Manitowoc®

# UnderCounter Ice Machines

## U65 Models

## Installation, Operation and Maintenance Manual



**Original Document**

⚠ **Caution**

Read this instruction before operating this equipment.

Part Number: 040006019 Rev. 02 08/22

# Safety Notices

## Definitions

**⚠ DANGER**

Indicates a hazardous situation that, if not avoided, will result in death or serious injury. This applies to the most extreme situations.

**⚠ Warning**

Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

**⚠ Caution**

Indicates a hazardous situation that, if not avoided, could result in minor of moderate injury.

**Notice**

Indicates information considered important, but not hazard-related (e.g. messages relating to property damage).

NOTE: Indicates useful, extra information about the procedure you are performing.

## Safety Notices

**⚠ Warning**

**Follow these electrical requirements during installation of this equipment:**

- All field wiring must conform to all applicable codes of the authority having jurisdiction. It is the responsibility of the end user to provide the disconnect means to satisfy local codes. Refer to rating plate for proper voltage.
- This appliance must be grounded.
- This equipment must be positioned so that the plug is accessible unless other means for disconnection from the power supply(e.g., circuit breaker or disconnect switch) is provided.
- Check all wiring connections, including factory terminals, before operation. Connections can become loose during shipment and installation.

**⚠ Warning**

**Follow these precautions to prevent personal injury during installation of this equipment:**

- Installation must comply with all applicable equipment fire and health codes with the authority having jurisdiction.
- To avoid instability the installation area must be capable of supporting the combined weight of the equipment and product. Additionally the equipment must be level side to side and front to back.
- Remove all removable panels before lifting and installing and use appropriate safety equipment during installation and servicing, Two or more people are required to lift or move this appliance to prevent tipping and/ or injury.
- Connect to a potable water supply only.
- Do not damage the refrigeration circuit when installing, maintaining or servicing the unit.

**Read these precautions to prevent personal injury:**

- Read this manual thoroughly before operating, installing or performing maintenance on the equipment. Failure to follow instructions in this manual can cause property damage, injury or death.
- Routine adjustments and maintenance procedures outlined in this manual are not covered by the warranty.
- Proper installation, care and maintenance are essential for maximum performance and trouble-free operation of your equipment. Visit our website www.manitowocice.com for manual updates, translations, or contact information for service agents in your area.
- This equipment contains high voltage electricity and refrigerant charge. Installation and repairs are to be performed by properly trained technicians aware of the dangers of dealing with high voltage electricity and refrigerant under pressure. The technician must also be certified in proper refrigerant handling and servicing procedures. All lockout and tag out procedures must be followed when working on this equipment.
- This equipment is intended for indoor use only. Do not install or operate this equipment in outdoor areas.

## ⚠ DANGER

Do not operate equipment that has been misused, abused, neglected, damaged, or altered/modified from that of original manufactured specifications. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision concerning use of the appliance by a person responsible for their safety. Do not allow children to play with, clean or maintain this appliance without proper supervision.

### ⚠ Warning

**Follow these precautions to prevent personal injury while operating or maintaining this equipment:**

- Read this manual thoroughly before operating, installing or performing maintenance on the equipment, Failure to follow instructions in this manual can cause property damage, injury or death.
- Crush/Pinch Hazard.Keep hands clear of moving components. Components can move without warning unless power is disconnected and all potential energy is removed.
- Moisture collectiong on the floor will create a slippery surface.Clean up any water on the floor immediately to prevent a slip hazard.
- Objects placed or dropped in the bin can affect human health and safety. Locate and remove any objects immediately.
- Never use sharp objects or tools to remove ice or frost. Do not use mechanical devices or other means to accelerate the defrosting process.
- When using cleaning fluids or chemicals, rubber gloves and eye protection (and/or face shield) must be worn.

## ⚠ DANGER

**Follow these precautions to prevent personal injury during use and maintenance of this equipment:**

- It is the responsibility of the equipment owner to perform a Protective Equipment Hazard Assessment to ensure adequate protection during maintenance procedures.
- Do Not Store Or Use Gasoline Or Other Flammable Vapors Or Liquids In The Vicinity Of This Or Any Other Appliance. Never use flammable oil soaked cloths or combustible cleaning solutions for cleaning.
- All covers and access panels must be in place and properly secured when operating this equipment.
- Risk of fire/shock, All minimum clearances must be maintained. Do not obstruct vents or openings.
- Failure to disconnect power at the main power supply disconnect could result in serious injury or death. The power switch DOES NOT disconnect all incoming power.
- All utility connections and fixtures must be maintained in accordance with the authority having jurisdiction.
- Turn off and lockout all utilities (electric, water) according to approved practices during maintenance or servicing.
- Never use a high-pressure water jet for cleaning on the interior or exterior of this unit. Do not use power cleaning equipment, steel wool, scrapers or wire brushes on stainless steel or painted surfaces.
- Two or more people are required to move this equipment to prevent tipping.
- These units must be tethered/secured to comply with all applicable codes.
- The on-site supervisor is responsible for ensuring that operators are made aware of the inherent dangers of operating this equipment.
- Do not operate any appliance with a damaged cord or plug. All repairs must be performed by a qualified service company.

