

INSTALLATION PROCEDURES  
FOR  
REMOTE CONDENSER SYSTEMS



FROSTY FACTORY OF AMERICA, INC.

1-800-544-4071

Revised 02-21-2012

Installation responsibility

(Typical)

Customer is to furnish:

1. \_\_\_\_\_(Quantity) dispensing units (evaporators).
2. \_\_\_\_\_(Quantity) condensing units (with sight glass & filter/drier).
3. (1) 5/8" & (1) 3/8" Self-Sealing, Quick Disconnect Refrigerant Coupling included with each dispenser from factory.
4. (1) 5/8" and (1) 3/8" (assembled) copper manifold included with each condenser from factory. (Multiple set-ups only)

Contractor will furnish:

1. Permits.
2. Condenser platform for each condensing unit as per customer and /or local code specifications.
3. Electrical service for each condensing unit corresponding with the requirements specified on the data plate.
4. 7/8" and 3/8" soft copper lines from the condensing units to the manifolds.
5. 7/8" soft copper oil traps. (One per each 10ft. vertical run).
6. 5/8" and 3/8" soft copper loop from the manifold to the quick Disconnect fittings.
7. Suction line insulation (7/8"ID X 1/2" wall). Plus 5/8" on manifold & loop.
8. R404a or R507a refrigerant. (Average amount per condensing unit is 5 to 10 lbs.)
9. Clamps (pipe hangers) Unistrut, fittings and/or other devices necessary to support refrigerant lines.
- 10. Installers: To assemble, solder (Using Quick Connect Fittings provided) leak test and evacuate service lines as required. Installers will also Connect assembled lines to dispensers and test run system (with \*product in the dispenser.) Set final refrigeration charge and product consistency, according to the factory Installation Guide and Service Manual.**
11. Warranty on all Contractors supplied materials and labor as per customer requirements.

Note: Contractor will become familiar with and read all Notes and Cautions in the Installation Guide and refer technical questions to:

Ralph Pettijohn or Mark Owens @:

Frosty Factory of America Inc. 1 (800) 544-4071

\* If product is not available use 5 lbs. sugar dissolved into 4 gallons water as a test mix.

**INSTALLATION GUIDE  
FOR  
REMOTE CONDENSER SYSTEMS**

**DISPENSING UNITS**

**Step 1.** Make sure that the selected location is adequate to support the 225lb.weight of the unit plus the weight of the product in the hopper and cylinder. **At least 6” clearance must be provided behind the units to allow space for quick disconnect fittings and manifolds.**

**Step 2.** Check the unit **data plate** on the rear panel of the machine and be sure that the power supply in the building corresponds with the electrical rating of the unit.

**Step 3.** After placing the unit at the selected location, the dispenser can be **leveled** by turning the lower portion of the legs. The unit should be level front to back as well as left to right.

**Note:** **Dispensing units are shipped from Frosty Factory with an R404 pre-charge.** The installer is encouraged to construct, leak check and pre charge the refrigerant lines before connecting the lines to the dispensers. (The “Quick Connect” fittings will not leak while they are being connected.)

**Step 4.** Attach the refrigerant lines (with Quick Connect fittings) to the rear of the cabinet utilizing the factory manifold. (See attached drawings to view typical installations)

**CONDENSING UNITS**

**Step 1.** Check the selected location, and the local roof mounting codes, for the unit, to insure that racks, braces, flooring foundation, etc. are adequate to support the weight of the unit

**Step 2.** Check the unit data plate to be sure that the electrical rating of the unit corresponds with the power supply of the building.

**Step 3.** Place the condensing unit in the selected position.

**Note:** The use of a suction line filter, **liquid line filter** and **moisture indicator** (Sight glass) is required on all Frosty Factory installations.

**Step 4.** Fabricate and install the liquid and suction lines. When sweat connections are made be sure that copper filings and debris are carefully removed from the tubing before final installation. Do not allow the liquid and suction lines to be opened to the atmosphere longer than 15 minutes.

**Caution:** Condensing units shipped from Frosty Factory are charged with Nitrogen, which **must be evacuated before charging with refrigerant.**

**Step 5.** Purge the dry air charge from the unit by opening the liquid line outlet fitting for your particular unit. Connect the suction and liquid lines to the unit.

