



# **Back Bar Bottle Cooler**

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## **Service, Installation and Care Manual**

**Please read this manual completely before attempting to install or operate this equipment.**  
**Notify carrier of damage! Inspect all components immediately.**



**I M P O R T A N T   I N F O R M A T I O N**  
**R E A D   B E F O R E   U S E**  
**P L E A S E   S A V E   T H E S E   I N S T R U C T I O N S !**

## **COMMERCIAL REFRIGERATOR SAFETY**

**Your safety and the safety of others are very important.**

We have provided many important safety messages in this manual and on your appliance. Always read and obey all safety messages.

**Our product instructions will be uploaded on our company official website.**



This is the Safety Alert Symbol. This symbol alerts you to potential hazards that can kill or injure you and others. All safety messages will follow the Safety Alert Symbol and either the words "DANGER", "WARNING" or "CAUTION".



Danger means that failure to heed this safety statement may result in severe personal injury or death.



Warning means that failure to heed this safety statement may result in extensive product damage, serious personal injury, or death.



Caution means that failure to heed this safety statement may result in minor or moderate personal injury, or property or equipment damage.

All safety messages will alert you to what the potential hazard is, tell you how to reduce the chance of injury, and let you know what can happen if the instructions are not followed.

**I**f 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.

**T**his 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.

**C**hildren should be supervised to ensure that they do not play with the appliance.

**T**his appliance can be used by children aged from 8 years and above and persons with reduced physical sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

**K**eept the appliance and its cord out of reach of children less than 8 years.

**D**o not store explosive substances such as aerosol cans with a flammable propellant in this appliance.

**T**he max. loading of shelves is 10kg.

**T**his appliance is intended to be used in house hold and similar applications in this appliance.

- staff kitchen areas in shops, offices and other working environment;
- farm houses and by clients in hotels, motels and other residential type environment;
- bed and breakfast type environment;
- catering and similar non-retail applications.

The appliance shall be used at an ambient temperature listed according to it's climate class:

*90°F ± 35°F on appliances of climatic class 0, 1, 2, 3, 4, 6, or 8;*  
*109°F ± 35°F on appliances of climatic class 5 or 7*

The appliance use flammable insulation blowing gas C5H10, disposal of the appliance shall in accordance with the regulations of local authorities.

The appliance provided with double-capped fluorescent lamps, the lamp has to be replaced by identical lamps only.

The key for appliance electric box should be safe kept by qualified persons in order to avoid a hazard.

When positioning the appliance socket-outlets or portable power supplies at the rear of the appliance.

Based on business order(s) to EU market, give true EU authorized representative information on the label with full business name and full EU address in the marking plate.

If the appliance use flammable refrigerant, such as R600a, R290:



**WARNING:** Keep ventilation openings, in the appliance enclosure or in the built-in structure, clear of obstruction.

**WARNING:** Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.

**WARNING:** Do not damage the refrigerant circuit.

**WARNING:** Do not use electrical appliances inside the food storage compartments of the appliance, unless they are of the type recommended by the manufacturer.

**H**andling, moving, and use of the refrigerator or freezer to avoid either damaging the refrigerant tubing, or increasing the risk of a leak

L'opération, le mouvement et l'utilisation du réfrigérant ou le congélateur doivent éviter les dommages du tuyau réfrigérant ou le risque de la fuite.

**C**autions – Risk of Fire or Explosion due to Flammable Refrigerant Used. Follow Handling Instructions Carefully in Compliance with U.S. Government Regulations

**C**omponent parts shall be replaced with like components and that servicing shall be done by factory authorized service personnel, so as to minimize the risk of possible ignition due to incorrect parts or improper service.

Les pièces de rechange doivent être remplacées par les composants relatifs et les opérations doivent être faites par les professionnels afin de minimiser le risque d'allumage à cause des parts incorrects ou des opérations impropres.

**CAUTION** – Risk Of Fire Or Explosion Due To Puncture Of Refrigerant Tubing; Follow Handling Instructions Carefully. Flammable Refrigerant Used

**D**ANGER: Risk of child entrapment. Before you throw away your old refrigerator or freezer:  
Take off the doors

**L**ean the shelves in place so that children may not easily climb inside

The instructions shall contain information regarding the maximum loading of each type of shelf.

**F**or appliances which use FLAMMABLE REFRIGERANTS, the instructions shall include information pertaining to the handling, servicing and disposal of the appliance.

An explanation shall be given of the meaning of the alpha-numeric characters, indicating the climatic class of the appliance, that are marked on the appliance.

The installation and operating instructions for appliances that use a flammable refrigerant shall indicate that component parts shall be replaced with like components so as to minimize the risk of possible ignition due to incorrect parts.

The installation instructions for appliances that use a flammable refrigerant shall indicate the appliance is to be installed in accordance with the Safety Standard for Refrigeration Systems, ANSI/ASHRAE 15.

Apply the requirements of Annex 101. DVS to appliances using flammable refrigerants: self-contained appliance., All services shall be done by the accredited persons by the manufacturer according to local regulation. Services related to breaking into the refrigerating circuit, opening of sealed components are not allowed to be done in the user condition, must be taken to the designed location **WARNING**

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.

The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance or an operating electric heater).

Do not pierce or burn.

Be aware that refrigerants may not contain an odour. and MISE EN GARDE

Ne pas utiliser de moyens autres que ceux recommandés par le fabricant pour accélérer le processus de dégivrage ou pour nettoyer l'appareil.

L'appareil doit être entreposé dans un local ne contenant pas de sources d'inflammation permanentes (flammes nues, appareil à gaz ou dispositif de chauffage électrique en fonctionnement, par exemple).

Ne pas percer ou brûler.

Attention, les fluides frigorigènes peuvent ne pas dégager d'odeur.

- **WARNING:** Keep clear of obstruction all ventilation openings in the appliance enclosure or in the structure for building-in.

- **WARNING:** Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.

- **WARNING:** Do not damage the refrigerant circuit.

- **WARNING:** Do not use electrical appliances inside the food storage compartments of the appliance, unless they are of the type recommended by the manufacturer.

For appliances which use flammable insulation blowing gases, the instructions shall include information regarding disposal of the appliance.

The height of the triangle in the symbol " Caution: risk of fire" shall be at least 15 mm.

The height of the letters used for the marking of the type of flammable insulation blowing gas shall be at least 40 mm.

**WARNING**

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.

The appliance shall be stored in a room without continuously operating ignition sources. (for example: open flames an operating gas appliance or an operating electric heater.

Do not pierce or burn.

Be aware that refrigerants may not contain an odour.

**MISE EN GARDE**

Ne pas utiliser de moyens autres que ceux recommandés par le fabricant pour accélérer le processus de degivrage ou pour nettoyer l'appareil.

L'appareil doit être entreposé dans un local ne contenant pas de sources d'inflammation permanentes (flammes nues, appareil à gaz ou dispositif de chauffage électrique en fonctionnement, par exemple).

Ne pas percer ou brûler.

Attention, les fluides frigorigènes peuvent ne pas dégager d'odeur.

**Detection of flammable refrigerants**

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

The following leak detection methods are deemed acceptable for all refrigerant systems.

