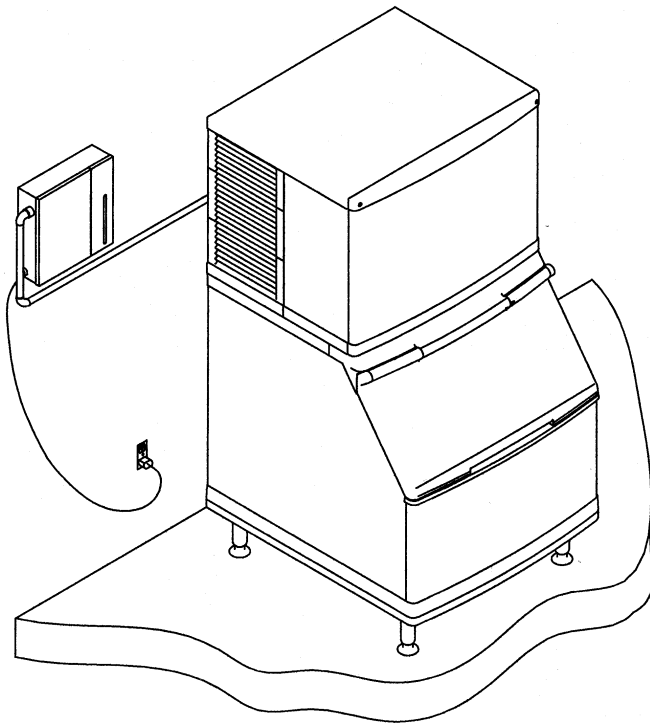


Manitowoc®



Q Model AuCS® Accessory (Automatic Cleaning System)

Installation Owner/Operator Use and Care Guide

This manual covers installation and use and care information for the Q Model AuCS® accessory ONLY.
If you are installing the AuCS® accessory on any other Manitowoc Ice Machine,
order manual Part Number 80-0885-3

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

Safety Notices

When installing or using the Q Model AuCS[®] accessory, be sure to pay close attention to the safety notices in this manual. Disregarding the notices may lead to serious injury and/or damage to the ice machine or AuCS[®] accessory.

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

WARNING

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

CAUTION

Text in a Caution box alerts you to a situation in which you could damage the ice machine or AuCS[®] accessory. Be sure to read the Caution statement, and then proceed carefully.

CAUTION

Use only Manitowoc approved Ice Machine Cleaner (part number 94-0546-3) and Sanitizer (part number 94-0565-3) with the AuCS[®] accessory.

Read and understand all information printed on the bottles before use.

Procedural Notices

When installing or using the Q Model AuCS[®] accessory, be sure to read the procedural notices in this manual. These notices supply helpful and important information.

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

Important

Important boxes serve two functions:

They call the operator's attention to important information.

They also provide the service technician with information that may help in performing a procedure more efficiently. Disregarding this information may slow down the work.

NOTE: Text set off as a Note provides you with simple, but useful, extra information.

Table of Contents

Section 1 - General Information

Freight Damage and Claims Procedure..... 1-1
Model/Serial Number Location 1-1
Owner Warranty Registration Card..... 1-2
Warranty Coverage 1-2
Component Location and Identification..... 1-3

Section 2 - Installation Instructions

General..... 2-1
Electrical Service..... 2-1
Location/Mounting 2-2
Connection to Ice Machine..... 2-4
Determine Type of Solution Needed..... 2-10
Installing Bottle of Solution 2-10
Changing Solution Type 2-11
Hose Priming 2-11
Setting Frequency of Cleaning..... 2-12
Removal From Service/Winterization 2-12

Section 3 - Operation

Automatic Operation..... 3-1
Manual Start Operation..... 3-1
Changing Switch Position During Automatic Operation..... 3-2

Table of Contents

THIS PAGE INTENTIONALLY LEFT BLANK

Section 1
General Information

Freight Damage and Claims Procedures

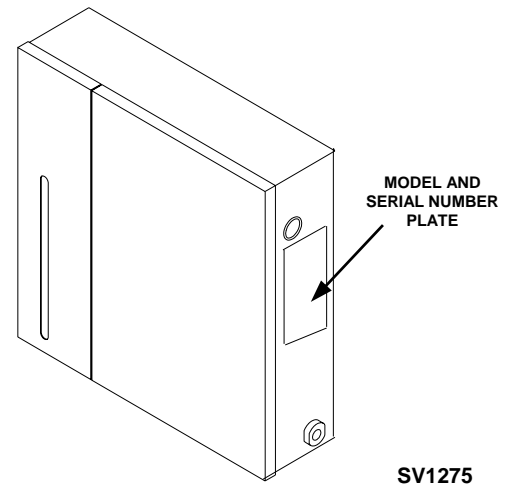
1. Shortages
Check the number of cartons delivered against the quantity shown on your receipt. If the quantities do not match, have the driver note the shortage and file your claim with the freight company.
2. No-Fault Claim Procedure
Manitowoc assumes responsibility for all freight damage claims involving participating carriers, with the following exceptions:
 - When the trucking company loses the equipment.
 - When fire destroys the equipment en route.
 - When a traffic accident damages the shipment en route.
3. Visible Damage
 - A. If a carton appears damaged in any way, open the carton and inspect the contents in the presence of the driver. Note the nature and extent of the damage on the freight bill.
 - B. Notify your local Manitowoc distributor to inspect the merchandise within 15 days of delivery. Do not attempt to repair the damage.
4. Concealed Damage
 - A. If damage is noticed at the time of installation, notify the distributor immediately and ask for an inspection.
 - B. Do not destroy packing materials until the inspection is completed.

These conditions must be met before your claim can be processed by the distributor.
5. Claims
Manitowoc Ice, Inc. and your local distributor will arrange to repair or replace the equipment.

Model/Serial Number Location

Record the model and serial number of the AuCS[®] accessory in the space provided below. These numbers are required when requesting information from your local Manitowoc distributor, service representative, or Manitowoc Ice, Inc.

The model and serial number are listed on the OWNER WARRANTY REGISTRATION CARD. They are also listed on the MODEL/SERIAL NUMBER DECAL affixed to the side of the AuCS[®] accessory.



Model/Serial Number Location

	Ice Machine	Bin/Dispenser
Model Number		
Serial Number		
	Remote Condenser	AuCS [®] Accessory
Model Number		
Serial Number		

Owner Warranty Registration Card

GENERAL

The packet containing this manual also includes warranty information. Warranty coverage begins the day your new AuCS[®] accessory is installed.

Important

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

If you do not return your OWNER WARRANTY REGISTRATION CARD, Manitowoc will use the date of sale to the Manitowoc distributor as the first day of warranty coverage for your new AuCS[®] accessory.

Warranty Coverage

GENERAL

The following Warranty outline is provided for your convenience.

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

PARTS

Manitowoc warrants the AuCS[®] accessory against defects in materials and workmanship, under normal use and service for three (3) years from the date of original installation.

