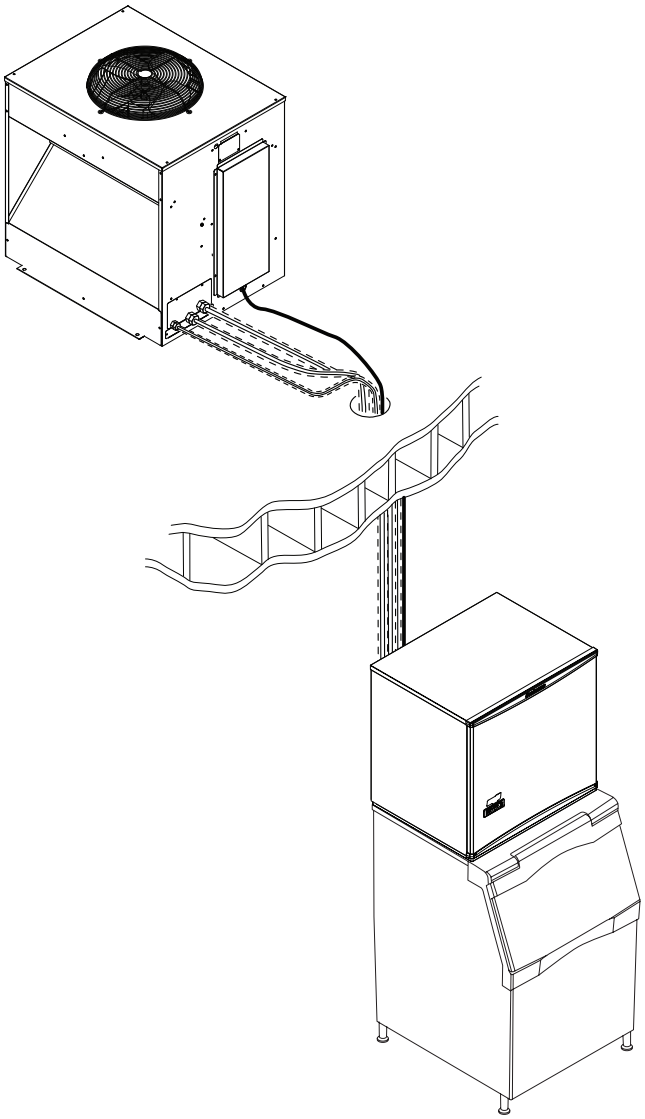
Scotsman®
Ice Systems

Installation and User's Manual for Remote Low Side Modular Cuber **Prodigy Elite® A Series** Models MC330X and MC430X with ECCX Condensing Unit ECC1200X, ECC1410X, ECC1800X



PRODIGY® ELITE

MC330X, MC430X, and ECCX Condensing Unit
Remote Low Side 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.

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.

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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

A remote low side cuber system includes two sub systems: an ice head section and a remote condensing unit. Additionally, there are several models of each sub-system and this manual covers all of them.

The ice making sections are designed for use indoors in a controlled environment. The remote condensing units are designed to operate outdoors. Each sub-system has limits for power, water and temperature.

Operational Limitations:

Condition	Minimum	Maximum
Air Temp (IH)	50°F	100°F.
Air Temp (CU)	-20°F.	120°F.
Water Temp	40°F.	80°F.
Water Pressure	20 psi	80 psi
Water Conductivity	10 microSiemens/cm	
Voltage (IH)	104	126
Voltage (CU)	198	253

IH = Ice Head, CU= Condensing Unit

Do Not operate the machine in conditions beyond these limitations. Doing so will void the warranty.

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.

Warranty

Refer to the warranty coverage in effect when the equipment was sold. Warranty statements are included with each product.

Systems:

Each sub-system is a separate entity that carries its own model and serial number. They must be combined to create a remote cuber low side system.

Notes: Voltage Codes are at the end of the model number. Codes read Voltage/Hertz/Phase. Those related to these products include:

-1 = 115/60/1

-3 = 208-230/60/3

-32 = 208-230/60/1

Tubing kits are required to interconnect the head to the CU

- 20 foot: 3BRTE20-EH,
- 35 foot: 3BRTE35-EH
- 50 foot: 3BRTE50-EH
- 75 foot: 3BRTE75-EH

Interconnecting 24 volt control wire ships in the condensing unit.

Warning:

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

System Information

Prodigy Eclipse System Size	Condensing Unit (CU)		Ice Making Head (IH)	
	Model	Electrical (volts/Hz/phase)	Model	Electrical (volts/Hz/phase)
1200	ECC1200X-32A	208-230/60/1	MC330SLX-1A or MC330MLX-1A	115/60/1
1400	ECC1410X-32A	208-230/60/1	MC430SLX-1A or MC430MLX-1A	115/60/1
1400	ECC1410X-3A	208-230/60/3	MC430SLX-1A or MC430MLX-1A	115/60/1
1800	ECC1800X-3A	208-230/60/3	MC430SLX-1A or MC430MLX-1A	115/60/1

Technical Specifications

Model	Electrical (volts/Hz/phase)	Minimum Circuit Ampacity	Maximum Fuse Size	System Charge oz of R-449A	Cabinet Size* w" x d" x h"	Approx. Unit Weight (lb)
MC330SLX-1A	115/60/1	3	15	-	30 x 24 x 23	130
MC430SLX-1A	115/60/1	3	15	-	30 x 24 x 29	165
ECC1200X-32A	208-230/60/1	17.7	30	248	32 x 39 x 39.75	310
ECC1410X-3A	208-230/60/3	11.6	20	248	32 x 39 x 39.75	332
ECC1410X-32A	208-230/60/1	15.8	30	248	32 x 39 x 39.75	332
ECC1800X-3A	208-230/60/3	19.0	30	232	32 x 39 x 39.75	310

* See Cabinet Drawings for exact dimensions.

Location Limitations

Maximum Distance between Head and Condensing Unit: Limited to the length of the longest available single tubing kit, 75 feet.

Maximum Condensing Unit Elevation over Ice Making Head: 35 feet.

Note: Elevations greater than 20 feet require installation of a suction line trap at the 20 foot mark.

Maximum Ice Making Head Elevation over Condensing Unit: 15 feet.

Line Routing:

- Allowed: One rise after a drop.
- Allowed: One drop after a rise.
- Not Allowed: More than one rise after a drop
- Not Allowed: More than one drop after a rise.

