Blast Chillers and Shock Freezers

User Manual and Warranty

CONTENTS

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1. GENERAL INFORMATION

This product has been manufactured under strict quality controls and meets all the requirements established by Infrico. Each unit has been tested and its quality is ensured before being shipped. This equipment has been manufactured with recyclable materials, by means of an environmentally friendly production process.

Please read this manual carefully before installing your new device to become familiar with all its advantages.

WARNING! This device must be used only for the purpose described in this manual.

2. SAFETY INSTRUCTIONS

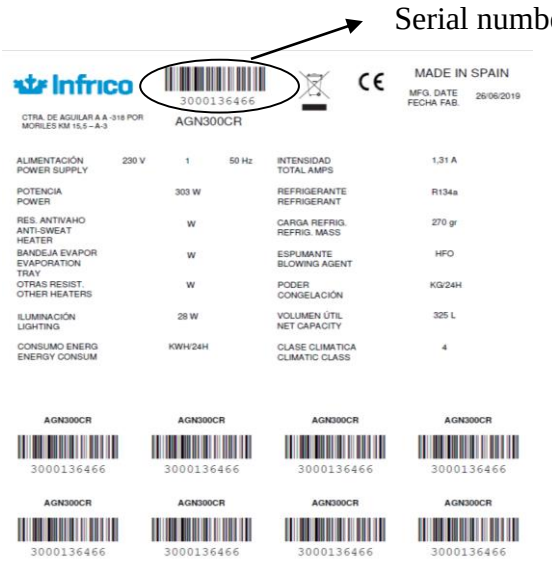
The use of electrical devices implies the implementation of basic safety instructions such as:

- Follow the recommendations in this manual to properly locate and place this device prior to installation.
- Do not allow children to handle the device, as they could damage it, or themselves, seriously.
- Do not touch the cold surfaces of the freezing devices, as such surfaces may adhere to skin.
- Do not store or use flammable products near the device.
- Unplug the device before any cleaning, repairs or maintenance operation.

NOTE: Any handling of the device must be carried out by a qualified technician.

3. NAME PLATE

The name plate is a label permanently affixed to the inside/outside of the equipment, which contains important electrical information as well as data relating to the equipment's refrigeration system. It also incorporates the model and serial number.



4. RECEIPT AND INSPECTION

- All Infrico products are factory tested to assess their quality and performance and are shipped free of defects.
- When you receive your device, it should be carefully examined for any damage that may have occurred during transportation.
- If any damage is detected on the unit, you must retain all packaging material and report such damage on the carrier's bill of lading. A claim must be immediately made to the transport company.
- If the damage is found during or immediately after installation, contact your dealer or distributor immediately.

NOTE: Infrico shall not be held liable for damages incurred during transportation.

5. INSTALLATION

5.1 Location

This device is intended for indoor use only.

Ensure the location chosen for your equipment has proper air circulation to avoid malfunctions and ensure the efficiency of the refrigeration system.

Avoid locations near heat sources, such as ovens, deep fryers and heaters, as well as direct solar radiation where temperatures can reach extreme values. In addition, do not choose a location in areas where temperatures drop below 54 °F or rise above 90 °F.

Allow for sufficient space between the equipment and the side walls so the 120° stay-open door feature can be used. In order to use the maximum door width available, doors require a minimum angle of 90° to open properly.

The surface where the device is to be placed must be strong enough to support the total weight of the device considering its full maximum load capacity. In addition, it must be levelled and free of vibrations. Reinforce flooring if necessary.

5.2 Uncrating

Equipment is shipped from the factory on a wooden pallet and crate. The box is attached to the wooden base with screws. Screws must be removed prior uncrating in order avoid damages to the unit such as scratches and others.

All packaging materials are environmentally friendly and should be reused or recycled. Actively contribute to the protection of the environment by demanding recyclable packaging and environmentally friendly disposal methods.

NOTE: Infrico does not recommend lying the unit forward, sideways or backwards. However, if this occurs, you must ensure that the unit reoutlet in an upright position for at least 24 hours before connecting it, so that the compressor oil returns to the compressor.

5.3 Ventilation and Clearance

To ensure maximum performance, equipment should be placed in a location that has a continuous air supply from rear, bottom and top. For adequate air flow, keep at least 3 inches of space on every side on small units. **(For 20 pan units you will need a clearance of at least 12 inches from the back and 36 inches on the top of the unit.)**

Restricting equipment's air supply would result in an excessive heat load on the condensing unit, which would impair its operating efficiency. The front grill of the device must not be blocked at any time.

