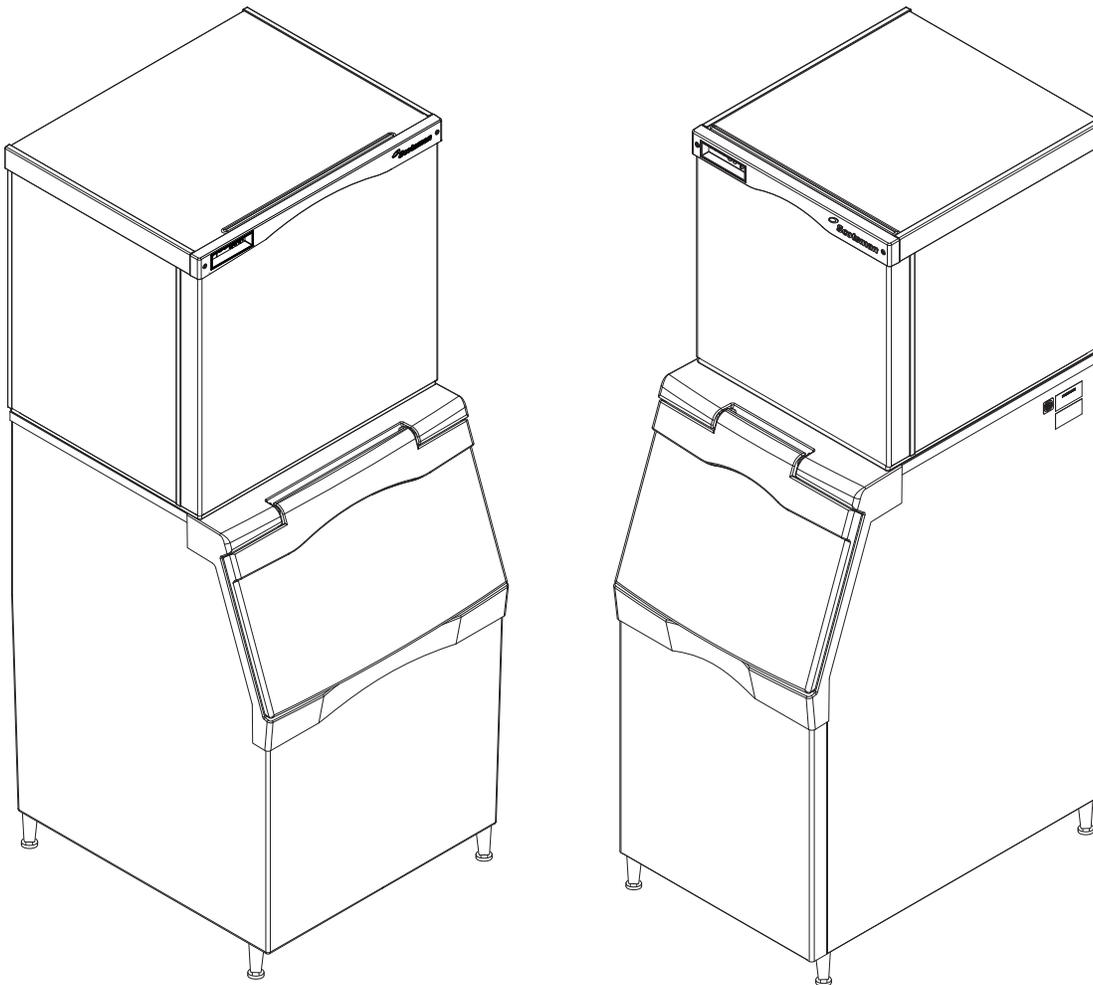


Installation and User's Manual for Modular Cuber

Models CB0522, CB0330, CB0530,
CB0630, CB0830 and CB1030



Prodigy Advanced Sustainability

CB0522 through CB1030 Air 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. .

Keep this manual for future reference.

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.

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



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Installation: Product Specifications

Location Limitations:

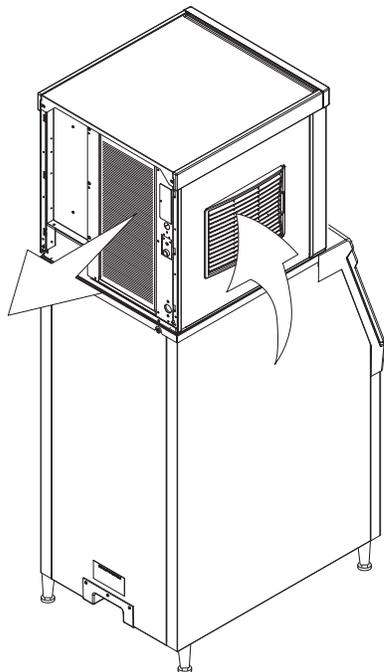
The product is designed to be installed indoors, in a controlled environment. Air cooled models discharge very warm air into the room out the back. Space must be allowed at the left side and back for air intake and discharge. Space needs to be provided on both sides and above for service access.

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 keep the left side away from any wall, allow 12-18 inches of space for good air flow

Airflow is in the left side, out the back (as viewed from the front).



Air Flow

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
115 volt model	104 volts	126 volts
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

The product is a modular cuber. That 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 for application information.

**CB0522 through CB1030
Air Cooled User Manual**

Model Number Description

Example:

- CB0522SA-1B
- CB= cuber fully featured
- 05= nominal ice capacity in 100s of pounds
- 22= 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.
- -1=115 60 Hz, -32=208-230 60 Hz, -3= 208-230 3 phase 60 Hz
- B=Series revision code. B=second series

Note: Listed model numbers typically include only the first five characters of the model number.

Options:

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

- KPMFA223-B, front air flow panel. Fits CB0522.
- KPMFA303-B, front air flow panel. Fits CB0330, CB0530, CB0630.
- KPFMA309_B, front air flow panel. Fits CB0830 and CB1030.
- A39514-021 air baffle for corner locations. Fits CB0330, CB0522, CB0530, CB0630.
- A39515-021, air baffle for corner locations. Fits CB0830 and CB1030.

Some installations require bin or dispenser adapters. See the table. **Standard Bin Applications - Adapter information.**

Model	B222 or B322	B530P, B330P, B530S	B842S	B948S
CB0522	Direct fit	KBT27	Not available	Not available
CB0530, CB0630, CB0830, CB1030	Does not fit	Direct fit	KBT28	KBT22

Hotel Dispensers

The HD22 and HD30 are compatible with this ice machine, no adapters are needed.

- HD22 – use with CB0522
- HD30 – use with CB0330 or CB0530

Note: All models ship with the On and Off switches front accessible. If desired, the On and Off switches can be covered but by changing the bezel in the front panel’s trim strip. A cover-up bezel ships loose with the machine.

Ice and Beverage Dispensers – Adapter information

Model	ID150	ID200 or ID250
CB0522	KBT42	KBT43
CB0530, CB0630, CB0830, CB1030	Does not fit	KBT44

Other Bins & Applications:

Note the drop zone and ultrasonic sensor locations in the illustrations on the next pages.

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.

CB0522 through CB1030

Air 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*
22.75** x 24 x 23	CB0522SA-1	B	115/60/1	Air	13.8	15
30.75** x 24 x 23	CB0530SA-1	C	115/60/1	Air	15.2	20
	CB0630SA-32	B	208-230/60/1	Air	18.2	20
30.75** x 24 x 29	CB0830SA-32	B	208-230/60/1	Air	10.2	15
	CB1030SA-32	B	208-230/60/1	Air	16	20

Table notes: Medium cube models have the same electrical characteristics as Small. Series revision code omitted.

* Or HACR type circuit breakers.

** Maximum width at top panel. Add .75" for left side louvers.

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.

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

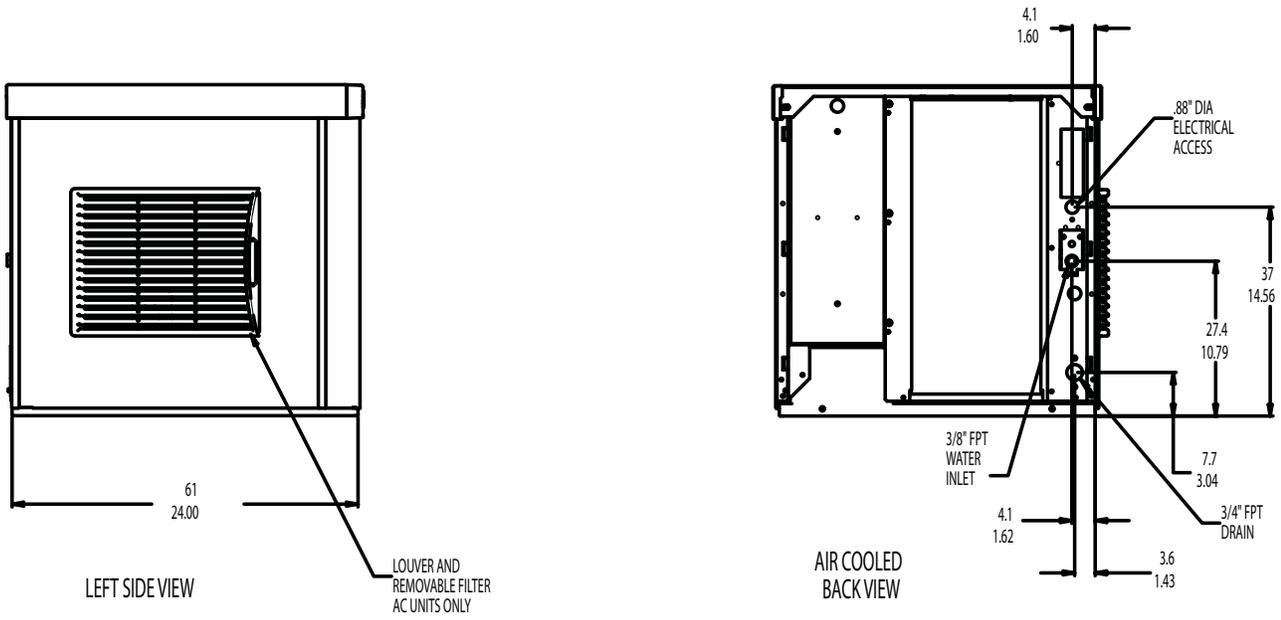
Installing an ice machine near a source of yeast or similar material can result in the need for more frequent sanitation cleanings due to the tendency of these materials to contaminate the machine. Most water filters remove chlorine from the water supply to the machine which contributes to this situation. 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.