LABOR

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

EXCLUSIONS

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

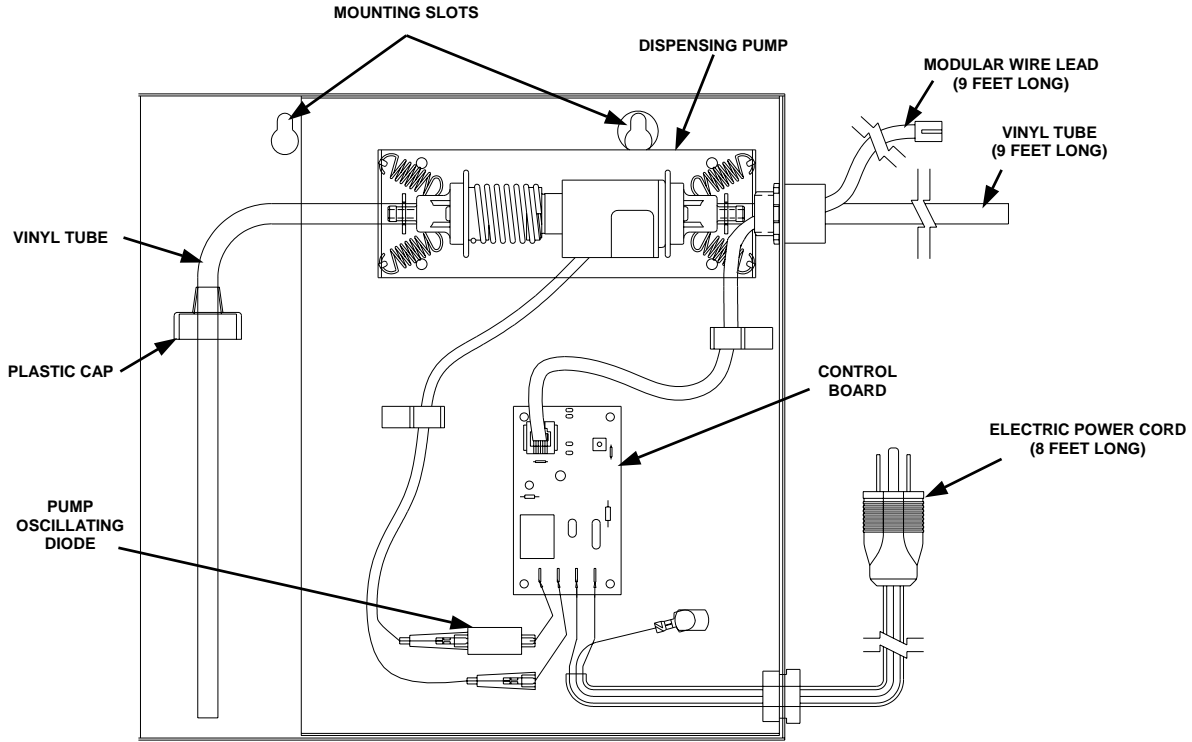
1. Normal maintenance, adjustments and cleaning as outlined in this manual.
2. Repairs due to unauthorized modifications to the ice machine or the AuCS[®] accessory, or the use of non-standard parts without prior written approval from Manitowoc Ice, Inc.
3. Damage caused by improper installation of the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

AUTHORIZED WARRANTY SERVICE

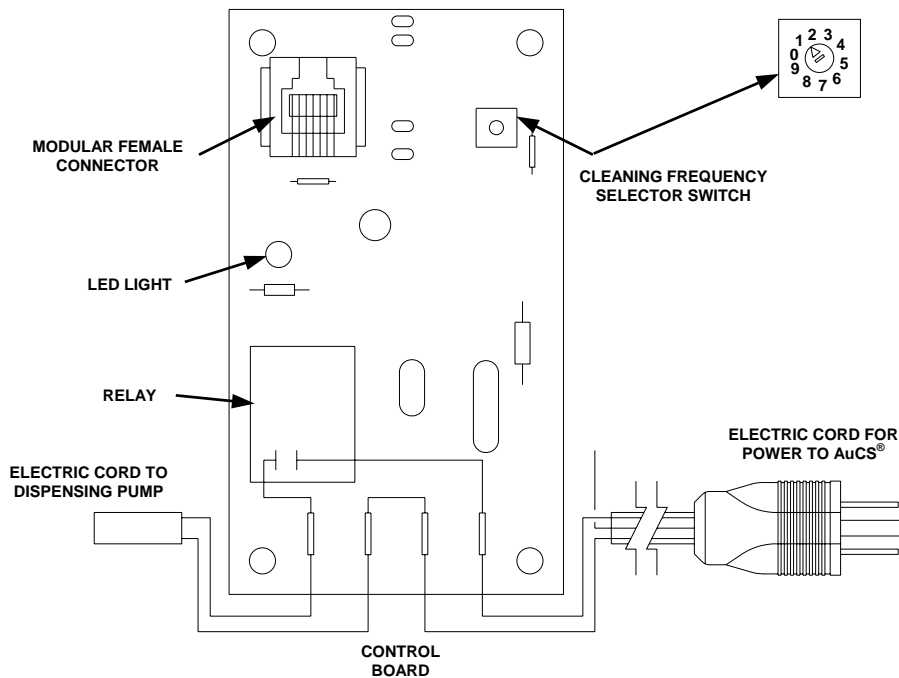
To comply with the provisions of the warranty, a refrigeration service company, qualified and authorized by a Manitowoc distributor, or a Contracted Service Representative must perform the warranty repair.

NOTE: If the dealer the ice machine and AuCS[®] accessory were purchased from is not authorized to perform warranty service, contact the Manitowoc distributor or Manitowoc Ice, Inc. for the name of the nearest authorized service representative.

Component Location and Identification



SV1630G



SV1631G

Component Location/Identification

THIS PAGE INTENTIONALLY LEFT BLANK

Section 2 Installation Instructions

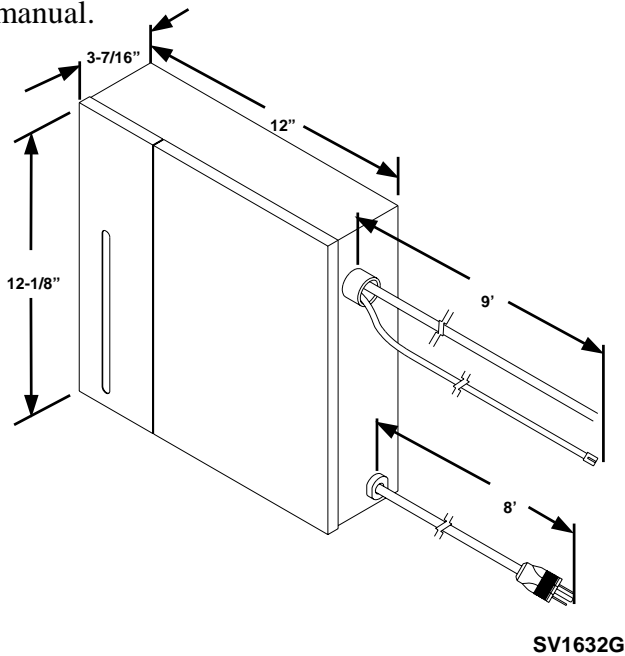
General

These instructions are provided to assist the qualified installer. Check your local yellow pages for the name of the nearest Manitowoc Ice Machine Distributor or call Manitowoc Ice, Inc. for information regarding installation and start-up services.

⚠ WARNING

Improper installation will affect dispensing rate. Install only within the parameters outlined in this installation manual.