Keep at least 27 inches of space in front of the unit

NOTE: Blocking the air flow, whether totally or partially, will void the device's warranty.

5.4 Levelling

It is very important that the device is perfectly levelled for proper operation, and in order to drain properly. Doors need to be aligned, and unit is not subjected to undue stress.

Small units are factory-shipped with non-adjustable height casters. In this case, you must ensure the floor where the unit will be located is levelled. The front wheel brakes must be locked to stabilize equipment.

Optionally, all models can be shipped with adjustable legs. Should you want to install the legs, adjust them until the unit is completely stable and levelled. Detailed information on leg adjustment can be found in the 'Leg Installation' section.

5.5 Initial start-up procedure

Before start-up and loading product into the device, remove the protective plastic layer wrapped around the unit and clean it completely. In case of adhesive residue, remove it with alcohol. It is recommended to clean all stainless-steel surfaces of the device with mild soap and warm water. After cleaning, rinse with plenty of water and dry with a soft cloth.

NOTE: Never use harsh or abrasive cleaners, concentrated solutions, solvents or chemical products to clean the equipment.

6. ELECTRICAC - WIRING INSTRUCTIONS

Check voltage of the outlet before connecting the equipment and verify that it is the appropriate one. To determine the voltage of the unit, check the name plate located inside/outside the unit. Verify that this information matches exactly the electrical characteristics of where it will be connected.

NOTE: The device must be connected to an exclusively dedicated circuit. Failure to comply with this requirement shall void warranty.

NOTE: The device is designed to work with a voltage fluctuation of around 5% in relation to the rated voltage indicated in the name plate. Compressor failure due to higher or lower fluctuations shall automatically void the warranty.

Equipment has a factory-installed cord and plug in small units and cord for hard-wiring on large equipment. Install and test proper electrical outlet beforehand.

WARNING!: If the cord or plug are altered in any way, they may constitute a serious hazard. Any alteration of these components shall void the warranty.

WARNING!: Devices connected to an extension cord are not covered by Intrico's warranty.

WARNING!: Any voltage fluctuation below 208V will trip the equipment's over-protection circuit. To avoid any malfunctions ensure equipment receives a constant voltage of a minimum of 208V or greater.

7. START-UP PROCESS

Once device has been installed, levelled, cleaned and electrically connected in accordance with the instructions contained herein, it is ready for operation. Simply plug it into the outlet.

Equipment should operate smoothly and quietly, within generally accepted standards. In the event of any unusual noise, disconnect unit immediately and check for any possible blockages in the fans.

7.1 Product Loading

- Leave enough space between foods items to allow air circulation around them.
- Place product so it does not interfere with door's operation.
- The fan must not be obstructed, and food must not exceed the established maximum load level.
- If equipment is turned-off for long periods of time, it must remain unplugged, empty, clean and with the door ajar.

8. DIGITAL CONTROLLER

8.1 Modes

The blast chilling cycles are the main functions of the temperature blast chiller, and can be divided into two categories: Cooling cycles and freezing cycles.

A cooling cycle significantly reduces the time the food reoutlet within the critical temperature range (50ºF to 149ºF) where there is a high probability of bacterial growth.

A freezing cycle, on the other hand, tends to reduce the formation of ice microcrystals within the frozen product; when these microcrystals are formed, they affect the food's organoleptic properties.

The standard values for these cycles are as follows:

	Cooling cycle	Freezing cycle
Initial product temperature	194°F	194°F
Final product temperature	38ºF	0ºF
Duration	90 min	270 min

Cycles can be set by time or temperature. In a time, cycle, the duration is set; whereas in a temperature cycle, it ends when the product (internally) reaches the set

temperature. In both cases, the control probe found in the blast chiller is a temperature probe, used to control the equipment operation.

A cycle can be defined as 'soft' or 'hard'. The meaning of soft and hard varies depending on whether it is a cooling or freezing cycle. With strong cycles a greater temperature differential between the chamber and the product.

For cooling cycles, if it is soft cycle, the blast chiller will operate for the entire duration of the cycle considering the end-of-blast chilling temperature as a setpoint (normally around 32ºF). On the other hand, if it is a hard cycle, the blast chiller will operate with two different blast chilling setpoints, a lower one (around -4ºF), applied until the product temperature reaches a set value or a pre-established time expires, and a second, higher setpoint (around 32ºF), applied until the end of the cycle.

