



Beverage-Air

IMPORTANT INFORMATION FOR WTRCS SERIES

**This cooler has passed the
QUALITY CONTROL INSPECTION
And meets the high standards at Beverage-Air
This inspection includes complete refrigeration
System, cabinet construction & finish.**

**IMPORTANT
PLEASE RETAIN FOR YOUR RECORDS**

**SALES OFFICE: P.O. BOX 5932 SPARTANBURG, S.C. 29304-5932
PHONE: (864) 582-8111 TOLL FREE 1-800-845-9800
TECHNICAL SERVICE: 1-800-684-1199, PARTS ORDER FAX: 1-800-262-9381
PLANTS: SPARTANBURG, S.C. BROOKVILLE, P.A. HONEA
PATH, S.C.**

BEVERAGE-AIR

INSTALLATION AND OPERATING INSTRUCTIONS REFRIGERATORS—WTRCS

1. INSTALLATION

a. Receiving Inspection

Upon receipt, check all packages for accessories or optional components.

b. Locating unit:

Provide at least three inches of space behind rear of unit for refrigeration system air circulation.

c. Leveling:

To provide adequate defrost drainage and proper drawer alignment and operation, it is necessary that the cabinet be level. Level cabinet from front to rear and from side to side with metal shims (not included). This should be done after the cabinet has been set in its final operating position.

d. If the casters or legs are removed from the unit then the unit must be leveled, using shims (not included). The unit must then be sealed to the floor.

2. OPERATION

a. Electrical Supply and Connections

The frequency and normal voltage requirements for the unit are specified on the Data Plate. Low line voltage is often the cause of service complaints. Check to see that the line voltage is within + or -10% of the data plate voltage with the unit running. Other motors or heavy appliances should not be used on the same circuit with the cooler. When working on the inside of the cooler, disconnect from electrical circuit for safety reasons. **CAUTION: DO NOT USE EXTENSION CORDS!! The use of ungrounded cords or overloaded circuit voids compressor warranty.**

b. Initial Start-Up

Turn power on and check to verify that the condenser fan is running.

c. Temperature control

Factory setting of temperature control for a refrigerator is No. 4 position (normal) which will maintain the product at approximately 38°F. For colder temperatures, turn knob clockwise one number at a time.

Excessive tampering with temperature control could lead to service difficulties. For operation above 3000-ft. altitude, have thermostat adjusted by a qualified service technician.

d. Condensate Disposal

The stainless steel pan below the evaporator receives and discharges the condensate to the condenser condensate pan located to the right in the condensing unit compartment behind the grille. Air flows over the pan, which has coated hot gas tubing to facilitate condensate evaporation. This eliminates the need for an external drain.

3. CLEANING

a. Cleaning Cabinet Exterior

Cabinets should be cleaned with a solution of mild soap and water. Do not use caustic soap or abrasive cleaners, since these might damage the cabinet finish. If stainless steel surface becomes discolored, scrub by rubbing only in the direction of the finish grain. Do not use steel wool.

b. Cleaning Interior Surfaces

The inside of the cabinet is Stainless Steel. See "Methods for Cleaning Stainless Steel".

c. Condenser

For efficient operation, it is recommended that the condenser coil and fans be cleaned every 3 to 6 months. Unplug from power source and remove front grille for access. Vacuum clean front surface of coil thoroughly. **Failure to clean condenser can cause compressor malfunction and will void warranty.**

d. Condensate Pan and Drain Line

Condensate pan and drain line should be cleaned periodically to prevent odors and to maintain evaporating efficiency.

e. Cleaning Air Duct

See "Methods For Cleaning Stainless Steel"

The overlapping area between the air-duct sections must be resealed with an NSF approved sealant.

SERVICE AND ANALYSIS CHART

REFRIGERATION SYSTEM

*All servicing must comply with State and Federal requirements. Federal law requires that refrigerants be recovered prior to servicing.