Electronic leak detectors may be used to detect refrigerant leaks but, in the case of **FLAMMABLE REFRIGERANTS**, the sensitivity might not be adequate. or might need recalibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25 % maximum) is confirmed.

Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine can react with the refrigerant and corrode the copper pipe-work.

If a leak is suspected, all naked flames shall be removed/extinguished.

If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system. or isolated (by means of shut off valves) in a part of the system remote from the leak. All services shall be done by the accredited persons by the manufacturer according to local regulation. Services related to breaking into the refrigerating circuit, opening of sealed components are not allowed to be done in the user condition, must be taken to the designed location.

Sealed electrical components shall be replaced.

Intrinsically safe components must be replaced.

Item a) DANGER - Risk Of Fire or Explosion. Flammable Refrigerant Used. Do Not Use Mechanical Devices To Defrost Refrigerator. Do Not Puncture Refrigerant Tubing. and  
DANGER-Risque d'incendie ou d'explosion. Fluide frigorigène inflammable utilisé. Ne pas utiliser des moyens mécaniques pour décongeler le réfrigérateur. Ne pas perforer la conduite de fluide frigorigène.

Item b) DANGER - Risk Of Fire Or Explosion. Flammable Refrigerant Used. To Be Repaired Only By Trained Service Personnel. Do Not Puncture Refrigerant Tubing. And  
DANGER-Risque d'incendie ou d'explosion. Fluide frigorigène inflammable utilisé. Doit uniquement être réparé par un technicien de service formé. Ne pas perforer la conduite de fluide frigorigène.

Item c) CAUTION - Risk Of Fire Or Explosion. Flammable Refrigerant Used. Consult Repair Manual/Owner's Guide Before Attempting To Install or Service This Product. All Safety Precautions Must be Followed. and  
ATTENTION-Risque d'incendie ou d'explosion. Fluide frigorigène inflammable utilisé. Consulter le guide du propriétaire ou le manuel de réparation avant d'essayer d'installer ou de réparer ce produit. Toutes les précautions de sécurité doivent être prises.

Item d) CAUTION-Risk Of Fire Or Explosion. Dispose Of Properly In Accordance With Federal Or Local Regulations. Flammable Refrigerant Used. and  
ATTENTION - Risque d'incendie ou d'explosion. Mettre au rebut conformément aux règlements fédéraux ou locaux. Fluide frigorigène inflammable utilisé.

Item e) CAUTION-Risk Of Fire Or Explosion Due To Puncture Of Refrigerant Tubing; Follow Handling Instructions Carefully. Flammable Refrigerant Used. and  
CAUTION - Risque d'incendie ou d'explosion en cas de perforation d'une canalisation de fluide frigorigène; suivez attentivement les instructions de maintenance. Fluide frigorigène inflammable utilisé.

Item f) DANGER-Risk of Fire or Explosion due to Flammable Refrigerant Used. Follow Handling Instructions Carefully in Compliance. with National Regulations. and  
DANGER-Risque d'incendie ou d'explosion dû à l'utilisation d'un fluide frigorigène. Suivez attentivement les instructions de maintenance conformément aux règlements nationaux.

**Note:**

a) The marking specified in Item (a) shall be provided on or near any evaporators that can be contacted by the user.

b) The markings specified in Items (b) and (c) shall be provided near the machine compartment.

c) The marking specified in Item (d) shall be provided on the exterior of the refrigerator.

d) The marking specified in Item (e) shall be provided near any and all exposed refrigerant tubing.

e) The marking specified in Item (f) shall be provided on appliance packaging if factory charged.

f) All the markings shall be in letters no less than 6.4mm (1/4in) high.

The marking in Item b) shall also contain the symbol "Caution, risk of fire" (Fire in a triangle): The color and format of this sign shall be as shown in Symbol W021 in ISO 7010. The perpendicular height of the triangle containing the "Caution, risk of fire" sign shall be at least 15 mm (9/16in).

g) Refrigeration tubing or other devices through which the refrigerant is intended to be serviced shall be painted, colored red. This color shall be present at all places where service puncturing or otherwise creating an opening in the refrigerant circuit might be expected. In the case of a process tube on a compressor, the color mark shall extend at least 2.5cm (1 inch) from the compressor.



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## SERIAL NUMBER INFORMATION

The serial number of all self-contained refrigerators is located inside the unit on the left hand side near the top on the wall.

Always have the serial number of your unit available when calling for parts or service.

This manual covers standard units only. If you have a custom unit, consult the customer service department at the number listed on the last page.

## RECEIVING AND INSPECTING THE EQUIPMENT

Even though most equipment is shipped crated, care should be taken during unloading so the equipment is not damaged while being moved into the building.

1. Visually inspect the exterior of the package and skid or container. Any damage should be noted and reported to the delivering carrier immediately.
2. If damaged, open and inspect the contents with the carrier.
3. In the event that the exterior is not damaged, yet upon opening, there is concealed damage to the equipment, notify the carrier. Notification should be made verbally as well as in written form.
4. Request an inspection by the shipping company of the damaged equipment. This should be done within 10 days from receipt of the equipment.
5. Be certain to check the compressor compartment housing and visually inspect the refrigeration package. Be sure lines are secure and base is still intact.
6. Freight carriers can supply the necessary damage forms upon request.
7. Retain all crating material until an inspection has been made or waived.



# SPECIFICATION

| BACK BAR BOTTLE COOLER |          |      |     |                             |                           |                           |      |           |                 |           |
|------------------------|----------|------|-----|-----------------------------|---------------------------|---------------------------|------|-----------|-----------------|-----------|
| MODEL#                 | V/Hz/Ph  | AMPS | HP  | Shelf Size                  | Max Weight Load per Shelf | Max Weight Load per Model | BTU  | CHARGE OZ | SHIP WEIGHT LBS | NEMA PLUG |
| BB-2D-60-HC            | 115/60/1 | 3    | 3/8 | 20.2 x 20.1/<br>18.3 x 20.1 | 40 lbs/<br>35 lbs         | 963 lbs                   | 3200 | 3.88      | 302             | 5-15P     |
| BB-2D-70-HC            | 115/60/1 | 3    | 3/8 | 25.3 x 20.1/<br>23.5 x 20.1 | 51 lbs/<br>46 lbs         | 930 lbs                   | 3200 | 3.88      | 355             | 5-15P     |
| BB-3D-90-HC            | 115/60/1 | 3    | 1/2 | 23.8 x 20.1/<br>22.0 x 20.1 | 47 lbs/<br>44 lbs         | 897 lbs                   | 5800 | 4.59      | 412             | 5-15P     |
| BB-2D-60-G-HC          | 115/60/1 | 3    | 3/8 | 20.2 x 20.1/<br>18.3x20.1   | 39 lbs/<br>35 lbs         | 941 lbs                   | 3200 | 3.88      | 353             | 5-15P     |
| BB-2D-70-G-HC          | 115/60/1 | 3    | 3/8 | 25.3 x 20.1/<br>23.5 x 20.1 | 51 lbs/<br>46 lbs         | 903 lbs                   | 3200 | 3.88      | 395             | 5-15P     |
| BB-3D-90-G-HC          | 115/60/1 | 3    | 1/2 | 23.8 x 20.1/<br>22.0 x 20.1 | 47 lbs/<br>44 lbs         | 859 lbs                   | 5800 | 4.59      | 474             | 5-15P     |
|                        |          |      |     |                             |                           |                           |      |           |                 |           |
| BACK BAR BOTTLE COOLER |          |      |     |                             |                           |                           |      |           |                 |           |
| MODEL#                 | V/Hz/Ph  | AMPS | HP  | Shelf Size                  | Max Weight Load per Shelf | Max Weight Load per Model | BTU  | CHARGE OZ | SHIP WEIGHT LBS | NEMA PLUG |
| BB-2D-60-SI-HC         | 115/60/1 | 3    | 3/8 | 20.2 x 20.1/<br>18.3 x 20.1 | 40 lbs/<br>35 lbs         | 963 lbs                   | 3200 | 3.88      | 302             | 5-15P     |
| BB-2D-70-SI-HC         | 115/60/1 | 3    | 3/8 | 25.3 x 20.1/<br>23.5 x 20.1 | 51 lbs/<br>46 lbs         | 930 lbs                   | 3200 | 3.88      | 355             | 5-15P     |
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| BB-3D-90-G-SI-HC       | 115/60/1 | 3    | 1/2 | 23.8 x 20.1/<br>22.0 x 20.1 | 47 lbs/<br>44 lbs         | 859 lbs                   | 5800 | 4.59      | 474             | 5-15P     |

