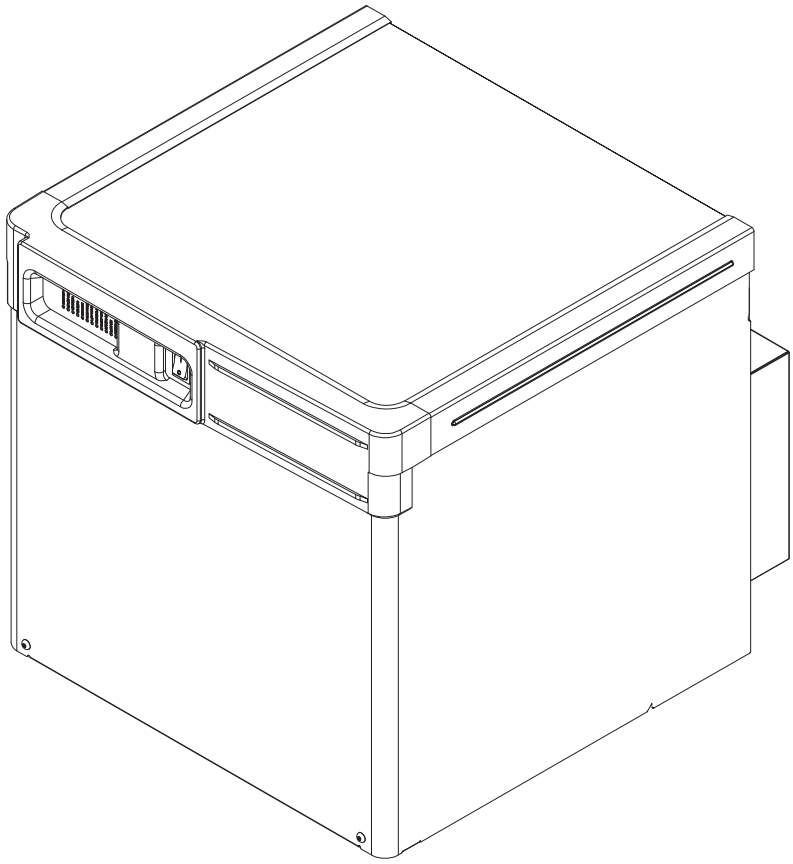
D1811R
Horizon Elite™ Ice Machines (Remote Condensing)

User Guide

Please visit *www.follettice.com/technicaldocuments* for the Operation and Service manual for your unit.



Welcome to Follett

Follett equipment enjoys a well-deserved reputation for excellent performance, long-term reliability and outstanding after-the-sale support. To ensure that this equipment delivers that same degree of service, review this guide carefully before you begin your installation.

Should you need technical help, please call our Technical Service group at (877) 612-5086 or (610) 252-7301.

Please have your model number, serial number and complete and detailed explanation of the problem when contacting Technical Service.

Getting Started

After uncrating and removing all packing material, inspect the equipment for concealed shipping damage. All freight is to be inspected upon delivery. If visible signs of damage exist, please refuse delivery or sign your delivery receipt "damaged." Follett Customer Service must be notified within 48 hours. Wherever possible, please include detailed photos of the damage with the original packaging so that we may start the freight claim process.

801 Church Lane • Easton, PA 18040, USA
Toll free (877) 612-5086 • +1 (610) 252-7301
www.follettice.com

Installation and Service Videos:
www.follettice.com/servicevideolibrary

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⚠ CAUTION

- Warranty does not cover exterior or outside installations.
- Moving parts. Do not operate with front cover removed.
- Hot parts. Do not operate with cover removed.
- To reduce risk of shock, disconnect power before servicing.
- Drain line must not be vented.
- Water supply must have particle filtration.
- Most ice machine cleaners contain citric or phosphoric acid, which can cause skin irritation. Read caution label on product and follow instructions carefully.
- Ice is slippery. Maintain counters and floors around dispenser in a clean and ice-free condition.
- Ice is food. Follow recommended cleaning instructions to maintain cleanliness of delivered ice.
- Follett recommends a Follett water filter system be installed in the ice machine inlet water line.

Specifications

Electrical

Separate, dedicated circuit and equipment ground required.

Evaporator unit

Standard electrical: 115/60/1
Maximum fuse: 15A
Amperage: 5A

Condensing unit

	1811 3-Phase
Electrical	208-230V, 60Hz
Max Circuit HVACR breaker size	25A
Min Circuit Ampacity	16.7A

Plumbing

⚠ WARNING

This equipment to be installed with adequate backflow protection to comply with applicable federal, state, and local codes.

Notes:

- Follett does not recommend the use of water softeners or bowl scale inhibitors.
- The potable water total dissolved solids (TDS) content must be greater than 10 ppm for the water control system to function properly. If using reverse osmosis water filtration system, ensure TDS level is greater than 10 ppm.

Evaporator plumbing

- 3/8" OD push-in water inlet - 3/8" OD tubing required.
- Water shut-off recommended within 10 feet (3 m).

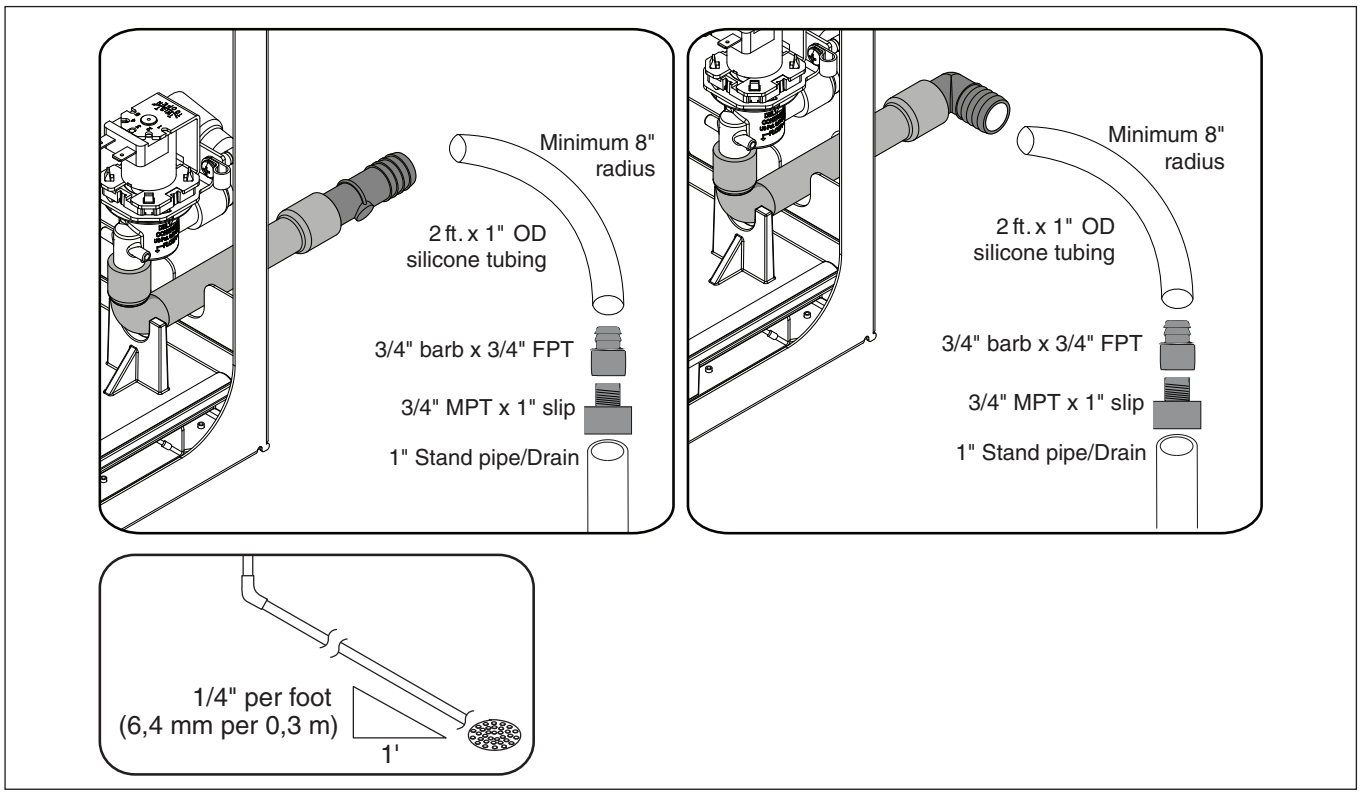
Flush drain plumbing

- Attach either the provided straight 3/4" barb adapter or a 90 degree adaptor. Connect the supplied 2' (0.61 m) silicone hose to the 3/4" drain barb.
- It is recommended that the silicone hose be routed down into a 1.5" or 2" standpipe/drain. The minimum drain size for the ice machine is 1".

