Blast Chiller / Freezer

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.

IMPORTANT INFORMATION
READ BEFORE USE
PLEASE SAVE THESE INSTRUCTIONS!

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 ⚠

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

⚠ WARNING ⚠

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

CAUTION

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.

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.

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.

This 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.

Keep the appliance and its cord out of reach of children less than 8 years.

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

The appliance use flammable insulation blowing gas C5H10, disposal of the appliance shall in accordance

with the regulations of local authorities.

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


Warning; Risk of fire / flammable materials

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.

Handling, 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 rique de la fuite.

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

Component 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 components relatifs et les opérations doivent être faites par les professionnels afin de minimaliser 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

DANGER: Risk of child entrapment. Before you throw away your old refrigerator or freezer:

Take off the doors

Leave the shelves in place so that children may not easily climb inside.

CONTENTS

SERIAL NUMBER INFORMATION

The serial number of all self-contained refrigerators and freezers 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.

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

BLAST CHILLER &FREEZER							
MODEL#	V/Hz/Ph	AMPS	HP	BTU	CHARGE OZ	SHIP WEIGHT LBS	NEMA PLUG
COLDZONE-BLF37	115/60/1	8	1	3650	4.59	264	5-15P
COLDZONE-BLF40	115/60/1	8	1	3650	4.59	278	5-15P
COLDZONE-BLF65	115/230/60/1	11	1-1/4	4500	5.29	419	L14-20P

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 the units 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.

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.

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.

SOLID-STATE THERMOSTAT DESCRIPTIONS

1. FRONT PANEL COMMANDS

Insert the food probe

- Before selecting which cycle to use, the probe must be inserted into the food. This allows the internal temperature of the food to be measured.
- It is important that the probe is correctly connected to the unit, or an alarm will activate and the appliance will not function.

Note: To prevent bacterial contamination or contamination of any other biological nature, the needle probe must be disinfected after use.

DISPLAY

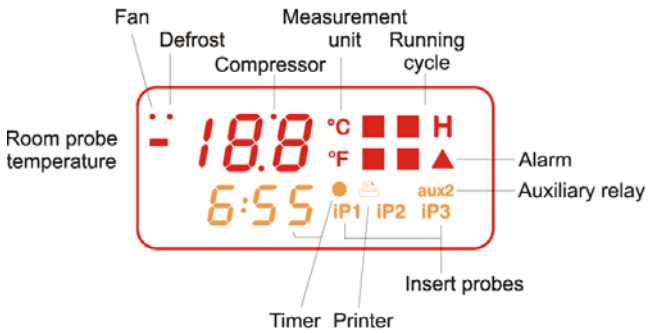
The upper display shows the temperature of the room probe.

The lower display shows the temperature of the inserts probe or the count down timer. To pass to the one insert probe to the another one use the DOWN key.

DISPLAY

- Temperature.
- Timer or insert probe
- Alarm and status icons.

If an icon or LED is on, the correspondent Function is enabled.
If an icon or LED is flashing, the correspondent function is delayed.



KEYBOARD IN STAND-BY

HOW TO SELECT A CYCLE:

Push and release the (3) key till the desired cycle is selected.

HOW TO START A CYCLE: Push and release the START/STOP button (2). Il The correspondent yellow LED is switched on..

HOW TO TEMPORARILY STOP THE RUNNING CYCLE.

1. Press and release the key.
2. The compressor and the fan will be stopped for the PAU time (see parameters list) and the flashing message “Stb” will be displayed.
3. To restart the cycle press and release the key, the cycle will restart from the some point at which it was interrupted.
4. In any case the cycle automatically restarts after the PAU time.

HOW TO STOP A CYCLE: hold pushed the START/STOP button (2) till the yellow LED will be switched off.

HOW TO SET THE TIME (RTC)

Hold pushed the **DOWN** key (5) till the Min label is displayed.

Use the **UP** and **DOWN** KEY to browse the parameters.

TO MODIFY: push the **SET** button and then the UP and DOWN keys.