## INSTALLATION

### Location

Units represented in this manual are intended for indoor use only. Be sure the location chosen has a floor strong enough to support the total weight of the cabinet and contents. A fully loaded unit can weigh as much as 1500 pounds. Reinforce the floor as necessary to provide for maximum loading. For the most efficient refrigeration, be sure to provide good air circulation inside and out.

### Inside cabinet:

Do not pack refrigerator so full that air cannot circulate. The refrigerated air is discharged at the top rear of the unit. It is important to allow for proper air flow from the top rear to the bottom of the unit. Obstructions to this air flow can cause evaporator coil freeze ups and loss of temperature or overflow of water from the evaporator drain pan. The shelves have a rear turn up on them to prevent this. However, bags and other items can still be located to the far rear of the cabinet. Air is brought into the evaporator coil with fans mounted to the front of the coil. Prevent obstruction by locating large boxes and tall stacks of product to the bottom of the cabinet.

### Outside cabinet:

Be sure that the unit has access to ample air. Avoid hot corners and locations near stoves and ovens. It is recommended that the unit be installed no closer than 2" from any wall with at least 12" of clear space above the unit. Should it become necessary to lay the unit on its side or back for any reason, allow at least 24 hours before start-up so as to allow compressor oil to flow back to the sump. Failure to meet this requirement can cause compressor failure and unit damage.

Equipment shipped with casters must be installed to promote proper air flow for the operation of the cabinet and to maintain the Health Code for clean ability. Without the installation of the caster will cause a void of warranty and Health Code violations. Be sure that the unit has access to ample air. Avoid hot corners and location near ranges and oven. This equipment works best in a controlled environment, with ambient temperature below 90°F (32°C). It is recommended that the unit be installed no closer than 2" from any wall. This equipment is also supplied with "bumper" that must be installed on the back of the unit. Failure to do so may cause compressor and other vital component failure, and will void the equipment's warranty.

### Leveling

A level cabinet looks better and will perform better because the doors will line up with the frames properly. Use a level to make sure the unit is level from front to back and side to side. Units supplied with legs will have adjustable bullet feet to make the necessary adjustments. If the unit is supplied with casters, no adjustments are available. Ensure the floor where the unit is to be located is level.

### Stabilizing

All models are supplied with casters for your convenience. It is very important, however, that the cabinet be installed in a stable condition with the front wheels locked while in use. Should it become necessary to lay the unit on its side or back for any reason, allow at least 24 hours before start-up to allow compressor oil to flow back into place. Failure to meet this requirement can cause compressor failure and unit damage.



**Unit repairs will not be subject to standard unit warranties if due to improper installation procedures.**

### Electrical connection

Refer to the amperage data on page 3, the serial tag, your local code or the National Electrical Code to be sure the unit is connected to the proper power source.



**The unit must be turned OFF and disconnected from the power source whenever performing service, maintenance functions or cleaning the refrigerated area.**

## OPERATION



### CAUTION

Do not throw items into the storage area. Failure to heed these recommendations could result in damage to the interior of the cabinet.

**Refrigerators:** The factory setting for temperature range is 34°F-38°F

### Light Switch:

A light switch is located next to on/off switch on the front of the bottom shroud.

**Defrosting:** This unit will automatically go into defrost six times every 24 hour period. To put the unit into manual defrost see instructions below.

## SOLID-STATE THERMOSTAT DESCRIPTIONS

\*Any alteration of the original programming of this control may cause temperature and operation issues that are not covered by warranty.

### 1. FRONT PANEL COMMANDS



**SET:** To display target set point; in programming mode it selects a parameter or confirms an operation.

**❄️ (DEF)** To start a manual defrost

**▲ (UP)** To view the last alarm occurrence; in programming mode, it browses the parameter codes or increases the display value

**▼ (DOWN)** To view the last alarm occurrence; in programming mode, it browses the parameter codes or decreases the display value

### KEY COMBINATION

**▲ + ▼** To lock & unlock the keyboard

**SET + ▼** To enter in programming mode

**SET + ▲** To return to the room temperature display

**⏻** To switch the instrument off.

## OPERATION

### 1.1 Function of LEDS

| LED                                                                               | MODE     | SIGNIFICATO                                   |
|-----------------------------------------------------------------------------------|----------|-----------------------------------------------|
|  | On       | Compressor enabled                            |
|                                                                                   | Flashing | Anti-short cycle delay enabled (AC parameter) |
|  | On       | Defrost in progress                           |
|                                                                                   | Flashing | Dripping in progress                          |
|  | On       | Fans output enabled                           |
|                                                                                   | Flashing | Fans delay after defrost                      |
| °C                                                                                | On       | Measurement unit                              |
|                                                                                   | Flashing | Programming mode                              |
| °F                                                                                | On       | Measurement unit                              |
|                                                                                   | Flashing | Programming mode                              |

## 2. MAIN FUNCTIONS

### 2.1 HOW TO SEE THE SETPOINT

1. Push and immediately release the **SET** key: the display will show the set point value.
2. Push and immediately release the **SET** key or wait for 5 seconds to display the sensor value again.

### 2.2 HOW TO CHANGE THE SETPOINT

1. Push the **SET** key for more than 2 seconds to change the set point value.
2. The value of the set point will be displayed and the ❄ LED starts blinking.
3. To change the set value push the ▲ or ▼ key within 10s.
4. To set new point value, push the SET key again or wait 10s.



### 2.3 HOW TO START A MANUAL DEFFROST

Push the ❄ key for more than 2 seconds and a manual defrost will start



### 2.4 HOW TO LOCK THE KEYBOARD

1. Hold the ▲ and ▼ keys for more than 3s.
2. The "POF" message will be displayed and the keyboard will be locked. At this point, it will be possible only to see the set point or the MAX or Min temperature stored.
3. If a key is pressed more than 3s the "POF" message will be displayed.