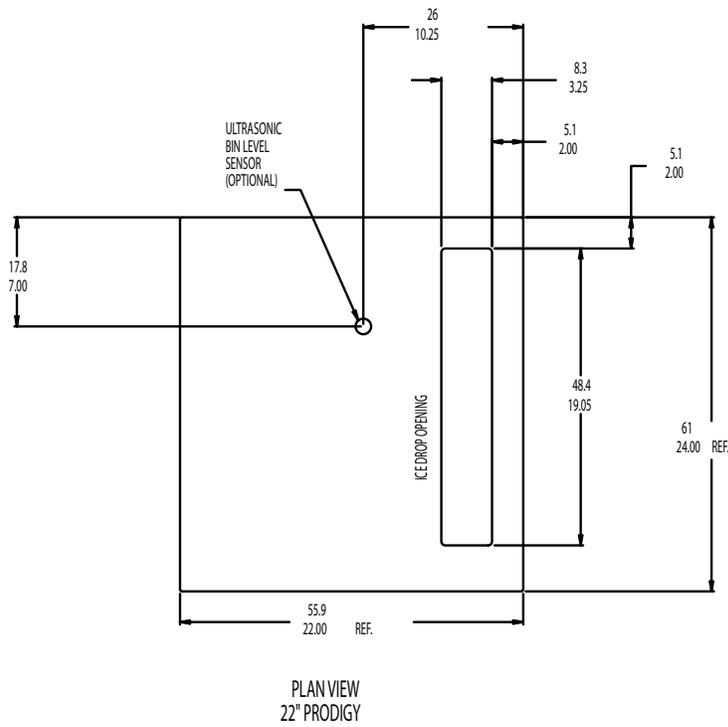
In addition, this product has the capability to automatically vary the amount of water purged based on the purity of the water supplied to it. The water purge rate can also be set manually. Adjustments of purge due to local water conditions are not covered by warranty.

**CB0522 through CB1030
Air Cooled User Manual
CB0522 Cabinet Layout**



CB0522 Air Cooled Side View

CB0522 Air Cooled Back View

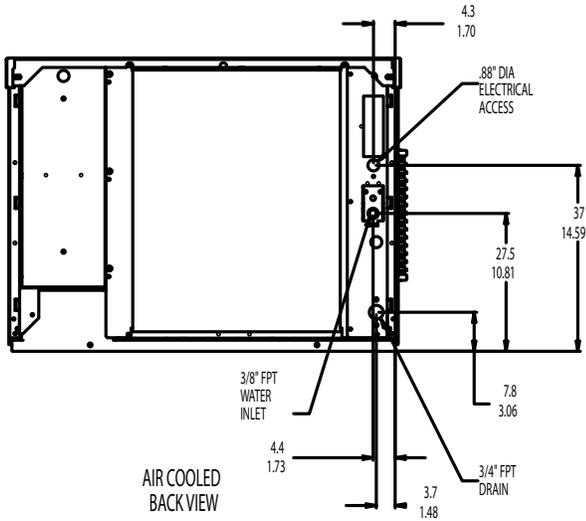


Top View

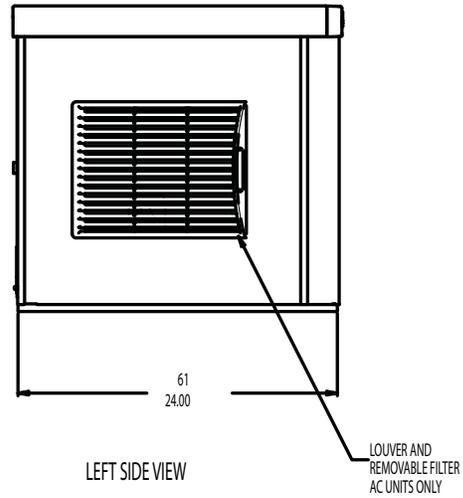
Note: Top number is centimeters, bottom number is inches.

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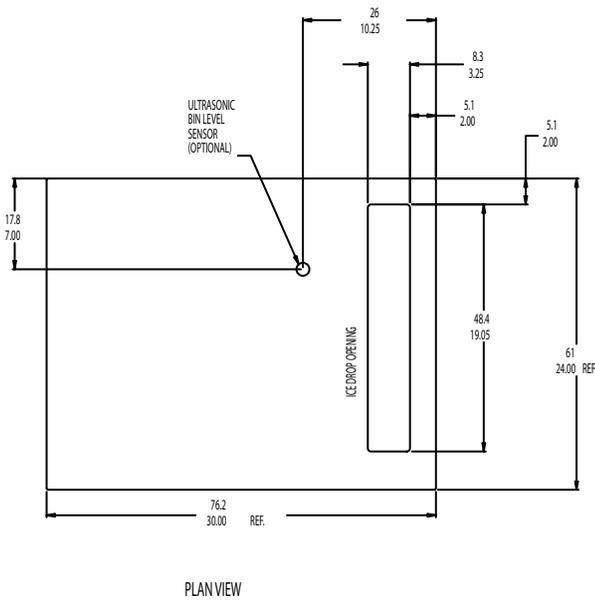
CB0330, CB0530, CB0630, CB0830 and CB1030 Cabinet Layout



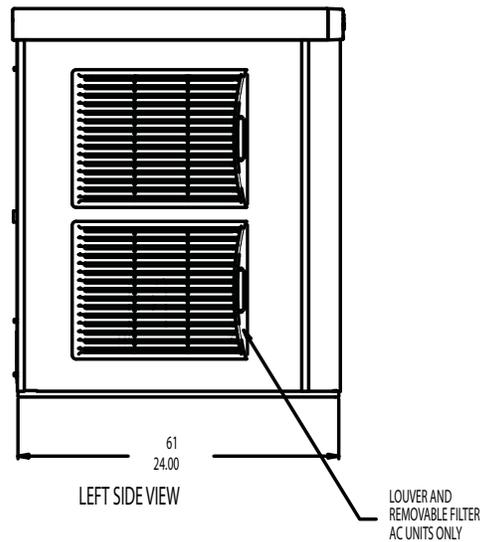
CB0330, CB0530, CB0630 AC Back View



CB0330, CB0530, CB0630 Air Cooled Side View



Top View - All



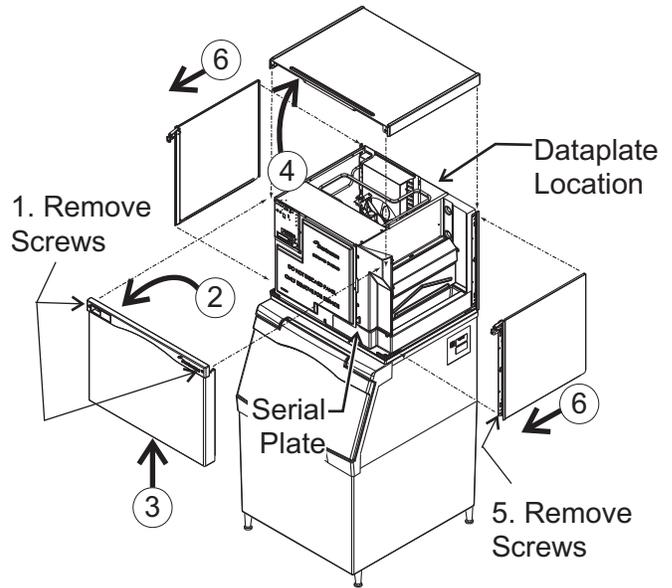
CB0830, CB1030 Air Cooled Side View

Note: Top number is centimeters, bottom number is inches.

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Panel Removal

1. Locate and loosen the two screws at the front edge of the top panel.
2. Pull the front panel out at the top until it clears the top panel.
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 screw 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.



Dataplate Location and Panel Removal

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 Bezel

All models ship with the On and Off switches front accessible. If desired, the On and Off switches can be covered up to prevent unauthorized use by changing the bezel in the front panel's trim strip. A cover-up bezel ships loose with the machine.

To change bezels: Remove the front panel, and refer to the instruction label on the inside of the front panel. Push snaps of standard bezel in and pull the bezel out of the front panel trim strip. Locate other bezel. Push into the trim strip from the front until it snaps into place. Return the front panel to its original position and secure it to the cabinet.

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.

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 or ice dispenser 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).

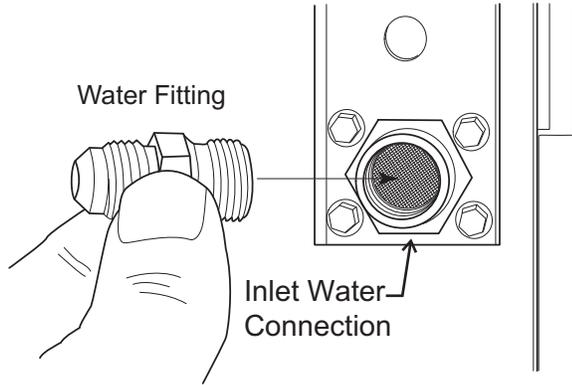
Place the bin and ice machine in the selected location and level it by adjusting the bin leg levelers.

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Air 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; a 3/8" FPT to 3/8" male flare adapter is supplied with the machine and can be used if desired.



Drain Tubing:

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 out the vent.

Horizontal runs of drain tubing need a 1/4" fall per foot of run 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 a new cartridge if the filters were used with a prior machine.

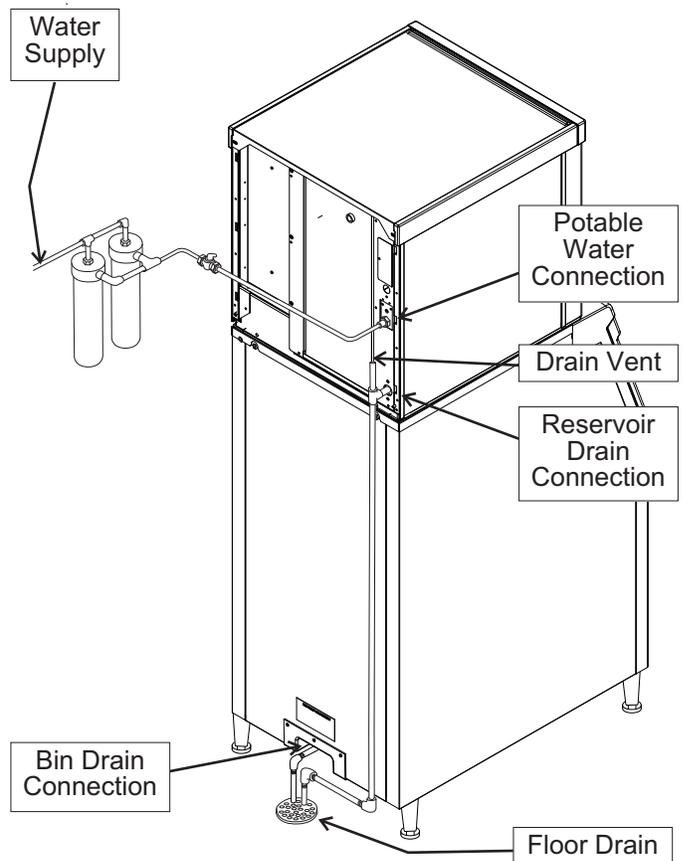
All models require drain tubing to be attached to the 3/4" FPT drain fitting in the back of the cabinet.

