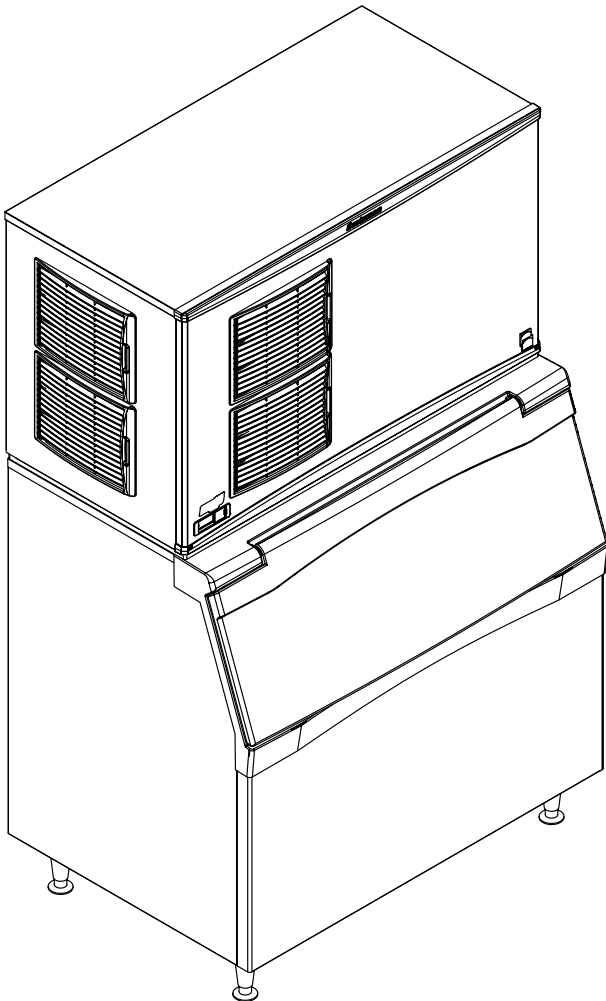




Installation and User's Manual for
Air and Water Cooled Modular Cube
Prodigy ELITE® A Series Models
MC1448, MC1848



Prodigy
ELITE

MC1448 and MC1848
Air and Water Cooled User Manual
Introduction

The design of this modular cuber is the result of years of experience and testing. Standard features include front accessible indicator lights and on-off switches that provide the user with fast access to critical information and easy operational control. In addition, the Scotsman ICELINQ® app allows users to connect to the machine via Bluetooth® to monitor, control, and maintain the ice machine.

Keep this manual for future reference.

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This installation and user manual is divided into three main sections: **Installation**, which provides the trade person with the information needed to set up and install this product; **Use and Operation**, which provides the user with the information to use the product; and **Maintenance**, which provides the user with the information needed keep it operating efficiently.

**WARNING: Cancer and Reproductive Harm**
www.P65Warnings.ca.gov

Note any Caution or Warning symbols when they appear on the product or in this manual. They indicate potential hazards.

⚠️WARNING ⚠️CAUTION

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Installation: Product Specifications

Location Limitations:

The product is designed to be installed indoors, in a controlled environment. Air cooled models discharge very warm air into the room out the back. Space must be allowed at the sides and back for air discharge. Water cooled models discharge warm water into the building's drain.

Space needs to be provided on both sides and above for service access.

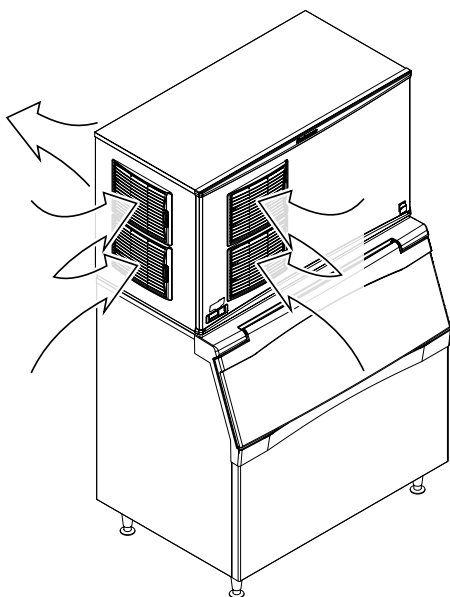
Space Limitations

Note: Although the machine will function, ice capacity of air cooled machines will be significantly reduced with minimal clearance at the sides, back and top.

Some space is recommended for service and maintenance purposes on all models.

6" of space at the sides and back are required for adequate operation. To get the most capacity, locate the machine away from heat producing appliances and heating ducts, and **allow 12-18 inches of space at the sides and top for good air flow.**

Airflow enters through the front and left and exits the back. Attach a baffle kit to the back when an air cooled unit is installed with minimal side and top clearance. See the next page for kit numbers.



Airflow

Environmental Limitations

	Minimum	Maximum
Air temperature	50°F.	100°F.
Water temperature	40°F.	100°F.
Water pressure	20 psi	80 psi

Power supply – acceptable voltage ranges

	Minimum	Maximum
208-230 volt model	198 volts	253 volts

Warranty Information

The warranty statement for this product is provided separately from this manual. Refer to it for applicable coverage. In general warranty covers defects in material or workmanship. It does not cover maintenance, corrections to installations, or situations when the machine is operated in circumstances that exceed the limitations printed above.

Product Information

This product is a modular cuber. This type of machine is designed to be placed on an ice storage bin or an ice dispenser. Many installations only require the matching bin, but some also require an adapter to be placed between the bin and the cuber or between the dispenser and the cuber. This product cannot be stacked.

See the chart on the next page for application information.

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Model Number Description

Example:

- MC1448SA-32A
- MC= cuber
- 14= nominal ice capacity in 100s of pounds
- 48= nominal width of cabinet
- S= Cube size. S=small or half dice cube.
- M=medium or full dice cube
- A=Condenser type. A=air cooled. W=water cooled
- -32=Electrical code. -32=208-230 single phase.
-3=208-230 three phase
- A=Series revision code.

Note: In some areas of this manual model numbers may include only the first five characters of the model number, meaning that the cube size, condenser type and voltage differences are not critical to the information listed there.

Options:

There are several field-installed options that can be installed at initial start up or later. They include:

- KVS, Vari-Smart Adjustable ice level system.
- KBILC, Basic Ice Level Control
- KSB, SmartBoard Advanced feature board.
- A39515-021 air baffle to reduce air recirculation around the back of the cabinet when installed in a corner.

Some installations require bin adapters. See the table below.

Standard Bin Applications - Adapter information:

Model	B948S	BL1048S BL1360S BL1660S
MC1448 MC1848	Direct Fit, no adapter needed	No adapter needed

Other Bins & Applications:

Note the drop zone and ice level control sensor locations in the illustrations on the next pages. A bin or dispenser top must accommodate their locations.

See sales literature for additional applications and specialized kits.

Scotsman Ice Systems are designed and manufactured with the highest regard for safety and performance.

Scotsman assumes no liability of responsibility of any kind for products manufactured by Scotsman that have been altered in any way, including the use of any part and/or other components not specifically approved by Scotsman.

Scotsman reserves the right to make design changes and/or improvements at any time. Specifications and design are subject to change without notice.

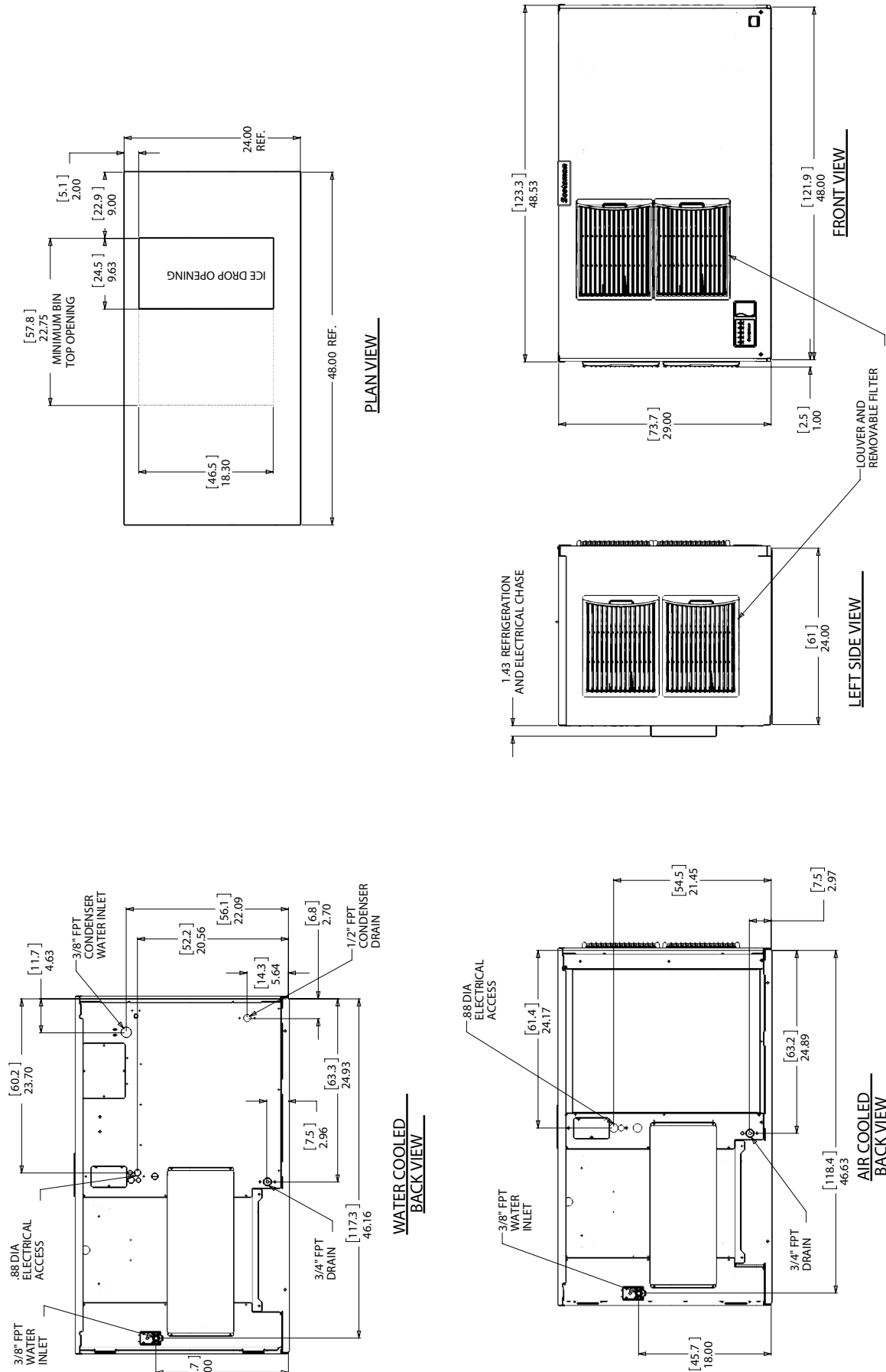
MC1448 and MC1848**Air and Water Cooled User Manual****Product Description & Electrical Requirements**

Dimensions w" x d" x h"	Model	Series	Electrical volts/Hz/phase	Condenser	Minimum Circuit Ampacity	Maximum Fuse Size*
48.6** x 24 x 29	MC1448SA-32	208-230/60/1	Air	17.7	20	30
	MC1448SW-32	208-230/60/1	Water	16.0	20	30
	MC1448SA-3	208-230/60/3	Air	13.6	20	30
	MC1448MA-32	208-230/60/1	Air	17.7	20	30
	MC1448MW-3	208-230/60/3	Water	11.9	15	30
	MC1848SA-32	208-230/60/1	Air	18.5	20	20
	MC1848SW-32	208-230/60/1	Water	16.8	20	20
	MC1848MA-32	208-230/60/1	Air	18.5	20	20

* Or HACR type circuit breakers.

** Maximum width at top panel.

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Air and Water Cooled User Manual
Cabinet Layout



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Water

The quality of the water supplied to the ice machine will have an impact on the time between cleanings and ultimately on the life of the product. Water can contain impurities either in suspension or in solution. Suspended solids can be filtered out. In solution or dissolved solids cannot be filtered, they must be diluted or treated. Water filters are recommended to remove suspended solids. Some filters have treatment in them for suspended solids. Check with a water treatment service for a recommendation.

Scotsman filters:

A triple head filter is recommended for the potable water. Either the Scotsman SSM3 taste and odor filter system, or the ADS-AP3 AquaPatrol™ system. RO water. This machine can be supplied with Reverse Osmosis water, but the water conductivity must be no less than 10 microSiemens/cm.

Condenser Water Supply - filtration not recommended for this water supply

	GPH, 70 degree water
MC1448W	70
MC1848W	106

Potential for Airborne Contamination

Installing an ice machine near a source of yeast or similar material can result in the need for more frequent sanitation cleanings due to the tendency of these materials to contaminate the machine.

Most water filters remove chlorine from the water supply to the machine which contributes to this situation. Testing has shown that using a filter that does not remove chlorine, such as the Scotsman AquaPatrol™, will greatly improve this situation, while the ice making process itself will remove the chlorine from the ice, resulting in no taste or odor impact. Additionally, devices intended to enhance ice machine sanitation, such as the Scotsman AquaBullet®, can be placed in the machine to keep it cleaner between manual cleanings.

