

AUSTIN COMMUNITY COLLEGE
Heating, Air Conditioning, & Refrigeration Technology
HART 2442 - Commercial Refrigeration (04/15/08)

Course HART 2442 # 27

ICE-O-Matic

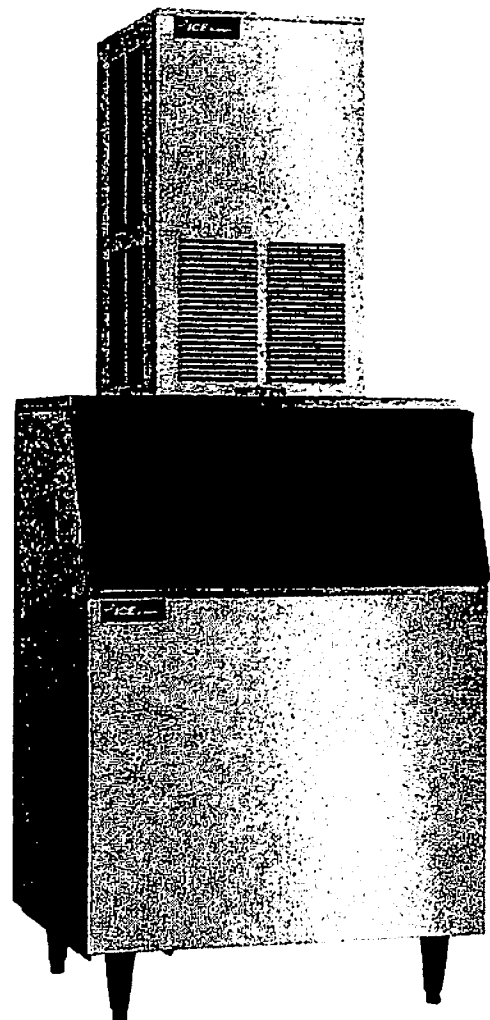
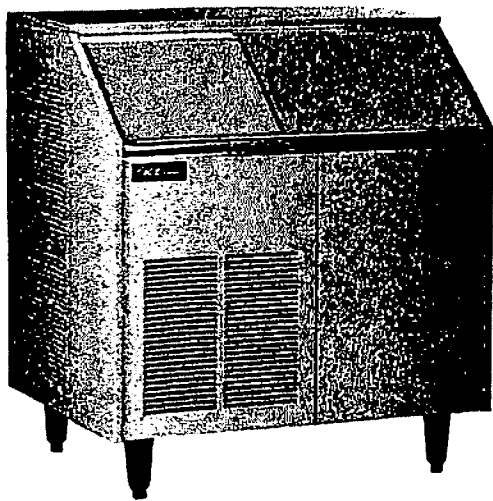
Installation, Start-up and Maintenance
Manual
Series 250 through 2306

ICE o-Matic®

Installation, Start-Up and Maintenance Manual

EF and EMF Flaked Ice Machines

Series 250 through 2306



ICE-O-Matic
11100 East 45th Ave
Denver, Colorado 80239
Part Number 9081178-01

Print Date 4/05

How To Use This Manual

ICE-O-Matic provides this manual as an aid to the service technician in installation and maintenance of the **EF and EMF Series** flake ice machines. Do not attempt to perform installation, start-up or maintenance unless you have read and fully understand this manual.

If at any time you encounter conditions that are not addressed in this manual, call, E-mail or write the ICE-O-Matic Service Department:

ICE-O-Matic
11100 E. 45th Ave.
Denver, Co. 80239
Attn: Technical Service Department
E-Mail: Tech.service@iceomatic.com

Telephone Numbers

800-423-3367 All Departments
888-349-4423 Technical Assistance Only
303-371-3737

Any Service communication must include:

- Model Number
- Serial number
- A detailed explanation of the problem

Keep this manual for future reference.

The EF and EMF Series Service Parts Manuals are available separately.

ICE-O-Matic icemakers and dispensers are not approved for outdoor installation.

WARNING: Always disconnect electrical power and shut off water supply whenever maintenance or repairs are performed on the ice machine and related equipment.

