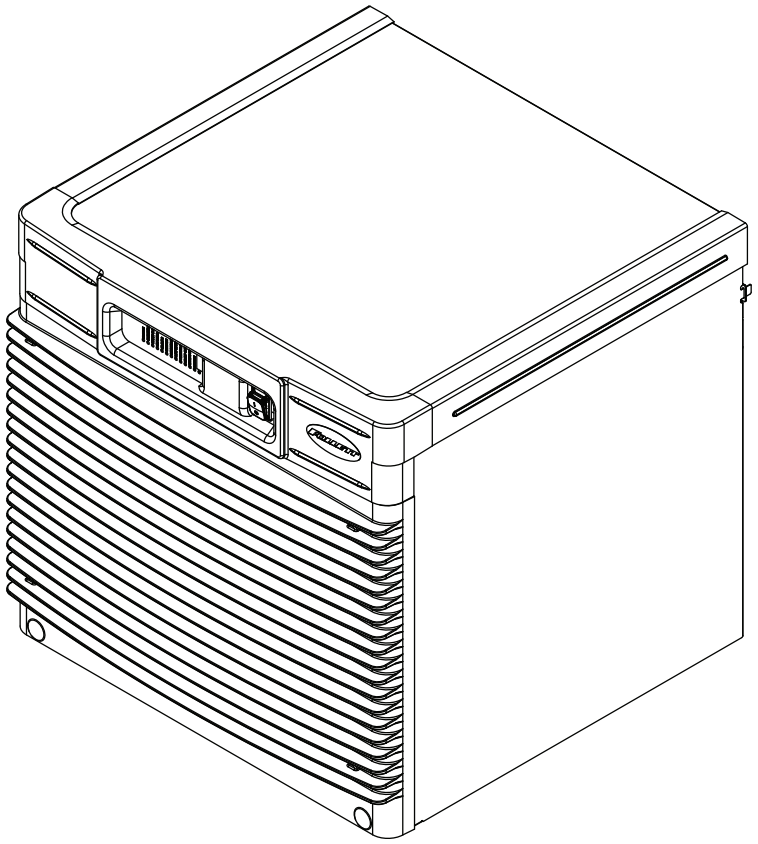
D714A, E714A
Horizon Elite™ Ice Machines (Self-contained), R290

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

01582584R00

WARNING! Risk of fire or explosion. Flammable refrigerant used. Follow handling instruction carefully. To be repaired only by trained service Personnel.

WARNING! Do not puncture Refrigerant Tubing. Do not use this product with flammable gases or flammable solvents.

WARNING! Do not store flammable gases, flammable liquids or flammable solids in these units. Do not use FLAME to check for gas leak.

WARNING! Do not under any circumstances try to modify or repair valves, regulator, connectors, controls or any other appliance. Doing so creates the risk of a gas leak.

WARNING! Keep ventilaton openings clear of obstruction.

WARNING! Do not damage the refrigerant circuit.

WARNING! Connect to potable water supply only.

WARNING!

Installation

- Read this manual thoroughly before operating, installing or performing maintenance on the equipment. Failure to follow instructions in this manual can cause property damage, personal injury, or death.
- The ice machine contains R290 (propane) refrigerant. R290 (propane) is flammable in concentrations of air between approximately 2.1% and 9.5% by volume. R290 (propane) may burn if exposed to a heat source above 470 °C.
- Because R290 is highly flammable, a combustible gas leak detector is required when servicing R290 systems.
- This equipment contains high-voltage electricity and refrigerant charge. Installation and Service repairs are to be performed by properly trained technicians aware of the dangers of dealing with high voltage electricity and refrigerant under pressure. The technician must also be certified in proper refrigerant handling and servicing procedures.
- All lockout and tag out procedures must be followed when working on this equipment.
- A qualified person shall provide a readily accessible disconnect device incorporated into the fixed wiring.
- This appliance should be installed by a qualified person in accordance with application codes.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Do not tilt unit further than 30° off vertical during uncrating or installation.
- This appliance is designed for commercial use.
- This equipment is intended for indoor use only. Do not install or operate this equipment in outdoor areas.
- Warranty does not cover exterior or outside installations.
- To avoid a hazard due to instability of the appliance, it must be fixed in accordance with the instructions.
- Maintain all minimum clearances. DO NOT obstruct vents or openings.
- This appliance is not suitable for installation in an area where a water jet could be used.
- Connect to potable water supply only.
- Follett recommends a Follett water filter system be installed in the ice machine inlet water line (standard capacity, high capacity, carbonless high capacity).
- We reserve the right to make product improvements at any time. Specifications and design are subject to change without notice.

Usage

- Read this manual thoroughly before operating, installing or performing maintenance on the equipment. Failure to follow instructions in this manual can cause property damage, personal injury, or death.
- User maintenance should not be done by children.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Routine adjustments and maintenance procedures outlined in this manual are not covered by the warranty.

- Maintain all minimum clearances. DO NOT obstruct vents or openings.
- This appliance must not be cleaned by a water jet.
- Connect to potable water supply only.
- Ice is food. Follow recommended cleaning instructions to maintain cleanliness of delivered ice.
- Ice is slippery. Maintain counters and floors around dispenser in a clean and ice-free condition.
- We reserve the right to make product improvements at any time. Specifications and design are subject to change without notice.

Service

- Read this manual thoroughly before operating, installing or performing maintenance on the equipment. Failure to follow instructions in this manual can cause property damage, personal injury, or death.
- Review Installation section.
- This equipment contains high-voltage electricity and refrigerant charge. Installation and Service repairs are to be performed by properly trained technicians aware of the dangers of dealing with high voltage electricity and refrigerant under pressure. The technician must also be certified in proper refrigerant handling and servicing procedures.
- To reduce risk of shock, disconnect power before servicing.
- When servicing this equipment, be sure to lock the circuit breaker, and display an in-service notice.
- Repair on R290 systems must always be done in a well-ventilated area.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Only use parts recommended or provided by the manufacturer. Use of unapproved parts can be dangerous due to design requirements to safely use R290 (propane).
- Routine adjustments and maintenance procedures outlined in this manual are not covered by the warranty.
- Maintain all minimum clearances. DO NOT obstruct vents or openings.
- This appliance must not be cleaned by a water jet.
- Connect to potable water supply only.
- We reserve the right to make product improvements at any time. Specifications and design are subject to change without notice.