Model Number Locations

Ice Making Head

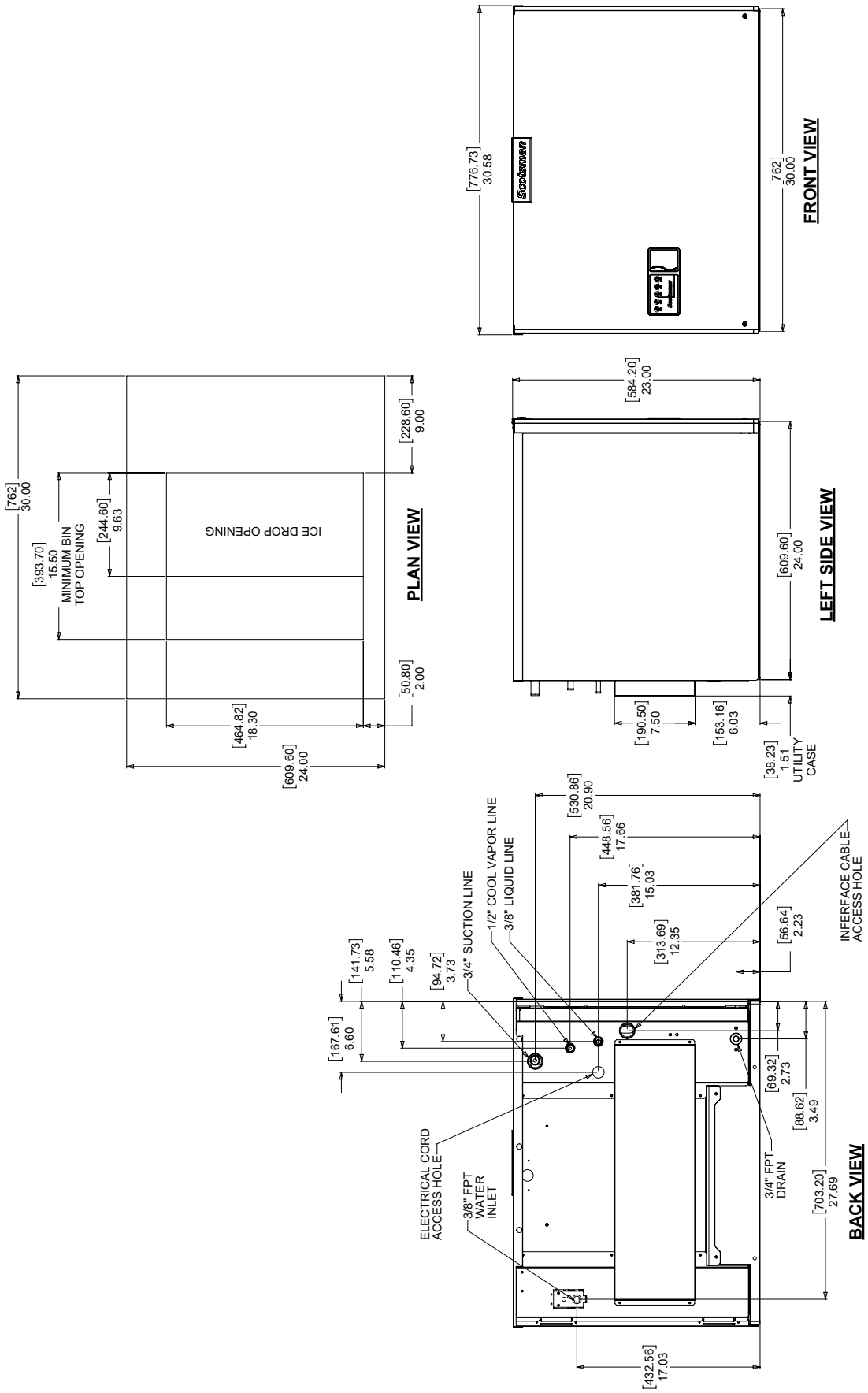
The dataplate on the back of the ice machine contains the model number, serial number and electrical data.

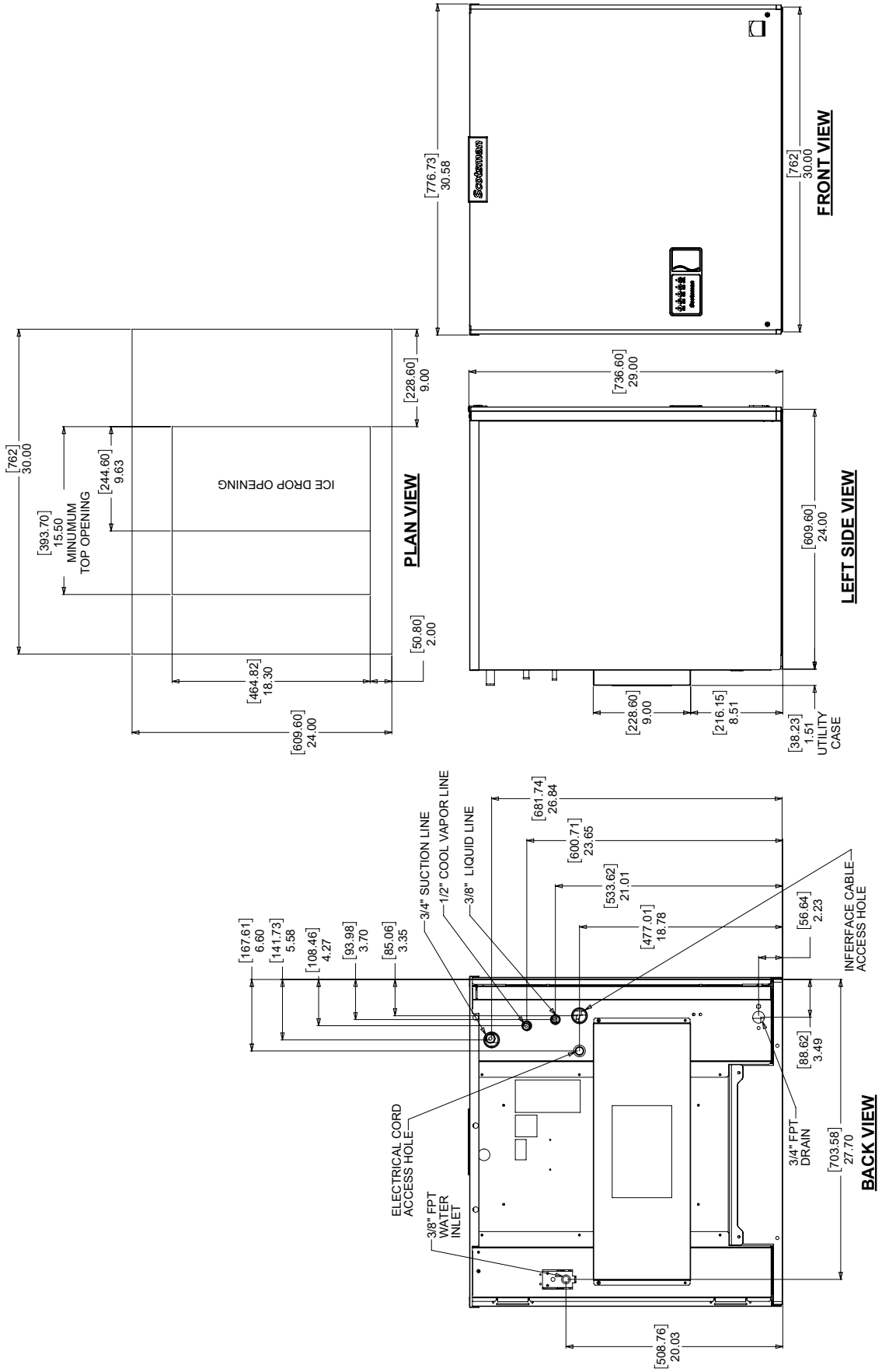
A second plate, located behind the front panel at the lower right front, also lists the model and serial numbers.

Condensing unit

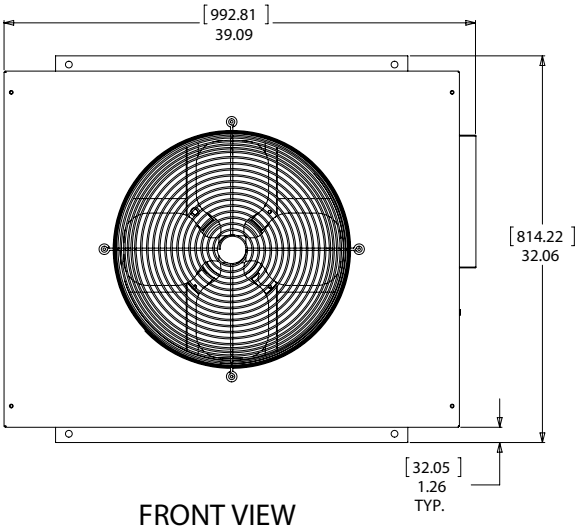
The dataplate on the condensing unit contains the model number, serial number, electrical data and system refrigerant charge.