CAUTION: Always wear protective eyewear whenever maintenance or repairs are performed on the ice machine and related equipment

Important!

Inspect Promptly

This merchandise has been carefully inspected and packed in accordance with the carrier's packing specifications. Responsibility for safe delivery has been assumed by the carrier, if loss or damage occurs, you as the consignee must file a claim with the carrier and hold container for carrier's inspection.

Visible Loss or Damage

Any external evidence of loss or damage must be fully described and noted on your freight bill or express receipt and signed by the carrier's agent. Claim should be filed on a form available from the carrier.

Concealed Loss or Damage

If loss or damage does not appear until merchandise has been unpacked, make a written request for inspection by the carrier within 15 days of the delivery date. Then file a claim on a form from the carrier.

File Claim Without Delay

Do Not Return Damaged Merchandise to ICE-O-Matic

Model and Serial Number Format

MODEL NUMBER EMF450AS2

SERIAL NUMBER 04071280010077

AC SUPPLY VOLTAGE - 115 HERTZ 60
 TOTAL LOAD AMPS PHASE 1
 MINIMUM CIRCUIT CAPACITY 14.1 WIRES 2
 MAX FUSE SIZE OR HACR TYPE CIRCUIT BREAKER 15.0
 HEATER WATTS

MOTORS	VOLTS	RLA/FLA	W/HP	LRA
1 COMPRESSOR	115	6.9		29.0
1 FAN DRIVE	115	.8	16W	
1 AUGER	115	4.6	1/4HP	

RATED POWER CONSUMPTION (KW)
 REFRIGERANT R404A CHARGE/CIRCUIT 12 OZ 340 GRAMS
 NUMBER OF REFRIGERANT CIRCUITS 1

DESIGN PRESSURES P.S.I. 252 -LO 450 -HI
 BARS 17.7 -LO 31.6 -HI

UL LISTED 361P US
 ICE MAKER WITHOUT STORAGE MEANS

NSE

MILE HIGH EQUIPMENT CO.
 DENVER, COLORADO 80239
 MADE IN U.S.A.

Enodis®

RATED ENERGY EFFICIENCY
 (KWH/100 LB) 4.8 (KJ/KG) 336.8
 MINIMUM BIN ENERGY EFFICIENCY (%) NA

Vented in Accordance With Energy Standard CAN/CSA 742 - 08 and
 ARI 810 - 01 by Underwriters Laboratories Inc
 Approved Cry of Los Angeles Mechanical Testing Laboratory; 01 - 160274
 Accepted for use City of New York Department of Buildings ME 4 37 - 10 - F

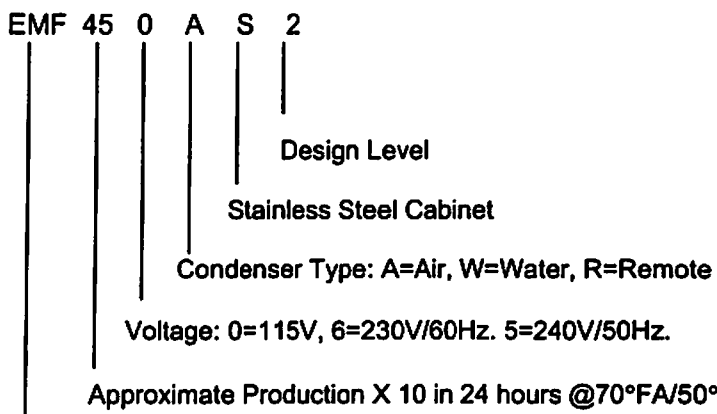
MODEL NUMBER EMF450AS2
SERIAL NUMBER 04071280010077

VOLTS/HERTZ/PHASE 115/60/1 MAX FUSE SIZE 15.0
 REFRIGERANT R404A CHARGE/CIRCUIT 12 OZ 340 GRAMS

UL LISTED 361P US
 ICE MAKER WITHOUT STORAGE MEANS

NSE

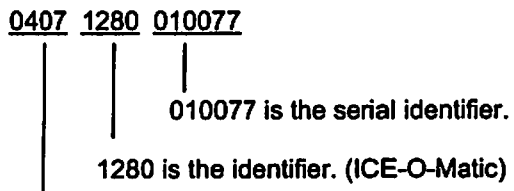
The serial number format and machine specifics are detailed on the data plate.