Decommissioning and Dismantling

- Read this manual thoroughly before operating, installing or performing maintenance on the equipment. Failure to follow instructions in this manual can cause property damage, personal injury, or death.
- Decommissioning and Dismantling are to be performed by properly trained technicians aware of the dangers of dealing with high voltage electricity and refrigerant under pressure. The technician must also be certified in proper refrigerant handling procedures for R290 (flammable) refrigerant.
- Review Installation section.
- Ensure area is being well-ventilated before Decommissioning and Dismantling of equipment using R290 (flammable) refrigerant.
- When servicing this equipment, be sure to lock the circuit breaker, and display an in-service notice.
- To reduce risk of shock, disconnect power before servicing.
- Utilize and maintain good safety practices and follow all applicable local, state, and federal regulations for proper decommissioning and disposal of the equipment.
- Ensure all personal protective equipment is used during the entire process.
- Ensure all necessary tools and equipment are available, including recovery equipment and cylinders.
- All containers used for recovery must have proper labelling to ensure they can be used for R290 (flammable) refrigerant.
- Before starting recovery, place refrigerants on scales. Do not overfill containers more than 80% of volume, and do not exceed working pressure of the container.
- Before using a recovery machine, ensure that it is in satisfactory working order and that the electrical components are properly sealed to prevent any type of ignition.
- Recovered refrigerant shall not be added or used in another refrigerating system or mixed into another container.
- If the compressor or compressor oils are removed, ensure it has been removed to an acceptable level so that flammable refrigerant does not remain in the lubricant.

Disposal

- Follow all applicable local, state, and federal regulations for proper disposal of the equipment.
- All recovered refrigerant must be returned to an appropriate refrigerant supplier for proper disposal.
- DO NOT dispose of your appliance with household waste.

Specifications

Electrical

Each ice machine requires its own separate circuit with electrical disconnect within 10 ft (3 m). Equipment ground required.

Standard electrical:

- D714A 115 V/60/1 (6 ft (2 m) NEMA 5-15 cord and plug provided)
- E714A 230/50/1, requires dedicated 15A circuit, appropriate cord must be purchased separately
- Amperage: 115 V @ 9.5A, 230 V @ 4A; dedicated 15A circuit required

Plumbing

⚠ WARNING

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

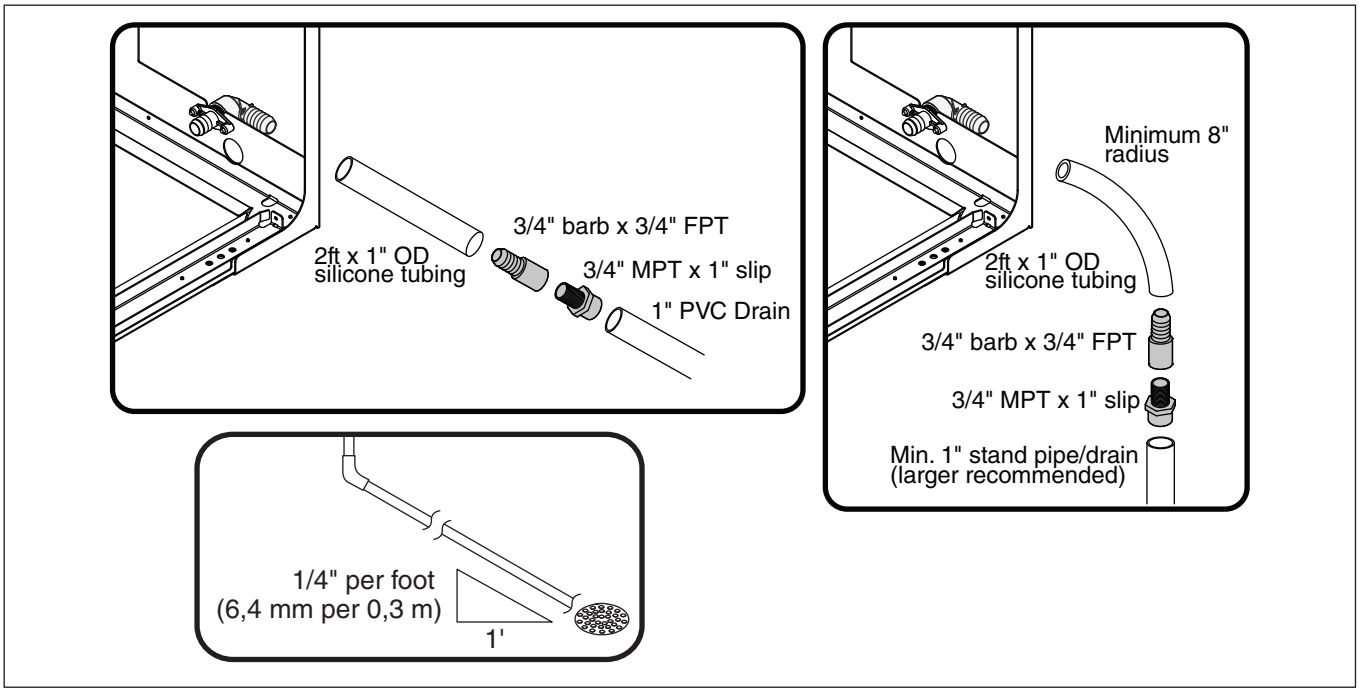
- 3/8" OD push-in water inlet - 3/8" OD tubing required
- 3/4" MPT flush drain, 3/8" chassis drain

Notes:

- Water shut-off recommended within 10 ft (3 m).
- Follett does not recommend the use of water softeners or bowl scale inhibitors.