  Note: 3/4" to 1" PVC adapter fittings are provided if a larger drain size is not possible.

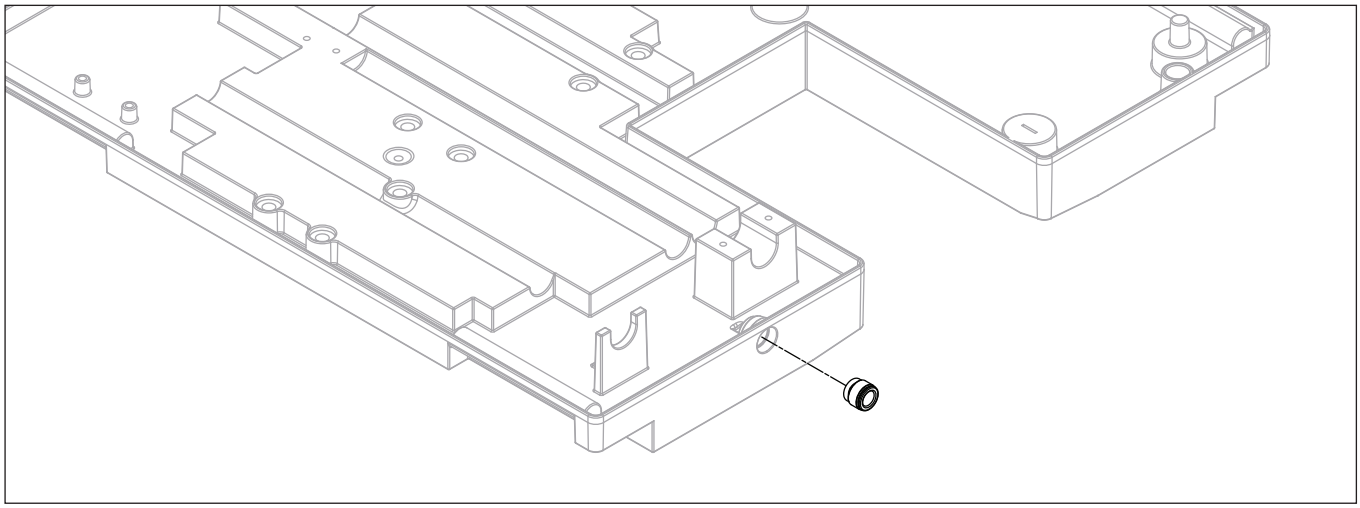
  Note: Minimum 8" radius on silicone drain line. Drain line from the ice machine must have at least 1/4" per foot pitch (6.4 mm/0.3 m).

  Note: Standpipe/drain provided by others. All other components provided with ice machine.



Chassis drain plumbing

- Route 3/8" drain tubing through knockout in back of docking station and insert fully into John Guest fitting connection at the rear of the machine chassis. Route other end of 3/8" drain tubing to drain.
- Drain must slope 1/4" inch per foot (6 mm per 30.4 cm).



Ambient

Evaporator unit

Air temperature	100 F/38 C max.	50 F/10 C min.
Water temperature	90 F/32 C max.	45 F/7 C min.
Water pressure	70 psi max. (483 kPa)	10 psi min. (69 kPa)

Condenser unit

Air temperature	120 F/49 C max.	–20F/–29C min.

Refrigeration

- 3/8" liquid line
- 7/8" suction line

Note: Rack system installations require a capacity of 15,700 BTU/hr for 1811 machines at 0 F (–18 C) evaporator temperature. Evaporator pressure regulator (not supplied) is required.

Weight

Evaporator unit:

1811: 157 lbs (71.2 kg)

Condensing unit: Net Weight 226 lbs (103 kg), Shipping Weight 300 lbs (136 kg)

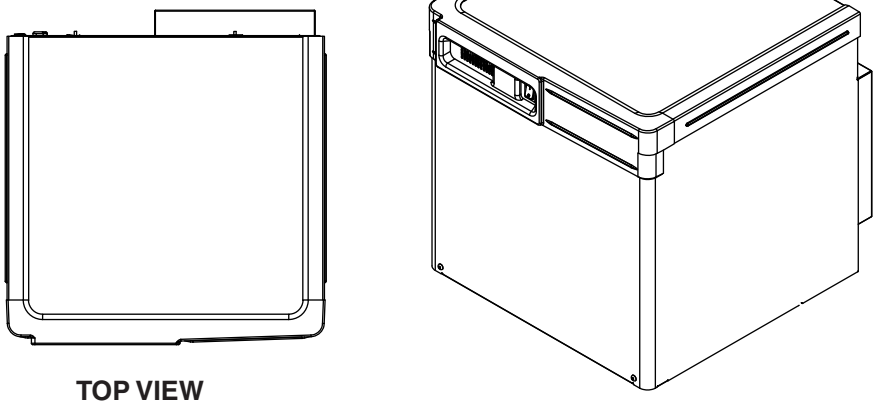
Ice production

1811 ice machine capacity/24 hrs.

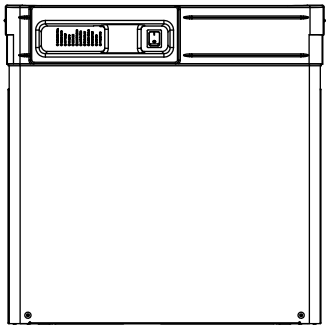
Ambient Air Temperature F/C							
Evap Potable Water Temperature F/C	F	50	60	70	80	90	
	C	10	16	21	26	32	
	50	1708	1699	1690	1619	1547	lbs
	10	775	771	767	734	702	kg
	60	1606	1594	1582	1514	1447	lbs
	16	728	723	718	687	656	kg
	70	1503	1488	1473	1410	1346	lbs
	21	682	675	668	640	611	kg
	80	1422	1408	1395	1332	1269	lbs
	26	645	639	633	604	576	kg
	90	1341	1329	1316	1254	1192	lbs
	32	608	603	597	569	541	kg

Dimensions and clearances

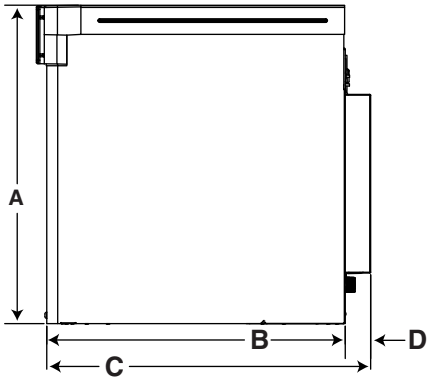
- Entire front of ice machine must be clear of obstructions/connections to allow removal.
- 1" (26mm) clearance above ice machine for service.
- 1" (26mm) minimum clearance on sides.