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. 3/8" OD tubing is recommended.

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



Plumbing Connections

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Electrical

The machine is not supplied with a power cord, one must either be field installed or the machine hard-wired.

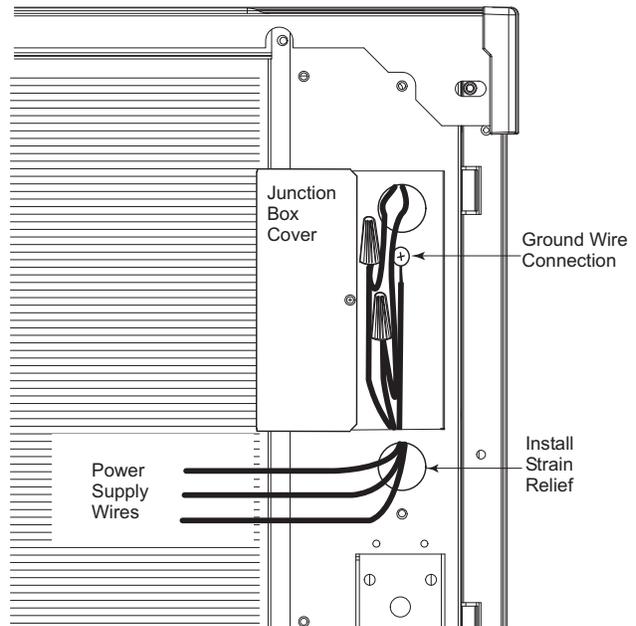
The dataplate on the back of the cabinet details the power requirements, including voltage, phase, minimum circuit ampacity and maximum fuse size. HACR type circuit breakers may be used in place of fuses. Extension cords are not permitted. Use of a licensed electrician is recommended.

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. Attach a ground wire to the ground connection in the junction box.
3. Check voltage when complete.
4. Return the junction box cover to its original position and secure with the original screws.

The electrical disconnect switch with fuse protection must be a two pole type with a minimum of 3 mm between open contacts.

Follow all applicable local, state and national codes.



Electrical Connections, Back of Unit

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.

Final Check List:

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 and tape been removed?
8. Is the correct switch bezel installed in the trim strip?
9. Is the water pressure adequate?
10. Have the drain connections been checked for leaks?
11. Has the bin interior been wiped clean or sanitized?
12. Have any water filter cartridges been replaced?
13. Have all required kits and adapters been properly installed?

Initial Start Up

1. Remove front panel. 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 *0*.
3. Open the water supply valve.
4. 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 hot gas valve and harvest assist device will activate, then the compressor and water pump will start. The fan motor(s) will begin to turn a few moments after the compressor starts. The display will show a continuous *F*. Five seconds later the hot gas valve will close and the harvest assist device will return to its standby position. Warm air will be discharged from the back.

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 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 control function, but will cause water to flow into the cube chute.

7. 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 hot gas valve opens, the air cooled fan motor(s) shut off and the harvest assist mechanism is 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 the curtain opens it signals the controller which 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.

Typical Ice Making Cycle Times (minutes).

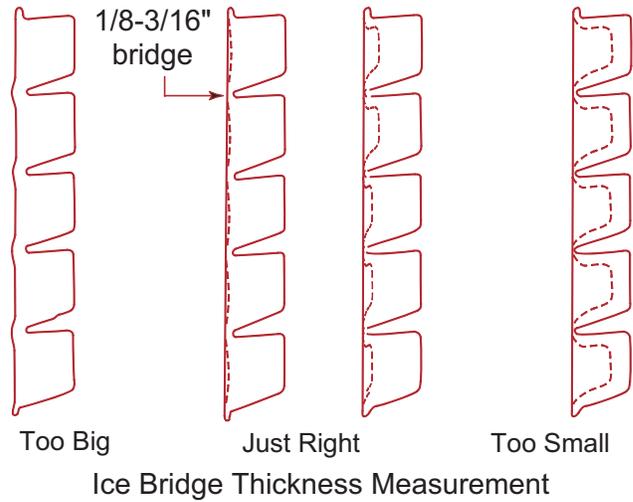
Listed times are for clean machines in proper installations. Cycle length at startup will be longer until the system stabilizes.

Model	70°F air / 50°F. water	90°F. air / 70°F. water
CB0522A	11-13	16-18
CB0330A	9-11	12-14
CB0530A	12-14	16-18
CB0630A	9-11	11-13
CB0830A	10-12	13-15
CB1030A	9-11	11-13

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. Rotate CCW to decrease bridge thickness.

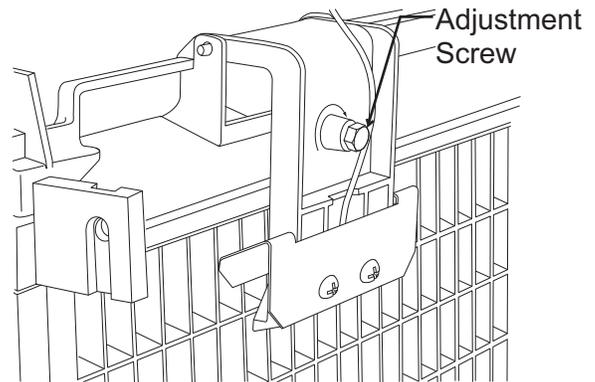


Caution: Do not make the bridge too thin or the machine will not harvest properly. Bridge thickness adjustments are not covered by warranty.

5. Return curtain and evaporator cover to their normal positions.
6. 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.



Bridge Thickness Adjustment Mechanism

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.

**CB0522 through CB1030
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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.

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
- De-scale & Sanitize

This feature is accessible only from standby (Status Light Off).

1. Press and hold harvest button for 3 seconds.

This starts the Time to Clean Adjustment Mode and displays the current time to clean setting.

2. Press the clean button repeatedly to cycle through the 4 settings:

- 1 year
- 0 (disabled)
- 4 months
- 6 months (default)

3. Push Off to confirm the selection.

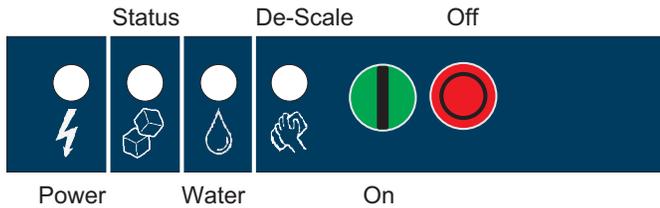
Indicator Lights & Their Meanings				
	Power	Status	Water	De-Scale & Sanitize
Steady Green	Normal	Normal – bin full or making ice	-	-
Blinking Green	Self Test Failure	Switching on or off	-	-
Blinking Red	-	Diagnostic shutdown or, if making ice, temperature sensor failure	Lack of water	-
Yellow	-	-	-	Time to de-scale and sanitize
Blinking Yellow	-	-	-	In Cleaning mode
Light off	No power	Switched off	Normal	Normal
All Blinking	Unit remotely locked out – check with leasing company			

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

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

Control Switches

There is front access to two switches – On and Off. Use of control



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.

Adjustable ice level control

There is an adjustment post and an additional indicator light to the right of the four indicator lights mentioned above. 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

There are several positions the ice level can be set to, including Off (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 indicator light next to the adjustment post will be On.



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.

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

Note: There are two Curtain Switch lights, SW1 and SW2. These single plate models have one curtain switch light on all the time, as a curtain switch light is ON when a curtain is either open or not present.

Additional Controls

There is an additional display panel in the area below the main control board. It is not visible when the front panel is on. The features include:

- Seven day programmable ice level setting when used with the optional Ultrasonic ice level control
- Recording of machine operation, including cycle time.
- Calculation of average cycle time
- Recall of malfunctions with the time they occurred.



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. When removing ice, tap the groups of ice with an ice scoop to separate them into smaller units. 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 slope down from the right to the left. This is normal.

Heat

Air cooled models generate heat when in operation. That heat is discharged 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) 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 assist solenoid will 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.

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.

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.

Sanitize the ice storage bin as frequently as local health codes require, and every time the ice machine is cleaned and sanitized.

The ice machine's water system should be cleaned and sanitized a minimum of twice per year.

1. Remove the front panel.
2. Remove the evaporator cover.
3. If the machine is operating, push and release the Harvest button. When the machine completes the Harvest cycle it will stop. If the bin is full (b shows in display) push and release the Off button.
4. Remove all ice from the storage bin or dispenser.
5. Push and release the Clean button. The yellow Clean light will blink and the display will show c. The machine will drain the reservoir and refill it. Go onto the next step when the reservoir has filled or when the purge valve light goes out.
6. Pour 8 ounces of Scotsman Clear 1 ice machine scale remover into the reservoir.
7. Allow the ice machine scale remover to circulate in the water system for at least 10 minutes.
8. Push and release the Clean button again. The yellow Clean light will be on continuously and the machine will drain and refill the reservoir repeatedly to purge out the ice machine scale remover and residue.
9. Allow the drain and refill process to continue for at least 20 minutes.
10. Push and release the Off button. The clean cycle will stop and the display will show d.

Note: If unit has not been de-scaled for an extended period of time and significant mineral scale remains, repeat steps 5-10.

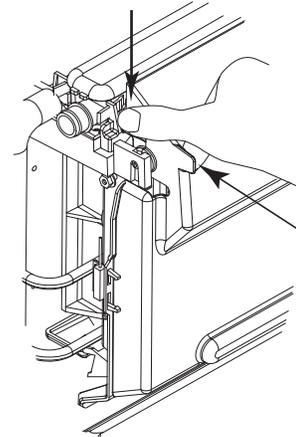
11. Mix a cleaning solution of 1 oz of ice machine scale remover to 12 ounces of water.
12. Locate curtain, push in on edge of curtain by pivot pin to release it. Pull curtain out of machine.

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.

