. When finished, the ice maker will go into the rinsing process, which will take about 5 minutes, and do 5 rinsing cycles. Refer to your cleaner and sanitizer for proper mixing and code instructions.
- The ice maker will go back to making ice as soon as the cleaning process ends.
- Throw away the next batch of ice in case of residual cleaner.

4-6 Month Manual Cleaning & Sanitizing

See our step-by-step video on how to clean your Avantco Ice Machine.



1. Remove all ice from the ice bin to avoid contamination.



2. Remove the 4 screws from the top and bottom of the ice machine's front panel and remove the front panel.



3. To empty the water from the tank while the machine is running, press and hold the "CLEAN" button for 3 seconds and enter the cleaning mode to display CLE. In the cleaning mode, press the "-" button for 3 seconds to drain.



4. Make sure the power supply is cut off.



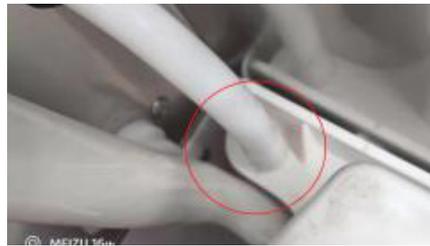
5. Remove the water curtain.



6. Remove the 2 screws that secure the spray pipe. Remove the spray pipe.



7. Remove the 2 screws that secure the water pump.



8. Pull out inlet water pipe.



9. Pull out the hose hoop of the upper water pipe.



10. Disassemble fixed screws which are in the spray pipe. Dismantle the spray pipe.



11. Mix a solution of cleaner and water according to your ice machine cleaner instructions. Ensure the cleaning agent dissolves completely. Soak the water pipe, inner and outer spray pipe, head, spray pipe fixing seat and screws in the cleaning solution for 5 minutes (or 15 minutes for heavily scaled components). Rinse all components thoroughly with clean water.



12. After soaking, scrub the spray pipe, water curtain, and pump base bracket with cleaning solution and rinse with clean water.



13. Spray the cleaning solution into the evaporator and wipe clean. Repeatedly wipe the water tank, ice plate and its plastic parts, side plates, ice buckets, and other sanitary areas with cleaning solution. Rinse all areas thoroughly with clean water.

Sanitizing Instructions



1. Mix a solution of sanitizer and water according to your ice machine sanitizer instructions. Ensure the sanitizer dissolves completely. Soak the water pipe, inner and outer spray pipe, head spray pipe fixing seat and screws in the solution for 5 minutes. If using a no-rinse sanitizer, there is no need to rinse.



2. Spray the spray pipe, water curtain, and pump base bracket with the sanitizer solution. If using a no-rinse sanitizer, there is no need to rinse.



3. Spray the sanitizer solution into the ice evaporator with a spray bottle. Spray the water tank, ice plate and its plastic parts, side plates, ice bin, and other sanitary areas with sanitizer solution. If using a no-rinse sanitizer, there is no need to rinse.
4. Allow the dismantled spray pipe, water pump, water pipe, and water curtain to dry. Reinstall in original positions.

Service Call

If the ice machine works abnormally, confirm below before making a service call:

1. Check the water supply. Check:

- That there is water in the water trough.
- That the water pressure is 18.75 PSI to 80 PSI; the water temperature is 40-90°F.
- That the water valve is open.
- That there is no water leakage.

2. Check the power. Check:

- That the indicator on the display panel is ON.
- That the panel display does not display the OFF standby state.
- If the LED on the display panel is not ON, check whether the plug and socket are normal, and whether the power supply switch is ON.

3. Check nameplate and serial number.

- Check the nameplate located on the side or back of the ice machine and record the model and series number of the ice machine.

Note: If the machine fails due to the user's faults (rather than the ice maker's fault) such as failure to use and maintain a water filter, no supply of water, or electricity or environmental factors, the door-to-door service will be charged.

Troubleshooting

Symptom	Probable Cause	Possible Fix
Ice machine not working.	Power switch not turned on.	Turn on the power switch.
Indicator is OFF.	Plug is loose.	Check plug and socket.
Shutdown every 3 minutes after startup.	The ambient temperature is too high.	Normal working temperature range of 41-95°F.
The display shows E04 high temperature.	Condenser is dirty.	Clean the condenser.
The display shows E06 high pressure protection.	Fan does not start.	Check and correct high pressure switch wires.
Ice defrost abnormal.	Ambient temperature too low.	Normal working temperature range of 41-95°F.
	Defrost valve does not start normally.	Check and correct the defrosting valve.
	Ice thickness too thin or too thick.	Check and correct ice thickness setting.
Poor transparency of ice cubes; ice cubes too thin or incomplete.	Ice thickness is too thin.	Check and correct ice thickness setting.
	Water pressure is too low.	Check that the water supply pressure is 1.3 bar to 5.5 bar.
	Inlet water valve is dirty and blocked.	Normal working temperature range of 41-95°F.
	Inlet water filter has not been replaced for a long time.	Check and correct the inlet water valve.
	Inlet water valve is dirty and blocked.	Check whether water leaks and correct.
	Water leaking.	Check and correct the inlet water filter and water connection.
Inlet water filter has not been replaced for a long time.		
Too slow in ice making.	The condenser or air filter is dirty.	Clean the condenser and filter screen.
	High ambient temperature.	Normal working temperature range of 41-95°F.
	Poor ventilation.	Check the environment around the ice machine.
	Water temperature is too high.	Check the water supply temperature of 41-95°F.
Too much noise.	The ice machine is not level.	Level the ice machine.



Hotel Ice Dispenser

#194HBN12022
#194HBN18030

Note:

Read this manual in its entirety prior to equipment setup, operation, and maintenance.