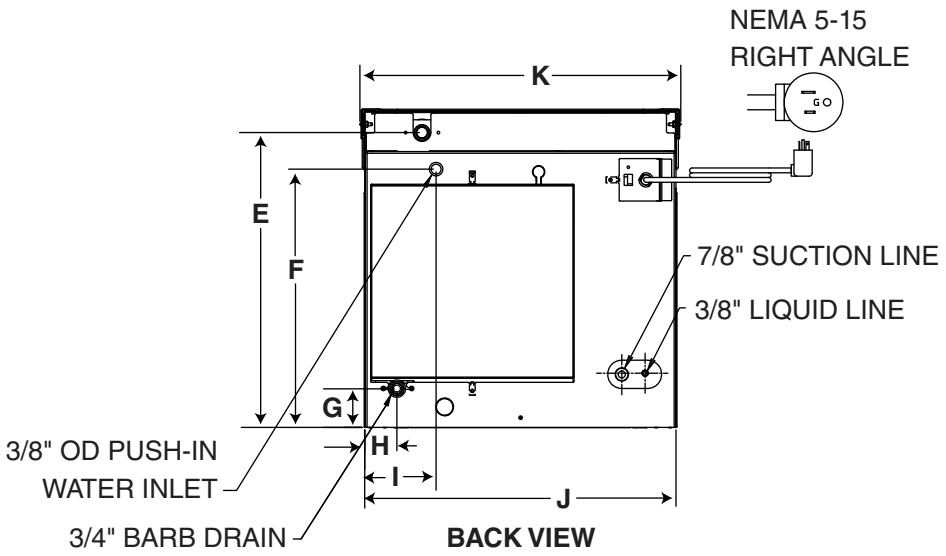


TOP VIEW



FRONT VIEW

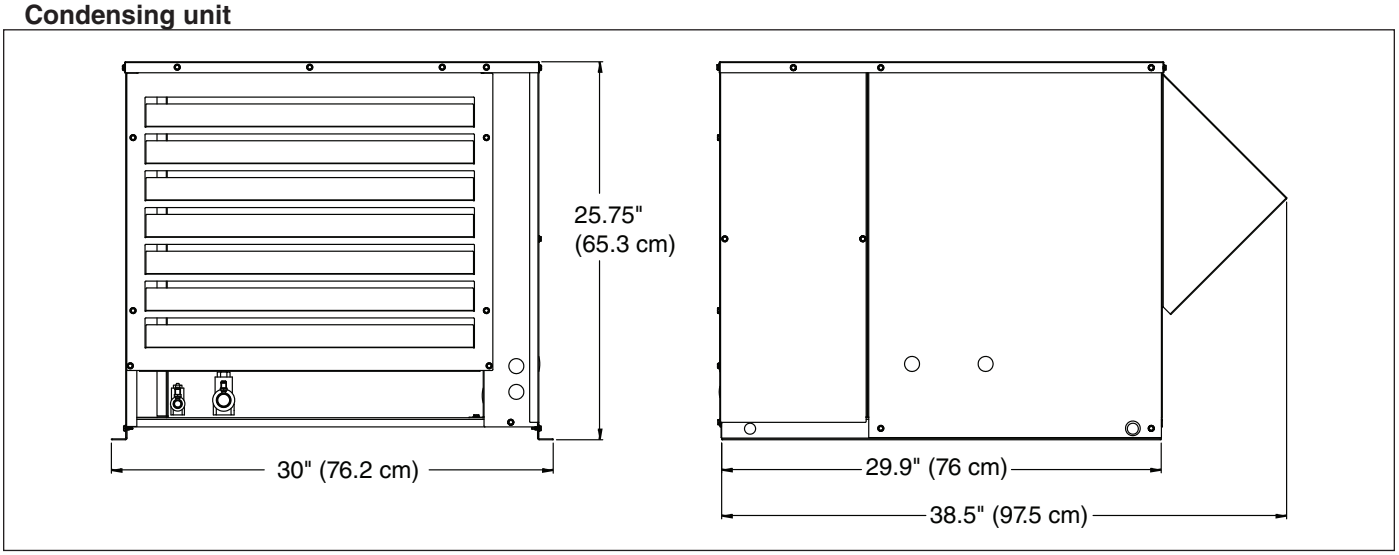




BACK VIEW

A	22.5" (57.1 cm)
B	21.1" (53.6 cm)
C	22.9" (58.2 cm)
D	1.8" (4.5 cm)
E	20.8" (52.9 cm)
F	18.3" (46.4 cm)
G	2.7" (6.9 cm)
H	2.3" (15.3 cm)
I	5.0" (12.8 cm)
J	22.0" (55.9 cm)
K	22.7" (57.6 cm)

Condensing unit



W1 Width	30.00" (76.2 cm)
D1 Depth (hail guard included)	38.50" (97.8 cm)
H1 Height	25.75" (65.4 cm)
Electrical	1811 series: three phase – 208-230/60/3
Operating power	1811 series: three phase – 3.6 kW
Minimum circuit ampacity	1811 series: three phase – 16.7 A
Maximum circuit HVACR breaker size	1811 series: three phase – 25 A
Outdoor condensing unit operating limits (air temperature)	min -20 F (-29 C) max 120 F (49 C)
Maximum refrigerant line run length	75' (22.9 m)
Maximum line rise above evaporator	35' (10.7 m)
Evaporator mounting above condenser	15' (4.6 m)
Maximum refrigeration line drop without oil trap	15' (4.6 m)
Refrigerant charge	16.5 lb pre-charged at factory for 1811 3PH
Approximate ship weight	1811 series: 300 lb (136 kg)
Approximate net weight	1811 series: 226 lb (103 kg)

NOTE:
1. Suction line must be insulated. Liquid line does not require insulation.

Operation

Cleaning/sanitizing and preventive maintenance

Note: Do not use bleach to sanitize or clean the icemaker.

Preventive maintenance

Periodic cleaning of Follett's icemaker system is required to ensure peak performance and delivery of clean, sanitary ice. The recommended cleaning procedures that follow should be performed at least as frequently as recommended, and more often if environmental conditions dictate.

Cleaning of the condenser can usually be performed by facility personnel. Cleaning of the icemaker system, in most cases, should be performed by your facility's maintenance staff or a Follett authorized service agent. Regardless of who performs the cleaning, it is the operator's responsibility to see that this cleaning is performed according to the schedule below. Service problems resulting from lack of preventive maintenance will not be covered under the Follett warranty.

Weekly exterior care

The exterior may be cleaned with a stainless cleaner such as 3M Stainless Steel Cleaner & Polish or equivalent.

Monthly condenser cleaning (self-contained, air-cooled icemaker only)

1. Use a vacuum cleaner or stiff brush to carefully clean condenser coils of air-cooled icemakers to ensure optimal performance.
2. When reinstalling counter panels in front of remote icemakers, be sure that ventilation louvers line up with condenser air duct.

Semi-annual evaporator cleaning (every 6 months)

⚠ WARNING

- Wear rubber gloves and safety goggles (and/or face shield) when handling ice machine cleaner or sanitizer.

⚠ CAUTION

- Use only Follett approved SafeCLEAN Plus™ cleaning solution.
- DO NOT USE BLEACH.
- It is a violation of federal law to use these solutions in a manner inconsistent with their labeling.
- Read and understand all labels printed on packaging before use.

Note: Complete procedure for cleaning an sanitizing MUST be followed. Ice must be collected for 10 minutes before putting ice machine back into service.

1. Note position of TDS switch. Set to HIGH for duration of cleaning. Press the CLEAN button. The machine will fill and drain three times (**approximately 5 minutes**). The auger will run for a short time and then stop. Wait for the LOW WATER light to come on.

