INSTALLATION INSTRUCTIONS

SELF-CONTAINED FLAKED ICE MAKER
SERIES 200, 525, 725 (R404A REFRIGERANT)

IMPORTANT: It is the responsibility of the Installer to ensure that the water supply to the dispensing equipment is provided with protection against backflow by an air gap as defined in ANSI/ASME A112.1.2-1979 or an approved vacuum breaker or other such methods as proved effective by test.
Water pipe connections and fixtures directly connected to a potable water supply shall be sized, installed, and maintained according to Federal, State, and Local Codes.

You will get better service from the ice machine, longer life and greater convenience if you choose its location with care.

Here are a few points to consider:

1. Select a location as close as possible to where you are going to use the ice.
2. Allow a minimum of 6” space at sides and rear of machine for ventilation.
3. A kitchen installation is not desirable as a rule. If a kitchen installation is necessary, locate the machine as far away
   from the cooking area as possible. Grease laden air will form greasy deposits on the condenser. This reduces the ice making efficiency and necessitates thorough cleaning quite often.
4. If you install the unit in a storeroom, be sure the room is well ventilated.

NOTE: Do not install where the ambient and incoming water temperature will drop below 50°F or rise to over 100°F.

NOTE: If water pressure exceeds 50 lbs., a water pressure regulator should be installed in water inlet line between water shut-off valve and strainer. Minimum incoming water pressure required is 22 lbs.

A. Uncrate the unit by removing the staples or nails from the bottom of the carton and lift off.
B. Remove the bolts holding the skid to the machine.
C. If legs are used, adjust the leveling legs of the storage bin until the unit is level and all four (4) legs are in solid contact with the floor. Leveling is very important to obtain proper draining.
D. Provide a cold water supply line to the area selected for the installation of the unit. The incoming water line should have a shut-off valve provided at a convenient location close to the ice maker. The water strainer provided with the unit should be installed on the down-stream side of the shut-off valve. The supply line must be adequately sized to compensate for the lengths of the incoming water run. The machine is equipped with a 3/8” male flare connection for the incoming water line.

NOTE: ALWAYS FLUSH OUT WATER LINES BEFORE STARTING UNIT.

Water cooled units have a water regulating valve that is factory set to operate at 270 to 310 PSIG head pressure for R404a (water outlet temp. approx. 105F) This should be checked at the time the unit is being installed.

Two water inlet connections are provided on water cooled units, one for the ice making (evaporator) section, the other is for the water cooled condenser. Both connections are 3/8” male flare fittings. Inlet water to the condenser will go to the water regulating valve first, then to the condenser coil and out the drain.

The reason for separate water inlet connections is that some installations use a water tower for cooling the water used in the water cooled condenser and some installations use treated water for the ice making inlet water.

A separate drain will be required for the outlet of the water cooled condenser.

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E. Provide a suitable trapped open drain as close as possible to the area where the ice maker is going to be installed. This may be an existing floor or a 1 1/4" trapped open drain. Connect the drain line to the rear of the unit and run it with a good fall to the open drain. All plumbing must be installed according to local codes. The storage bin drains by gravity, and therefore the drain line must maintain a gradual slope to an open drain and should be insulated.

NOTE: IN SOME CASES IT MAY BE NECESSARY TO INSULATE THE WATER SUPPLY LINE AND DRAIN LINE. CONDENSATE DRIPPING TO THE FLOOR CAN CAUSE SERIOUS STAINING OF CARPETS OR HARDWOODS.

F. Connect a drain hose to the condensate drain stub tube.

NOTE: All plumbing must be done in accordance with national and local codes.

G. Connect the electrical supply line to the unit.

NOTE: Make sure the proper voltage and number of wires are provided. See serial plate for this information.

NOTE: All wiring must conform to national and local codes.

H. Turn on water supply and observe the water level in evaporator sections which should be no less than 1/4" below the inclined discharge chute opening of the shell.

I. Turn machine on and check for proper voltage and amp draw on the entire unit as well as components such as the gearmotor and fan motor.

J. Check refrigerant circuit and all plumbing connections for leaks, etc.

K. Check bin thermostat or mechanical shut-off for proper operations. In the mid-range the bin thermostat will open at 42° and has a 6° differential.

Adjustment Procedure

Water level must be maintained at the top of the evaporator.

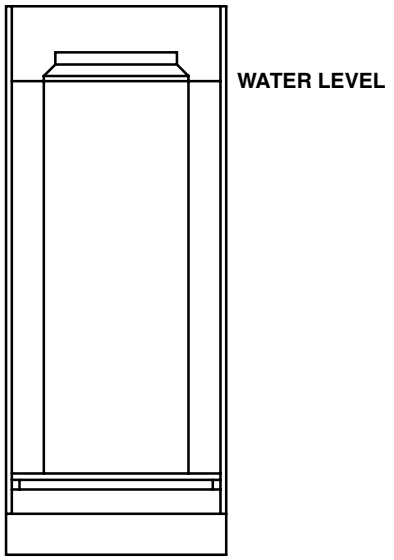


FIGURE 1. Water level adjustment procedure

1. Remove gearmotor and auger.
2. Adjust float valve to get water level to top seam of the evaporator.
3. Re-install auger. WATER LEVEL WILL RISE WHEN AUGER IS INSERTED BUT WHEN THE MACHINE IS TURNED BACK ON AND ICE STARTS BEING MADE, THE WATER LEVEL WILL GO BACK TO THE ORIGINAL SETTING.
4. Re-install gearmotor assembly and start machine.

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Typical Water Circuit

The supply water enters the float chamber through a small orifice. The water level rises and lifts the buoyant float with it. The float attached to the float arm seats a valve to shut off any further water supply. As water leaves the float chamber, the level drops along with the float and arm, causing the valve to open and admit more water. Thus the water level is maintained automatically as the machine operates.