Series: Environmental Modular Flaker (Uses HFC Refrigerant)

This format is 14 characters long and begins with a date code followed by the ICE-O-Matic identifier, and then a sequential number. This is an entirely numerical serial number.

The new serial number will look like the example.



← Large data plate will be placed on the back of the unit.

← Small data plate will be placed by the service valves.

The date code will change monthly and yearly to reflect the date of manufacture.

Set-Up

Carefully uncrate machine and check for visible damage. If any damage is noted, stop installation and follow instructions on Page iii.

Remove skid bolts or screws and lift machine off of the skid.

Install legs (packaged inside bin) on base of machine or storage bin.

Remove and discard the 2 bolts at the rear of the EF series cabinet that secure the chassis for shipping.

Place the EMF series model on top of the bin or bin top and attach the ice machine with the hardware provided. Install the downchute seal. If the ice machine is to be mounted on a bin other than an ICE-O-Matic, refer to the manufactures instructions for machine mounting.

Danger!

Electrical shock and/or injury from moving parts inside this machine can cause serious injury or death. Disconnect electrical supply to the machine prior to performing any adjustments or repairs.

Important!

All installations must comply with local and national electrical codes.

European Installations

The electrical supply fixed wiring must be provided with a disconnection means having a separation of at least 3mm in all poles.

Electrical Connections

1. Check for proper voltage, wire and fuse size according to the specifications listed on the serial data plate located on the rear of the ice machine cabinet.
2. Supply power to the ice machine on a dedicated electrical circuit. Only the ice machine should be on this circuit. Reference the electrical wiring diagram on the ice machine.
3. On EF models make electrical connections in the junction box, taped to the chassis frame. Mount the junction box to the rear of the machine cabinet with the provided hardware and install the line voltage flexible conduit to the junction box. On all other models secure the conduit or electrical cord to back of the machine at the 7/8 inch hole. Make electrical connections at the terminal block located in the electrical box.

Important!

A water filtration system should be installed with all ice machines. Check the filter manufactures instructions for proper installation of the filter system.

All water supply lines must be installed per local codes. Use 1/4 inch O.D. minimum on air cooled machines. On water cooled machines 3/8 inch O.D. minimum tubing must be run to the condenser. The water supply for the ice making can "T" off from the condenser line using 1/4 inch O.D. minimum tubing. Make 2 coils of extra tubing so that the machine can be pulled away from the wall if service is needed.

All drain lines must be installed per local codes. The Condenser drain on water cooled units should be 3/8 inch O.D. minimum. Drain line fittings on ICE-O-Matic bins are 3/4 FPT. The bin drain should be a minimum of 3/4 inch O.D. Cold water drains should be insulated to prevent sweating.

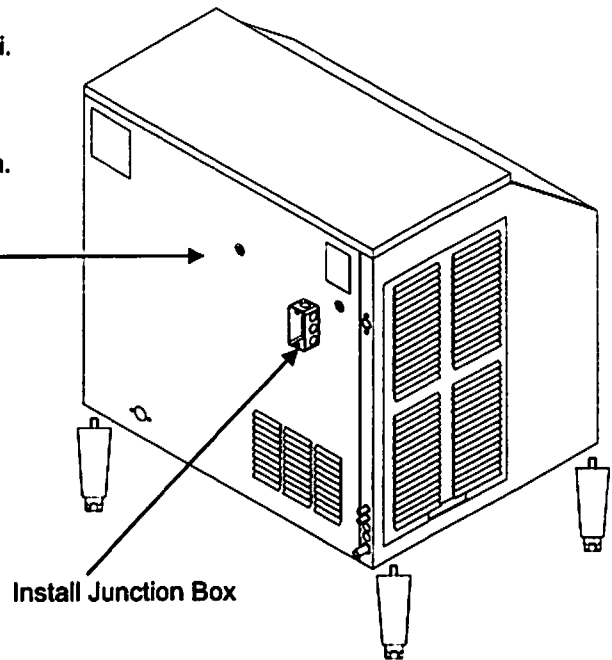
Warning!