For freezing cycles, if it is soft cycle, the blast chiller will operate with two different setpoints, the first, higher (around 32ºF) applied until the product (internally) reaches a set temperature value or, until the set time ends; and the second setpoint (lower) applied until the end of the cycle. On the other hand, if it is a hard cycle, the blast chiller always operates taking into account the final setpoint of the cycle (around -31ºF)

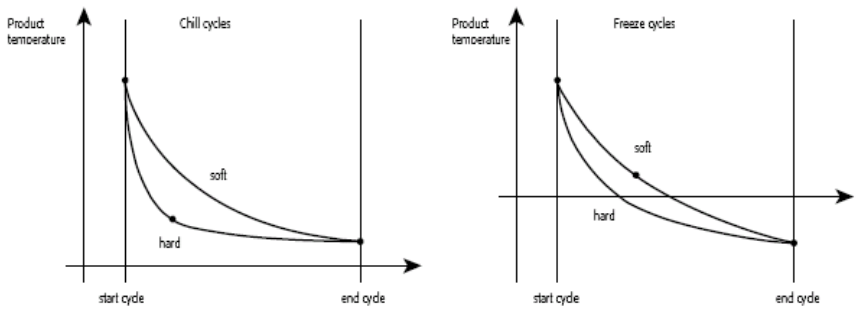


Fig. 4.1 Chill cycles (hard and soft) and freeze cycles (hard and soft).

The device is capable of operating in the following modes:

- temperature-controlled chilling and conservation of the product with the needle probe
- time-controlled chilling and conservation of the product
- Hard operating mode for chilling and freezing in both cases
- temperature-controlled freezing and conservation of the product with the needle probe
- time-controlled freezing and conservation of the product

- Soft operating mode for cooling and freezing
- pre-chilling

The following modes are also available:

- Fish sanitation
- Evaporator defrosting
- Specific cycle for ice cream hardening
- Needle probe heating

At the end of each cycle, blast chiller enters the conservation phase, and will reach and maintain a cabin temperature at the conservation setpoint.

The end of a cycle is indicated by an audible beep.

Note: While a cycle is running, you cannot create or record programs

9 USER INTERFACE AND OPERATION

9.1 Language Selection

To select the language, you must press the settings button, then select the language you want.

9.2 Preliminary signals

Operating status are as follows:

- 'off' status (the device has not electric current),
- 'stand-by' status (the device is powered and turned off),
- 'on' status (the device is powered, turned on and waiting for the start of an operating cycle),
- 'run' status (the device is powered, turned on and with an operating cycle in process).

Subsequently, 'turning on the device' refers to the transition from 'stand-by' status to 'on' status; and 'turning off the device' refers to the transition from 'on' status to 'stand-by' status.

If the power supply is interrupted during 'stand-by' or 'on' status, the device will return to the same status once the power supply is restored.

If the power supply is interrupted during 'run' status, once the power supply is restored the device will operate as follows:

- if a temperature blast chilling or deep-freezing is in progress, they will be restarted from the beginning,
- if a time blast chilling or deep-freezing is in progress, they will be restarted from the point the power supply interruption took place,
- if conservation is in progress, it will start again.

9.3 First equipment start-up

Proceed as follows:

First, connect the power supply. The device will transition to 'stand-by' status (bottom left picture). Pressing the red button will take you to the home screen (bottom right picture). This is the screen where you can program the type of cycle and parameters the blast chiller should operate with.

Pantalla de on/stand-by

→

Pantalla de inicio

⚠ If the power supply has been cut off long enough to cause the clock to malfunction ('rtc' code), the date and time will be required. The date and time can be set from the configuration screen, in the service section.

9.4 Turning the device ON / OFF

Proceed as follows:

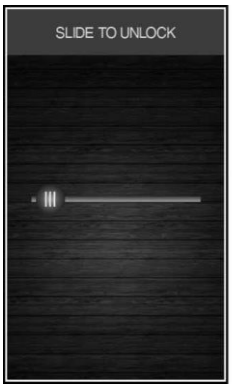
1. The 'on/stand-by' screen and the home screen will open.
2. To turn off the device, press the red area at the bottom of the main screen.
3. To turn on the device, press the middle section, in  utton

9.5 Keyboard lock and unlock

The keyboard can be locked by setting parameter E7 to 1, locking the keyboard after the period of inactivity set by parameter E8.