Fig. 1

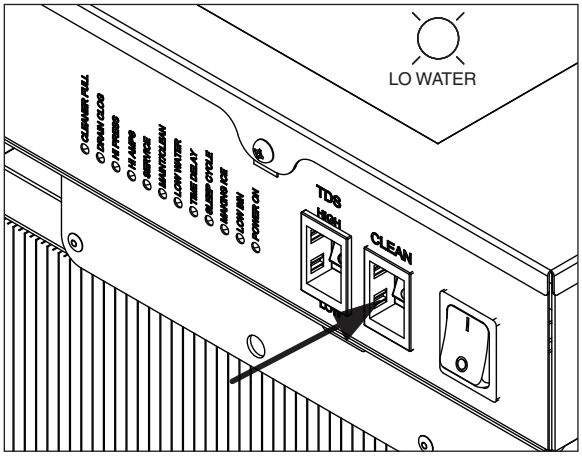
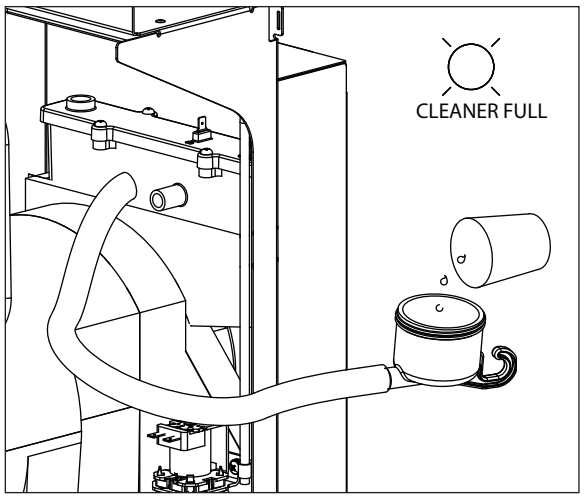


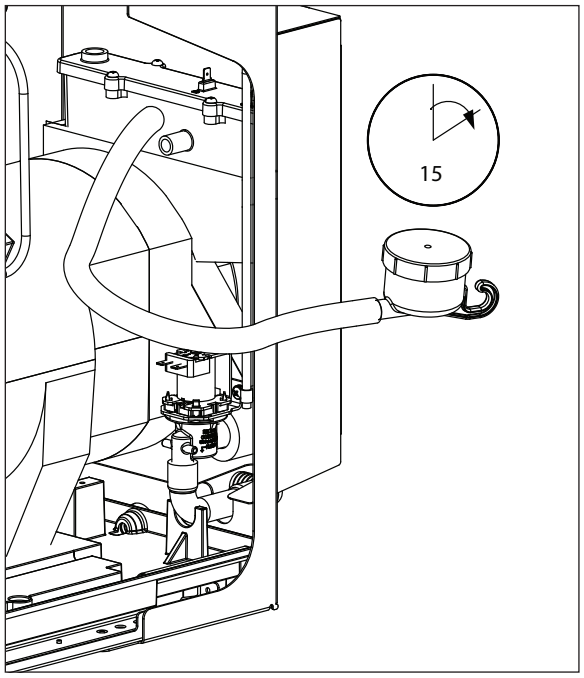
Fig. 2



2. Follow the directions on the SafeCLEAN Plus packaging to mix 1 gal. (3.8 L) of Follett SafeCLEAN Plus solution. Use 120 F (49 C) water.
3. Using a 1 quart (1 L) container, slowly fill cleaning cup until CLEANER FULL light comes on and cleaner just begins to flow from the vent tube.
4. Place two SaniSponge™ cleaning sponges in remaining sanitizing and cleaning solution and retain for Step 9.

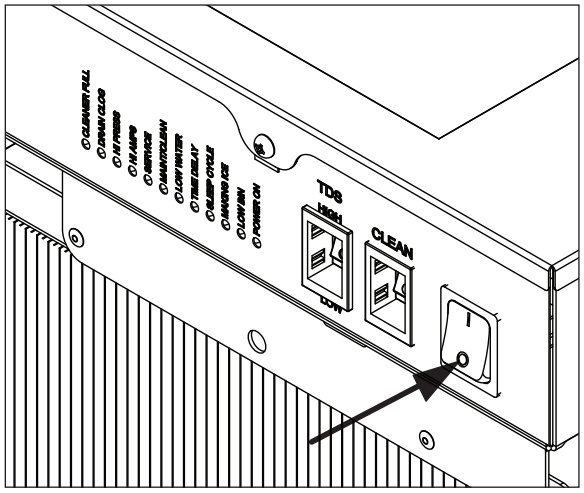
Note: Do not use bleach to sanitize or clean the icemaker.

Fig. 3



5. Replace cover on cleaner cup. Machine will clean, then flush 3 times in approximately 15 minutes. Wait until machine restarts.

Fig. 4



6. To clean/sanitize ice transport tube – Press power switch OFF

7. Disconnect coupling as shown.

Fig. 5

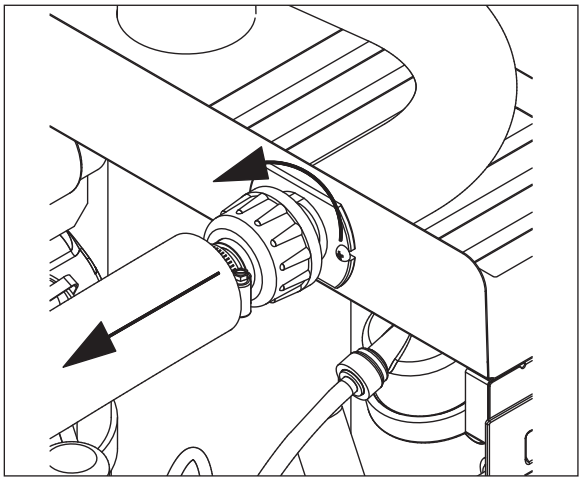


Fig. 6

8. Using disposable foodservice grade gloves, insert red plastic plug (**Fig. 6.1**) followed by four SaniSponges (**Fig. 6.2**) saturated in cleaning solution (from Step 4).

9. Push plug and four SaniSponge cleaning sponges down ice transport tube with supplied pusher tube.

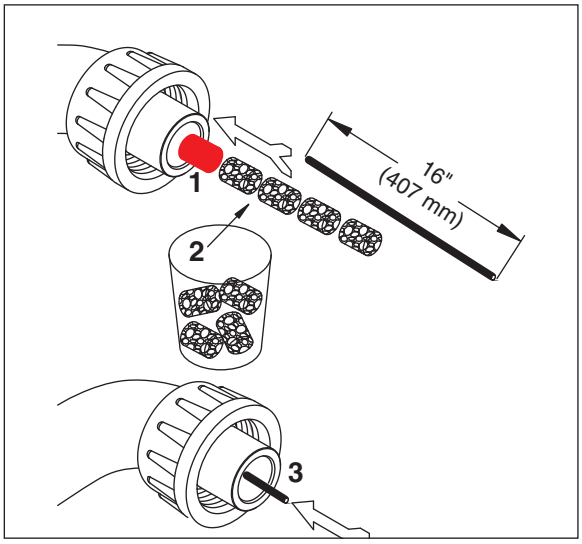
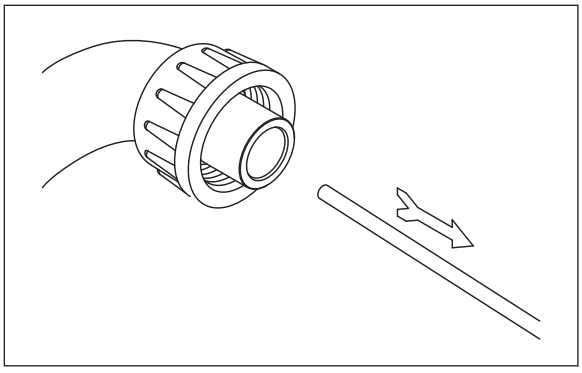


Fig. 7

10. Remove and discard 16 inch (407 mm) pusher tube.



11. Fill internal ice transport tube with remaining cleaning solution.

Fig. 8

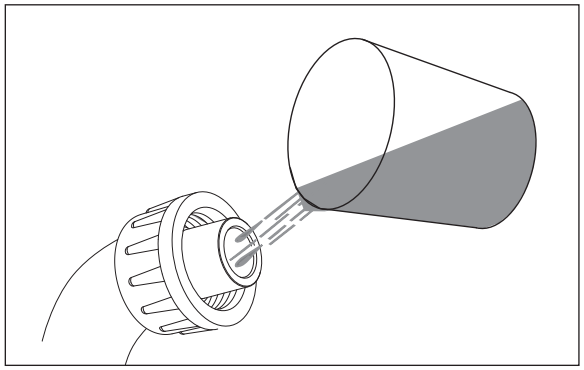


Fig. 9

12. Reconnect coupling. Press power switch ON. Ice pushes plug and SaniSponge cleaning sponges through ice transport tube.