### 2.5 HOW TO UNLOCK THE KEYBOARD

Hold the ▲ and ▼ keys together for more than 3s, till the "POF" message is displayed.

## 3.ALARM SIGNALS

### HOW TO SEE THE ALARM AND RESET THE RECORDED ALARM

1. Hold the ▲ or ▼ key to display the alarm signals.
2. When the signal is displayed, hold the **SET** key until the "rst" message is displayed. Push the **SET** key again. The "rst" message will start blinking and the normal temperature will be displayed again.

| Message | Cause                            | Outputs                                             |
|---------|----------------------------------|-----------------------------------------------------|
| "P1"    | Room probe failure               | Compressor output according to par. "Con" and "COF" |
| "P2"    | Evaporator probe failure         | Defrost end is timed                                |
| "HA"    | Maximum temperature alarm        | Outputs unchanged.                                  |
| "LA"    | Minimum temperature alarm        | Outputs unchanged.                                  |
| "dA"    | Door open                        | Regulation restarts                                 |
| "EA"    | External alarm                   | Output unchanged.                                   |
| "CA"    | Serious external alarm (i1F=bAL) | All outputs OFF.                                    |
| "CA"    | Pressure switch alarm (i1F=PAL)  | All outputs OFF                                     |

## MAINTENANCE



**The power switch must be turned OFF and the unit disconnected from the power source whenever performing service, maintenance functions or cleaning the refrigerated area.**

The interior and exterior can be cleaned using soap and warm water. If this isn't sufficient, try ammonia and water or a nonabrasive liquid cleaner. When cleaning the exterior, always rub with the "grain" of the stainless steel to avoid marring the finish.

Do not use an abrasive cleaner because it will scratch the stainless steel and plastic and can damage the breaker strips and gaskets.

### Cleaning the Condenser Coil

The condenser coil requires regular cleaning. Cleaning is recommended every 90 days. In some instances, you may find that there is a large amount of debris and dust or grease accumulated prior to the 90 day time frame. In these cases the condenser coil should be cleaned every 30 days.

If the build up on the coil consists of only light dust and debris, the condenser coil can be cleaned with a simple brush. Heavier dust build-up may require a vacuum or even compressed air to blow through the condenser coil.

If heavy grease is present, there are de-greasing agents available for refrigeration use and specifically for the condenser coils. The condenser coil may require cleaning with the de-greasing agent and then blown through with compressed air.

Failure to maintain a clean condenser coil can initially cause high temperatures and excessive run times. Continuous operation with dirty or clogged condenser coils can result in compressor failures. Neglecting the condenser coil cleaning procedures will void any warranties associated with the compressor or cost to replace the compressor.



**Never use a high pressure water wash for this cleaning procedure as water can damage the electrical components located near or at the condenser coil.**

In order to maintain proper refrigeration performance, the condenser fins must be cleaned of dust, dirt and grease regularly. It is recommended that this be done at least every three months. If conditions are such that the condenser is totally blocked in three months, the frequency of cleaning should be increased. Clean the condenser with a vacuum cleaner or stiff brush. If extremely dirty, a commercial-grade condenser cleaner may be required.

### Stainless Steel Care and Cleaning

To prevent discoloration of rust on stainless steel, several important steps need to be taken. First, we need to understand the properties of stainless steel. Stainless steel contains 70-80% iron which will rust. It also contains 12-30% chromium which forms an invisible passive film over the steel's surface which acts as a shield against corrosion. As long as the protective layer is intact, the metal is still stainless. If the film is broken or contaminated, outside elements can begin to breakdown the steel and begin to form rust or discoloration. Proper cleaning of stainless steel requires soft cloths or plastic scouring pads.



**NEVER USE STEEL PADS, WIRE BRUSHES OR SCRAPERS!**

## MAINTENANCE

Cleaning solutions need to be alkaline based or non-chloride based. Any cleaner containing chlorides will damage the protective film of the stainless steel. Chlorides are commonly found in hard water, salts, and household and industrial cleaners. If cleaners containing chlorides are used, be sure to rinse and dry thoroughly.

Routine cleaning of stainless steel can be done with soap and water. Extreme stains or grease should be cleaned with a non-abrasive cleaner and plastic scrub pad. It is always good to rub with the grain of the steel. There are also stainless steel cleaners available which can restore and preserve the finish of the steels protective layer.

Early signs of stainless steel breakdown can consist of small pits and cracks. If this has begun, clean thoroughly and start to apply stainless steel cleaners in attempt to restore the passivity of the steel.



**CAUTION**

**Never use an acid based cleaning solution! Many food products have an acidic content which can deteriorate the finish. Be sure to clean the stainless steel surfaces of ALL food products.**

### Gasket Maintenance

Gaskets require regular cleaning to prevent mold and mildew build up and also to keep the elasticity of the gasket. Gasket cleaning can be done with the use of warm soapy water. Avoid full strength cleaning products on gaskets as this can cause them to become brittle and prevent proper seals. Do not use sharp tools or knives to scrape or clean the gasket which could possibly tear the gasket and rip the bellows.

Gaskets can easily be replaced and don't require the use of tools or authorized service technicians. The gaskets are "Dart" style and can be pulled out of the grove in the door and replaced by pressing the new one back into place.

### Doors/Hinges

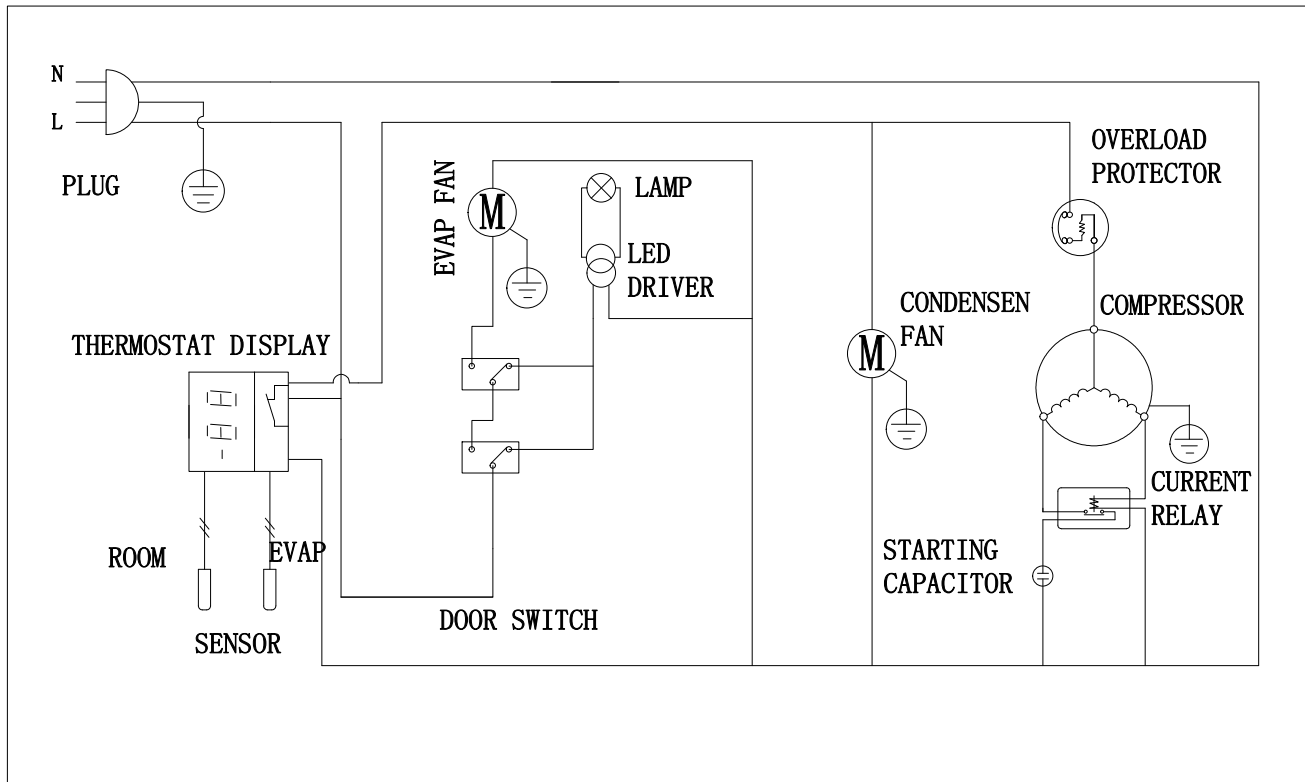
Over time and with heavy use, door hinges may become loose. If the door is beginning to sag, tighten the screws that mount the hinge brackets to the frame of the unit. If the doors are loose or sagging this can cause the hinge to pull out of the frame which may damage to both the doors and the door hinges.