**Step 6.** Pressurize and "leak check" the entire system with an appropriate refrigerant or Nitrogen. Correct any leaks found. Connect a vacuum pump to both the low and high side valves (if provided) and draw a deep vacuum. **DO NOT USE THE MOTOR-COMPRESSOR TO PULL A VACUUM AND DO NOT OPERATE THE MOTOR-COMPRESSOR IN A VACUUM).**

**Step 7.** Break the vacuum with refrigerant and re-evacuate the system. When complete add sufficient R404 (HP62) or R507 (AZ50) refrigerant to bring the pre-charge pressure to approximately 75psi.

**Caution:** Non Azeotropes such as R404 must be charged in the liquid phase only. To avoid compressor damage, liquid must always be charged into the high side or into an accumulator. When charging through the suction side, the refrigerant should always be charged in vapor form. **DO NOT OVERCHARGE THE SYSTEM.** Flood-back can cause severe damage to the compressor.

**Step 8.** Make all electrical connections in accordance with national and local electrical codes. Check to confirm that the **time delay** in the condenser unit is set to approximately **2 minutes**. Determine that the pressure switch has been set to **Cut-in at 35 psi and cutout at 10 psi.**

**Note: Cutout equals Cut-in minus the differential.** Example: with the pressure switches set at 35 psi and 25 psi respectively, the condenser will cut in at 35 psi and cut out at 10 psi. (Some units do NOT use the differential method)

**START-UP (See Dispensing Unit Start-up procedures on page 5.)**

**Note:** The dispensers **must have product** in them prior to start-up in order to establish correct operating pressures. **NEVER** use pure water to test freeze the dispensers. If necessary **use a mixture of 5 lbs. sugar and 4 gallons water to prepare an acceptable test mix.**

- Step 1.** When setting initial pressures on remote systems, it is recommended that you operate one dispenser, (only *one side* if dispenser is dual) until initial pressure is set. With suitable mix in the hopper continue to next step.
- Step 2.** On the dispensing unit being charged, turn both switches to the right (snowflake) position. The liquid line solenoid valve will open within 15 seconds. As refrigerant begins to flow through the **dispensing unit** the pressure switch in the **condensing unit** will activate. The condensing unit will start after approximately 2 minutes.
- Step 3.** Begin adding refrigerant immediately after the condenser starts to prevent the condensing pressure from dropping below the 10-psi shut off point. Once ice crystals are visible through the dispenser faceplate, your suction pressure should be set at or slightly above **20 psi**. The sight glass should be clear. The liquid line pressure should be around **250 to 300psi** depending on outside air temperature. Fill the remaining dispensers with product. Turn both switches to the right (Snowflake) position. When ice crystals are visible check the pressures as described in step 4.
- Step 4.** With pressures set as described, check the low side pressures as follows:  
With **3 evaporators** active the low side pressure should be approx. **40 to 50 psi**;  
With **2 evaporators** active the low side pressure should be approx. **30 to 40 psi**;  
With **1 evaporator** active the low side pressure should be approx. **20 to 25 psi**.
- Step 5.** Allow the entire system to remain OFF for at least 45 minutes. Turn all dispensers ON and re-check the sight glass. Top off until sight glass is clear, as required.

The installation is complete. If applicable, install weather cover on the condensing unit.

## DISPENSING UNIT START-UP

### MACHINE PREPARATION

NOTE: *The space around the machine must be clear at all times for proper airflow!*

1. Plug the electrical cord into a dedicated wall outlet. (Do not allow anything else to be plugged into the same receptacle as the dispensing unit.)
2. If unit has auto-fill option, either connect the mix supply hoses or install the gray plug into the auto-fill fitting at the back of the unit to prevent mix loss. **(Without the gray plug installed or the mix supply hose connected, the entire contents of the hopper will gravity drain onto the floor as soon as the unit is turned ON!)**
3. The machine and parts can now be cleaned and assembled according to the cleaning procedures in section 4 of the manual.

Including;

- A. Install Spring Seal onto the beater bar according to the instructions on the lid.
- B. Insert the Beater bar into the cylinder. While inserting the beater bar, Rotate the beater bar left and right until it is fully engaged into the drive system.
- C. Apply a light film of lubricant on the faceplate O-ring (Round rubber gasket) and press it into the faceplate groove.
- D. Install the Faceplate.
- E. Install Drip tray.