A second plate, located behind the front panel in front of the compressor, also lists the model number, serial number and refrigerant charge.

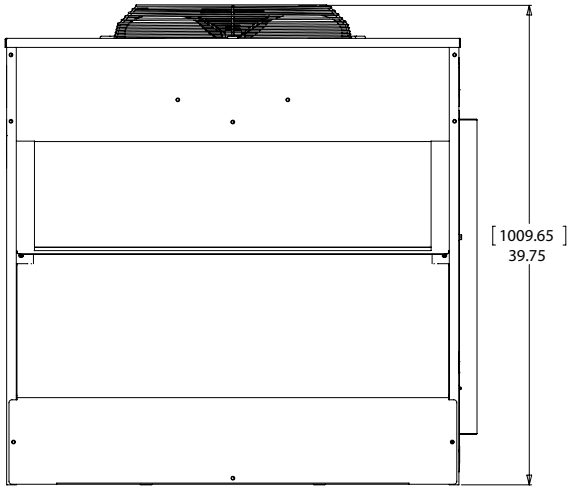

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3/8" LIQUID LINE
3/4" SUCTION LINE
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ELECTRICAL CORD ACCESS HOLE
3/8" FPT WATER INLET
3/4" FPT DRAIN
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BACK VIEW


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3/4" FPT DRAIN
ELECTRICAL CORD ACCESS HOLE
3/8" FPT WATER INLET
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TOP VIEW

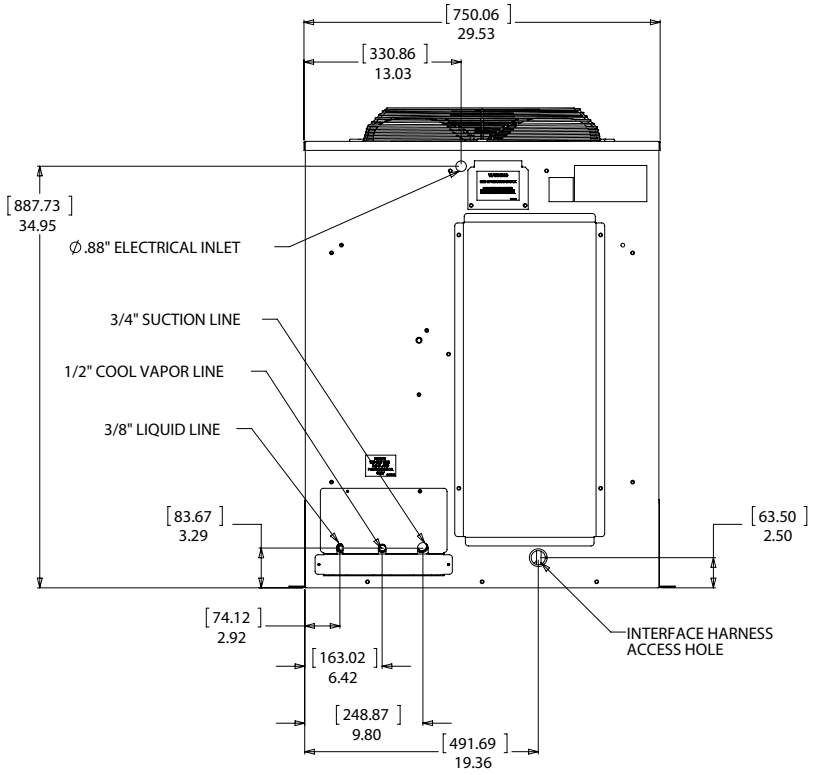


FRONT VIEW



SIDE VIEW

LINE SET AND ELECTRICAL ATTACHMENT SIDE



Note: The ice making head cannot be stacked vertically.

Accessories such as bin adapters and tubing kits are required to complete the installation.

Dispenser Adapter Kits:

- Scotsman IOD200 or IOD250: KBT84
- Cornelius ED200: 620201017TE*
- Cornelius DF200: 08004*
- Cornelius ED250: 620201017TE, KBILC**
- Cornelius DF250: 08004*, KBILC**
- Cornelius ED300: 629087943*
- Cornelius DF300: 629087943*
- Cornelius Flavor Fusion 25S: KBILC**629088505*
- Cornelius IDC215/ID25S: KBILC** 629088536*
- Lancer 30” Wide: 82-4059*, KBILC**
- SerVend S-200/SV-200: N3-5031125* CL10-5012116*
- Coca-Cola Freestyle 7000: KVS, or KBILC, Contact Coca-Cola for bin adapters

*Non-Scotsman kits must be purchased from the dispenser manufacturer.

**Recommended but not required.

Bin Adapter Kits:

- B842S: KBT29
- B948S: KBT228

Tubing Kits:

- 20 foot: 3BRTE20-EH
- 35 foot: 3BRTE35-EH
- 50 foot: 3BRTE50-EH
- 75 foot: 3BRTE75-EH

Note: Line set may have quick connects. See refrigeration system detailed instructions connection details.

Items required for installation:

- Ice making head
- Condensing unit (includes interconnecting control system wire)
- Tubing kit. 20’, 35', 50’ or 75’ triple line set (liquid, vapor and suction)
- Bin or dispenser adapter

Special Considerations

The ice making section’s footprint is 30” wide by 24” deep plus another 1.5” for a utility chase on the back panel. The refrigeration connections can be made to go up or out the back by bending the line set tubing. The electrical power cord and the water inlet line can also be routed through either of those areas. The drain may be routed out the back or to the left side.

Water

Pure water does not exist. All water supplies contain some amounts of impurities, although potable water is, by definition, fit for human consumption. Because the contents of the water to an ice machine directly impact its performance, consideration should be given to improving the water’s quality.

There are two ways water can contain impurities: in suspension or in solution. Suspended solids can be filtered out of the water. In solution or dissolved solids must be diluted or treated. Water filters are recommended to remove the suspended solids.

Some filters or filter systems have treatment chemicals in them for treating the suspended solids.

This ice machine has an adjustment for the amount of water rinsed or purged. Water use adjustments are customer convenience adjustments; they are not factory defects and are not covered by warranty.

Plan the installation. The system consists of three parts: the ice making head, the condensing unit and the interconnecting tubing. Of these, the biggest variable is the interconnecting tubing.

Tubing: The tubing consists of three insulated and sealed soft copper tubes. One tube, the liquid line, is 3/8” OD. The vapor tube is ½” OD and the suction tube is ¾” OD. A site inspection will determine what length of tubing is required for the installation.

In 2013 Scotsman made a change to the Eclipse tubing kits:

- Prior Tubing Kits: They each contain a small holding charge of R-449A and have quick connects at the ends.
- Current Tubing Kits: The do not contain any refrigerant and do not have quick connects.

Either type can be used to connect the head and condensing unit.

Quick Connect type: Check ice making head and condensing unit for quick connects. If none, recover refrigerant from tubing and cut the quick connects off.

If the head or condensing unit has a quick connect, recover refrigerant and only cut off the quick connect at the system with the stub connections.

Tubing without quick connects: Check head and condensing unit, if neither have quick connects, use as is. If one or both do, obtain kit KTE6 to add quick connects to the line set.

Excess tubing must be shortened at the job site.

Installations with greater than 20 feet of vertical lift between ice machine and the compressor require a suction line trap. The suction line requires careful handling and large radius bends to prevent kinking.

Roof mounting: Some installations will require the use of a hoist to lift the components to the roof.

Pad mounting: The condensing unit may be located below the ice making section, up to a limit of 15 feet.