Water Flush

Cube ice machines use more water than what ends up in the bin as ice. While most water is used during ice making, a portion is designed to be drained out every cycle to reduce the amount of hard water scale in the machine. That's known as water purge, and an effective purge can increase the time between needed water system cleaning.

In addition, this product has the capability to automatically vary the amount of water purged based on the purity of the water supplied to it. The water purge rate can also be set manually.

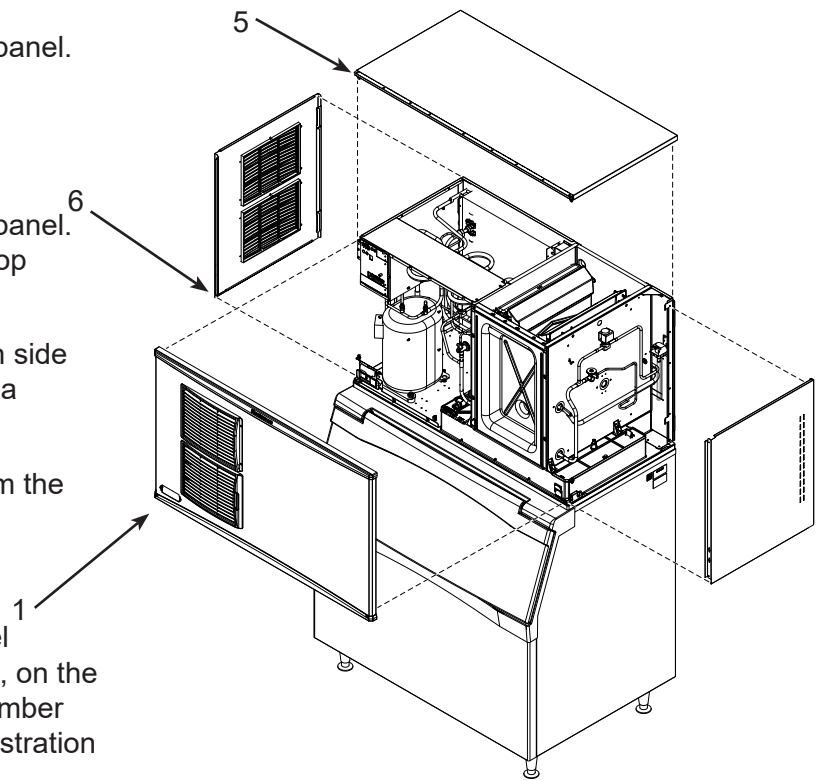
Adjustments of purge due to local water conditions are not covered by warranty.

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Panel Removal

1. Locate and disengage the two quarter turn captured screws at the bottom of the front panel.
2. Pull the front panel out at the bottom.
3. Lift the front panel up and off the machine.
4. Remove two screws at the front of the top panel. Lift up the front of the top panel, push the top panel back an inch, then lift to remove.
5. Locate and loosen the screws holding each side panel to the base. Left side panel also has a screw holding it to the control box.
6. Pull the side panel forward to release it from the back panel.



Model and Serial Numbers

This manual covers several models. The model number on the product is located in two places, on the back dataplate and on the model and serial number tag, located behind the front panel. See the illustration for the dataplate and serial tag locations.

Write the model and serial number of this product here:

Write the day, month and year of initial start up here:

Switch Door

All models ship with the indicator lights visible at the lower left front. The On and Off buttons and the Bluetooth® button are covered by a door to the right of those lights. The on and off buttons and indicator lights duplicate what is on the controller.

Dataplate Location and Panel Removal

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Uncrate and Set Up

Begin with unpacking the ice storage bin. Remove the carton, and using part of the carton as a cushion, tip the bin on its back to remove the skid and attach the legs or casters.

Note: Turn the leg levelers in all the way and adjust after the ice machine is on top and in its selected location.

Return the bin to an upright position. Check the bin top gasket for gaps and tears, fill any in with food grade sealant prior to placing the ice machine on the bin.

Install the bin top adapter if one is required for the application.

If the ice machine has not been unpacked, do so now. Remove the carton from the skid. Lift the ice machine off the skid directly onto the bin.

Note: The machine is heavy! Use a mechanical hoist if necessary.

Secure the ice machine to the bin with the hardware provided (two metal straps and 4 bolts).

Place the bin and ice machine in the selected location and level it by adjusting the bin leg levelers.

Remove the white plastic covering the panels.

Bin Recycling

Many times an ice machine head will be replaced, while the existing ice storage bin will be reused. This is an acceptable practice, if some precautions are taken:

- The used bin must be in good condition. Broken doors, hinges, or warped walls are reason for considering a new bin.
- The used bin top edge gasket must be replaced. Water leaks could occur if the gasket tape is not replaced.

- The used bin should be the proper size for the ice machine head.

Lower Light and Switch Panel

This user accessible panel provides important operational information and duplicates the lights and switches on the controller. It also allows access to the On and Off buttons that operate the ice machine.

Sometimes access to the switches should be limited to prevent unauthorized operation. For that purpose a fixed panel is shipped in the hardware package. The fixed panel cannot be opened.

To install the fixed panel:

1. Remove the front panel.
2. From the back side of the panel, slide the door to left while spreading the clips to remove the original door from the bezel.
3. Slide the fixed panel into bezel until it snaps into place.
4. Reinstall front panel.

Open door to access On and Off switch buttons.



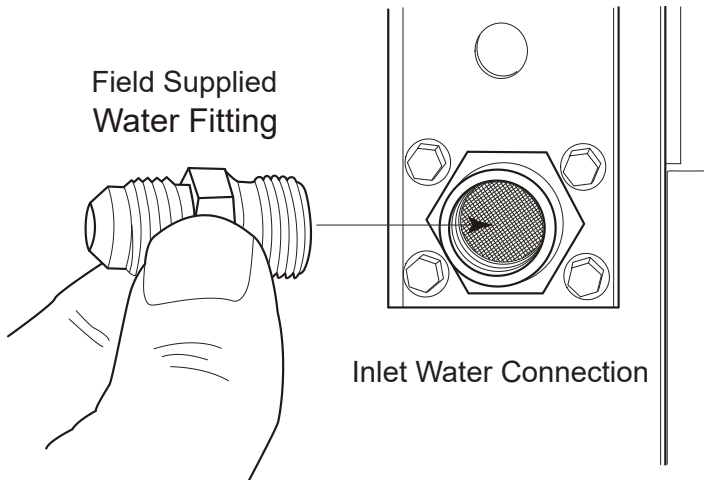
Switch Door

MC1448 and MC1848 Air and Water Cooled User Manual Plumbing Requirements

All models require connection to cold, potable water. A hand actuated valve within site of the machine is required.

Air cooled models have a single 3/8" FPT inlet water connection.

Water cooled models have a 1/2" FPT drain fitting plus an additional 3/8" FPT condenser inlet water connection.



1. Connect water supply to water inlet fittings.

Note: This NSF listed model has a 1" anti-back flow air gap between the end of the water inlet tube and the highest possible reservoir water level, no additional back flow device is required for the potable water inlet.

2. Connect drain tubing to drain fittings.
3. Route the drain tubing to building drain. Follow local codes for air gap.

Use rigid drain tubes and then route them separately – do not Tee into the bin's drain or, if water cooled, Tee the condenser drain into the reservoir or bin drain.

Vent the reservoir drain. A vertical vent at the back of the drain, extended about 8 - 10" will allow the gravity drain to empty and also keep any surges during draining from discharging water out the vent.

Insulate drain tubing if in a humid environment.

Horizontal runs of drain tubing need a 1/4" per foot per fall for proper draining.

Follow all applicable codes.

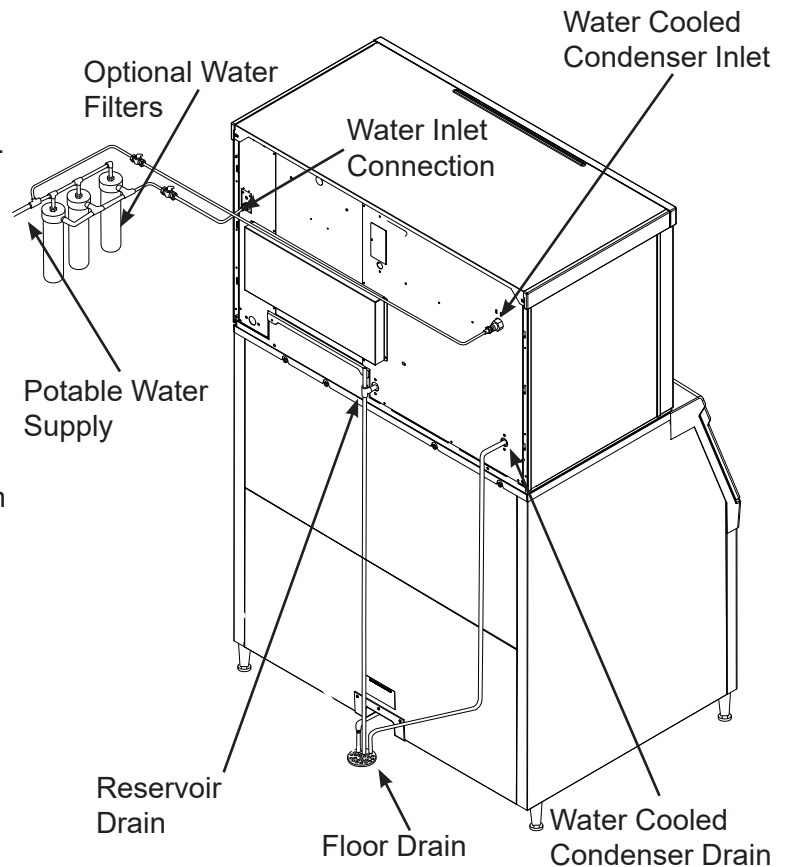
Water Filters

If connecting to water filtration, filter only the water to the reservoir, not to the condenser. Install new cartridges if the filters were used with a prior machine.

A triple head filter is recommended. Either the Scotsman SSM3 taste and odor filter system, or the ADS-AP3 AquaPatrol™ system.

Drains

All models require drain tubing to be attached to them. Air cooled models have a single 3/4" FPT drain fitting in the back of the cabinet. Water cooled models have the same fitting plus an additional 1/2" FPT drain fitting in the back of the cabinet. Install new tubing when replacing a prior ice machine, as the tubing will have been sized for the old model and might not be correct for this one.



Plumbing Connections

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Electrical

The machine is not supplied with a power cord, the machine should be hard-wired.

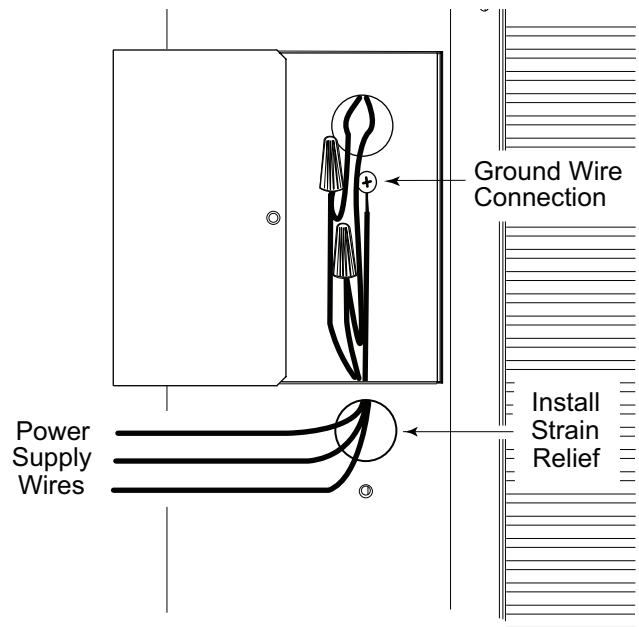
The dataplate on the back of the cabinet details the power requirements, including voltage, phase, minimum circuit ampacity and maximum fuse size.

HACR type circuit breakers may be used in place of fuses. Extension cords are not permitted. Use of a licensed electrician is recommended.

Electrical connections are made inside the junction box in the back panel of the ice machine.

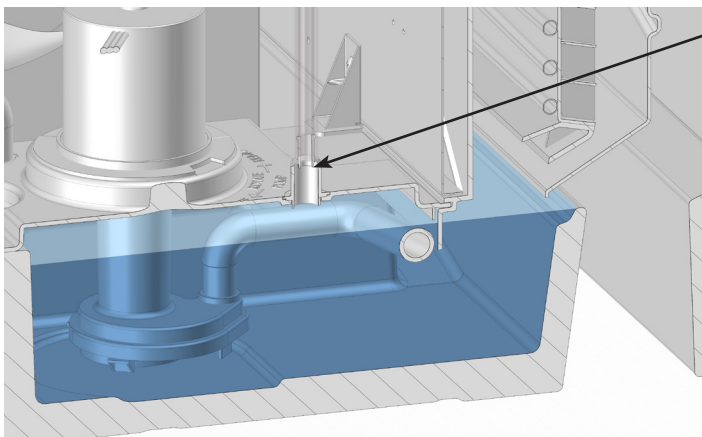
1. Remove the junction box cover and route the power cord through the access hole and properly attach the power supply wires to the leads in the junction box.
2. Install a field supplied strain relief per code.
3. Attach a ground wire to the ground connection in the junction box.
4. Check voltage when complete.
5. Return the junction box cover to its original position and secure with the original screws.