MALFUNCTION	POSSIBLE CAUSE	SOLUTION
Compressor will not start-no hum	<ol style="list-style-type: none"> 1. Line cord not plugged in 2. Fuse removed or blown. 3. Overload protector tripped 4. Control stuck in open position. 5. Wiring improper or loose. 	<ol style="list-style-type: none"> 1. Plug in line cord. 2. Replace fuse. 3. Refer to electrical diagram or troubleshooting guide. 4. Repair or replace control 5. Check wiring against diagram.
Compressor will not start-hums but trips on overload protector.	<ol style="list-style-type: none"> 1. Improperly wired. 2. Low voltage to compressor. 3. Start capacitor defective 4. Relay failing to close. 5. Compressor defective. 	<ol style="list-style-type: none"> 1. Check wiring against diagram. 2. Check volts at compressor, trace circuit, determine cause & replace or repair (check overload, T-stat.). 3. Determine reason, correct and replace. 4&5. Determine reason and correct, replace if necessary.
Compressor starts, but does not switch off start winding	<ol style="list-style-type: none"> 1. Low voltage to unit. 2. Relay failing to open. 3. Run capacitor defective. 4. Compressor motor has a winding open or shorted. 	<ol style="list-style-type: none"> 1. Determine external circuit-repair. Determine internal circuit-repair or replace (overload, T-stat, relay, etc.). 2. Determine reason and correct, replace if necessary. 3. Determine reason and replace. *4. Replace compressor.
Compressor starts and runs, but short cycles on overload protector.	<ol style="list-style-type: none"> 1. Additional current passing through overload protector. 2. Low voltage to unit. 3. Overload protector defective. 4. Run capacitor defective. 5. Excessive discharge pressure. 6. Compressor too hot - return gas hot. 	<ol style="list-style-type: none"> 1. Check wiring diagram. Check for added electrical items connected to wrong side of protector. 2. Determine external circuit-repair. If internal, check relay. 3. Check current, replace protector. 4. Determine reason and replace. *5. Check ventilation-vent to reduce heat, dirty condenser-clean, restrictions in refrigeration system-repair. *6. Check refrigerant charge (fix leak) add if necessary.
Unit runs OK but short cycles	<ol style="list-style-type: none"> 1. Overload protector. 2. Cold control (thermostat) 3. Overcharge. 4. Air in system. 5. Undercharge. 	<ol style="list-style-type: none"> 1. Check wiring diagram. 2. Differential set too close - adjust or replace. *3. Reduce refrigerant charge. *4. Recover and recharge. *5. Fix leak, and recharge.
Unit operates long or continuously	<ol style="list-style-type: none"> 1. Shortage of refrigerant. 2. Thermostat contacts stuck closed. 3. Evaporator coil iced. 4. Restriction in refrigeration system. 5. Dirty condenser. 	<ol style="list-style-type: none"> *1. Fix leak, and recharge. 2. Clean contacts or replace control. 3. Defrost and check refrigerant charge and/or T-stat. *4. Determine location and remove restriction and recharge 5. Clean condenser.
Start capacitor open, shorted or blown	<ol style="list-style-type: none"> 1. Relay contacts not opening properly. 2. Low voltage to unit. 3. improper relay. 	<ol style="list-style-type: none"> 1. Replace relay. 2. Determine reason and correct (see above same topic) 3. Replace.
Run capacitor open, shorted or blown	<ol style="list-style-type: none"> 1. Improper capacitor. 2. Excessive high line voltage. (110% or rated-max). 	<ol style="list-style-type: none"> 1. Determine correct size and replace. 2. Determine reason and correct.
Relay defective or burned out	<ol style="list-style-type: none"> 1. Incorrect relay. 2. Line voltage to high or to low. 3. Relay influenced by loose, vibrating mounting. 	<ol style="list-style-type: none"> 1. Verify and replace. 2. Determine reason and correct. 3. Replace.
Space Temperature too high	<ol style="list-style-type: none"> 1. Thermostat setting too high. 2. Refrigerant overcharge. 3. Inadequate air circulation. 	<ol style="list-style-type: none"> 1. Reset control. *2. Recover refrigerant, recharge with proper amount. 3. Improve air flow (clean condenser, check fans, etc.).
Cooler freezing beverage.	<ol style="list-style-type: none"> 1. Thermostat (control) settings. 2. Defective thermostat. 	<ol style="list-style-type: none"> 1. Adjust thermostat. 2. Replace thermostat.
Unit noise	<ol style="list-style-type: none"> 1. Loose parts or mountings. 2. Tubing rattle. 3. Bent fan blade causing vibration. 4. Fan motor bearings worn. 	<ol style="list-style-type: none"> 1. Find and tighten. 2. Reform to be free of contact. 3. Replace blade. 4. Replace motor.
Liquid line and/or filter-drier sweating or frosted	<ol style="list-style-type: none"> 1. Restricted filter-drier 	<ol style="list-style-type: none"> *1. Replace filter-drier.

REFRIGERATION SYSTEM

SERVICE AND ANALYSIS CHART

▪ REFRIGERATION SYSTEM

The Refrigeration System consists of a hermetically sealed compressor and finned evaporator and condenser.

▪ CONDENSER

The condenser has wide finned spaces, which allow more air passage with less dirt or dust accumulation. The condenser still requires periodic cleaning (approximately every 3 to 6 months) for maximum efficiency.

▪ CONDENSER FAN MOTOR

The condenser fan motor assembly is mounted between the condenser and the compressor. Air is drawn through the condenser, over the body of the compressor and out the rear of the unit compartment.

