

# WELBILT



## ES90/ES130/ES170/ES210/ ES270 **Under Counter Model** **Ice Machine**

### **Installation, Use & Care Manual**

This manual is updated as new information and models are released.  
Visit our website for the latest manual: <http://www.manitowoc.com.cn/>

**America's #1 Selling Ice Machine**  
Part Number 040002635 06/15

**Manitowoc**  
Foodservice Group



## Safety Notices

As you work on WELBILT E model ice machine, be sure to pay close attention to the safety notices in this manual. Disregarding the notices may lead to serious injury and/or damage to the equipment.

Throughout this manual, you will see the following types of safety notices:

### **Warning**

Text in a Warning box alerts you to a potential personal injury situation. Be sure to read the Warning statement before proceeding, and work carefully.

### **Caution**

Text in a Caution box alerts you to a situation in which you could damage the equipment. Be sure to read the Caution statement before proceeding, and work carefully.

## Procedural Notices

As you work on WELBILT E model ice machine, be sure to read the procedural notices in this manual. These notices supply helpful information which may assist you as you work.

Throughout this manual, you will see the following types of procedural notices:

### **Important**

Text in an Important box provides you with information that may help you perform a procedure more efficiently. Disregarding this information will not cause damage or injury, but it may slow you down as you work.

**NOTE: Text set off as a Note provides you with simple, but useful, extra information about the procedure you are performing.**

### **Read These Before Proceeding:**

### **Important**

Routine adjustments and maintenance procedures outlined in this manual are not covered by the warranty.

### **Caution**

Proper installation, care and maintenance are essential for maximum performance and trouble-free operation of your WELBILT E model ice machine. Read and understand this manual. It contains valuable care and maintenance information. If you encounter problems not covered by this manual, do not proceed, contact Manitowoc Foodservice Group. We will be happy to provide assistance.

### **Warning**

#### **PERSONAL INJURY POTENTIAL**

Do not operate equipment that has been misused, abused, neglected, damaged, or altered/modified from that of original manufactured specifications.

### **Warning**

To avoid hazard due to instability of the appliance, it must be fixed in accordance with the instructions

### **Warning**

Connect to potable water supply only.

### **Caution**

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

### **Caution**

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 or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance..

**NOTE: SAVE THESE INSTRUCTIONS.**

We reserve the right to make product improvements at any time. Specifications and design are subject to change without notice.

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# Section 1

## General Information

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### Model Numbers

This manual covers the following models:

<b>Self-Contained Air-Cooled</b>
ES90A Series
ES130A Series
ES170A Series
ES210A Series
ES270A Series

ES90A Series, Such as ES90AC-251, ES90A-261

ES130A Series, Such as ES0132AC-251

ES170A Series, Such as ES0172AC-251

ES210A Series, Such as ES0212AC-251

ES270A Series, Such as ES0272AC-251

### Accessories

Contact your WEBILT distributor for these optional accessories:

#### ARCTIC PURE WATER FILTER SYSTEM

Engineered specifically for WELBILT ice machines, Arctic Pure water filters are an efficient, dependable, and affordable method of inhibiting scale formation, filtering sediment, and removing chlorine taste and odor.

NOTE: The Manitowoc Automatic Cleaning System (AUCS®) accessory cannot be used with models ES90 ES130, ES170, ES210 or ES270 ice machines.

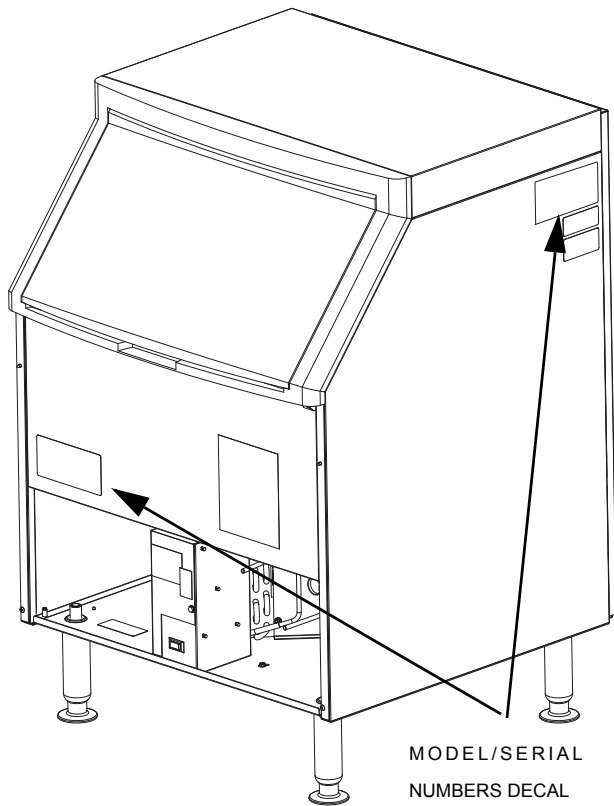
ES90 ES130, ES170, ES210 and ES270 model ice machines do not have a water curtain covering the evaporator. The ice damper performs the functions of the water curtain see Section 4 for details.

**Model/Serial Number Location**

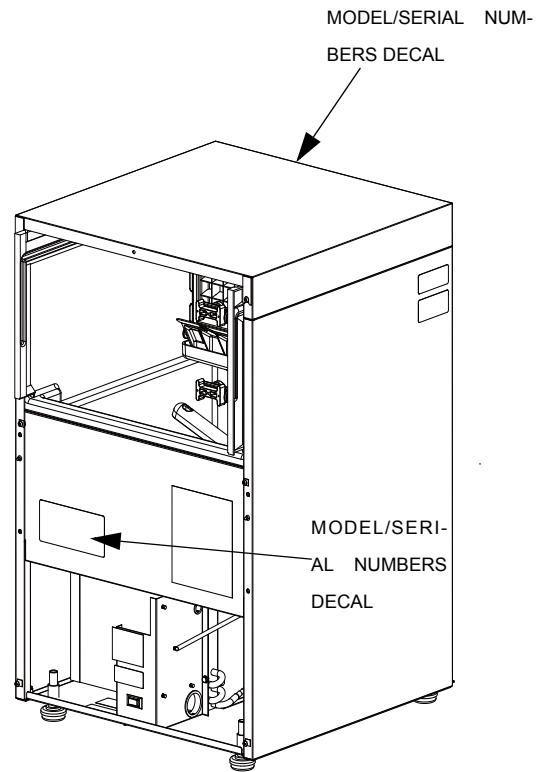
Record the model and serial number of your ice machine and bin in the space provided below. These numbers are required when requesting information from your local WELBILT distributor, or Manitowoc Ice, Inc.

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 .

**ES130/ES170/ES210/ES270**



**ES90**



**Model/Serial Number Location**

<b>Model Number</b>	
<b>Serial Number</b>	

## Owner Warranty Registration Card

### GENERAL

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 WELBILT 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.

Contact your local WELBILT representative or Manitowoc Ice, Inc. if you need further warranty information.