### START-UP

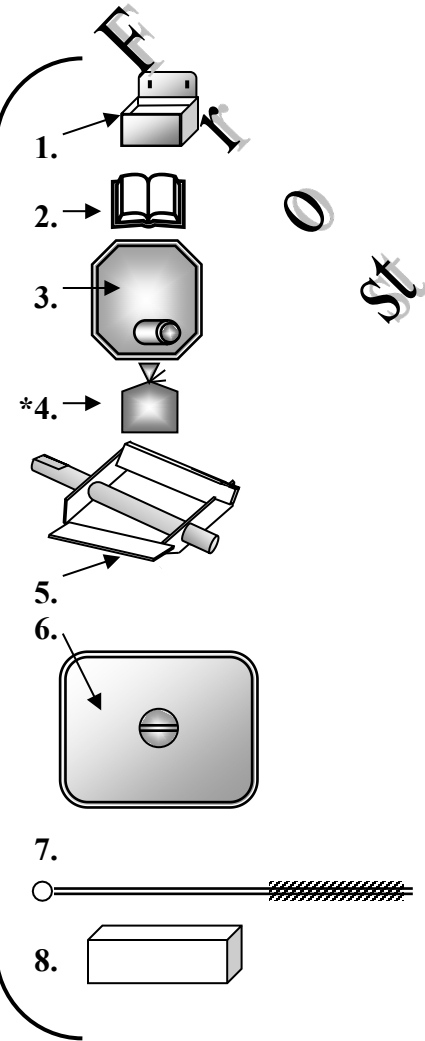
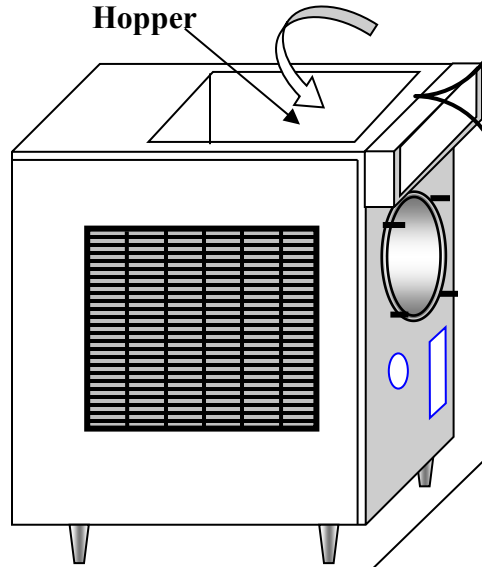
1. Fill hopper with product. (Or a **test mix of 5 pounds of sugar to 4 gallons of water.**)
2. After the freezing chamber is completely full and “bubbling” has stopped, turn both switches to the right (Snowflake position).
3. Product will freeze in 15 to 30 minutes depending on mix temperature, room temperature and outside air temperature.
4. If mix thickness is not satisfactory, turn the TCC screw clockwise for a thicker beverage or counter clockwise for a thinner beverage. Usually about 2 full turns of the TCC screw is sufficient to correct the mix thickness.
5. Refer to operator’s manual for more detailed instructions if needed.

**Accessory List**  
**Remote Models**

- 1. Drip tray
- 2. Manual
- 3. Faceplate
- 4. "Goody Bag"
- 5. Beater Bar
- 6. Hopper Cover
- 7. Drip Tube Brush
- 8. Quick Disconnect Fittings