Push Here

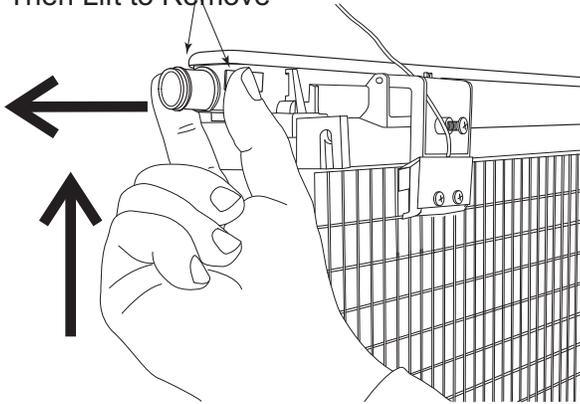


Pull Here

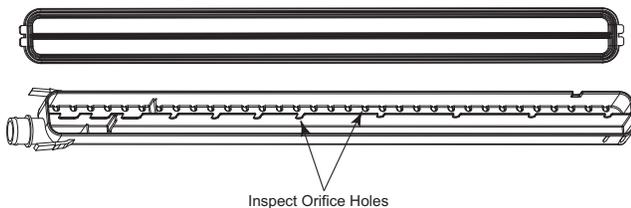
CB0522 through CB1030 Air Cooled User Manual

13. Remove water distributor from ice machine. Inspect distributor for restricted orifice holes. Be sure all holes are fully open.

Squeeze Tabs Together, Slide Out Until it Stops, Then Lift to Remove



Remove Water Distributor



Inspect Water Distributor

14. Locate ice thickness sensor. Squeeze mounting legs together to release sensor. Wash the metal surfaces of the sensor and the adjustment screw with ice machine scale remover solution. Also wash the water distributor and curtain with the ice machine cleaner solution.
15. Locate water level sensor. Squeeze catches together and pull up to remove sensor. Separate probes from housing and wash all surfaces with ice machine scale remover solution. Return probes to holder.

Release probes by pushing in on white buttons and pulling probe down out of holder.



16. Mix a solution of sanitizer.

Note: A possible sanitizing solution may be made by mixing 1 ounce of liquid household bleach with 2 gallons of warm (95-115°F.) potable water.

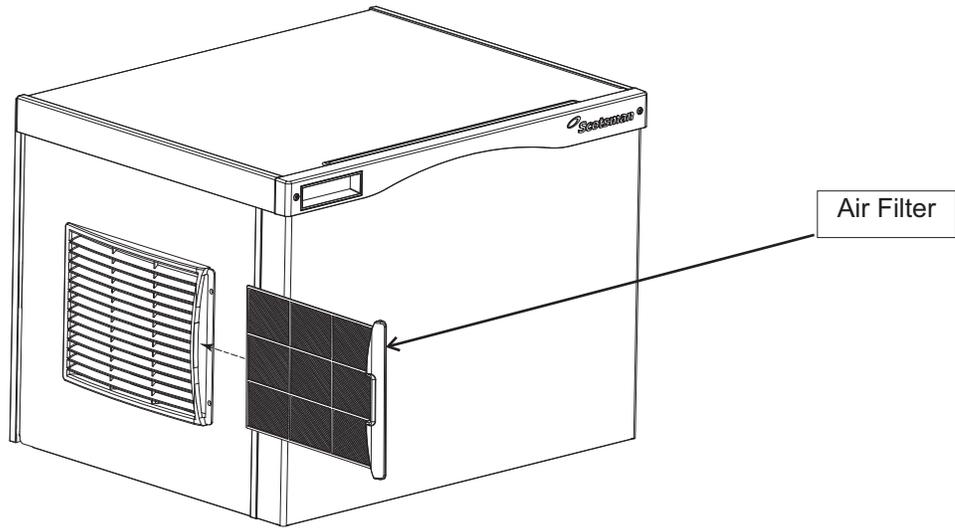
17. Thoroughly wash all surfaces of the ice thickness sensor, water level sensor, curtain and water distributor with the sanitizer solution.
18. Wash all interior surfaces of the freezing compartment, including evaporator cover and right side panel liner with the sanitizer solution.
19. Return water level sensor, ice thickness sensor, water distributor and curtain to their normal positions.
20. Push and hold the clean button to drain the reservoir. Push and release the clean button again and when the purge valve indicator light goes out, immediately pour the remaining cleaning solution into the reservoir.
21. Circulate the sanitizer solution for 10 minutes, then push and release the Clean button.
22. Allow the water system to be flushed of sanitizer for at least 20 minutes, then push and release the Off button.
23. Return the evaporator cover and front panel to their normal position and secure with the original fasteners.
24. Push and release the On button to resume ice making.

Ice Storage Bin

1. Remove and discard all ice.
2. Mix a solution of 7 ounces of Scotsman Clear 1 ice machine scale remover in 84 ounces of potable water and wash all interior surfaces of the ice storage bin to remove any mineral scale build up. Pour excess cleaner solution into the bin's drain.
3. Mix a solution of sanitizer and thoroughly wash all interior surfaces of the ice storage bin. Pour excess sanitizer solution into the bin's drain.

Air cooled condenser filter

1. Pull air filter(s) forward from side 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.

Air cooled condenser

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.

CB0522 through CB1030 Air 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. 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.

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.

Machine Beeps:

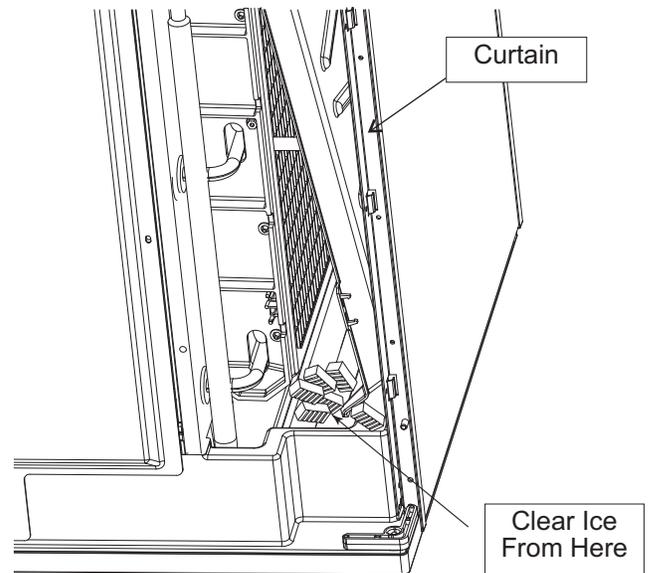
If the machine has detected a condition requiring a shut down, it will blink the Status Light and emit a beep once every second. To stop the beep, push OFF or reset the machine.

To Manually Reset the machine.

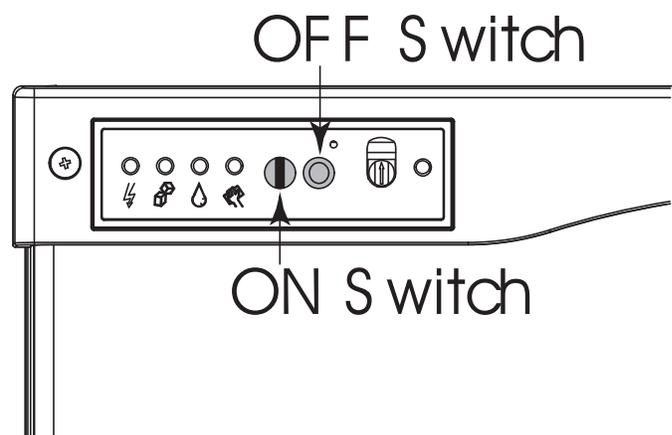
- Push and release the Off button.
- Push and release the On button.

To Shut the Machine Off:

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



Clear ice From Beneath Curtain



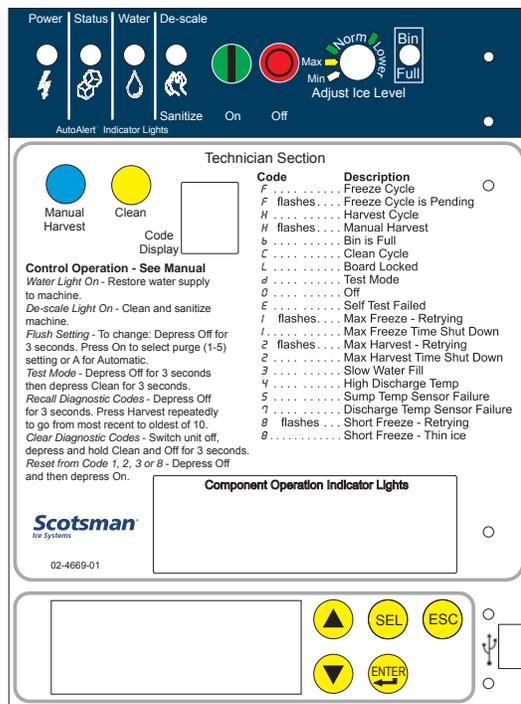
Reset or Switch Off

CB0522 through CB1030 Information Display

Introduction to the Information Display

Removal of the front panel provides access to the Information Display at the bottom of the control.

This section of the manual provides an explanation of the use and capabilities of that display.



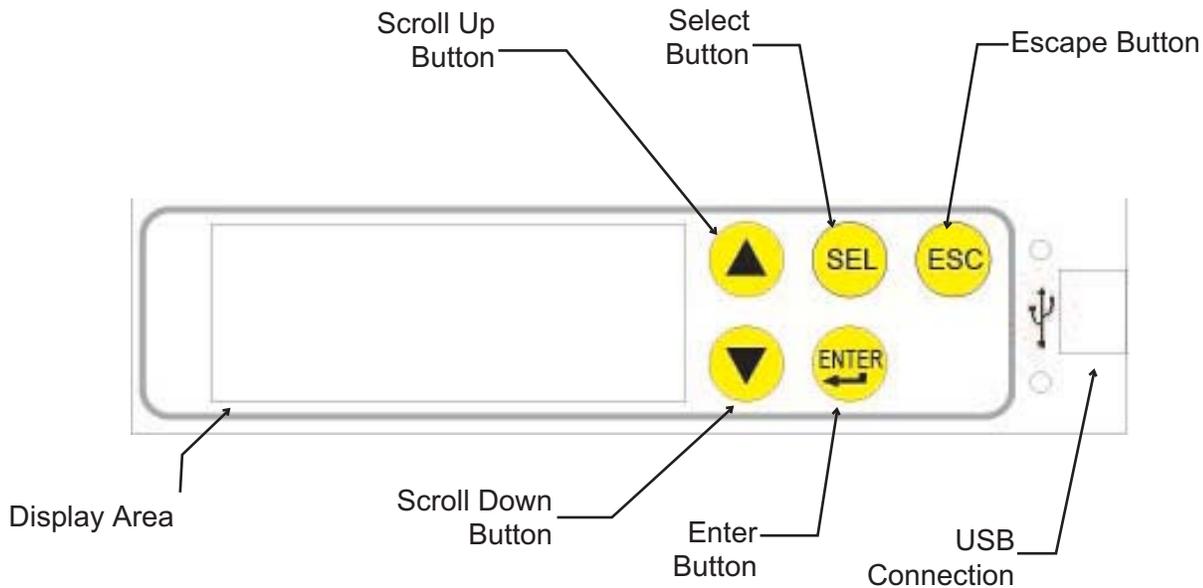
Information Display

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CB0522 through CB1030 Information Display

Use of Information Display and Buttons:



Scroll Up: Changes the display to a menu item higher on the menu list or goes up one number on a setting

Scroll Down: Changes the display to a menu item lower on the menu list or goes down one number on a setting

Select Button: Use to make changes to settings.