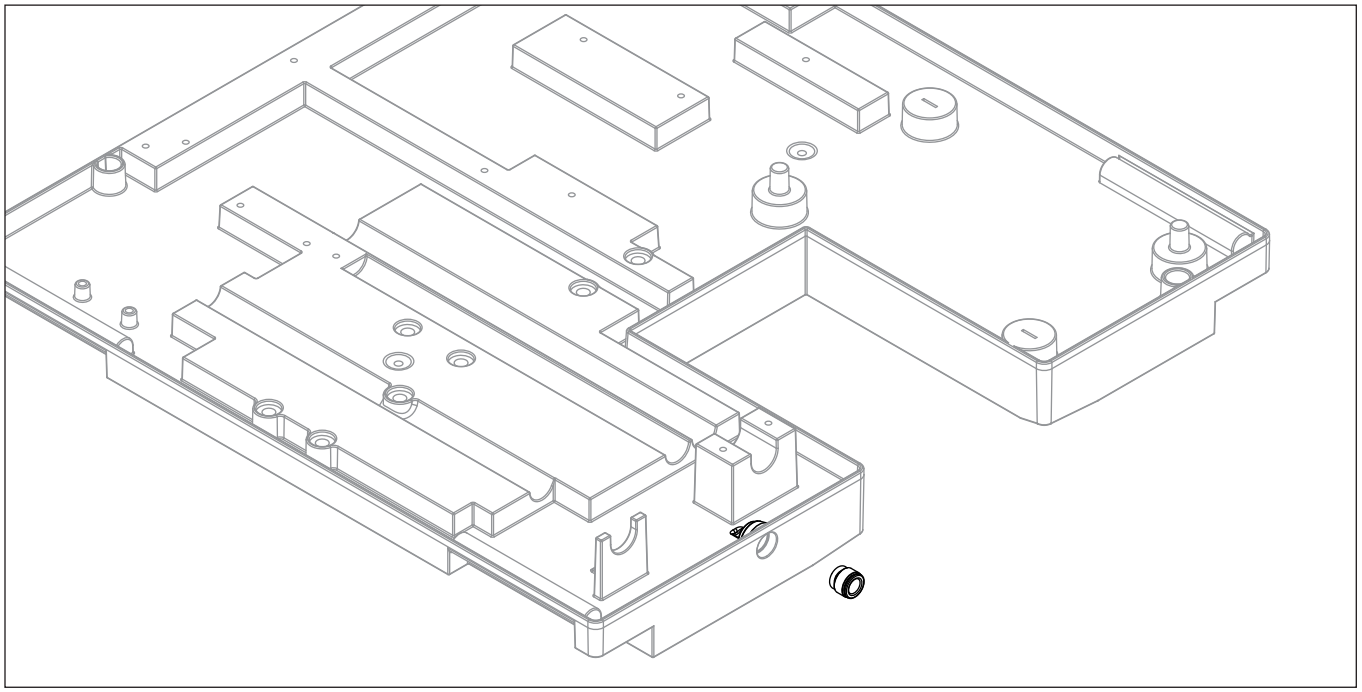
Drain plumbing

- 3/4" MPT drain connection at the rear of the machine.
- Drain must slope 1/4" per foot (6 mm per 30,4 cm).
- Drain line should not be shared with any other piece of equipment.
- Drain line cannot be reduced to a size smaller than 1".
- Drain should be piped without a vent.



Chassis drain plumbing

- Plug must be removed from John Guest fitting.
- 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" per foot (6 mm per 30,4 cm).



Ambient

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 – potable	70 psi max. (483 kPa)	10 psi min. (89 kPa)

Heat rejection

	714
Air-cooled	7,500 BTU/hr

Ice production

Horizon Elite 714 series, air-cooled 60 Hz

Ambient Air Temperature F/C								
Evap Potable Water Temperature F/C	**F**	**50**	**60**	**70**	**80**	**90**	**100**	
	C	**10**	**16**	**21**	**27**	**32**	**38**	
	50	714	688	662	633	603	576	**lbs**
	10	324	312	301	287	274	262	**kg**
	60	677	652	627	599	571	547	**lbs**
	16	307	296	284	272	259	248	**kg**
	70	640	615	591	565	539	518	**lbs**
	21	290	279	268	256	244	235	**kg**
	80	602	579	556	531	506	489	**lbs**
	27	273	263	252	241	230	222	**kg**
	90	565	543	520	497	474	460	**lbs**
	32	257	246	236	226	215	209	**kg**