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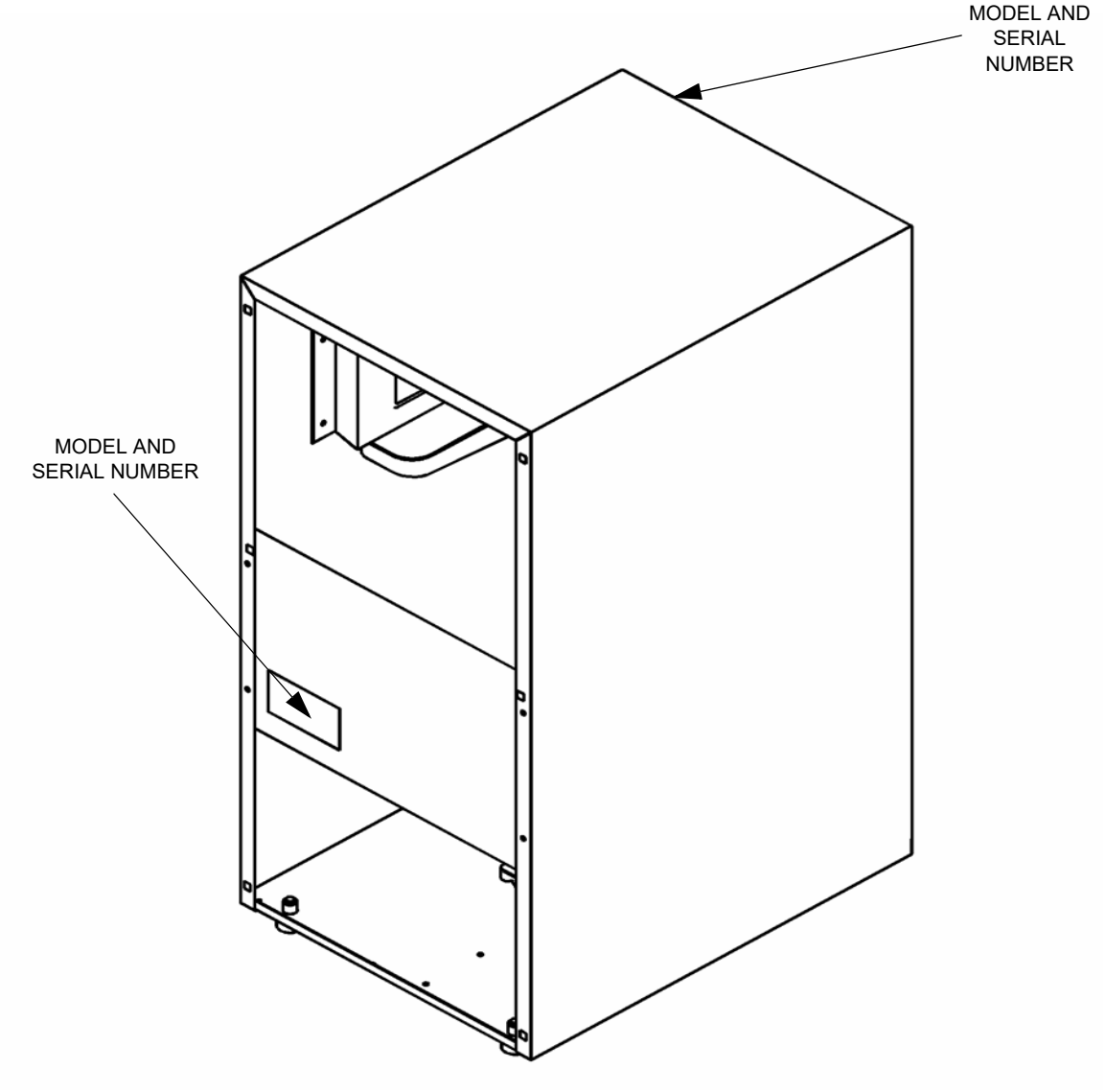
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# Section 1
# General Information

## Model/Serial Number Location

Record the model and serial number of your ice machine in the space provided below. These numbers are required when requesting information from your distributor, service representative, or the factory.

The model and serial number are listed on the OWNER WARRANTY REGISTRATION CARD. They are also listed on the MODEL/SERIAL NUMBER DECAL affixed to the ice machine.




**Model/Serial Number Location**

Model Number:_____ Serial Number:_____

## Owner Warranty Registration Card

### GENERAL

The packet containing this manual also includes warranty information. Warranty coverage begins the day your new ice machine is installed.

**Important**

Complete and mail the OWNER WARRANTY REGISTRATION CARD as soon as possible to validate the installation date.

If you do not return your OWNER WARRANTY REGISTRATION CARD, Manitowoc will use the date of sale to the Manitowoc Distributor as the first day of warranty coverage for your new ice machine.

### COMMERCIAL WARRANTY COVERAGE

#### General

The following Warranty outline is provided for your convenience. For a detailed explanation, read the warranty bond shipped with each product.

Contact your local Manitowoc representative or Manitowoc if you need further warranty information.

#### Parts

Manitowoc warrants the ice machine against defects in materials and workmanship, under normal use and service for three (3) years from the date of original installation.

#### Labor

Labor required to repair or replace defective components is covered for there (3) years from the date of original installation.

#### Exclusions

The following items are not included in the ice machine's warranty coverage:

1. Normal maintenance, adjustments and cleaning as outlined in this manual.
2. Repairs due to unauthorized modifications to the ice machine or use of non-standard parts without prior written approval from Manitowoc.
3. Damage caused by improper installation of the ice machine, electrical supply, water supply or drainage, or damage caused by floods, storms, or other acts of God.
4. Premium labor rates due to holidays, overtime, etc.; travel time; flat rate service call charges; mileage and miscellaneous tools and material charges not listed on the payment schedule. Additional labor charges resulting from the inaccessibility of equipment are also excluded.
5. Parts or assemblies subjected to misuse, abuse, neglect or accidents.
6. Damage or problems caused by installation, cleaning and/or maintenance procedures inconsistent with the technical instructions provided in this manual.

### AUTHORIZED WARRANTY SERVICE

To comply with the provisions of the warranty, a refrigeration service company, qualified and authorized by your Manitowoc distributor, or a Contracted Service Representative must perform the warranty repair.

NOTE: If the dealer you purchased the ice machine from is not authorized to perform warranty service, contact your Manitowoc distributor or Manitowoc for the name of the nearest authorized service representative.

### SERVICE CALLS

Normal maintenance, adjustments and cleaning as outlined in this manual are not covered by the warranty. If you have followed the procedures listed in this manual, and the ice machine still does not perform properly, call your authorized service company.