General Information

Ice Dispenser 194HBN12022 is 22" wide and designed for use with Avantco ice cube machines 194MCF322A/194MCH322A or 194MCF422A/194MCH422A for ice production.

Ice Dispenser 194HBN18030 is 30" wide and designed for use with Avantco Ice cube machines 194MCH530A/194MCF530A for ice production.

Ice from the cuber falls into the insulated hopper, where it is stored until needed. When a user pushes the dispense chute, a rotating wheel scoops the ice up to the top front of the hopper where there is an outlet to the ice chute.

Cuber Model	Fits Dispenser	Safety Adapter
194MCF322A/194MCH322A	194HBN12022	N/A
194MCF422A/194MCH422A	194HBN12022	N/A
194MCF430A/194MCH430A	194HBN18030	194BKTHBN
194MCH530A/194MCF530A	194HBN18030	194BKTHBN

*Although not required for operation, the safety adapters provide additional safety measures when the unit is placed in a public setting.

Basic Specifications

Model	Dimensions W" x H" x D" with 6" leg	Basic Electrical volts/hertz/phase	Model Description	Bin Storage Capacity
194HBN12022	22 x 53 x 33 ½	115/60/1	Basic 22" model	120 lb.
194HBN18030	30 x 53 x 33 ½	115/60/1	Basic 30" model	180 lb.

Specifications & Limitations

This ice dispenser is designed to be installed and operated indoors in a controlled environment. Follow the installation instructions in the Ice Machine Manual to ensure the ice machine has been installed properly.

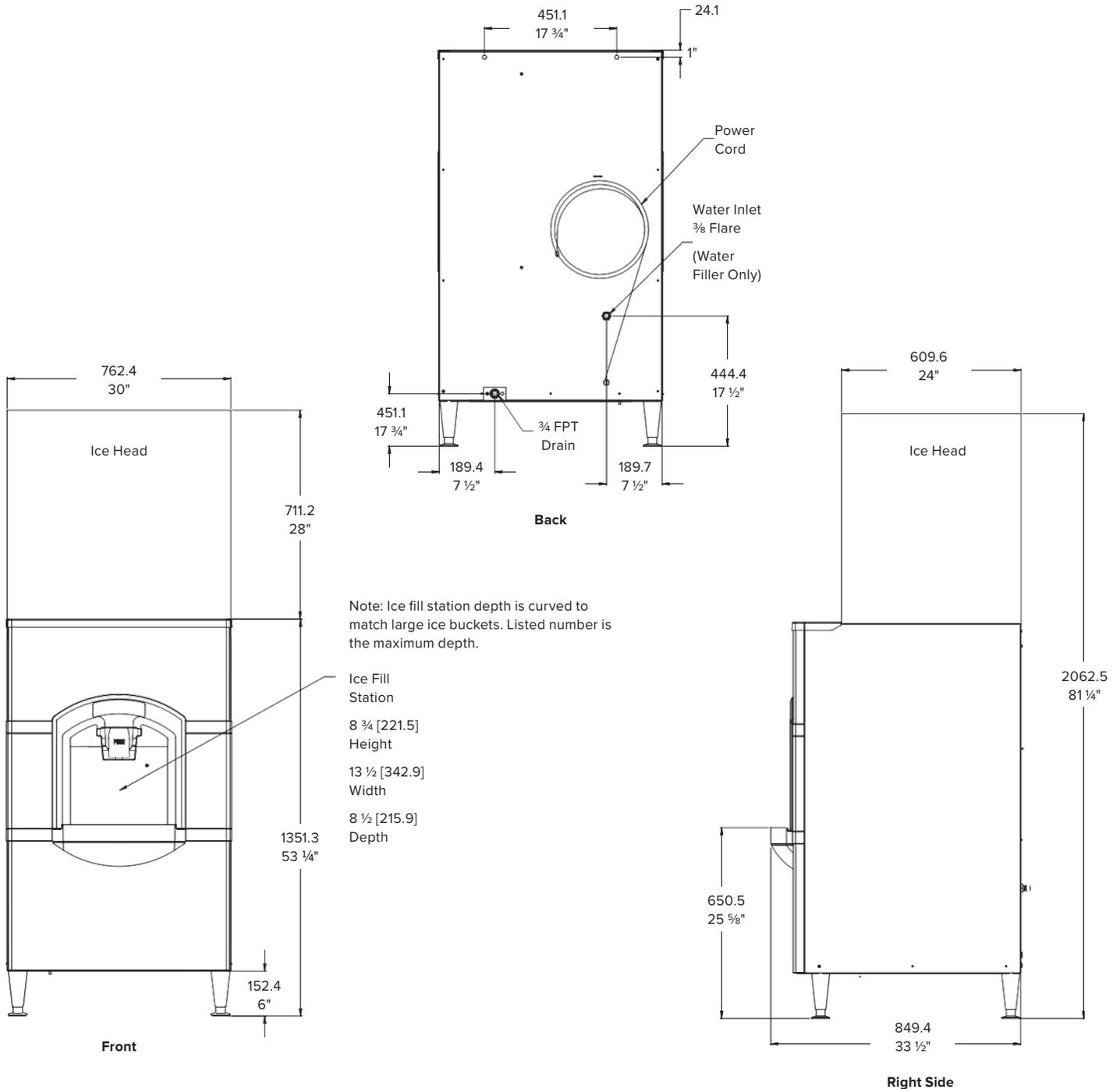
	Minimum	Maximum
Air Temp	50°F	100°F
Voltage 60 Hz	104	126

Check the nameplate located on the back of the cabinet for specific information.

Avantco Ice Machines assumes no liability or responsibility of any kind for products that have been altered in any way, including the use of any parts and/or other components not specifically approved by Avantco Ice Machines.