Horizon Elite 714 series, air-cooled 50 Hz

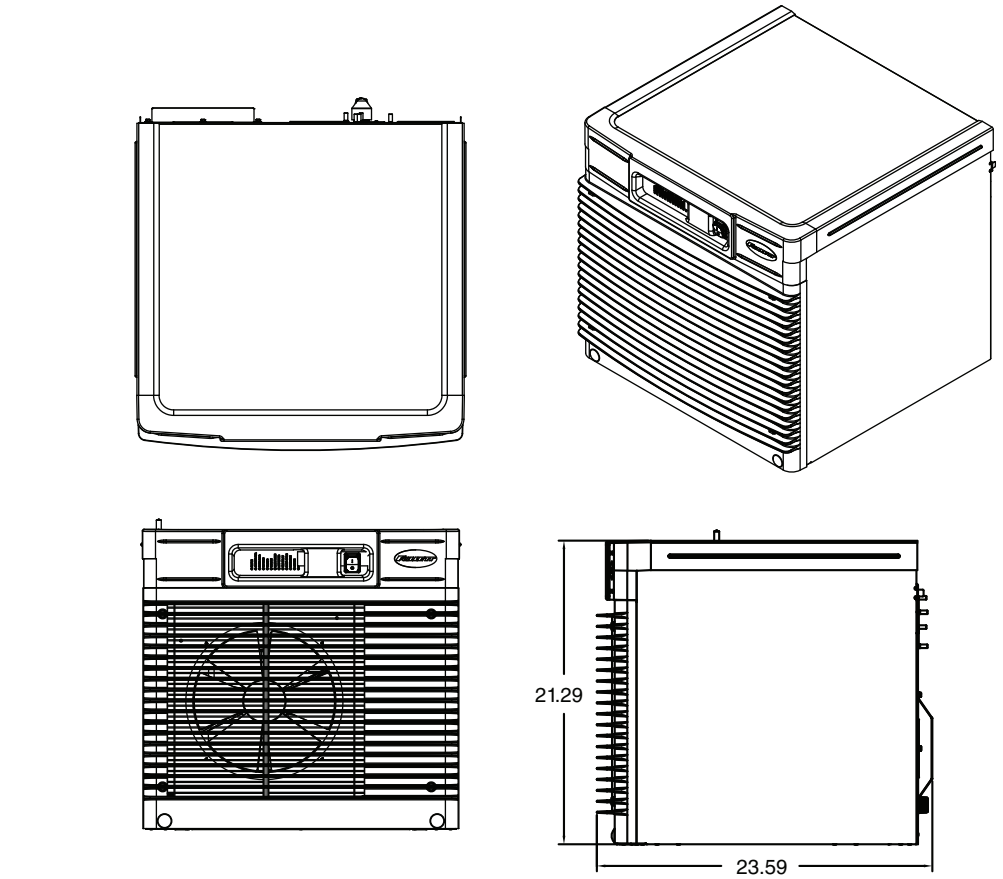
Ambient Air Temperature F/C								
Evap Potable Water Temperature F/C	**F**	**50**	**60**	**70**	**80**	**90**	**100**	
	C	**10**	**16**	**21**	**27**	**32**	**38**	
	50	584	558	532	507	482	442	**lbs**
	10	265	253	242	230	219	201	**kg**
	60	555	531	507	481	456	421	**lbs**
	16	252	241	230	218	207	191	**kg**
	70	526	504	482	455	429	400	**lbs**
	21	239	229	219	207	195	182	**kg**
	80	496	476	456	429	403	379	**lbs**
	27	225	216	207	195	183	172	**kg**
	90	467	449	431	404	376	358	**lbs**
	32	212	204	196	183	171	163	**kg**

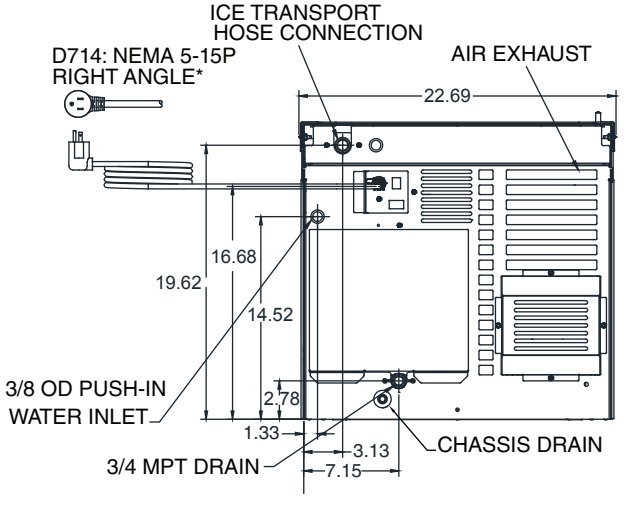
Weight

Shipping	163 lb (74 kg)
Net	153 lb (69 kg)

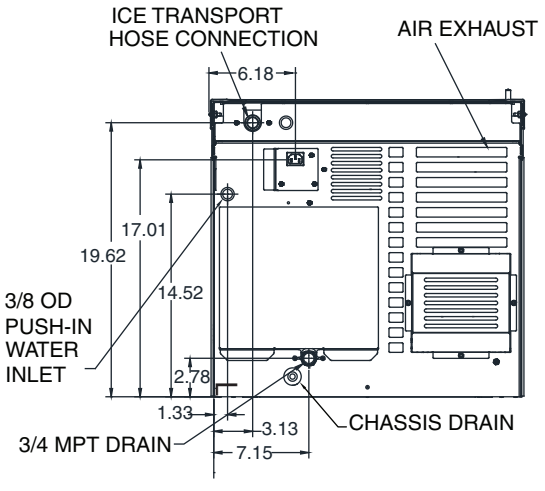
Dimensions and clearances

- Entire front of ice machine must be clear of obstructions/connections to allow removal.
- 1" (26 mm) clearance above ice machine for service.
- 1" (26 mm) minimum clearance on sides.
- 3" (78 mm) minimum clearance at rear.
- The intake and exhaust air grilles must provide at least 250 sq in (1615 sq cm) of open area.
- Air-cooled ice machines – 18" (458 mm) minimum clearance between discharge and air intake-grilles.





D714A



E714A

* Plug supplied by user on 230 V units.

Operation

Cleaning/sanitizing and preventive maintenance (all models)

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 and Polish or equivalent.

Monthly condenser cleaning (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 and 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

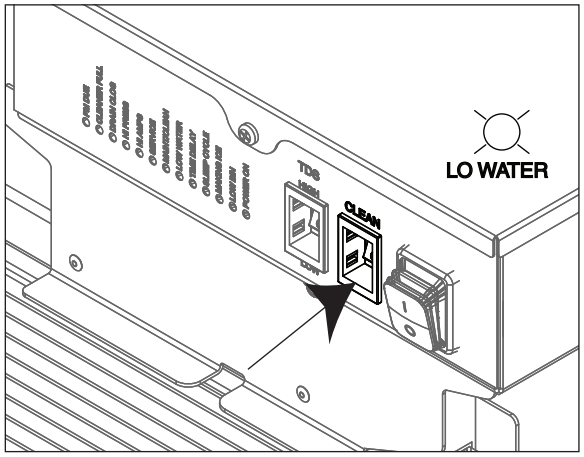
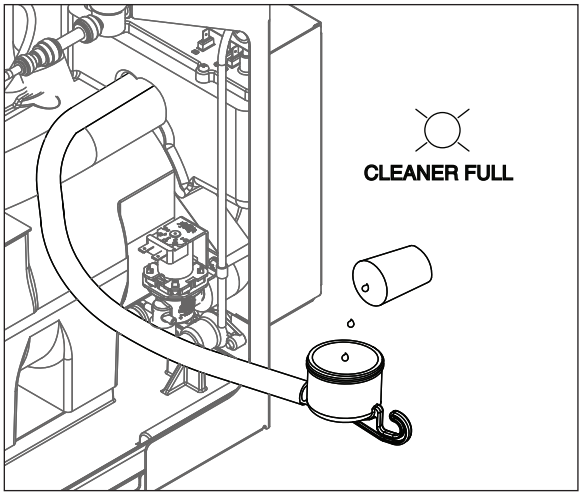