Do not apply heat directly to the back of bin as damage may occur to plastic parts.

Insure the machine is level within 1/8 inch in all directions.

Remove any shipping or packaging material.

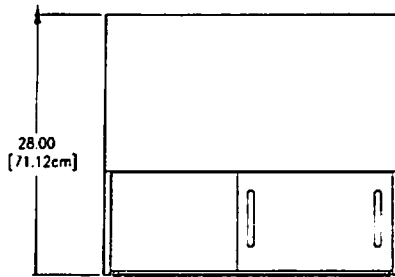
If the machine has a remote condenser, reference Remote Condenser Installation. Once the machine has been installed follow the start-up procedures.



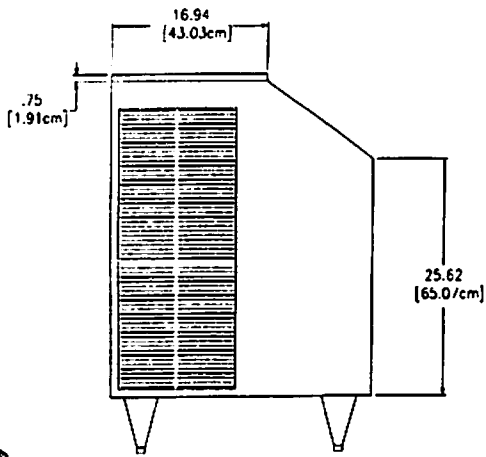
Install Junction Box

Install 4 Legs On Bottom Of Cabinet

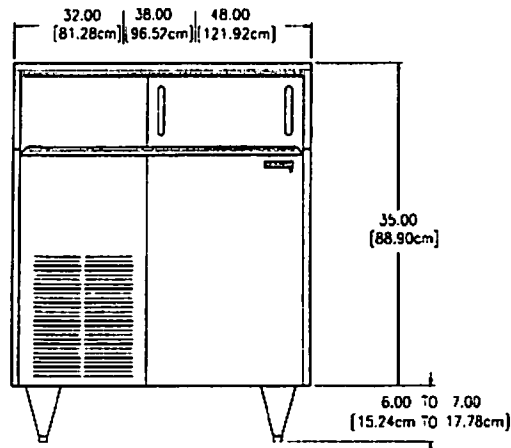
Electrical and Plumbing Requirements: 32, 38 and 48 inch Cabinets