Distance from unit: Limited to the length of the available tubing.

Elevation: Condensing unit limited to 35 feet above the ice making head.

Condensing Unit: Electrical power must be supplied to the condensing unit, it will be separate from the head.

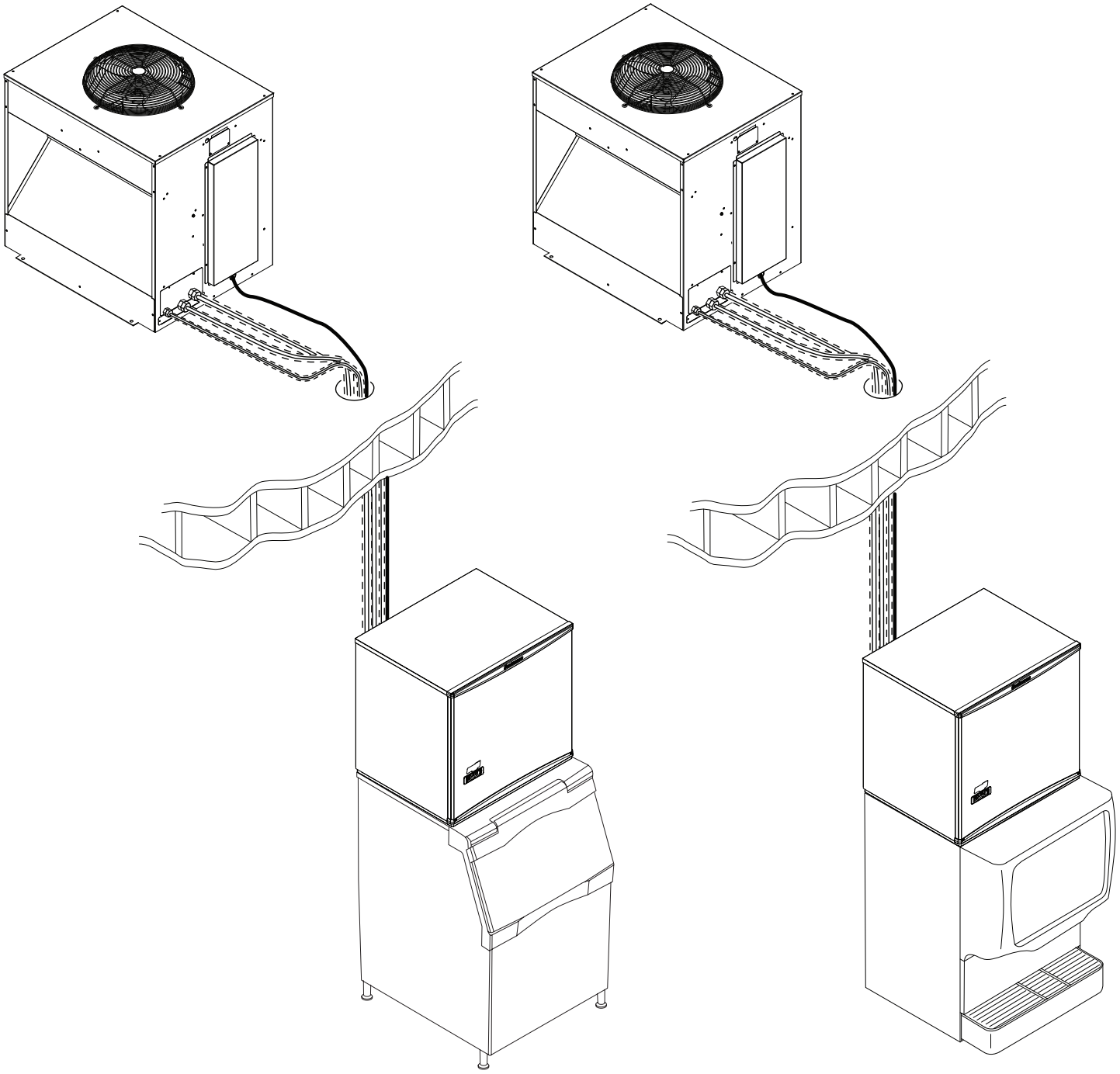
The remote tubing connections are at the top of the machine, and connections should not be made until the machine is nearly in its final installed position.

The 115/60 Hz ice making section is cord connected and requires an outlet within 6 feet of the installation.

Interconnecting wires: A low voltage interconnecting wire harness is included with the condensing unit. One end plugs into the ice making head and the other into the condensing unit. The system will NOT operate without this harness.

Exposed tubing: Minimize the amount of tubing exposed outdoors.

System Example



Roof preparation

Most installations of this system will place the condensing unit on the roof of a building. The roof must be physically able to accept the load of the equipment and the roofing material must be prepared to prevent water leaks.

Follow local codes for the placement and attachment of the equipment.

Location

The condensing unit requires unobstructed air flow to operate efficiently. A four foot space between each intake side and a wall or other cabinet is recommended.

Do not place where it will pick up hot discharged air from an air conditioner or other refrigeration system condensing unit.

Space must also be reserved for service on the condensing unit.

Roof Piercing:

The roof (or wall) must have an opening large enough for the three refrigeration tubes and the control wire to pass through. The minimum recommended size is 4” ID. In most areas the power supply may also pass through the same passage. If there isn’t a passage one must be created. In most cases this must be done by a licensed and bonded roofer in order to maintain the roof’s integrity.

In all cases the line set will need to be shortened to fit.

Do NOT leave excess line set exposed outdoors, especially on a roof.

Refrigerant Recovery and System Evacuation Notice

In the event the refrigerant must be recovered from this system and the system evacuated, recover and evacuate from the three ball valve access valves.

Roof Pipe Curb or Pitch Pocket:

To avoid potential kinking of the refrigeration tubing, avoid small, tight radius types of covers on pitch pockets.

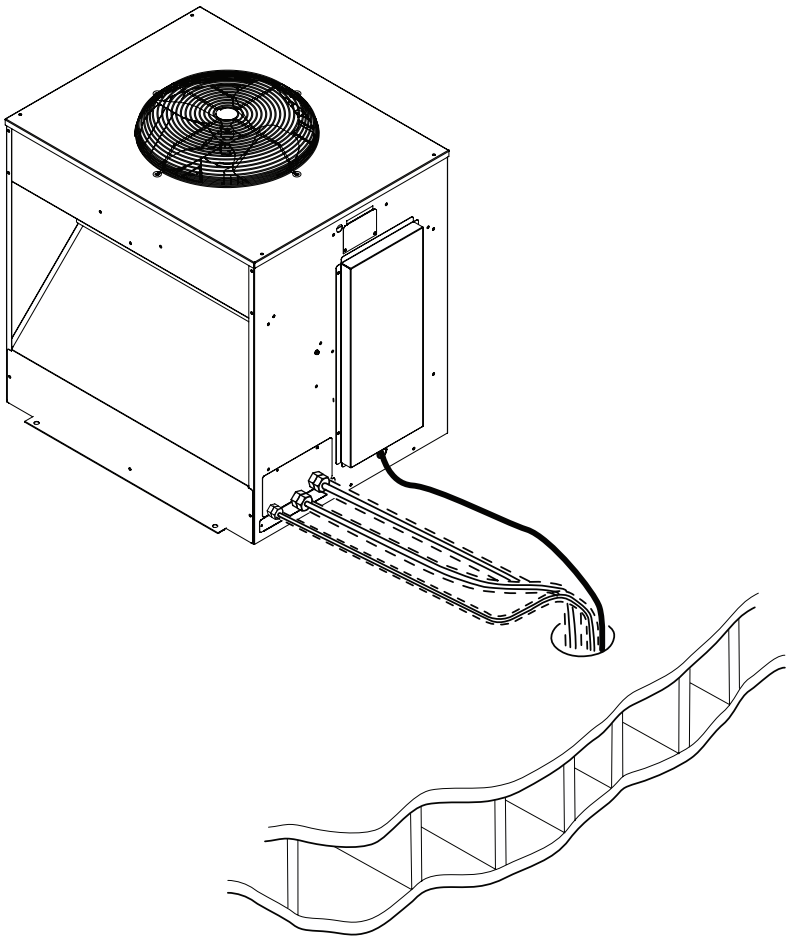
Suggestions:

In most cases a mechanical lift, boom truck or crane will be required to hoist the condensing unit.