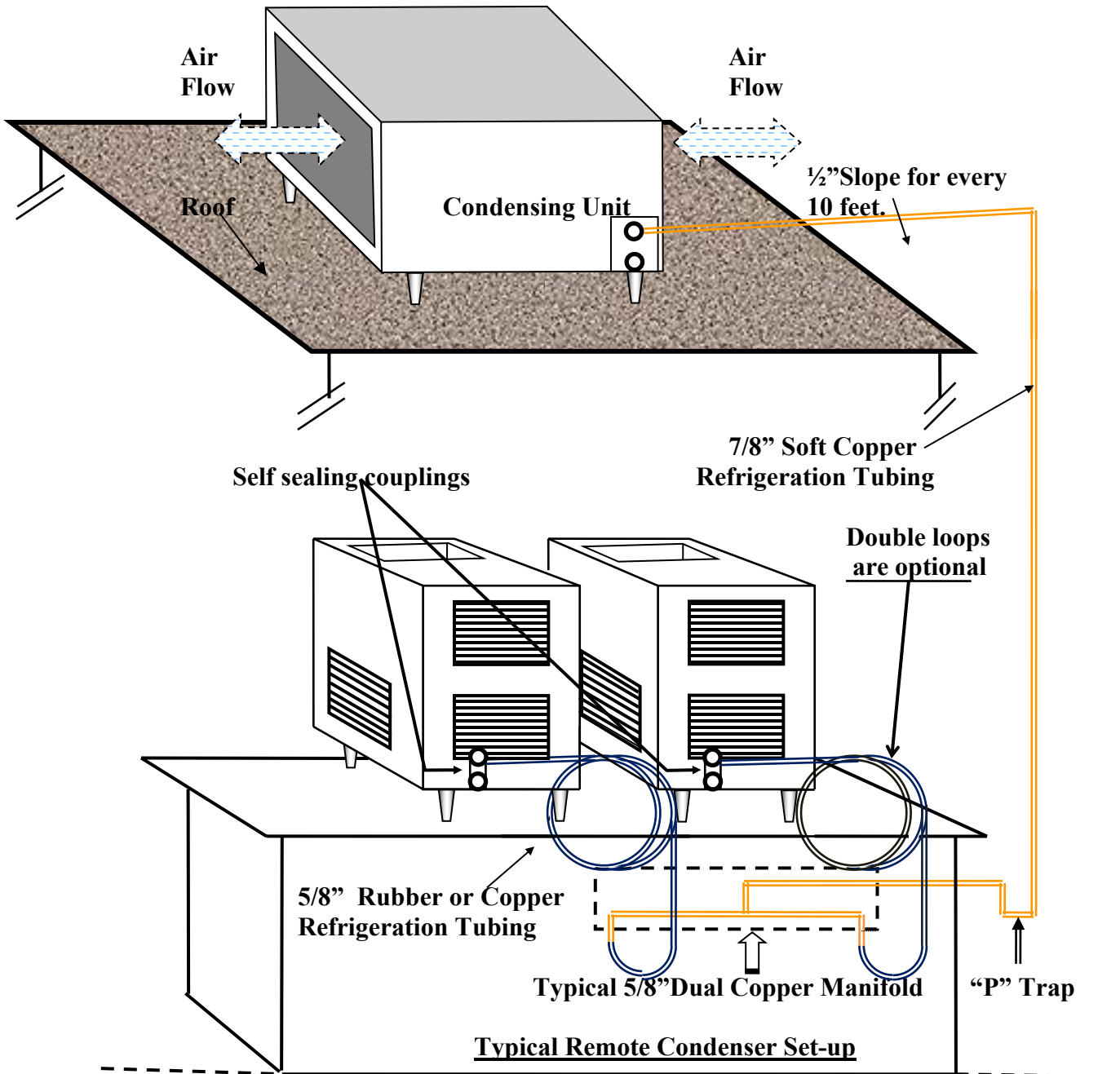
**\*4 "Goody" Bag" includes:**

- Faceplate knobs (4)
- Faucet brush
- Petrol Gel
- Sanitizing packet
- Spare faucet o-rings (2)
- Warranty card

