



HOSHIZAKI CARE TECH-TIPS

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DCM AUGER REMOVAL

The DCM (Dispenser Cubelet Maker) makes cubelet or (chunklet) ice, stores it, and dispenses water and ice as needed. The size of this cubelet is approximately 5/8" high x 1/2" wide x 3/8" thick.

You will find that a DCM has the same basic ice maker design as a Hoshizaki flaker along with additional dispensing and agitation components. There are however some subtle differences in the evaporator section which allow the flaked ice to come out as cubelets.

The extruding head of the DCM unit has smaller ice channels. These smaller openings allow the force of the screw type auger to squeeze out excess water and extrude a more compacted piece of ice. Instead of a cutter at the top of extruding head , the DCM has a breaker. This breaker rotates with the auger and breaks away the cubelets as they are extruded.

There is one additional difference in the DCM evaporator and auger. There is a small piece of key stock approximately 3" long welded vertically inside the evaporator cylinder. The function of this key is to back ice up on the auger screw as it rotates. This assists in squeezing additional water out of the ice. The result is a harder cubelet being extruded.

There is also a keyway slot cut in the flight of the auger. In order to remove the auger for inspection, you must turn the auger and align the key with the keyway slot. This can be done by lifting the auger and turning it with upward pressure applied. When the key and slot align, the auger will lift out.

Before replacing the auger, it is good practice to

inspect the mechanical seal for damage. Replace the seal as needed to avoid water leaks. To replace the auger, align the key and slot and gently lower the auger until it rest on the stainless steel coupling. Turn the auger until the spline aligns with the coupling and ease it down into the final position.

Keep in mind that the auger cannot be removed on a DCM unit unless the key and slot are aligned. One last thing. always drain the evaporator before removing the auger for inspection. If you don't, it will drain itself.....more than likely on your shoes.

CLEANING WATER COOLED CONDENSERS

Your symptoms; high head pressure and excessive water usage through the condenser. Adjusting the regulating valve does not slow the condenser water flow. The outlet water temperature is lower than normal indicating poor heat transfer. This sounds to me like a dirty water cooled condenser.

Before we discuss cleaning , let's take a look at our water cooled condensers. Hoshizaki uses a tube in tube type condenser which consist of a copper inside tube and either a copper or steel outside tube.

A heavier walled copper is used for the inside water tube. This thickness provides more strength and durability and adds a degree of freeze-up protection. The outside of the water circuit tubing is finned for better heat transfer.

The water regulating valve is pressure operated and connected to the outlet of the condenser coil. Locating the valve on the outlet provides a flooded condenser during the off cycle. This means instant

cooling at the start of freeze which improves the

condenser efficiency. Having a flooded condenser also allows for less scale build-up. This is because water does not “dry up” and allow scale to form on the inside tubing during the off cycle.

The water regulating valve is adjustable and is set at the factory to maintain proper head pressures. Due to the amount of water flow and heat exchange in the condenser over a period of time, scale will eventually form. Adjusting the water regulating valve will compensate for this scale buildup to a point. Still at some point, cleaning is inevitable!

To clean the water cooled condenser, it will be necessary to circulate cleaner through the water circuit. The type of cleaner needed will depend on whether you have slime, mud, or scale on the inside tube. A reverse flush with high pressure water may suffice if it is only plugged with mud or sediment. Slime deposits may require a chlorine base flush. For scale, any de-scaler recommended for copper water cooled condensers is acceptable. Some cleaners include a built-in pH color indicator which changes colors when the coil is clean.

Circulating the cleaner requires a separate container, connection tubing, and a pump capable of pumping the acid cleaning solution. Some techs prefer to remove the water regulating valve and clean it separately. Others adjust the valve counter-clockwise, fully open, and connect the circulating system so that cleaner circulates through the valve as well. Regardless, the solution should be circulated from the outlet to the inlet to improve cleaning .

The time required for cleaning will depend on the type and amount of scale build-up. Once the condenser is clean, flush it thoroughly and reconnect the water regulating valve. The valve should be adjusted to maintain proper head pressures. Refer to the Tech- Spec’s for the correct head pressure or the outlet water temperature setting range.

ICE MACHINE SANITIZING

With all the recent talk of bacterial contamination of drinking water and food, sanitation is an important process. This definitely applies to the inside of an ice machine. Sanitizing kills bacteria and retards

further bacterial growth.

Water-borne bacteria can enter an ice machine through the make-up water supply. It will usually cover the reservoir with an invisible slick coating.

Air-borne bacteria generally enters through the bin door, sticks to the damp areas and grows. The growth of air-borne bacteria is evidenced by the presence of slime. One of the most common air-borne bacteria is yeast. This is mostly found in pizza restaurants, bakeries and areas where open beer bottles are stored. Yeast spores float through the air and enter any time the bin door is opened.

Chlorine is added to municipal water systems to eliminate bacteria. Unfortunately, heavy chlorine among other things, can produce bad taste. Filter systems which eliminate taste and odor problems contain a charge of charcoal. The charcoal absorbs the chlorine. The lack of chlorine may allow bacterial growth. If you have bacterial growth on a unit with a charcoal filter, you have two options. One is to add additional chlorine by means of a chlorine buffer. The other is to exchange the charcoal filter with a simple sediment filter.

Sanitizing should be an automatic part of the cleaning process. The instructions provided on the inside of the front cover include the steps for sanitizing. Any sanitizer designed for use on food service equipment will work however, Hoshizaki provides IMS-II from Nu-Calgon through parts distribution. The Hoshizaki part number is SA0004. You can also make up your own sanitizing solution using Sodium Hypochlorite. Simply dilute approximately 1.5 fl. oz. of a 5.25% Sodium Hypochlorite solution with 3 gal. of water.

Once you complete the sanitizing procedure, you should flush the water system thoroughly. Now, you can rest assure that your customer has the cleanest, most sanitary ice available.

COMING NEXT MONTH...

1. Installation KM-2000MLE
2. Replacement Timer For Flaker/DCM
3. Remote Line Installation Volume 131 Page 2