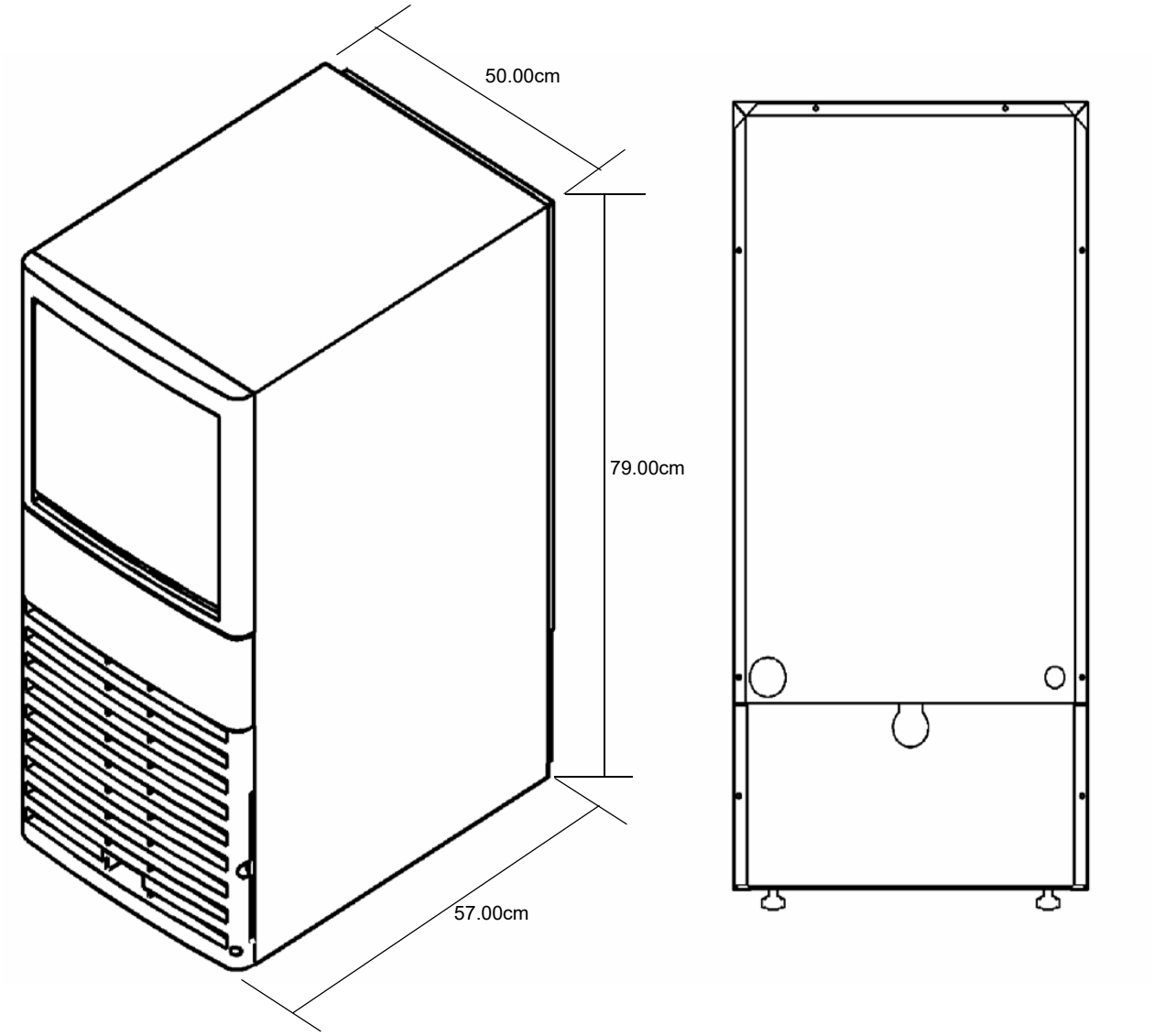
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# Section 2
# Installation Instructions

## General

These instructions are provided to assist the qualified installer.

## Dimensions



## Location of Ice Machine

The location selected for the ice machine must meet the following criteria. If any of these criteria are not met, select another location.

- The location must be indoors.
- The location must be free of airborne and other contaminants.
- The air temperature must be at least 10°C (50°F), but must not exceed 40°C (110°F).
- The location must not be near heat-generating equipment or in direct sunlight.
- The location must be capable of supporting the weight of the ice machine and a full bin of ice.
- The location must allow enough clearance for water, drain and electrical connections in the **rear of the ice machine.**
- The location must not obstruct airflow through or around the ice machine (condenser airflow is in and out the front). Refer to the chart below for clearance requirements.

| | Self-Contained Air-Cooled |
|---|---|
| Top/Sides | 5” (127 mm)* |
| Back | 5” (127 mm)* |

NOTE: The ice machine may be built into a cabinet.

There is no minimum clearance requirement for the top or left and right sides of the ice machine. The listed values are recommended for efficient operation and servicing only.

**⚠ Caution**

The ice machine must be protected if it will be subjected to temperatures below 32°F (0°C). Failure caused by exposure to freezing temperatures is not covered by the warranty. See “Removal from Service/Winterization” Section 4.

## Ice Machine Heat of Rejection

| Series Ice Machine | Heat of Rejection* | |
|---|---|---|
| | Air Conditioning** | Peak |
| UDE0065A | 1600 | 2350 |

*B.T.U./Hour

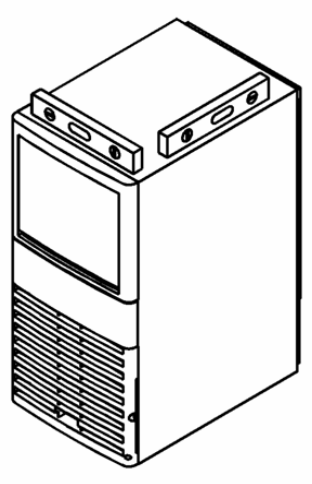
** Because the heat of rejection varies during the ice making cycle, the figure shown is an average.

Ice machines, like other refrigeration equipment, reject heat through the condenser. It is helpful to know the amount of heat rejected by the ice machine when sizing air conditioning equipment where self-contained air-cooled ice machines are installed.

## Leveling the Ice Machine

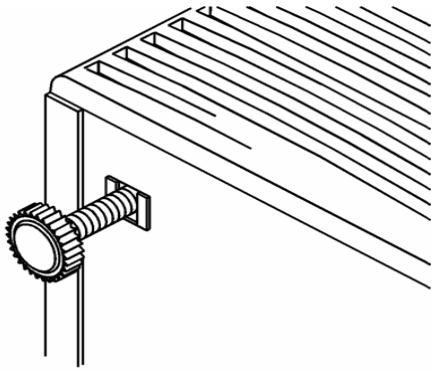
After moving the ice machine into the installation location, it must be leveled for proper operation. Follow these steps to level the ice machine:

1. Check the level of the ice machine from front to back and from side to side.



**Checking for Level**

2. If the ice machine is not level, adjust the leveling glides on each corner of the base of the ice machine as necessary.



**Leveling Glide**

3. Check the level of the ice machine after each adjustment of the leveling glides.
4. Repeat steps 2 and 3 until the ice machine is level from front to back and from side to side.

## Electrical Service

**⚠ Warning**
All wiring must conform to local, state and national codes.

| Voltage Phase | Electrical Rating |
|---|---|
| 230/50/1 | 0.6kW |
| 230/60/1 | 0.6kW |
| 115/60/1 | 0.6kW |

### VOLTAGE

The maximum allowable voltage variation is ± 10% of the rated voltage on the ice machine model/serial number plate at start-up (when the electrical load is highest).