The motor is wired to cycle with the compressor but will continue to operate should the compressor cut out on the overload. (The motor is permanently lubricated; therefore, oiling is not required).

▪ DRIER

The drier is installed in the system just before the capillary tube. Its purpose is to trap minute particles of foreign material and absorb any moisture in the system.

▪ HEAT EXCHANGE

Liquid refrigerant control to the evaporator of the system is accomplished by the use of a capillary tube. This capillary tube is soldered to the suction line to form a heat exchanger which subcools the liquid refrigerant to maintain high efficiency within the system.

REFRIGERATION SERVICE

▪ EVACUATION

Moisture in a refrigeration system is directly or indirectly the cause of more problems and complaints than all other factors combined.

When large amounts of moisture are present, system freeze ups will occur. Even in minute amounts, moisture will combine with refrigerants to form an acid. The corrosive action of this acid forms sludge, which will plug the lines, i.e. capillary tube and drier.

Since most field type vacuum pumps cannot pull a low enough vacuum to remove all moisture from the system, it is recommended that the system be triple evacuated. The refrigerant should be recovered, recycled, and reclaimed.

▪ CHARGING REFRIGERATION SYSTEM

Since capillary tube systems have small critical refrigerant charges, we recommend that a field charge either be weighed in or put in from a portable refrigerant charger. After maximum vacuum has been obtained as detailed above, attach Refrigerant Charger to the suction line. With the unit running, allow refrigerant to run slowly into the system until the recommended charge is reached. (See data plate) When using Refrigerant Blends it is recommended to liquid charge into the high side of the system with the initial charge and then any remaining charge can be put into the suction side. However, care must be taken to meter the remaining amount into the low side so as not to cause excess liquid to go into the compressor.

OVERCHARGE

When the cabinet has pulled down to operating temperature, an indication of an overcharge is that the suction line will be cooler than normal with the compressor running. Running time will be higher than normal. Suction line will sweat or frost.

Reclaim excessive refrigerant from the system very carefully in small amounts waiting several minutes for the system to balance.

UNDERCHARGE

An undercharge or shortage of refrigerant will result in any of the following:

1. Lower than normal head pressure.
2. Lower than normal suction pressure.
3. Excessive or continuous operation of compressor.
4. Higher than normal cabinet temperature.

FEDERAL LAW REQUIRES THAT REFRIGERANTS BE RECOVERED PRIOR TO SERVICING.