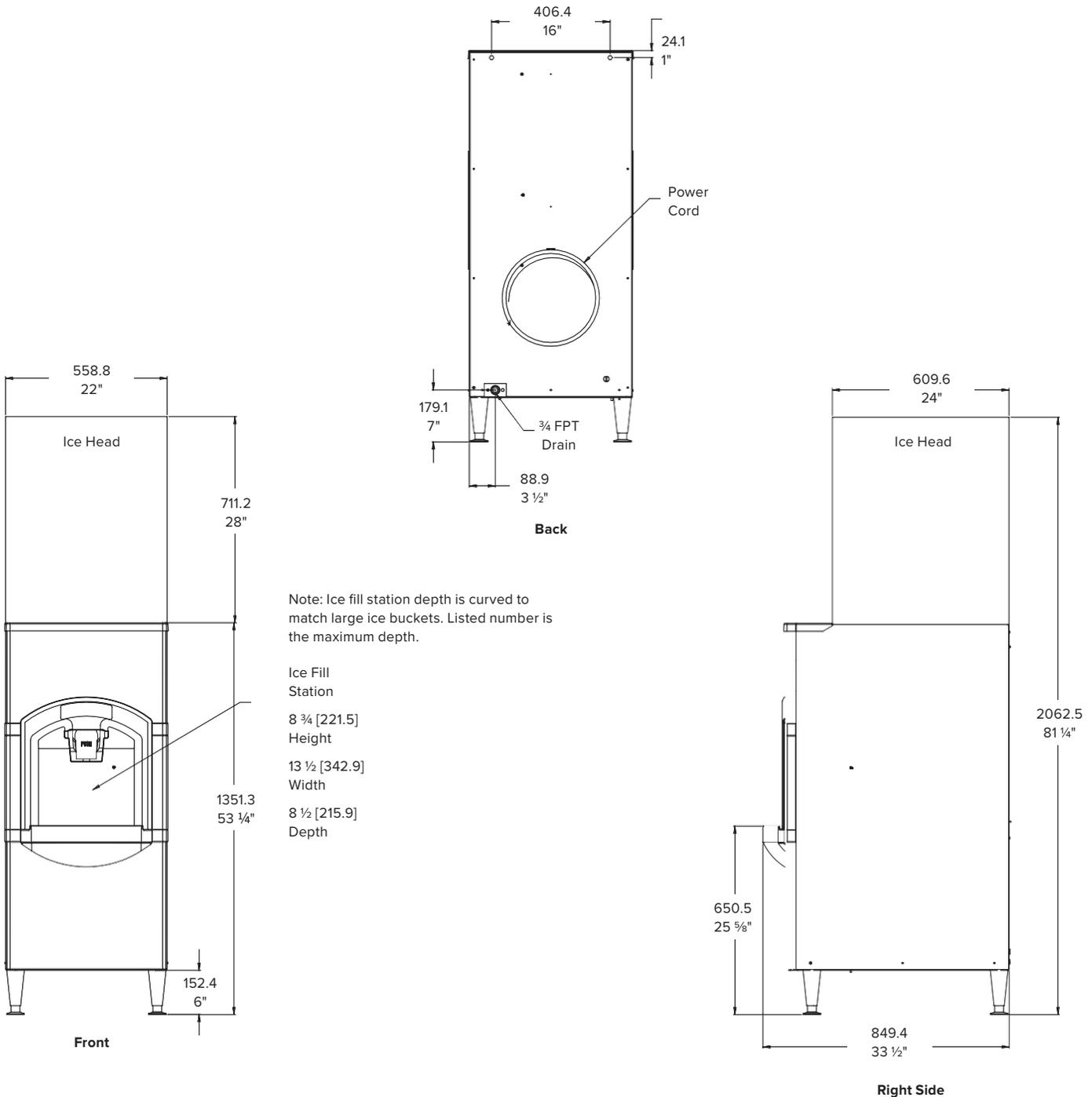
194HBN18030

Dimensioned Illustration



194HBN12022

Dimensioned Illustration

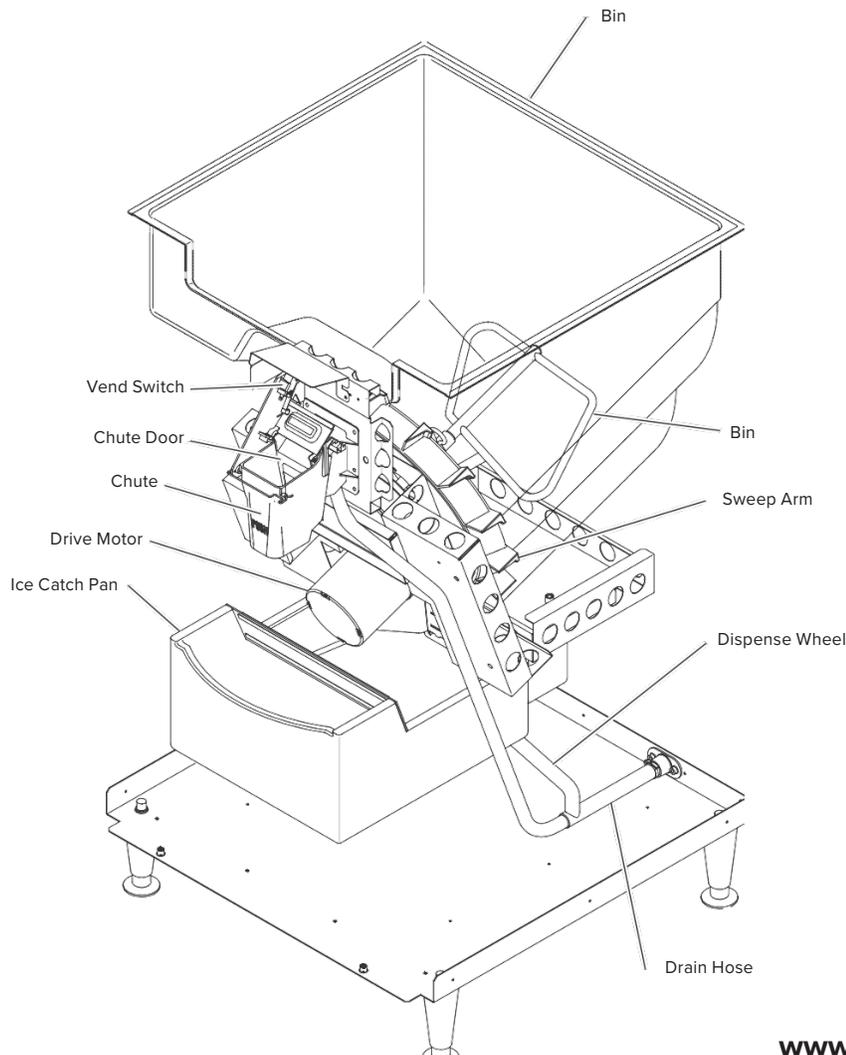


Product Description

All models consist of a plastic-lined, insulated hopper mounted to a metal base. The hopper contains a 15-blade plastic dispense wheel and a stainless steel sweep arm. The top front of the hopper has a removable door to facilitate maintenance and cleaning of the hopper without removal of the ice machine.

The dispense wheel and sweep arm rotate when the dispense drive motor is actuated. The drive motor's actuation is controlled by the agitation timer or the vend switch. When the ice dispense chute is pushed back, it moves the actuation lever up. The actuation lever releases the chute door and pushes the vend switch arm up. When the vend switch arm has moved a preset distance, the vend switch contacts close, providing power to the dispense drive motor. Ice is delivered to the top end of the ice chute by the dispense wheel and slides down the chute to the container below.

The container rests on a grill. The grill's openings are over the ice catch pan, and any spilled ice goes there. The grill has a flange at the front to help contain the ice that spills during vending. After the ice dispense chute is released, the ice chute door closes to stop ice flow. Ice in the chute will eventually melt. Melted ice water is routed to the drain through a hose attached to the bottom of the chute. Spilled ice is contained in an insulated ice catch pan. Melted ice