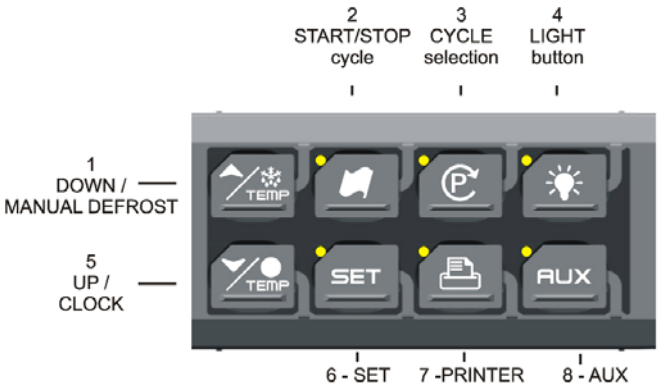
TO CONFIRM: push the **SET** button.

TO EXIT THE RTC MENU: Push together SET + UP keys or wait 5 sec.

1. **HOW DISPLAY / MODIFY THE SET POINT OF THE HOLDING PHASE**

TO DISPLAY: Push and release the **SET** key (6), the holding set point of the selected cycle is displayed for 5 sed..

TO MODIFY: while the set point is displayed hold pushed the SET key till the HdS label start flashing. Use the UP and DOWN key to modify the value. **TO CONFIRM**: push the SET key to confirm the value and exit.



UP key: browse the menu:
- Min= minutes
- Hou= hours
- daY= day
- Mon= month
- YEA= year
- tiM= US/EUROPE time

In this exemplum the holding set point of the cycle 1 is modified.

KEYBOARD WHEN A CYCLE 1,2,3,4 IS RUNNING

DISPLAY TEMPERATURES:

The **upper** display shows the temperature of the thermostat probe The **bottom** display shows the temperature of a insert probe (if enabled) or thecount down timer.

By pushing the **DOWN** key the probes iP1, iP2, iP3 and the count down timer are displayed in sequence.

PHASE DISPLAY: pushing the **UP** key the running phase is displayed.

PH1= phase 1
PH2= phase 2
PH3= phase 3

HOW TO DISPLAY THE REGULATION SET POINTS

By pushing the SET key the following information are displayed in sequence:
- **rSI** = Room set point
- **iSI** = Stop phase set point, referred to the insert probe
- Back to the room temperature.

HOW TO MODIFY THE ROOM SET POINT

While rSI or iSI are displayed hold pushed the SET key till the rSi or iSi label start flashing and LED near the SET key is turned on..

Use the arrow key to modify the value and the SET key to confirm it.

KEYBOARD WHEN THE HOLDING CYCLE IS RUNNING (H)

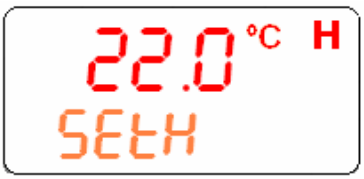
HOW TO DISPLAY THE HOLDING (REGULATION) SET POINT

While the holding cycle is running, (H icon lighted), push the SET key and the holding set point is displayed on the UPPER display while the **SETH** label on the bottom display

HOW TO MODIFY THE ROOM SET POINT

While SETH is displayed hold pushed the SET key till the SETH label starts flashing and LED near the SET key is turned on..

Use the arrow key to modify the value and the SET key to confirm it.



TO CONFIRM AND EXIT: push again the SET key

HOW TO START A MANUAL DEFROST

Assure that none cycle is active or the hold mode is running.

1. Hold press the **UP** key fro few seconds.

NOTE: The defrost will not be done if the temperature detected by the evaporator probe is higher than EdF (stop defrost temperature) parameter.

OTHER FUNCTIONS OF KEYBOARD

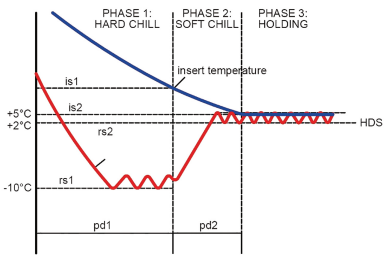
	To lock & unlock the keyboard Pon/PoF
	To enter the programming mode when the controller is in stand-by Each parameter present in the Pr2 can be removed or put into “Pr1” (user level) by pressing **“SET + ▼”**.
	To return to the previous menu.

MEANING OF THE LEDS’

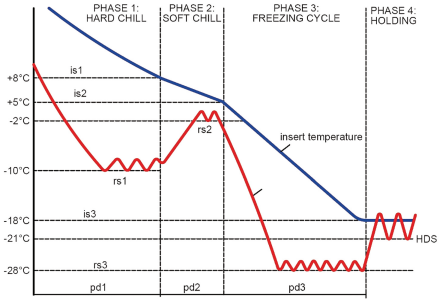
A series of light points on the front panels is used to monitor the loads controlled by the instrument. Each LED function is described in the following table.