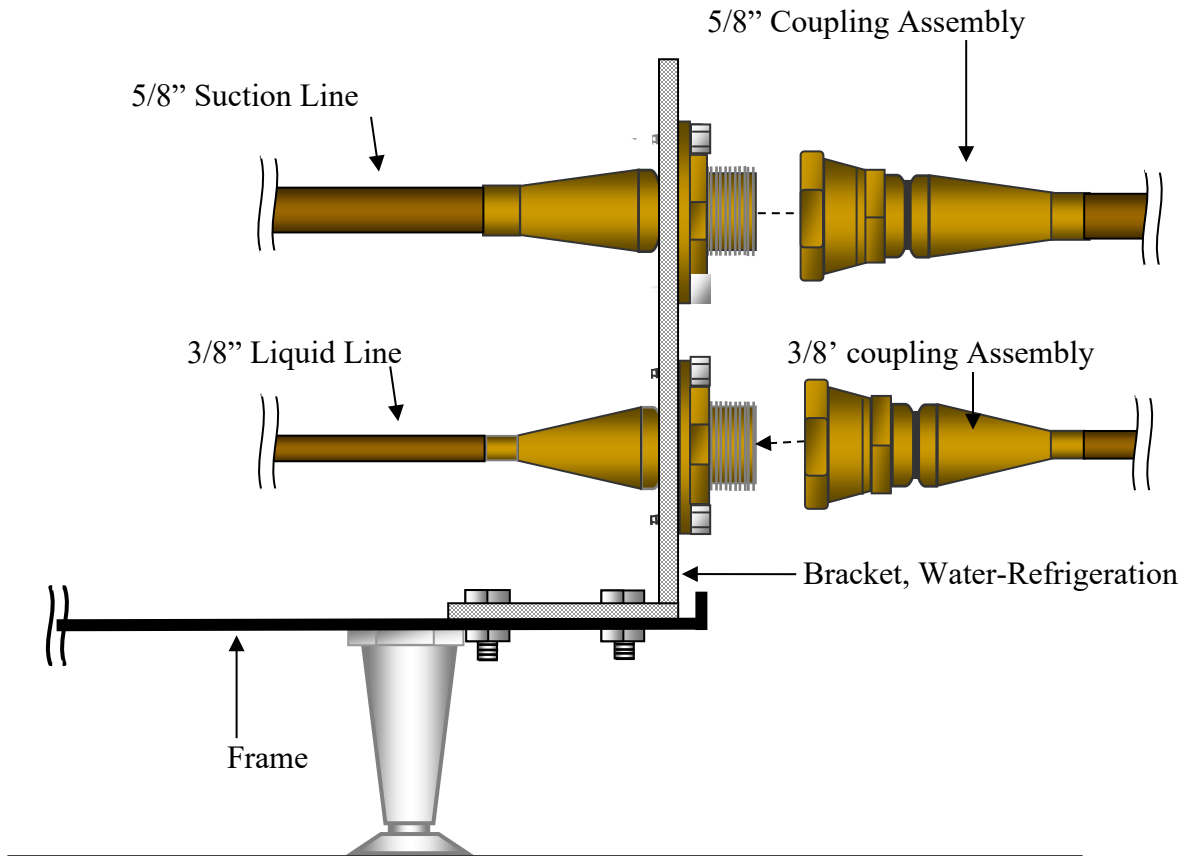


## REFRIGERATION CONNECTIONS-REMOTE

The suction line is  $\frac{7}{8}$ " copper from the condenser to the manifold, and  $\frac{5}{8}$ " copper from the manifold to the dispensers. The pressure line is not shown in the following drawing because it has the same configuration as the suction line: Except that the pressure line is  $\frac{3}{8}$ " copper from the condenser to the manifold and from the manifold to the dispenser. A "P" trap is required in the pressure line when the vertical drop is greater than 10ft.



**Aeroquip 5500**  
**Self Sealing Couplings**



**NOTE:** The assemblies include male and female halves as well as the hold-down washer. The male half is pre-assembled within the dispenser cabinet.

1. Both "female halves" can be soldered onto the main copper lines from the manifold prior to being vacuumed, leak checked and pre-charged.
2. After the service lines are assembled, the "self sealing" couplings can be connected to the dispensers without loss of refrigerant. **Both halves are "self sealing"** and will NOT leak when dis-assembled.

**NOTE:** Use **thread protectors** on male ends until ready to assemble. Any damage to threads will create a leak hazard.