### Drain Maintenance

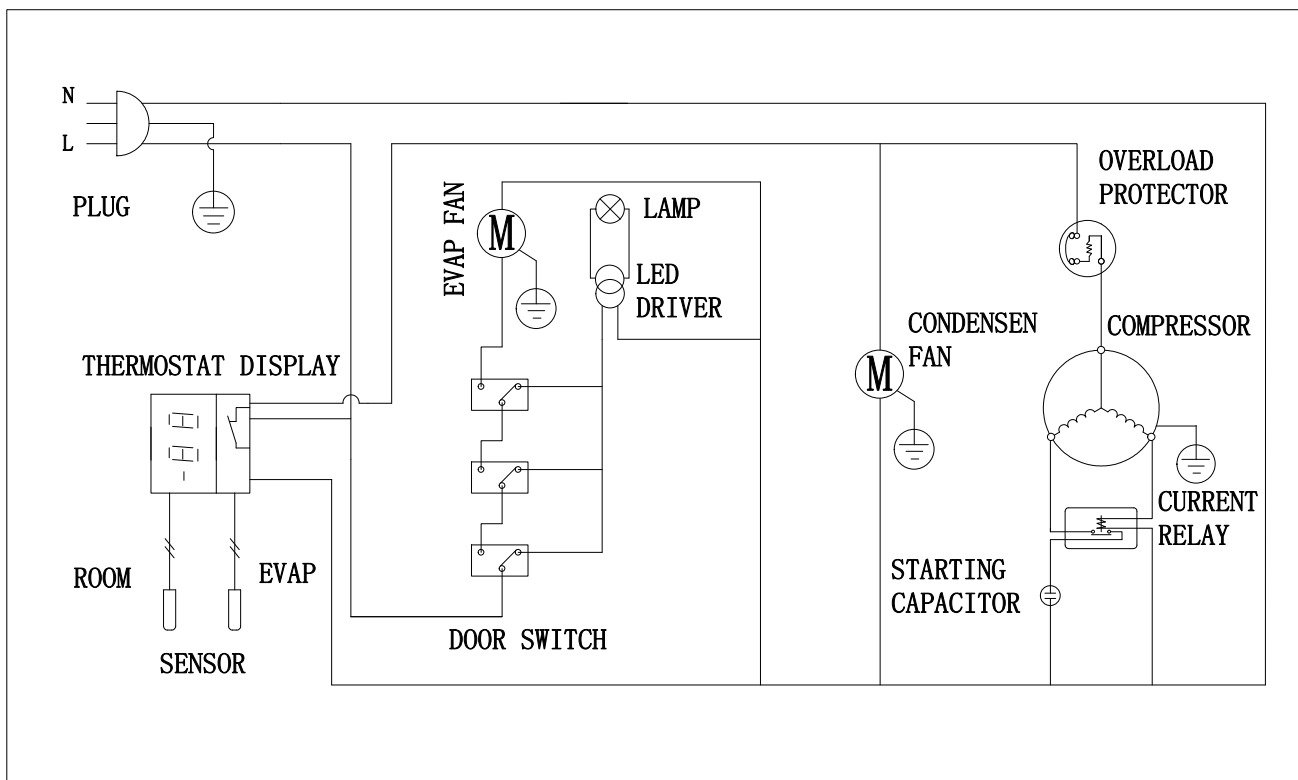
Each unit has a drain located inside the unit which removes the condensation from the evaporator coil and evaporates it into an external condensate evaporator pan. Each drain can become loose or disconnected from moving or bumping the drain. If you notice excessive water accumulation on the inside of the unit, be sure the drain tube is connected from the evaporator housing to the condensate evaporator drain pan. If water starts to collect underneath the unit, you may want to check the condensate evaporator drain tube to be sure it is still located inside the drain pan. The leveling of the unit is important as the units are designed to drain properly when on a level surface. If your floor is not level this can also cause drain problems. Be sure all drain lines are free of obstructions because this may cause water to back up and overflow the drain pans.

