MODEL CC-30, CC45 & CC-60

OPERATING MANUAL

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HOW IT WORKS

The system is very simple and efficient. The evaporator is built up connecting together a series of reversed cups with a cooling coil. The refrigerant flows into the tubes while the pump sprays water into the cups. Thus inside each cup, an ice cube grows layer by layer.
When the cubes are ready, harvest starts. Hot gas flows through the cooling coil of the evaporator and fresh water enters on top of evaporator thus melting the outer surface of the cubes which then fall into the bin.
A new freezing cycle then begins. When the bin is full of ice, the unit stops production. When a quantity of ice is taken away, the unit restarts production.

UNPACKING & SETTING UP

1. Choose a location far from heating sources and in a well aired, dry place near water inlet and drain connections.
2. Power supply must match voltage specification on registration plate on rear of unit, +/- 6% variation permitted.
3. Water outlet must be at ground level.
4. Water inlet should be regular 3/4"BSP male stop cock.
5. Unpack icemaker removing the carton without turning the unit upside down and screw on the enclosed feet.
6. Connect the rubber hose to the tap and the water inlet valve. During this operation be sure no impurities go into the hose, which could clog up the filter.
7. Connect the drain tube to the unit, then insert it in the outlet siphon. Should the distance exceed 50cm, be sure all tubings are stretched out perfectly.
8. Check that machine is level.
9. For best perfomance water temperature should be between 10deg.C and 25deg. C and ambient between 10deg. C and 40deg. C.

START-UP & TEST

1. Open water tap and check for leaks.
2. Check if water inlet pressure is between 1 and 3 bar. If it is higher install a pressure reducer set at 2.5 bar.
3. Connect to electrical supply and switch on.
4. Unit starts in harvest at first installation. Water is charged. The timer ends harvest and freezing cycle begins.
   If unit does not start in harvest, more water is needed. TURN the ORANGE pin of the TIMER CLOCKWISE with a screwdriver until the unit goes into harvest.
5. To access the timer and thermostats, remove the front air grille.
6. Always charge with fresh water before staring ice production, at initial installation and after long shut-off period.
7. Wait three (3) producing cycles before making any adjustment, then check ice cubes. They must have a small dimple. If the are too empty, turn the adjusting screw of the ice-control thermostat clockwise to '+'.
   If they are too full turn the screw anti-clockwise to '-'.
8. Always make slight adjustments and wait for results. **Do not adjust to obtain a full cube without dimple.** It is possible that too full cubes will not release during the defrost cycle and cause problems in subsequent freezing cycles.
9. If cubes are white or incomplete, clean spray bar and nozzles.
10. With ice in contact with the ice bin level feeler inside the bin, the unit should stop within 1 min. If not, slightly turn the adjusting screw of the bin thermostat anti-clockwise to *SUMMER* until the unit stops.
    When ice is cleared from the feeler, the unit should re-start within 5mins. If not, slightly turn adjusting screw clockwise to *WINTER*.
11. For **correct operation,** the unit **must have all panels fitted and the door closed.**

CLEANING

CAUTION! HAZARDOUS MOVING PARTS INSIDE MOTOR COMPARTMENT!
Do not operate with panels removed!

DANGER! ELECTRIC SHOCK HAZARD!
Disconnect power before servicing unit!

CONDENSER CLEANING

Clean condenser every month. Disconnect power, remove front air grille and brush away dust and dirt from the condenser with a hard brush and vacuum cleaner.
CAUTION: condenser fins have sharp edges and can cause lacerations.
A dirty condenser causes loss of production and could damage the unit.

INTERNAL CLEANING

To clean tank and water system, disconnect unit, add an approved icemaker cleaner to water tank and on top of the evaporator. Alternatively, you can use two spoonsful of vinegar or citric acid. Make sure that the rubber hose is connected to the spray bar and that the ice chute and water blinds are in position. Start the unit in harvest (by rotating the orange pin of the timer) allowing fresh water to flow in. After two or three producing cycles stop the unit. Throw away produced ice, drain and rinse water tank. Clean spray bar and nozzles.

To drain water tank, gently remove water blinds and ice chute, disconnect the rubber hose from spray bar and orienting the hose inside the bin, start the unit. Water will be pumped inside the unit and drained.