LED	MODE	ACTION
	**ON**	- Compressor enabled
	**Flashing**	- Programming Phase (flashing with LED ) - Anti-short cycle delay enabled
	**ON**	- Fans enabled
	**Flashing**	- Programming Phase (flashing with LED ) - Activation delay active
	**ON**	- Defrost active
	**Flashing**	- Drip time active
①②③④ H	**ON**	- Freezing cycle 1, 2, 3, 4 or hold mode active
①②③④ H	**Flashing**	- Instrument temporarily stop
	**ON**	- Alarm signalling
AUX –AUX2	**ON**	- Aux or Aux2 enabled

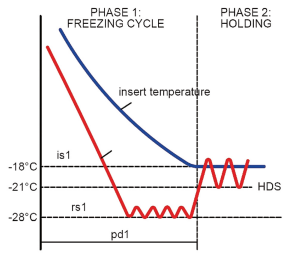
1 CY1: HARD CHILL+SOFT CHILL+HOLDING



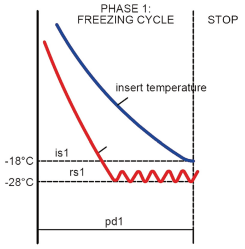
2 CY2: HARD CHILL+SOFT CHILL+FREEZING CYCLE+HOLDING



3 CY3: FREEZING CYCLE+HOLDING



4 CY4: FREEZING CYCLE THEN STOP



Note: After cycles 1, 2 and 3 are complete, the unit will enter a holding phase. Cabinet will hold end temperature until the operator ends cycle.

How To Select A Cycle

1. Push the P to move among the cycles C1, C2, C3, C4 and the holding cycle. The related symbol on the display will be lighted and the cycle will be selected.

NOTE: to pass from a cycle to another one simply push the P key when the controller is in stand–by mode.

HOLD PHASE: To select **H** symbol pushing the P.

Cycles are pre-set with the following values:

1. **Cy1:** for fast chilling and conservation of foods (hard +soft chill).
2. **Cy2:** for chilling and fast freezing of foods (hard +soft + freezing cycle).
3. **Cy3:** for direct fast freezing (only fast freezing cycle)
4. **Cy4:** for fast freezing avoiding ice skin (hard chill + freezing cycle)
5. **HLd:** hold mode function
6. **dEF:** for starting a manual defrost

2. Now the cycle is memorized and can be activated.

HOW TO MODIFY A CYCLE

1. Verify that none cycle is running. If one cycle is running stop it by pushing the key for 3s.

2. Push the P to move among the cycles C1, C2, C3, C4 and the holding cycle. The related symbol on the display will be lighted and the cycle will be selected

3. Hold push the P key for several seconds till the display will show the first parameter of the selected cycle (CyS) with its value.
4. Use the UP and DOWN keys to browse the parameters.
5. To modify a parameter push the SET key and use the arrow keys.
6. Confirm the new value by pushing the SET key.
7. The new value is recorded even if the programming is exited by time out.

TO exit: wait 30s or push the SET+UP keys.

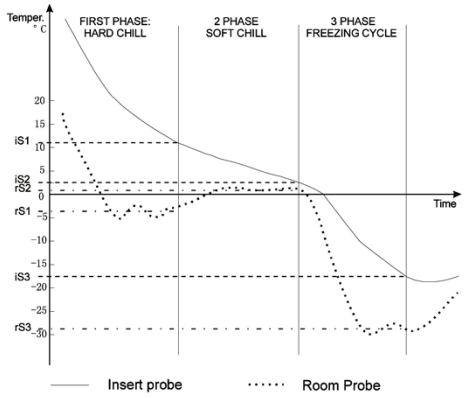
How A Cycle Is Done

HOW TO USE THE INSERT PROBES

By means the insert probe, the internal temperature of products can be checked. This measure is used to end the various phase of the cycle. A special internal function detect if the inset probe is not used, in this case the cycle is made by time

EXAMPLE OF A BLAST CHILLER CYCLE.

The following drawing explains how a Blast Chiller cycle can be done.