#### Parts

Manitowoc warrants the ice machine against defects in materials and workmanship, under normal use and service for one (1) years from the date of original installation.

#### Labor

Labor required to repair or replace defective components is covered for one (1) 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 Ice, Inc.
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 WELBILT 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 WELBILT distributor or Manitowoc Ice, Inc. for the name of the nearest authorized service representative.

### Service Calls

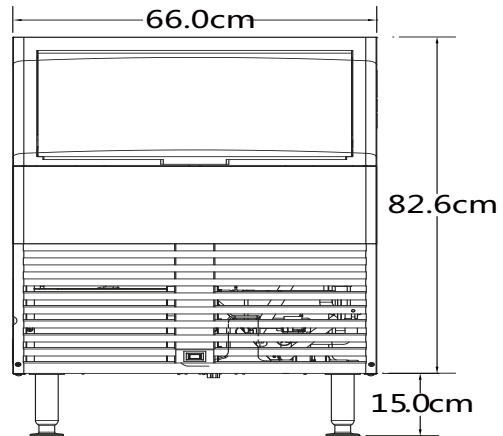
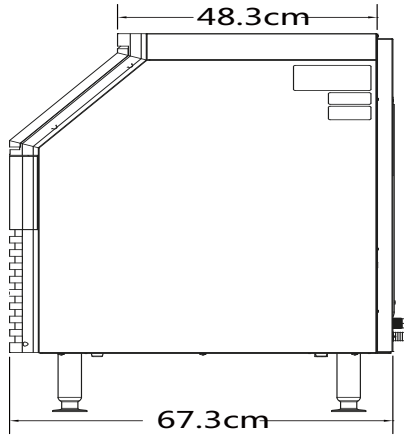
Normal maintenance, adjustments and cleaning as outlined in this manual are not covered by the warranty. If you have followed the procedures listed in this manual, and the ice machine still does not perform properly, call your authorized service company.

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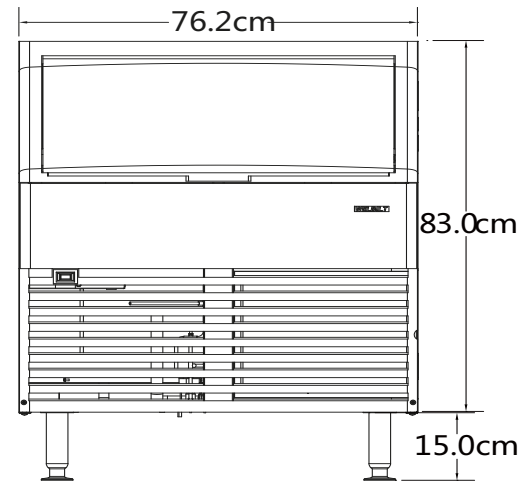
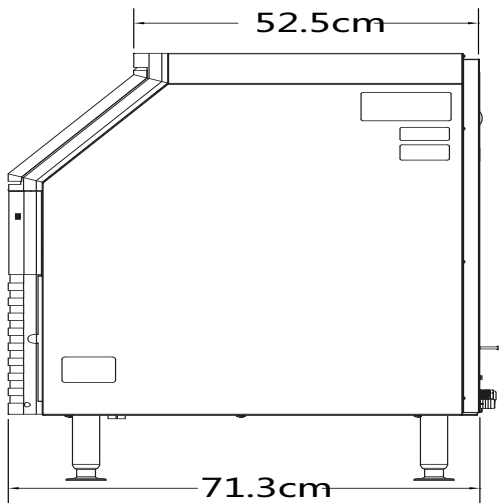


## Section 2 Installation Instructions

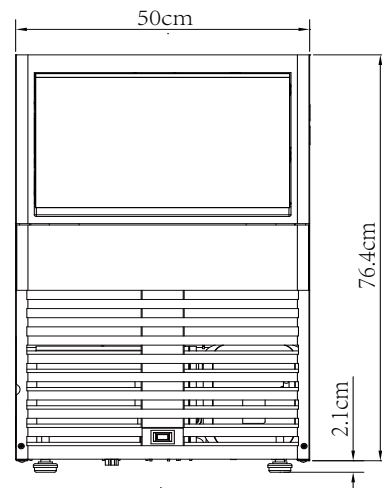
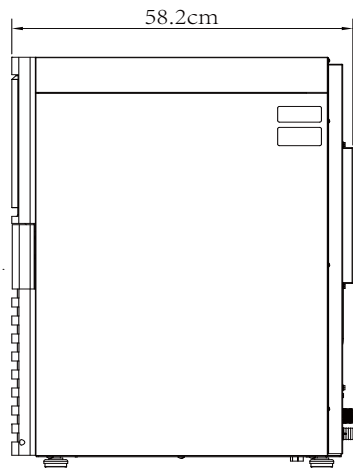
### Ice Machine Dimensions--ES130/ES170/ES210



### ES270



### ES90



**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 free of airborne and other contaminants.
- The air temperature must be at least 5°C, but must not exceed 43°C.
- 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 air flow through or around the ice machine. Refer to the chart below for clearance requirements.

	Self-Contained Air-Cooled	Self-Contained Water-Cooled*
Top/Sides	203 mm	203 mm
Back	127 mm	127 mm

\*There is no minimum clearance required for water-cooled or remote ice machines. This value is recommended for efficient operation and servicing only.

**Ice Machine Heat of Rejection**

Series Ice Machine	Heat of Rejection*	
	Air Conditioning**	Peak
ES90	1750	2600
ES130	2400	2900
ES170	2400	3200
ES210	2400	3400
ES270	3800	6000

\*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**

1. Screw the leveling legs onto the bottom of the ice machine.
2. Screw the foot of each leg in as far as possible.

**Caution**

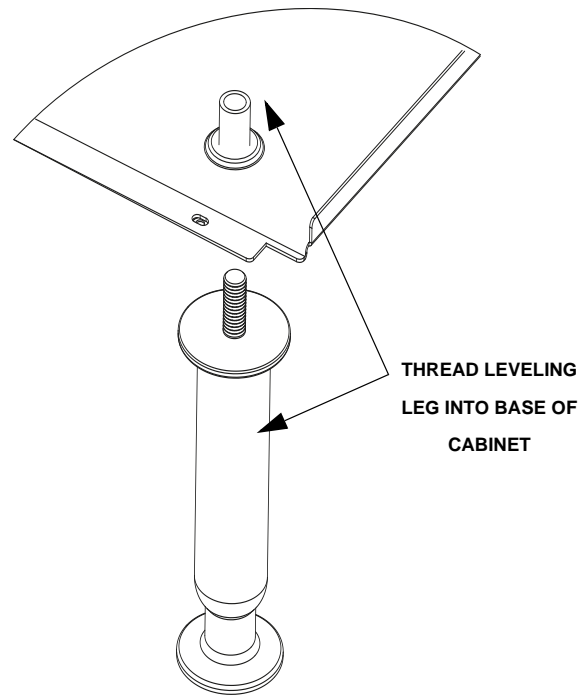
The legs must be screwed in tightly to prevent them from bending.