Follow all applicable local, state and national codes.



Electrical Connections, Back of Unit

Air Break



Cutaway View of Water Reservoir

Air Vent at Water Inlet Connection

Maximum Water Level in Reservoir

The air break is created by the gap between the maximum water level in the reservoir (additional water will spill out) and the water inlet connection. Reservoir water cannot contact the water inlet connection and in case of negative pressure, only air can enter the water supply hose.

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Final Check List

After connections,

1. Wash out the bin. If desired, the interior of the bin could be sanitized.
2. Locate the ice scoop (if supplied) and have it available for use when needed.

Before start up,

1. Is the unit located indoors in a controlled environment?
2. Is the unit located where it can receive adequate cooling air?
3. Has the correct electrical power been supplied to the machine?
4. Have all the water supply connections been made?
5. Have all the drain connections been made?
6. Has the unit been leveled?
7. Have all unpacking materials been removed?
8. Is the water pressure adequate?
9. Have the drain connections been checked for leaks?
10. Has the bin interior been wiped clean or sanitized?
11. Have any water filter cartridges been replaced?
12. Have all required kits and adapters been properly installed?

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Initial Start Up

1. Remove front panel. Check machine for any packing or wires rubbing moving parts.
2. Switch on the electrical power to the machine. Observe that some of the control's indicator lights glow and its display shows $\square$.
3. Open the water supply valve.
4. Push and release the **lower light and switch panel's ON button**. The indicator light will begin to blink $\bar{F}$.

The purge valve will open and the water pump will start. The inlet water valve will open to add water to the reservoir. After a few seconds the purge valve will close and the water pump will stop. Water will flow into the machine until the reservoir is full. The hot gas valves and harvest assist devices will activate then the compressor and water pump will start. If its an air cooled model the fan motors will begin to turn. The display will show a continuous $\bar{F}$. Five seconds later the hot gas valves will close and the harvest assist device will return to its standby position. Warm air will be discharged from air cooled models.

5. Observe the Ready for Harvest indicator light. It may blink early in the cycle, that is normal. The control will ignore that signal for the first 6 minutes of freeze.
6. During the Freeze cycle open and close the curtains. The SW1 and SW2 lights on the control board will blink ON when each curtain is opened and OFF when closed.

Note: Moving a curtain during the Freeze cycle has no affect on the control, but will cause water to flow into the cube chute.

7. When the ice has frozen enough, the Ready for Harvest indicator light will be on steady. After it's been on steady for a few seconds Harvest will begin.

8. The display shows an H.

The hot gas valves open, the air cooled fan motors shut off and the harvest assist mechanisms are activated. The purge valve opens to drain some water, when it does the inlet water valve opens to refill the reservoir. After a few seconds the purge valve closes but the inlet water valve continues to fill the reservoir. Harvest continues until the ice is released as a unit and forces the curtain to open. When both curtains re-close the controller returns the unit to a freeze cycle.

9. Check the ice harvested for proper bridge thickness. The ice bridge is factory set at 3/16 inch. If needed, adjust bridge thickness. Do NOT make it too thin.
10. Return the front panel to its normal position and secure it to the machine.
11. Instruct the user in the operation of the machine and its maintenance requirements.
12. Fill out and mail warranty registration form or register on line at www.scotsman-ice.com.

Typical Ice Making Cycle Times (minutes).

Listed times are for clean machines in proper installations. Cycle length at start up will be longer until the system stabilizes.

Model	70°F. air / 50°F. water	90°F. air / 70°F. water
MC1448A	12-14	14-16
MC1448W	13-15	14-16
MC1848A	9-11	12-14
MC1848W	9-11	10-12

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Adjustments

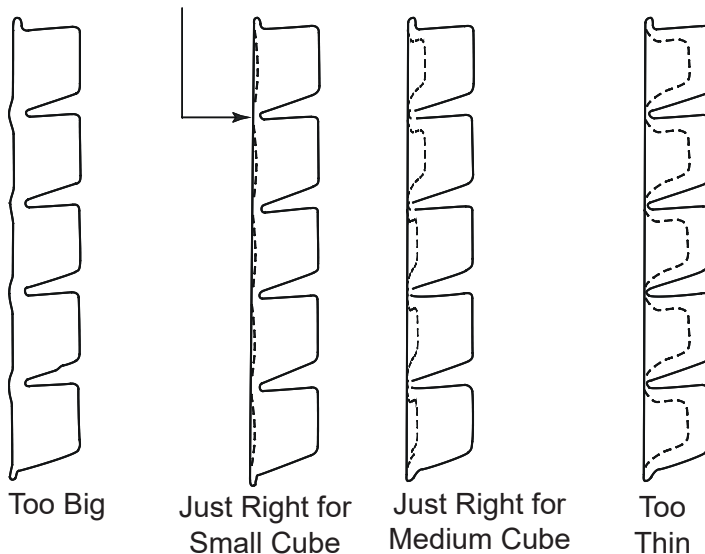
Bridge Thickness - For Service Tech Only

1. Push and hold Off till the machine stops.
2. Remove evaporator cover.
3. Remove curtain.
4. Use a hex wrench and rotate the bridge thickness adjustment screw in 1/8" turn increments CW to increase bridge thickness.
5. Rotate CCW to decrease bridge thickness.

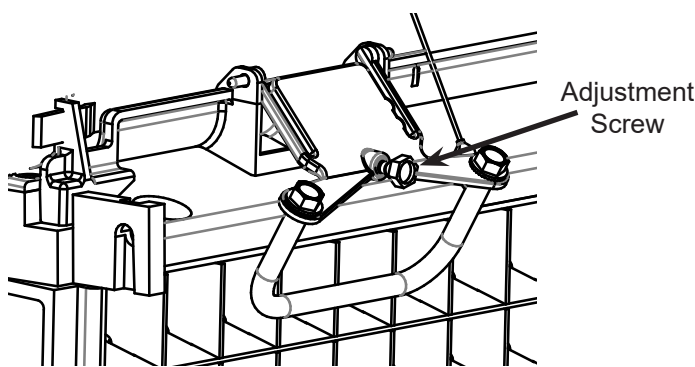
Caution: Do not make the bridge too thin or the machine will not harvest properly. Bridge thickness adjustments are not covered by warranty.

6. Return curtain to its normal position.
7. Push and release the On button. Check next harvest of ice. Repeat steps 1-6 if needed.

1/8 - 3/16" bridge



Ice Bridge Thickness Check



Ice Thickness Sensor

Water Purge Setting

The water flush is factory set to the automatic position, suitable for most water conditions. The setting can be changed to one of 5 manual settings or left on automatic.

Flush setting	1 - Minimum	2 - Moderate	3 - Standard	4 - Heavy	5 - Maximum	A - Automatic
Water Type	RO water or equivalent		Factory Setting for typical water		High TDS water	Any with conductivity not less than 10 microSiemens/cm

To set:

1. Switch the machine OFF by holding the Off button in until a number or the letter A shows on the display.
2. Press and release the On button repeatedly until the number on the display corresponds to the desired setting.
3. Press and release the Off switch again to return to the normal control state.

Note: Water cooled models, the refrigeration system discharge pressure is factory set at 245 PSIG, which should yield a freeze cycle discharge water temperature of about 105-110 degrees F. Adjust if necessary.

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Use and Operation

Once started, the ice machine will automatically make ice until the bin is full of ice. When ice level drops, the ice machine will resume making ice.

Caution: Do not place anything on top of the ice machine, including the ice scoop. Debris and moisture from objects on top of the machine can work their way into the cabinet and cause serious damage. Damage caused by foreign material is not covered by warranty.

There are four indicator lights at the front of the machine that provide information on the condition of the machine.

Indicator Lights:

- Power
- Status
- Water
- Clean

If the Water light is on, the machine has sensed a lack of water. Check the water supply to the machine. The water may have been shut off or the water filter cartridges need to be changed.

If the Clean light is on, the machine has determined that it may need to be cleaned. Contact an authorized Scotsman service agent and have the machine cleaned, de-scaled and sanitized.

During normal operation, if the Clean light begins to blink yellow, the machine in Preservation mode, which initiates a timed freeze in response to short freeze errors. Contact an authorized Scotsman service agent to service the machine immediately. It is likely that the machine needs to be cleaned (de-scaled and sanitized), but may need additional service.

Indicator Lights & Their Meanings					
	Power	Status	Water	De-Scale & Sanitize	Bin Full
Steady Green	Normal	Normal – bin full or making ice	-	-	Bin is full
Blinking Green	Self Test Failure	Switching on or off	-	-	
Blinking Red	-	Diagnostic shutdown or, if making ice, temperature sensor failure	Lack of water	-	
Yellow	-	-	-	Time to de-scale and sanitize	
Blinking Yellow	-	-	-	Preservation Mode is active or clean cycle is in progress	
Light off	No power	Switched off	Normal	Normal	Bin is not full

Note: A Component Indicator Light switches ON to indicate that the component is operating.

Note: There are two Curtain Switch lights, SW1 and SW2. A curtain switch light is ON when a curtain is either open or not present.

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Switches

The On and Off switch buttons are front accessible.



- To switch the machine OFF, push and release the Off button. The machine will shut off at the end of the next cycle. To shut the machine off immediately, push and hold the Off button for 3 seconds.
- To switch the machine ON, push and release the On button. The machine will go through a start up process and then resume ice making.

Control Options

There are two optional, field installed controls that can be on this machine.

- Vari-Smart (KVS) Adjustable ice level control
- Smart-Board (KSB) Advanced Feature control

Adjustable ice level control

When this option is present there is an adjustment post and an additional indicator light to the right of the controller switches. The ultrasonic ice level control allows the user to control the point that the ice machine will stop making ice before the bin or dispenser is full. Reasons for this include:

- Seasonal changes in ice used
- Planning to sanitize the bin
- Faster turnover for fresher ice
- Certain dispenser applications where maximum ice level is not desired

Note: Ice will build up in the bin or dispenser at an angle, the distance set will be from the sensor to the top of the ice. The sensor position is shown in the cabinet layout diagrams.

The actual distance between the highest point of the ice may be closer or further away than the distance set, depending upon the angle of the ice.

Use of control



There are several positions the ice level can be set to, including Off or Max (knob and label indicators lined up), where it fills the bin until the standard bin control shuts the machine off. See the kit's instructions for complete details.

Rotate the adjustment post to the desired ice level. The machine will fill up to that level and when it shuts off the Bin Full indicator light will be On.

Ice

The cuber drops ice in large sections. That ice will break up into random parts as it falls into the bin, but some large sections may remain on top of the ice in the bin. In a dispenser, this ice will break up into mostly individual cubes as the dispense mechanism moves the ice. The ice in the bin will normally slope down from the right to the left.

Heat

When making ice, air-cooled models will discharge hot air out the back of the cabinet.

Noise

The ice machine will make noise when it is in ice making mode. The compressor, fan motor(s) if air cooled, and water pump all produce some sound. It is also normal to hear some cracking just before the harvest cycle begins. In addition, during the harvest cycle the harvest mechanism may click twice as it pushes the ice out and returns to its normal position. The ice harvests as a unit or slab, which makes some noise when it impacts the bin or dispenser. These noises are all normal for this machine.

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Air and Water Cooled User Manual

Cleaning, Sanitation and Maintenance

This ice system requires three types of maintenance:

- Remove the build up of mineral scale from the ice machine's water system and sensors.
- Sanitize the ice machine's water system and the ice storage bin or dispenser.
- Clean or replace the air filter and clean the air cooled condenser (air cooled models only).

It is the User's responsibility to keep the ice machine and ice storage bin in a sanitary condition. Without human intervention, sanitation will not be maintained. Ice machines also require occasional cleaning of their water systems with a specifically designed chemical. This chemical dissolves mineral build up that forms during the ice making process.

The ice machine's water system should be cleaned and sanitized a minimum of twice per year. Sanitize the ice storage bin as frequently as local health codes require, and every time the ice machine is cleaned and sanitized.

Preparing to Clean:

1. Remove the front panel.
2. Remove the evaporator cover.

Scale Removal:

3. Push and release the Clean button. The yellow Clean light will blink and the display will show . The machine will harvest any ice, drain the reservoir and begin to refill it.
4. Observe code display, when it blinks the characters "F I I" immediately go to the next step.
5. Pour the below specified amount Scotsman Clear 1 ice machine scale remover into the reservoir. The unit will circulate the scale remover, then drain and flush it. This will take 35 minutes, then the machine will stop and the display will show .

MC1448, MC1848	24 ounces
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Note: Using chemicals or dilution ratios other than what is specified will damage the ice machine and significantly affect the performance and life of the ice machine.