**⚠ Warning**
The ice machine must be grounded in accordance with national and local electrical codes.

**⚠ Warning**
Never use an extension cord. If an outlet is not within reach of the ice machine's power cord, have a proper amperage outlet wired closer to the ice machine.

### FUSE/CIRCUIT BREAKER

A separate fuse/circuit breaker must be provided for each ice machine.

NOTE: A disconnect means must be provided for field wiring.

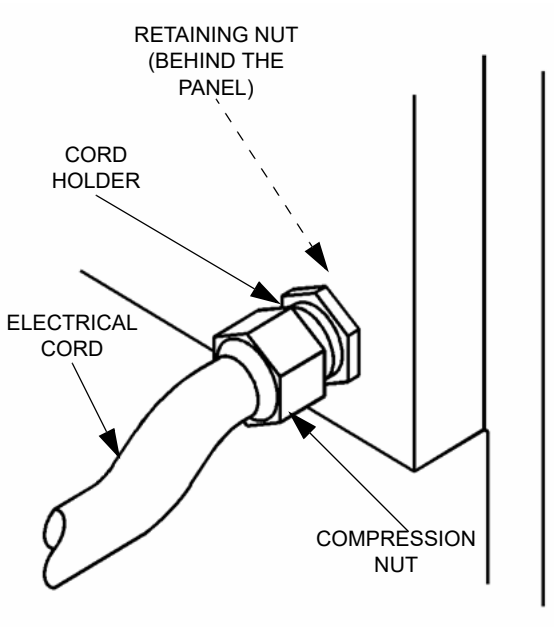
### ELECTRICAL RATING

The electrical rating is used to help select the wire size of the electrical supply. The wire size (or gauge) also depends on location, materials used, length of run, etc., so it must be determined by a qualified electrician.

### ELECTRICAL CORD STRAIN RELIEF

To prevent strain at the electrical connection inside the ice machine, an electrical cord strain relief device must be installed on the rear panel of the ice machine.

1. Disassemble the strain relief device into its three components.
2. Install the cord holder through the opening in the lower right corner of the rear panel of the ice machine.




**Strain Relief Installation**

3. Hand-tighten the retaining nut onto the cord holder from inside the ice machine rear panel.
4. Slide the compression nut over the electrical cord.
5. Feed about 1.5 m (5 ft.) of electrical cord through the cord holder. (The extra cord will allow the rear panel to be removed for future service.)
6. Hand-tighten the compression nut onto the cord holder.

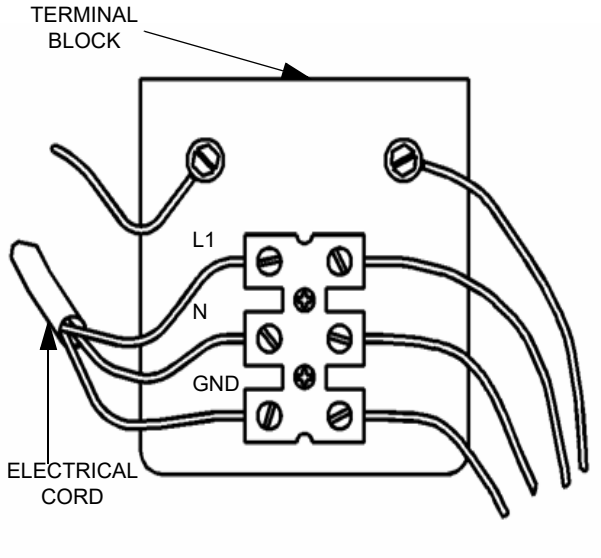
### TERMINAL BLOCK WIRE CONNECTION

**⚠ Warning**

Always disconnect power to the ice machine before working on electrical circuitry.

After the electrical cord is installed in the strain relief device, the cord must be connected to the terminal block to supply power to the ice machine.

1. Remove two Phillips head screws to remove the lower panel from the front of the ice machine.
2. Carefully reach into the ice machine and pull the electrical cord forward to the terminal block.
3. Strip away enough insulation from the electrical cord to allow for good electrical connections at the terminal block.




**Terminal Block Connections**

4. Open the screw terminals on the terminal block.
5. Connect each wire in the electrical cord to the appropriate screw terminal.
6. Carefully tighten the screws over the wire.
7. Tug lightly on each wire to be sure the connections are secure.

## Water Service/Drains

### WATER SUPPLY

Local water conditions may require treatment of the water to inhibit scale formation, filter sediment, remove chlorine, and improve taste and clarity.

**Important**

If you are installing a Manitowoc Tri-Liminator water filter system, refer to the Installation Instructions supplied with the filter system for ice making water inlet connections.

Follow these guidelines to install water inlet lines:

- Connect to potable water supply only.
- Do not connect the ice machine to a hot water supply. Be sure all hot water restrictors installed for other equipment are working. (Check valves on sink faucets, dishwashers, etc.)
- If water pressure exceeds the maximum recommended pressure, obtain a water pressure regulator from your Manitowoc distributor.
- Install a water shut-off valve for both the ice making and condenser water lines (if applicable).
- Insulate water lines to prevent condensation.

**Important**

The water inlet line is connected to the water valve. This valve is located just behind the front panel of the ice machine.

### DRAIN CONNECTIONS

Follow these guidelines when installing drain lines to prevent drain water from flowing back into the ice machine and storage bin:

- Drain lines must have a 2.5 cm (1 inch) drop per 1 meter (40 inches) of run, and must not create traps.
- The floor drain must be large enough to accommodate drainage from all drains.
- Insulate the bin drain line to prevent condensation.