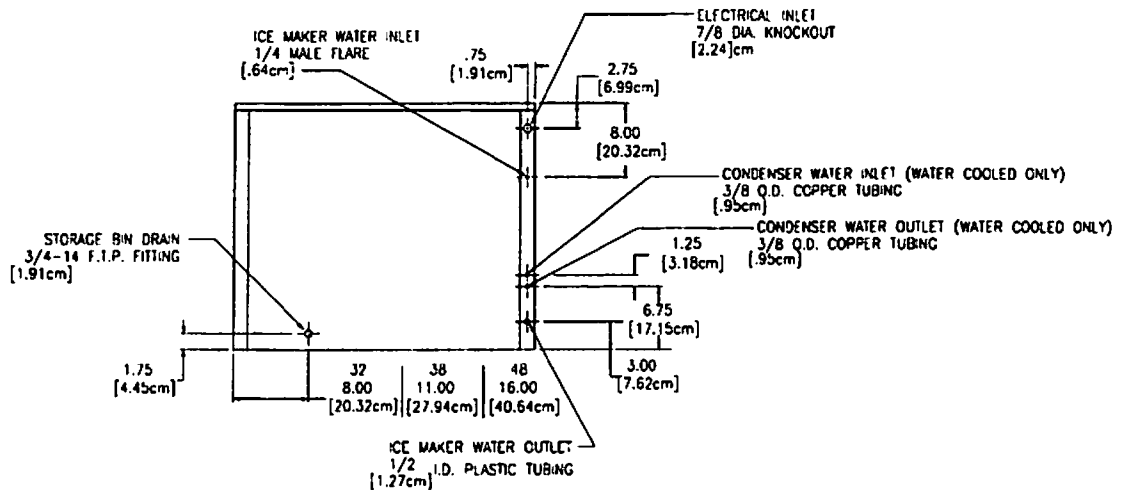
TOP VIEW



SIDE VIEW

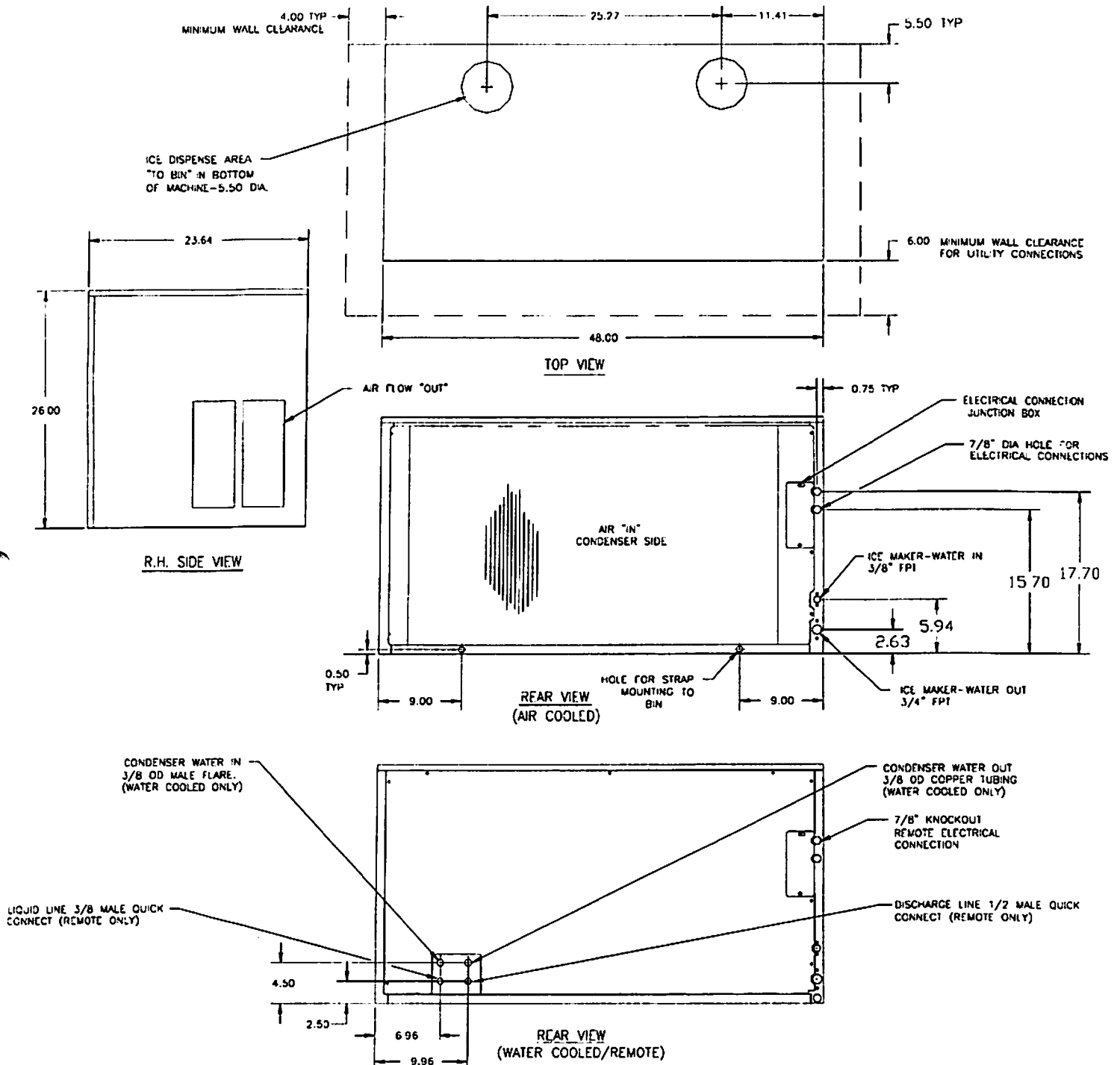


FRONT VIEW



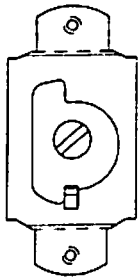
REAR VIEW

Electrical and Plumbing Requirements: EMF2300 Air, Water and Remote

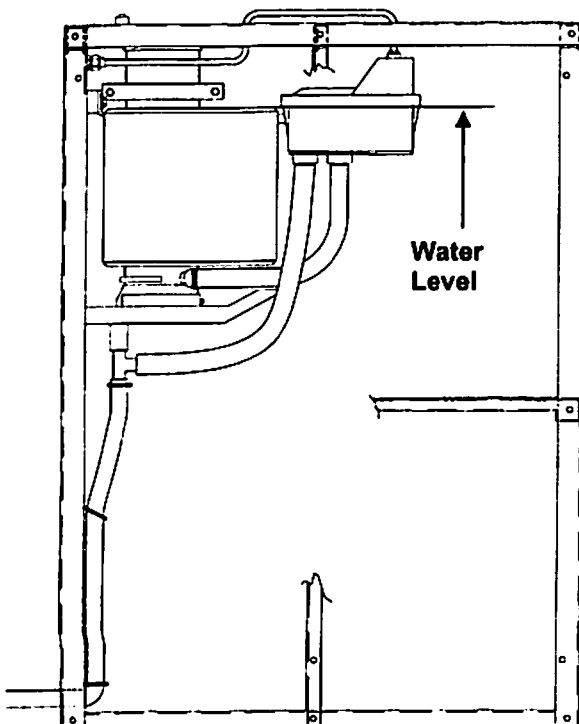
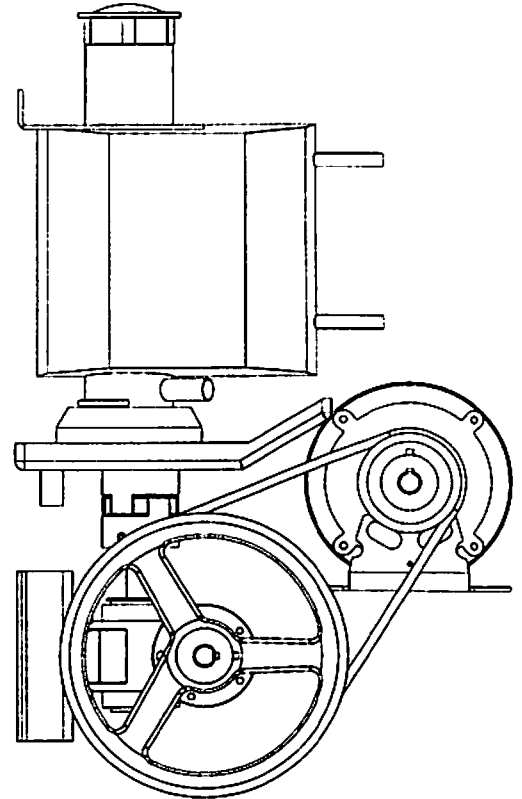


Please Follow These Instructions Carefully

- Check the auger assembly to insure that it turns freely. Turning the large pulley of the gear reducer should require only slight finger pressure.
- Check that the condenser fan turns freely.
- Remove tape and packing from the float valve and reservoir
- Before turning the water supply on, check the low temperature safety control for proper operation:
Turn the machine ON. There may be a compressor delay of 2 to 4 minutes. Allow the machine to operate for 3 to 7 minutes after the compressor energizes. The safety control should open and shut down the ice machine within this time period. If the control does not open, rotate the adjustment screw counter-clockwise until the control opens. The safety control is located in the electrical control box and the capillary tube is in the thermal well at the bottom of the evaporator.