## CIRCUIT DIAGRAM

MODEL:BB-2D-60/BB-2D-70/BB-2D-60-SI/BB-2D-70-SI

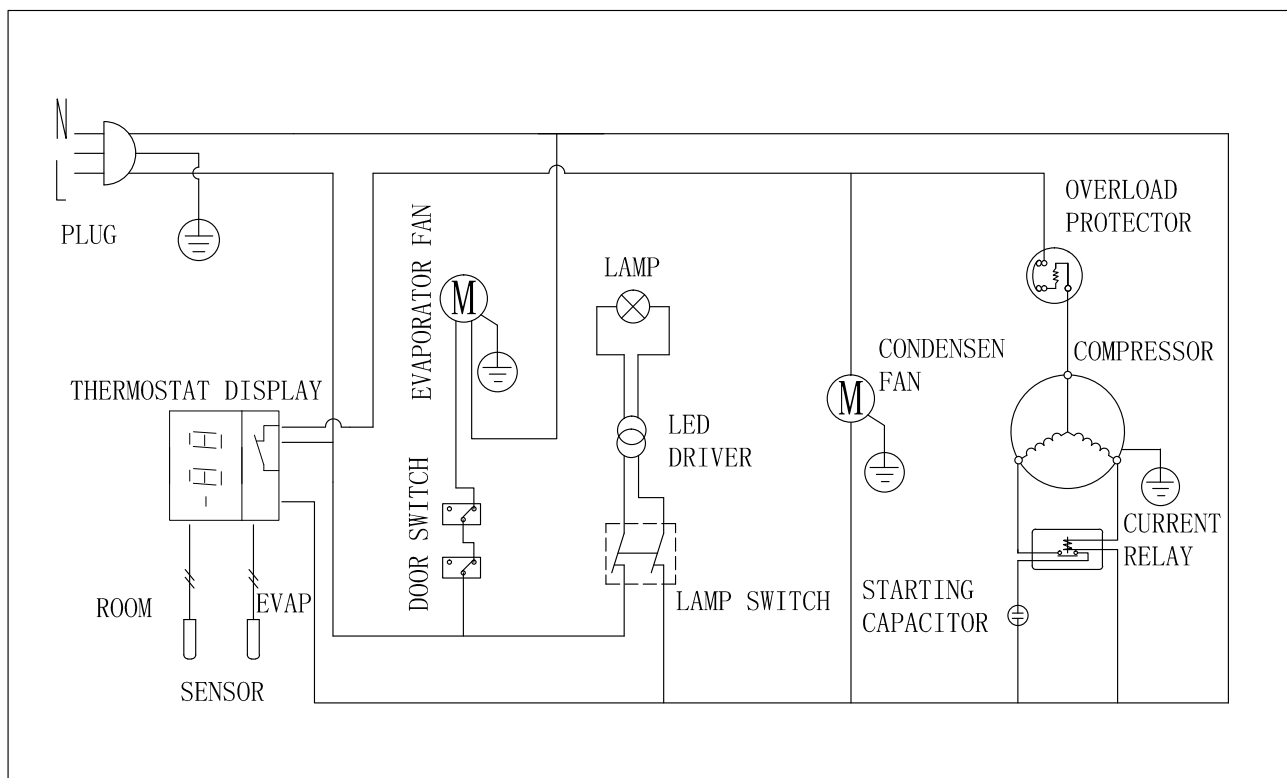


MODEL:BB-3D-90/BB-3D-90-SI

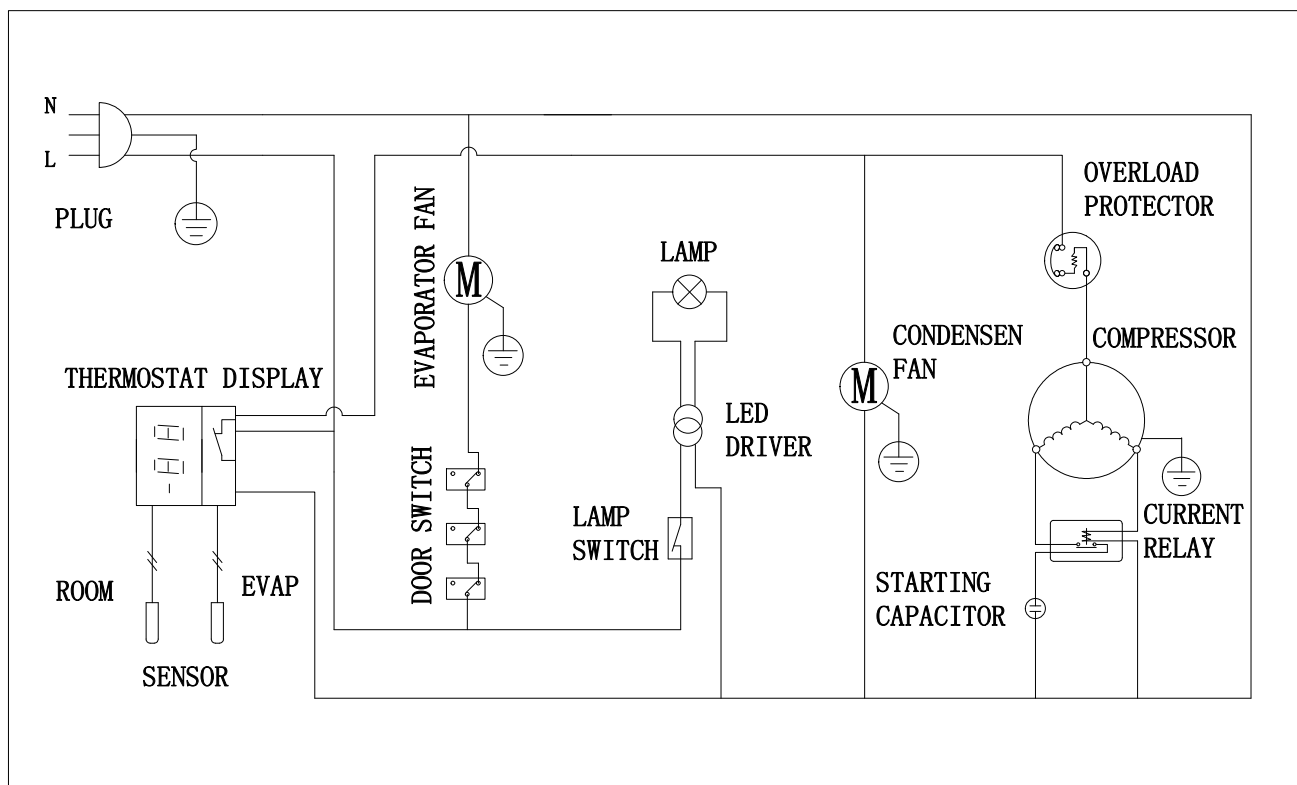


# CIRCUIT DIAGRAM

MODEL:BB-2D-60-G/BB-2D-70-G/BB-2D-60-G-SI/BB-2D-70-G-SI

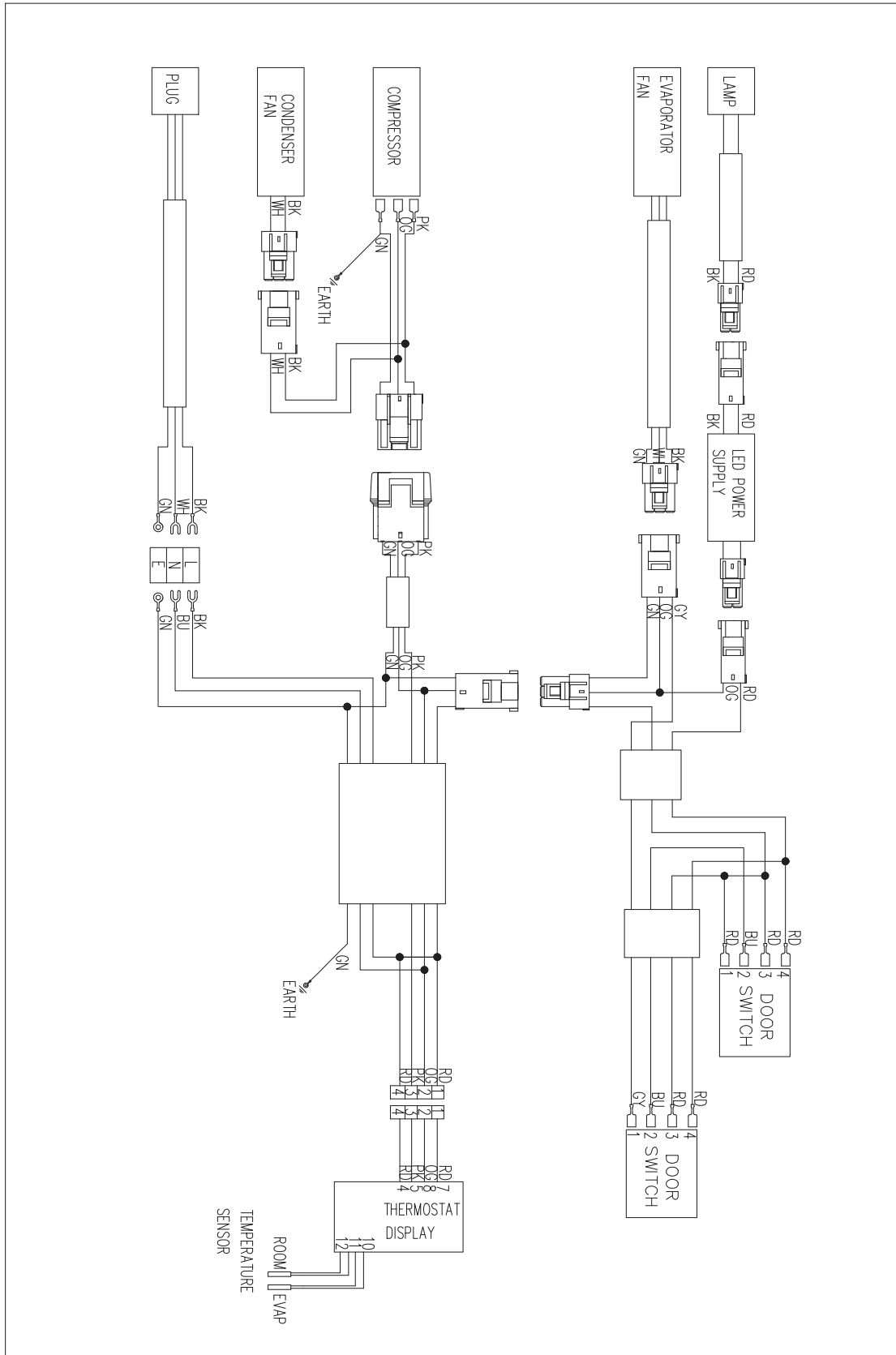