If the keyboard is locked, a pop-up window will appear to indicate that it is locked and how to unlock it.

It can be unlocked by dragging a finger to the right.



9.6 Mute the ringer

Press any key when the buzzer is ringing.

9.7 Open-door icon

When the door is opened, the signal shown below will appear on the screen.

Press any area of the screen to remove this signal.

9.8 Selecting the operating mode

All operating modes can be accessed from the home screen by selecting the desired area.

Pressing this button will enable you to select the desired blast chilling cycle type: Cooling at 38*f, freezing at 0*f, continuous cycle or personalized cycle.

Selection of special default cycles.

Allows access to the cookbook that includes default cycles

Allows the selection of a pre-chilling cycle for the blast chiller, with the possibility of regulating temperature

This section is displayed if there is an alarm in progress.

Pressing on this section will display historical data stored during the operation.

9.9 Cycle type selection screen

In this screen you can set up the desired cycle type for the blast chiller: Positive or negative temperature, continuous cycle or a customized cycle.

Now you can select one of the sections displayed: fast cooling, fast freeze, continuous cycle and customized cycle; details below.

Enables the selection of a blast chilling cycle at 38ºF, applying as well the corresponding preset settings. The blast chilling mode is set to Soft mode by default, but can be changed in the same screen to Hard mode, in which chilling consists of two phases with different setting points. At the end of the chilling cycle, the blast chiller emits an acoustic warning and enters the conservation phase until an operator stops it and removes the product.

Enables the selection of a freezing cycle at 0ºF, applying as well the corresponding preset settings. On the same screen it is possible to select the Soft mode (Hard mode by default). When the freezing process has finished, the blast chiller emits an acoustic warning and enters the conservation phase until an operator stops it and removes the product.

Allows the selection of a continuous positive or negative blast chilling cycle, without time control or probe, only taking into account the chamber temperature.

Press this button to define a customized cycle. This cycle allows up to four operating phases to be configured in the same blast chilling cycle, with the possibility of customizing temperatures and time for each of the phases.

This section is displayed if there is an alarm in progress.

Once the phases are established, the blast chilling mode can be started or saved in the cookbook, creating direct access to later run this same cycle.

9.9.1.- Chilling-Freezing and Conservation

By pressing one of these sections, you can set a chilling cycle (+3 button) or a freezing cycle (fr -18 button). In this screen you can define whether to control the cycle by using a probe  or setting a time 

When entering any of the two cycles, it displays the default values corresponding to chamber temperature, and probe (probe-controlled) or time temperature (time-controlled), as well as soft or hard mode as appropriate, and the different phases within the same blast chilling cycle.

These values can be modified from this screen according to the preferences of the user carrying out the blast chilling cycle, by pressing 

Pressing the icon  will allow you to customize the different phases.
However, the default values are the generic values, which were set according to the applicable regulations regarding cycle time and final product temperature.

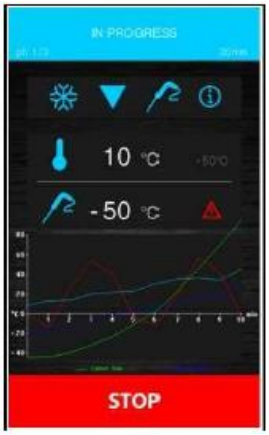
Once all the adjustments have been made, press  to finish the phase. A screen summarizing all the cycle configuration data will appear.

Pressing  will save the default cycle in the cookbook.

Pressing the button  starts the cycle displayed on the screen.

In a temperature-probe-controlled cycle, the blast chiller will perform a test to verify that the needle probe has been correctly inserted into the core of the food. If the test fails, the initially programmed probe cycle will automatically shift to a time-controlled cycle, the buzzer will ring, and an alarm signal will be emitted.

While the cycle is in progress, the screen will show the main setpoints and a chart plotting the temperature. The cycle can be stopped at any time by pressing the key 



Upon completion of the blast chilling cycle, either when the needle probe has reached the correct temperature or when the time has elapsed, the buzzer rings and the conservation phase begins. The chart plotting the temperature will not be available if the cycle has restarted after an outage.