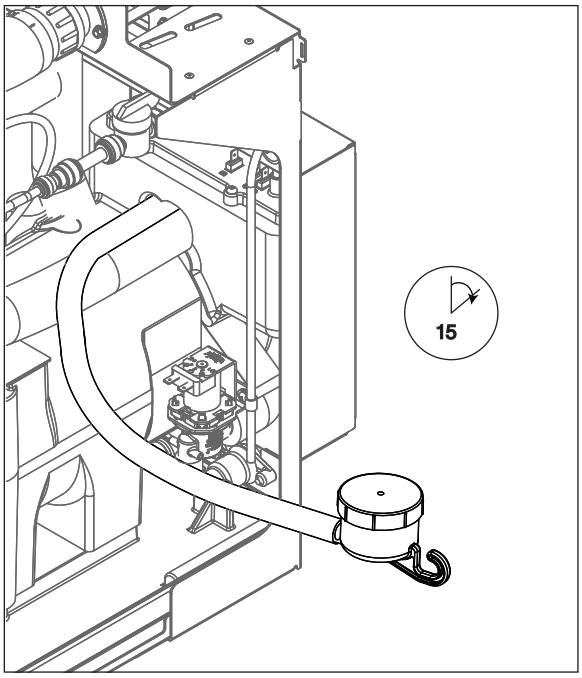
Fig. 2



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 plastic plug and four SaniSponge™ cleaning sponges in remaining sanitizing and cleaning solution and retain for Step 8.

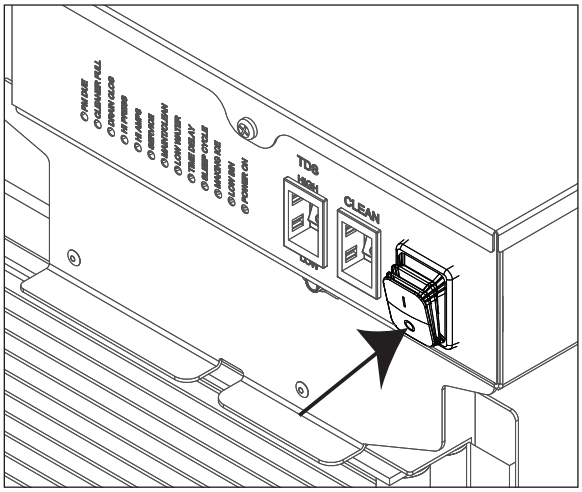
Note: Do not use bleach to sanitize or clean the icemaker.

Fig. 3



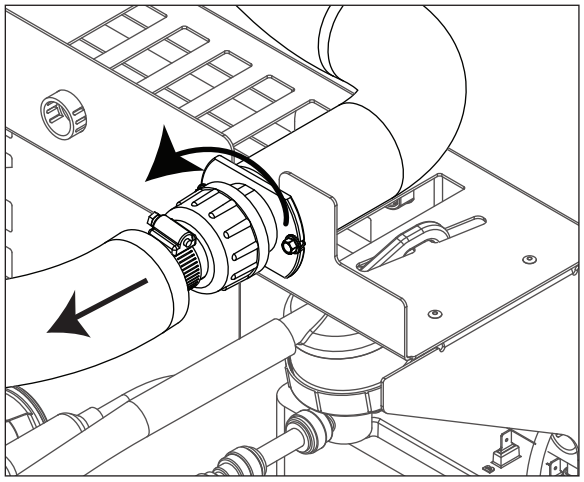
5. Replace cover on cleaner cup. Machine will clean, then flush 3 times in approximately 15 minutes. Wait until machine restarts.

Fig. 4



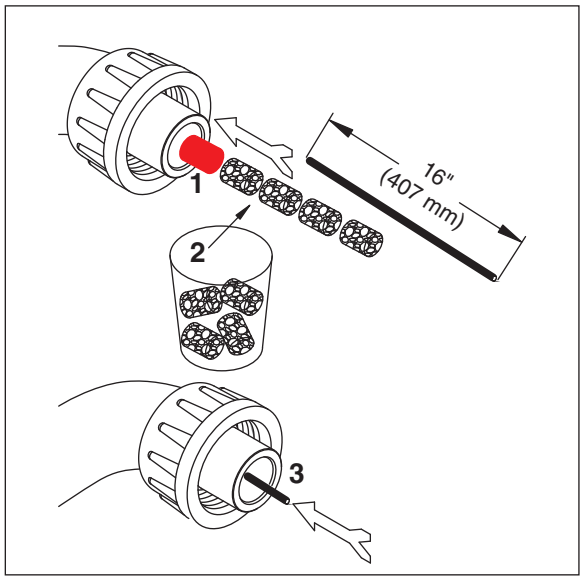
6. To clean/sanitize ice transport tube – Press power switch OFF

Fig. 5



7. Disconnect coupling as shown.

Fig. 6

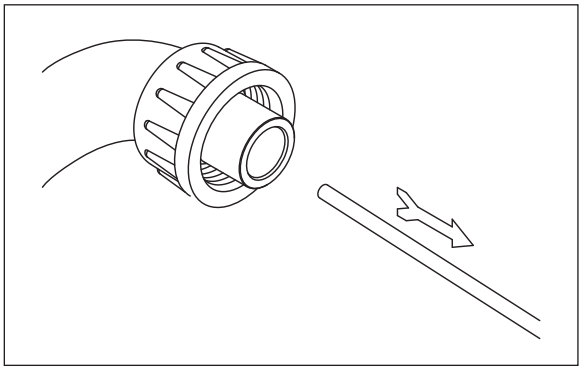


8. Using disposable foodservice grade gloves, insert red plastic plug (**Fig. 6.1**) followed by four SaniSponges (**Fig. 6.2**) saturated in cleaning solution (from Step 4).