3. Move the ice machine into its final position.

**Warning**

Do not obstruct ice machine vents or openings.

4. Level the ice machine to assure that the siphon system functions correctly. Use a level on top of the ice machine. Turn each foot as necessary to level the ice machine from front to back and side to side.




**Electrical Service**

**GENERAL**

An electrical disconnect switch must be provided if the ice machine is hard wired (wired without a plug)

1. Connect –the three supply lead wires (Blue, Brown, and Yellow/Green) to the field wiring terminal, “L”, “N”, and “G”, the Yellow/Green wire must connect to the “G” (ground).
2. After connecting the wiring to the terminal strip, the supply lead must be secured to the cabinet with a strain relief near the terminal strip.
3. Verify wiring is contained in the electrical wiring box

 **Warning**


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

**VOLTAGE**

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

**FUSE/CIRCUIT BREAKER**

A separate fuse/circuit breaker must be provided for each ice machine. Circuit breakers must be H.A.C.R. rated (does not apply in Canada).

 **Warning**

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

**MINIMUM CIRCUIT AMPACITY**

The minimum circuit ampacity is used to help select the wire size of the electrical supply. (Minimum circuit ampacity is not the ice machine’s running amp load.)

The wire size (or gauge) is also dependent upon location, materials used, length of run, etc., so it must be determined by a qualified electrician.

**ES90/ES130/ES170/ES210ES270**

Ice Machine	Voltage Phase Cycle	Self-Contained Air-cooled	
		Maximum Fuse/Circuit Breaker	Total Amps
ES90	220-240/1/50	15	4.0
ES130	220-240/1/50	15	4.6
ES170	220-240/1/50	15	4.6
ES210	220-240/1/50	15	5.0
ES270	220-240/1/50	15	6.0

**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 water filter system, refer to the Installation Instructions supplied with the filter system for ice making water inlet connections.

**WATER INLET LINES**

Follow these guidelines to install water inlet lines:

- 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 (80 psig-551.5 KPa) recommended pressure, obtain a water pressure regulator from your WELBILT distributor.
- Install a water shut-off valve and union for both the ice making and condenser water lines.
- Insulate water inlet lines to prevent condensation.

**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 1.5 inch drop per 5 feet of run (2.5 cm per meter), and must not create traps.
- The floor drain must be large enough to accommodate drainage from all drains.
- Run separate bin and ice machine drain lines. Insulate them to prevent condensation.

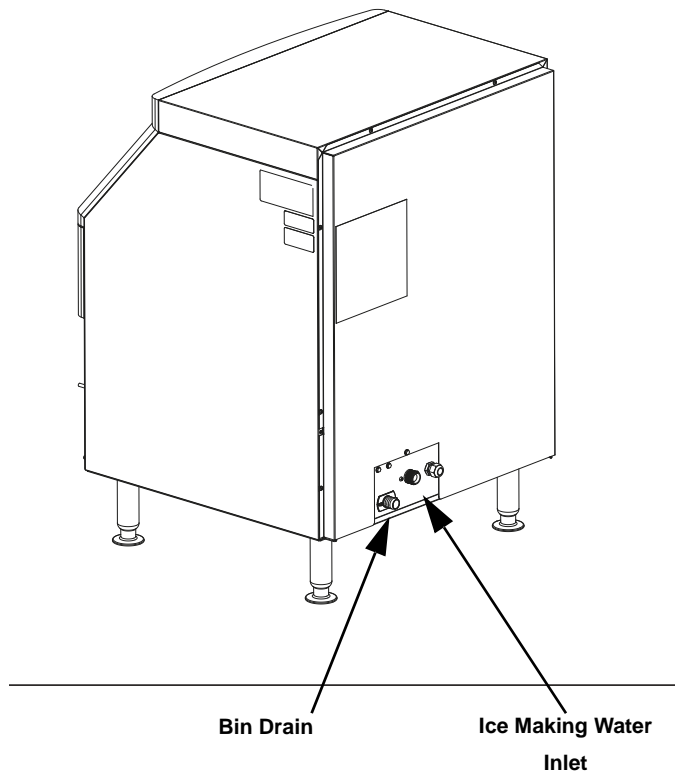
Vent the bin and ice machine drain to the atmosphere. Do not vent the condenser drain on water-cooled models.

**WATER SUPPLY AND DRAIN LINE SIZING/ CONNECTIONS**

**Warning**

Plumbing must conform to state and local codes.

Location	Water Temperature	Water Pressure	Ice Machine Fitting
Ice Making Water Inlet	5°C Min. 32°C Max.	20Psig (140KPa) Min. 80Psig (560KPa)Max.	1" Female Pipe Thread
Bin Drain	---	---	7/8" adapter connector



**Before Starting the Ice Machine**

All WELBILT ice machines are factory-operated and adjusted before shipment. Normally, new installations do not require any adjustment.

**Adjustments and maintenance procedures outlined in this manual are not covered by the warranty.**

**Warning**

**PERSONAL INJURY POTENTIAL**

Do not operate equipment that has been misused, abused, neglected, damaged, or altered/modified from that of original manufactured specifications.