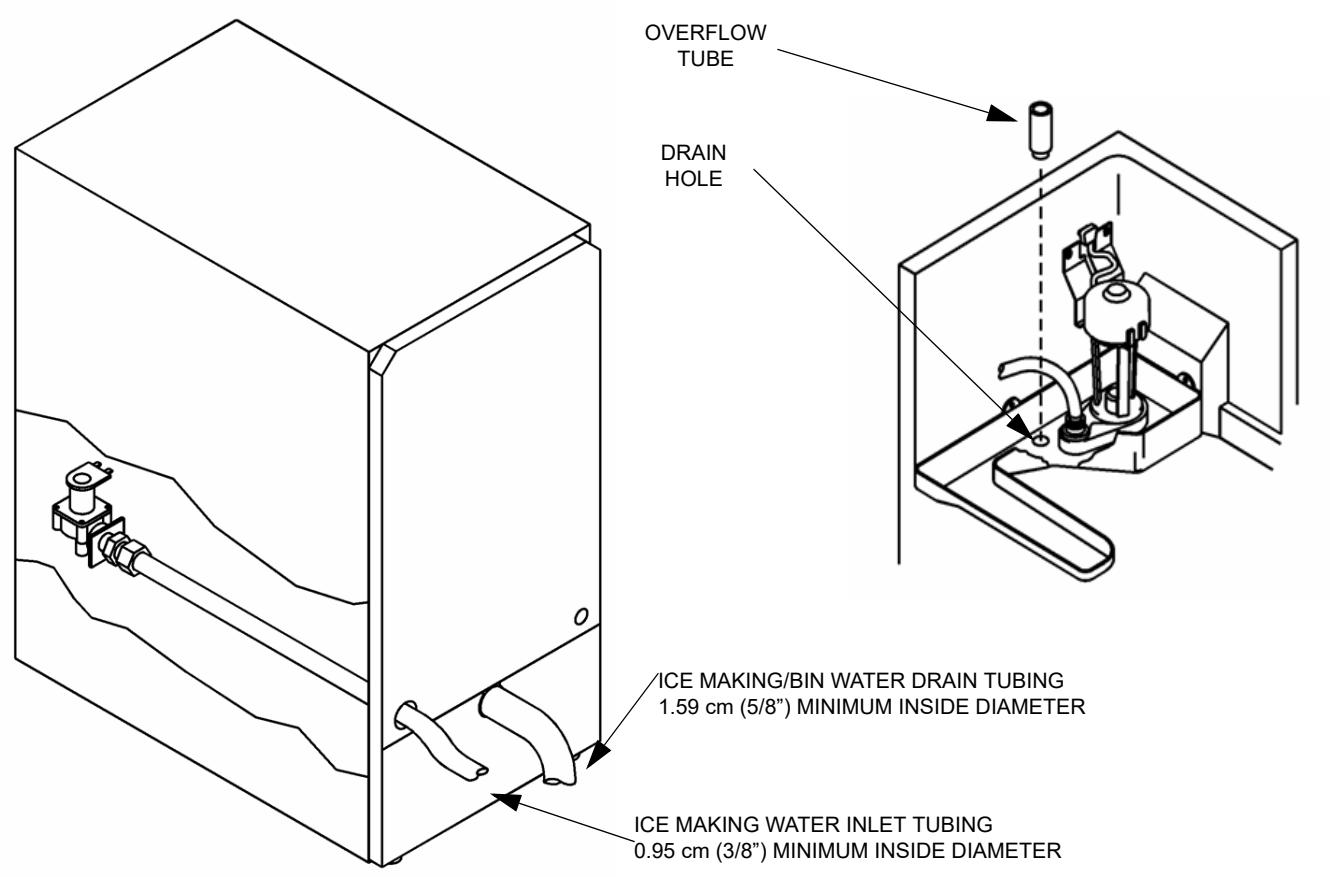
### WATER SUPPLY AND DRAIN LINE SIZING/CONNECTIONS

> **⚠ Caution**
> Plumbing must conform to state and local codes.

| | Water Temperature | Water Pressure | Ice Machine Fitting | Tubing Size Up to Ice Machine Fitting |
|---|---|---|---|---|
| **Ice Making Water Inlet** | 10°C (50°F)Min.[1] 30°C (86°F)Max.[2] | 240 kPA (34.8 psi)Min.[1] 620 kPA (89.9 psi)Max.[2] | 3/4" male hose connection[3] | 0.95 cm (3/8") minimum inside diameter |
| **Ice Making/ Bin Water Drain** | —— | —— | 1.59 cm (5/8") inside diameter flexible hose | 1.59 cm (5/8") minimum inside diameter |

[1] Min. = Minimum
[2] Max. = Maximum
[3] A 3/4" by 11-1/2 threads per inch to 14 threads per inch adapter is factory installed. Remove this adapter if 11-1/2 threads per inch connection is desired.

Installation Note(Switzerland) The connection to the drinking water network must be made with a certified backflow preventer type EA(EN13959) and with a certified connection hose (EN13618 or EN61770) on site.




**Typical Water Supply and Drain Line Sizing and Connections**

# Section 3
# Operation

## Sequence of Operation

| Ice Making Sequence of Operation | Control Board Relays | | | |
|---|---|---|---|---|
| | 1<br>Compressor | 2<br>Hot Gas Valve<br>Water Fill Valve | 3<br>Water Pump<br>Fan Motor | Length of<br>"ON" Time |
| Start-Up*<br>1.Water Purge<br>2.Refrigeration System Start-Up | off | on | on | 2.9 Minutes<br>(175 Seconds) |
| | on | on | off | 5 Seconds |
| 3.Freeze Cycle | on | off | on | Automatically determined |
| 4.Harvest Cycle | on | on | off | Automatically determined |
| 5.Auto Shut-Off | off | off | off | Until bin thermostat re-closes |

***Initial Start-Up or Start-Up After Automatic Shut-Off**

**INITIAL START-UP OR START-UP AFTER AUTOMATIC SHUT-OFF**

**1. Water Purge**

The water fill valve and the hot gas valve are energized for 2.9 minutes (175 seconds). This ensures that the ice making cycle starts with fresh water, and that the refrigerant pressures are equalized prior to refrigeration system start-up.

**2. Refrigeration System Start-Up**

The compressor starts 2.9 minutes (175 seconds) after the water fill valve and hot gas valve are energized. (The water fill valve and hot gas valve remain energized for 5 seconds during compressor start-up, and then shut off.) The compressor remains on throughout the entire freeze and harvest cycles.

**3. freeze cycle**

The condenser fan motor and water pump are energized and remain on throughout the entire freeze cycle. An even flow of water is directed across the evaporator and into each cube cell, where it freezes.

The control system automatically determines the length of the freeze cycle by monitoring the temperature of the refrigeration system liquid line.

**4. harvest cycle**

The condenser fan motor and water pump de-energize. The water fill valve energizes to purge the water in the water trough. The hot gas valve also energizes at the beginning of the harvest cycle to divert hot refrigerant gas into the evaporator. The hot refrigerant gas warms the evaporator, causing the cubes to slide, as a sheet, off the evaporator and into the ice storage bin.