Clean internal parts:

6. Mix a cleaning solution of 6oz of Scotsman Clear 1 scale remover with 9 cups (72oz) of 105-115° F potable water.
7. In a separate bucket, mix a sanitizing solution of 1.6 oz of Nu-Calgon IMS Sanitizer with 1 gallon (128 oz) of 105-115 degree F. potable water.
8. Remove air filter(s)(if applicable), water level sensor and housing, water distributor(s), curtain(s), ice thickness sensor, and splash panel for additional cleaning.
9. Soak and scrub each part (including the evaporator cover!) using the previously prepared solution of Scotsman Clear 1 scale remover and a nylon brush, and then rinse with water. Save scale remover solution.
10. Soak and scrub each part using the previously prepared sanitizing solution. No rinse needed. Save sanitizing solution.
11. Using a non-metallic scouring pad, scrub spillway with sanitizer to remove any material buildup and debris.
12. Reinstall ice thickness sensor, curtain(s), splash panel, water distributor(s), and water level sensor in their original positions. Be sure water level sensor and ice thickness sensor are completely dry.

	CAUTION Ice machine cleaner contains acids. Acids can cause burns. If concentrated cleaner comes in contact with skin, flush with water. If swallowed, do NOT induce vomiting. Give large amounts of water or milk. Call Physician immediately. Keep out of the reach of children.
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Air and Water Cooled User Manual

Cleaning, Sanitation and Maintenance Continued

Sanitize:

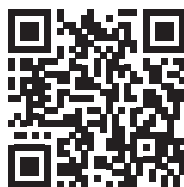
13. Push and release the Clean button. The yellow Clean light will blink and the display will show . The machine will go through a harvest cycle, drain the reservoir and begin to refill it.
14. Observe code display, when it blinks the characters "F I" immediately go to the next step.
15. Pour the previously prepared sanitizing solution into the reservoir until it is full. The unit will circulate the sanitizer, then drain and flush it. This will take 35 minutes, then the machine will stop and the display will show .
16. Remove all ice from storage bin or dispenser and sanitize bin or dispenser with remaining sanitizing solution while machine completes sanitizing cycle. Pour excess sanitizer down drain.

Finish Cleaning Process:

17. Reinstall evaporator cover and front panel (with air filter(s) if applicable) in their original positions.
18. Push and release the "ON" button to resume ice making.

Want more detail?

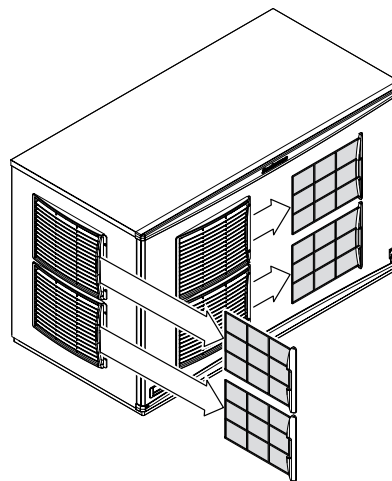
Scan QR Code to download the Scotsman IcelinQ™ App to connect to this machine via Bluetooth and access the self-guided cleaning process.



Additional maintenance:

Air filter (air-cooled models)

Clean air filters when they become visibly dirty. They will need cleaning more often than the other items.



1. Pull air filter(s) from the front panel.
2. Wash the dust and grease off the filter.
3. Return it to its original position.

Do not operate the machine without the filter in place except during cleaning.

Condenser (air-cooled models)

If the machine has been operated without a filter the air cooled condenser fins will need to be cleaned.

They are located under the fan blades. The services of a refrigeration technician will be required to clean the condenser.

Exterior panels

The front, top and side panels are durable stainless steel. Fingerprints, dust and grease will require cleaning with a good quality stainless steel cleaner.

Note: If using a sanitizer or a cleaner that contains chlorine on the panels, after use be sure to wash the panels with clean water to remove chlorine residue.

Water filters

If the machine has been connected to water filters, check the cartridges for the date they were replaced or for the pressure on the gauge. Change cartridges if they've been installed more than 6 months or if the pressure drops too much when the ice machine fills with water.

MC1448 and MC1848

Air and Water Cooled User Manual

What to do before calling for service

Reasons the machine might shut itself off:

- Lack of water.
- Freeze cycle takes too long.
- Harvest cycle takes too long.
- High discharge temperature.
- Controller self test failure.

Check the following:

1. Has the water supply to the ice machine or building been shut off? If yes, the ice machine will automatically restart within 25 minutes after water begins to flow to it.
2. Has power been shut off to the ice machine? If yes, the ice machine will automatically restart when power is restored.
3. Has someone shut the water off to a water cooled unit? If yes, after the water supply has been restored the ice machine may need to be manually reset.
4. Is the curtain open because some ice is stuck under it? If so, remove the ice and the machine should start in a few minutes.

To Manually Reset the machine.

- Open the switch door
- Push and release the Off button.
- Push and release the On button.

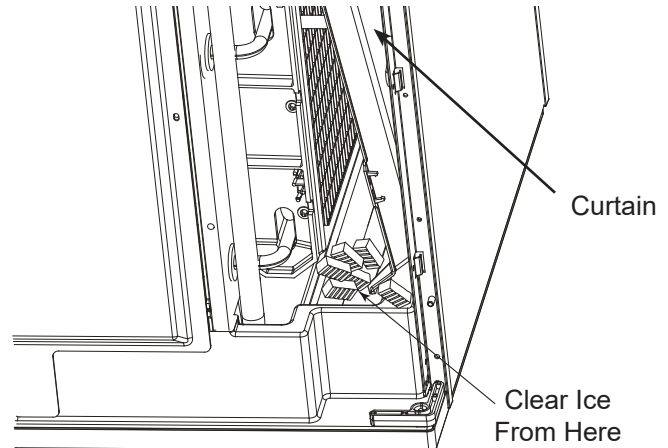
To Shut the Machine Off:

1. Push and hold the Off button for 3 seconds or until the machine stops.



Open Door to Reset or Switch Off

Note: Curtain can be removed & replaced anytime the machine is in a standby mode or when it is in a freeze cycle. However, removal of the curtain during freeze will result in water flowing into the bin. Removal of the curtain during harvest terminates harvest at that point and, if left off, will result in the machine shutting off.



Clear Ice From Beneath Curtain

Scotsman ICELINQ® Mobile App

All Prodigy ELITE® models are Bluetooth® enabled and are compatible with the Scotsman ICELINQ® app, available on both the Apple App Store and Google Play Store.

The ICELINQ mobile app uses Bluetooth connectivity to allow users to easily monitor, control, and maintain their machine:

- View machine status
- Control machine operation
- Adjust machine settings
- View active errors with troubleshooting tips
- Initiate self-guided cleaning
- Access service resources and warranty info



Scan QR Code to download the
Scotsman ICELINQ® App

SCOTSMAN ICE SYSTEMS

101 Corporate Woods Parkway

Vernon Hills, IL 60061

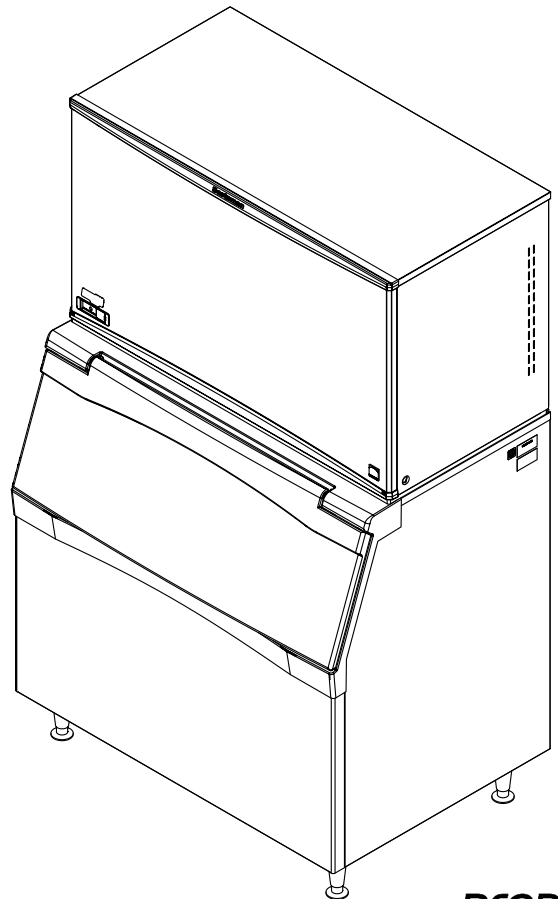
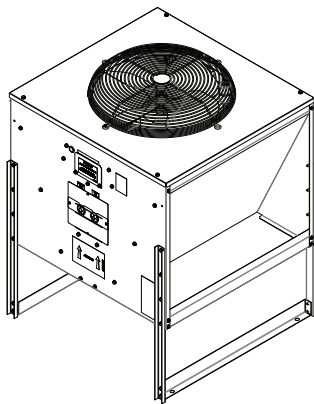
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800-726-8762





Installation and User's Manual for
Remote Condenser Modular Cube
Prodigy ELITE® A Series Models
MC1448, MC1848, MC2148



PRODIGY
ELITE

MC1448, MC1848, MC2148
Remote Cooled User Manual
Introduction

The design of this modular remote cuber is the result of years of experience with remote ice machine refrigeration systems. Standard features of this product include front accessible on-off switches, always-visible indicator lights, mechanical assist ice harvest for extra efficiency, automatically adjusting water purge and a control system that optimizes system operation.

In addition, the Scotsman ICELINQ® app allows users to connect to the machine via Bluetooth® to monitor, control, and maintain the ice machine.

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This installation and user manual is divided into three sections: Installation, Use and Operation and Maintenance.

The Installation section provides the trade person with the information needed to properly install and start up this ice system. The Use and Operation section provides the user with the information needed to use the machine. The Maintenance section contains the instructions and schedules for the sanitation and cleaning of the machine.



WARNING: Cancer and Reproductive Harm
www.P65Warnings.ca.gov

Note any Caution or Warning symbols when they appear on the product or in this manual. They indicate potential hazards.

**WARNING** **CAUTION**

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Remote Cooled User Manual

Installation: Product Specifications

Location Limitations

This ice system is made up of three parts, the ice making machine, or head; the remote condenser; and the interconnecting tubing. The ice making machine must be installed indoors, in a controlled environment. Space must be provided near the machine for service access. The remote condenser may be installed above or below the ice machine, per the limits stated later in this manual. The remote condenser may be installed outdoors within the temperature limits listed below. The interconnecting tubing must be installed per the directions stated in this manual, and the amount of tubing exposed to uncontrolled temperatures must be minimized.

Space Limitations

Although the machine will function with no clearance to the top and sides, some space must be allowed for service access. Building the machine in with no access will cause higher service cost, in many cases this extra cost may not be covered by warranty.

Environmental Limitations,

Ice machine

	Minimum	Maximum
Air temperature	50°F.	100°F.
Water temperature	40°F.	100°F.
Water pressure	20 psi	80 psi

Remote condenser

	Minimum	Maximum
Air temperature	-20°F.	120°F.

Power Supply

	Minimum	Maximum
208-230 volt model	198 volts	253 volts

Warranty Information

The warranty statement for this product is provided separately from this manual. Refer to it for applicable coverage. In general warranty covers defects in material and workmanship. It does not cover maintenance, corrections to installations, or situations when the ice machine is operated in circumstances that exceed the limitations printed above.

Product Information

The machine is a specialized version of a modular cuber. A modular cuber does not include any ice storage, it is designed to be placed onto an ice storage bin. Many installations only require the matching bin, but some may need an adapter to be placed between the ice machine and the bin. Additionally, the machine must be connected to the correct remote condenser and use the correct pre-charged tubing. The machine is supplied with a full refrigerant charge, field charging is not required.

This product cannot be stacked. See the chart for application information.

MC1448, MC1848, MC2148

Remote Cooled User Manual

Model Number Description

Example

- MC1448SR-32A
- MC=modular cuber
- 14=nominal capacity in 100s of pounds
- 48=nominal width of cabinet in inches
- S=cube size, S=small or half dice,
- M=medium or full dice
- R=condenser type. R=Remote
- 32=Electrical code. -32=208-230/60/1, -3= 208-230/60/3
- A=series revision code.

Note: In some areas of this manual model numbers may include only the first five characters of the model number, meaning that cube size, condenser type and voltage differences are not critical to the information listed there.

Options:

There are several options available for field installation. They include:

- KVS, Vari-Smart Adjustable ice level system.
- KBILC, Basic Ice Level Control
- KSB, SmartBoard Advanced feature board.

Some installations require bin or dispenser adapters. See the table below.

Standard bin applications – Adapter information

Model	B948S	BL1048S BL1360S BL1660S
MC1448 MC1848	Direct Fit, no adapter needed	No adapter needed

If stainless steel Kbaffle3 has been installed, remove it and replace with the original plastic baffle.

Other bins and applications:

Note the drop zone and optional ultrasonic sensor locations in the illustrations.

Scotsman ice systems are designed and manufactured with the highest regard for safety and performance. They meet or exceed the standards of UL and NSF.

Scotsman assumes no liability of responsibility of any kind for products manufactured by Scotsman that have been altered in any way, including the use of any part and/or other components not specifically approved by Scotsman.

Scotsman reserves the right to make design changes and/or improvements at any time. Specifications and design are subject to change without notice.