SECTION 7  
SPARE PARTS LIST

Revised 08/06/07

**7.1 SPARE PARTS FROZEN DRINK MACHINE MODELS 115R**

<u>DESCRIPTION</u>	<u>ITEM NUMBER</u>
Ballast (115v)	F0269
Ballast (220v)	F0536
Bearing Plate	C2306
Bearing, Motor (Obsolete)	F0474
Bearing, Motor	F0738
Beater Bar Assembly, Lg.	C6527
Beater Bar Frame, Lg.	C6509
Beater Bar Spring Seal	F0355
Block, Spacer Lg.	C2308
Brush, Drip Tube, Lg.	F0327
Bulb, 12" Light	F0539
Clip Ring, Lg.	F0330
Clip Ring, Sm.	F0331
Coil, Ref. Solenoid 120Volt	F2526
Coil, Ref. Solenoid 230Volt	F1526
Computer Board, Auto Fill 110Volt	F0577
Computer Board, Auto Fill 220Volt	F0562
Coupling, Assembly 3/8"Ref.	F0913
Coupling, Assembly 5/8"Ref.	F0914
Coupling, Half 3/8"Female	F0912
Coupling, Half 5/8"Female	F0911
Drip Tray	F0195
Drip Tray Insert	F0196
Drip Tray Screws	F0905
Drip Tube Brush	F0327
Drive Belt	F0473
Drive Motor	F732
Drive Motor Assembly	C732
Drive Motor Pulley	F0471
Drive Plate	C4403
Dryer, Liquid Line 5Cu"	F5543
Face Plate with magnet	C6501
Face Plate Bushing	C6522
Face Place Interlock Relay Coil	F0383
Face Plate Knobs	F0262
Faucet Assembly	C6513
Faucet Body	C6513B
Faucet Brush	F0326
Faucet Nut	F0197
Faucet Plunger	C6513P
Faucet Spring	F0564
Fill Light	F0207
Float Clip	F0812

<u>DESCRIPTION</u>	<u>ITEM NUMBER</u>
<b>Flywheel</b>	<b>F6525</b>
<b>Flywheel Bearing</b>	<b>F0267</b>
<b>Heat Sequencer</b>	<b>F0400</b>
<b>High Pressure Switch</b>	<b>F0660</b>
<b>Hopper Cover</b>	<b>F0497</b>
<b>Legs, 4" Stainless</b>	<b>F0800</b>
<b>Microswitch</b>	<b>F0346</b>
<b>Motor Spring Bracket</b>	<b>F1239</b>
<b>Motor Stop Bracket</b>	<b>F1203</b>
<b>O-Ring, Face Plate</b>	<b>F0374</b>
<b>O-Ring, Faucet</b>	<b>F0491</b>
<b>O-Ring, Fill Switch</b>	<b>F0161</b>
<b>Panel Louver</b>	<b>F0254</b>
<b>Panel, Left Side</b>	<b>F6405</b>
<b>Panel, Rear</b>	<b>F6407</b>
<b>Panel, Right Side</b>	<b>F6406</b>
<b>Petro-Gel</b>	<b>F0298</b>
<b>Puller tool (Ceramic ring)</b>	<b>F0012</b>
<b>Pulley, Drive Motor</b>	<b>F0471</b>
<b>Rear Cylinder Brace</b>	<b>F2005</b>
<b>Sanitizer</b>	<b>F0492</b>
<b>Scraper Blade</b>	<b>C6510F</b>
<b>Scraper Blade Spring</b>	<b>F6512</b>
<b>Seal, Ceramic</b>	<b>F0665</b>
<b>Sign Panel</b>	<b>F0170</b>
<b>Stainless Steel Legs</b>	<b>F0800</b>
<b>Starter Base</b>	<b>F0538</b>
<b>Starter, Light</b>	<b>F1009</b>
<b>Switch Nut</b>	<b>F7003</b>
<b>Switch, 2-Position, Bottom</b>	<b>F0417</b>
<b>Switch, 3-Position, Top</b>	<b>F0416</b>
<b>Switch, Fill Light (Float)</b>	<b>F0811</b>
<b>Tension Spring</b>	<b>F0469</b>
<b>Thermostat</b>	<b>F0401</b>
<b>Time Delay (Adjustable)</b>	<b>F4998</b>
<b>Transformer (Multi-volt)</b>	<b>F4995</b>
<b>Valve, Expansion, 3 Gal.</b>	<b>F0529</b>
<b>Valve, Solenoid, 3/8" Ref.</b>	<b>F0526</b>