water from the ice catch pan is routed to the drain. User debris is kept away from the drain in the catch pan by a slotted shield. The side and front exterior panels are stainless steel. The vending area and top panel are made of plastic.



Unpacking

After removing the carton, check for the loose-shipped parts packed in the storage bin. The parts will include a carton with four legs. Remove the leg carton and any other loose-shipped items.

To remove the pallet, place part of the carton behind the unit and tip the unit on its back. Remove the bolts holding the pallet to the base of the HBN dispenser and separate the pallet from the unit.

Install the legs into the base of the unit, using the holes where the pallet bolts were. Turn the leg levelers in all the way. Adjust them later after the unit is in its final installed position.

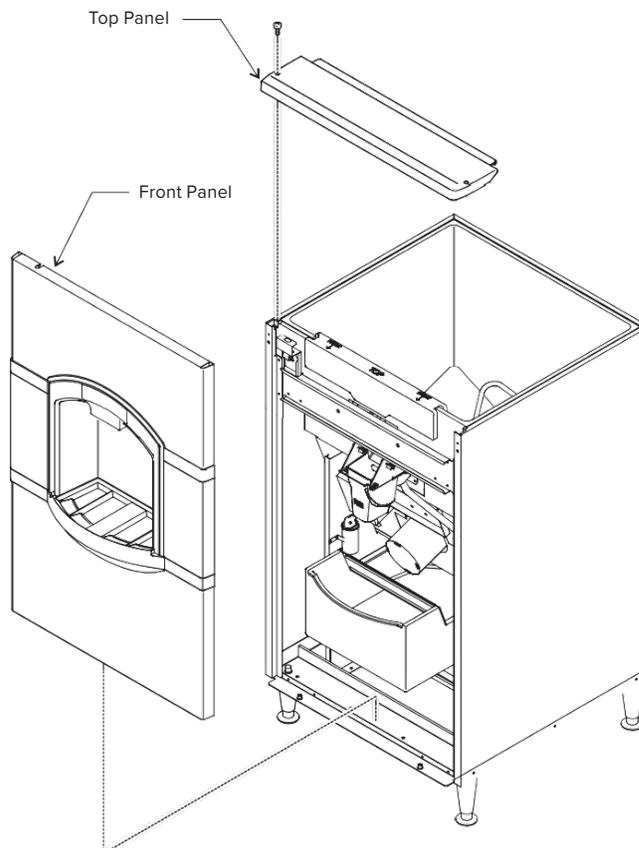
Move the dispenser to an upright position and set it in the location where it will be installed. Note where drain lines and electrical connections will be made.

Front Panel Removal

The front panel rests on the base and is located with pins that stick up from the base. It is retained to the side panels by strikes and latches. The top panel keeps the front panel from moving forward.

To remove:

1. Disconnect electrical power.
2. Remove the two screws holding the top panel to the dispenser. Lift the top panel up and over the dispenser.
3. Pull the top edge of the front panel forward until the two snaps disengage.
4. Lift the front panel up and off the base.



