FAQ

How to Restart an Ice Maker after an Extended Period

When restarting an icemaker after a period of non-use, first clean and sanitize the icemaker as outlined in the Cleaning and Sanitizing Instructions section of the appliance's instruction manual. Manuals can be found at https://www.hoshizakiamerica.com/support/ or https://secure.hoshizakiamerica.com/docs/Shutdown_and_Startup_of_Icemakers_2020.pdf

Can you remove icemaker legs to fit under the counter?

Yes, but then you will need to chalk around the base of ice maker. Most state/county/local health code requires 6″ space under equipment in order to clean. If you remove the legs, then these codes specify chaulking all along the base to prevent spills and dirt from getting under the machine. Please note if you do not use legs: If you need to pull out the icemaker to service and/or maintain – then you will need to reapply fresh chaulking.

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Can I use LP-4-LEG on upright models?

No. LP-4=LEG has a 3/8-11 thread. Uprights can accommodate 5/8-11 threads. In addition, 4″ legs may not be allowable since NSF requires anything under 6″ must be sealed to the floor unless the unit is on casters.

Do you offer legs for use on uprights?

Steelheart upright models can accommodate optional 6″ legs. LP-6-LEG, LP-6P-LEG or LP-6 FLANGE LEG

Where Can I Find out What Products are Energy Star®?

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What is the weight capacity of the shelves on the Reach-In models?

Shelf weight capacities are listed in our instruction manuals.
Do not throw anything on the shelves or load a single shelf with more than 120 lbs. of product.

Can I order a one tap tower instead of a two tap tower?

Since the 2 faucet tower comes with other models, it is available as a service part.
They can order a 2 faucet tower and replace the 1 faucet tower that comes standard.
12191241

Can I order a two tap tower instead of a one tap tower?

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How Long are the Stems on the Caster?

Rear Mount models use 1/2-13 x 1.5″ long caster stems

My unit is beeping 1 time every three seconds. What do I look for?

When the machine beeps once every 3 seconds it indicates the HIGH TEMPERATURE SAFETY switch has been triggered.

The HIGH TEMPERATURE SAFETY is activated, when the thermistor which is mounted on the suction line reaches a temperature of 127° F. When this occurs it will shut the unit down, trigger the alarm, and lock it out on a manual reset safety.

Some of the reasons for a High Temperature safety alarm are as follows. You will find these possibilities included on the control board diagnostic label located in the compressor compartment. Follow the instructions provided on the label to reset the alarm and check these areas to locate the problem.

1. Check to see if there is a mechanical problem with the **hot gas valve sticking open** or with the **control board relay sticking**.
    1. Check for a temperature differential across the hot gas valve.

    2. To check for a sticking relay, use a volt meter to check for voltage on pink wire, pin # 2 on the K1 connector.
2. **Hot water migration** can also cause this. This typically happens at night when the only piece of equipment requiring water flow is the ice machine.
    1. Hot water migration is a tough problem to find and to prove to the customer. The best way to determine that this is happening is to place a temperature recorder on the inlet water line of the ice machine. The recorder will show when migration occurs.
    2. Usually hot water migration is due to a defective mixing valve in the existing plumbing. A good place to check is the pre-wash area at the dishwasher.
3. A **stuck head master on a remote air cooled condenser unit** operating in a high ambient condition.
    1. The best way to check for this is to carefully touch the liquid line connection at the rear of the unit. Also, check for heat at the inlet pipe to the receiver tank. If these areas are hot, the head master is likely stuck in the bypass mode.
4. Check for a **shorted thermistor**. If the thermistor reads approximately 500 ohms or less the control board will lock out on this safety.
    1. A shorted thermistor will signal zero ohms and cause repeated shut down on HIGH TEMPERATURE SAFETY.

https://secure.hoshizakiamerica.com/TechSupport/techtips/Pdf/All/tips148.pdf

I understand that Hoshizaki does not recommend the use of a site glass for charging an ice machine. Why?

This is a common question and there are more factors involved than you might think. Many things have to be taken into consideration when designing an ice machine. Let's take a look at some of those factors when considering the charge.
Once the components are selected, the first thing that is taken into consideration is selecting the type of refrigerant needed to match the system requirements and designed production. Other considerations include proper sub-cooling, superheat, evaporator and condenser temperatures, refrigerant pressures, etc. We must also take into consideration the compressor manufactures specifications. We must not exceed the manufacturer's limits for dome temperature, discharge pressure, amp draw under maximum load etc. Finally, the machine is monitored cycle after cycle to insure consistent and maximum performance. As you see there are many variables that are looked at before deciding on the correct factory charge. This is what makes an ice machine a critically charged unit.
Because of the many factors involved in correctly charging any refrigeration system and a constantly changing load on the evaporator during the freeze cycle, it may be normal to have bubbles in a sight glass with a correctly charged unit. When charging, if you clear the sight glass of bubbles, you may have inadvertently overcharged the system. Therefore, our only recommendation for properly charging any of our models is by weighing in the correct charge according to the nameplate. If you do encounter a Hoshizaki machine with a sight glass it should only be used as a moisture indicator and not to charge the machine.