Enter Button: Changes display to a sub menu list.

Escape Button: Changes display to the main menu.

Communication Features:

The control can communicate information in several ways:

- **Display:** The two line display is controlled by the buttons on the front.
- **Audible Alert:** A beep will sound if the machine requires a manual reset.
- **USB:** There is a USB connection on the front. It can be used by a laptop or other PC type computer to read, download or log data. Scotsman software is required.
- There is an Ethernet connection for use on a network.

Other Features:

7 Day Programmable Ice Level Control is available, instructions for programing are included later in this guide.

**CB0522 through CB1030
Information Display**

Information types available for Display include Warnings and Data

Data Available:

- Time, Date
- Average freeze time
- Minimum freeze time
- Maximum freeze time
- Average harvest time
- Minimum harvest time
- Maximum harvest time
- Diagnostic code with timestamp
- Compressor run time
- Freeze cycles
- Flush level used
- Water quality
- Operational mode
- Water temperature
- Discharge temperature
- Voltage from the transformer
- Bin stat input status

Warnings - will appear in display after malfunction & Status Light will blink Green until Warning Conditions Clear. Machine will continue operation.

- Self Test Fail
- Long Freeze Pend
- Long Freeze Err
- Long Harvest Err
- Check Water
- High Temp Error
- Sump Temp Sensor
- Disch Temp Sensor
- Min Freeze Pend
- Min Freeze Error
- Check Water Warn
- Long Freeze Warn

Menu Groups: Push and release the down arrow key to scroll down to the next line in the display or group.



Date: 12-20-2010
Time: 03:33:10PM

Date - preset

Time - preset to Central Time

Warnings

Warnings
Base Faults

Base Faults

Adv (advanced) Faults

Adv Faults
Status

Status

Cleaning
Performance

Cleaning

Performance

Test
Timers

Test Cubers only

Timers

Revision
Setup

Revision

Setup

Setup
PGM Bin Level

PGM Bin Level

PGM Bin Level
Network Confis

Network Configuration

CB0522 through CB1030 Information Display

Menu Tree

Date - preset	Last Clean
Time - preset to Central Time	Flush level
Warnings	Set Flush Level
No warnings	Performance
See prior page for warning list	Percent run time:
Base Faults	Min Freeze Time
Fault code 1:	Max Freeze Time
Fault code 2:	Avg Freeze Time
Fault code 3:	Min Harvest Time
Fault code 4 :	Max Harvest Time
Fault code 5 :	Avg Harvest Time
Fault code 6 :	Clear History
Fault code 7 :	Test
Fault code 8 :	Water Test
Fault code 9 :	Water fill time
Fault code 10 :	Esc to cancel test
Adv (advanced) Faults, description of fault and time and date of occurrence	Timers
Self test failure	Compressor run time
Long Freeze Pend	Comp resettable
Long Freeze Strikeout	Press enter to reset
Long Harv Pend	Pwr up time
Long Harvest Strikeout	Pwr resettable
Check Water	Press enter to reset
High Temp Error	Revision
Disch Temp Error	AFB SW Revision
Sump Temp Sensor	Controller SW
Discharge Temp Sensor	US Bin Level SW
Min Freeze Pend	AFB Hardware Rev
Minimum Freeze Strikeout	Controller HW
Status	Setup
Warranty Start	Date
Discharge Temp	Set date
Sump Temp	Time
Board Voltage	Set time
Bin Level	Model Number
Bin Setpoint	Set model number
Freeze Timer	Serial Number
Harvest Timer	Set serial number
Freeze Counter	Manufacturer
Water Quality	Equipment Name
Flush Used	Manufacture date
Long Frz Strike	Set Manufacture Date
Long Hrv Strike	Contact Name
Min Frz Strike	Set Contact Name
Pwr Interrupts	Contact Phone Number
Bin Stat	Set contact phone
Disch Frz Set	Audible alert
Cleaning	Set audible alert on / off
Clean interval	Clear current log file
Next Clean Due	Press Select to clear log
	Clear fault history
	Press Select to clear fault code
	Logging rate

CB0522 through CB1030
Information Display

Set logging rate
Fill time warning xxx seconds
Set fill time warning
Freeze time warning xx minutes and seconds
Set freeze time warning
Harvest time warning minutes and seconds
Set harvest time warning
Discharge temp warning in degrees F
Set discharge temp warning

PGM Bin Level*

Bin Level Ctrl
Set Bin Level Ctrl On Off

Monday time 1
Monday level 1
Monday time 2
Monday level 2
Monday time 3
Monday level 3
Monday time 4
Monday level 4
Tuesday time 1
Tuesday level 1
Tuesday time 2
Tuesday level 2
Tuesday time 3
Tuesday level 3
Tuesday time 4
Tuesday level 4
Wednesday time 1
Wednesday level 1
Wednesday time 2
Wednesday level 2
Wednesday time 3
Wednesday level 3
Wednesday time 4
Wednesday level 4
Thursday time 1
Thursday level 1
Thursday time 2
Thursday level 2
Thursday time 3
Thursday level 3
Thursday time 4
Thursday level 4
Friday time 1
Friday level 1
Friday time 2
Friday level 2
Friday time 3
Friday level 3
Friday time 4
Friday level 4
Saturday time 1

Saturday level 1
Saturday time 2
Saturday level 2
Saturday time 3
Saturday level 3
Saturday time 4
Saturday level 4
Sunday time 1
Sunday level 1
Sunday time 2
Sunday level 2
Sunday time 3
Sunday level 3
Sunday time 4
Sunday level 4

Network Configuration

IP Address
Subnet mask
Default gateway
DHCP Enable
Update IP Address**
Update Subnet mask**
Update default Gateway**
Update DNS**
Update DHCP**
Update network on next power cycle**

* all under PGM Bin Level also have a Set menu

** also have a Set menu

CB0522 through CB1030

Information Display

Group Screens

Within each group are several screens of information or settings, like times, that can be viewed.

Date and Time Groups: No submenus are available.

Warnings: Press and release the Enter button to see information on current Warnings.

```
Warnings  
Base Faults
```

Press and release ESC to return to the prior menu.

Base Faults: Press and release the Down arrow to underline the B in Base Faults, then the Enter button to see in the display:

```
Warnings  
Base Faults
```

Most recent failure (labeled 0) and how long ago it occurred (in hours), then press and release the down arrow to see:

Second to most recent failure (labeled 1) and how long ago it occurred (in hours), then press and release the down arrow to see the third, fourth, fifth, and so on up to ninth where the list ends.

If there are no errors, the screen will display End of Errors.

```
End of Errors
```

Note: Base Faults are cleared when the controller's are cleared.

Press and release the escape button to return to the main menu tree.

Press and release the down arrow key to underline the A in Advanced Faults.

```
Base Faults  
Adv Faults
```

Advanced Faults: Press and release the Enter button to see in the display:

Most recent failure and the exact time it occurred. Pressing and releasing the down arrow cycles through the other failures back to the oldest.

```
fault que end
```

Note: Advanced Faults are not cleared by the controller, instead they are cleared by using the Clear Fault History screen in Setup.

At the end of the list the display will show directions to go back to the main menu.

```
UP arrow = back  
esc = main menu
```

Press and release the escape button to return to the main menu tree.

CB0522 through CB1030 Information Display

Advanced Fault Definitions

Self test failure

The controller checks for proper operation at power up. If the check shows a problem, this warning or fault will be displayed.

Long Freeze Pend

If the ice machine fails to make ice within the maximum time limit, the controller will note that and display this warning or fault while it is attempting another freeze cycle.

Long Freeze Strikeout

If the ice machine fails to make ice within the maximum time limit for a third consecutive time, this warning or fault will be displayed and the machine will be shut down.

Long Harv Pend

If the ice machine fails to release ice within the maximum time limit, the controller will note that and display this warning or fault while it is attempting another freeze cycle.

Long Harvest Strikeout

If the ice machine fails to release ice within the maximum time limit for a third consecutive time, this warning or fault will be displayed and the machine will be shut down.

Check Water

If the water level sensor does not sense a full reservoir during the maximum time limit, this warning or fault will be displayed. The machine will automatically attempt to fill with water.

High Temp Error

If the discharge temperature exceeds 250 degrees at any time, the controller will shut the machine down and display this warning or fault.

Sump Temp Sensor

The water temperature sensor's resistance varies with the water temperature. If the resistance is beyond what the sensor's capability is, this warning or fault is displayed.

Discharge Temp Sensor

The discharge temperature sensor's resistance varies with the refrigerant temperature. If the resistance is beyond what the sensor's capability is, this warning or fault is displayed.

Min Freeze Pend

If the controller senses finished ice thickness before the minimum freeze time has elapsed, this warning or fault will be displayed.

Minimum Freeze Strikeout

If the controller senses finished ice thickness before the minimum freeze time has elapsed three cycles in a row, this warning or fault will be displayed if the machine and the machine will be shut down.

CB0522 through CB1030

Information Display Status List

Press and release the down arrow to underline the S in Status. Press and release the Enter button to see:

Warranty Start shows "Starts at 24HRS run time"; after 24 hours of run time, shows warranty start date.