Please contact your local Manitowoc Distributor or call Manitowoc Ice, Inc. for assistance if you encounter a problem that is not covered by this manual.



Dimensions

Electrical Service

⚠ WARNING

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

Voltage/Cycle/ Phase	Runnin g Amps	N.E.M.A Electrical Plug Configuration
115/60/1	.3	5-15P
220/240/50/1	.1	No plug attached

115 VOLT WIRING

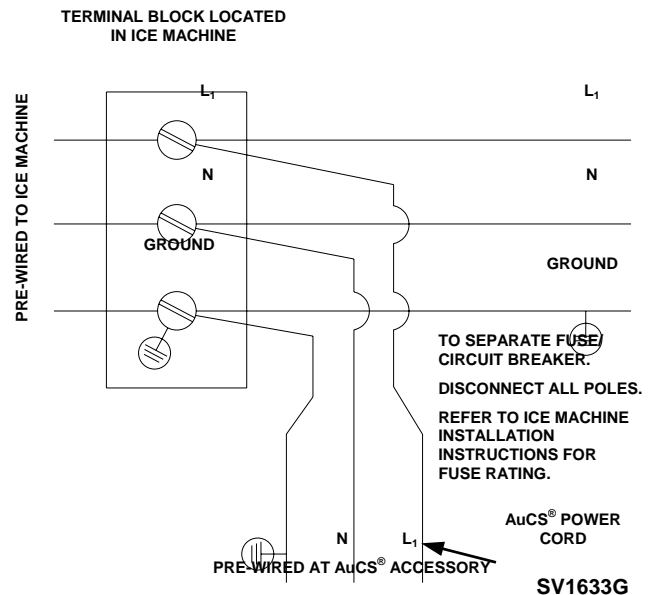
The 115/60/1 AuCS[®] has an eight (8) foot cord which must be plugged into a 15 amp electrical outlet.

⚠ CAUTION

Never use an extension cord. If an outlet is not in reach of the AuCS[®] power cord, have an outlet installed.

220/240 VOLT WIRING

The 220/240/50/1 AuCS[®] must be wired to the terminal block located in the ice machine.



220/240/50/1 Wiring

Location/Mounting

! CAUTION

Do not install in an area where the air temperature falls below 35°F or exceeds 110°F.

The AuCS® must be protected if it will be subjected to temperatures below freezing. Refer to “Removal From Service/Winterization.”

HEIGHT REQUIREMENT

(Refer to drawing on page 2-3.) Either the base or the top of the AuCS® must be within 2” of the base of the ice machine. Do not mount the AuCS® too high or too low.

! CAUTION

The cleaner or sanitizer may siphon (or dispense improperly) into the ice machine water trough if the AuCS® is mounted too high or too low.

DISTANCE REQUIREMENT

(Refer to drawing on page 2-3.) The AuCS® must be mounted within 9 feet of the ice machine to accommodate the low voltage modular wire and tubing. The tubing may be shortened to accommodate a run of less than 9 feet.

! CAUTION

Do not extend the length of the 9-foot low voltage modular wire or tubing. The correct amount of solution will not dispense.

FASTENING TO BIN OR DISPENSER

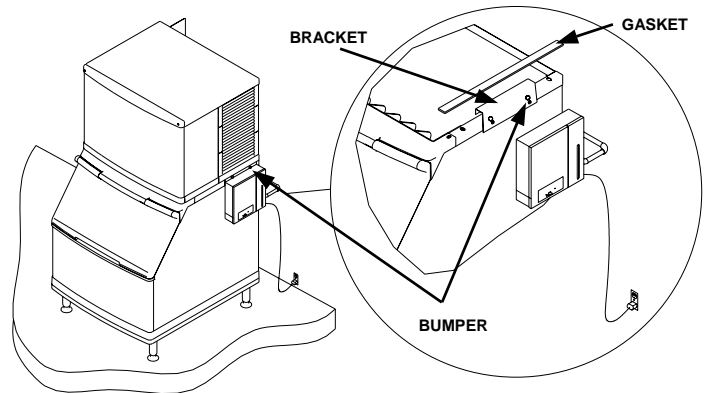
! CAUTION

The AuCS® accessory may be mounted to the bin or dispenser only when permitted by local electrical codes.

NOTE: The ice machine’s serviceability may be reduced when the AuCS® is mounted to the bin or dispenser. Wall mounting is recommended.

1. Set the mounting bracket (part F, page 2-4) over the bin top rail at desired location (refer to figure).
2. Remove the backing from the foam adhesive tape (part E, page 2-4). Apply tape to mounting bracket, and along the entire bin rail.

3. Align the AuCS® key slots with the mounting bracket tabs. Verify the tabs are at the top of the key slots and that the AuCS® is level.
4. Remove the backing from the adhesive bumpers (part D, page 2-4.) Attach bumpers to the mounting bracket directly above the AuCS® control box. This eliminates upward movement and stops the tabs from disengaging the key slots.