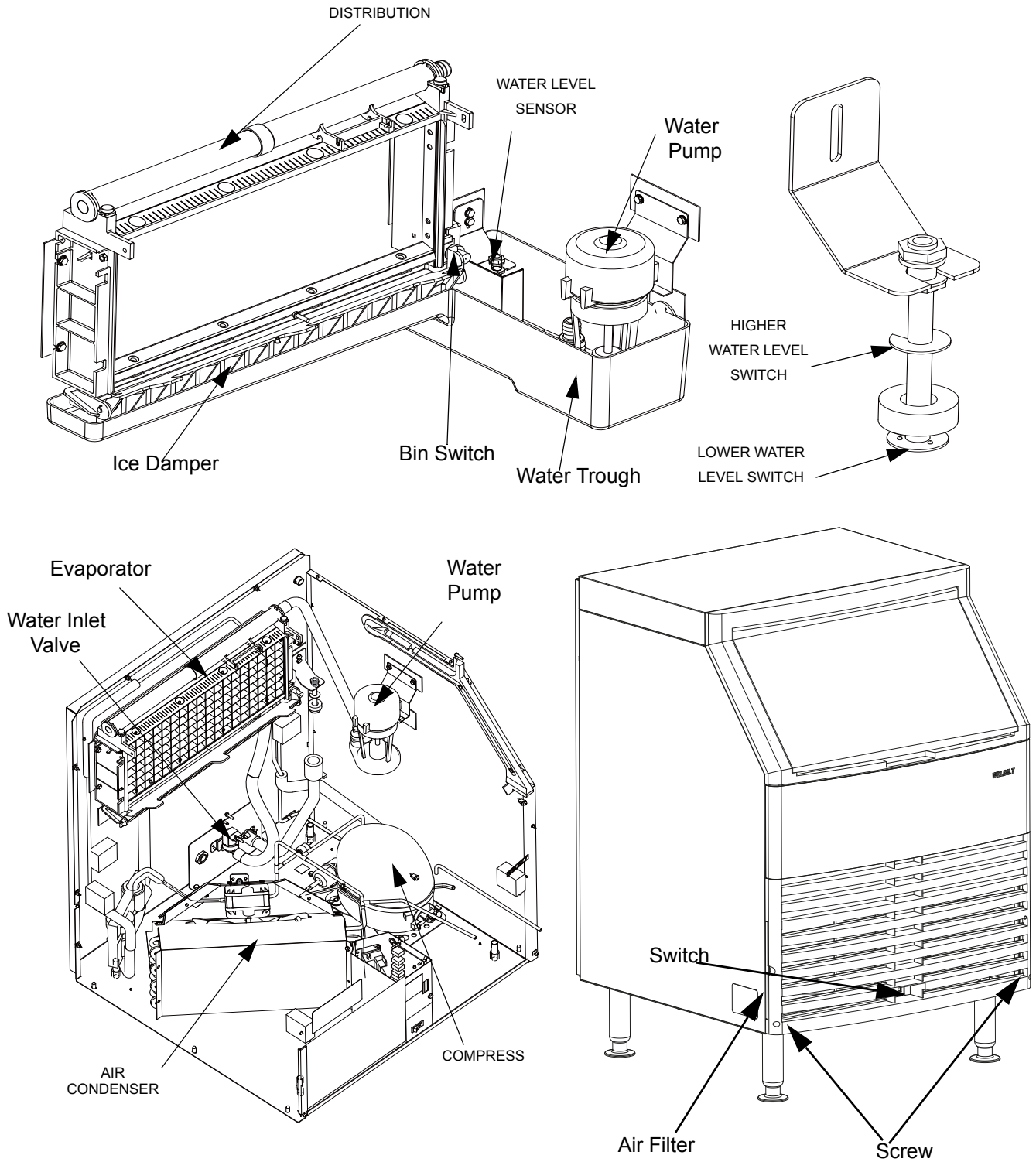
**Installation Check List**

- Is the Ice Machine level?
- Has all of the internal packing been removed?
- Have all of the electrical and water connections been made?
- Has the supply voltage been tested and checked against the rating on the nameplate?
- Is there proper clearance around the ice machine for air circulation?
- Are the ice machine drains vented?
- Has the ice machine been installed where ambient temperatures will remain in the range of 5° - 43°C?
- Has the ice machine been installed where the incoming water temperature will remain in the range of 41° - 90°F (5° - 32°C)?
- Are all electrical leads free from contact with refrigeration lines and moving equipment?
- Has the owner/operator been instructed regarding maintenance and the use of WELBILT Cleaner and Sanitizer?
- Has the owner/operator completed the warranty registration card?
- Is the toggle switch set to ice?

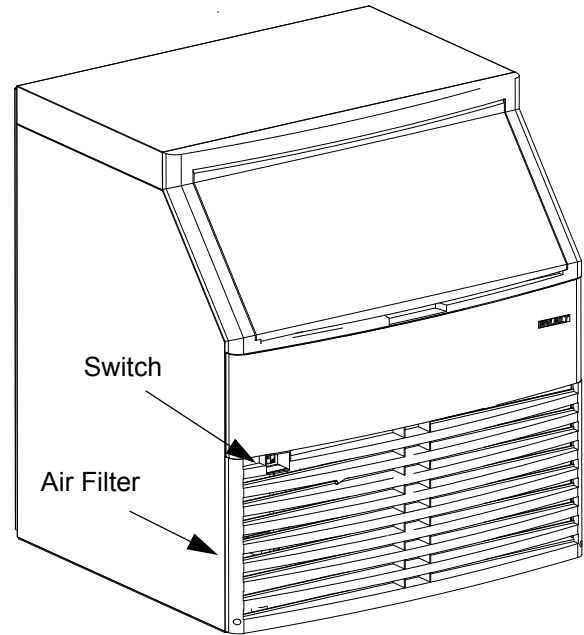
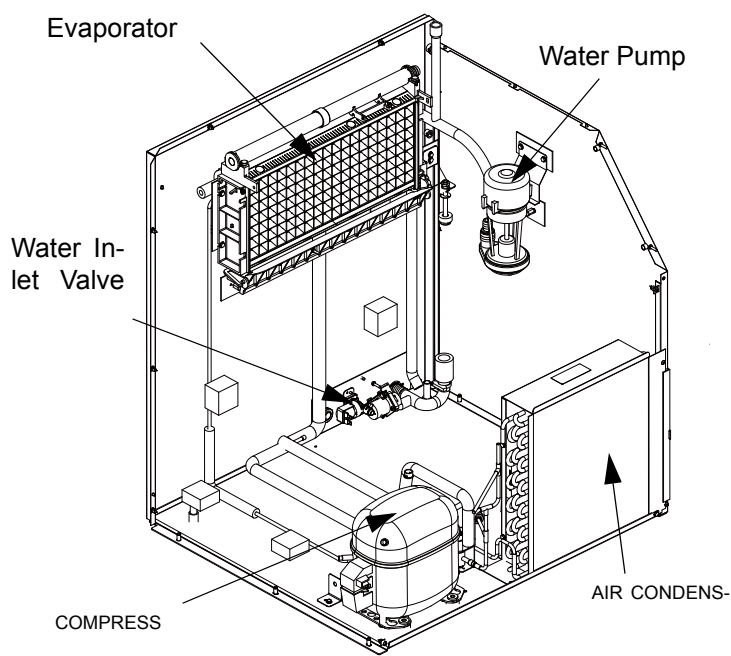
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# Section 3 Ice Machine Operation