1 First phase: "Hard chill".

It is normally used to fast chill hot foods. E.g. from 80°C / 170°F to 20°C / 70°F

During "**Hard Chill**", both compressor and fan are always on until the **rS1** temperature is reached. At this point compressor is turned on end off so as to keep the temperature of the room at the **rS1** value. "Hard Chill" ends when the temperature measured by the 3 insert probes reach the **iS1** value.

2 Second phase: "Soft chill".

The **Soft Chill** starts when the Hard Chill ends. It is used to prevent thin layer of ice from forming on the product. The Soft Chill lasts until the temperature measured by the 3 insert probes reach the set point **iS2** (usually 4 or 5°C).

During Soft Chill the temperature of the room is regulated by the ambient probe with the set point **rS2** (normally at 0 or 1 °C / 32 or 34°F). When the box temperature reaches the **rS2** value compressor is turned on end off so as to keep the temperature of the box at this value.

3 Third phase: "Freezing cycle".

Freezing Cycle: used to fast freeze foods.

The Freezing Cycle starts when the Soft Chill ends. During the "Freezing Cycle" both compressor and fan are always on until the **rS3** temperature is reached. At this point compressor and fans are turned on end off so as to keep the temperature of the room at the **rS3** value (normally some degrees below **iS3)**.

Freezing Cycle ends when the temperature measured by the 3 insert probes reach the **iS3** value (normally -18°C / 0°F), in any case it ends when the maximum time **Pd1 + Pd2 + Pd3** has expired.

4 End of the Blast Chill cycle and starting of the Hold Mode.

When one of the three insert probes reaches the iS3 value the values End followed by the i1P or i2P or i3P are shown on the display.

Cycle ends when all the probes have reached the iS3 value. A signal is generated: buzzer and alarm relay is turned ON, the display shows the message "End" alternating with the room temperature.

The alarm automatically stops after the "**but**" time or by pressing any keys.

At the end of the cycle the controller can start the "Hold mode" keeping the room temperature at the value set in HdS parameter.

If HdS = OFF, the machine is turned OFF.

NOTE1: with **dbH = yES** a defrost is done before the holding phase.

MAINTENANCE

NOTE2: If the end cycle temperature iS3 is not reached in the maximum time Pd1+Pd2+Pd3 the instrument keep on working, but the alarm message **"OCF"** is given.

Note: The defrost will not be done if the temperature detected by the evaporator probe is higher than the stop defrost temperature parameter.

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

Refrigerators and Freezers

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 and it 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.

MAINTENANCE

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 steels 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 of discoloration. Proper cleaning of stainless steel requires soft cloths or plastic scouring pads,

NEVER USE STEEL PADS, WIRE BRUSHES OR SCRAPERS!

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 steel's 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.

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

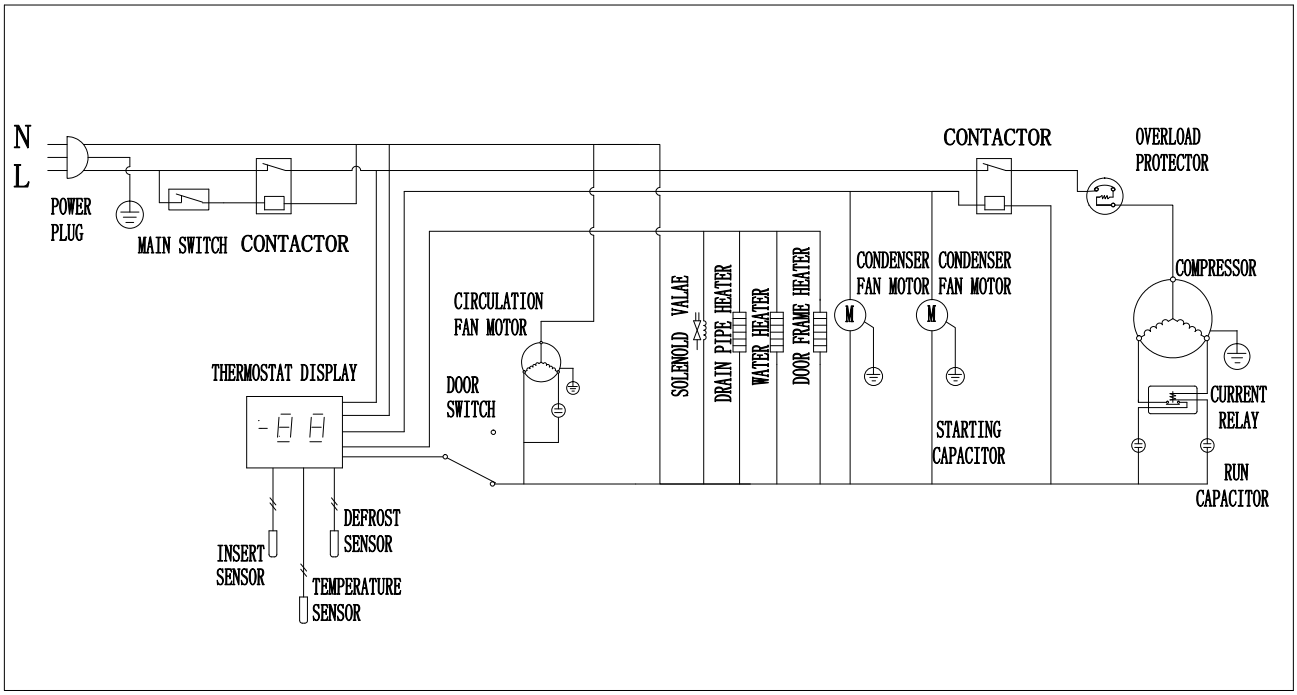
Over time and with heavy use, door hinges may become loose. If the door is beginning to sag, tighten the screws that mount the hinge brackets to the frame of the unit. If the doors are loose or sagging, this can cause the hinge to pull out of the frame which may damage both the doors and the door hinges.