Discharge Temp in degrees F., Then press and release the Down arrow key to see:

Sump Temp in degrees F. Then press and release the Down arrow key to see:

Board Voltage - from the transformer. Then press and release the Down arrow key to see:

Bin Level number. Displays level currently sensed. Then press and release the Down arrow key to see:

Bin set point: Displays level currently set. Then press and release the Down arrow key to see:

Freeze Timer: Freeze time. Press and release the Down arrow key to see:

Harvest Timer:: Harvest time. Then press and release the Down arrow key to see:

Freeze Counter: Then press and release the Down arrow key to see:

Water Quality.: Measurement of the conductivity of the reservoir water. Typically between 20 and 60, lower numbers mean higher mineral content. Then press and release the Down arrow key to see:

Flush Used: The WaterSense system selected this purge setting. Reads 255 if sump empty. Then press and release the Down arrow key to see:

Long Freeze Strike: Long Freeze Strike number. Number of long freeze errors in memory. Then press and release the Down arrow key to see:

Long Harvest Strike: Long Harvest Strike number: Number of long harvest errors in memory. Then press and release the Down arrow key to see:

Min Frz Strike: Minimum freeze strike number Then press and release the Down arrow key to see:

Pwr Interrupts: Number and time of power interruptions. Then press and release the Down arrow key to see:

Bin Stat: Open or Closed. Open is normal when no bin thermostat is attached or there is no ice on a thermostat. Then press and release the Down arrow key to see:

Disch Frz Set: In degrees F. Shows the discharge temperature recorded as a set up number. The set up number is used for determining how long the fan is off at the end of the freeze cycle.

```
Adv Faults  
Status
```

```
Warranty Start:  
Starts at 24 HRS
```

```
Discharge Temp:  
157
```

```
Sump Temp:  
38
```

```
Board Voltage:  
14
```

```
Bin Level:  
13
```

```
Bin Setpoint:  
9
```

```
Freeze Timer:  
00:00
```

```
Harvest Timer:  
00:00
```

```
Freeze Counter:  
0
```

```
Water Quality:  
0
```

```
Flush Used:  
0
```

```
Long Frz Strike:  
0
```

```
Long Hrv Strike:  
0
```

```
Min Frz Strike:  
0
```

```
Pwr Interrupts:  
0
```

```
Bin Stat:  
Open
```

```
Disch Frz Set:  
0
```

CB0522 through CB1030 Information Display

Cleaning

Push and release the Down arrow to put the line under the C in Cleaning.
Then push and release the Enter button to see.

```
Status:  
Cleaning
```

Cleaning. Press and release the Enter button to see:

```
Clean Interval:  
6 Months
```

The Clean Interval. Then press and release the Down arrow to see:

```
Next Clean Due  
in HRS
```

The Next Clean Due in x HRS. Then press and release the Down arrow to see:

```
Last Clean:  
9 Months Ago
```

Last Clean: x HR Ago.

Then press and release the Down arrow to see:

```
Flush Level:  
1
```

Flush Level: Set to Auto or 1, 2, 3, 4 or 5.

Push and release the SEL arrow key to enter flush level set mode.

Push and release the Up or Down arrow keys to change flush level.

```
Set Flush Level:  
3
```

Push and release the Enter key to set the new flush level.

Then press and release the ESC button.

Push and release the Down arrow to put the line under the P in Performance.

```
Cleaning  
Performance
```

Then push and release the Enter button to see:

Performance

```
Percent run time  
0.00%
```

Percent run time. Then press and release the Down arrow to see:

```
Min Freeze Time  
00:00
```

Min Freeze Time. Then press and release the Down arrow to see:

```
Max Freeze Time  
00:00
```

Max Freeze Time. Then press and release the Down arrow to see:

```
AUG Freeze Time  
00:00
```

AVG Freeze Time. Then press and release the Down arrow to see:

```
Min Harvest Time  
00:00
```

Min Harvest Time. Then press and release the Down arrow to see:

```
Max Harvest Time  
00:00
```

Max Harvest Time. Then press and release the Down arrow to see:

```
AUG Harvest Time  
00:00
```

AVG Harvest Time. Press the Down arrow to see the next screen

History screen. Press and release the SEL button to clear the performance history.

```
Clear History
```

When done with Performance, press and release the ESC button.

CB0522 through CB1030 Information Display

Test

Push and release the Down arrow to put the line under the T in Test. Then press and release the Enter button to see:

```
Performance  
Test
```

Press and release the SEL button to begin a water test. The time to fill the reservoir will be displayed.

```
Press select to  
start water test.
```

When done with Test, or to cancel it, press and release the ESC button.

Push and release the Down arrow to put the line under the T in Timers. Then press and release the Enter button to see:

```
Test  
Timers
```

Timers. Push and release the Enter button to see

Compressor run time. Then press and release the Down arrow to see:

```
Compressor Run:  
HR
```

Compressor run resettable. Press the Down arrow to go to the next line or *Optional* Press SEL to enter reset mode.

```
Comp Resettable:  
0HR
```

Press Enter to reset compressor run time to 0

```
Press enter to  
clear counter
```

Press the Down arrow to go to Power up time. Then press and release the Down arrow to see:

```
Pwr Up Time:  
HR
```

Power on resettable. Press the Down arrow to go to the next line or *Optional* Press SEL to enter reset mode.

```
Pwr Resettable:  
HR
```

Press Enter to reset Power on time to 0

When done with Timers, press and release the ESC button.

CB0522 through CB1030 Information Display

Revision

Push and release the Down arrow to put the line under the R in Revision.
Then push and release the Enter button to see:

```
Timers  
Revision
```

Revision. SW Rev number.

```
Smart-Board SW R  
3
```

Then press and release the Down arrow to see:

```
Controller SW  
8
```

Controller SW (software rev number) Then press and release the Down arrow to see:

```
KVS SW  
251
```

US Bin Level software revision. Then press and release the Down arrow to see:

Hardware Rev (info display)

```
Smart-Board HW R  
255
```

Then press and release the Down arrow to see:

```
Controller HW  
0
```

Controller HW (hardware rev number).

When done with Revisions, press and release the ESC button.

Push and release the Down arrow to put the line under the S in Setup.

```
Revision  
Setup
```

Then push and release the Enter button to see:

Setup:

View the Date or change it.

```
Date:  
Select to change
```

To Set Day, Month and Year

Press SEL key to get to Setup screen

Push and release the SEL key to move to another underlined number.

Push and release the Up or Down arrow key to change the marked character.

```
Set Date:  
Date: 12-21-2011
```

Push and release the Select key to move to the next character, repeat prior step to change the character.

When done, push and release the Enter key.

Then press and release the Down arrow to view the time or change it.:

To Set Time

```
Time:  
Select to change
```

Press SEL key to get to Setup screen

Push and release the SEL key to move the underline to another number.

Push and release the Up or Down arrow key to change the marked character.

```
Set Time:  
Time: 02:07:51PM
```

Push and release the Select key to move to the next character, repeat prior step to change the character.

When done, push and release the Enter key.

CB0522 through CB1030 Information Display

Then press and release the Down arrow to view the Model number.

Model Number

Then press and release the Down arrow to view the Serial number

Serial Number

Then press and release the Down arrow to view the Manufacturer

Manufacturer
Scotsman Ice

Then press and release the Down arrow to view the Equipment Name

Equipment Name
Ice Machine

Then press and release the Down arrow to view the Manufacture date

Manufacture Date

Then press and release the Down arrow to view the Contact name *Optional - change contact*

Contact Name
Scotsman

Then press and release the Down arrow to view the Contact phone number. *Optional - change contact phone number*

Contact Phone Nu
1800SCOTSMAN

Then press and release the Down arrow to view the Audible Alert.

Audible Alert
On

Optional: Press SEL to switch the audible alert on or off.

Then press and release the Down arrow to view the. Then press and release the Down arrow to view the screen to clear the current log file.

Clear current
log file

Optional: Press SEL to clear the log file.

Press Select to
clear log

Then press and release the Down arrow to view the Clear Fault History file. Then press and release the Down arrow to view the

Clear Fault
History

Optional: Press SEL to clear the fault history.

Logging rate. Then press and release the Down arrow to view the logging rate.

Press Select to
clear fault code

Logging rate
30 Seconds

Note: Changing logging rate is not recommended.

Fill time warning. Press and release the Down arrow to view the

Fill time warnins
setpoint

Freeze time warning. Press and release the Down arrow to view the

Freeze time
warning setpoint

Harvest time warning. Press and release the Down arrow to view the

Harvest time
warning setpoint

Discharge temp warning.

Discharge temp
warning setpoint

The setpoints are the levels that trigger the Warning notices.

Settings can be modified as noted next. The warning set points can be adjusted to match local conditions.

CB0522 through CB1030 Information Display

To Change Setup Settings:

From a specific Setup Menu Item, press SEL key to get to Setup screen.
Push and release the SEL key to move the underline to another number.

Push and release the Up or Down arrow key to change the marked character.

Push and release the Select key to move to the next character, repeat prior step to change the character.

When done, push and release the Enter key.

Example 1: Set Contact Phone Number

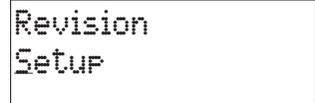
Push the Down arrow key until Setup is visible and the S is underlined.
Press Enter.

Repeatedly push and release the Down key until the Contact Phone Number screen appears. Press SEL key to get to Setup screen

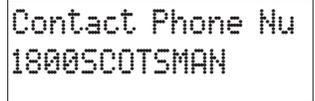
Push and release the SEL key to move the underline to the number you wish to change. Push and release the Up or Down arrow key to change the marked character.

Push and release the Select key to move to the next character, repeat prior step to change the character.

When done, push and release the Enter key.



Revision
Setup



Contact Phone Nu
1800SCOTSMAN

CB0522 through CB1030

Information Display

To Set the 7 Day Programmable Ice Level

There are four times and levels available for each day of the week.

Use Up or Down Arrow keys to scroll to **PGM Bin Level** screen. When the P in PGM is underlined, press and release the Enter key.

Bin Level Ctrl is on the screen. If it reads Off, push and release the down arrow button to begin programming.

If Bin Level Ctrl is On, push and release the SEL button. From On, push the Down arrow key to turn Off. The control must be set to OFF to adjust bin level. Push Enter and Down to get to the first programming menu.

```
Bin Level Ct
On
-----
Set Bin Level Ct
Off
```

Monday Time 1 will show on the screen. Press and release the SEL key to begin setting Monday Time 1. **Set Monday Time** appears in the display.

Change Monday Time 1: 12:00 AM might be displayed. To adjust, push the SEL button to position the underline mark under the character to be changed. Push and release the up or down arrow key to change the number or letter one time. Repeat pushing the SEL button to move the underline and repeat pressing the up and down arrow buttons to change the time.

Push Enter once to change the screen back to Monday Time 1. Push Down once to get to the level reading.

Change Monday Level 1: Monday Level 1 is in the display. Push SEL once to display Set Monday Level 1. Rotate the knob one click at a time until the desired level appears. A delay is normal. Note: smaller numbers = higher ice level. Push Enter one time to set the level. "Off" means the switch is set for maximum ice level.



Push the Down arrow to go to **Monday Time 2**, and set that time using SEL and arrow buttons as in Change Monday Time 1 above. Push Enter once to set it and change back to Monday Time 2. Push the down arrow button to go to Monday Level 2 and change that level using the SEL button and the knob as in Change Monday Level 1 above. Push Enter to set that level.

Repeat for all time and level settings.

When done, push ESC to return to the PGM Bin Level screen. When the P in PGM is underlined, press and release Enter.

Bin Level Ctrl will show on the screen. Push and release the SEL button. Push and release up arrow key to change the setting from Off to On.