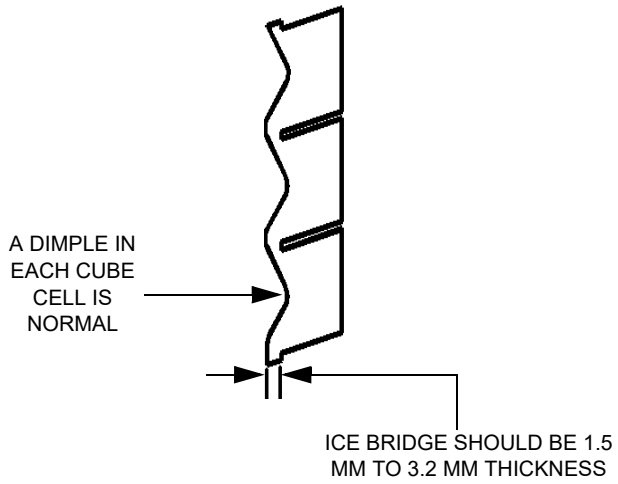
The control system automatically determines the length of the harvest cycle, based on the temperature of the refrigeration system liquid line at the end of the freeze cycle. At the end of the harvest cycle, the ice machine returns to another freeze cycle.

**5. automatic shut-off**

The ice machine shut-off is controlled by the level of ice in the ice storage bin. When the bin is full, ice cubes contact the bin thermostat bulb holder, which cools down and opens to stop the ice machine. The ice machine remains off until enough ice has been removed from the bin. This causes the thermostat bulb holder to warm and close, restarting the ice machine. When the ice machine restarts, it returns to the start-up sequence.

## Ice Thickness Adjustment

U65 dice ice cube formation is slightly different from our previous models. Manitowoc ice machines have a unique cube shape. It is normal to have a dimple in the ice cube (a concave indentation in the cube). Ice cubes from the U65 may appear to have a slightly larger dimple than other Manitowoc dice cube machines. Therefore, cube size for the U65 is determined by measuring the slab weight (the combined weight of all cubes from one harvest cycle). To determine proper slab weight follow the instructions listed below.



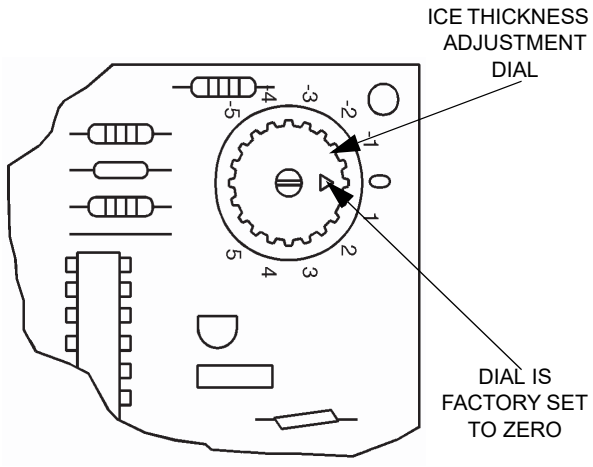

**Correct Ice Bridge Thickness**

1. Ensure the air filter, front, and back panels are installed properly and close the bin door.
2. During the third harvest cycle open the bin door and catch the entire slab of ice.
3. Weigh the ice slab. The combined weight of all cubes from one harvest should weigh between 200 - 270g (7 - 9-oz). If the slab weight is within this range, the ice machine is working properly and no further action is needed. If the slab weight is not within this range or you desire a slightly thicker or thinner cube, continue to step four.

**⚠ Warning**

Do not touch electrical wires. Disconnect power to the ice machine before making any ice thickness adjustments.

4. Remove the air filter.
5. Remove the two screws holding the front panel in place and remove the front cover.
6. Locate the ice thickness control dial on the control board (see below). Turn the dial clockwise for a thicker cube or counter clockwise for a thinner cube.




**Ice Thickness Adjustment Dial**

7. Assure all of the panels and air filter are reinstalled properly and the bin door is closed. Repeat steps one through three.

After completing the procedure above, if you are unable to obtain a sheet of ice weighing 200 - 270g

(7 - 9-oz) contact the Manitowoc Service Department for further assistance.

# Section 4
# Maintenance

## De-scaling and Sanitizing

### GENERAL

De-scale and sanitize the ice machine every six months for efficient operation. If the ice machine requires more frequent de-scaling, consult a qualified service company to test the water quality and recommend appropriate water treatment. An extremely ice machine must be taken apart for de-scaling and sanitizing.

**NOTE: Sanitizing can be performed independently and more frequently than de-scaling if desired.**

> **⚠ Caution**
>
> Use only Manitowoc approved Ice Machine De-scaler (part number 94-0546-3) and Sanitizer (part number 94-0565-3). It is a violation of Federal law to use these solutions in a manner inconsistent with their labeling. Read and understand all labels printed on bottles before use.

### DETAILED DE-SCALING/SANITIZING PROCEDURE

This procedure must be performed a minimum of once every six months.

- The ice machine and bin must be disassembled de-scaled and sanitized.
- All ice produced during the de-scaling and sanitizing procedures must be discarded.

### REMEDIAL DE-SCALING PROCEDURE

- This procedure de-scales all components in the water flow path, and is used between the bi-yearly detailed de-scaling and sanitizing procedure.

## Detailed De-scaling/Sanitizing Procedure

> **⚠ Caution**
>
> Do not mix Ice Machine De-scaler and Sanitizer solutions together. It is a violation of Federal law to use these solutions in a manner inconsistent with their labeling.

> **⚠ Warning**
>
> Wear rubber gloves and safety goggles (and/or face shield) when handling Ice Machine De-scaler or Sanitizer.

Ice machine De-scaler is used to remove lime scale and mineral deposits. Ice machine sanitizer disinfects and removes algae and slime.

### DE-SCALING PROCEDURE

**Step 1** Set the toggle switch to the OFF position after ice falls from the evaporator at the end of a Harvest cycle. Or, set the switch to the OFF position and allow the ice to melt off the evaporator.

> **⚠ Caution**
>
> Never use anything to force ice from the evaporator. Damage may result.

**Step 2** Remove all ice from the bin.

**Step 3** To start a cleaning cycle, move the toggle switch to the WASH position.Wait until water flows over the evaporator (about three minutes) then add the proper amount of Manitowoc Ice Machine De-scaler to the water trough.

| Model | Amount of De-scaler |
|---|---|
| U65 | 45 ml |

**Step 4** Wait until the clean cycle is complete (approximately 45 minutes) then place the toggle switch in the OFF position, disconnect power and water supplies to the ice machine.

> **⚠ Warning**
>
> Disconnect electric power to the ice machine at the electric switch box before proceeding.