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

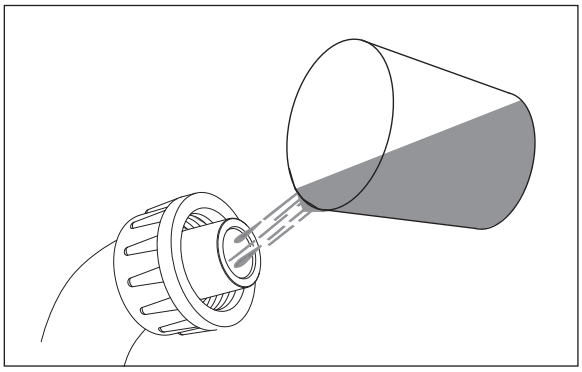
10. Remove and discard 16 inch (407 mm) pusher tube.

Fig. 7



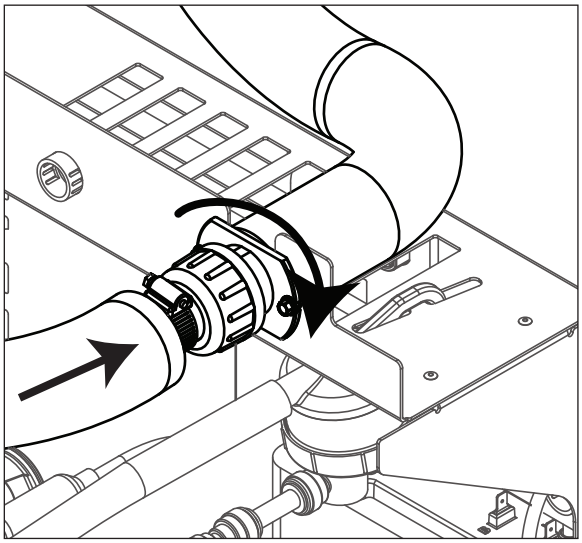
11. Fill internal ice transport tube with remaining cleaning solution.

Fig. 8



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

Fig. 9

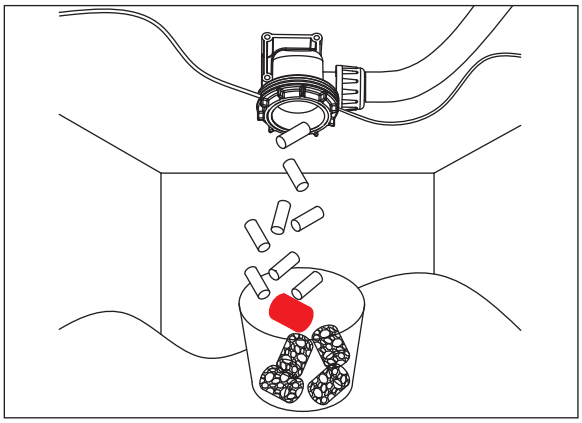


13. Place a sanitary (2 gal. or larger) container in bin or dispenser to collect the plug, SaniSponge cleaning sponges and ice for 15 minutes* *after the Sani-Sponges come out*.

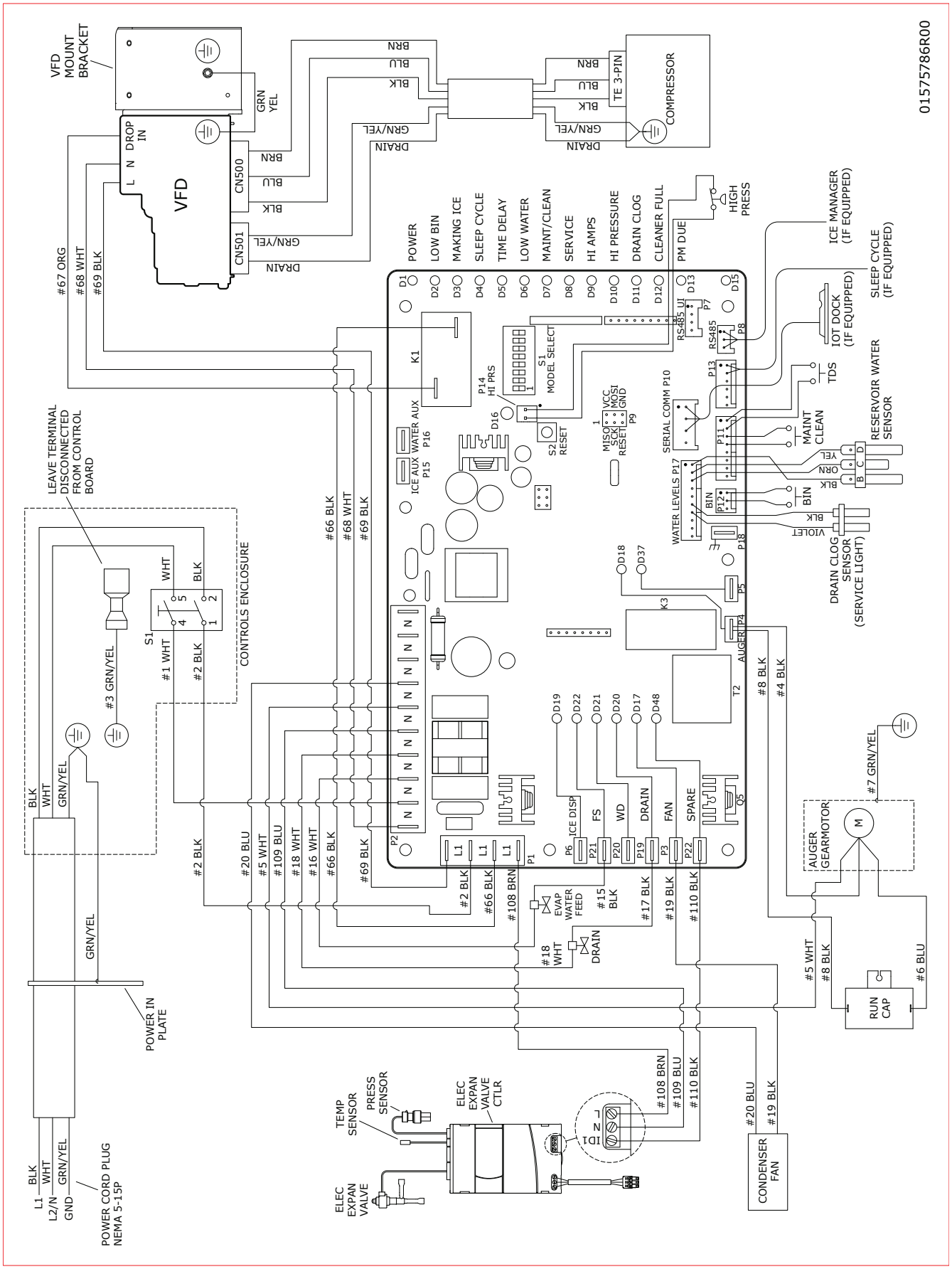
* If cleaning a 700 series ice maker with an ice transport tube run that exceeds 20 feet, the ice must be collected for 30 minutes to ensure proper sanitization of the ice transport tube.