METHODS FOR CLEANING STAINLESS STEEL

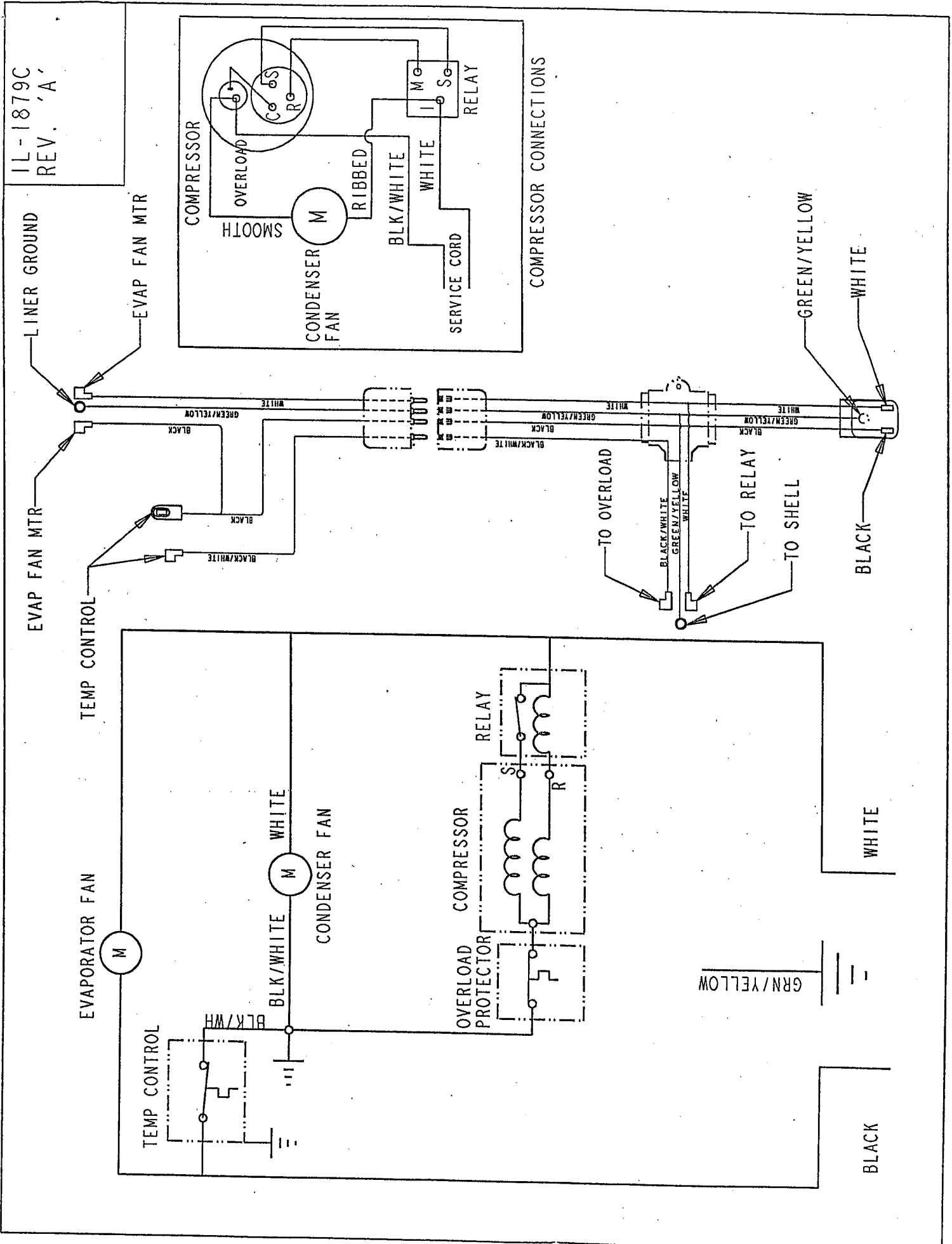
	CLEANING AGENT*	METHOD OF APPLICATION**	EFFECT ON FINISH
Routine Cleaning	Soap, ammonia or detergent and water.	Sponge with cloth, then rinse with clear water and wipe dry.	Satisfactory for use on all finishes.
Stubborn spots and stains, baked-on splatter, and other light discoloration's.	Revere Ware cleaner, Twinkle, or Cameo stainless steel cleaner.	Apply with damp sponge or cloth. Rub with damp cloth.	Satisfactory for use on all finishes if rubbing is light. Use in direction of polish lines.
	Goddard's Stainless Steel Care, Revere Ware Stainless Steel Cleaner, Soft-Scrub.	Apply with damp sponge or cloth.	Use in direction of polish lines. May scratch or dull highly polished finishes.
	Household cleansers, such as Old Dutch Bon Ami, Ajax, Comet Zud	Rub with a damp cloth. May contain chlorine bleaches. Rinse thoroughly after use. Rub with a damp cloth.	
Heat tint or heavy discoloration	Rever Ware Stainless Steel Cleaner, Goddard's Stainless Steel Care.	Apply with damp sponge or cloth.	
Burnt-on foods and grease, fatty acids milkstone (where swabbing or rubbing is not practical)	Easy-Off Oven Cleaner	Apply generous coating. Allow to stand for 10 to 15 minutes. Rinse. Repeated application may be necessary.	Excellent removal. Satisfactory for use on all finishes.
Hard water spots and scale.	Vinegar	Swab or wipe with cloth. Rinse with water and dry.	Satisfactory for use on all finishes.

*Use of brand names is intended only to indicate a type of cleaner. This does not constitute an endorsement. Nor does the omission of any brand name cleaner imply its inadequacy. Many products named are regional in distribution and can be found in local supermarkets, department and hardware stores.

**It is emphasized that all products should be used in strict accordance with instructions on package.

1. Use the mildest cleaning procedure that will do the job efficiently and effectively.
2. Always rub in the direction of polish lines for maximum effectiveness and to avoid marring the surface.
3. Use only a soft cloth, sponge, fibrous brushes, plastic or stainless steel pads for cleaning and scouring.
4. Rinse thoroughly with fresh water after every cleaning operation.
5. Always wipe dry to avoid water marks.
6. **Never use common steel wool pads, these will cause rust!**

IL-1879C
REV. 'A'



EVAPORATOR FAN

TEMP CONTROL

EVAP FAN MTR

LINER GROUND

TEMP CONTROL

BLK/WH

BLK/WHITE

WHITE

CONDENSER FAN

OVERLOAD PROTECTOR

COMPRESSOR

RELAY

COMPRESSOR

OVERLOAD

SMOOTH

CONDENSER FAN

RIBBED

BLK/WHITE

WHITE

SERVICE CORD

RELAY

TO OVERLOAD

TO RELAY

TO SHELL

BLACK/WHITE

GRN/YELLOW

WHITE

BLACK

GRN/YELLOW

WHITE

BLACK

GRN/YELLOW

WHITE

BLACK

GRN/YELLOW

WHITE

WHITE

BLACK

COMPRESSOR CONNECTIONS