Water now flows through a hose connected to the float chamber and enters the opening of the evaporator shell. The water level in the shell will rise to the same level that is maintained in the float chamber. The water that is in immediate contact with the center post evaporator will be reduced in temperature. As a result, freezing occurs and ice forms on the surface of the evaporator.

As more water is frozen, the thickness of the ice increases until it exceeds the distance allowed between the evaporator and auger. The auger rotates at a slow speed to wipe off the accumulated ice as well as help it to the surface. After the ice reaches the surface it is discharged through the top opening in the shell. An ice chute attached to the shell conveys the ice to the storage bin where it accumulates in the insulated bin until it is used. The ice will pile up to a point where the bin thermostat tubing is located. When the ice touches this brass tubing, the unit will shut-off and remain off until enough ice is used or melted to reduce the pile. Any ice that melts will pass through the drain and drain hose to an open drain.

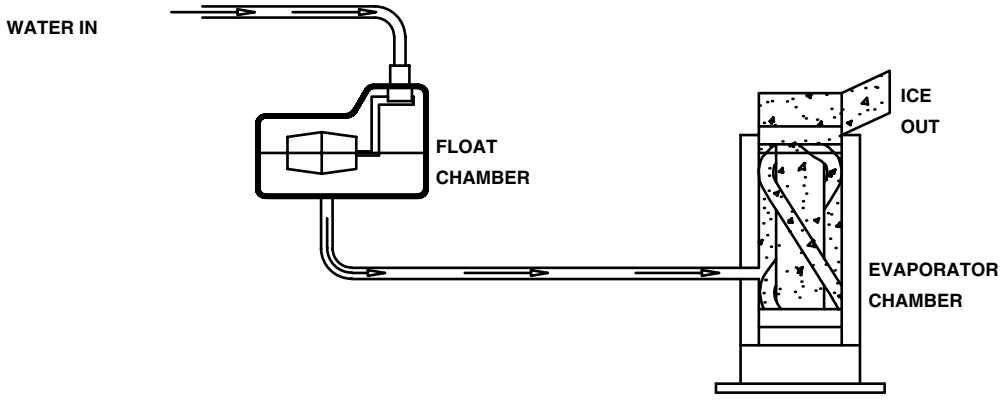


FIGURE 2. typical water circuit

Typical Refrigerant Circuit

Heat always flows from hot to cold and therefore, the ”heat load” supplied to the evaporator section by water gives up its heat to the refrigerant which is at a temperature below the freezing point of water. This refrigerant now passes through the heat exchanger back to the compressor, as a low pressure vapor.

This low pressure vapor is compressed in the compressor, as it leaves the compressor at a high pressure in vapor form it enters the top of the condenser. The condenser has a rapid flow of cool air across it which removes much of the heat from the hot refrigerant vapor.

As the vapor, passing through the condenser, loses heat it condenses back to a liquid since it is still under high pressure and cooler than when it entered the condenser. The liquid refrigerant then passes through the drier/filter still under pressure and goes through the heat exchanger where further cooling takes place. As the refrigerant leaves the automatic expansion valve, the pressure has dropped, causing the refrigerant to vaporize and boil off as it picks up heat in the evaporator and since the pressure is low, the refrigerant will be cold.

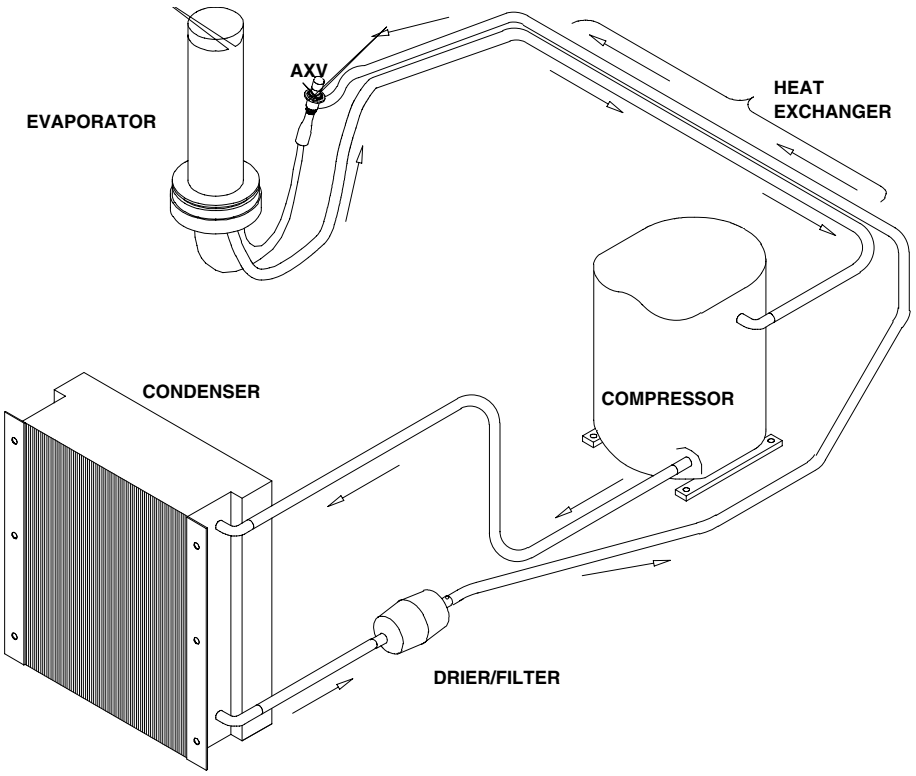


FIGURE 3. Typical refrigerant circuit

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