The conservation phase does not display the time and only ends by pressing 

9.9.2.- Soft product freezing (delicate product)

It is possible to select a soft freezing cycle to avoid extreme chamber temperature drops during the first blast chilling phase that could deteriorate the product.

Thus, the chamber temperature will decrease proportionally as the temperature of the probe decreases (while operating with probe)

This cycle consists of two rapid chilling phases at different setting points, followed by a conservation phase.

-The first phase maintains non-modifiable chamber temperature parameters.

-The second phase enables the modification of chamber temperature, probe and time.

-The third phase (conservation of the product once the cycle is over) is configurable.

Once each of the phases has been completed, the blast chiller automatically transitions on to the next one. The end of the first two phases is signaled by the buzzer.
It is also possible to select the time-controlled mode for this cycle, in which case the controller transitions to the next phase when the set time has elapsed.

9.9.3.- Continuous cycle

Pressing on this section allows selecting a continuous cycle.
Once the cycle has been selected, a screen, where the chamber temperature values and the fan speed can be adjusted, will open.

Sonda de aguja de ciclo tiempo

Press the key  to start the cycle.

9.9.4.- Customized cycle

The customized mode allows to configure a cycle consisting of a maximum of 4 phases (3 chilling phases, and a final conservation phase), and these can be controlled by temperature, time or both.

The customized cycle starts and activates the first phase, which by default is a probe-controlled phase. It is possible to change the probe-controlled phase to a time-controlled phase and set the relative setpoints.

Press  to add more phases, and press  to delete any phase previously entered into the programmed.

You can move between the different phases using the arrows in the upper part of the screen.

Once the desired phases have been selected and started, press  to confirm that the settings are complete. An overview screen will then be displayed.

Press  to start the cycle or  to save it in the cookbook.

9.9.5.- Unit configuration

9.9.5.1.- Setting the chamber temperature

When a continuous or customized chilling cycle is selected, the chamber temperature, product temperature, and time can be modified by the user as needed within the allowed range.

To make an adjustment, press the key  and this screen will appear:

Define the desired value using the key  or  Once setup is complete, press  to confirm the value and return to the previous screen, or press the button  to reload the default values and return to the previous screen

9.9.5.2.- Setting the product temperature

Proceed as described in the 'Setting the chamber temperature' section, after pressing  for the product temperature (or the temperature indicated by the probe).

9.9.5.3.- Setting the cycle duration

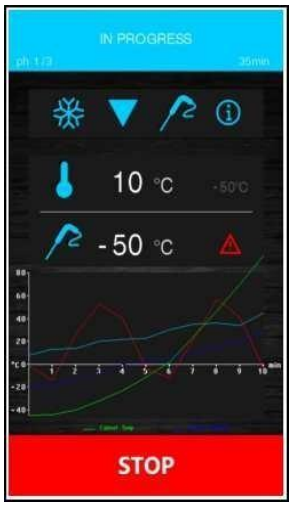
Proceed as mentioned above, after pressing  for the duration of the cycle.

9.9.5.4.-Starting the cycle.

Pressing  will star the cycle according to the set values. If the temperature cycle is controlled by a probe, the chilling phase ends when the probe reaches the preset temperature.

If it is a controlled time cycle, the freezing phase ends when the set time period has elapsed.

While the cycle is in progress, the following screen will appear.



The screen shows an overview of the characteristics of the current cycle and a chart with the various values (chamber temperature and product temperature for probe-controlled temperature cycles, and chamber temperature and time period for time-controlled cycles).

By pressing the icon you will display the values of the probe, the input and output status, and any active alarms. The icon ALARM only appears when an alarm is active, and by pressing it, you can see what kind of alarm is active.

9.9.5.4.1.- Historical data log.

While a cycle is in progress, information about inlet, chamber, and product temperature, etc., as well as times, alarms, etc., is stored.

This data can later be downloaded onto a USB device.

Downloading them must be done with a USB 2.0, FAT32 file system and with a maximum capacity of 8GB.

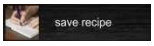
9.9.5.4.2.- End of cycle

At the end of the blast chilling or freezing cycle, the blast chiller automatically switches to product conservation mode at the preset temperature. In other words, after carrying out a blast chilling cycle at 38*F, the chiller goes into conservation mode so that the product reoutlet at this temperature. Likewise, in the case of a freezing cycle, so that it is not essential to remove the product immediately after the end of the blast chilling cycle.