Mount unit to roof rails or curbs and secure with lag screws or similar field supplied fasteners.

Orient the assembled unit so that the unit’s mounts are parallel to the pitch of the roof to allow water to drain freely.

Do NOT place the unit directly onto roof rock.



Place Ice Making Head

Remove from carton.

Remove all panels.

Utility Connection Route:

Electrical: The unit is supplied with a power cord. There is also an interconnecting control wire that must be routed between the ice making head and the condensing unit.

Water Supply: The water supply can be routed from the top or back.

Drain: The drain must be routed out the back.

Refrigeration Tubing: Field bending will allow the tubing to be routed up or towards the back.

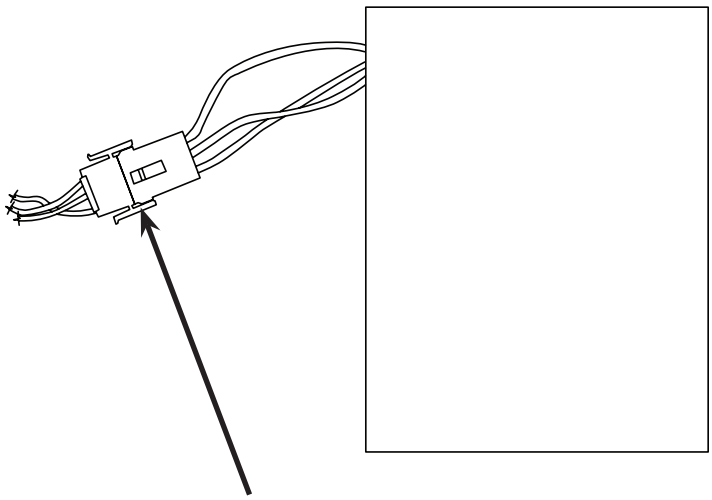
Adapters:

In many cases an adapter kit will be required when placing the head unit on a bin or dispenser. See sales information for the correct kit. Place adapter kit onto bin or dispenser top. If adapter does NOT have gasket tape install tape such as Scotsman part number 19-0503-04.

Note: External drain tubing must be supported to insure that it does not move and kink the internal rubber tube.

Communication Cable

Plug the interconnecting communication cable into the harness at the back of the head unit's electrical box.



Connect Communication Cable Here

Condensing Unit Electrical

Route interconnecting control wire through proper hole in side of CU unit and plug into the connection on the side of the control box.

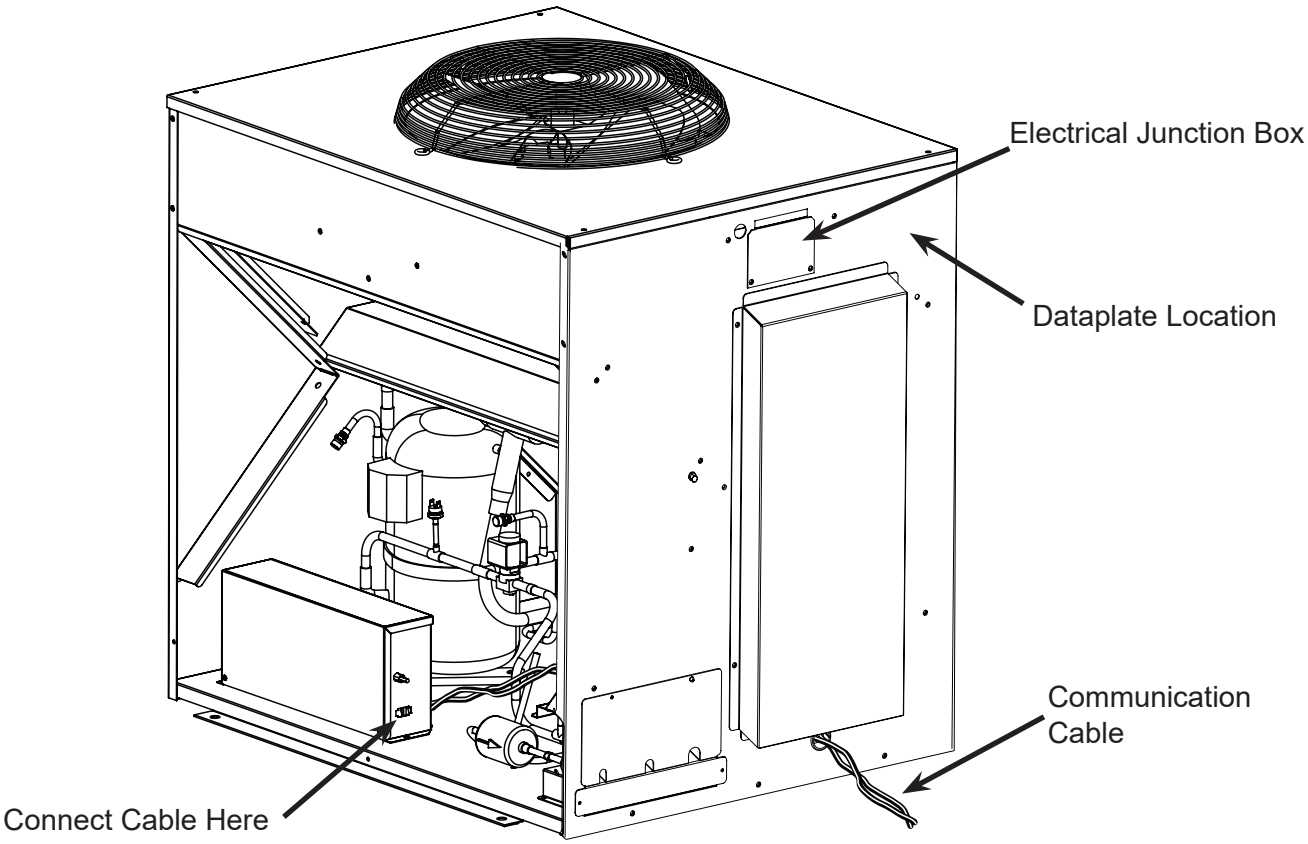
Route power conduit (liquid tight) and wires to the hole in the side of the CU unit. Connect to wire leads or terminal strip, if used, with the proper type of connector.

Note: The power supply wires must be the correct size and type per the National Electric Code.

Locate the nameplate on the CU unit for the Voltage, Phase, Minimum Circuit Ampacity and Maximum Fuse Size. Either fuses or HACR type circuit breakers may be used.

Follow all Local, State and National Codes.

Three Phase Notice: Check voltage between legs at contactor. If there is a “wild leg” in the three phase power supply move supply wires so the higher voltage is on L3 of the contactor, which connects to the compressor motor only.



Water and Drain

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

Water Filters

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

All models require drain tubing to be attached to them. There is a single ¾” 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 fitting.