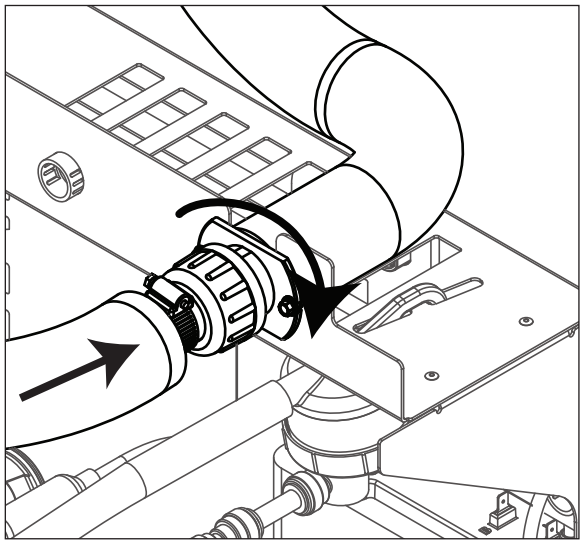
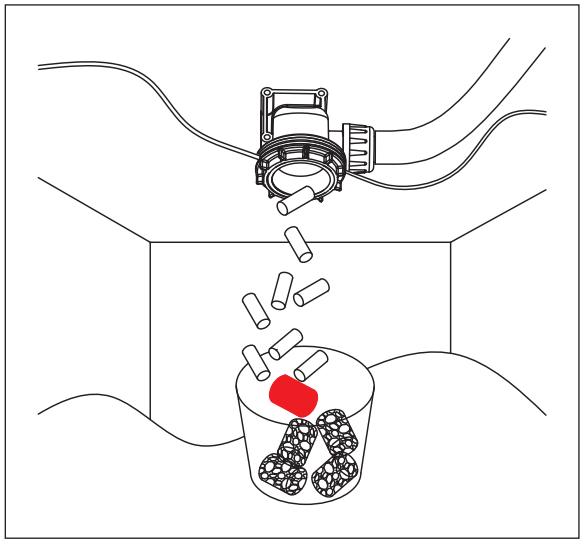


Fig. 10

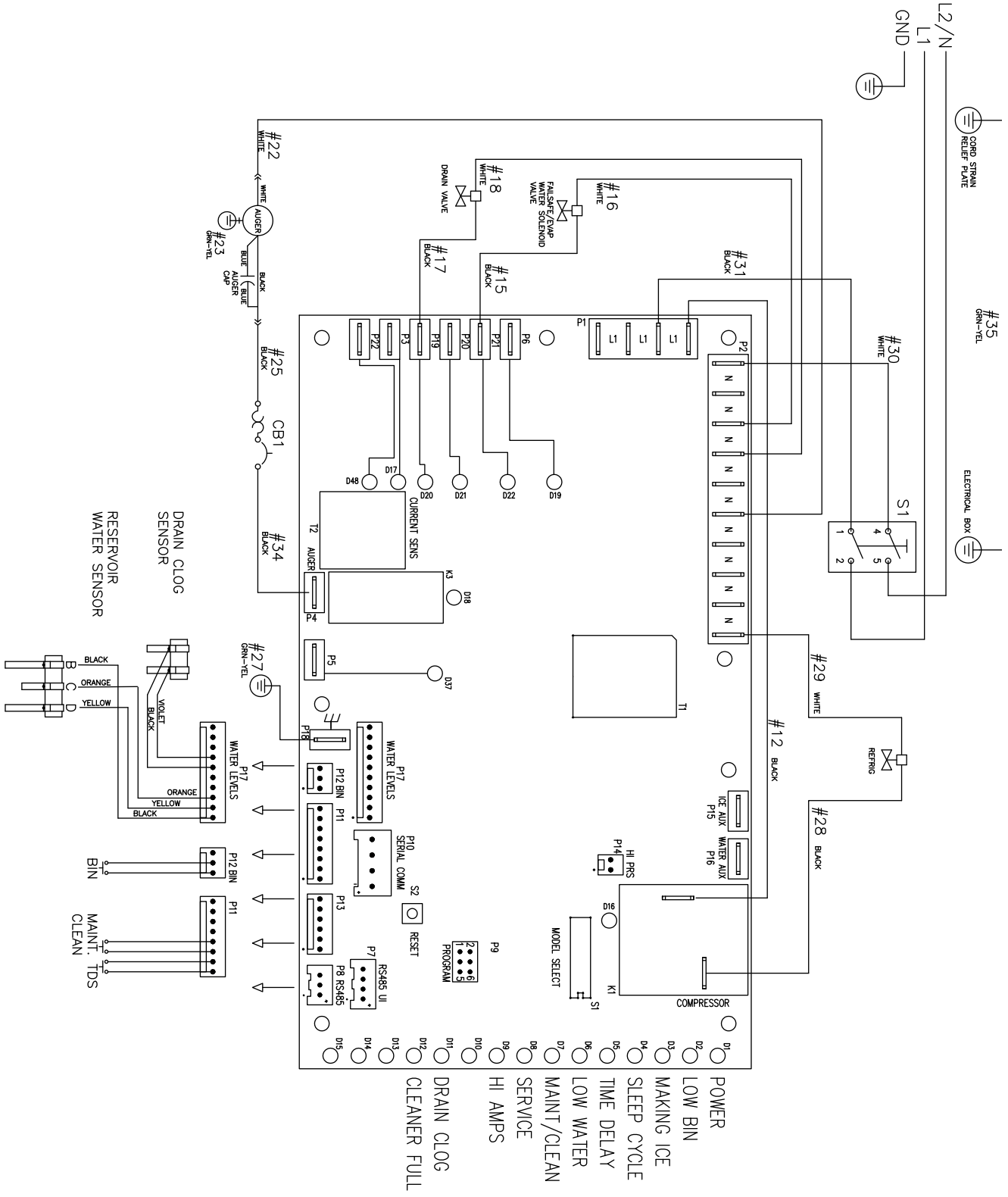
13. Place a sanitary (2 gal. or larger) container in bin or dispenser to collect the plug, SaniSponge cleaning sponges and ice for 15 minutes* *after the Sani-Sponges come out*.

* If cleaning a 700 series ice maker with an ice transport tube run that exceeds 20 feet, the ice must be collected for 30 minutes to ensure proper sanitization of the ice transport tube.