MODEL:BB-3D-90-G/BB-3D-90-G-SI



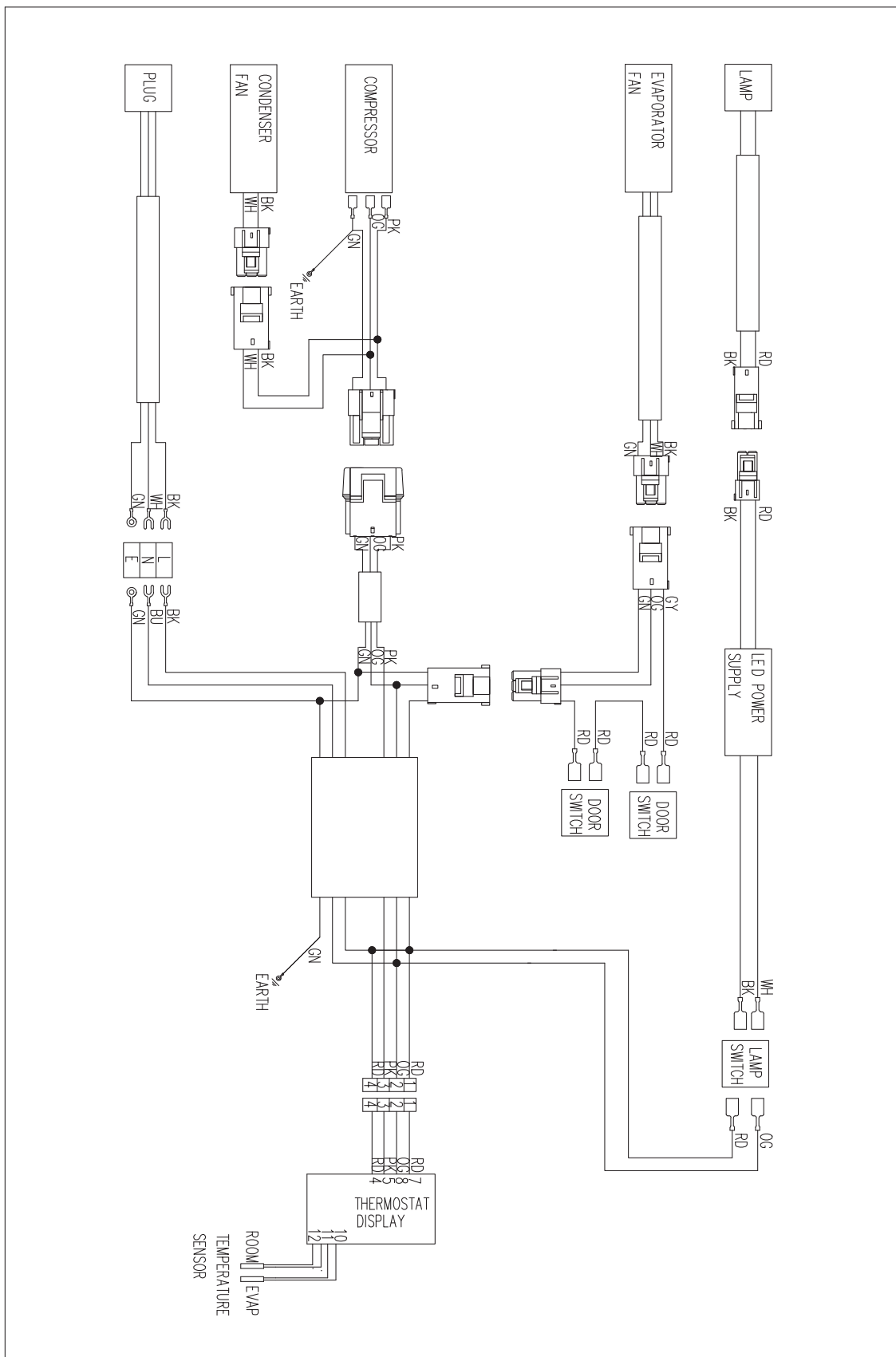
# CIRCUIT DIAGRAM

MODEL:BB-2D-60/BB-2D-70/BB-2D-60-SI/BB-2D-70-SI



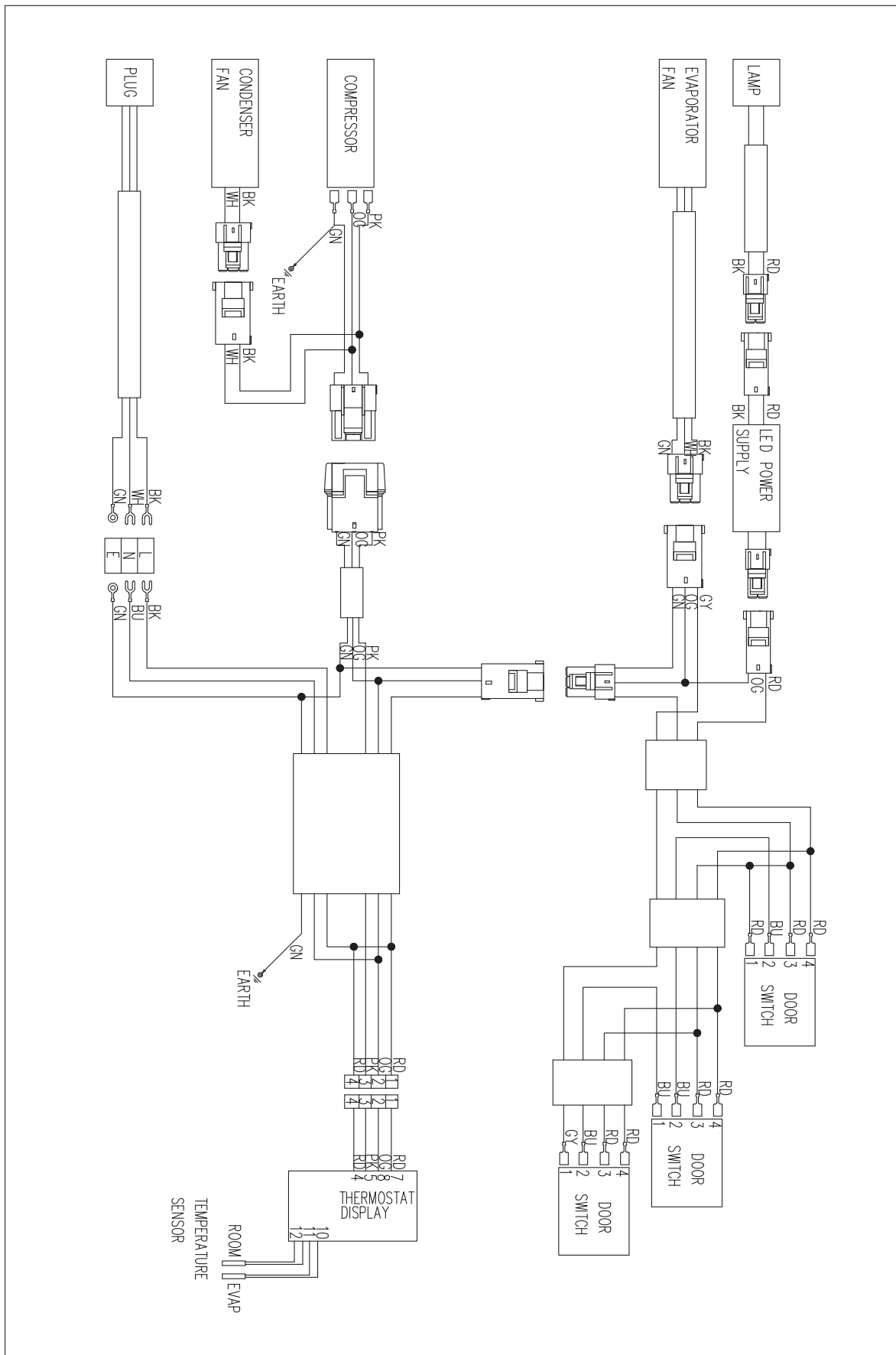
# CIRCUIT DIAGRAM

MODEL:BB-2D-60-G/BB-2D-70-G/BB-2D-60-G-SI/BB-2D-70-G-SI



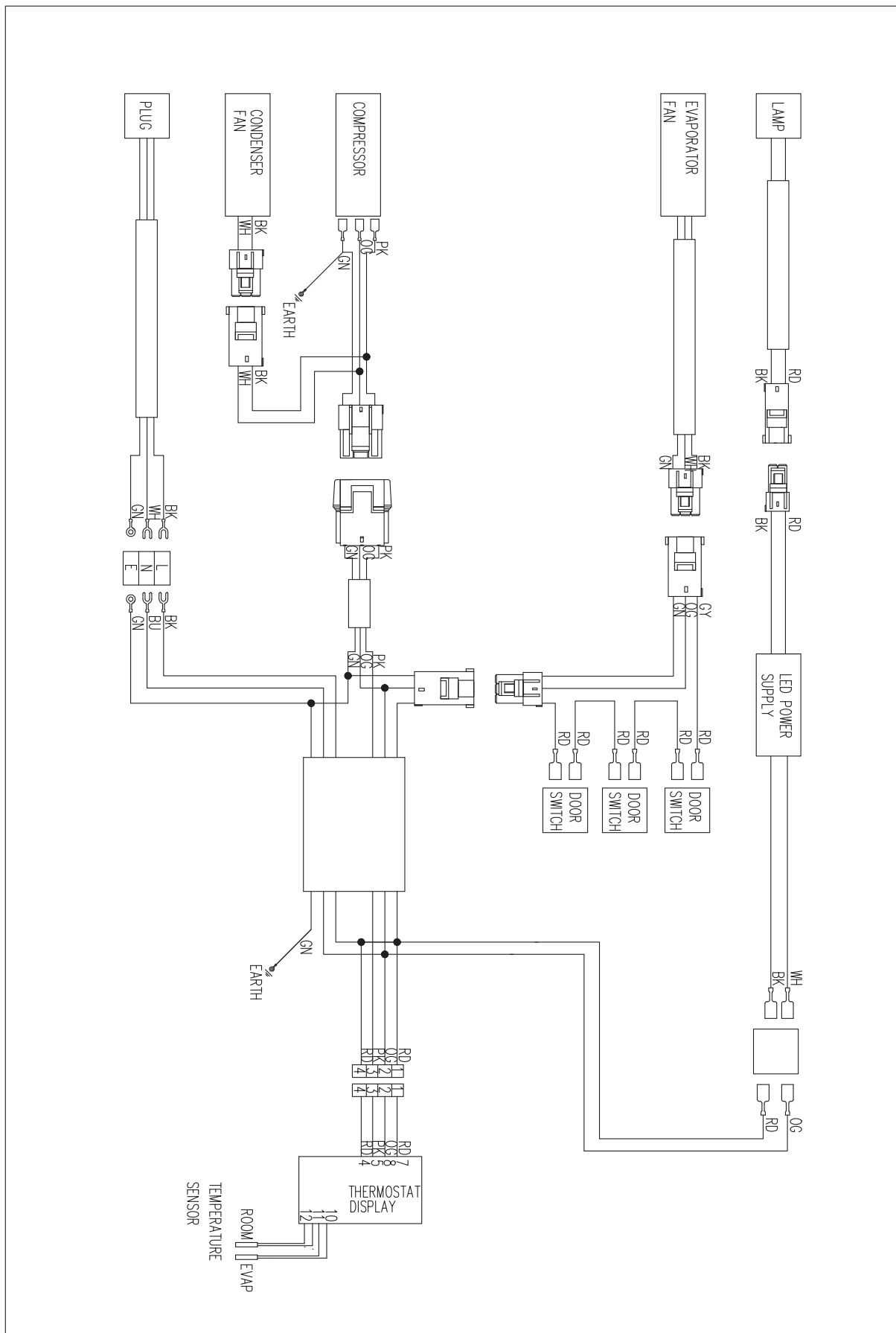
# CIRCUIT DIAGRAM

MODEL:BB-3D-90/BB-3D-90-SI



# CIRCUIT DIAGRAM

MODEL:BB-3D-90-G/BB-3D-90-G-SI





WARNING: This product contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. For more information: [www.p65Warnings.ca.gov](http://www.p65Warnings.ca.gov)



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