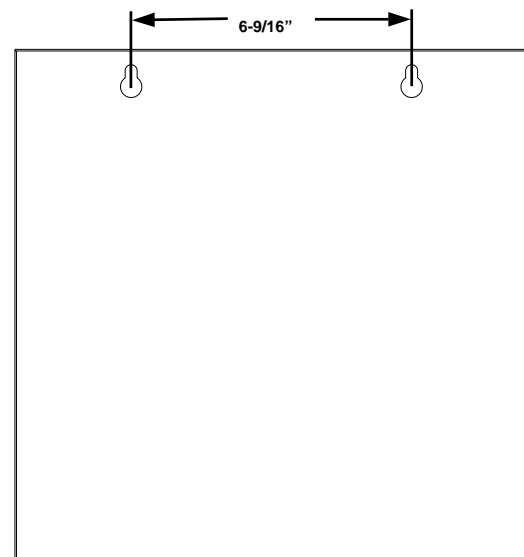


SV1640G

Mounting to Ice Machine

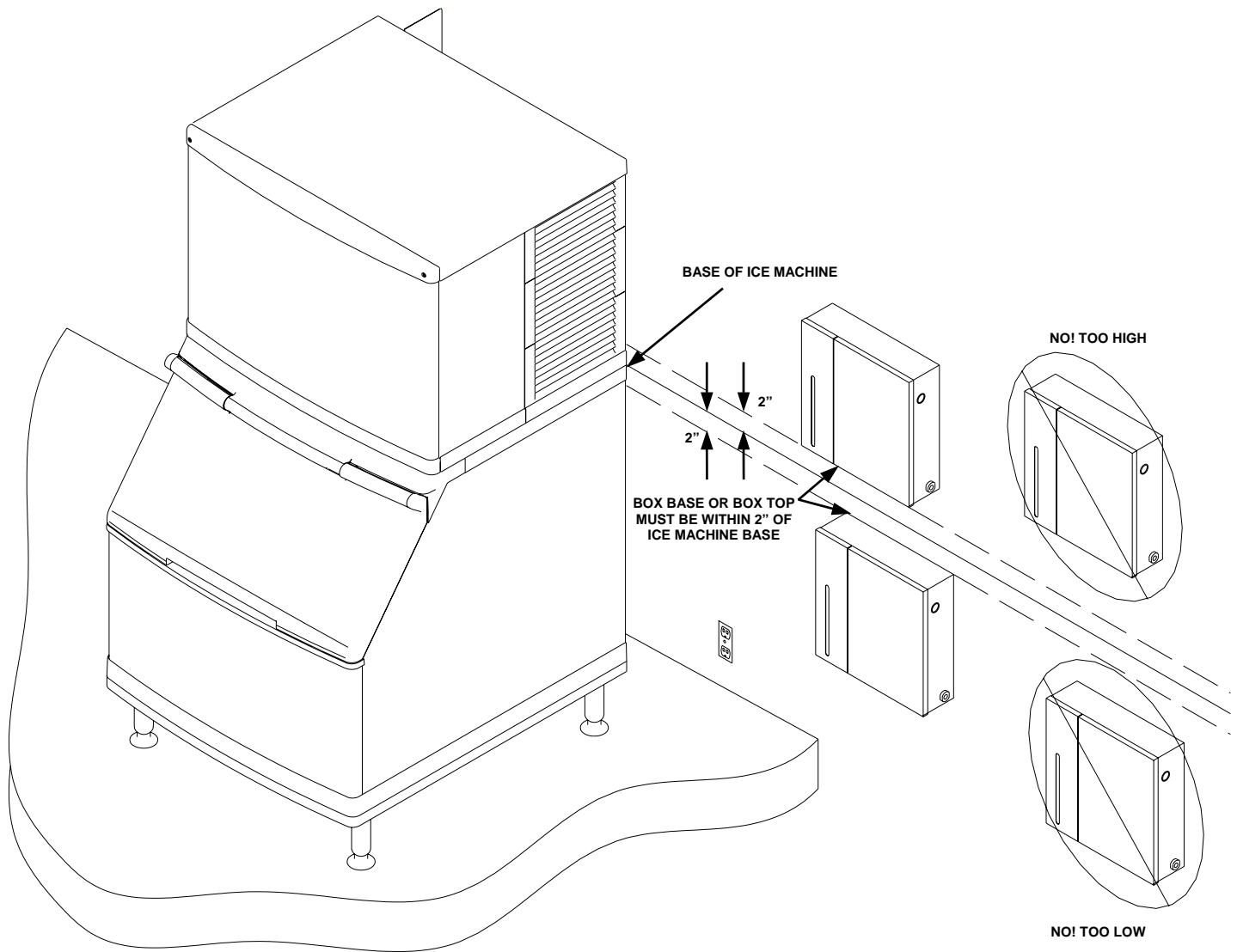
FASTENING TO WALL

The AuCS® is mounted to the wall using the two key slots in the back wall of the accessory. Screw fasteners (not supplied) must hold the entire weight of the AuCS® accessory (approximately 10 lb.).



SV1634G

Key Slot Dimensions



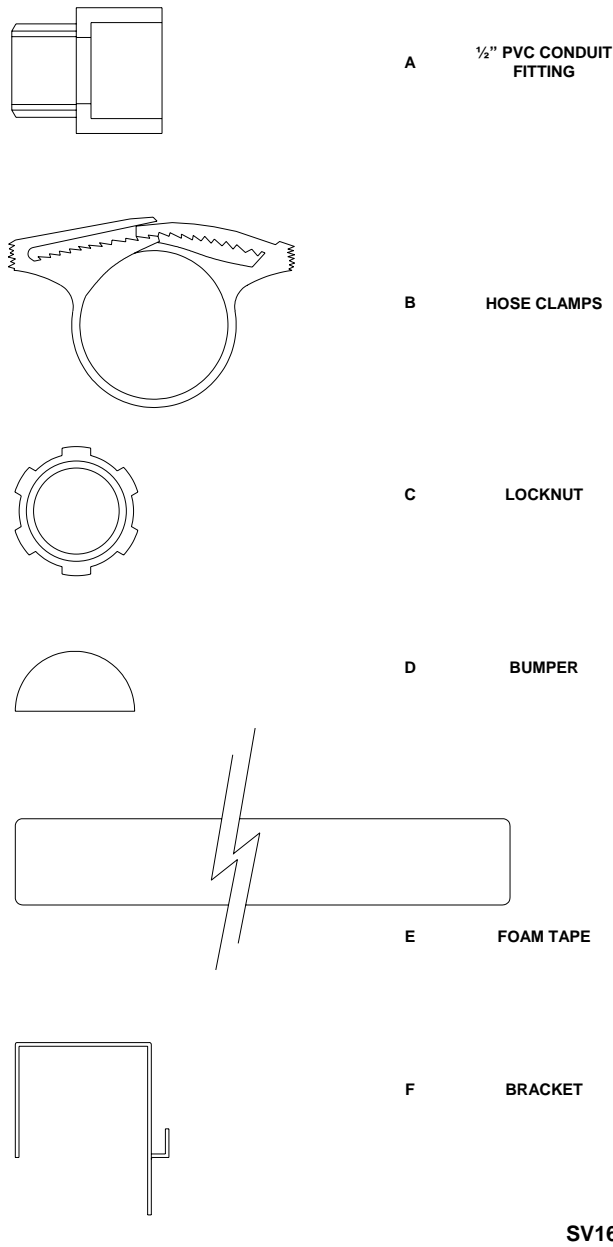
NOTE: BOX MUST ALSO MOUNT WITHIN REACH OF 9' TUBING AND LOW VOLTAGE MODULAR WIRE.

SV1639G

Height and Distance Requirements

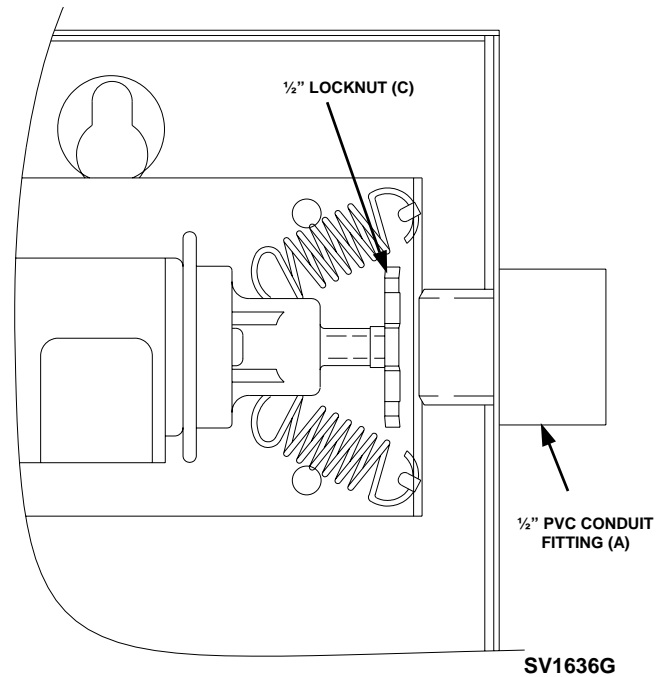
Connection to Ice Machine

GENERAL



Parts Identification

PVC CONDUIT FITTING (A) INSTALLATION



PVC Conduit Fitting (A) Installation

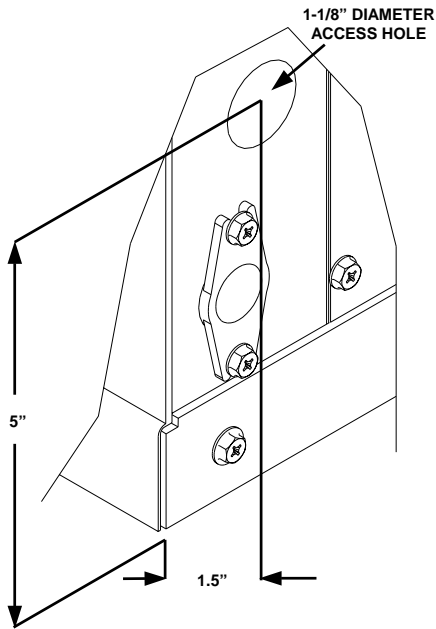
1. Insert the PVC fitting (A) into the AuCS[®] and tighten with the lock nut (C).