My Ice Machine is Beeping 3 Times. What Does that Mean?

In this article we will assist technicians in troubleshooting the 3 beep error code. The 3-beep error is the result of two consecutive long freeze cycles. The length of the maximum freeze cycle is determined by the position of DIP switches 9 & 10. Settings for these DIP switches are shown below.

DIP SW. 9	DIP SW. 10	MAX. FREEZE TIME
ON	ON	75Min/50hz 60Min/60hz
ON	OFF	70Min
OFF	ON	50Min
OFF	OFF	60Min

When the freeze cycle has reached the maximum freeze time and the float switch has not opened to terminate the freeze cycle the control board will automatically initiate a harvest cycle. After completion of harvest the unit will continue into the next freeze cycle. If the next freeze cycle reaches the maximum freeze time the back up timer will again initiate the harvest cycle. This is when the safety alarm engages and locks the machine out on a manual reset, 3-beep audible alarm.

The freeze cycle on Hoshizaki KM ice machines is controlled by water level. As the ice is being formed on the evaporator the level of water in the reservoir drops. Once it has dropped low enough to open the float switch the freeze cycle is terminated and the pump out or harvest cycle begins. During normal operation the water level must drop before the unit will go into harvest. In the case of the 3-beep alarm, the harvest cycle was not initiated by the float switch opening.

Before beginning our troubleshooting, we must reset the control board. On the control board next to the yellow and orange LED there is small alarm reset button. Press and release this pin while the board is beeping. Pressing this pin with the power off will not reset the alarm. Once reset we can troubleshoot the three-beep error.

Many times the reason for erratic operation is caused by a dirty or scaled machine. Before beginning your troubleshooting please make sure the machine has been thoroughly cleaned. Evaporators, water valve, float switch all need to be cleaned before proceeding into the trouble-shooting phase. For more detailed information on cleaning, see Tech Tip Vol. 186. Now that the machine and float switch are clean, we need to confirm component operation. Since the float switch actually sends the unit into harvest, it will be first on the list.

Float Switch: To check the float, remove it from the machine and check the continuity of the switch. Remove the float switch plug from the K5 connector on the board. With your ohmmeter on the plug wires and the float in the down position the switch is open, when it is up or the float turned upside down, the switch is closed. If the switch is closed or open all the time, no matter what position the float is in, the float switch needs replacing. The number one cause for failure of float switches is
scale.

Water Inlet Valve: This valve should be completely closed during our freeze cycle. To check this part pull the small hose off the water valve outlet going to the evaporator section. No water should be flowing from this valve during the freeze cycle. If water is by passing the valve, disassemble and clean/replace if necessary. See SB01-0009 for more info on water valve rebuilding.

Control Board: Test the control board, float switch operation. After 5 minutes of freeze drain the water out of the reservoir. When the water has drained the float switch will open and the control board will terminate the freeze cycle and initiate the harvest or pump out cycle. If the freeze cycle does not terminate, remove the K5 connection to the board. If the unit still does not go into harvest, the control board is defective.

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IT IS IMPORTANT TO CONFIRM WHAT PORTION OF THE CYCLE THE BOARD IS IN. WITH “E” STYLE CONTROL BOARDS THIS CAN BE DONE BY CONFIRMING WHICH LED LIGHTS ARE ENERGIZED. WHEN THE BOARD IS IN HARVEST, LED 1, 4 AND 2 SHOULD BE ENERGIZED. WHEN THE CONTROL BOARD GOES INTO THE FREEZE CYCLE LED 1 WILL ENERGIZE. IF YOU ARE WORKING ON A UNIT WITH AN EARLIER CONTROL BOARD THIS CHECK CAN BE DONE USING A VOLT METER. WHEN THE UNIT IS IN HARVEST YOU WILL READ 115 VAC AT THE PINK WIRE AND WHEN IT IS IN FREEZE THE BLACK AND RED WIRES WILL BE ENERGIZED.

Water Pump: The water pump itself can be easily tested by putting the unit in wash. We must however also confirm the operation of the water pump in conjunction with the control board. When the unit begins the freeze cycle, the water pump and condenser fan motor should energize on self-contained units. (Remote units the condenser fan starts with the compressor.) If the water pump fails to come on check voltage from the control board K1 connector, red wire, we should see 110 volts. If not, it is a good idea to verify that the board is actually in the “freeze” cycle. See note above to confirm cycle. If we find red with power
at the control board and the pump is still not running, next check the toggle switch.