To clean ice bin, take away all the ice and gently rub the sides and bottom of the bin with a cloth and a sanitizing cleaner. You can use household products or bleach.
Rinse unit thoroughly before restarting.

In case of mineral sediments or scale build -up, call your service agent for a full cleaning and installation of a water filter or softener.

SYSTEM OPERATION

REFRIGERATION SYSTEM

A Freezing Cycle

1. Compressor (C) pumps refrigerant to condenser (CD), hot gas valve (VG) is closed.
2. The liquid line reaches the evaporator (E) through molecular sieve (F) and capillary (T).
3. In the evaporator the refrigerant expands, thus producing the freezing effect.
4. Refrigerant is drawn back to the compressor through receiver/tank (B) and suction line/heat exchanger (S).
5. When evaporator thermostat (TE) reaches the set temperature it starts the TIMER; when the time is over, refrigeration cycle ends, hot gas valve (VG) opens and harvest begins.

B Defrost Cycle (harvest)

1. When hot gas valve (VG) opens, refrigerant flows directly from the compressor (C) to evaporator (E) and back to compressor through (S)
2. Duration of harvest is fixed by the timer. The TIMER is energised when the evaporator thermostat (TE) reaches the set high 'IN' temperature; for this reason the motor of the timer is connected directly with the COMMON contact of the evaporator thermostat.
3. When harvest ends, timer is de-energised, hot gas valve (VG) is closed and a new freezing cycle begins.

C Air Cooling

1. On model CC30 the fan motor (V) is always energised but on models CC45 and CC60 the fan motor is cycled on and off by the pressure switch (PT)
2. Pressure switch (PT) is factory set and no adjustment is permitted.

WATER SYSTEM

A Freezing Cycle

1. The pump (P) takes water from the water tank (WT) through a suction pipe and sends it to the spray bar (SB).
2. The water sprayed by the nozzles reaches the cooled cups on evaporator (E). A quantity of water freezes and the excess falls into the water tank.
3. The water inlet valve (VA) is closed.

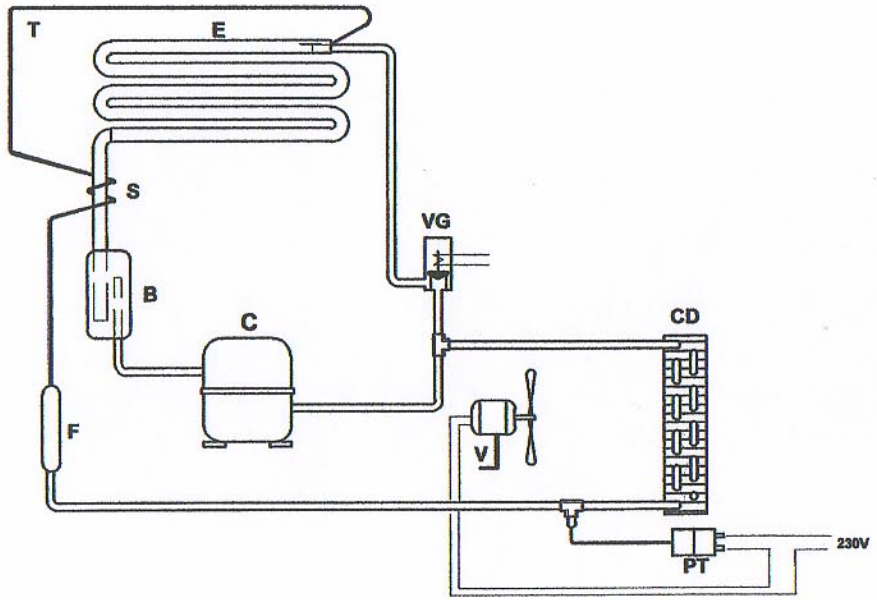
B Defrost Cycle (harvest)

1. The water inlet valve (VA) is open. Fresh water flows up on top of the evaporator, helping defrost.
2. From top of the evaporator, water falls back into water tank and refills it.
3. Excess water is discharged by an overflow control (OF).
4. The water pump is not working.