⚠ WARNING
 Disconnect the electric power supply to the ice machine at the electrical disconnect before proceeding.

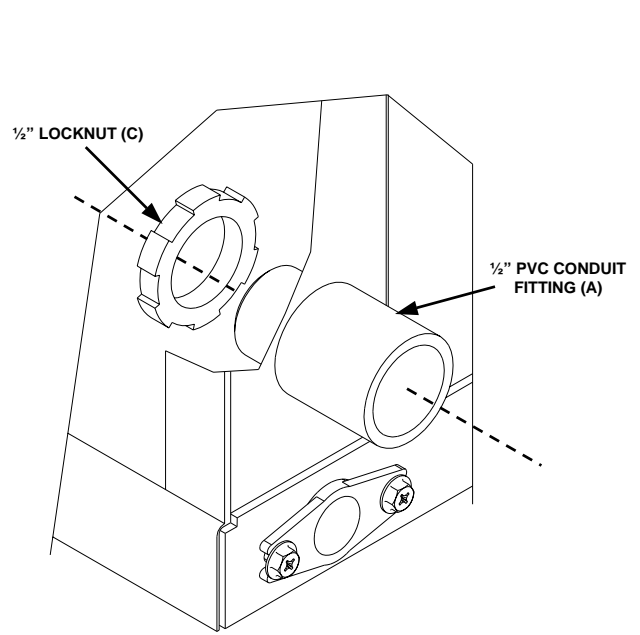
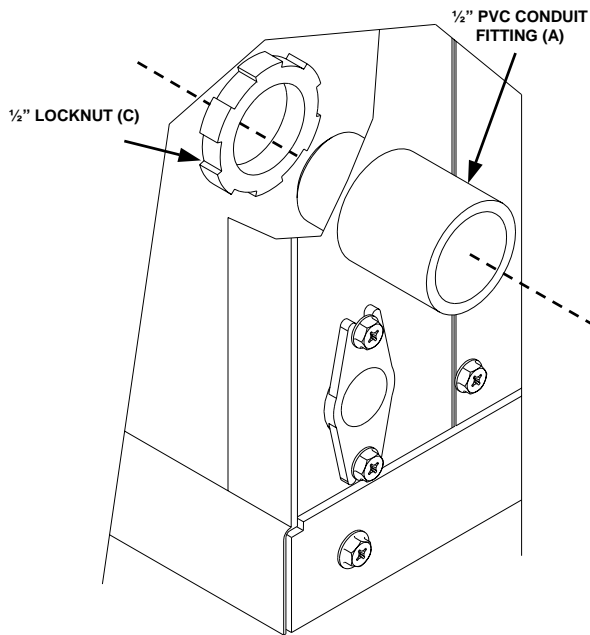
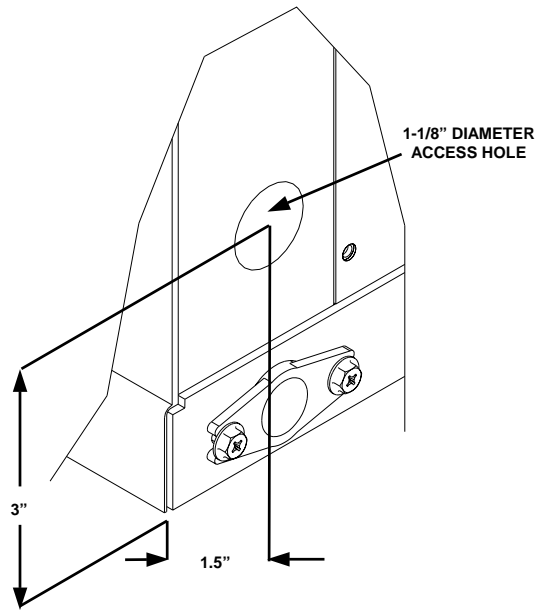
2. If required for access, remove the front, top, and right side panels from the ice machine.
3. Remove the 7/8" access hole plug located on the back of the corner post of the ice machine
4. Insert the PVC conduit fitting (Part A) and tighten with the lock nut (Part C).

Connection to Ice Machine (cont.)

Q320 Q420



Q200 Q450 Q600 Q800
Q1000 Q1300 Q1800



SV1637G

PVC Conduit Fitting (A) Installation

Connection to Ice Machine (cont.)

PVC CONDUIT CONNECTION (NOT SUPPLIED)

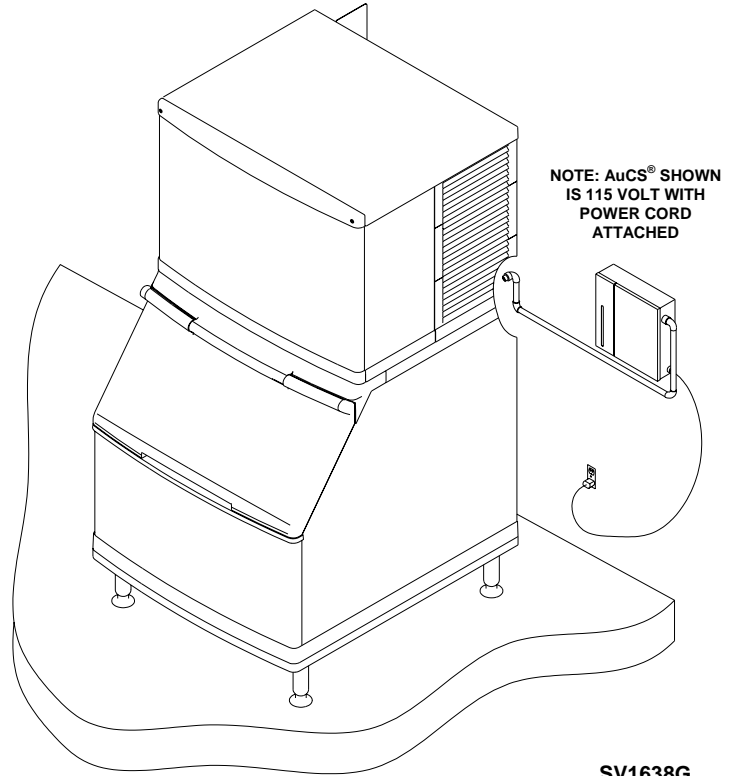
Connect the 1/2" PVC conduit from the AuCS[®] to the ice machine.