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Remote Cooled User Manual

Product Description and Electrical Requirements

Dimensions w" x d" x h"	Model	Electrical	Use condenser	Minimum Circuit Ampacity	Maximum Fuse* Size	Suggested Fuse* Size
48 x 24 x 29	MC1448SR-32	208-230/60/1	ERC311-32	17.0	30	20
	MC1448SR-3	208-230/60/3	ERC311-32	12.9	30	15
	MC1448MR-32	208-230/60/1	ERC311-32	17.0	30	20
	MC1848SR-32	208-230/60/1	ERC611-32	17.8	20	20
	MC1848MR-32	208-230/60/1	ERC611-32	17.8	20	20
	MC1848SR-3	208-230/60/3	ERC611-32	13.4	20	20
	MC2148SR-3	208-230/60/3	ERC611-32	21.5	30	30
	MC2148MR-3	208-230/60/3	ERC611-32	21.5	30	30

*Or HACR circuit breakers.

Table notes: Series revision code omitted. All the listed condensers include a headmaster valve.

Ratings include the remote condenser motor, as it is designed to be powered by the ice machine. If connecting remote condenser independently of the ice machine, use the information on the condenser's dataplate for fuse and wire sizes.

Central Condenser (Rack) Coils

The ice machine may be connected to a central condenser coil. The requirements are:

- Coil – not previously used with mineral oil system. Virgin coil preferred.
- Correct size (internal volume) and capacity (BTUH).
- Includes a headmaster valve for discharge pressure control. Headmaster kit available for certain MAC condensers, kit number is RCKCME6GX.

Note: Do not use MC1848R or MC2148R with MAC

- Fan motor on all the time or controlled to be on whenever the ice machine is operating.
- U.L. listed for the ice machine
- Non-Scotsman condensers must have prior Scotsman Engineering approval for warranty coverage to be in effect.

Refrigerant tubing kits:

The ice making head's and the remote condenser's refrigeration circuits must be connected. They are designed to be connected Scotsman refrigerant tubing, supplied in kits of liquid and discharge tubes. Several lengths are available, order the one that just exceeds the length needed for the site.

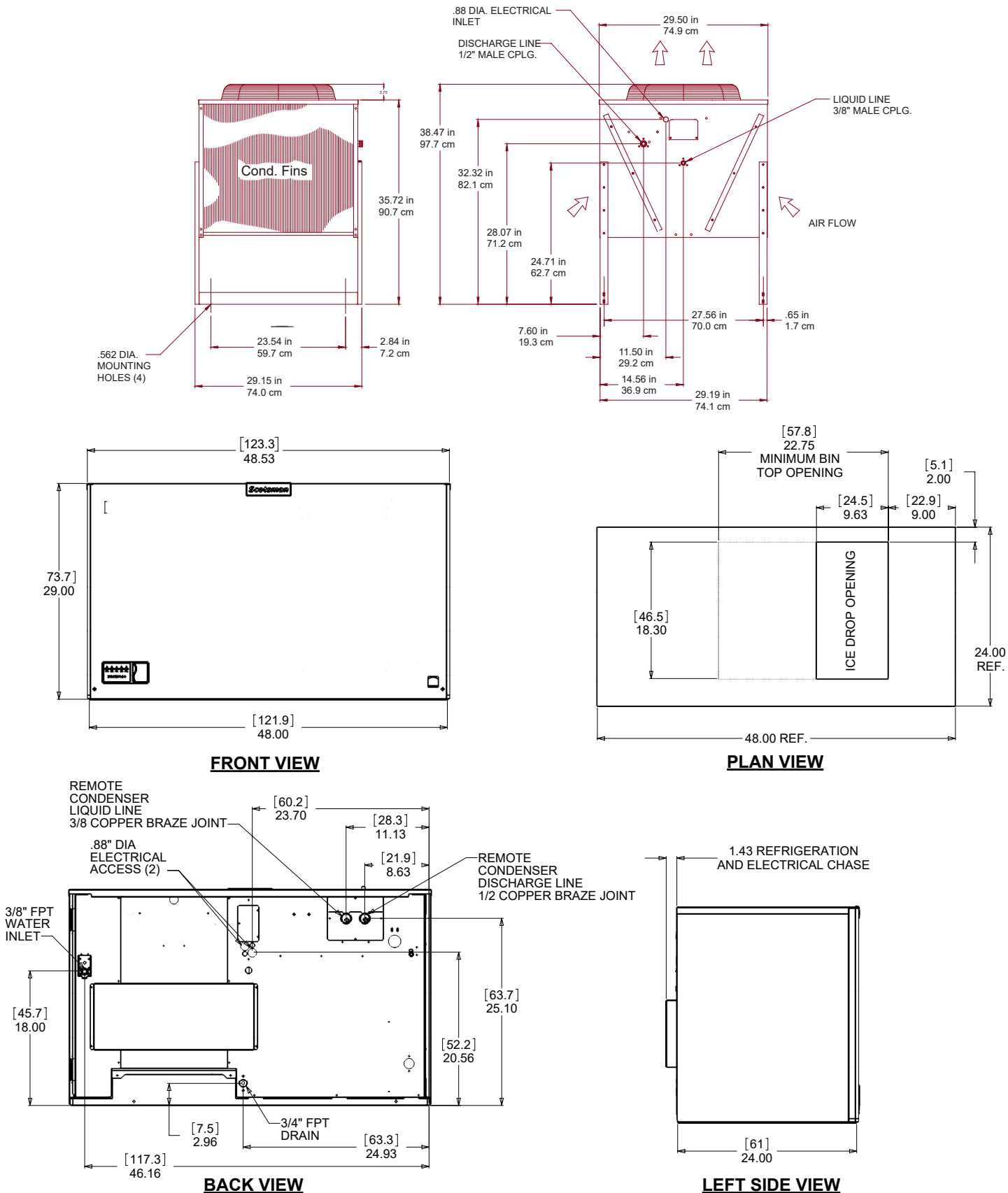
	10'	25'	40'	75'
MC1448, MC1848, MC2148	BRTE10	BRTE25	BRTE40	BRTE75

No additional refrigerant is required.

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Remote Cooled User Manual

Condenser and Machine Layouts



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Remote Cooled User Manual

Water

The quality of the water supplied to the ice machine will have an impact on the time between cleanings and ultimately on the life of the product. There are two ways water can contain impurities: in suspension or in solution. Suspended solids can be filtered out. In solution or dissolved solids cannot be filtered, they must be diluted or treated.

Scotsman filters:

A triple head filter is recommended. Either the Scotsman SSM3 taste and odor filter system, or the ADS-AP3 AquaPatrol system.

Water filters are recommended to remove suspended solids. Some filters have treatment in them for suspended solids. Check with a water treatment service for a recommendation.

RO water. This machine can be supplied with Reverse Osmosis water, but the water conductivity must be no less than 10 microSiemens/cm.

Potential for Airborne Contamination

Installing an ice machine near a source of yeast or similar material can result in the need for more frequent sanitation cleanings due to the tendency of these materials to contaminate the machine.

Most water filters remove chlorine from the water supply to the machine which contributes to this situation. Testing has shown that using a filter that does not remove chlorine, such as the Scotsman Aqua Patrol, will greatly improve this situation, while the ice making process itself will remove the chlorine from the ice, resulting in no taste or odor impact. Additionally, devices intended to enhance ice machine sanitation, such as the Scotsman Aqua Bullet, can be placed in the machine to keep it cleaner between manual cleanings.

Water Purge

Cube ice machines use more water than what ends up in the bin as ice. While most water is used during ice making, a portion is designed to be drained out every cycle to reduce the amount of hard water scale in the machine. That's known as water purge, and an effective purge can increase the time between needed water system cleaning.

In addition, this product is designed to automatically vary the amount of water purged based on the purity of the water supplied to it. The water purge rate can also be set manually. Adjustments of purge due to local water conditions are not covered by warranty.

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Remote Cooled User Manual

Panel Removal

1. Locate and disengage the two quarter turn captured screws at the bottom of the front panel.
2. Pull the front panel out at the bottom.
3. Lift the front panel up and off the machine.
4. Remove two screws at the front of the top panel. Lift up the front of the top panel, push the top panel back an inch, then lift to remove.
5. Locate and loosen the screws holding each side panel to the base. Left side panel also has a screw holding it to the control box.
6. Pull the side panel forward to release it from the back panel.

This manual covers several models of remote cubers. The model number on the ice machine can be found either on the dataplate, which is on the back panel, or the serial number tag, which is behind the front panel. See the illustration for the locations of the dataplate and the serial number tag.

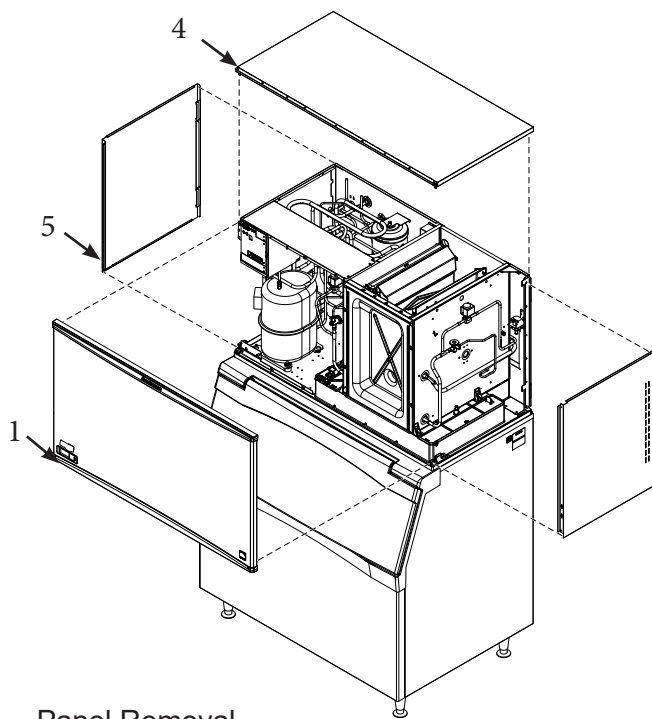
The remote condenser has a separate model and serial number. Its model and serial number is on the dataplate on the condenser near the quick connect fittings.

Write the model and serial number of the ice machine here:

Write the model and serial number of the remote condenser here:

Write the model and serial number of the ice storage bin here:

Write the day of initial start up here: That day starts the warranty period.



Panel Removal

Uncrate and Set Up

Begin with the ice storage bin. Remove the carton, and, using part of the carton as a cushion, tip the bin on its back to remove the skid. Attach the supplied legs or optional casters. Return the bin to a normal, upright position.

Check the bin top gasket for tears or gaps. If recycling an older bin, replace the gasket or repair with food grade sealant prior to placing the ice machine on the bin.

Install the bin top adapter, if one is required for the application.

If the ice machine has not been unpacked, do so now. Remove the carton from the skid. Cut away any shipping strapping. Lift the ice machine off the skid directly onto the bin.

Note: The machine is heavy. Use a mechanical lift if necessary.

Secure the ice machine to the bin with the hardware provided (two metal straps and four bolts).

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Remote Cooled User Manual

Remote Condenser Location

Use the following for planning the placement of the condenser relative to the ice machine

Location Limits - condenser location must not exceed ANY of the following limits:

- Maximum rise from the ice machine to the condenser is 35 physical feet
- Maximum drop from the ice machine to the condenser is 15 physical feet
- Physical line set maximum length is 100 feet.
- Calculated line set length maximum is 150.

Calculation Formula:

- Drop = $dd \times 6.6$ (dd = distance in feet)
- Rise = $rd \times 1.7$ (rd = distance in feet)
- Horizontal Run = $hd \times 1$ (hd = distance in feet)
- Calculation: Drop(s) + Rise(s) + Horizontal

Run = $dd + rd + hd$ = Calculated Line Length

Configurations that do NOT meet these requirements must receive prior written authorization from Scotsman.

Do NOT:

- Route a line set that rises, then falls, then rises.
- Route a line set that falls, then rises, then falls.