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

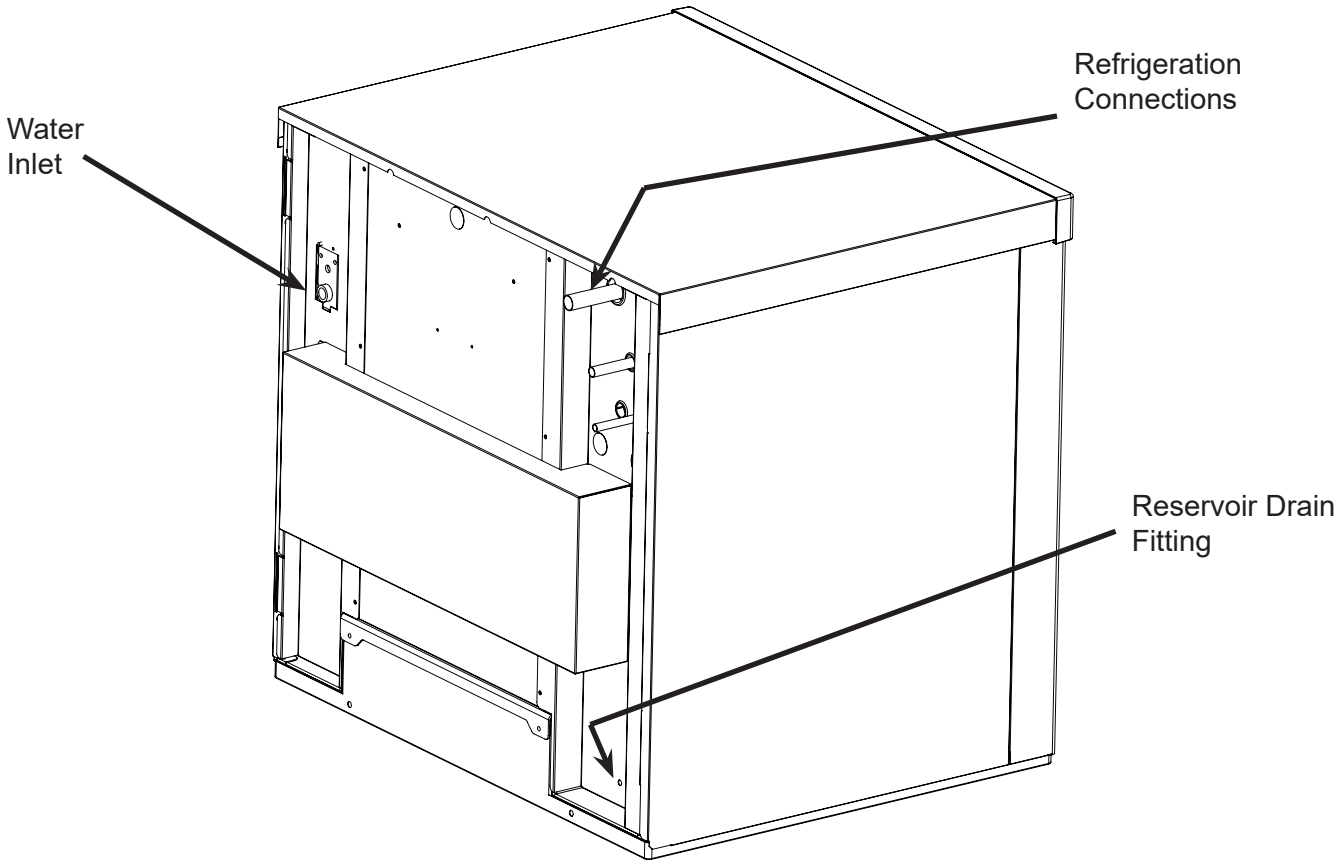
2. Connect drain tubing to drain fitting.

3. Route the drain tubing to building drain. Follow local codes for drain air gap. 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 ¼” per fall per foot of run for proper draining.

Follow all applicable codes.



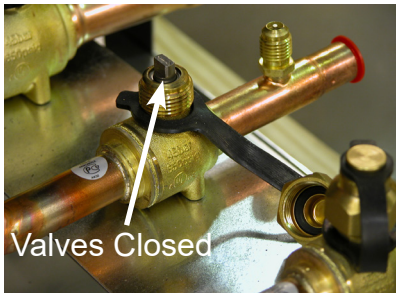
Requires brazing, steps must be performed by an EPA certified type II or higher technician.

At Head:

1. Remove protective plugs from all three connections and vent the nitrogen from the ice machine.
2. Route the each of the three tubes to its connection.
3. Remove the top panel and attach a refrigeration hose with depressor to the 1/2 inch ID vapor line access valve so the valve is OPEN. This is a vent for nitrogen purging.
4. Clean tubing ends and position into the couplings.

At Condensing Unit

1. Confirm connection valves are fully closed.
2. Remove protective plugs from all three 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 and vapor 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 and vapor line tubes and braze the liquid line, vapor line and suction line tubes to the valve stubs.

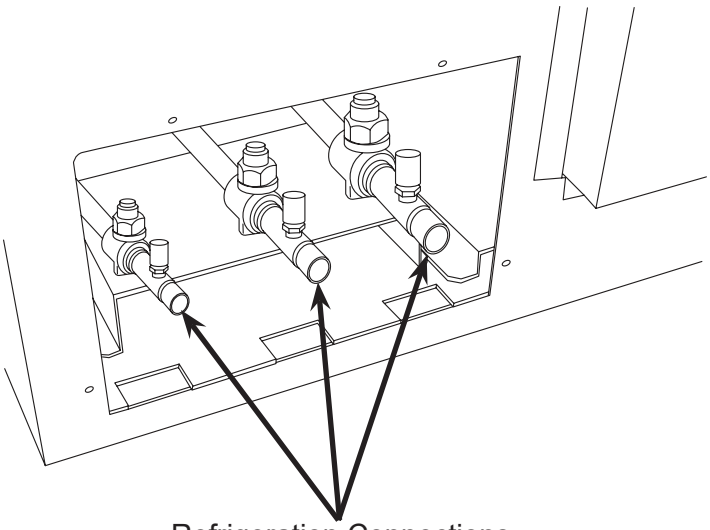
At Head

1. With nitrogen flowing from condensing unit, braze the liquid, vapor and suction line connections.
2. Remove refrigeration hose from head. Be sure valve cap is on tight.

At Condensing Unit

1. Remove nitrogen supply.
2. Return valve cores to access valves.
3. Connect vacuum pump to all three access valves and evacuate the tubing and head to at least a 300 micron level.
4. Remove vacuum pump and add R-449A vapor to all three tubes to provide a positive pressure.
5. Leak check the braze connections and repair any leaks.
6. Open all three valves to full open.

Note: The full refrigerant charge is contained in the receiver of the condensing unit.



Refrigeration Connections

After the utilities and refrigeration connections have been made, secure the unit to the dispenser or bin top.

Secure ice making section to dispenser or bin adapter.

Use strap/clips to secure unit. On some bins or dispensers it may be necessary to drill small holes and use field supplied sheet metal screws to secure the ice making head to that bin, dispenser or adapter.

If the ice maker & bin or dispenser is not yet in its final position gently move it there.

Note: The refrigerant lines above the machine must be able to move freely while the machine is being moved into position.

Final Check List Before Initial Start Up

1. Confirm that the ice making section is installed indoors in a controlled environment.

2. Confirm that all packing materials have been removed from all products.

3. Confirm that the ice making section is level.

4. Confirm that all the refrigerant connections have been made and checked for leaks.

5. Confirm that the proper power supply has been turned on to the condensing unit.

6. Confirm that cold, potable water has been supplied to the ice making section and checked for leaks.

7. Confirm that the water supply is adequate.

8. Confirm that there is adequate water pressure and that any water filters have been checked to confirm that the cartridges do not need changing.