Installation - Plumbing

DRAIN

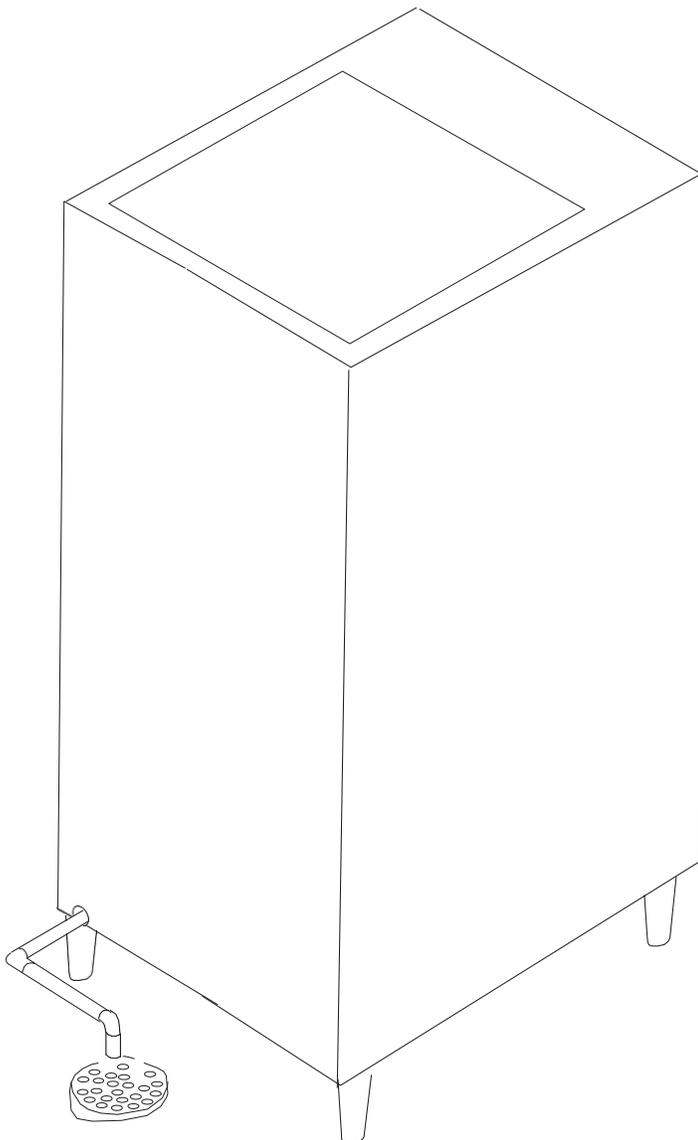
All models of the dispenser have a $\frac{3}{4}$ " FPT drain fitting at the bottom of the back panel. Connect $\frac{3}{4}$ " rigid tubing to this connection. A vent is recommended for most installations. Route the drain tubing to the building drain.

Note: Drain fitting material is plastic. If using copper, sweat the copper tube to copper together before installing on the dispenser.

Note: Keep PVC solvent away from all plastic parts of the dispenser.

Follow all applicable plumbing codes.

Because the drain tubing will be very cold, insulation is recommended for the tubing.



Drain Connection, Back View of Dispenser

Installation - Electrical & Ice Machine Assembly

The dispenser is supplied with a power cord. Do not use with an extension cord. The unit must be plugged into a properly grounded outlet.

The dispenser must be installed so that it is a separate piece of equipment from the ice machine. The drains and electrical supply must be separate.

Follow all local state and national codes.

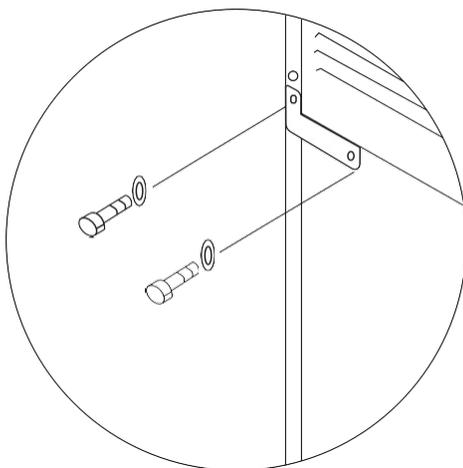
ICE MACHINE

All models: Place the dispenser in the location where it will be used. Level the top edge of the dispenser front to back and left to right, ensuring a seal between ice machine and dispenser.

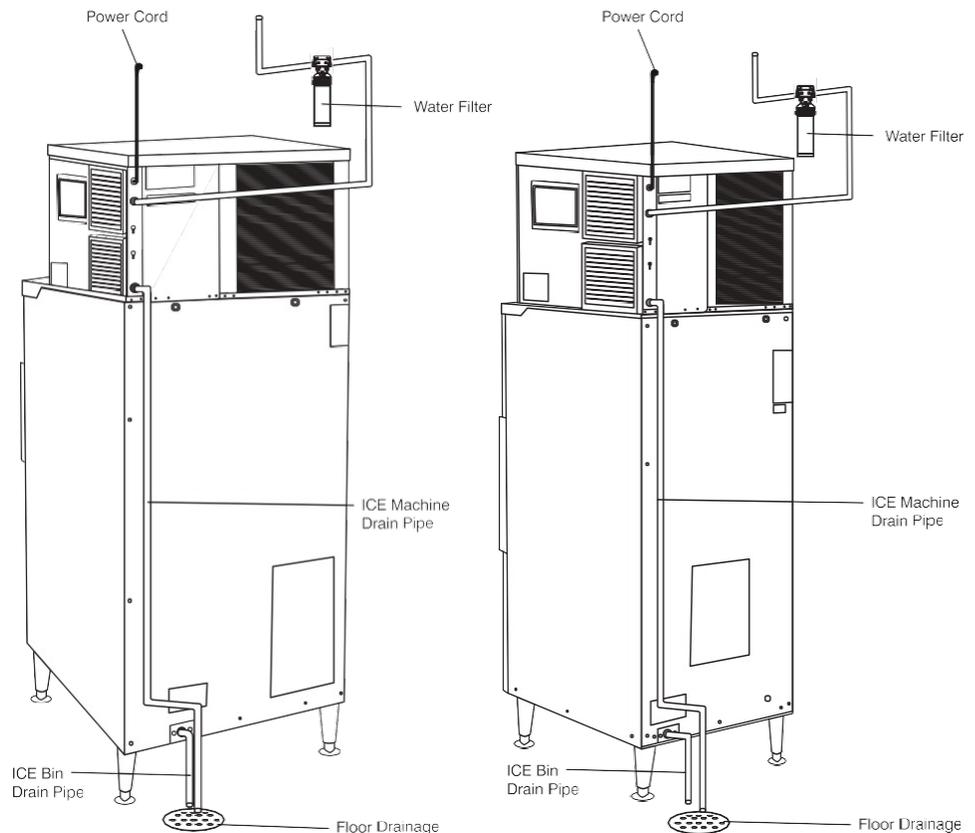
Sanitize the dispenser bin with a locally approved sanitizer.