**Step 5** Remove parts for De-scaling.

Refer to the"Remove Parts for De-scaling or Sanitizing" on page4-3. Continue with step 6 when the parts have been removed

**Step 6** Mix a solution of de-scaler and warm water. Depending on the amount of mineral buildup, a larger quantity of solution may be required. Use the ratio in the table below to mix enough solution to thoroughly clean all parts.

| Solution Type | Water | Mixed with |
|---|---|---|
| De-scaler | 4L. (1 gall) | 500 ml (16 oz) De-scaler |

**Step 7** Use ½ of the De-scaler/water solution to clean all components. The de-scaler solution will foam when it contacts lime scale and mineral deposits; once the foaming stops use a soft bristle brush, sponge or cloth (not a wire brush) to carefully clean the parts. Soak the parts for 5 minutes (15 – 20 minutes for heavily scaled parts). Rinse all components with clean water.

**Step 8** While components are soaking, use ½ of the de-scaler/water solution to clean all foodzone surfaces of the ice machine and bin. Use a nylon brush or cloth to thoroughly clean the following ice machine areas:

- Evaporator plastic parts – including top, bottom and sides
- Bin bottom, sides and top

Rinse all areas thoroughly with clean water.

**SANITIZING PROCEDURE**

**NOTE: Sanitizing can be performed independently and more frequently than de-scaling if desired.**

**Step 9** Mix a solution of sanitizer and warm water.

| Solution Type | Water | Mixed With |
|---|---|---|
| Sanitizer | 23 L. (6 gal ) | 120 ml (4 ounces) sanitizer |

**⚠ Warning**

Disconnect electric power to the ice machine at the electric switch box before proceeding.

**Step 10** Use 1/2 of the sanitizer/water solution to sanitize all removed components (Refer to the"Remove Parts for De-scaling or Sanitizing" on page4-3). Use a cloth or sponge to liberally apply the solution to all surfaces of the removed parts or soak the removed parts in the sanitizer/water solution. Do not rinse parts after sanitizing.

**Step 11** Use 1/2 of the sanitizer/water solution to sanitize all foodzone surfaces of the ice machine and bin. Use a cloth or sponge to liberally apply the solution. When sanitizing, pay particular attention to the following areas:

- Evaporator plastic parts - including top, bottom and sides
- Bin bottom, sides and top

Do not rinse the sanitized areas.

**Step 12** Replace all removed components.Wait 10 minutes.

**Step 13** Reapply power and water to the ice machine and place the toggle switch in the WASH position.

**Step 14** Add the proper amount of Manitowoc Ice Machine Sanitizer to the water trough.

| Model | Amount of Sanitizer |
|---|---|
| U65 | 45 ml |

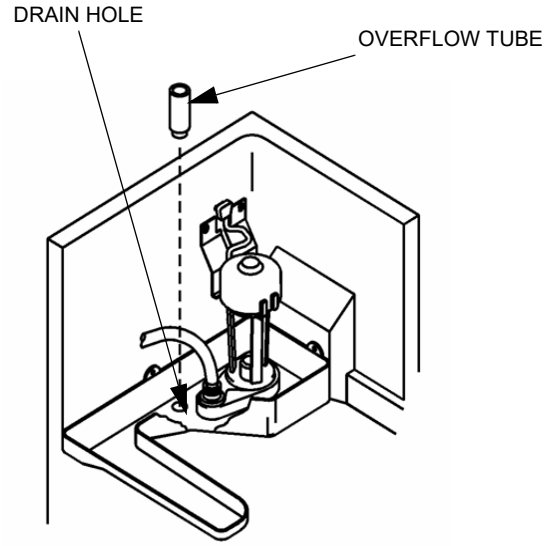
**Step 15** Wait until the sanitize cycle is complete (approximately 45 minutes) then place the toggle switch in the ICE position.

**REMOVE PARTS FOR DE-SCALING OR SANITIZING**

**A. Remove the Overflow Tube**

• To remove the tube, lift it up while using a slight back and forth motion to loosen it from the drain hole.

When installing the tube, be sure it is completely inserted into the drain hole to prevent water leakage during normal operation.




**Removing the Overflow Tube**

**B. Remove the Vinyl Hose**

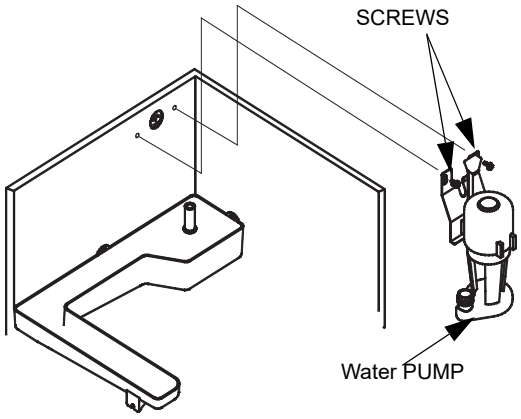
• Disconnect the water pump discharge hose from the distribution tube and water pump.

**C. Remove the Water Pump**

• Disconnect the water pump power cord.

• Loosen the screws that hold the water pump in place.

• Lift the water pump and bracket assembly up and off the screws.




**Removing the Water Pump**

**D. Remove the Water Trough**

• Remove the screws holding the water trough to the walls of the cabinet.

## Remedial De-scaling

This procedure de-scales all components in the water flow path, and is used to de-scale the ice machine between the bi-yearly detailed de-scaling and sanitizing procedure.

Ice machine de-scaler is used to remove lime scale and mineral deposits.

**Step 1** Set the toggle switch to the OFF position after ice falls from the evaporator at the end of a Harvest cycle. Or, set the switch to the OFF position and allow the ice to melt off the evaporator.

> **⚠ Caution**
> Never use anything to force ice from the evaporator. Damage may result.

**Step 2** Remove all ice from the bin.

**Step 3** To start a cleaning cycle, move the toggle switch to the WASH position.Wait until water flows over the evaporator (about three minutes) then add the proper amount of Manitowoc Ice Machine De-scaler to the water trough.

| Model | Amount of De-scaler |
|---|---|
| U65 | 45 ml |

**Step 4** Wait until the clean cycle is complete (approximately 45 minutes) then place the toggle switch in the ICE position.

## Exterior Cleaning

Clean the area around the ice machine as often as necessary to maintain cleanliness and efficient operation.

Wipe surfaces with a damp cloth rinsed in water to remove dust and dirt from the outside of the ice machine. If a greasy residue persists, use a damp cloth rinsed in a mild dish soap and water solution. Wipe dry with a clean, soft cloth.

Treat all exterior stainless steel surfaces with a commercial grade stainless steel cleaner/polish.

## Ice Machine Inspection

Check all water fittings and lines for leaks. Also, make sure the refrigeration tubing is not rubbing or vibrating against other tubing, panels, etc.