9. Confirm that the proper size drain tubing has been installed and properly routed.

10. Confirm that the ice making section has been connected to the proper power supply.

11. Confirm that the interconnecting wire has been routed and connected between the ice making section and the condensing unit.

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.



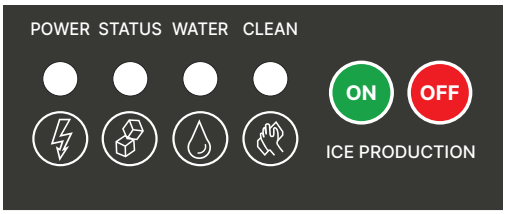
Open door to access On and Off switch buttons.

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.

The controller has four indicator lights, a code display, four push buttons, and eleven component indicator lights.



Indicator Lights

- Power - on when there is power to the controller
- Status - on in ice making mode
- Water - on and blinking when there is no water
- De-scale & Sanitize - on when it is time to clean the machine

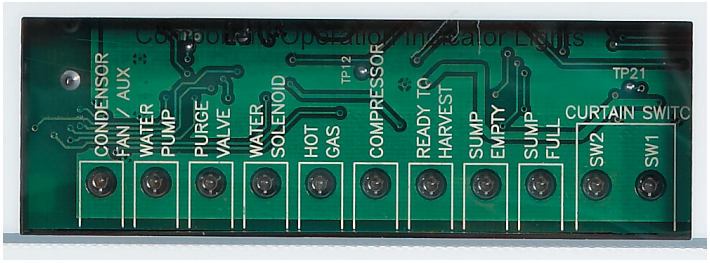
Code Display

- Displays status and diagnostic codes

Push Buttons

- On
- Off
- Manual Harvest
- Clean

Component indicator lights



- Fan - not used on this model
- Water Pump - on when the pump is
- Purge Valve - on when the purge valve is
- Water Solenoid - on when the inlet water solenoid valve is
- Hot Gas - on when the vapor inlet valve and harvest assist solenoid have power
- Compressor - on when the compressor contactor is energized
- Ready to Harvest - on when the ice thickness sensor has water touching it
- Sump Empty - on when there is no water touching the mid-length probe
- Sump Full - on when water is touching the shortest probe
- SW2 - on when the curtain is open
- SW1 - on when the curtain is open

Cycle Definitions:

Freeze: The refrigeration system is operating to remove heat from the evaporators. The compressor, fan motor, and water pump are on.

Harvest: The refrigeration system and water system are operating to harvest the ice and rinse the reservoir. The compressor is on for the full cycle, the pump is on until the purge valve closes.

The inlet water valve opens and refills the reservoir. The vapor and condenser by-pass valves are open during the entire harvest cycle, as are the harvest assist mechanisms.

Pre Start

A soak-out period of four hours is optional for this system. If desired, powering the compressor unit for four hours prior to start up allows the crankcase heater to warm up the oil in the compressor.

Start Up

1. Connect power to the condensing unit and move its toggle switch to Run or On.
2. Open the water supply valve.
3. Remove the head's front panel. Check for any packing or wires rubbing moving parts. Note location of control board in upper left corner of the machine's front.
4. Remove any tape securing curtain to evaporator.
5. Switch on the electrical power to the EH head. Observe that some of the control's indicator lights glow and its display shows 0.
6. Push and release the ON button. The code display will begin to blink F.

The purge valve opens, the water pump starts and the inlet water valve opens to add water to the reservoir. In a few seconds the purge valve closes and the water pump stops. Water will flow into the machine until the reservoir is full. The vapor valves and harvest assist devices will activate, then the compressor and water pump will start. The F will be on steady.

Note: Because the condensing unit is external to the ice making section, no visible signs of operation will be noticeable until the water begins to cool and frost forms on the evaporator tubing.

7. Go to the condensing unit and confirm that the compressor and fan motor are operating. Warm air will be discharged from the condenser.

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.

During the Freeze cycle move the curtains 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 a curtain during the Freeze cycle has no affect on control function, but will cause water to flow into the cube chute. When enough ice has frozen, the Ready for Harvest indicator light will be on steady. After it's been on steady for a few seconds Harvest will begin.

The display shows an H. The vapor valve in the EH opens, and the harvest assist mechanism activates. In the CU the condenser fan stops and the condenser bypass valve opens and the receiver inlet valve closes. In the EH, 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 the curtain opens it signals the controller that harvest is complete, and it returns the unit to a freeze cycle.

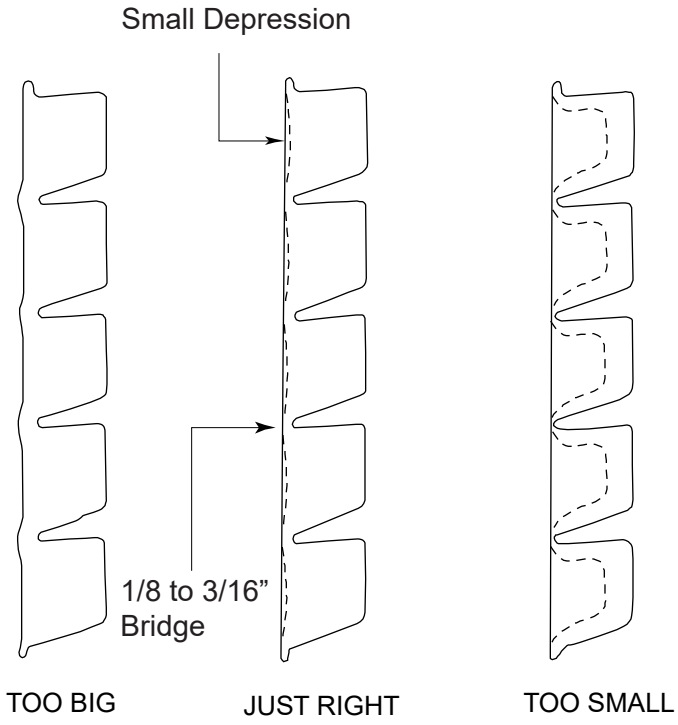
8. Check the ice harvested for proper bridge thickness. The ice bridge is factory set at 1/8 inch. If needed, adjust bridge thickness. Do NOT make it too thin.
9. Return the front panel to its normal position and secure it to the machine.
10. Instruct the user in the operation of the machine and its maintenance requirements.
11. Fill out and mail the warranty registration form or register it on line at www.scotsman-ice.com.

Bridge Thickness - For the Service Tech Only

1. Push and hold Off till the machine stops.
2. Remove evaporator cover.
3. Remove left curtain.
4. Use a hex wrench and rotate the bridge thickness adjustment screw in 1/16 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.

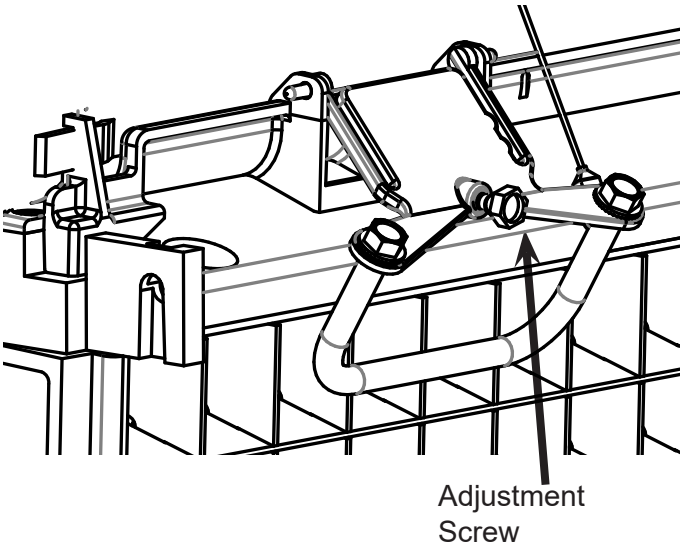
6. Return curtain and evaporator cover to their normal positions.
7. Push and release the On button. Check next harvest of ice. Repeat steps 1-6 if needed.