14. Discard ice, Sani-Sponges and plug. Return TDS switch to the original position.

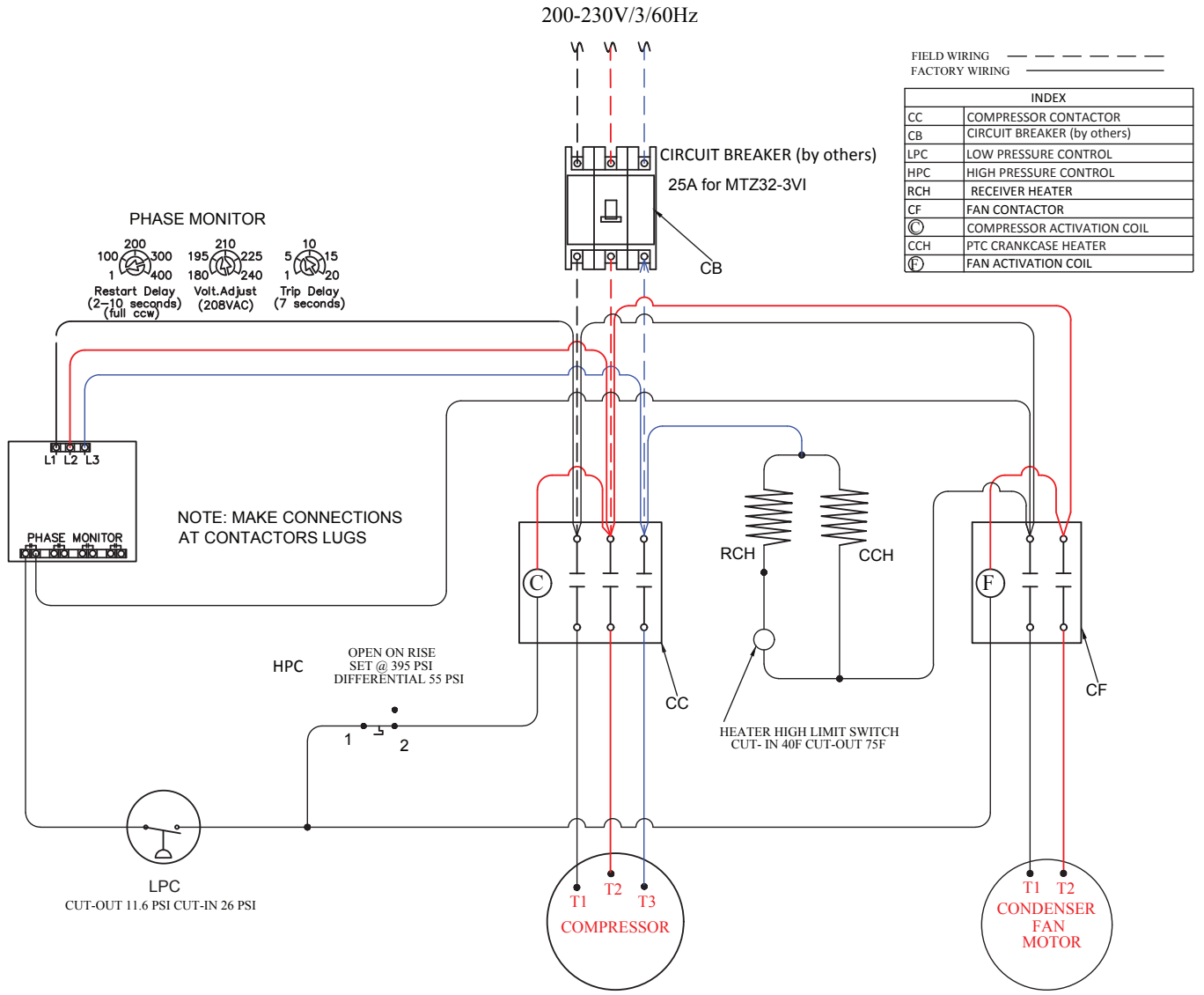


Wiring diagram, evaporator unit



Gearmotor data	
Gearmotor current	4.0A @ 115 V
Gearmotor torque-out (high amp) trip point:	7.0A

Danfoss Reciprocating Compressor: 3-phase condensing unit wiring diagram



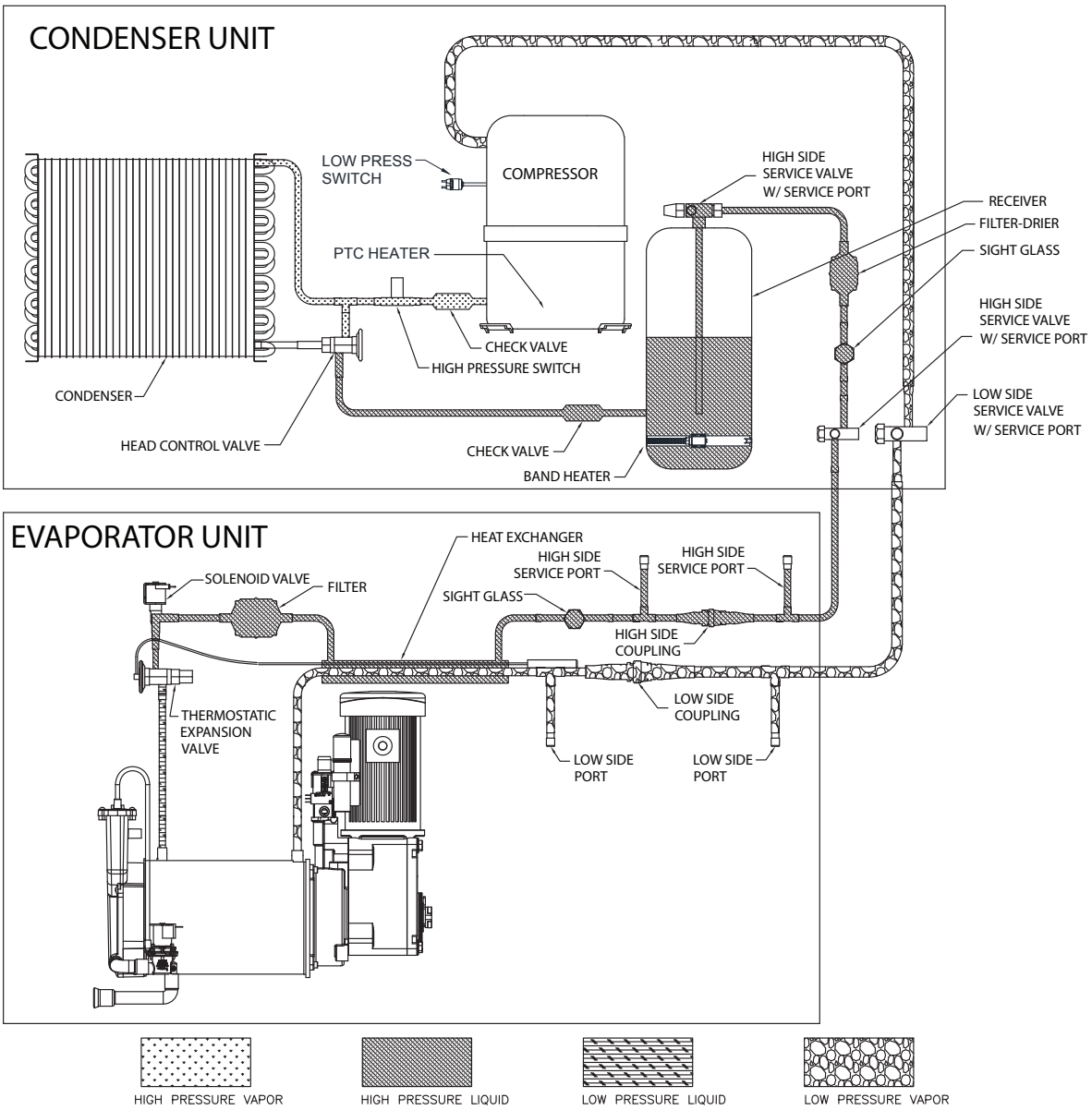
Box Lug Torque Specification	
12-14 AWG	15 Lb-in
10 AWG	25 Lb-in
8 AWG	40 Lb-in

Refrigeration system

1811 - Operating Pressure (Discharge PSIG/Suction PSIG)

Ambient Temperature	50 F	60 F	70 F	80 F	90 F	100 F	110 F	120 F
Suction	22.0	22.2	22.4	23.5	24.5	27.5	30.4	31.9
Discharge	179.9	181.8	183.7	206.2	228.8	261.9	295.0	336.0

Refrigeration system diagram



Refrigeration charge

All service on refrigeration systems must be performed in accordance with all federal, state and local laws. It is the responsibility of the technician to ensure that these requirements are met. Recharging ice machine to other than factory specifications will void the warranty.