Push and release Enter and ESC when done.

```
Setup
PGM Bin Level
```

```
Bin Level Ct
Off
```

```
Monday Time 1
12:00 AM
```

```
Set Monday Time
12:00 AM
```

```
Monday Time 1
02:30 PM
```

```
Monday Level 1
9 inches
```

```
Set Monday Level
14 inches
```

```
Monday Time 2
05:00AM
```

```
Monday Level 2
9 inches
```

```
Set Monday Level
14 inches
```

```
Setup
PGM Bin Level
```

```
Bin Level Ct
Off
```

```
Set Bin Level Ct
On
```

**CB0522 through CB1030
Information Display**

This table shows the default times and levels, which can be changed using the instructions on the previous page.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Time 1	12 AM	12 AM	12 AM	12 AM	12 AM	12 AM	12 AM
Level 1	9	9	9	9	9	9	9
Time 2	5 AM	5 AM	5 AM	5 AM	5 AM	5 AM	5 AM
Level 2	9	9	9	9	9	9	9
Time 3	12 PM	12 PM	12 PM	12 PM	12 PM	12 PM	12 PM
Level 3	9	9	9	9	9	9	9
Time 4	5 PM	5 PM	5 PM	5 PM	5 PM	5 PM	5 PM
Level 4	12	12	12	12	12	12	12

Example: Unit on a tall bin (44" or more). Low ice levels during the week, high ice levels during the weekend. Off = highest ice level.

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Time 1	1:00 AM	1:00 AM	1:00 AM	1:00 AM	1:00 AM	1:00 AM	1:00 AM
Level 1	32	32	32	32	32	Off	Off
Time 2	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM
Level 2	32	32	32	32	32	Off	14
Time 3	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM
Level 3	32	32	32	32	32	Off	32
Time 4	7:00 PM	7:00 PM	7:00 PM	7:00 PM	7:00 PM	7:00 PM	7:00 PM
Level 4	32	32	32	32	Off	Off	32

Record your settings here for future reference:

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Time 1							
Level 1							
Time 2							
Level 2							
Time 3							
Level 3							
Time 4							
Level 4							

Note: Units on dispensers or short bins should not set their level other than 9 or Off - setting too low will result in no ice.

CB0522 through CB1030

Information Display

Network Configuration

Used only when connected to a network. There is an Ethernet connector on the back of the Information Display board. If desired, route a network cable thru the cabinet and connect your network to it.

To view or change the Network Configuration, use the up and down arrow keys to display Network Configuration. When the N in Network is underlined, press and release the Enter key.

```
PGM Bin Level
Network Configu
```

The IP address (if connected to a network) will be displayed. If not connected to a network, "Please Wait" will be displayed.

```
IP Address
```

Press the down arrow key to see the Subnet Mask

```
Subnet Mask
```

Press the down arrow key to see the Default Gateway

```
Default Gateway
```

Press the down arrow key to see the DNS

```
DNS
```

Press the down arrow key to see DHCP Enable

```
DHCP Enable
```

Press the down arrow key to see the Update IP Address screen. Press the SEL key to access it.

```
Update IP Address
```

Press the up or down arrow key to change the first (underlined) number. Press the SEL key to move the underline to the next number, then press the up or down key to change that number. Repeat as needed to change the numbers. When done, press the Enter key.

```
Set Update IP Ad
```

Repeat the same process to change the other network parameters, if needed.

Once desired network parameters have been manually configured, turn on "Update Network on Next Power Cycle". After the power to the machine has been cycled, the new parameters will take affect.

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Information Display

Supplied Software

Description:

Scotsman Prodigy Tech Tool is a software program designed to access the Prodigy ice machine's Information Display control. It can read and display the data in the controller. The data is converted to chart form and can then be saved and / or printed. It is on the CD-ROM and must be installed onto the PC that will be used to connect through the USB port. Use is optional.

Installation and Use

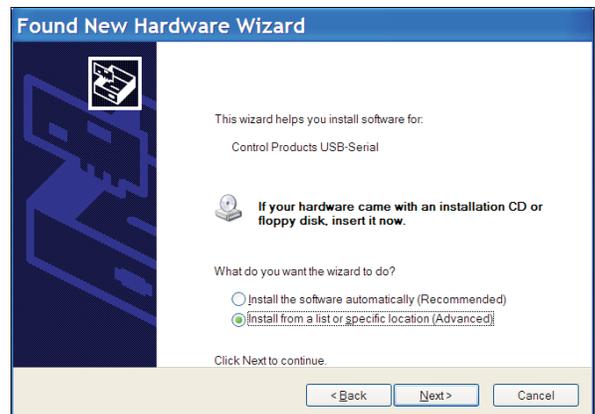
Requirements:

- Windows XP or Vista or Windows 7
- 40 MB disk space minimum. More will be needed if data logging is used.
- Desktop or Laptop PC with a USB port.
- Live ice machine (to install USB driver)

Software Installation:

Pre-installation: USB cable UNPLUGGED from the the PC.

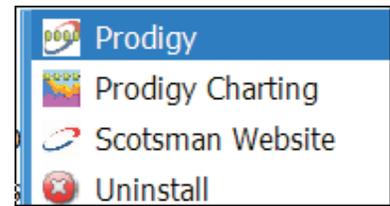
1. Insert the CD into the computer's CD-ROM drive.
2. Follow the program installation instructions. At the finish, do NOT start the application.
 - The installation will place 2 icons on the desktop, Prodigy Charting and Scotsman Prodigy.
 - The installation will also set up a Scotsman Prodigy section under Programs (Start > All Programs > Scotsman Prodigy).
3. After the installation is complete, remove the CD-ROM from the drive.
4. Power up the unit and plug the USB connector into the PC and the USB port.
5. The PC will automatically find and begin the process to install the driver.
6. Select all default settings for installing the device driver.
7. Installation is now complete.



CB0522 through CB1030 Information Display

Software Use:

With the unit powered and connected to the computer's USB port, Open Scotsman Prodigy:



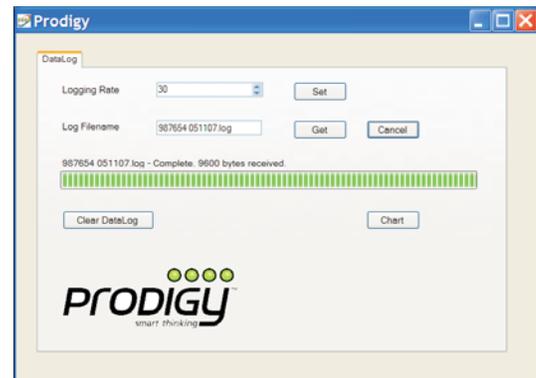
Start, All Programs, Scotsman Prodigy, Prodigy

Click on **Get**. The software will automatically begin to download the information. Once that is complete either click on **Chart** or select a new log file to review.

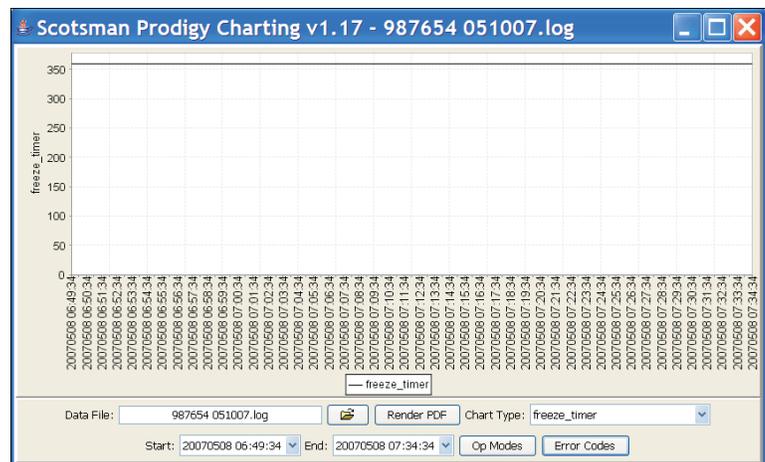
When you click on **Chart**, the Column Selection dialog box will appear. You can select any chart you want to review. The default is all of them. Click on **OK** to go to the next step.

The software will display the Charting information box. You may have to expand it to see the Chart Type selection area on the right.

Use the Chart Type box to display the list of available charts.



Which one of these to use depends upon what the machine situation is. For example, if the machine is down, displaying code 2, indicating a maximum length harvest cycle, it would be good to know the freeze cycle time before the long harvest cycle. If the freeze cycle time is long, it may be that no ice is being made, so none is available to open the curtain during harvest, causing a maximum harvest time code. Checking the Base Faults or Advanced Faults is another way to understand what occurred and when.



Another example is a complaint of low capacity. The chart on Power up time should show if the machine is on all the time. Then a look at the freeze timer chart will show how often it is cycling. The two will provide a good idea of the machine's ability to produce ice.

At any time clicking on the **Render PDF** button will generate all the charts in PDF format so they can be saved. Once saved they can be printed or emailed.