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.

Setting	Water Type
1	Minimum - RO water or equivalent
2	Moderate - Low TDS, non RO
3	Standard - Use with typical water
4	Heavy - High TDS
5	Maximum - Very high TDS
A	Automatic - Factory setting



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.

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:

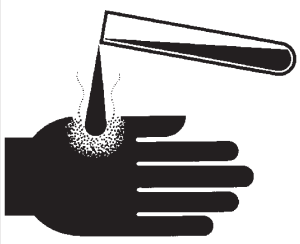
1. Remove the front panel.
2. Remove the evaporator cover.

Scale Removal:

3. Push and release the Clean button. The yellow Clean light will blink and the display will show C. The machine will harvest any ice, drain the reservoir and begin to refill it.
4. Observe code display, when it blinks the characters "A D 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 0.

MC330X	20 ounces
MC430X	24 ounces

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.

⚠CAUTION	Ice machine scale remover 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.

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.

Sanitize:

13. Push and release the Clean button. The yellow Clean light will blink and the display will show C. 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 "A 3 1" 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 0.
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.

Other Maintenance

The remote air cooled condenser coil must be cleaned occasionally to keep the system operating at high efficiency. Airflow is from the outside in.

Remove any large debris from the outside of the coil.

Vacuum accumulated dust.

Wash out the coils with water.

Caution: Do NOT use excessive water pressure as that will bend the fins.

If the coils have become coated with grease, a coil cleaner will have to be used to wash the coils.

Disconnect power to the condensing unit and remove the condenser top.

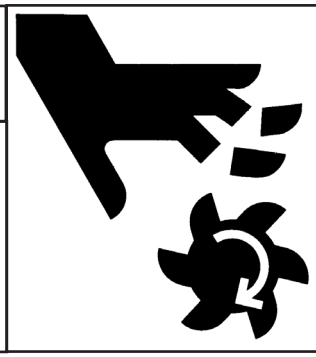
Inspect the fan blade to be sure it is not cracked and is clean.

Return the condenser top to its original position and reconnect the power supply.

⚠WARNING

Rotating fan blade can cause personal injury.

Disconnect power to unit before servicing it.



Operational Characteristics 1200 lb system

Cycle Times @ Condenser Temp/Cabinet Temp/Water Temp in degrees F.

Cycle	70°/70°/50°	90°/90°/70°	120°/100°/80°
Freeze	10 to 12 minutes	12 to 14 minutes	17 to 19 minutes
Harvest	1.5 to 2 minutes	1 to 1.5 minutes	.5 to 1 minute

System Pressures @ Condenser Temp/Cabinet Temp/Water Temp in degrees F

Cycle	70°/70°/50°	90°/90°/70°	120°/100°/80°
Suction at head, end of Freeze	25 to 30 PSIG	25 to 30 PSIG	35 to 40 PSIG
Suction at head, Harvest - Peak	75 to 85 PSIG	80 to 90 PSIG	80 to 90 PSIG
Discharge at Condensing Unit: Freeze - 5 minutes in	210 to 230 PSIG	240 to 250 PSIG	375 to 383 PSIG

Operational Characteristics 1400 lb system

Cycle Times @ Condenser Temp/Cabinet Temp/Water Temp in degrees F.

Cycle	70°/70°/50°	90°/90°/70°	120°/100°/80°
Freeze	10 to 14 minutes	11 to 18 minutes	25 to 27 minutes
Harvest	1.5 to 2 minutes	1.5 to 2 minutes	.5 to 1.5 minute

System Pressures @ Condenser Temp/Cabinet Temp/Water Temp in degrees F

Cycle	70°/70°/50°	90°/90°/70°	120°/100°/80°
Suction at head, end of Freeze	30 to 40 PSIG	30 to 40 PSIG	30 to 40 PSIG
Suction at head, Harvest - Peak	65 to 75 PSIG	75 to 85 PSIG	90 to 110 PSIG
Discharge at Condensing Unit: Freeze - 5 minutes in	210 to 230 PSIG	230 to 245 PSIG	335 to 350 PSIG

Below information applies to both size systems:

Headmaster maintains a minimum discharge pressure during freeze of 217 PSIG + 25, -15 PSIG.

CPR Valve Setting: 80 PSIG.

Note: CPR allows a maximum low side pressure at the compressor. Maximum only occurs during harvest.

Refrigerant Charge

- 1200 - 24 oz.; 1400 - 224 oz,

Compressor Amps 1200

- Single Phase - 10A - 14A

Compressor Amps, 1400

- Single Phase - 8A - 12A
- Three Phase - 6A - 10A

Batch Weight: 1200 - 10 lbs

Batch Weight - 1400 - 14 lbs

Discharge Pressure Cut Out Switch

- Cuts Out at: 450 PSIG Resets at: 350 PSIG

Cycle Times @ Condenser Temp/Cabinet Temp/Water Temp in degrees F.

Cycle	70°/70°/50°	90°/90°/70°	120°/100°/80°
Freeze	9 to 12 minutes	11 to 13 minutes	17 to 19 minutes
Harvest	1.5 to 2.5 minutes	1.5 to 2 minutes	.5 to 1 minute

System Pressures @ Condenser Temp/Cabinet Temp/Water Temp in degrees F

Cycle	70°/70°/50°	90°/90°/70°	120°/100°/80°
Suction at head, end of Freeze	20 to 30 PSIG	20 to 30 PSIG	20 to 30 PSIG
Suction at head, Harvest - Peak	70 to 80 PSIG	70 to 80 PSIG	90 t0 110 PSIG
Discharge at Condensing Unit: Freeze - 5 minutes in	260 to 280 PSIG	250 to 260 PSIG	370 to 380 PSIG

Headmaster maintains a minimum discharge pressure during freeze of 217 PSIG + 25, -15 PSIG.

CPR Valve Setting: 80 PSIG.

Note: CPR allows a maximum low side pressure at the compressor. Maximum only occurs during harvest.

Refrigerant Charge

- 1800 - 232 oz

Compressor Amps, 1800

- Three Phase - 10A - 14A

Batch Weight: 13 lbs - 14 lbs

Discharge Pressure Cut Out Switch

- Cuts Out at: 450 PSIG Resets at: 350 PSIG

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.

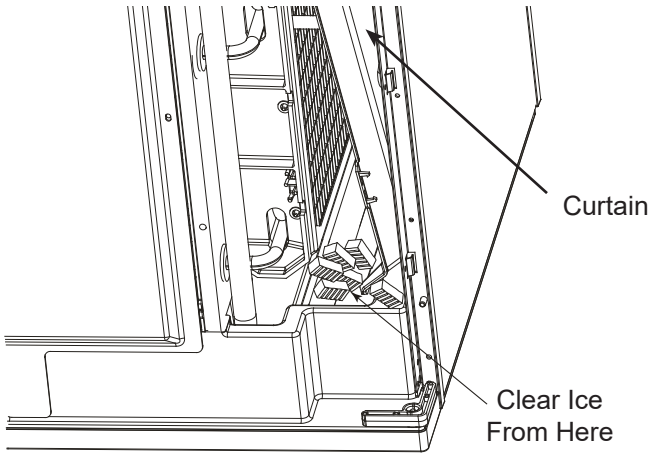
To Shut the Machine Off:

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

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