Calculation Example 1:

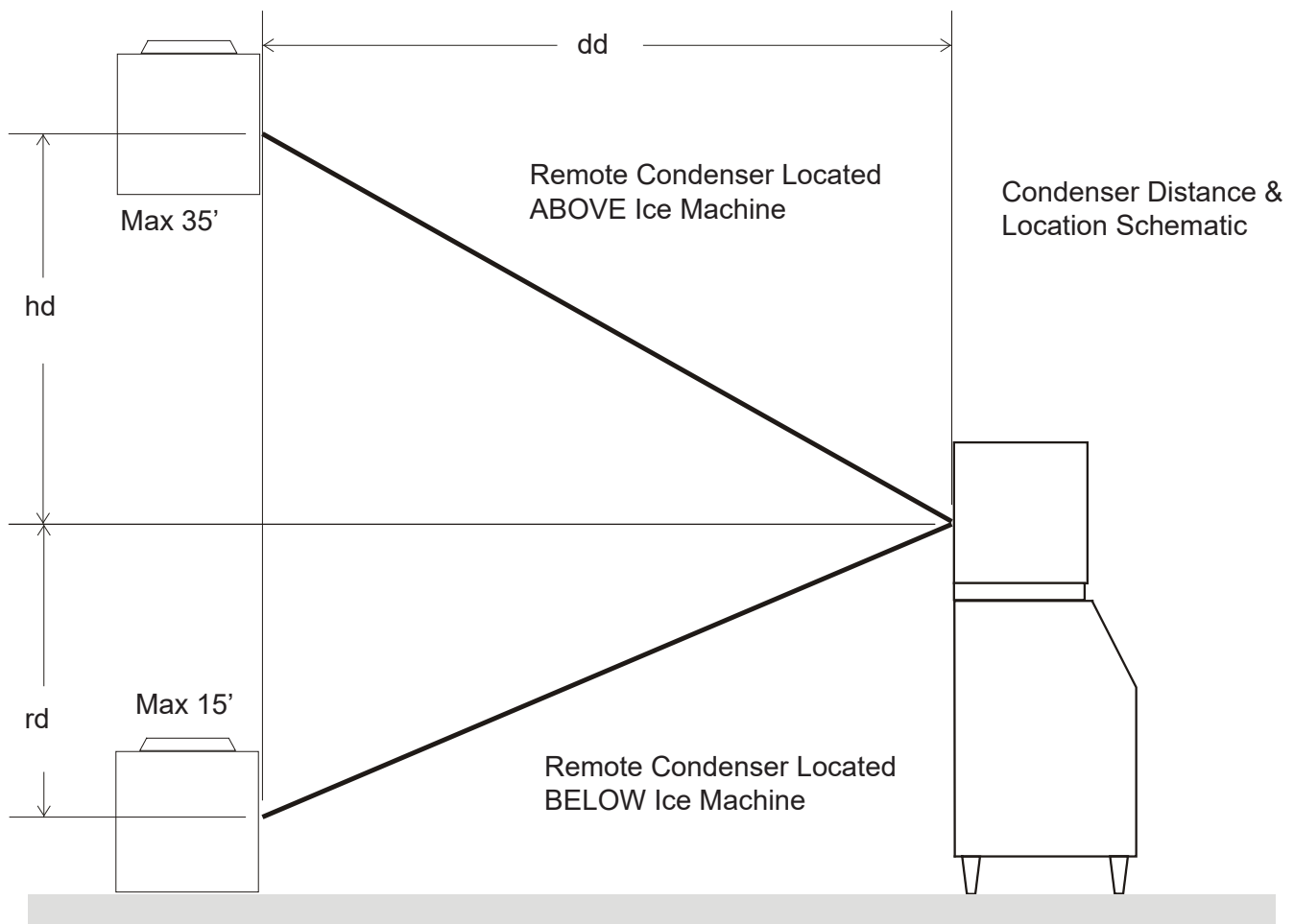
The condenser is to be located 5 feet below the ice machine and then 20 feet away horizontally.

$5 \text{ feet} \times 6.6 = 33$. $33 + 20 = 53$. This location would be acceptable

Calculation Example 2:

The condenser is to be located 35 feet above and then 100 feet away horizontally. $35 \times 1.7 = 59.5$.

$59.5 + 100 = 159.5$. 159.5 is greater than the 150 maximum and is NOT acceptable.



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Remote Cooled User Manual

For The Installer: Remote Condenser

Locate the condenser as near as possible to the interior location of the ice machine.

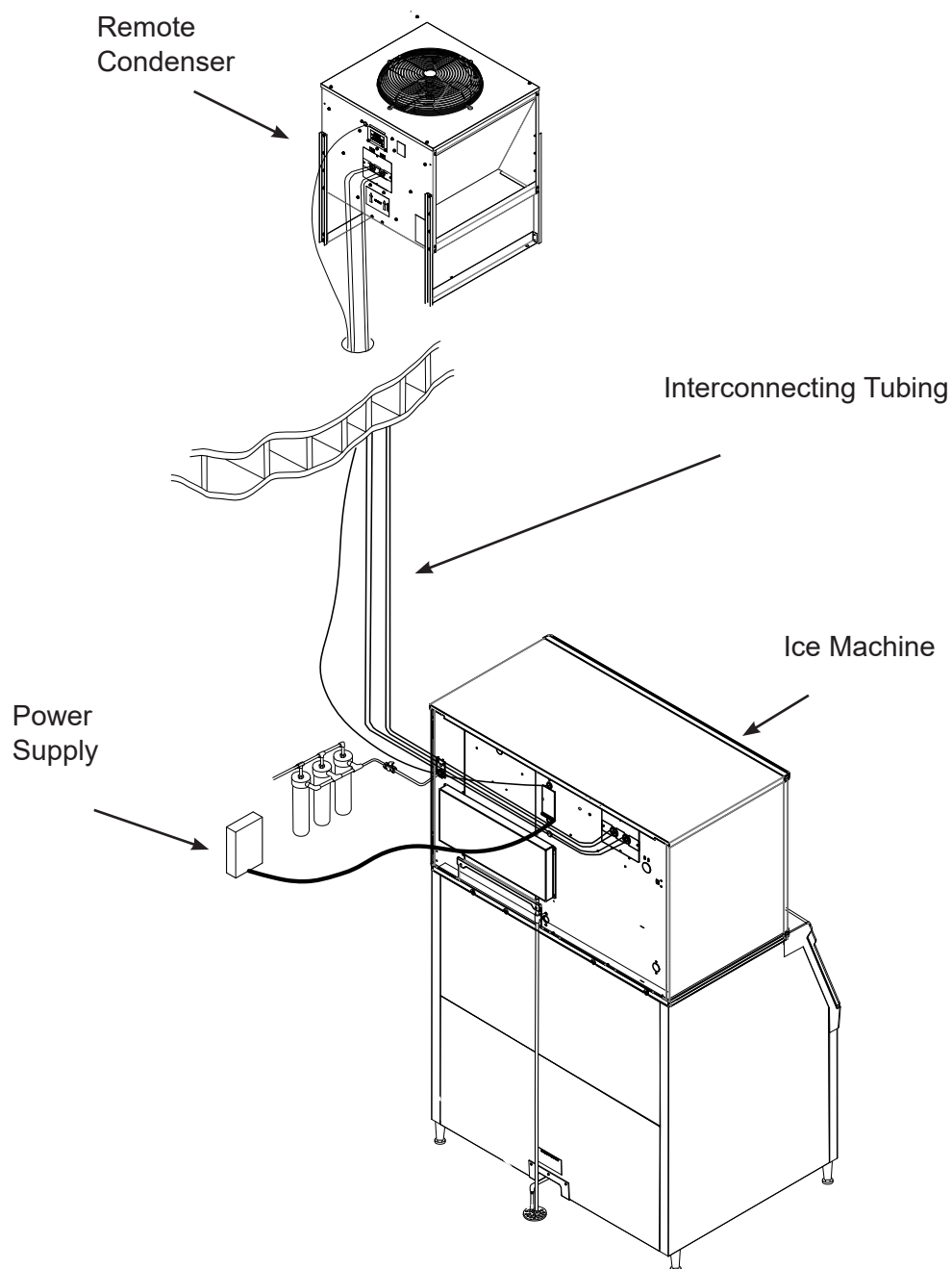
Spacing. Some unique installations have a ceiling over the top of the condenser fan. It must be at least 24 inches from the fan guard. Space at the coil sides must also be at least 24 inches from a wall.

Note: The location of the condenser relative to the ice machine is LIMITED by the specification on the prior page.

Meet all applicable building codes.

Roof Attachment

Install and attach the remote condenser to the roof of the building, using the methods and practices of construction that conform to the local building codes, including having a roofing contractor secure the condenser to the roof.



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Remote Cooled User Manual

Line Set Routing and Brazing

Do not connect the refrigerant tubing until all routing and forming of the tubing is complete. Final connections requires brazing, steps must be performed by an EPA certified type II or higher technician.

The Lineset of tubing contains a 3/8" diameter liquid line, and a 1/2" diameter discharge line.

Note: The openings in the building ceiling or wall, listed in the next step, are the minimum sizes recommended for passing the refrigerant lines through.

2. Have the roofing contractor cut a minimum hole for the refrigerant lines of 1 3/4". Check local codes, a separate hole may be required for the electrical power supply to the condenser.

Caution: Do NOT kink the refrigerant tubing while routing it.

At Condenser:

1. Remove protective plugs from both connections and vent the nitrogen from the condenser.
2. Remove the tubing access bracket to allow more room for brazing.
3. Route the lineset tubes to there connection.
4. Clean tubing ends and position into stubs.

Note: Be sure tube and stubs are round, dress with swage tool if needed.

At Head:

1. Remove the tubing access bracket to allow more room for brazing.
1. Confirm connection ball valves are fully closed.
2. Remove protective plugs from both connections.
3. Remove caps from access valve connections.
4. Remove cores from access valves.
5. Connect refrigeration hoses to access valves.
6. Connect dry nitrogen source to liquid line connection.
7. Shorten tubing to correct length, clean ends and insert them into valve stubs.

Note: Be sure tube and stubs are round, dress with swage tool if needed.

8. Add heat sink material to ball valve body.
9. Open nitrogen and flow 1 psi nitrogen into liquid line tube and braze the liquid line and suction line tubes to the valve stubs.
10. With nitrogen flowing braze the liquid and suction line connections.

At Condenser:

1. Braze the liquid and suction line connections.

At Head:

1. Remove nitrogen source.
2. Return valve cores to access valves.
3. Connect vacuum pump to **both** access valves and evacuate the tubing and head to at least a 300 micron level.
4. Remove vacuum pump and add R-404A to both tubes to provide a positive pressure.
5. Leak check the all braze connections and repair any leaks.
6. Open both valves to full open.

Note: The full refrigerant charge is contained in the receiver of the ice machine.

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Remote Cooled User Manual

Plumbing Requirements

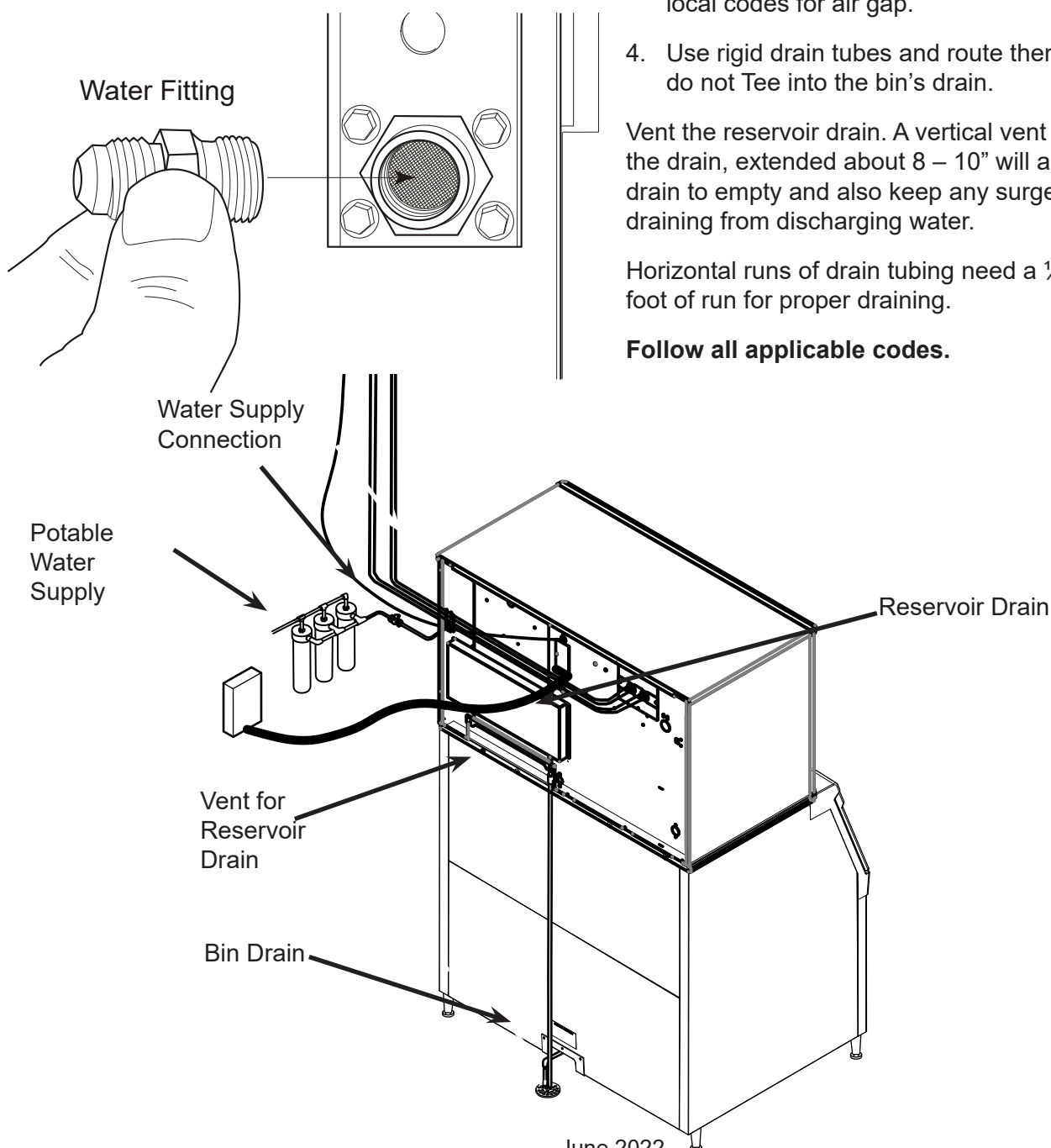
All models require connection to cold, potable water. A hand actuated valve within site of the machine is required. There is a single 3/8" FPT inlet water connection and a single 3/4" FPT drain connection.