Toggle Switch: Here you will find two red wires. Without removing them from the toggle switch check each one to ground for 110 volts, if one has power and the other does not, the toggle switch contacts are open. If you temporarily jump these wires together, the pump should energize. If we find voltage on both, check voltage at the pump itself, we should read 110-115VAC between black and red at the Molex connector. If we have voltage there, the pump is suspect.

Hot Gas Valve (HGV): To check the hot gas valve allow the unit to run in the freeze cycle for five minutes. Next place a temperature sensor on the outlet side of the HGV (about 3 to 5 inches down stream from the valve body) we should be reading approximately ambient temperature. If the temperature is high, confirm the valve is not being energized by checking voltage from the pink wire on the K1 connector to neutral. If no power is present the valve body is stuck open mechanically and should be replaced. When replacing any Hot Gas Valve always replace the strainer as well, along with the system drier. If power was present on the pink wire the control board is defective or a rare possibility of a back feed voltage keeping the coil to energize. (Remember make sure the board is in the freeze cycle; see information under water pump).

After checking that the HGV is operating correctly, we will now look at the remaining refrigeration system. To continue the testing it will now be necessary to install your gauges and check for the high and low side pressures at five minutes into the freeze cycle. (Refer to the performance data pages in the Tech Spec pocket guide for proper refrigerant pressures). You will also need to know the ambient temperature at the condenser, water inlet supply temperature and compressor amperage. If you find that the pressures are low on the suction and high side we recommend that you check for leaks.
If a leak is found use proper refrigeration practice to repair the leak and weigh in the nameplate charge.

Head Master: If the headmaster has failed in the “by-pass” mode you will find the liquid line and the discharge line close to the same temperature and at the same time, the head pressure is well above the headmaster setting. This causes discharge gas to be directed to the receiver tank instead of being routed through the condenser. This may cause the unit to cycle on the high pressure switch. Also, in some cases the discharge bypass will result in long freeze cycles or possibly a (1 beep) high evaporator temperature safety shutdown. The liquid line temperatures should be ambient plus 10

to 20°F. (See Tech Tip 206 for detailed information on Headmaster troubleshooting and the Tech Spec guide for individual Headmaster settings).

With a Water Cooled machine, make sure that the head pressure is adjusted correctly by checking the condenser outlet water temperature this should be adjusted between 100 and 110°F, if not you should adjust the water regulating valve. (Note: Please refer to the individual Tech Spec. guide for actual setting for your model).

TXV: To test the expansion valve or valves, remove the remote sensing bulb from the suction line during the freeze cycle. Hold the sensing bulb or bulbs in your hand and watch the suction line pressure increase, when this pressure settles in, drop the bulb or bulbs into a glass of ice water. The suction pressure should start falling. Once it has "bottomed out", check to see if the swing of the TXV(s) was more than 7 to 10 psig for R-404a units and 10 to 15 psig. If the suction pressure has less swing the TXV(s) would be suspect and should be replaced. If the swing is found acceptable we then look towards our compressor.
When checking the compressor, first look at the amp draw for the compressor at 5 minutes into the freeze cycle along with the refrigerant pressures. Compare these readings to the Performance data chart for that model (Found in the Tech Spec guide). If the amp draw and head pressure are found to be low and the suction pressure is high, an inefficient compressor is possible. It is a good idea to eliminate all other possibilities before considering the compressor as some of the symptoms are similar between a faulty HGV, TXV, low charge, etc.
Other possibilities are Liquid line solenoid valves and driers that are restricted. Restrictions in these components will typically cause frost during the freeze cycle. If completely restricted however, you may see extremely low suction pressure possibly even a vacuum condition.

Hopefully the information provided in this article will help you easily diagnose the cause of a 3 beep safety shutdown.

Are backflow preventers required for icemakers?

Recently there have been several inquiries concerning the provision in our icemakers to prevent back
flow from the icemaker into the potable water supply. If there is not a provision to prevent this, during a period of negative pressure of the potable water supply, water from within the icemaker could be siphoned back into the potable water supply, causing contamination.