Place the ice machine on the dispenser and secure it to the dispenser with the hardware from 194BKTHBN Kit.

If using a compatible Oceanloch filter system, use the included M4 bolts from 194BKTHBN Kit to attach filter system to the ice machine through the brackets provided holes.



Fasten Ice Machine to Dispenser



Back View of 194HBN18030 Installation

Back View of 194HBN12022 Installation

Final Checklist / Initial Startup

1. Check that electrical power has been supplied.
2. Check that a drain, separate from the ice machine, insulated and made of rigid tubing, has been connected to the dispenser.
3. Check that the ice machine has been properly installed per the ice machine's installation directions.
4. Check that the ice machine/dispenser assembly is level front to back and left to right.

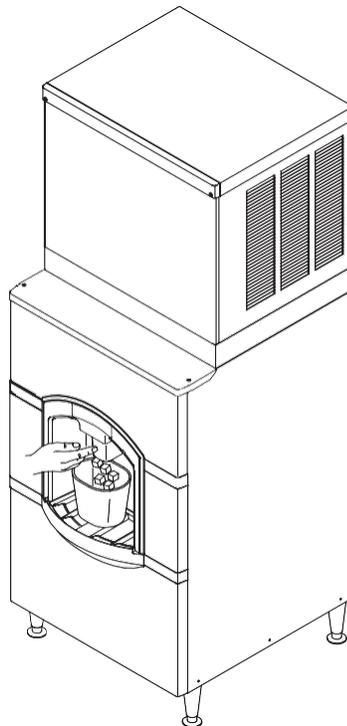
To Start:

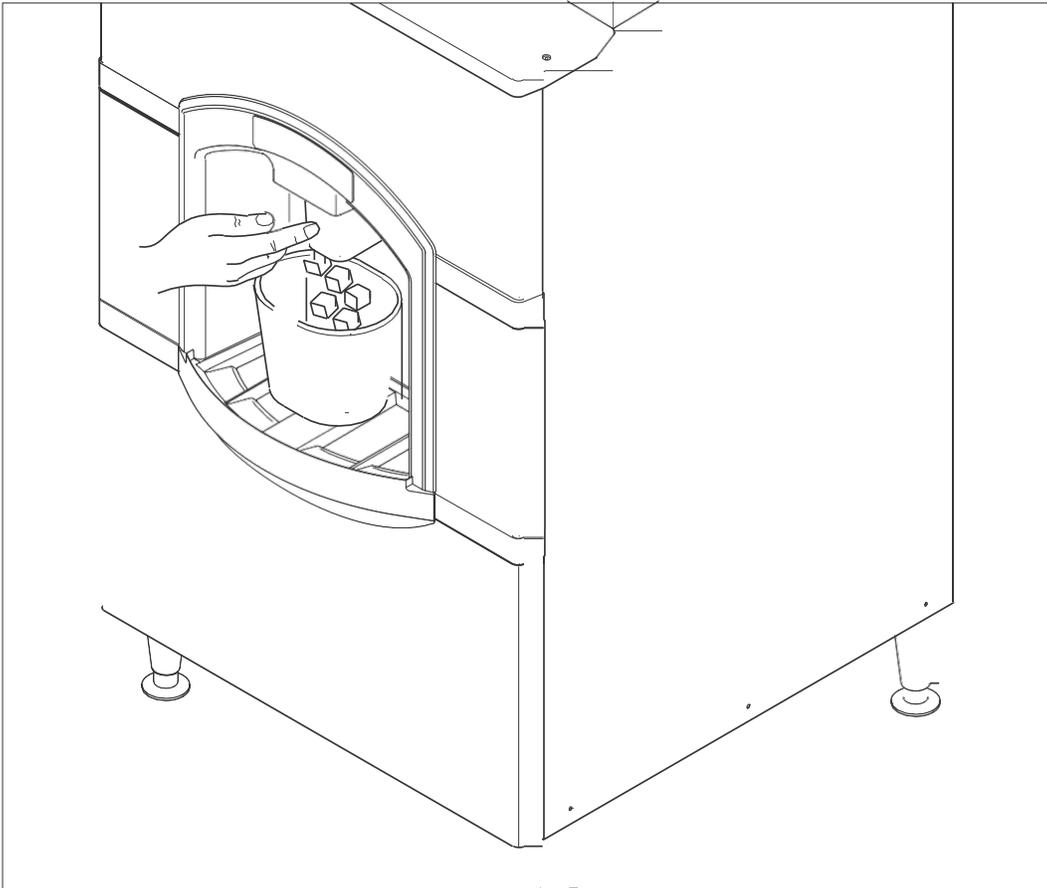
1. Connect electrical power. The dispensing system will cycle on for a few seconds.
2. Go through ice machine startup procedures. Let ice machine make two harvests.
3. Push in the ice chute.
4. Dispense wheel turns.
5. Ice will be dispensed from ice chute.
6. Give the operator any keys and the instructions on the operation and maintenance of the product. Check that the operator knows who to call for service and has the product/service manuals for the machines.

ELECTRICAL SEQUENCE

Pushing the ice chute closes a contact to the gear motor.