Drain Maintenance

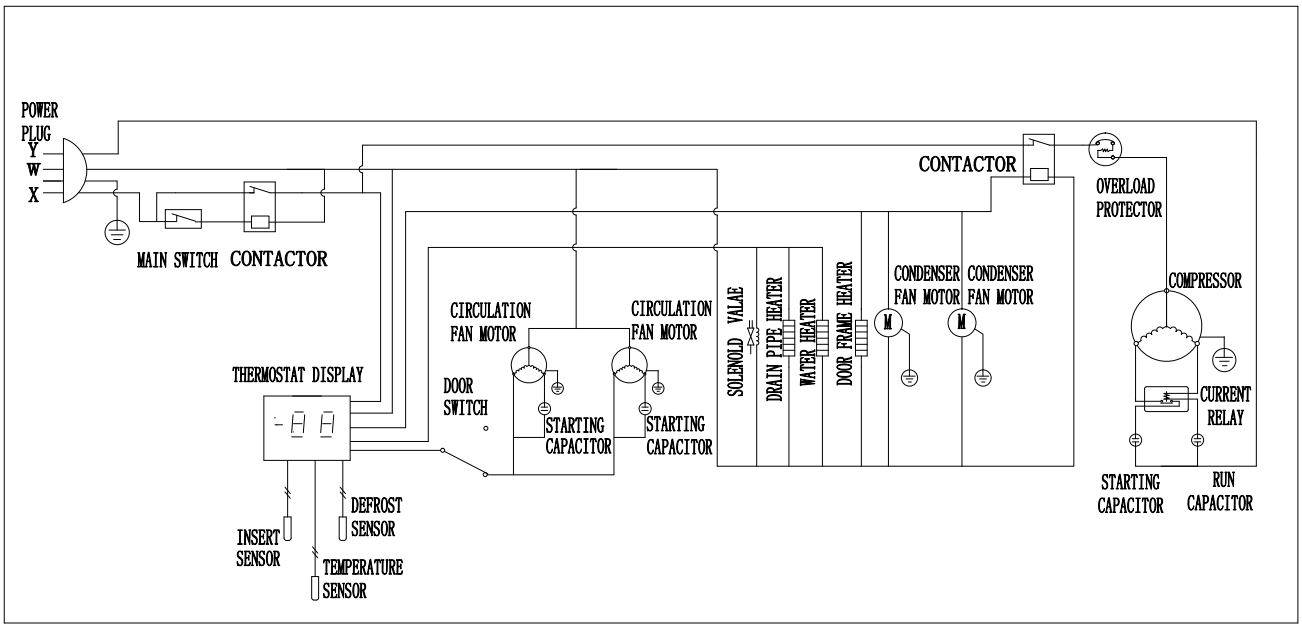
Each unit has a drain located inside the unit which removes the condensation from the evaporator coil and evaporates it into an external condensate evaporator pan. Each drain can become loose or disconnected from moving or bumping the drain. If you notice excessive water accumulation on the inside of 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.