Attention: Unit must be charged by weight, not by clear sight glass.

R449A ice machine charge specifications for 1811 models with line runs of 0 to 75 ft. (0 m to 22.8 m)

	1811 3-phase
Total charge	16.5 lbs (7.48 kg)
Condensing unit holding charge	16.5 lbs (7.48 kg)
Charge at installation	**Pre-charged**

Note: Condensing unit shipped with 16.5 lb of R449A charge.

Refrigerant replacement requirements

1. Non-contaminated refrigerant removed from any Follett refrigeration system can be recycled and returned to the same system after completing repairs. Recycled refrigerant must be stored in a clean, approved storage container. If additional refrigerant is required, virgin or reclaimed refrigerant that meets ARI standard 700-88 must be used.
2. In the event of system contamination (for example, a compressor burn out, refrigerant leak, presence of non-condensibles or moisture), the system must be repaired, evacuated and recharged using virgin or reclaimed refrigerant that meets ARI standard 700-88.
3. Follett LLC does not approve of recovered refrigerants. Improper refrigeration servicing procedures will void the factory warranty.

Evacuation

Evacuate the system to a level of 500 microns. When the 500 micron level is reached, close all valves. Allow the system to sit for approximately 20 minutes. During this period the system pressure should not rise. If the system pressure rises and stabilizes there is moisture in the system and further evacuation is needed. If the pressure continues to rise check the system for leaks.

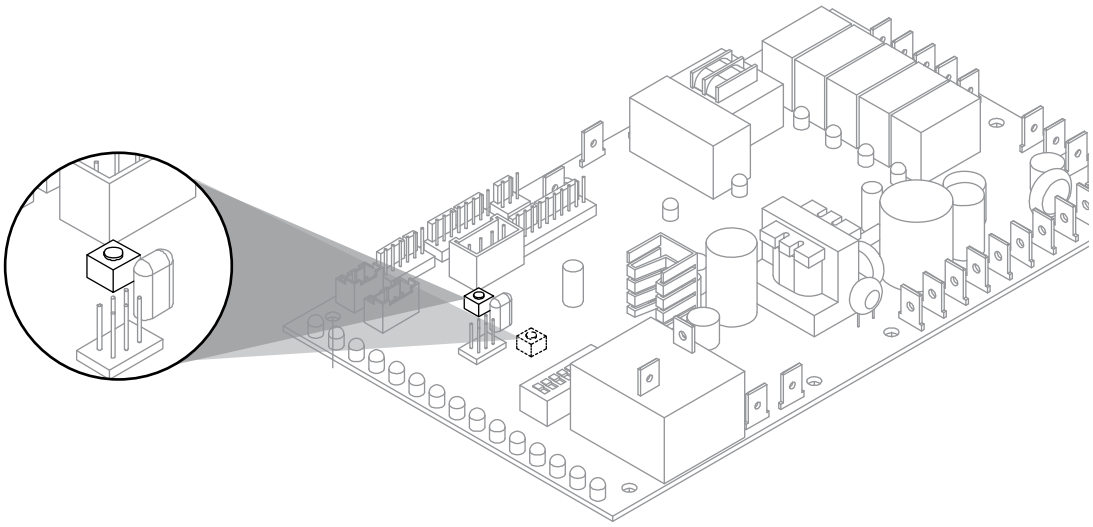
Ambients	Minimum	Maximum
Air temperature[1]	50 F/10 C	100 F/37.8 C
Water temperature[2]	45 F/7 C	90 F/32.2 C

[1]Ambient air temperature is measured at the air-cooled condenser coil inlet.
[2]Ambient water temperature is measured in the ice machine water reservoir.

Ice capacity test

Ice machine production capacity can only be determined by weighing ice produced in a specific time period.

1. Replace all panels on ice machine.
2. Run ice machine for at least 15 minutes.
3. Move TDS switch to LOW.
4. Press the reset button on the board.

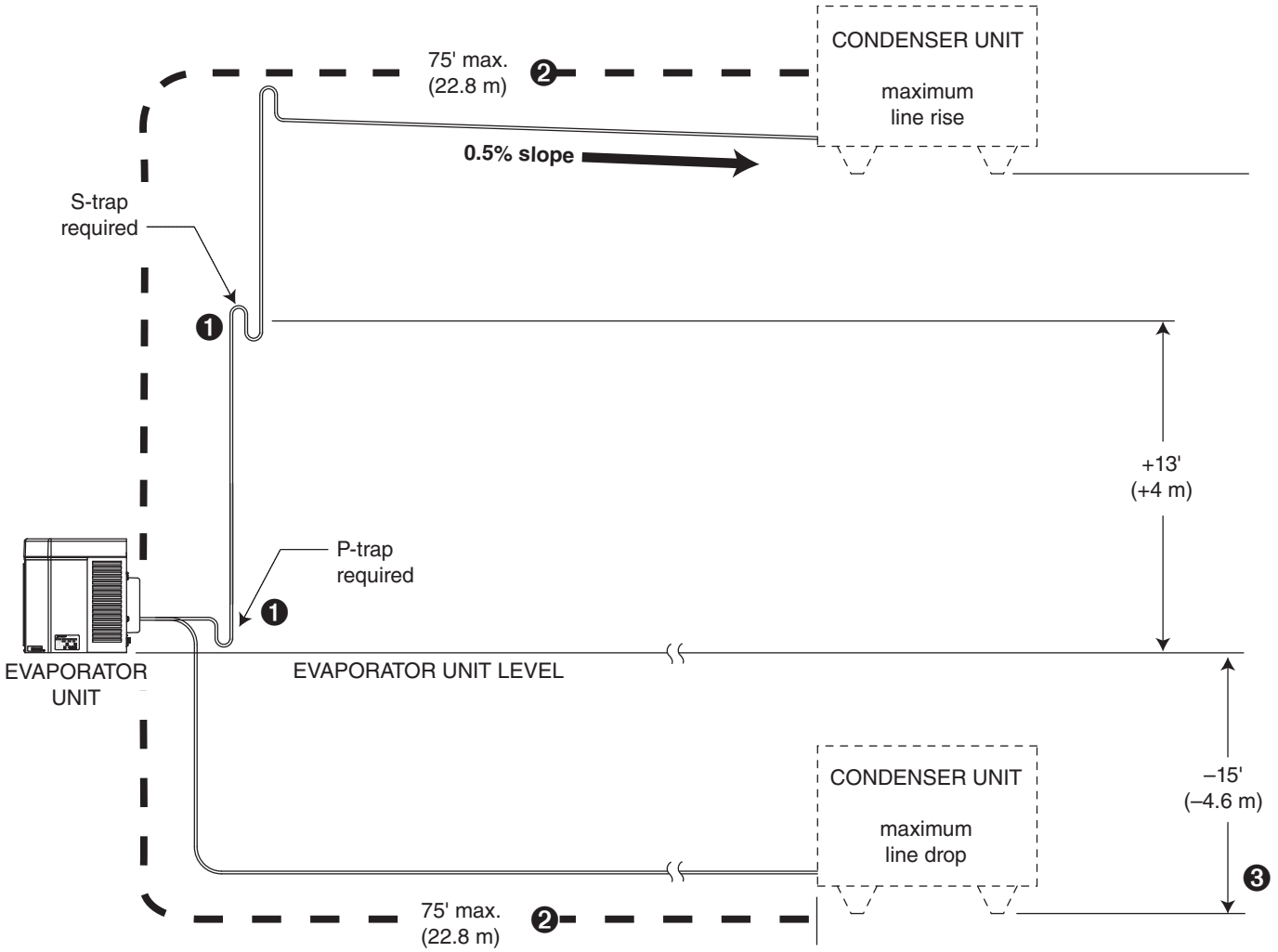


5. Weigh and record weight of container used to catch ice.
6. Catch ice for 15 minutes.
7. Weigh harvested ice and record total weight.
8. Subtract weight of container from total weight.
9. Convert fractions of pounds to decimal equivalents (ex. 6 lbs 8 oz = 6.5 lbs).
10. Calculate production using following formula:

$$\frac{\text{1440 min. x wt. of ice produced}}{\text{Total test time in minutes}} = \text{Production capacity/24 hr.}$$