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

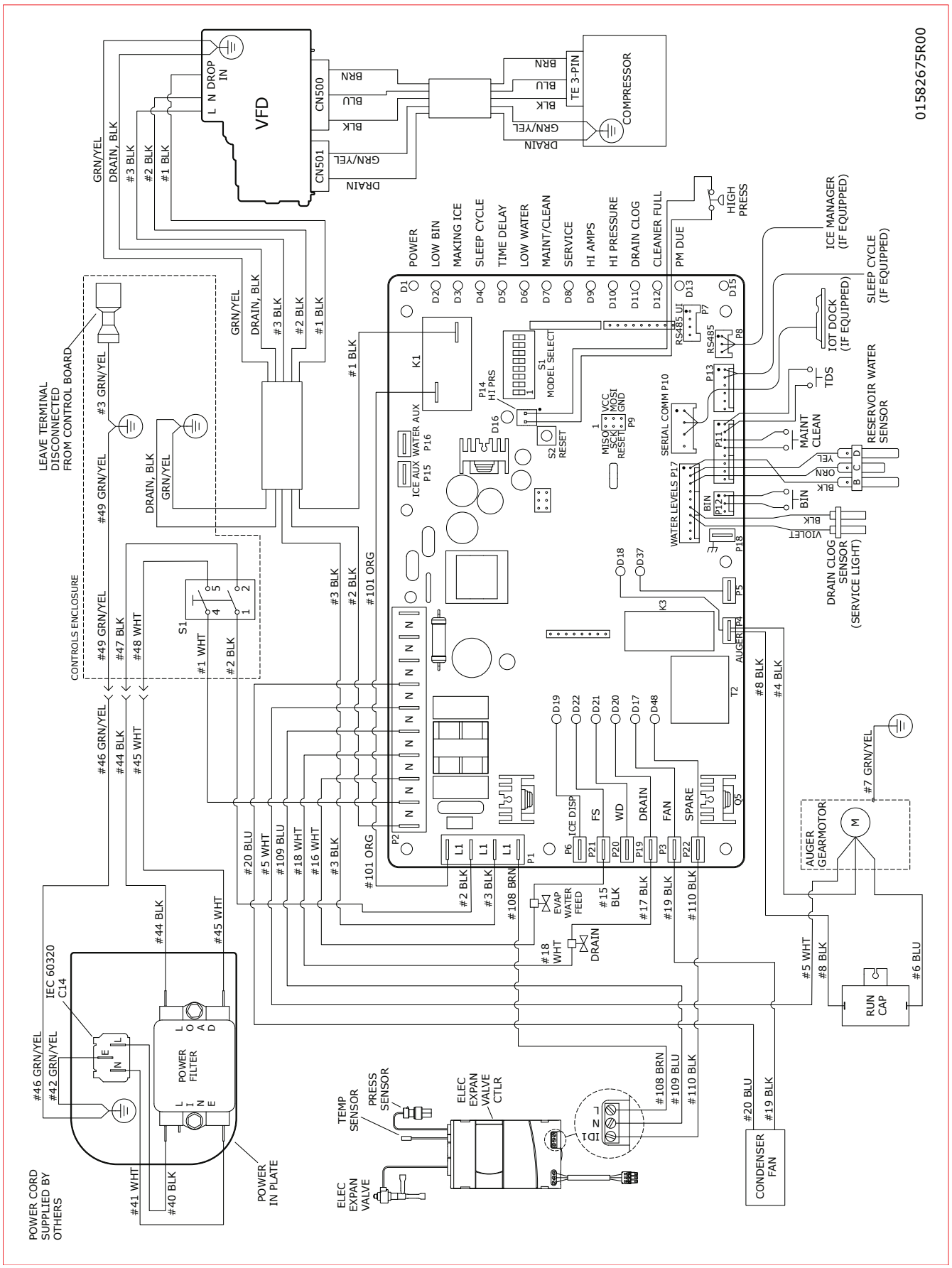
Fig. 10



Wiring diagram - D714



Wiring diagram - E714



Compressor data

	115 V	230 V
Compressor current draw at 90 F/32.2 C	4A	4A
Locked rotor amps	4.7A	4.7A
Compressor start winding	1.94Ω	1.94Ω
Compressor run winding	1.94Ω	1.94Ω

Gearmotor data

Gearmotor current 1.2A @ 115 V, 0.53 @ 230 V
Gearmotor torque-out (high amp) trip point: 1.8A @ 115 V, 0.9 @ 230 V

Resistance of windings
115 vac gearmotor (Brother):
Gray to black: 15.6Ω
Blue to gray: 15.6Ω
Blue to black: 31.2Ω

230 vac gearmotor:
Gray to black: 62.1Ω
Black to brown: 12.2Ω
Brown to gray: 62.1Ω