CAUTION

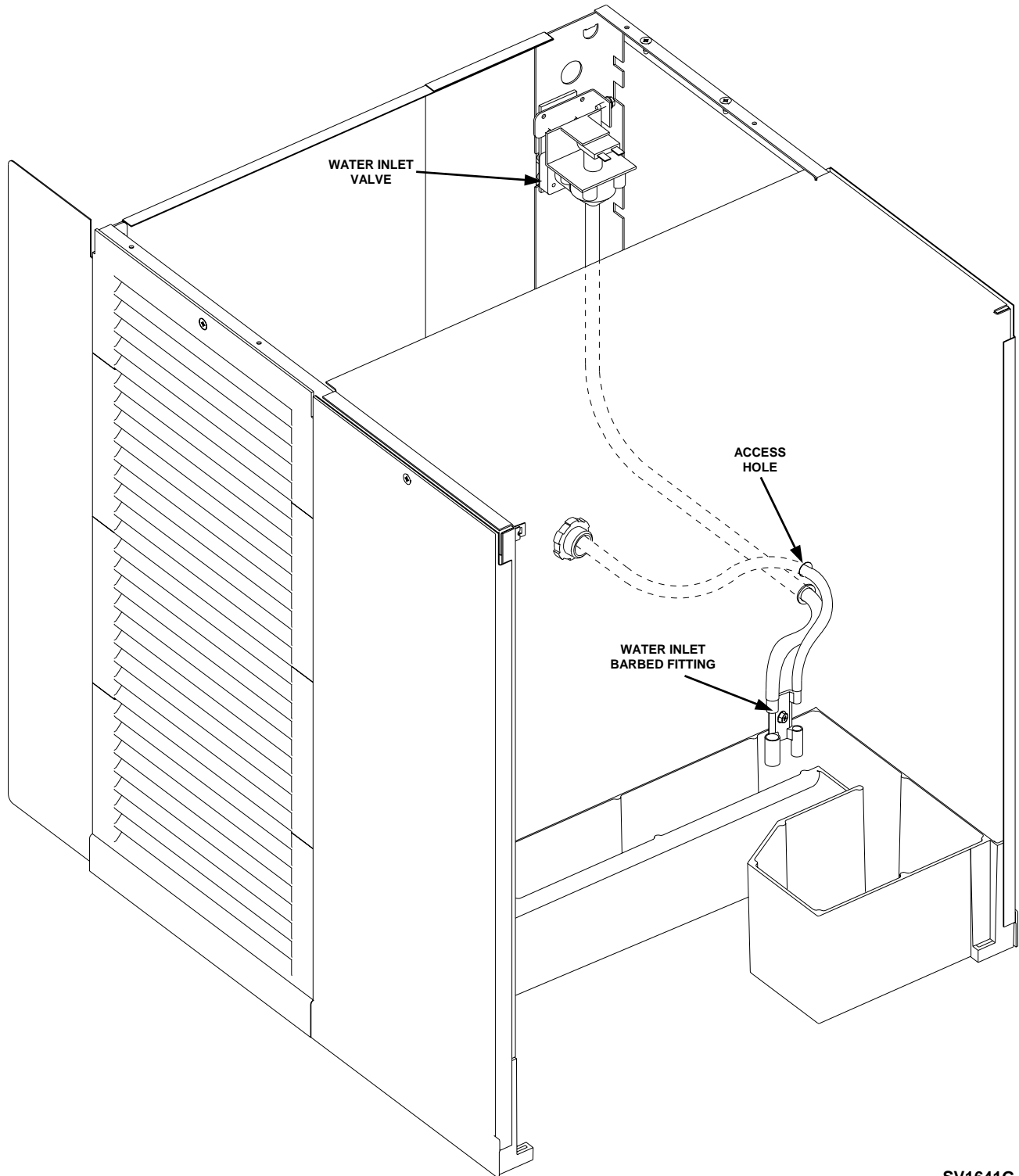
Install 1/2" conduit to protect the tubing and modular wire from damage or access.

NOTE: A pulling elbow is recommended for easier routing of the vinyl tubing and modular wire.



Typical PVC Conduit Installation

Connection to Ice Machine (cont.)



SV1641G

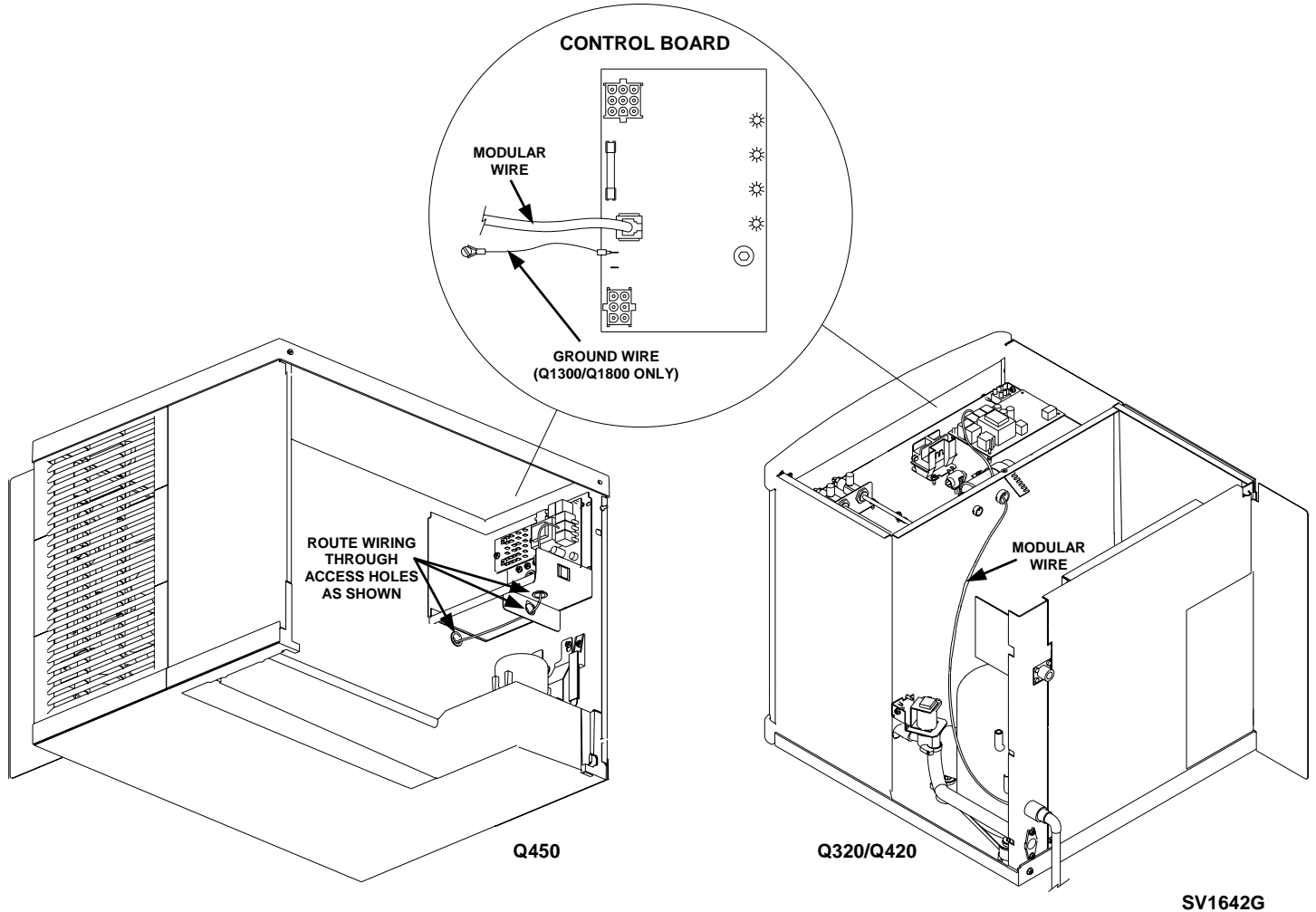
Vinyl Tubing Installation (Typical Q450 Shown)

Connection to Ice Machine (cont.)