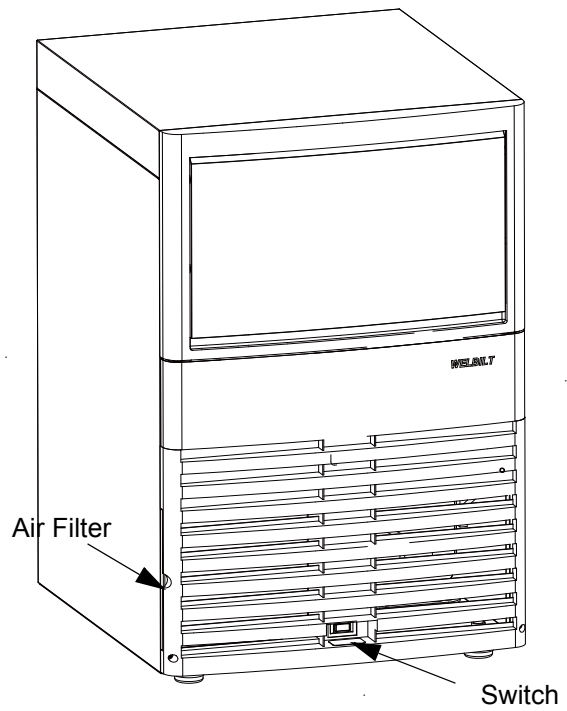
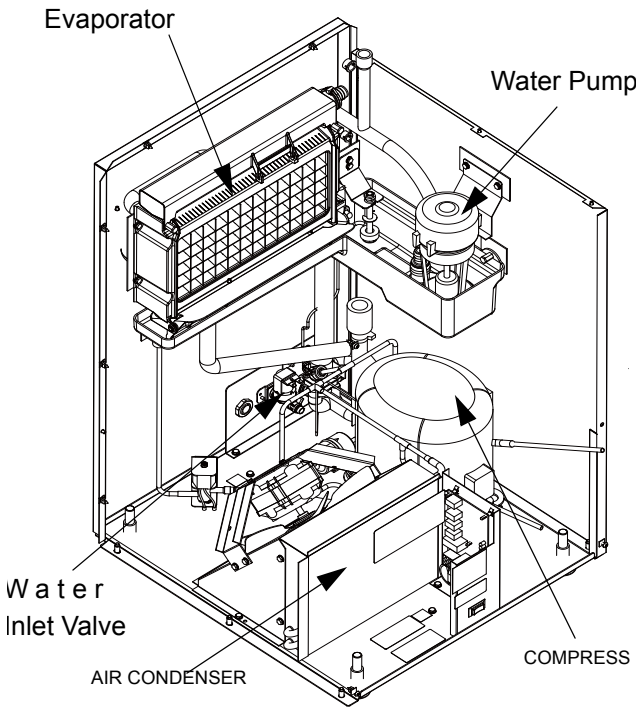
## Component Identification—ES130/170/210



ES270



ES90





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**Sequence Of Operation—ES90/ES130/ES170/ES210/ES270****INITIAL START-UP OR START-UP AFTER  
AUTOMATIC SHUT-OFF****1. Initial Water Inlet and Purge**

Put the toggle switch to “ICE” position, the water inlet valve is energized until the higher water level switch closes. Then water pump and dump valve are energized until lower water level switch closes

**2. Water Inlet Before Ice Making and Prechill**

After the initial water inlet and purge, water inlet valve is energized until the higher water level switch closes.

The hot gas valve is also energized during water inlet to balance the system pressure.

At 45 seconds after water inlet valve and hot gas valve energize, compressor and condenser fan motor are supplied with power.

5 seconds later, hot gas valve is de-energized, and ice machine goes into prechill process for 30 seconds, then water pump is energized and ice machine starts ice making

**3. Freeze**

An even flow of water is directed across the evaporator and into each cube cell, where it freezes. When sufficient ice has formed, the lower water level switch closes, 2 minutes later, the harvest sequence is initiated

**4. Harvest Sequence**

The water pump continues to run, and the water dump valve energizes to purge the water in the sump trough. After 7 seconds, water pump and dump valve de-energizes, then water inlet valve energizes until the higher water level switch closes.

The harvest valve also opens at the beginning of the water purge to divert hot refrigerant gas into the evaporator. The refrigerant gas warms the evaporator causing the cubes to slide, as a sheet, off the evaporator and into the storage bin. The sliding sheet of cubes contacts the ice damper, opening the bin switch.

The momentary opening and re-closing of the bin switch terminates the Harvest Sequence and returns the ice machine to the Freeze Sequence

**5. Automatic Shut-off**

When the storage bin is full at the end of a Harvest Sequence, the sheet of cubes fails to clear the ice damper and will hold it down. After the ice damper is held open for 7 seconds, the ice machine shuts off. The ice machine remains off for 3 minutes before it can automatically restart.

The ice machine remains off until enough ice has been removed from the storage bin to allow the ice to fall clear of the damper. As the ice damper swings back to the operating position, the bin switch re-closes and the ice machine restarts, provided the 3-minute delay period is complete.

## Energized Parts Chart

Sequence	Step	1	2	3	4	5	6	Length
		Water Pump	Water Inlet Valve	Hot Gas Valve	Dump Valve	Fan Motor(Air-cooled)	Compressor	
INITIAL START-UP OR START-UP AFTER AUTOMATIC SHUT-OFF	Initial Water Inlet	OFF	ON	OFF	OFF	OFF	OFF	until higher water level switch closes
	Initial Water Purge	ON	OFF	OFF	ON	OFF	OFF	until higher water level switch closes
	Water Inlet Before Ice Making	OFF	ON	ON	OFF	OFF	OFF	until higher water level switch closes
	Refrigeration System Start-up	OFF	ON	ON	OFF	ON/OFF	ON	5 seconds
FREEZING SEQUENCE	Prechill	OFF	ON	OFF	OFF	ON/OFF	ON	30 seconds
	Freeze	ON	OFF	OFF	OFF	ON/OFF	ON	until lower water level switch closes
HARVEST SEQUENCE	Water Purge	ON	OFF	ON	ON	OFF	ON	7 seconds
	Harvest	OFF	ON	ON	OFF	OFF	ON	bin switch activation
AUTOMATIC SHUT-OFF		OFF	OFF	OFF	OFF	OFF	OFF	until bin switch re-close and 3 minutes delay completed

## Operational Checks

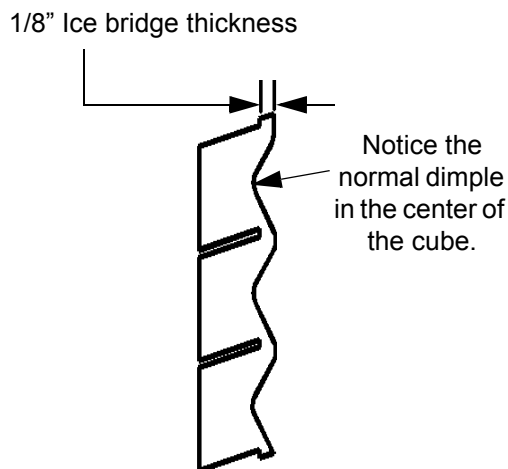
### GENERAL

Your ice machine was factory-operated and adjusted before shipment. Normally, a newly installed ice machine does not require any adjustment.

To ensure proper operation, always follow these Operational Checks when starting the ice machine:

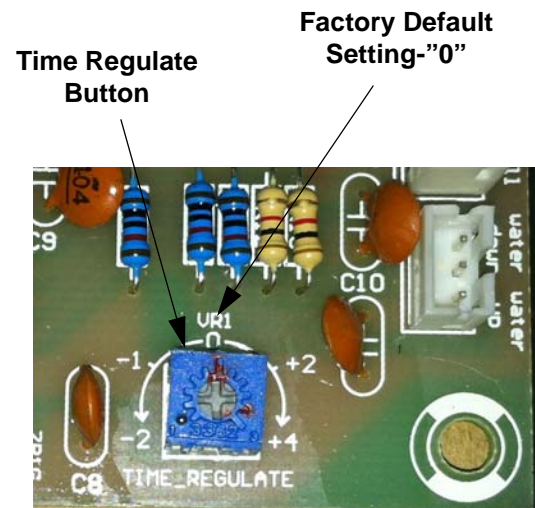
- for the first time
- after a prolonged out of service period
- after cleaning and sanitizing

Routine adjustments and maintenance procedures outlined in this manual are not covered by the warranty.