The gear motor will have power and the dispenser will continue to operate as long as the ice chute is pushed in. This model also has an agitation cycle of 3 seconds every 6 hours. Since the ice chute is not pushed in during agitation, no ice is dispensed.





Push the chute back to dispense ice.

General Care and Cleaning

Periodically inspect and clean the ice dispenser to keep it operating at peak performance.

Wash the outside of the dispenser with warm water and soap. Rinse out and wipe dry.

Cleaning and Sanitizing of the Ice Storage Bin:

The minerals, chlorine, and other impurities in the water are rejected from the water during the freeze cycle of the ice machine. These minerals will collect in the storage bin. The ice storage bin should be cleaned and sanitized every 90 days.

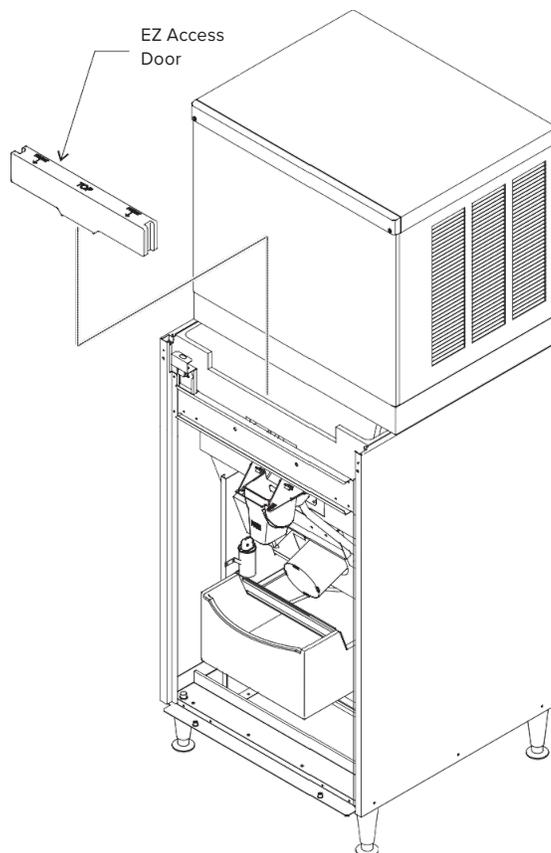
1. Remove all of the ice stored inside the dispenser bin and shut off the ice maker.
2. Disconnect electrical power to the dispenser.



WARNING! Electrical shock and moving parts hazard.

Disconnect electrical power before beginning service or maintenance procedures.

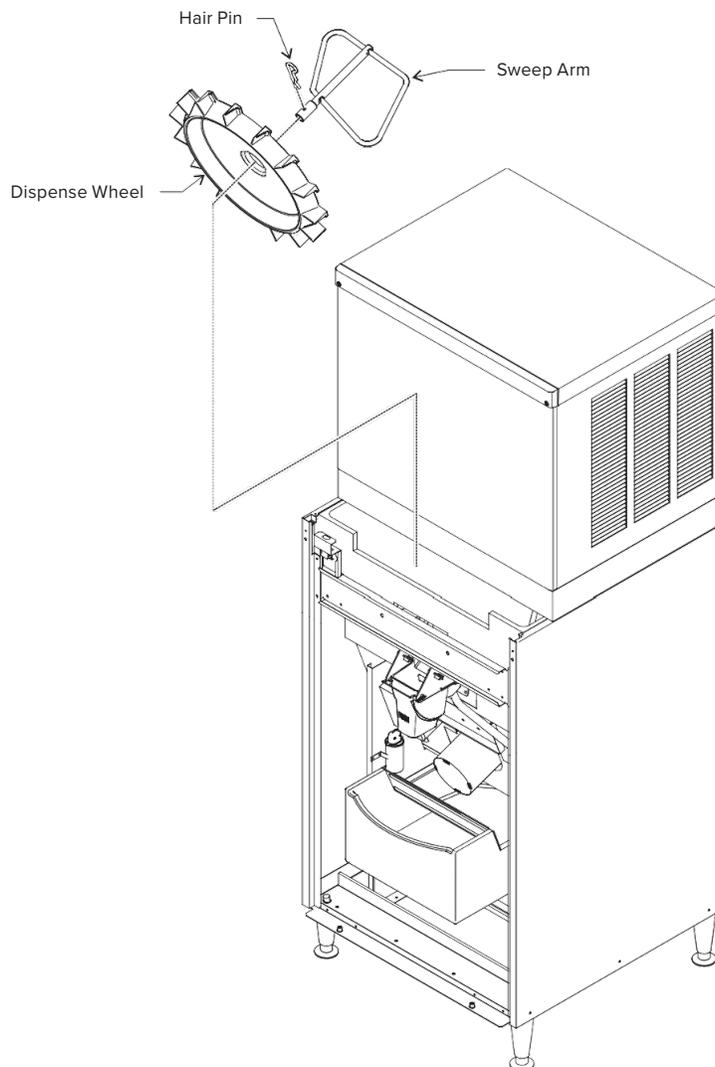
3. Remove top front panel (in front of the machine).
4. Remove the front panel.
5. Lift up and remove the access door at the front of the bin.
6. Reach into the opening, locate the hair pin, and pull it out of the shaft.
7. Pull the sweep arm of the shaft and remove it from the dispenser.
8. Pull the dispense wheel of the drive shaft and remove it from the dispenser.
9. Mix a solution of 5 ounces of ice machine cleaner to 1 gallon of warm (95°F - 115°F) water. Wash the entire bin area and the delivery area. Use a clean brush or cloth.



General Care and Cleaning (cont.)