MODULAR WIRE CONNECTION

Insert the low voltage modular wire through the 1/2" conduit connecting the AuCS® to the ice machine.

Plug into the jacks on the ice machine control board and the AuCS® control board. (Refer to drawing for routing modular wire in ice machine.)

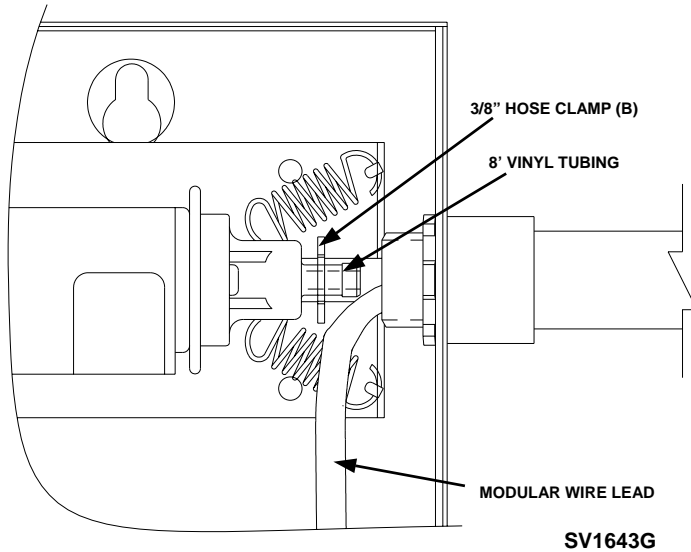


Low Voltage Modular Wire Connection

Connection to Ice Machine (cont.)

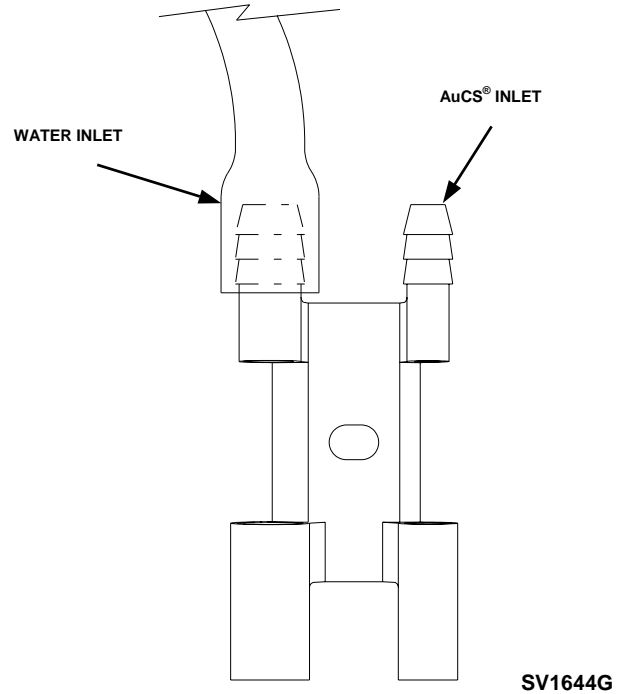
VINYL TUBING CONNECTION

1. Insert the tubing into the 1/2" conduit from the AuCS® to the ice machine.
2. Slide the 3/8" hose clamp (B) onto the tubing and connect it to the barbed fitting on the AuCS® dispenser pump.



Connecting Vinyl Tubing to Dispenser Pump Using 3/8" Hose Clamp (B)

3. Route the tubing through the bulkhead heyco fitting and into the water compartment.
4. Determine the amount of tubing required and cut off the excess.
5. Slide the 3/8" hose clamp (Part B) onto the tubing and connect it to the water inlet barbed fitting.



Connecting Vinyl Tubing to Water Inlet Barbed Fitting

AFTER INSTALLATION

⚠ WARNING

Read and understand this entire manual prior to operation of the AuCS® accessory. You must understand all warning and caution statements and follow all safety precautions to assure proper operation of the AuCS® accessory.

Determine Type Of Solution Needed

! CAUTION

Use only Manitowoc-approved Ice Machine Cleaner (part number 94-0546-3) or Sanitizer (part 94-0565-3) in the AuCS[®]. It is a violation of Federal law to use these solutions in a manner inconsistent with their labeling. Read and understand all labels on the bottles before use.

The AuCS[®] accessory will dispense Cleaner OR Sanitizer. It cannot dispense both at the same time.

! CAUTION

Do not mix Cleaner and Sanitizer solutions together. It is a violation of Federal law to use these products in a manner inconsistent with their labeling.

MANITOWOC ICE MACHINE CLEANER

Part Number 94-0546-3

Ice Machine Cleaner is used to control build-up and to remove lime scale or other mineral deposits. It will not “sanitize” the ice machine.

It is recommended for use in places that have lime scale or other mineral deposits built up, but no problems with slime.

MANITOWOC ICE MACHINE SANITIZER

Part Number 94-0565-3

Ice Machine Sanitizer is used for sanitizing and controlling algae build-up (slime) and other bacterial growth. The ice machine should be sanitized on a regular schedule, following Manitowoc recommendations and local regulations.

It is recommended for use in places such as pizzerias, bars, bakeries, etc., that have airborne bacteria (yeast). Sanitizing is also recommended in places that do not have lime scale (or other mineral deposit problems).

Model	Amount of Cleaner or Sanitizer Dispensed
Q200 Q320 Q420 Q450 Q600 Q800 Q1000	*2.4 ounces (70 ml)
Q1300 Q1800	*4.8 ounces (140 ml)
*The dispense rate is automatically controlled	

Installing Bottle Of Solution

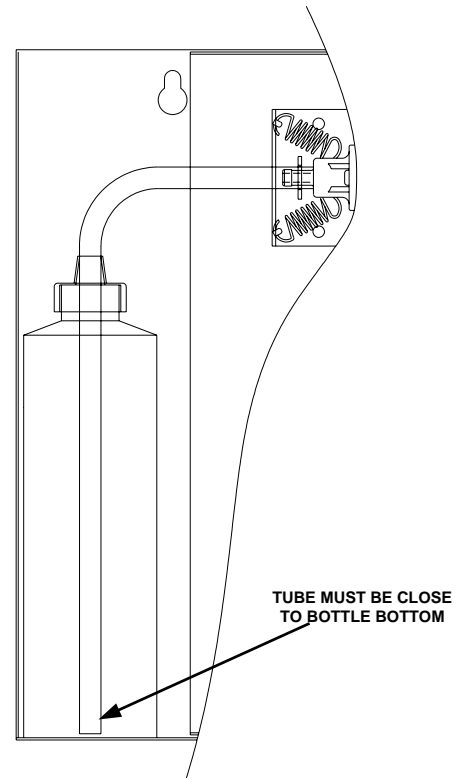
! WARNING

Wear rubber gloves and safety goggles (and/or face shield) when handling Cleaner or Sanitizer.