The Safety Control turns the machine off if the evaporator temperature reaches approximately 30° F (-1C). The Safety Control can be adjusted by turning the adjusting screw clockwise to lower the cut-out temperature (colder) or counterclockwise to raise the cut-out temperature (warmer).



- Check the water level in the water reservoir.

Turn the water to the ice machine on. If this is a water cooled unit, insure that the water cooled condenser has an adequate water supply.

Turn the ON/Off switch ON, with the machine running and making ice, the water level in the reservoir should be even with the top of the insulation around the evaporator barrel.

If the water level is too low or too high, the water level may be adjusted lower or higher by adjusting the float mounting bracket.

Loosen or remove the two (2) screws securing the float bracket to the frame.

Raise or lower the float bracket so that the water level is even with the top of the insulation surrounding the evaporator.

Resecure the float bracket by tightening the screws.

Electrical shock and/or injury from moving parts inside this machine can cause serious injury. Disconnect electrical supply to machine prior to performing any adjustments or repairs.



Failure to perform the required maintenance at the frequency specified will void warranty coverage in the event of a related failure. To insure economical, trouble free operation of the machine, the following maintenance is required every 6 months.

General Maintenance Procedure

To insure economical, trouble free operation of your machine, it is recommended that the following maintenance be performed every 6 months.

1. Clean the ice-making section per the instructions on the next page. Cleaning should be performed a minimum of every 6 months. Local water conditions may require that cleaning be performed more often.
2. Check the water level in the float reservoir.
3. Clean the condenser (air-cooled machines) to insure unobstructed air flow.
4. Check for leaks of any kind: Water, Refrigerant, Oil, Etc.
5. Check the bin control for proper adjustment.
6. Check the secondary bin control for proper adjustment.
7. Check the water valve (water-cooled machines) for proper adjustment by measuring the water temperature at the outlet of the condenser. It should be between 100°F and 110°F. (38°C and 43°C)
8. Check all electrical connections.
9. Oil the fan motor if the motor has an oil fitting. (Self contained air-cooled models only)
10. Check the water filter (if applicable) and replace if dirty or restricted.
11. Check the safety control for proper adjustment.

Cleaning stainless steel

Commercial grades of stainless steel are susceptible to rusting if not properly maintained. It is important that you properly care for the stainless steel surfaces of your ice machine and bin to avoid the possibility of rust or corrosion. Use the following recommended guidelines for keeping your stainless steel looking like new:

- 1. Clean the stainless steel thoroughly once a week.** Clean frequently to avoid build-up of hard, stubborn stains. Also, hard water stains left to sit can weaken the steel's corrosion resistance and lead to rust. Use a nonabrasive cloth or sponge, working with, not across, the grain.
- 2. Don't use abrasive tools to clean the steel surface.** Do not use steel wool, abrasive sponge pads, wire brushes or scrapers to clean the steel. Such tools can break through the "passivation" layer - the thin layer on the surface of stainless steel that protects it from corrosion.
- 3. Don't use cleaners that use chlorine or chlorides.** Don't use chlorine bleach or products like Comet to clean the steel. Chlorides break down the passivation layer and can cause rusting.
- 4. Rinse with clean water.** If chlorinated cleansers are used, you must thoroughly rinse the surface with clean water and wipe dry immediately.
- 5. Use the right cleaning agent.** The table below lists the recommended cleaning agents for common stainless steel cleaning problems:

Cleaning Activity	Cleaning Agent	Method of Application
Routine cleaning	Soap, Ammonia, Windex, or detergent with water. Fantastik, 409 Spic'nSpan Liquid are also approve for Stainless Steel.	Apply with a clean cloth or sponge. Rinse with clean water and wipe dry.
Removing grease or fatty acids	Easy-Off or similar oven cleaners.	Apply generously, allow to stand for 15-20 minutes. Rinse with clean water. Repeat as required.
Removing hard water spots and scale.	Vinegar	Swab or wipe with clean cloth. Rinse with clean water and dry.