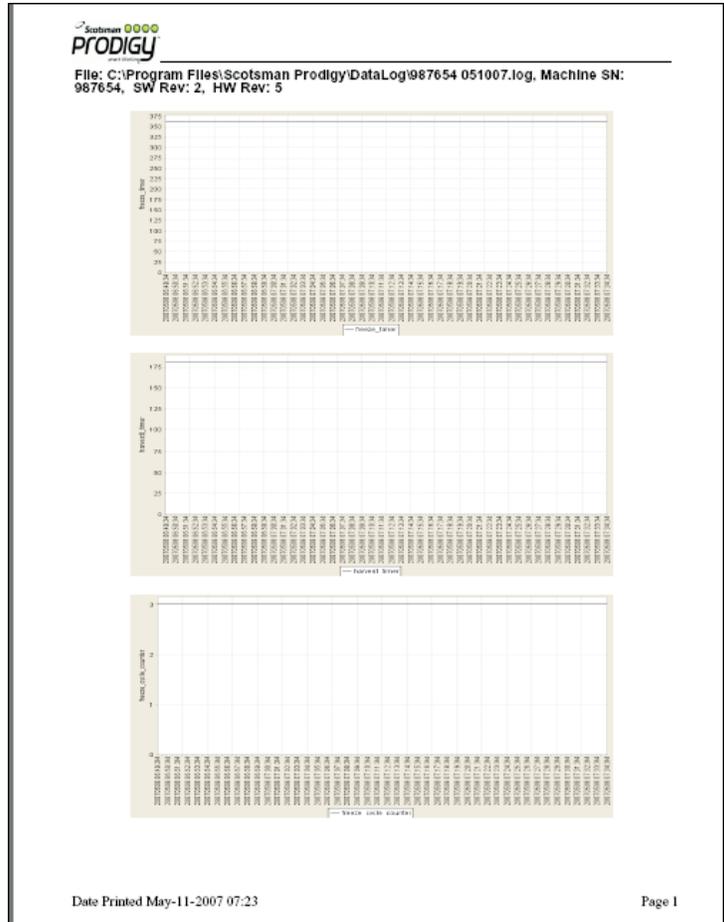
CB0522 through CB1030

Information Display

Chart Definitions

- Freeze timer = Freeze time in seconds.
- Harvest timer = Harvest time in seconds.
- Freeze Counter = Continuous freeze cycles (starts over after bin full, power interruption, or ice melt state)
- Flush level set point = Flush level setting 0-5.
- Flush used = 1-5. Flush level used in autoflush (0) mode.
- Water quality = An indication of water quality where 0-24 Extremely Mineral Laden; 25-30 Somewhat Mineral Laden; 31-65 Normal; 66-120 Very Clean; >120 Extremely Clean
- Error code - Diagnostic Error Code. Codes listed in software and on next page.
- Op mode = the current mode of the controller. Modes listed in software and on next page.
- Sump temperature = Reservoir water temperature in degrees F
- Discharge temperature = Discharge temperature in degrees F
- Supply voltage = approximation of AC voltage to the control board from the transformer.
- Bin stat = Bin thermostat, when used. 0 open, 1 closed
- RLO = SmartLock option. 0 not locked, 1 locked
- Ready to Harvest = Ice thickness sensor. 0 no ice, 1 ice
- Sump Full = Water level sensor. 0 no water, 1 water
- Sump Empty = Water level sensor. 0 no water, 1 water
- Remote = 0 not remote, 1 remote
- Curtain SW1 = 0 closed, 1 open
- Curtain SW2 = 0 closed, 1 open
- Water Solenoid = 0 off, 1 on
- Water Pump = 0 off, 1 on
- Hot Gas = 0 off, 1 on
- Condenser Fan/Aux = 0 off, 1 on
- Compressor = 0 off, 1 on
- Purge Valve = 0 off, 1 on
- Power up time= Time power connected to machine.
- Compressor run = Time compressor has been operating
- Power interrupts = Number of electrical power interruptions to the machine
- Bin setpoint = Set point of the ice level control
- Bin level (inches) = Ice level measured by the ice level control
- HGV counter = Number of times the hot gas valve has cycled. Equals harvest cycles.
- Auto flush level min = minimum level flush can be set to when set to automatic

**CB0522 through CB1030
Information Display
Reference**



Example of generated PDF file

Error Codes ✖

1 = Sump water max fill time error
 2 = Max freeze time pending error
 3 = Max freeze time error
 4 = Max harvest time error
 5 = Max harvest time pending error
 6 = Min freeze time pending error
 7 = Min freeze time error
 10 = High discharge temperature error
 11 = Discharge temperature sensor error
 12 = Sump temperature sensor error

OK

Error Code Display

Op Modes ✖

0 = Power restart stat
 1 = Flush level adjustment state
 2 = Immediate off state
 3 = Off state
 4 = Freeze state
 5 = Harvest State
 6 = Restart refrigeration state
 7 = Bin full state
 8 = Clean state
 9 = Error shutdown state
 10 = Error restart state
 11 = Scotsman test state
 12 = fault code view state
 13 = Ice melt down state
 14 = Remote lock out state
 15 = Water fill test state
 16 = Voltage shutdown state
 17 = Time to clean adjustment state
 26 = EEPROM check sum error state

OK

Op Mode Display

**CB0522 through CB1030
Information Display
Access through Ethernet**

1. After installation, connection, and power up, scroll down to locate IP Address.
2. Enter that IP address into an internet browser like Internet Explorer or Firefox.
3. A Prodigy logo screen will appear. After a few seconds it will update and show a screen similar to the one here. Login as an observer or administrator using the password.
4. As an Observer, several actions are available at this screen:

Controller Snapshot lists the current status of many aspects of the controller.

- Controller Snapshot
- AFB Config File
- Key Pad Lock Status
- Time To Clean Setting
- Flush Level Setting
- Bin Level Scheduling
- Change Password

AFB Configuration File lists the current status of many aspects of the information display and the controller.

Key Pad Lock Status lists if the key pad of the controller is locked or not.

Time to clean setting. Lists the number of months of power up time the unit must accumulate before the De-Scale / Sanitize light is switched on.

Flush Level Setting lists the Purge level the controller is set to use.

Bin Level Scheduling. Only applies to units that have the ice level control installed. Lists the times and levels that have been set.

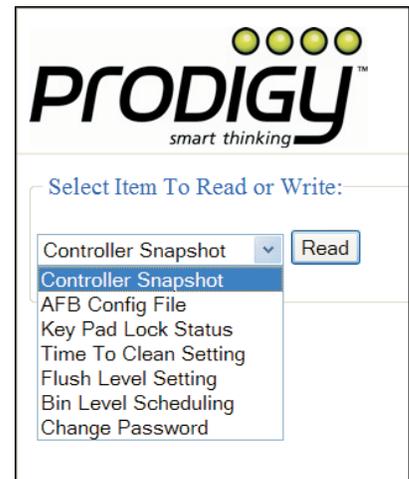
Logging in as an Administrator allows additional actions:

Key Pad Lock or Unlock. Lists if the controller is locked or not and can be changed by selection and submitting.

Adjust the Clean Notice. Lists the number of months of power up time the unit must accumulate before the De-Scale / Sanitize light is switched on. Selecting a different interval and submitting will change that number.

Adjust the Purge or Flush level. Lists and allows change of the amount of water purged per cycle.

Start or stop the machine. Allows the machine to be started or stopped remotely.



**CB0522 through CB1030
Information Display**

Appendix

NAFEM Protocol. See the NAFEM website, www.nafem.org, for more information.

NAFEM CERTIFICATE OF COMPLIANCE

MANDATORY REQUIREMENTS			
Company Name	Scotsman Ice Systems		
Product Category	Ice Machine	Model Number	12-2945
<input checked="" type="checkbox"/>	IEEE 802.3 Section 14 – 10 BASE T	<input checked="" type="checkbox"/>	Asset Management Enterprise: Identification
<input checked="" type="checkbox"/>	IEEE 802.3 Ethernet or IEEE 802.11b	<input checked="" type="checkbox"/>	RFC 1157 [SNMPv1] <i>Agent</i>
<input checked="" type="checkbox"/>	RFC 826 [ARP]	<input checked="" type="checkbox"/>	RFC 1156 [SMI]
<input checked="" type="checkbox"/>	RFC 791 Internet Protocol version 4.0 [IPv4]	<input checked="" type="checkbox"/>	RFC 1213 [MIB-II]
<input checked="" type="checkbox"/>	RFC 792 [ICMP]	<input checked="" type="checkbox"/>	NAFEM Units of Measure*1
<input checked="" type="checkbox"/>	RFC 768 User Datagram Protocol [UDP]	<input checked="" type="checkbox"/>	NAFEM Textual Convention *1
<input checked="" type="checkbox"/>	RFC 951 BOOTP or DHCP <i>Client</i>	<input checked="" type="checkbox"/>	NAFEM Traps *2
<input checked="" type="checkbox"/>	RFC 1350 Trivial File Transfer Protocol [TFTP] <i>Client</i>	<input checked="" type="checkbox"/>	CODES AND MESSAGES*2
		<input checked="" type="checkbox"/>	Clock/Calendar Enterprise: Time
*1 Only required if Optional NAFEM enterprise groups selected require these items		*2 Only required if Traps are used for notification	

OTHER REQUIREMENTS:	
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Administration Enterprise Group <input checked="" type="checkbox"/> Identification <input checked="" type="checkbox"/> Network <input checked="" type="checkbox"/> Community Table [Instance(s) 5] <input type="checkbox"/> Notify Messages <input type="checkbox"/> Notify Message Acknowledgement </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Bulk Transfer Enterprise Group <input type="checkbox"/> Storage Media Types Table [Instance(s)] <input checked="" type="checkbox"/> File Items Table [Instance(s) 30] <input checked="" type="checkbox"/> File Transfer <input type="checkbox"/> Notify Messages <input type="checkbox"/> Notify Message Acknowledgement </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Clock/Calendar Enterprise Group <input checked="" type="checkbox"/> Time <input type="checkbox"/> Daylight <input type="checkbox"/> Scheduler </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Inventory Management Enterprise Group <input type="checkbox"/> Configuration Table <input type="checkbox"/> Data Table [Instance(s)] <input type="checkbox"/> Storage Table <input type="checkbox"/> Log Configuration Table <input type="checkbox"/> Log History Table [Instance(s)] <input type="checkbox"/> Notify Messages <input type="checkbox"/> Notify Message Acknowledgement </div> <div style="border: 1px solid black; padding: 5px;"> Utility Management Enterprise Group <input type="checkbox"/> Configuration Table <input type="checkbox"/> Data Table [Instance(s)] <input type="checkbox"/> Alarm Table <input type="checkbox"/> Log Configuration Table [Instance(s)] <input type="checkbox"/> Log History Table <input type="checkbox"/> Notify Messages <input type="checkbox"/> Notify Message Acknowledgement </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Maintenance Enterprise Group <input type="checkbox"/> Process Item Configuration Table <input type="checkbox"/> Process Data Table Instance(s)] <input type="checkbox"/> Process Item Alarm Table <input type="checkbox"/> Scheduled Item Configuration Instance(s)] <input type="checkbox"/> Scheduled Item Data Table <input type="checkbox"/> Unscheduled Item Instance(s)] Configuration <input type="checkbox"/> Unscheduled Data Table <input type="checkbox"/> Log Configuration Table Instance(s)] <input type="checkbox"/> Log History Table <input type="checkbox"/> Notify Messages <input type="checkbox"/> Notify Message Acknowledgement </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Notification Enterprise Group <input type="checkbox"/> Hosts Table Instance(s)] <input type="checkbox"/> Event Log </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Asset Management Enterprise Group <input checked="" type="checkbox"/> Identification <input checked="" type="checkbox"/> Component Instance(s) 20] Identification Table </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Monitor Enterprise Group <input checked="" type="checkbox"/> Configuration Table <input checked="" type="checkbox"/> Data Table Instance(s) 16] <input type="checkbox"/> Alarm Table <input type="checkbox"/> Log Configuration Table <input type="checkbox"/> Log History Table Instance(s)] <input type="checkbox"/> Notify Messages <input type="checkbox"/> Notify Message Acknowledgement </div> <div style="border: 1px solid black; padding: 5px;"> Security Enterprise Group <input type="checkbox"/> System <input type="checkbox"/> User Table Instance(s)] <input type="checkbox"/> Access Table Instance(s)] <input type="checkbox"/> Logging Parameters Table Instance(s)] <input type="checkbox"/> Protection Parameters Table Instance(s)] <input type="checkbox"/> Event Log </div>

NAFEM – 161 NORTH CLARK STREET, SUITE 2020, CHICAGO, IL 60601 – 312.821.0201

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