! CAUTION

Follow instructions listed under “Changing Solution Type” on the next page when changing from Cleaner to Sanitizer or from Sanitizer to Cleaner.

1. Place the bottle into the AuCS[®] accessory.
2. Slide the tube to the bottom of the bottle and hand-tighten the cap.



SV1645

Bottle Installation

Changing Solution Type



CAUTION

Do not mix Cleaner and Sanitizer solutions together. It is a violation of Federal law to use these products in a manner inconsistent with their labeling.

Use the following procedure to flush the system prior to changing from Cleaner to Sanitizer or from Sanitizer to Cleaner.

1. Remove the bottle of Cleaner or Sanitizer from the AuCS[®]. Insert a 16 oz. bottle of water.
2. Repeat the following until the water bottle is empty (approximately 8 times):
 - A. Move the ice machine toggle switch to CLEAN.
 - B. The water pump and dump valve will turn on. The dump valve will shut off after approximately 45 seconds.
 - C. The pump will dispense for 10-20 seconds. (The Q1300 and Q1800 will dispense for 30-40 seconds).
 - D. Move the switch to OFF after step C is completed.
3. Install a new bottle of either Cleaner or Sanitizer solution. Refer to “Installing Bottle of Solution” on previous page.

Hose Priming

The dispenser pump requires priming only upon initial installation, or if the hose between the AuCS[®] and the ice machine has been pumped dry.



WARNING

Do not blow into or suck on the hose in an attempt to prime it.



CAUTION

Do not prime the hose until installation is complete.

Repeat the following procedure three times:

1. Move the ice machine toggle switch to CLEAN.
2. The water pump and dump valve will turn on. The dump valve will shut off after approximately 45 seconds.
3. The pump will dispense for 10-20 seconds. (The Q1300 and Q1800 will dispense for 30-40 seconds).
4. Move the switch to OFF after step 3 is completed.

Important

The priming procedure starts the automatic cleaning mode. Upon moving the ice machine toggle switch to ICE, the ice machine will run through 6 rinse cycles before making ice.

Setting Frequency Of Cleanings

The AuCS[®] is factory-set to clean (or sanitize) the ice machine approximately once every two weeks. For less frequent cleaning, set the selector switch as indicated below. (Refer to “Component Location and Identification” for selector switch location.)

Switch Position	Time Between Cleanings
0	No cleaning (OFF)
1	Approximately 2 weeks (1120 harvests)
2	Approximately 4 weeks (2240 harvests)
3	Approximately 12 weeks (6720 harvests)

NOTE: Switch positions 4-9 are inoperative. Do not use them.

Important

Using the AuCS[®] accessory is supplemental to regular cleaning and sanitizing (per Manitowoc recommendations and local regulations).

Removal From Service/Winterization

CAUTION

Leaving solutions in the AuCS[®] in freezing temperatures may result in severe damage to the dispensing pump. A failure of this nature is not covered by the warranty.

If the AuCS[®] is to be removed from service for extended periods, or if it is to be exposed to ambient temperatures of 32°F (0°C) or below, follow this procedure:

1. Remove the Cleaning or Sanitizing solution bottle.
2. Follow the instructions under “Hose Priming” to pump all of the solution out of the dispensing pump and line.

Section 3

Ice Machine Operation

Automatic Operation

The following occurs when the toggle switch is in the ICE position:

- The ice machine control board counts the number of ice harvest cycles.
- The AuCS[®] accessory interrupts the ice making mode and starts the self-cleaning (or sanitizing) mode when the harvest count equals the “Frequency of Cleaning” setting of the AuCS[®].
- When the automatic self-cleaning(or sanitizing) cycle is complete (approximately 25 minutes), ice making resumes automatically, and the “Harvest Count” is reset to zero.

Important

Opening the curtain switch will interrupt the cleaning (or sanitizing) sequence. The sequence will resume from the point of interruption when the curtain recloses.

NOTE: The harvest count is reset after the AuCS[®] cycle is completed. It cannot be reset by unplugging the modular wire, changing the switch position, power loss, etc.

Manual Start Operation

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



CAUTION

Never use anything to force ice from the evaporator. Damage may result.

Step 2 To start the automatic cleaning system, move the toggle switch to the CLEAN position. The water will flow through the water dump valve and down the drain. The Clean light will turn on to indicate the ice machine is in the Self-Cleaning Mode. The AuCS[®] then automatically adds cleaner or sanitizer to the ice machine.

Step 3 The ice machine will automatically time out a ten minute cleaning or sanitizing cycle, followed by six rinse cycles, de-energize the Clean light and stop. This entire cycle lasts approximately 25 minutes.

Step 4 After the cleaning or sanitizing cycle stops, move the toggle switch to ICE position.

Step 5 The ice machine may be set to start and finish a self-cleaning (or sanitizing) cycle, then automatically start ice making again.

You must wait about one minute into the cleaning cycle (until water starts to flow over the evaporator), then move the toggle switch from CLEAN to ICE position.

When the self-cleaning cycle (or sanitizing) is completed, an ice making sequence will start automatically.

Changing Switch Position During Automatic Operation

If the toggle switch is moved to OFF prior to the pump dispensing (less than 45 seconds into the cycle) then switched to:

ICE	A normal ice-making mode begins.
CLEAN	A manual clean cycle begins. (See "Manual Start Operation," page 3-1.)

If the toggle switch is moved to OFF after the pump dispenses (more than 45 seconds into the cycle, but before rinse cycles begin) then switched to:

ICE	The "clean" portion of the cycle begins. After completion of the 10-minute "Clean" and 6 rinse cycles, the counter resets and a normal ice-making mode begins.
CLEAN	A manual clean cycle begins. (See "Manual Start Operation," page 3-1.) After completion of the 10-minute "Clean" and 6 rinse cycles, the counter resets and the ice machine awaits a change in the toggle switch position.

If the toggle switch is moved to OFF after the 6 rinse cycles have begun and then switched from off to:

ICE	The rinse portion of the cycle restarts and continues. After completion of the 6 additional rinse cycles, the counter resets and a normal ice-making mode begins.
CLEAN	A manual clean cycle begins. (See "Manual Start Operation," page 3-1.) After completion of the 10-minute "Clean" and 6 rinse cycles, the counter resets and the ice machine awaits a change in the toggle switch position.

Complete the following and retain for your records:

Distributor/Dealer _____

Model Number _____

Serial Number _____

Installation Date ____ / ____ / ____

MANITOWOC ICE, INC.

2110 South 26th Street P.O. Box 1720

Manitowoc, WI 54221-1720

Phone: (920) 682-0161

Fax: (920) 683-7585

Web Site - www.manitowocice.com

©1997 Manitowoc Ice, Inc.

Litho in U.S.A.