SECTION 7  
SPARE PARTS LIST

Revised 08/03/07

**SPARE PARTS FROZEN DRINK MACHINE MODELS (215R)**

<u>DESCRIPTION</u>	<u>ITEM NUMBER</u>
Ballast (115v)	F0269
Ballast (220v)	F0536
Bearing Plate	C2306
Bearing, Motor	F0738
Beater Bar Assembly, Long.	C6530
Beater Bar Frame New Style	C6528
Beater Bar Spring Seal	F0355
Block, Spacer Remote	C2316
Brush, Drip Tube, Sm.	F6526
Bulb, 9" Light	F1237
Clip Ring, Lg.	F0330
Clip Ring, Sm.	F0331
Coil, Ref. Solenoid 120Volt	F2526
Coil, Ref. Solenoid 230Volt	F1526
Computer Board, Auto Fill 110Volt	F0577
Computer Board, Auto Fill 220Volt	F0562
Coupling, Assembly 3/8"Ref.	F0913
Coupling, Assembly 5/8"Ref.	F0914
Coupling, Half 3/8"Female	F0912
Coupling, Half 5/8"Female	F0911
Drain Tube 3/8" Plastic	F0426
Drip Tray	F6603
Drip Tray Insert	F6604
Drip Tray Screws	F0905
Drive Belt	F0473
Drive Motor	F732
Drive Motor Assembly	C732
Drive Motor Pulley	F0471
Drive Plate	C4403
Dryer, Liquid Line 5Cu"	F5543
Face Plate with magnet	C6521
Face Plate Bushing (shouldered)	C6522
Face Plate Knobs	F0262
Faucet Assembly	C6513
Faucet Body	C6513B
Faucet Brush	F0326
Faucet Nut	F0197
Faucet Plunger	C6513P
Faucet Spring	F0564
Fill Light	F0207
Float Clip	F0812
Flywheel	F6524

<b><u>DESCRIPTION</u></b>	<b><u>ITEM NUMBER</u></b>
<b>Flywheel Bearing</b>	<b>F0267</b>
<b>Hopper Cover sm.</b>	<b>F0498</b>
<b>Legs, 4" Stainless</b>	<b>F0800</b>
<b>Microswitch</b>	<b>F0346</b>
<b>Motor Spring Bracket</b>	<b>F4202A</b>
<b>Motor Stop Bracket</b>	<b>F1203</b>
<b>O-Ring, Face Plate sm</b>	<b>F0357</b>
<b>O-Ring, Faucet</b>	<b>F0491</b>
<b>O-Ring, Fill Switch</b>	<b>F0161</b>
<b>Panel, Left Side</b>	<b>F6436</b>
<b>Panel, Rear</b>	<b>F2006</b>
<b>Panel, Right Side</b>	<b>F6437</b>
<b>Petro-Gel</b>	<b>F0298</b>
<b>Puller tool (Ceramic ring)</b>	<b>F0012</b>
<b>Sanitizer</b>	<b>F0492</b>
<b>Scraper Blade</b>	<b>C6510</b>
<b>Scraper Blade Spring</b>	<b>F6517</b>
<b>Seal, Ceramic</b>	<b>F0665</b>
<b>Starter Base</b>	<b>F0538</b>
<b>Sign Panel</b>	<b>F0316</b>
<b>Spring, Tension Lg.</b>	<b>F0469</b>
<b>Starter, Light</b>	<b>F1009</b>
<b>Switch Nut</b>	<b>F7003</b>
<b>Switch, 2-Position, Bottom</b>	<b>F0417</b>
<b>Switch, 3-Position, Top</b>	<b>F0416</b>
<b>Switch, Fill Light (Float)</b>	<b>F0811</b>
<b>Thermostat</b>	<b>F0401</b>
<b>Time Delay (Adjustable)</b>	<b>F4998</b>
<b>Transformer (Multi-volt)</b>	<b>F4995</b>
<b>Valve, Expansion, 2 Gal.</b>	<b>F0530</b>
<b>Valve, Solenoid, 3/8" Ref.</b>	<b>F0526</b>