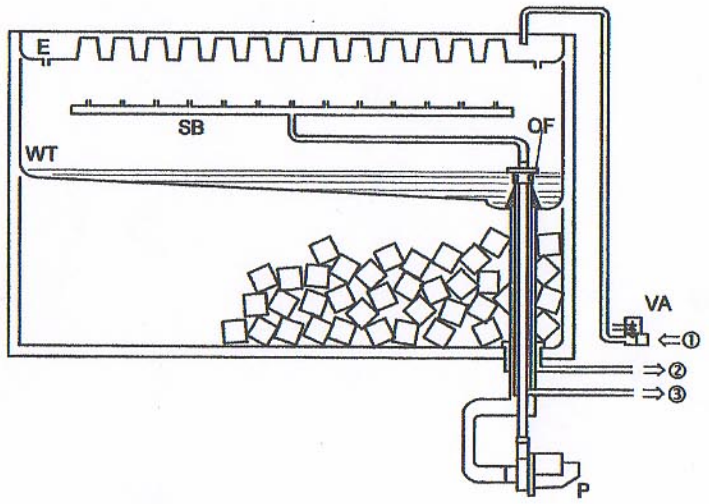
C Ice Storage Bin

1. Water from melted ice is drained separately, and does not re-enter the water system.

REFRIGERATION SYSTEM



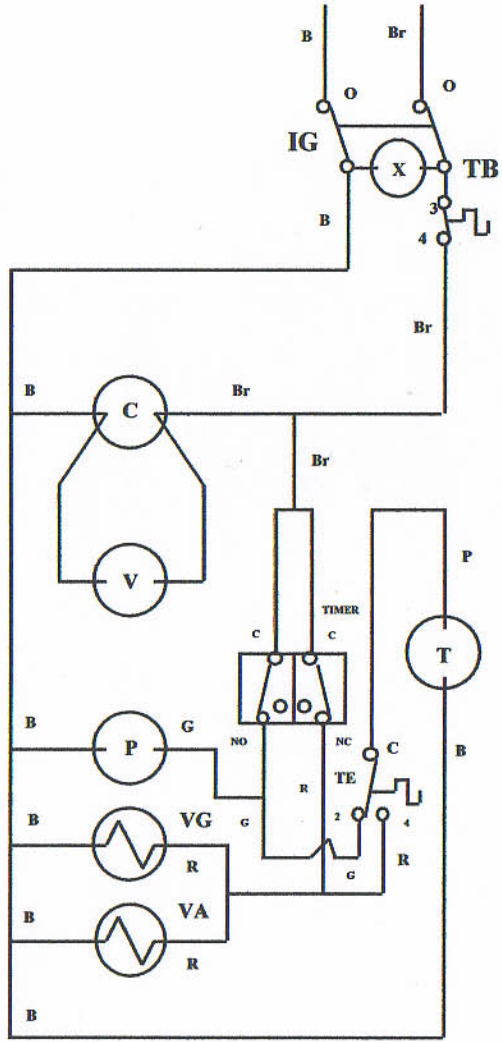
WATER SYSTEM



BEFORE CALLING YOUR SERVICE AGENT

1. Check that the unit is correctly connected to electrical mains and the switch is on.
2. Check that voltage is within tolerance (+/- 6%)
3. Check water connections, hoses and tubing. Water should flow regularly to the unit and water pressure must be within limits.
4. Air cooled condenser must be clean.
5. Check that the air vents are not obstructed.
6. Check that no bottles, cans etc. are stored in the bin. This can cause loss of production, clogging of filters and drains and bacterial contamination of ice.
7. Check that no unauthorised service has been performed on unit.
8. If your water supply has a high chlorine content, you won't obtain full clear and crystal ice cubes, and they will melt more quickly.
9. Remember to keep the door of the unit closed whilst operating, an open door will cause loss of production.
10. If the unit is correctly connected and the storage bin is not full, but the unit is not working, check the adjustment of the bin thermostat.
11. After a long shut-off period, it is worthwhile calling your service agent for a complete check-up.

Master Switch	**IG**
Bin Thermostat	**TB**
Compressor	**C**
Fan Motor	**V**
Timer	**T**
Pump	**P**
Hot Gas Valve	**VG**
Water Valve	**VA**



Br.	**Brown**	**R**	**Red**
B	**Blue**	**P**	**Pink**
G	**Green**		