### Important

It is recommended that adjustments made to this ice machine be made by a qualified technician. Improper adjustment, may seriously affect the life of this ice machine.



### ICE CUBE THICKNESS CHECK

The TIME REGULATE is factory-set to maintain the ice bridge thickness at 1/8 in. (3.2 mm).

1. Inspect the bridge connecting the cubes. It should be about 1/8 in. (3.2 mm) thick.
2. If adjustment is necessary, remove the front panel and the control box cover, find the TIME REGULATE button on the control board. Turn the TIME REGULATE button clockwise to increase bridge thickness or counterclockwise to decrease bridge thickness.

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# Section 4 Maintenance

## Interior Cleaning and Sanitizing

### GENERAL

Clean and sanitize the ice machine every six months for efficient operation. If the ice machine requires more frequent cleaning and sanitizing, consult a qualified service company to test the water quality and recommend appropriate water treatment. The ice machine must be taken apart for cleaning and sanitizing.

#### **⚠ Caution**

Use only Manitowoc approved Ice Machine Cleaner and Sanitizer for this application (Manitowoc Cleaner part number 94-0546-3 and Manitowoc 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.

### CLEANING PROCEDURE

#### **⚠ Caution**

Do not mix Cleaner 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 Cleaner or Sanitizer.

Ice machine cleaner is used to remove lime scale and mineral deposits.

Ice machine sanitizer disinfects and removes algae and slime.

**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, place the toggle switch in the CLEAN position.

**Step 4** Add the proper amount of Manitowoc Ice Machine Cleaner to the water trough.

**Step 5** Wait until the clean cycle is complete then place the toggle switch in the OFF position and disconnect power to the ice machine.

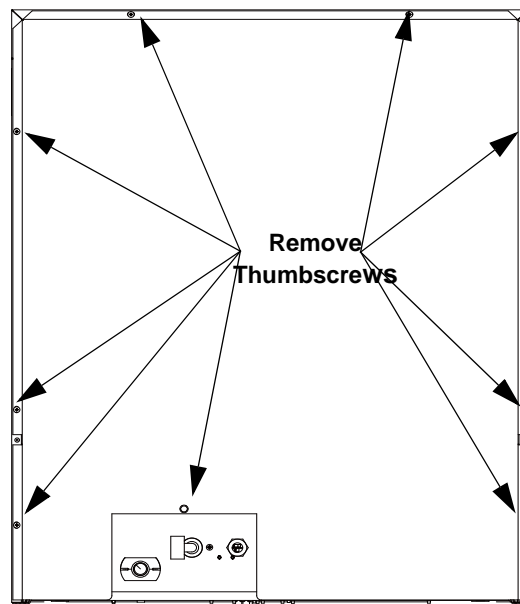
#### **⚠ Warning**

Disconnect the electric power to the ice machine at the electric service switch box.

**Step 6** Remove parts for cleaning and hand sanitizing.?

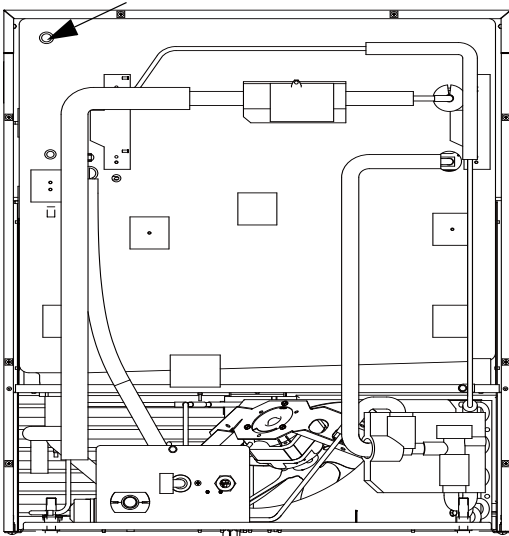
- A. Remove Two Thumbscrews and Water Pump Cover (When Used).**
- B. Remove the Vinyl Hose Connecting the Water Pump and Water Distribution Tube**
- C. Remove Water Pump**

- Remove back panel

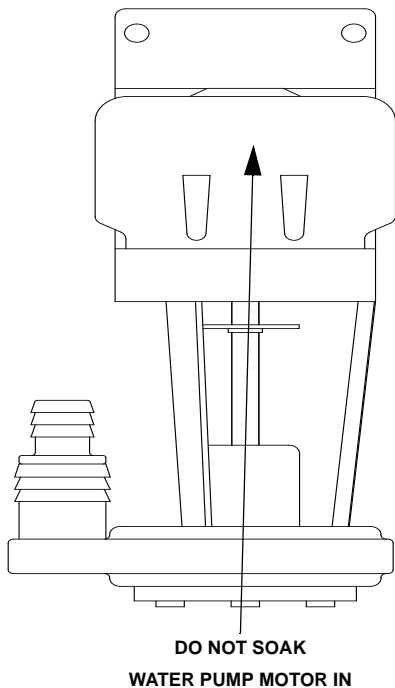


- Disconnect the water pump power cord

WIRE CONNECTORS ARE LOCATED BEHIND BULKHEAD

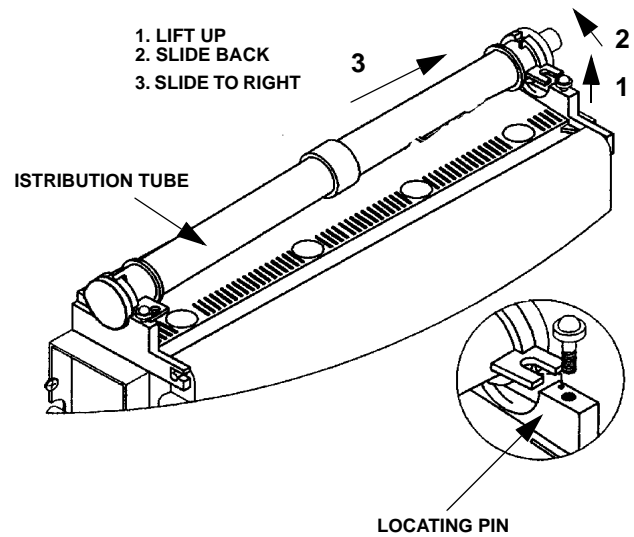


- Loosen the screws securing the pump-mounting bracket to the bulkhead
- Lift the pump and bracket assembly off the mounting screws.



### D. Remove the Water Distribution Tube ES130/ES170/ES210/ES270

- Disconnect the water hose from the distribution tube.