SECTION 7  
SPARE PARTS LIST

Revised 08/06/07

**7.1 SPARE PARTS FROZEN DRINK MACHINE MODELS 235R**

<b>DESCRIPTION</b>	<b>ITEM NUMBER</b>
Ballast (115v)	F0269
Ballast (220v)	F0536
Bearing Plate	C2306
Bearing, Motor (Obsolete)	F0474
Bearing, Motor	F0738
Beater Bar Assembly, Lg.	C6527
Beater Bar Frame, Lg.	C6509
Beater Bar Spring Seal	F0355
Block, Spacer Lg.	C2308
Brush, Drip Tube, Lg.	F0327
Bulb, 12" Light	F0539
Clip Ring, Lg.	F0330
Clip Ring, Sm.	F0331
Coil, Ref. Solenoid 120Volt	F2526
Coil, Ref. Solenoid 230Volt	F1526
Computer Board, Auto Fill 110Volt	F0577
Computer Board, Auto Fill 220Volt	F0562
Coupling, Assembly 3/8"Ref.	F0913
Coupling, Assembly 5/8"Ref.	F0914
Coupling, Half 3/8"Female	F0912
Coupling, Half 5/8"Female	F0911
Drip Tray	F0195
Drip Tray Insert	F0196
Drip Tray Screws	F0905
Drip Tube Brush	F0327
Drive Belt	F0473
Drive Motor	F732
Drive Motor Assembly	C732
Drive Motor Pulley	F0471
Drive Plate	C4403
Dryer, Liquid Line 5Cu"	F5543
Face Plate with magnet	C6501
Face Plate Bushing	C6522
Face Place Interlock Relay Coil	F0383
Face Plate Knobs	F0262
Faucet Assembly	C6513
Faucet Body	C6513B
Faucet Brush	F0326
Faucet Nut	F0197
Faucet Plunger	C6513P
Faucet Spring	F0564
Fill Light	F0207
Float Clip	F0812

<u>DESCRIPTION</u>	<u>ITEM NUMBER</u>
<b>Flywheel</b>	<b>F6525</b>
<b>Flywheel Bearing</b>	<b>F0267</b>
<b>Heat Sequencer</b>	<b>F0400</b>
<b>High Pressure Switch</b>	<b>F0660</b>
<b>Hopper Cover</b>	<b>F0497</b>
<b>Legs, 4" Stainless</b>	<b>F0800</b>
<b>Microswitch</b>	<b>F0346</b>
<b>Motor Spring Bracket</b>	<b>F1239</b>
<b>Motor Stop Bracket</b>	<b>F1203</b>
<b>O-Ring, Face Plate</b>	<b>F0374</b>
<b>O-Ring, Faucet</b>	<b>F0491</b>
<b>O-Ring, Fill Switch</b>	<b>F0161</b>
<b>Panel Louver</b>	<b>F0254</b>
<b>Panel, Left Side</b>	<b>F6405</b>
<b>Panel, Rear</b>	<b>F6407</b>
<b>Panel, Right Side</b>	<b>F6406</b>
<b>Petro-Gel</b>	<b>F0298</b>
<b>Puller tool (Ceramic ring)</b>	<b>F0012</b>
<b>Pulley, Drive Motor</b>	<b>F0471</b>
<b>Rear Cylinder Brace</b>	<b>F2005</b>
<b>Sanitizer</b>	<b>F0492</b>
<b>Scraper Blade</b>	<b>C6510F</b>
<b>Scraper Blade Spring</b>	<b>F6512</b>
<b>Seal, Ceramic</b>	<b>F0665</b>
<b>Sign Panel</b>	<b>F0170</b>
<b>Stainless Steel Legs</b>	<b>F0800</b>
<b>Starter Base</b>	<b>F0538</b>
<b>Starter, Light</b>	<b>F1009</b>
<b>Switch Nut</b>	<b>F7003</b>
<b>Switch, 2-Position, Bottom</b>	<b>F0417</b>
<b>Switch, 3-Position, Top</b>	<b>F0416</b>
<b>Switch, Fill Light (Float)</b>	<b>F0811</b>
<b>Tension Spring</b>	<b>F0469</b>
<b>Thermostat</b>	<b>F0401</b>
<b>Time Delay (Adjustable)</b>	<b>F4998</b>
<b>Transformer (Multi-volt)</b>	<b>F4995</b>
<b>Valve, Expansion, 3 Gal.</b>	<b>F0529</b>
<b>Valve, Solenoid, 3/8" Ref.</b>	<b>F0526</b>