Water Supply

Use field supplied fittings to connect potable water to the water supply connection at the back of the cabinet.

Water Filters

Install a new cartridge if the filters were used with a prior machine



Drains

All models require drain tubing to be attached to them. There is a single 3/4" FPT drain fitting in the back of the cabinet.

Install new tubing when replacing a prior ice machine, as the tubing will have been sized for the old model and might not be correct for this one.

1. Connect water supply to water inlet fittings.
2. Connect drain tubing to drain fitting.
3. Route the drain tubing to building drain. Follow local codes for air gap.
4. Use rigid drain tubes and route them separately – do not Tee into the bin's drain.

Vent the reservoir drain. A vertical vent at the back of the drain, extended about 8 – 10" will allow the gravity drain to empty and also keep any surges during draining from discharging water.

Horizontal runs of drain tubing need a 1/4" per foot of run for proper draining.

Follow all applicable codes.

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Remote Cooled User Manual

Electrical

The machine is not supplied with a power cord, the machine must be hard-wired.

The dataplate on the back of the cabinet details the power requirements, including voltage, phase, minimum circuit ampacity and maximum fuse size.

HACR type circuit breakers may be used in place of fuses. Extension cords are not permitted. Use of a licensed electrician is recommended.

The ice maker is designed to operate on its own electrical circuit and must be individually fused.

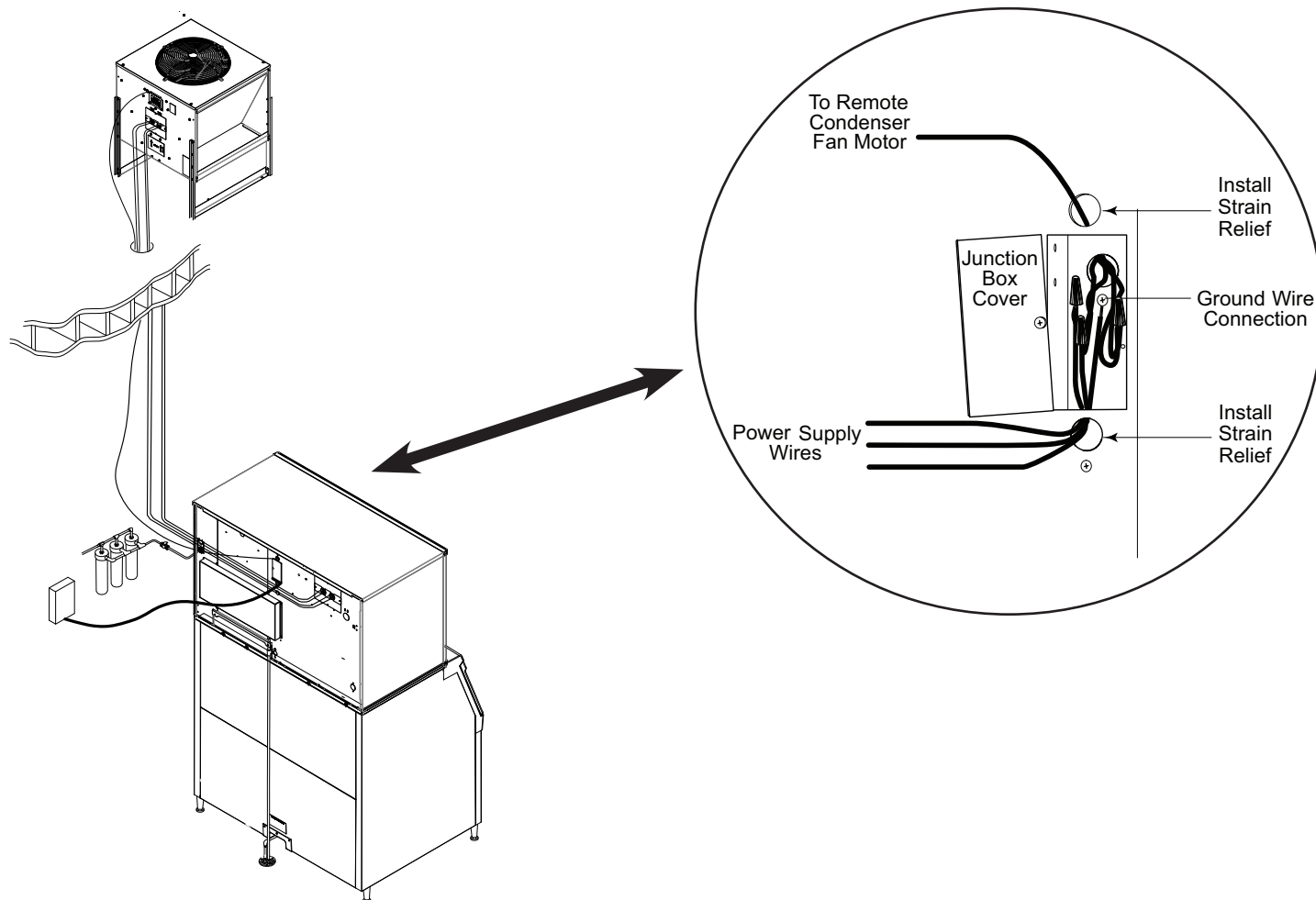
Voltage variation must not exceed the limits listed earlier.

The remote condenser is designed to be powered from the ice machine. A separate knockout hole has been provided in the ice maker electrical junction box.

Electrical connections are made inside the junction box in the back panel of the ice machine.

1. Remove the junction box cover and route the power cord through the access hole and properly attach the power supply wires to the leads in the junction box.
2. Attach the remote condenser fan motor wires to the wires in the junction box tagged "fan motor leads".
3. Install field supplied strain reliefs per code. Attach a ground wire to the ground connection in the junction box.
4. Check voltage when complete.
5. Return the junction box cover to its original position and secure with the original screws.

Follow all applicable local, state and national codes.



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Remote Cooled User Manual

Final Check List:

1. Is the unit located indoors in a controlled environment?
2. Is the condenser located where it can receive adequate cooling air?
3. Has the correct electrical power been supplied to the machine?
4. Have all the water supply connections been made?
5. Have all the drain connections been made?
6. Has the remote condenser been properly installed?
7. Has the interconnecting tubing been properly routed between the remote condenser and the ice machine?
8. Have the quick connects been properly connected?
9. Has the power supply wire from the ice machine to the remote condenser been properly run and connected?
10. Has the unit been leveled?
11. Have all unpacking materials been removed?
12. Is the water pressure adequate?
13. Have the drain connections been checked for leaks?
14. Has the bin interior been wiped clean or sanitized?
15. Have any water filter cartridges been replaced?
16. Have all required kits and adapters been properly installed?

Lower Light and Switch Panel

This user accessible panel provides important operational information and duplicates the lights and switches on the controller. It also allows access to the On and Off buttons that operate the ice machine.



Open door to access On and Off switch buttons.

Sometimes access to the switches should be limited to prevent unauthorized operation. For that purpose a fixed panel is shipped in the hardware package. The fixed panel cannot be opened.

To install the fixed panel:

1. Remove the front panel.
2. From the back side of the panel, slide the door to left while spreading the clips to remove the original door from the bezel.
3. Slide the fixed panel into bezel until it snaps into place.
4. Reinstall front panel.

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Remote Cooled User Manual

Initial Start Up

1. Remove front and left side panels. Check machine for any packing or wires rubbing moving parts. Note location of control board in upper left corner of the machine's front.
2. Switch on the electrical power to the machine. Observe that some of the control's indicator lights glow and its display shows $\square$.
3. Wait 4 hours for the compressor's crankcase heater to warm up the oil in the compressor.
4. Open the water supply valve.
5. Turn the receiver's outlet valve to the full open position.
6. Push and release the ON button.

The indicator light will begin to blink F. The purge valve will open and the water pump will start. The inlet water valve will open to add water to the reservoir. After a few seconds the purge valve will close and the water pump will stop. Water will flow into the machine until the reservoir is full. The hot gas valves and harvest assist devices will activate and the liquid line solenoid valve will open, then the compressor, remote fan motor and water pump will start. The display will show a continuous F. Five seconds later the hot gas valves will close and the harvest assist devices will return to their standby positions. Warm air will be discharged from the condenser coil.

7. During the Freeze cycle move the curtain and observe that the SW1 or SW2 light on the control board blinks ON when the curtain moves away from the evaporator and OFF when returned to its normal position.

Note: Moving the curtain during the Freeze cycle has no affect on unit operation.

8. Observe the Ready for Harvest indicator light. It may blink early in the freeze cycle, that is normal. The control will ignore that signal for the first 6 minutes of freeze.
9. When the ice has frozen enough, the Ready for Harvest indicator light will be on steady. After it's been on steady for a few seconds Harvest will begin.

10. The display shows an H.

The hot gas valves open and the harvest assist mechanisms are activated. The purge valve opens to drain some water, when it does the inlet water valve opens to refill the reservoir. After a few seconds the purge valve closes but the inlet water valve continues to fill the reservoir. Harvest continues until the ice is released as a unit from each evaporator and forces each curtain to open.

11. When both curtains have opened and re-closed the controller returns the unit to a freeze cycle.
12. Check the ice harvested for proper bridge thickness. The ice bridge is factory set at 3/16 inch. If needed, adjust bridge thickness. Do NOT make it too thin.
13. Determine the water purge setting from the table on the next page. If desired, change the setting to accommodate the local water conditions.
14. Return the panels to their normal positions and secure them to the machine.
15. Instruct the user in the operation of the machine and its maintenance requirements.
16. Fill out and mail the warranty registration form.

Typical Ice Making Cycle Times (minutes)

Listed times are for clean machines. Cycle times at startup will be longer until the system stabilizes.

Model	70°F. cond air /50°F. water	90°F. cond air /70°F. water
MC1448R	11	14-15
MC1848R	9-10	11
MC2148R	10	12

MC1448, MC1848, MC2148
Remote Cooled User Manual
Adjustments

Bridge Thickness - For the Service Tech Only

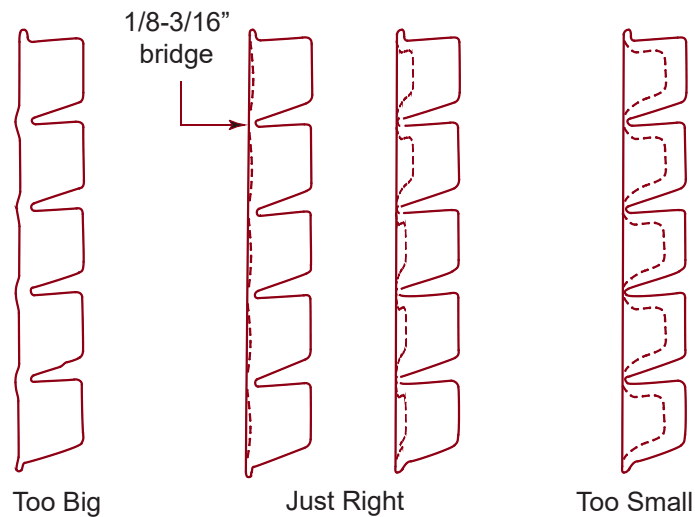
- 1. Push and hold Off till the machine stops.
- 2. Remove evaporator cover.
- 3. Remove curtain.
- 4. Use a hex wrench and rotate the bridge thickness adjustment screw in 1/8" turn increments CW to increase bridge thickness.
- 5. Rotate CCW to decrease bridge thickness.

Caution: Do not make the bridge too thin or the machine will not harvest properly. Bridge thickness adjustments are not covered by warranty.

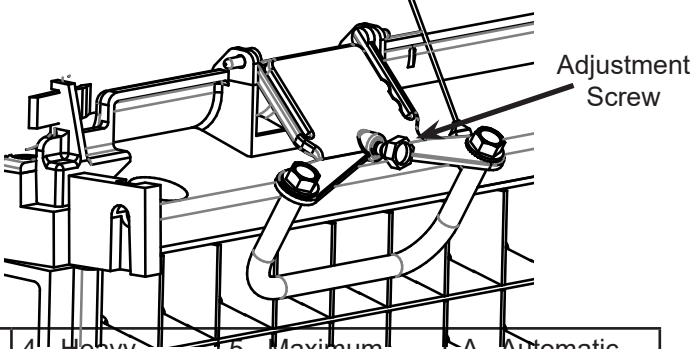
- 6. Return curtain and evaporator cover to their normal positions.
- 7. Push and release the On button. Check next harvest of ice. Repeat steps 1-6 if needed.

Ice Bridge Thickness Measurement

Note: Indentations may be deeper on MC0322 and MC0330



Bridge Thickness Adjustment Mechanism



Water Purge Setting

The water purge is factory set to the automatic position, suitable for most water conditions. The setting can be changed to one of 5 manual settings or left on automatic.

Purge setting	1 - Minimum	2 - Moderate	3 - Standard	4 - Heavy	5 - Maximum	A - Automatic
Water Type	RO water or equivalent	Low TDS non - RO water	Use for typical water	High TDS water	Very High TDS water	Any with conductivity not less than 10 microSiemens/cm

To set:

- 1. Switch the machine OFF by holding the Off button in until a number or the letter A shows on the display.
- 2. Press and release the On button repeatedly until the number on the display corresponds to the desired setting.
- 3. Press and release the Off switch again to return to the normal control state.