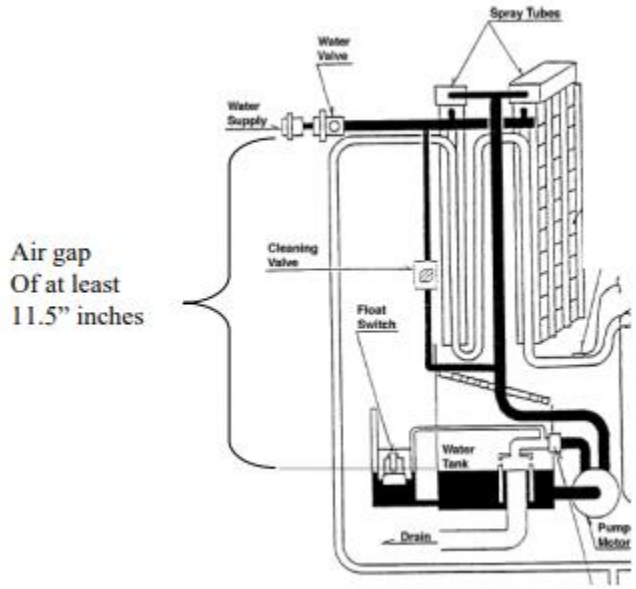
All of our KM series units (Including KML, KMS, KMD, etc.), Flaker, DCM, and AM model icemakers are listed by NSF International under NSF Standard 12, Automatic Ice Making Equipment.
As part of getting listed by NSF, an icemaker must comply with section 5.28 "Backflow Prevention" of NSF 12. Section 5.28.1 states "Units intended to be connected to a water supply system under pressure
shall have one of the following:

"-an air gap at least twice the diameter of the water supply inlet and not less than 1.0 in (25 mm):
Or"

This clause goes on to state several other methods of meeting this requirement however, the first method is how all of our models meet the requirements.

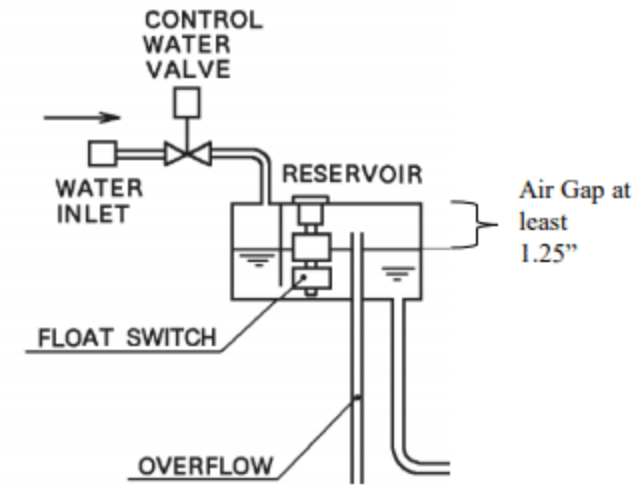
KM-Models

For the KM models, the water passes through the solenoid water inlet valve to the top of the KM evaporator plates. The water falls by gravity between the evaporator plates and over the refrigerant tubing sandwiched between them. It then falls further through the cube guide and into the reservoir tank. The space between the two stainless steel plates is open to atmosphere, so once the water leaves
the water spray tubes, it is in an air gap the height of the evaporator plates. The height of the KM evaporator plates is minimum 11.5 inches, which easily meets the NSF requirement.



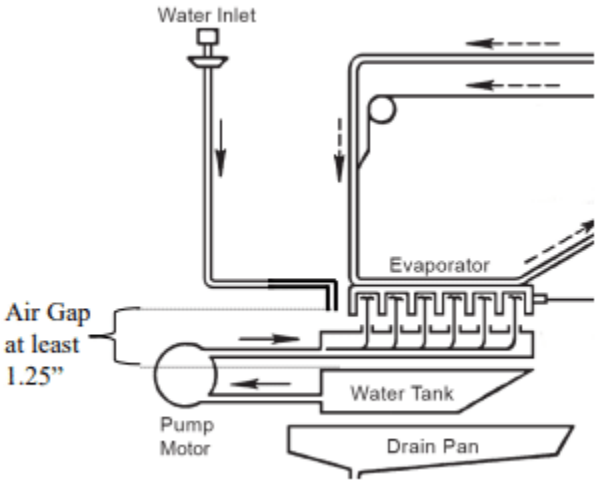
Flaker and DCM-Models

For the Flaker and DCM models, the water passes through the solenoid water inlet valve and through a
3/8" ID plastic fitting attached to the water valve outlet. The water then falls through the air into the water reservoir through a small hole. There is an overflow pipe in the reservoir that is 1 1/4 inches below the hole that the water enters through. The overflow pipe is connected to an open drain pan, therefore no water can siphoned back to the potable water supply.



AM-Models

For the AM models, water passes through the solenoid water inlet valve, it exits through a plastic tube
that is vertically oriented and is held in position by a clamp attached to the icemaker wall. After exiting
the tube, the water passes through a vertical air gap of more than 1.0 inch before it drops into the water
tank. So even if some malfunction causes the water tank to overflow, the water will drop into the ice bin below it, and cannot reenter the vertically oriented water supply tubing above the water tank.



In all of our ice maker models, the built in air gap described above are secondary back up to the water
solenoid valve. The water solenoid valves are normally closed and in most situations prevent any back
siphonage from happening.