11. Calculated amount per 24 hours should be checked against rated capacity for same ambient and water temperatures in Ice Production Tables.
12. **Move TDS switch to the HI TDS position.**

Condenser installation specifications



Site layout:

- Outdoor ambient temperature range: –20 F to 120 F (–29 C to 49 C)
- A P-trap is required behind the ice machine regardless of the condensing unit elevation. Installation with condenser unit elevations above 13' (4 m) require an S-trap at the midpoint of the rise. A P-trap is required at the base of each vertical riser. If the riser is higher than 13' (4 m), additional P-traps are required for each additional 13' (4 m) ❶.
- Maximum line set length must not exceed 75' (22.8 m) ❷
- Maximum line drop must not exceed 15' (4.6 m) ❸

Troubleshooting

Ice machine disposition	Possible causes	Corrective action
Legend: ● ON ○ OFF ◐ ON or OFF ⊠ FLASHING		
1. Ice machine is in running condition but not making ice. 	1. Defective compressor. 2. Defective main contactor. 3. No output from PC board. 4. Purge valve stuck open. 5. Low charge.	1. Replace compressor. 2. Replace main contactor. 3. Replace PC board. 4. Replace purge valve. 5. Fix leak, recharge system.
2. Machine in TIME DELAY without full bin. 	1. Ice jamming due to improperly installed transport tube causing a false shuttle. 2. Shuttle stuck in up position. 3. Damaged or improperly installed thermostat (open). 4. Transport tube backed-out of coupling.	1. Correct transport tube routing. 2. Repair or replace shuttle mechanism. 3. Replace or reposition thermostat. 4. Correct coupling installation.
3. Ice machine is not making ice. HI AMPS. 	1. Poor water quality causing ice to jam auger. 2. Damaged shuttle mechanism. 3. Intermittent drive output from PC board. Evaporator will freeze causing a HI AMPS error. 4. Gearmotor is unplugged.	1. Clean ice machine. Increase flushing frequency. Position TDS switch to High TDS setting. 2. Replace or repair shuttle mechanism. 3. Replace PC board. 4. Plug in gearmotor.
4. Ice machine is not making ice. HI PRESSURE. 	1. High ambient temperatures >100 F (38 C). 2. Poor ventilation or air recirculation. 3. Clogged condenser (air-cooled). 4. No water flow through condenser (water-cooled only). 5. Fan not working properly. No air flow. • Blocked fan blades • No fan output from PC board • Faulty fan motor	1. Air condition area to below 100 F (38 C). 2. Reposition ice machine or properly ventilate. Prevent ice machine exhaust from recirculating. 3. Clean condenser/grille (air-cooled). 4. Restore water flow to condenser. Ensure supplied condenser water flow direction is correct. 5. Correct air flow. • Remove any blockage from fan blades • Replace PC board • Replace fan motor
5. Ice machine is not making ice. SERVICE. 	1. Internal water leak touching chassis sensor. 2. Condensation.	1. Identify and repair leak. Clean/dry chassis and sensors and restart machine. 2. Ensure ice machine chassis condensate drain is plumbed and free flowing.
6. Drain clog. 	1. Improper flow in drain system. 2. Failed purge solenoid. 3. No output from PCB to purge solenoid.	1. Correct/clean drain system. 2. Replace purge solenoid. 3. Replace PC board.

Ice machine disposition	Possible causes	Corrective action
Legend: ● ON ○ OFF ◐ ON or OFF ⊗ FLASHING		
7. Ice machine is making ice. Excessive water in bin or coming into bin from transport tube. PM DUE ○ CLEANER FULL ○ DRAIN CLOG ○ HI PRESS ○ HI AMPS ○ SERVICE ○ MAINT/CLEAN ○ LOW WATER ○ TIME DELAY ○ NOT USED ○ MAKING ICE ● LOW BIN ● POWER ON ⊗	1. Failed water sensors. Processor assumes there is no water when there is water. 2. Blocked reservoir vent. 3. Defective water feed solenoid valve. Stuck in open position. 4. Pressure over 70 psi. 5. Auger jammed with ice. 6. RO water under 10 ppm.	1. Clean or replace water probe assembly. Check wiring connections. 2. Clean or replace vent tubes. 3. Replace water feed solenoid valve. 4. Correct water pressure. 5. Clean ice machine/auger. 6. Correct RO supplied water to >10 ppm.
8. Ice machine is not making ice. Solid Low Water. PM DUE ○ CLEANER FULL ○ DRAIN CLOG ○ HI PRESS ○ HI AMPS ○ SERVICE ○ MAINT/CLEAN ○ LOW WATER ● TIME DELAY ◐ NOT USED ○ MAKING ICE ○ LOW BIN ◐ POWER ON ⊗	1. Water supply is insufficient. 2. Low water pressure. 3. Defective water feed solenoid valve. Stuck in closed position. 4. No water feed output from PC board. 5. Plugged screen on inlet side of fill solenoid. 6. Plugged check valve.	1. Restore water supply and check water filters. If evaporator was completely empty the reset button may have to be pressed to restart the ice machine. 2. Ice machine will eventually start when water reaches normal low level. • Ensure water pressure to ice machine is >10 psi. 3. Replace water feed solenoid valve. 4. Replace PC board. 5. Remove and clean screen. 6. Replace check valve.
9. Blinking Low Water, power, time delay. PM DUE ○ CLEANER FULL ○ DRAIN CLOG ○ HI PRESS ○ HI AMPS ○ SERVICE ○ MAINT/CLEAN ○ LOW WATER ⊗ TIME DELAY ● NOT USED ○ MAKING ICE ○ LOW BIN ◐ POWER ON ⊗	Machine did not see water consumption while trying to make ice. 1. Lack of refrigeration/low refrigerant charge/leak. 2. Debris shorting reservoir probes.	1. Verify refrigerant pressures, compressor running, sight glass clear. 2. Clean probes and reservoir of debris.
10. Solid PM Due. PM DUE ⊗ CLEANER FULL ○ DRAIN CLOG ○ HI PRESS ○ HI AMPS ○ SERVICE ○ MAINT/CLEAN ○ LOW WATER ○ TIME DELAY ○ NOT USED ○ MAKING ICE ● LOW BIN ○ POWER ON ⊗	1. Ice machine has been in service for 6 month interval without being cleaned.	1. Clean Ice machine.

ATTENTION!

To prevent circuit breaker overload, wait 5 minutes before restarting this unit. This allows the compressor to equalize and the evaporator to thaw.

Warranty Registration and Equipment Evaluation

Thank you for purchasing Follett equipment. Our goal is to earn your complete satisfaction by delivering high-value products and services backed by outstanding customer and technical support.

Please review the installation instructions thoroughly. It is important that the installation be performed to factory specifications so your equipment operates at its maximum efficiency.

Follett LLC will not be liable for any consequential damages, expenses, connecting or disconnecting charges, or any losses resulting from a defect of the machine. For full warranty details, visit our website www.follettice.com/productwarranties.

Registering your equipments helps Follett track your equipment's service history should you need to contact us for technical support, and your feedback helps us improve our products and services. Please visit www.follettice.com/support to complete the Warranty Registration form.

Should you have any questions, please contact Follett's technical support group at (877) 612-5086 or (610) 252-7301 and we will be happy to assist you.

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