



IMPORTANT INFORMATION FOR DW / SF / SD 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
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PLANTS: SPARTANBURG, S.C. BROOKVILLE, PA. HONEA PATH, S.C.**

BEVERAGE-AIR

INSTALLATION AND OPERATING INSTRUCTIONS DW, SF, SD Model Coolers

1. LOCATING COOLER

ILA-0860 Rev B

It is necessary to properly level cooler to provide adequate drainage and efficient functioning of the unit. Make sure there is enough room around the cooler to assure good air circulation through the condenser.

2. ELECTRICAL SUPPLY

a. Electrical Supply and Connections

Plug all standard models into 115 volts AC 60-Hertz outlet. Low line voltage is often the cause of service complaints. Check to see that the line voltage is 110 volts or more 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: If an extension cord is necessary, use only a three wire grounding type of wire size 16 AWG or larger. DO NOT exceed 20 ft. in length. The use of ungrounded cords or overload 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 the number 4 position (normal) on the control dial which will maintain the product at approximately 36 °F. For colder temperatures, turn knob clockwise one number at a time. Freezer temperature on SD models can be accurately controlled from -10 to +10F.

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

3. EYELET/DIVIDER PLUGS

After installing shelves in desired position push the eyelet plugs (B/A Part #711-022B) into the remaining unused eyelets and the divider plugs (B/A Part #711-023B) into unused divider holes.

4. CAP CATCHER

To install cap catcher, place slotted holes over the two mounting screws and push down. The mounting screws are pre-set at the factory for proper installation but should be turned in or out if further adjustment is required.

5. DEFROSTING – SD MODEL

To defrost the SD freezer compartment, set control dial on 1 or 2 overnight. Cabinet temperature will rise to about 45 degrees during the defrost period.

6. DRAINAGE– DW, SF, SD MODELS

The condensation drains into a condensate disposal pan located just below the unit compartment grill. This pan is equipped with wicking to hasten the evaporation process so plumbing is not required. The drain lines and pan should be thoroughly cleaned periodically as solids and spilled products will not evaporate, resulting in an unsanitary condition. Should the drain pan become clogged, it should be cleaned with a small round brush – do not use wire, as this may puncture the plastic drain line.

7. CLEANING

Wash or clean the cooler inside and out at regular intervals to preserve the finish and appearance. If stainless steel becomes discolored or stained, it should be cleaned with standard cleaners, but not with steel wool. **CONDENSER COILS MUST BE CLEANED AT REGULAR INTERVALS. FAILURE TO DO SO CAN CAUSE COMPRESSOR MALFUNCTION AND WILL VOID WARRANTY.** Clean condenser every 6 months, depending upon usage, dust, etc.

Clean as follows:

DW, SF, SD Models – Remove front grill and vacuum clean surfaces of condenser. (alternate method for DW, SF, SD) – Direct forced air through condenser from fan side.

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, Zud, Bon Ami, Ajax, Comet	Rub with a damp cloth. May contain chlorine bleaches. Rinse thoroughly after use. Rub with a damp cloth.	
Heat tint or heavy discoloration	Revere 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!**

BEVERAGE-AIR

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MADE IN USA

ILA-1265 Rev.B

SERVICE AND ANALYSIS CHART

REFRIGERATION SYSTEM

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. Temp control stuck in open position. 5. Wiring improper or loose. 	<ol style="list-style-type: none"> 1. Plug in the cord. 2. Replace fuse. 3. Refer to electrical section. 4. Repair or replace temp control. 5. Check wiring against diagram.
Compressor will not start - hums but trips on overload protector.	<ol style="list-style-type: none"> 1. Low voltage to unit 2. Relay failing to close 3. Starting capacitor defective. 4. Improperly wired. 	<ol style="list-style-type: none"> 1. Determine reason and correct 2. Determine reason and correct,replace if necessary 3. Determine reason and replace 4. Check wiring against diagram
Compressor starts but does not switch off of start winding.	<ol style="list-style-type: none"> 1. Low voltage to unit. 2. Relay failing to open. 3. Run capacitor defective 4. Comp Mt winding is open or shorted 	<ol style="list-style-type: none"> 1. Determine reason and correct. 2. Determine reason and correct,replace if necessary. 3. Determine reason and replace. * 4. Determine cause,correct, and replace comp
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 fan motors, pumps, etc. connected to wrong side of protector. 2. Determine reason and correct. 3. Check current, replace protector. 4. Determine reason and replace. * 5. Check ventilation, restrictions in cooling medium,restrictions in refrigeration system. * 6. Check refrigerant charge (fix leak if necessary). Check air flow across condenser.
Unit runs OK, but short cycles.	<ol style="list-style-type: none"> 1. Overload protector. 2. Cold control. 3. Overcharge. 4. Air in system. 5. Undercharge. 	<ol style="list-style-type: none"> 1. Check wiring diag for correct wiring 2. Differential set too close. * 3. Reduce refrigerant charge. * 4. Recover and recharge. * 5. Fix leak and recharge with refrigerant.
Unit operates long or continuously.	<ol style="list-style-type: none"> 1. Dirty condenser 2. Shortage of refrigerant. 3. Temp control contacts stuck or frozen 4. Evaporator coil iced. 5. Restriction in refrigeration system. 	<ol style="list-style-type: none"> * 1. Clean condenser 2. Fix leak,add charge,correct charge 3. Replace Temp control * 4. Defrost 5. Determine location and remove.
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. 3. Replace.
Run capacitor open, shorted or blown.	<ol style="list-style-type: none"> 1. Improper capacitor. 2. Excessively high line voltage (110% of 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 too high or too low. 3. Relay being influenced by loose vibrating mounting. 	<ol style="list-style-type: none"> 1. Check and replace. 2. Determine reason and replace. 3. Remount rigidly.
Space temperature too high.	<ol style="list-style-type: none"> 1. Control setting too high. 2. Overcharged with refrigerant. 3. Inadequate air circulation. 	<ol style="list-style-type: none"> 1. Reset control. * 2. Recover refrigerant and recharge with proper charge specified on dataplate. 3. Improve air movement.
Cooler freezing beverage.	<ol style="list-style-type: none"> 1. Temperature control 	<ol style="list-style-type: none"> 1. Reset control.
Unit noisy.	<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.

ALL SERVICING MUST COMPLY WITH STATE AND FEDERAL REGULATIONS

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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 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.

LIQUID CONTROL AND 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 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, breaking each time with dry refrigerant nitrogen. Use care to purge air from the charging hose when breaking the vacuum.

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 charging cylinder. After maximum vacuum has been obtained as detailed above, attach charging cylinder to the system line making sure to purge air from hose with refrigerant. With the unit running, allow refrigerant to run slowly into the system until the desired charge is reached. 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.