WIRING DIAGRAM

MODEL：COLDZONE-BLF37 / COLDZONE-BLF40



MODEL：COLDZONE-BLF65



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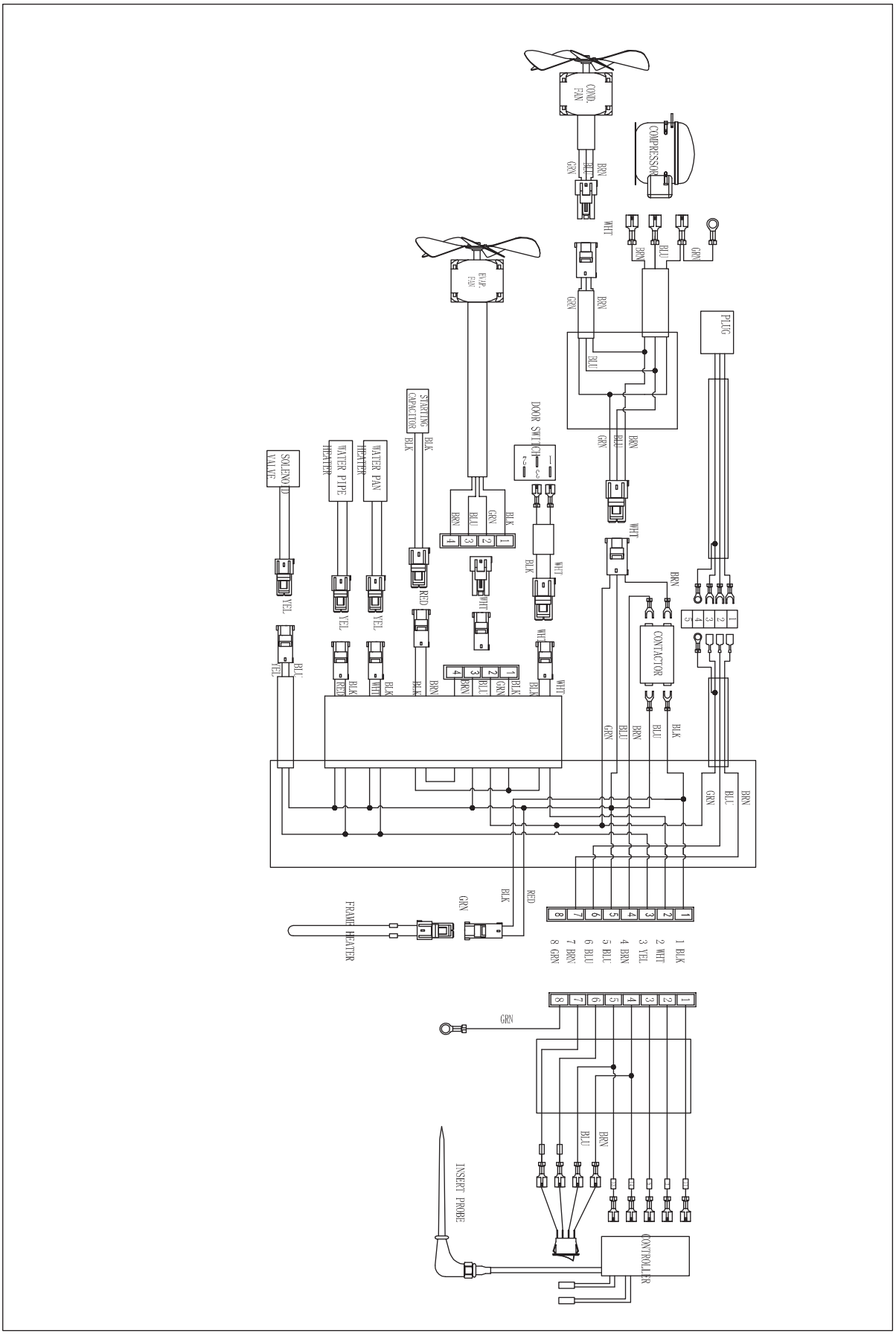
MODEL：COLDZONE-BLF37 / COLDZONE-BLF40



WIRING DIAGRAM

MODEL：COLDZONE-BLF65