Fan motor data

Fan motor current 0.2A @ 115 V and 230 V

Refrigeration system

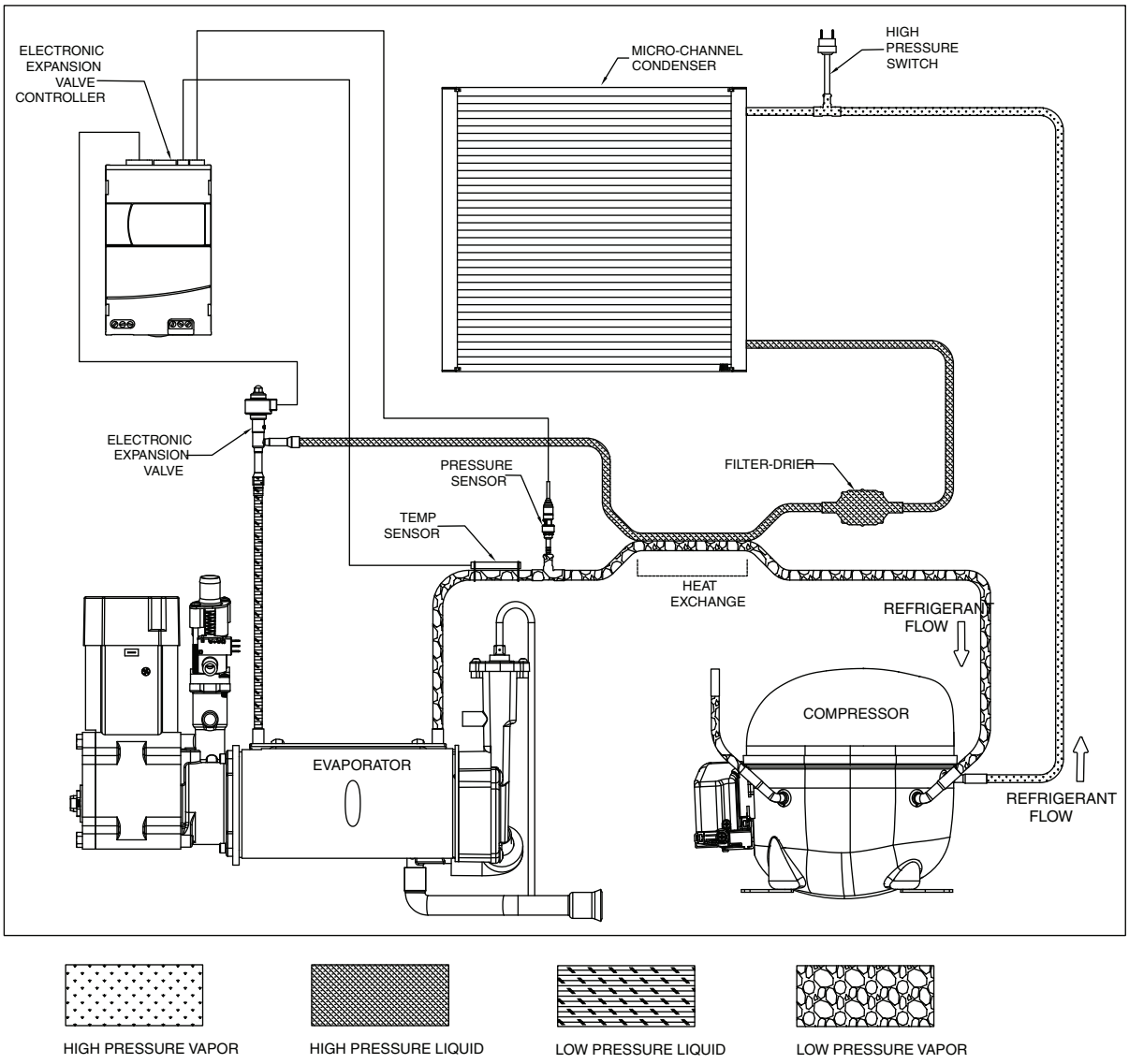
Refrigeration charge

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.

Ice machine charge specifications

Model	Charge	Refrigerant type
714A (air-cooled)	4.6 oz (130 g)	R290
E714A (air-cooled)	4.6 oz (130 g)	R290

Refrigeration system diagram



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 at the water feed valve inlet.

Ice capacity test

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

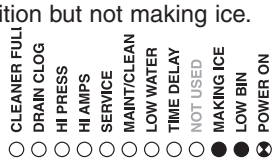
1. Replace all panels on ice machine.
2. Run ice machine for at least 15 minutes.
3. Move TDS switch to LOW.
4. Press the reset button on the board.
5. Weigh and record weight of container used to catch ice.
6. Catch ice for 15 minutes.
7. Weigh harvested ice and record total weight.
8. Subtract weight 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:

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

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.**

Troubleshooting

Please see “Service” section for a description of each function.

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 start relay. 3. Defective start capacitor. 4. Defective run capacitor. 5. Defective main contactor. 6. No output from PC board.	1. Replace compressor. 2. Replace start relay. 3. Replace start capacitor. 4. Replace run capacitor. 5. Replace main contactor. 6. Replace PC board.
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). 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. 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.	1. Identify and repair leak. Clean/dry chassis and sensors and restart machine. Ensure IM chassis condensate drain is plumbed and free flowing.
6. Drain clog.  	1. Improper flow in drain system. 2. Failed purge solenoid.	1. Correct/clean drain system. 2. Replace purge solenoid

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. 	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.	1. Clean or replace water probe assembly. Check wiring connections. 2. Clean or replace vent tubes. 3. Replace water feed solenoid valve.
8. Ice machine is not making ice. Low Water. 	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 lo level. 3. Replace water feed solenoid valve. 4. Replace PC board. 5. Remove and clean screen. 6. Remove and clean.
9. Blinking Low Water, power, time delay. 	Machine did not see water consumption while trying to make ice. 1. Lack of refrigeration/low refrigerant charge/leak. 2. Debris shorting reservoir probes. 3. VFD error.	1. Verify refrigerant pressures, compressor running, sight glass clear. 2. Clean probes and reservoir of debris. 3. Call Follett Technical Support.
10. Solid PM Due. 	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 Products LLC 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 Products 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 equipment helps Follett Products LLC 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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