Do not put anything (boxes, etc.) in front of the ice machine. There must be adequate airflow through and around the ice machine to maximize ice production and ensure long component life.

## Cleaning The Condenser

**⚠ Warning**

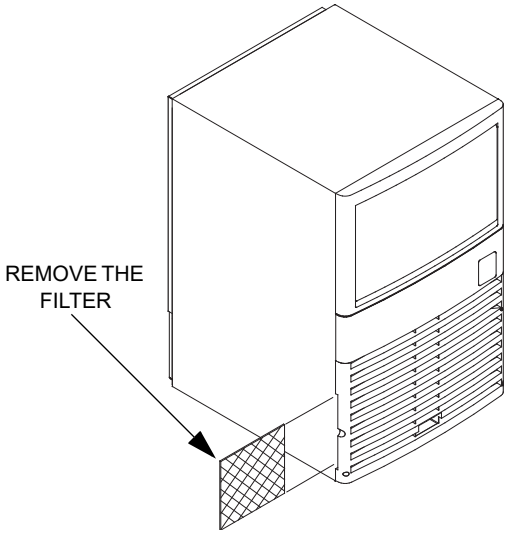
Disconnect electric power to the ice machine at the electric service switch before cleaning the condenser.

A dirty condenser restricts airflow, resulting in excessively high operating temperatures. This reduces ice production and shortens component life. Clean the condenser at least every six months. Follow the steps below.

**⚠ Warning**

The condenser fins are sharp. Use care when cleaning them.

1. The washable aluminum filter on self-contained ice machines is designed to catch dust, dirt, lint and grease. This helps keep the condenser clean. Clean the filter with a mild soap and water solution.




**Removing the Filter**

2. Clean the outside of the condenser with a soft brush or a vacuum with a brush attachment. Clean from top to bottom, not side to side. Be careful not to bend the condenser fins.
3. Shine a flashlight through the condenser to check for dirt between the fins. If dirt remains: Blow compressed air through the condenser fins from the inside. Be careful not to bend the fan blades.
4. Use a commercial condenser coil cleaner. Follow the directions and cautions supplied with the cleaner.
5. Straighten any bent condenser fins with a fin comb.
6. Carefully wipe off the fan blades and motor with a soft cloth. Do not bend the fan blades. If the fan blades are excessively dirty, wash with warm, soapy water and rinse thoroughly.

**⚠ Caution**

If you are cleaning the condenser fan blades with water, cover the fan motor to prevent water damage.

## Removal from Service/Winterization

Special precautions must be taken if the ice machine is to be removed from service for an extended period of time or exposed to ambient temperatures of 0°C (32°F) or below.

**⚠ Caution**

If water is allowed to remain in the ice machine in freezing temperatures, severe damage to some components could result. Damage of this nature is not covered by the warranty.

1. Disconnect the electric power at the circuit breaker or the electric service switch.
2. Turn off the water supply.
3. Remove the water from the water trough.
4. Disconnect the drain and the incoming ice-making water line at the rear of the ice machine.
5. Make sure no water is trapped inside the ice machine incoming water lines, drain lines, distribution tubes, etc. Blow compressed air through the line if necessary.

# Section 5
# Before Calling for Service

## Checklist

If a problem arises during operation of your ice machine, follow the checklist below before calling for service.

| Problem | Possible Cause | To Correct |
|---|---|---|
| Ice machine does not operate | No electrical power to the ice machine | Replace the fuse/reset the breaker/turn on the main switch |
| | Toggle switch set improperly | Move the toggle switch to the ON position |
| | Low air temperature around ice machine | Air temperature must be at least 10°C (50°F) |
| Ice machine does not release ice or is slow to harvest | Ice machine is dirty | Clean and sanitize the ice machine |
| | Ice machine is not level | Level the ice machine |
| | Low air temperature around ice machine | Air temperature must be at least 10°C (50°F) |
| Ice quality is poor (soft or not clear) | Poor incoming water quality | Contact a qualified service company to test the quality of the incoming water and make appropriate filter recommendations |
| | Water filtration is poor | Replace the filter |
| | Ice machine is dirty | Clean and sanitize the ice machine |
| | Water inlet valve filter screen is dirty | Remove the water inlet valve and clean the filter screen |
| | Water softener is working improperly (if applicable) | Repair the water softener |
| Ice machine produces shallow or incomplete cubes, or the ice fill pattern on the evaporator is incomplete | Water level is low | Be sure the overflow tube is fully seated to prevent water leakage |
| | Water inlet valve filter screen is dirty | Remove the water inlet valve and clean the filter screen |
| | Water filtration is poor | Replace the filter |
| | Hot incoming water | Connect the ice machine to a cold water supply |
| | Ice thickness adjustment dial is not set properly | Adjust the ice thickness adjustment dial |
| | Incorrect incoming water pressure | Water pressure must be 240-620 kPA (34.8 - 89.9 psi) |
| | Ice machine is not level | Level the ice machine |
| Low ice capacity | Water inlet valve filter screen is dirty | Remove the water inlet valve and clean the filter screen |
| | Incoming water supply is shut off | Open the water service valve |
| | The air filter is dirty | Clean the air filter |
| | The condenser is dirty | Clean the condenser |
| | Inadequate airflow at the front of the ice machine | Remove items blocking airflow at the front of the ice machine |
| | Ice thickness adjustment dial is not set properly | Adjust the ice thickness adjustment dial |

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EC DECLARATION OF CONFORMTIY

We hereby declare that our products, ice machines and Multiplex refrigeration equipment comply with all the essential requirements of the listed EC - directives.

Manufacturer:

*Manitowoc Ice, Inc.*
*2110 S. 26th Street, P.O. Box 1720*
*Manitowoc, Wisconsin 54221-1720 USA*

European Distributor:

Representative of Manitowoc Ice, Inc.:

Engineering Manager. (Printed name)

Signature

Representative of European Distributor:

Model and Serial No.

Applied EC Directives:

*Low Voltage 73/23/EEC*
*EMC 89/336/EEC*
*Pressure Equipment 97/23/EC*

Applied Standards:

EN60335-1 Safety of household and similar electrical appliances
EN60335-2-24 Particular requirements refrigerators, food freezers and ice makers

EN55014 Electrical Motor Operated Appliances (Emissions)
EN55104 Electro Magnetic Compatability (Immunity)
EN378 -1 to -4 Refrigeration Plants

CE **

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08/25/03

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Continuing product improvements may necessitate change of specifications without notice.

**Part Number 040006019 08/22**