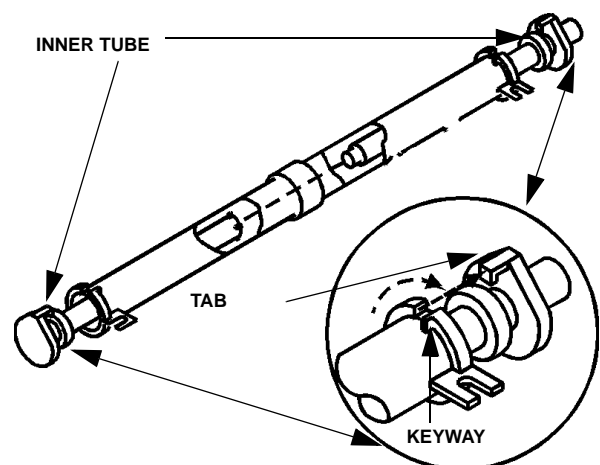
- Loosen the two thumbscrews which secure the distribution tube.
- Lift the right side of the distribution tube up off the locating pin, then slide it back and to the right

#### ⚠ Caution

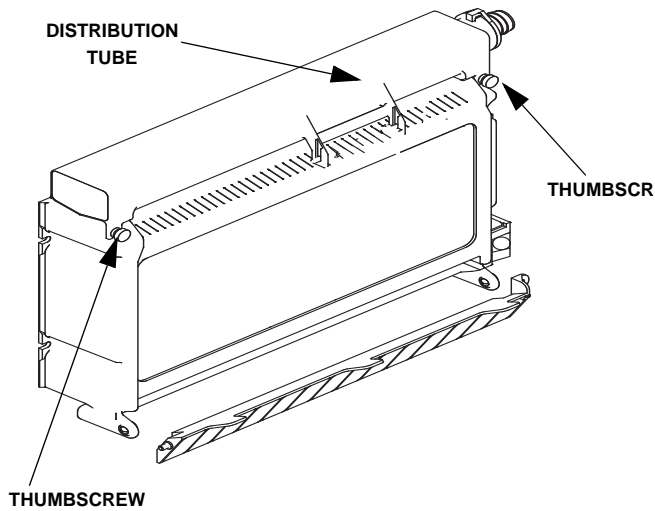
Do not force this removal. Be sure the locating pin is clear of the hole before sliding the distribution tube out.

Disassemble for cleaning.

- Twist both of the inner tube ends until the tabs line up with the keyways.
- Pull the inner tube ends outward



**ES90/130**

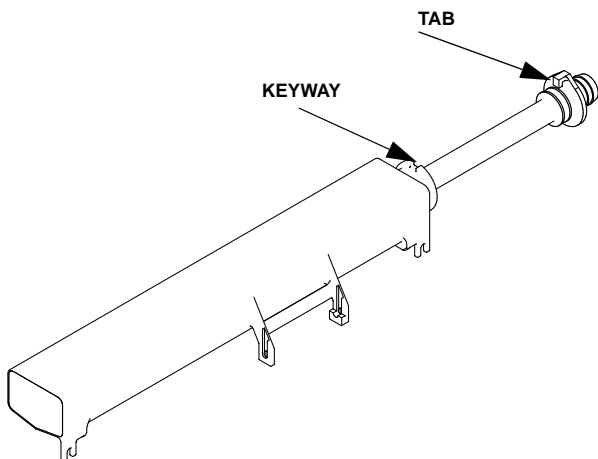


**ES90/ES130 Water Distribution Tube Removal**

- Loosen the two thumbscrews, which secure the distribution tube.
- Lift the distribution tube up off the thumbscrews.

**Disassembly**

- Twist the barbed end until the tab lines up with the keyway.
- Pull the inner tube end outward.

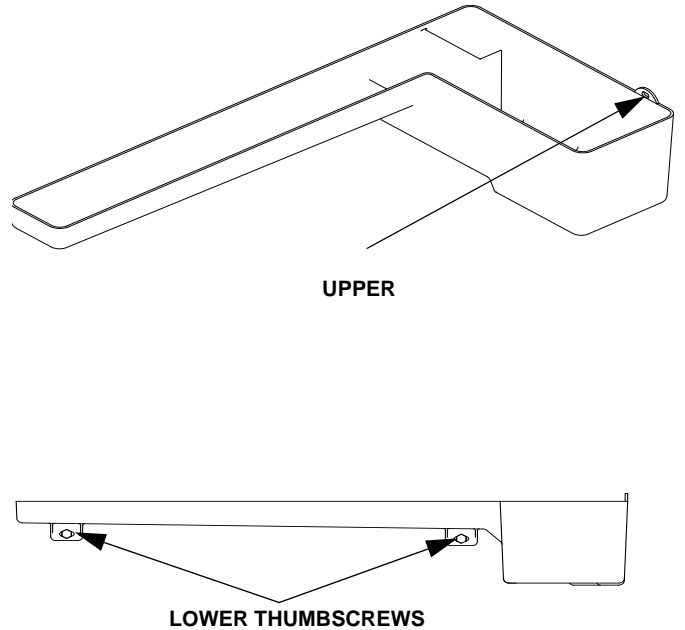


**ES90/ES130 Water Distribution Tube Disassembly**

**E. Remove the Water Trough**

- Remove the upper thumbscrew.

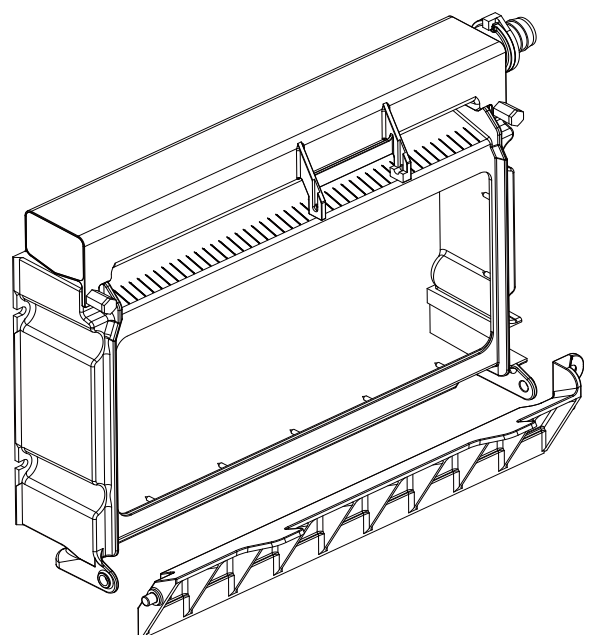
- While supporting the water trough remove the two thumbscrews from beneath the water trough.
- Remove the water trough from the bin area.



**F. Remove the ice damper.**

**ES90/ES130**

- Grasp left side of ice damper and apply pressure against the right-hand ice damper mounting bracket
- Pull forward on the ice damper until the left-hand mounting pin disengages.



**Installation**

- Grasp the right side of ice damper and place left hand pin in the mounting bracket.
- While applying pressure against the left-hand mounting bracket push the damper until the right-hand mounting pin engages.