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Use and Operation

Once started, the ice machine will automatically make ice until the bin or dispenser is full of ice.

When ice level drops, the ice machine will resume making ice. There are four indicator lights at the front of the machine that provide information on the condition of the machine.

Caution: Do not place anything on top of the ice machine, including the ice scoop. Debris and moisture from objects on top of the machine can work their way into the cabinet and cause serious damage. Damage caused by foreign material is not covered by warranty.

Indicator Lights:

- Power
- Status
- Water
- Clean

Indicator Lights & Their Meanings					
	Power	Status	Water	De-Scale & Sanitize	Bin Full
Steady Green	Normal	Normal – bin full or making ice	-	-	Bin is full
Blinking Green	Self Test Failure	Switching on or off	-	-	
Blinking Red	-	Diagnostic shutdown or, if making ice, temperature sensor failure	Lack of water	-	
Yellow	-	-	-	Time to de-scale and sanitize	
Blinking Yellow	-	-	-	Preservation Mode is active or clean cycle is in progress	
Light off	No power	Switched off	Normal	Normal	Bin is not full

Indicator Lights & Their Meanings

If the Water light is on, the machine has sensed a lack of water. Check the water supply to the machine. The water may have been shut off or the water filter cartridges need to be changed.

If the Clean light is on, the machine has determined that it may need to be cleaned. Contact an authorized Scotsman service agent and have the machine cleaned, de-scaled and sanitized.

During normal operation, if the Clean light begins to blink yellow, the machine in Preservation mode, which initiates a timed freeze in response to short freeze errors. Contact an authorized Scotsman service agent to service the machine immediately. It is likely that the machine needs to be cleaned (de-scaled and sanitized), but may need additional service.

Note: A Component Indicator Light switches ON to indicate that the component is operating.

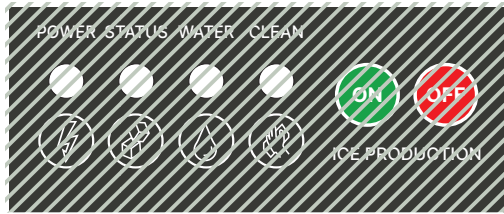
Note: There are two Curtain Switch lights, SW1 and SW2. A curtain switch light is ON when a curtain is either open or not present.

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Control Switches

The On and Off switch buttons are front accessible.



To switch the machine OFF, push and release the Off button. The machine will shut off at the end of the next cycle. To shut the machine off immediately, push and hold the Off button for 3 seconds.

To switch the machine ON, push and release the On button. The machine will go through a start up process and then resume ice making.

Control Options

There are two optional, field installed controls that can be added to this machine.

- Vari-Smart™ adjustable ice level control
- Smart-Board™ advanced control board and data logger

Adjustable ice level control

When this option is present there is an adjustment post and an additional indicator light to the right of the controller switches. The ultrasonic ice level control allows the user to control the point that the ice machine will stop making ice before the bin or dispenser is full. Reasons for this include:

- Seasonal changes in ice used
- Planning to sanitize the bin
- Faster turnover for fresher ice
- Certain dispenser applications where maximum ice level is not desired

Note: Ice will build up in the bin or dispenser at an angle, the distance set will be from the sensor to the top of the ice. The sensor position is shown in the cabinet layout diagrams.

The actual distance between the highest point of the ice may be closer or further away than the distance set, depending upon the angle of the ice.

Use of control



There are several positions the ice level can be set to, including Off or Max (knob and label indicators lined up), where it fills the bin until the standard bin control shuts the machine off. See the kit's instructions for complete details.

Rotate the adjustment post to the desired ice level. The machine will fill up to that level and when it shuts off the Bin Full indicator light will be On.

Ice

The cuber drops ice in large sections. That ice will break up into random parts as it falls into the bin, but some large sections may remain on top of the ice in the bin. In a dispenser, this ice will break up into mostly individual cubes as the dispense mechanism moves the ice. The ice in the bin will normally slope down from the right to the left.

Heat

When making ice, air-cooled models will discharge hot air out the back of the cabinet.

Noise

The ice machine will make noise when it is in ice making mode. The compressor, fan motor(s) if air cooled, and water pump all produce some sound. It is also normal to hear some cracking just before the harvest cycle begins. In addition, during the harvest cycle the harvest mechanism may click twice as it pushes the ice out and returns to its normal position. The ice harvests as a unit or slab, which makes some noise when it impacts the bin or dispenser. These noises are all normal for this machine.

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Cleaning, Sanitation and Maintenance

This ice system requires three types of maintenance:

- Remove the build up of mineral scale from the ice machine's water system and sensors.
- Sanitize the ice machine's water system and the ice storage bin or dispenser.
- Clean condenser

It is the User's responsibility to keep the ice machine and ice storage bin in a sanitary condition. Without human intervention, sanitation will not be maintained. Ice machines also require occasional cleaning of their water systems with a specifically designed chemical. This chemical dissolves mineral build up that forms during the ice making process.

The ice machine's water system should be cleaned and sanitized a minimum of twice per year. Sanitize the ice storage bin as frequently as local health codes require, and every time the ice machine is cleaned and sanitized.

Preparing to Clean:

1. Remove the front panel.
2. Remove the evaporator cover.

Scale Removal:

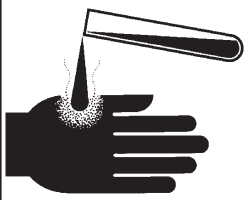
3. Push and release the Clean button. The yellow Clean light will blink and the display will show . The machine will harvest any ice, drain the reservoir and begin to refill it.
4. Observe code display, when it blinks the characters "F I I" immediately go to the next step.
5. Pour the below specified amount Scotsman Clear 1 ice machine scale remover into the reservoir. The unit will circulate the scale remover, then drain and flush it. This will take 35 minutes, then the machine will stop and the display will show .

MC1448, MC1848	24 ounces
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Note: Using chemicals or dilution ratios other than what is specified will damage the ice machine and significantly affect the performance and life of the ice machine.

Clean internal parts:

6. Mix



CAUTION Ice machine cleaner contains acids. Acids can cause burns.

If concentrated cleaner comes in contact with skin, flush with water. If swallowed, do NOT induce vomiting. Give large amounts of water or milk. Call Physician immediately. Keep out of the reach of children.

cleaning solution of 6oz of Scotsman Clear 1 scale remover with 9 cups (72oz) of 105-115° F potable water.

7. In a separate bucket, mix a sanitizing solution of 1.6 oz of Nu-Calgon IMS Sanitizer with 1 gallon (128 oz) of 105-115 degree F. potable water.
8. Remove air filter(s)(if applicable), water level sensor and housing, water distributor(s), curtain(s), ice thickness sensor, and splash panel for additional cleaning.
9. Soak and scrub each part (including the evaporator cover!) using the previously prepared solution of Scotsman Clear 1 scale remover and a nylon brush, and then rinse with water. Save scale remover solution.
10. Soak and scrub each part using the previously prepared sanitizing solution. No rinse needed. Save sanitizing solution.
11. Using a non-metallic scouring pad, scrub spillway with sanitizer to remove any material buildup and debris.
12. Reinstall ice thickness sensor, curtain(s), splash panel, water distributor(s), and water level sensor in their original positions. Be sure water level sensor and ice thickness sensor are completely dry.

Sanitize:

13. Push and release the Clean button. The yellow Clean light will blink and the display will show . The machine will go through a harvest cycle, drain the reservoir and begin to refill it.
14. Observe code display, when it blinks the characters "P I" immediately go to the next step.
15. Pour the previously prepared sanitizing solution into the reservoir until it is full. The unit will circulate the sanitizer, then drain and flush it. This will take 35 minutes, then the machine will stop and the display will show .
16. Remove all ice from storage bin or dispenser and sanitize bin or dispenser with remaining sanitizing solution while machine completes sanitizing cycle. Pour excess sanitizer down drain.

Finish Cleaning Process:

17. Reinstall evaporator cover and front panel (with air filter(s) if applicable) in their original positions.
18. Push and release the "ON" button to resume ice making.

Want more detail?

Scan QR Code to download the Scotsman IcelinQ™ App to connect to this machine via Bluetooth and access the self-guided cleaning process.



Additional maintenance:

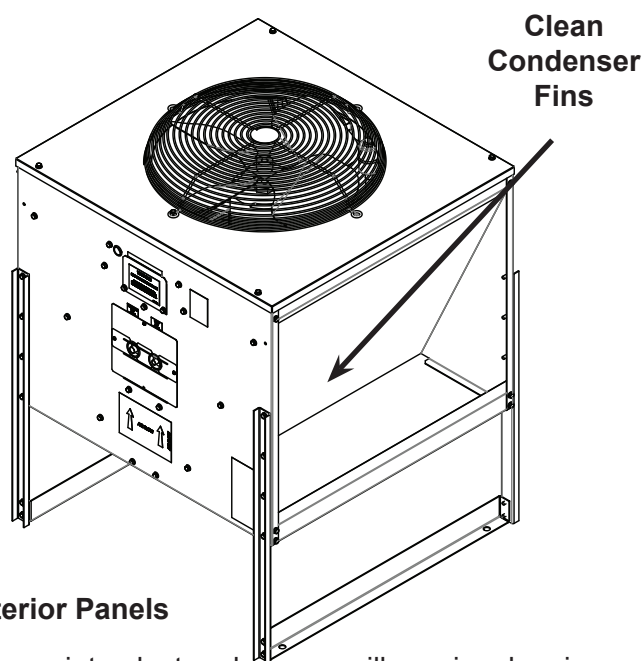
Remote Condenser

The condenser fins will need to be cleaned.

Push and release the Off button. Wait until the machine stops.

Note: Lock out the controller or the ice machine power supply to prevent an unauthorized fan motor restart.

If there is imbedded grease, use a commercial coil cleaner to wash out the grease. Dust can be blown out with compressed air from the inside or use a vacuum cleaner and soft brush. Be careful not to damage the condenser's fins. Use a fin comb to straighten any bent fins.



Exterior Panels

Fingerprints, dust and grease will require cleaning with a good quality stainless steel cleaner.

Water filters

If the machine has been connected to water filters, check the cartridges for the date they were replaced or for the pressure on the gauge. Change cartridges if they've been installed more than 6 months or if the pressure drops too much when the ice machine fills with water.

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What to do before calling for service

Reasons the machine might shut itself off:

- Lack of water.
- Freeze cycle takes too long.
- Harvest cycle takes too long.
- High discharge temperature.
- Controller self test failure.

Check the following:

1. Has the water supply to the ice machine or building been shut off? If yes, the ice machine will automatically restart within 25 minutes after water begins to flow to it.
2. Has power been shut off to the ice machine? If yes, the ice machine will automatically restart when power is restored.
3. Has someone shut the water off to a water cooled unit? If yes, after the water supply has been restored the ice machine may need to be manually reset.
4. Is the curtain open because some ice is stuck under it? If so, remove the ice and the machine should start in a few minutes.

To Manually Reset the machine.

- Open the switch door
- Push and release the Off button.
- Push and release the On button.

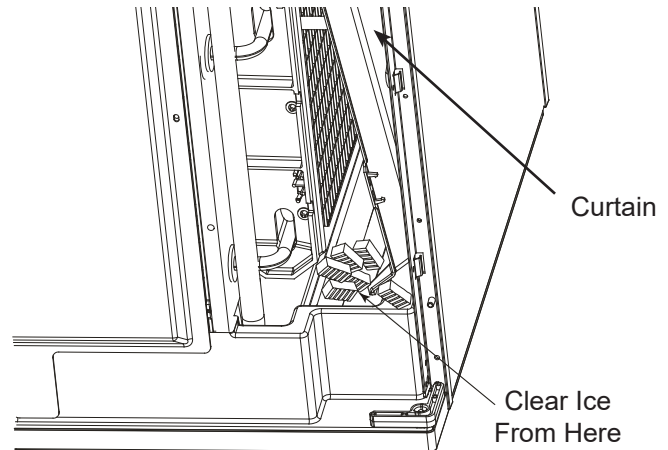
To Shut the Machine Off:

1. Push and hold the Off button for 3 seconds or until the machine stops.



Open Door to Reset or Switch Off

Note: Curtain can be removed & replaced anytime the machine is in a standby mode or when it is in a freeze cycle. However, removal of the curtain during freeze will result in water flowing into the bin. Removal of the curtain during harvest terminates harvest at that point and, if left off, will result in the machine shutting off.



Clear Ice From Beneath Curtain

Scotsman ICELINQ® Mobile App

All Prodigy ELITE® models are Bluetooth® enabled and are compatible with the Scotsman ICELINQ® app, available on both the Apple App Store and Google Play Store.

The ICELINQ mobile app uses Bluetooth connectivity to allow users to easily monitor, control, and maintain their machine:

- View machine status
- Control machine operation
- Adjust machine settings
- View active errors with troubleshooting tips
- Initiate self-guided cleaning
- Access service resources and warranty info



Scan QR Code to download the
Scotsman ICELINQ® App

SCOTSMAN ICE SYSTEMS

101 Corporate Woods Parkway

Vernon Hills, IL 60061

www.scotsman-ice.com

800-726-8762