10. Rinse all areas washed with clean, fresh water.
11. Using the ice machine cleaning solution, clean the ice grill, sink, sweep arm, and dispense wheel. Rinse these parts with clean, fresh water.
12. To sanitize: Use a locally approved sanitizer. A possible sanitizer: Mix a solution of ice machine sanitizer and water; 1 ounce of household bleach to 2 gallons of warm (95°F - 115°F) water. Wash all interior surfaces, the sweep arm, and the dispense wheel with the sanitizer solution. Use a clean cloth.
13. Allow the parts to air dry.
14. Reassemble wheel and sweep arm onto drive shaft. Be sure to reinsert hairpin.
15. Replace all panels.
16. Reconnect power. Be sure ice machine is switched back on.

Be sure to clean and sanitize your ice machine following the instructions that came with your ice machine. The cleaning instructions in this manual are only for the ice dispenser.



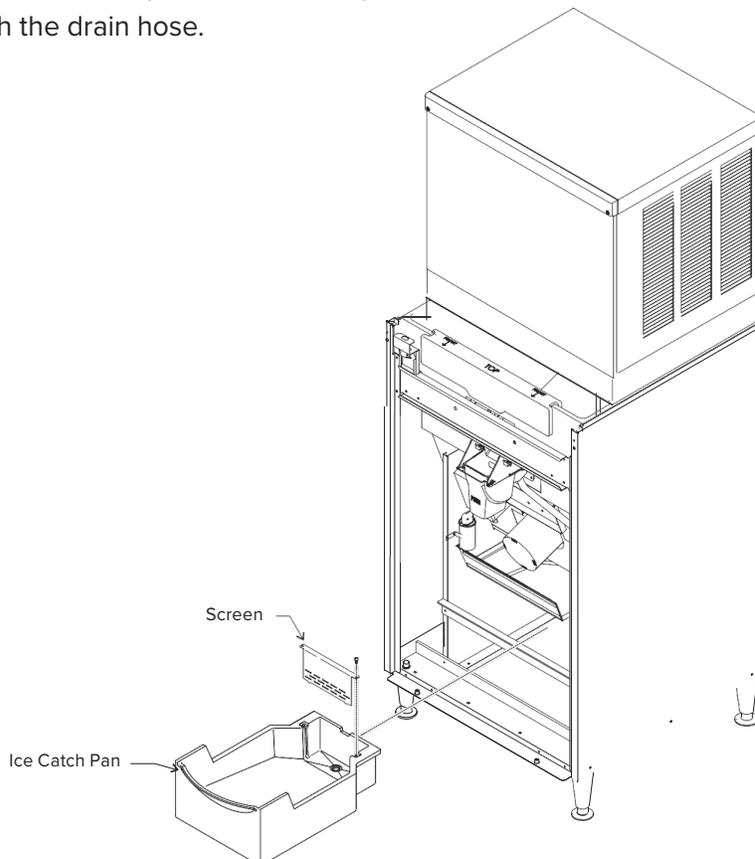
Maintenance

Spilled ice and user debris will collect in the ice catch pan, located just below the sink grill. Occasionally, the debris will need to be removed and drained out to prevent water backups.

Note: Failure to clean out the ice catch pan will likely result in a leak one that is NOT covered by warranty.

To clean out the ice catch pan:

1. Remove the front panel.
2. Disconnect electrical power.
3. Remove the two screws holding the top panel to the dispenser. Lift the top panel up and off the dispenser.
4. Pull the top edge of the front panel forward until the two snaps disengage.
 - If the unit is a coin-operated model, reach behind the front panel and disconnect the coin mechanism harness from the front panel.
 - If the unit is a water station model, reach behind the front panel and shut off the water supply valve to the water faucet. Then, disconnect the water line from the shut off valve.
5. Lift the front panel up and off the base.
6. Pull the ice catch pan forward a few inches until the drain hose can be reached.
7. Pull the drain hose from the ice catch pan.
8. Slide the ice catch pan out of the ice dispenser and clear it of any debris. Wash out the drain.
9. Return the ice catch pan to its normal position.
10. Re-attach the drain hose.



Adjustments

The dispenser is preset at the factory. Adjustments are rarely needed.

Agitation Time Recommendations:

The standard time is 3 seconds on every 6 hours. Adjust to agitate more frequently if the unit is installed in a low temperature environment.

However, if the ice being produced by the ice machine is cloudy and crumbles easily, adjust to agitate less frequently.



Agitation Timer, shown pre-set to 3 seconds every 6 hours.

Troubleshooting

Symptom	Probable Cause	Possible Fix
No ice is dispensed.	No power to dispenser.	Check for proper power. Is dispenser plugged in?
	No ice.	Check ice machine.
	Vend switch does not close.	Check vend switch. Check chute for proper motion.
	Chute cannot be pushed back.	Check door lock for proper operation.
	Interlock switch open.	Check interlock switch, ensure top panel is in place.
	Drive motor windings open.	Check drive motor.
	Drive gears failed.	Check gear reducer.
	Coin switch doesn't close.	Check coin switch.
	Vend timer does not work.	Connect power to post 6 of coin mech timer. The timer should activate and the ready light should be on. Pushing the chute should start the gear motor. If not, replace the vend timer.
Only dispenses small amount of ice.	Sweep arm damaged.	Check/replace sweep arm.
No water is dispensed.	Water shut off.	Check water supply to unit, check shut off valve inside cabinet.
Water leak.	Drain is plugged.	Check drain for restriction.
	Ice catch pan has overfilled.	Remove excess ice.
	Ice catch pan screen is plugged.	Clean screen.
	Seal between ice machine and dispenser is leaking.	Remove ice machine and replace gasket tape.
Water drip from spout.	Spout drain restriction. Note: Some dripping is normal	Check spout drain for restriction.
"Ready" light is on all the time.	Restrictor is open.	Replace resistors (15K, 2 watt in parallel).