**ES170/ES210/ES270**

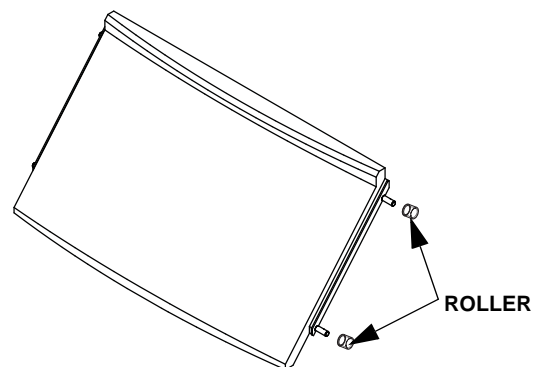
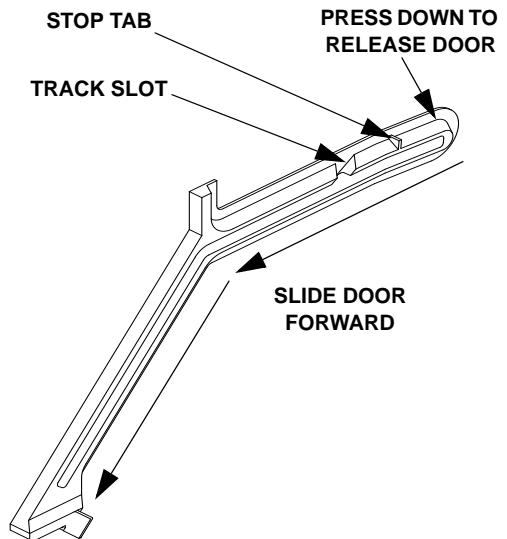
- Grasp ice damper and apply pressure toward the left hand mounting bracket.
- Apply pressure to the right hand mounting bracket with thumb.
- Pull ice damper forward when the right hand ice damper pin disengages.

**Installation**

- Place ice damper pin in left hand mounting bracket and apply pressure toward the left hand mounting bracket.
- Apply pressure to the right hand mounting bracket with thumb.
- Push ice damper toward evaporator until right hand damper pin engages.

**G. Remove the Bin Door**

- Grasp the rear of the bin door and pull bin door forward approximately 5".
- Slide bin door to the rear while applying upward pressure (The rear door pins will ride up into the track slot and slide backward to the stop tab).
- While applying pressure against the bin door pull down on the rear of each bin door track until the door pins clear the stop tabs.
- Slide the rear door pins off the end and then below the door track. Slide bin door forward allowing the back of the door to lower into the bin. Continue forward with the bin door until the front pins bottom out in the track.
- Lift right side of door until the front pins clear the track, then remove door from bin.
- Remove rollers (4) from all door pins.





Step 7 Mix a solution of cleaner and warm water.

Step 8 Use 1/2 of the cleaner/water mixture to clean all components. The cleaner solution will foam when it contacts lime scale and mineral deposits; once the foaming stops use a soft-bristle nylon brush, sponge or cloth (NOT a wire brush) to carefully clean the parts. Soak parts for 5 minutes (15 - 20 minutes for heavily scaled parts). Rinse all components with clean water.

Step 9 While components are soaking, use 1/2 of the cleaner/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

Sanitizing procedure is the same as cleaning procedure, but it needs to change the cleaner with sanitizer.

Step 10 Install the removed parts, restore power and place the toggle switch in the ICE position.

### 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.

### Exterior Cleaning

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

Sponge any dust and dirt off the outside of the ice machine with mild soap and water. Wipe dry with a clean, soft cloth.

### GENERAL

#### Warning

Disconnect electric power to the ice machine at the electric service switches 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. Clean the filter with a mild soap and water.
2. Clean the outside of the condenser with a soft brush or a vacuum with a brush attachment. 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:
  - A. **Blow compressed air through the condenser fins from the inside. Be careful not to bend the fan blades.**
  - B. **Use a commercial condenser coil cleaner. Follow the directions and cautions supplied with the cleaner.**
4. 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 and disconnect electrical power.

## Cleaning the Condenser

**Removal from Service/Winterization****GENERAL**

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 32°F (0°C) 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.

Follow the applicable procedure below.

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 and drain the incoming ice-making water line at the rear of the ice machine.
5. Blow compressed air in both the incoming water and the drain openings in the rear of the ice machine until no more water comes out of the inlet water lines or the drain.
6. Make sure water is not trapped in any of the water lines, drain lines, distribution tubes, etc.

## Section 5

# Before Calling for Service

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### Checklist

If a problem arises during operation of your ice machine, follow the checklist below before calling service. Routine adjustments and maintenance procedures are not covered by the warranty.

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/plug power cord into receptacle.
	ON/OFF/WASH toggle switch set improperly.	Move the toggle switch to the ON position.
	Damper in open position (down).	Damper must be in upright position and capable of swinging freely.
Ice machine stops, and can be restarted by moving the toggle switch to OFF and back to ON.	Safety limit feature stopping the ice machine.	Refer to "Safety Limit Feature" on the next page.
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.
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 dump valve is not working.	Disassemble and clean the water dump valve.
	Water softener is working improperly (if applicable).	Repair the water softener.

*Continued on next page..*

<b>Problem</b>	<b>Possible Cause</b>	<b>To Correct</b>
Ice machine produces shallow or incomplete cubes, or the ice fill pattern on the evaporator is incomplete.	Water filtration is poor.	Replace the filter.
	Hot incoming water.	Connect the ice machine to a cold water supply.
	Water inlet valve is not working.	Replace the water inlet valve.
	Incorrect incoming water pressure.	Water pressure must be 20-80 psi (137.9 - 551.5 kPa)
	Ice machine head section is not level.	Level the ice machine head section.
Low ice capacity.	Incoming water supply is shut off.	Open the water service valve.
	High air temperature around ice machine	Air temperature must not exceed 110°F (43°C).
	The condenser is dirty.	Clean the condenser.
	Inadequate clearance around the ice machine.	Provide adequate clearance.
	Objects stacked around ice machine, blocking airflow to condenser	Remove items blocking airflow.

**Safety Limits**

In addition to the standard safety controls, your WELBILT ice machine features built-in safety limits which will stop the ice machine if conditions arise which could cause a major component failure.

**FREEZING TIME LIMIT**

If the freeze time reaches 60 minutes, the control board automatically initiates a harvest cycle. If three consecutive 60-minute freeze cycles occur, the ice machine stops and the orange light on control board flashes slowly. If the toggle switch is turned to OFF then to ICE position, the ice machine will re-start.

**HARVEST TIME LIMIT**

If the harvest time reaches 6 minutes, the control board automatically initiates a prechill process. If three consecutive 6-minute harvest cycles occur, the ice machine stops and the orange light on control board flashes quickly. If the toggle switch is turned to OFF then to ICE position, the ice machine will re-start.

**WATER INLET TIME LIMIT**

If the water inlet time reaches 6 minutes, the ice machine stops and the red light on control board flashes slowly.

**WATER DUMP TIME LIMIT**

If the water dump time reaches 4 minutes, the buzzer sounds but the ice machine does not stop.

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# ***WELBILT***

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Continuing product improvements may necessitate  
change of specifications without notice.

**Part Number 040002635 06/15**



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