If the cycle has not been completed within the preset time, the alarm icon will light up, but the cycle will continue.

In controlled temperature cycles, pressing the key STOP will display the screen, allowing access to the following options.

Heated probe: The probe has a small resistor inside which, when this option is activated, heats the probe slightly in order to allow its extraction from the product without causing damage to it. This is especially useful in freezing cycles where the probe may get stuck to the product being blast chilled due to low temperatures.



It allows you to save the cycle that has just run in the blast chiller memory.

Once the blast chilling cycle is finished; it returns to the initial screen to start a new process if desired.

9.9.5.5.- Special cycles mode

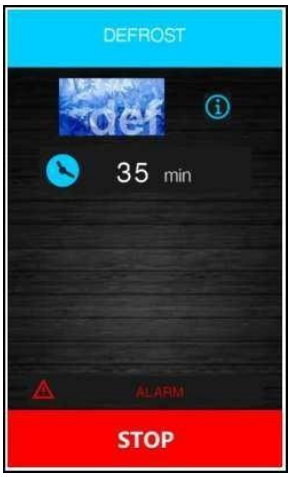
Press this key from the home screen to enter the special cycles submenu

This screen gives you access to other modes, some of which are always present, while others can be activated by setting the parameter. If a mode is not available, the icon corresponding to that mode will not be displayed, and it will not be possible to select it. In this image, some optional modes for the blast chiller are shown.

The following modes are available on all blast chillers.

FISH SANITATION. Pressing this icon allows the selection of a fish sanitization cycle, with parameters that are already preset in the blast chiller.

MANUAL DEFROST. Manual defrost of the evaporator, for instances where the evaporator is blocked by ice. This can occur after many cycles have been completed in a row with products that have high levels of relative humidity, or when the blast chiller has been left in conservation mode for a long period of time.



SPECIFIC ICE HARDENING CYCLE. By selecting this icon, you can access a specific ice cream hardening cycle.

HEATED PROBE: Probe heating system to facilitate the extraction of the probe.

9.9.5.6.- Recipe mode

When this icon is pressed, the following screen will open on the home page.

This screen allows you to access a cookbook divided into two categories: Chilling and freezing.

Selecting this icon opens a screen containing blast chilling recipes for above zero temperatures.

Selecting this icon opens a screen containing blast chilling recipes for frozen temperatures.

The following screen shows an example from the cookbook, displaying the icons of the six preset recipes.

Selecting this icon  allows access to the list of custom recipes saved by the user.

By pressing the corresponding recipe icon, an overview screen is displayed showing the

configuration of the different phases of the recipe.

The recipe can be started from this screen, or the setpoints can be modified by pressing the section related to the phase. Once the settings have been modified, the following options are available:

- Start the cycle without saving the changes.
- Save the changes and overwrite the old program.
- Save the changes with a different name.

9.9.5.6.1.- Saving a recipe

Recipes can be saved in the following ways.

- During conservation after a customized chilling or freezing cycle, pressing STOP allows the blast chiller to save the recipe used.
- Save a recipe from a customized cycle.
- Select an existing recipe, modify it and save it.

Once the recipe to be saved has been selected, the screen request data in order to save the recipe. The displayed screen will request the name you want to save the recipe with, displaying free and occupied slots. If an occupied slot is selected, the device will ask if the recipe should be overwritten by deleting the initially saved recipe.

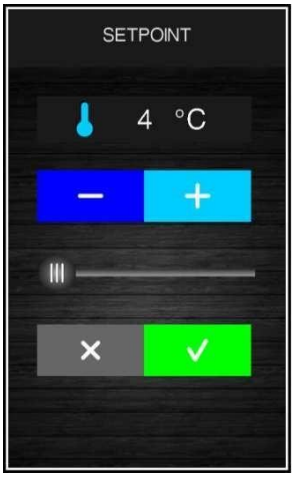
If declined, a screen will pop up allowing the recipe name to be entered.

9.9.5.6.2.- Overwriting a recipe.

It is possible to overwrite a recipe but not delete it. When a recipe is overwriting, the screen below will display the confirmation request to save the new recipe.

9.9.5.7.-Pre-chilling mode

Pressing this key on the home screen enables the selection of a pre-chilling cycle. This cycle is similar to a normal chilling cycle and may precede any operating cycle.
Pressing the corresponding key opens the following screen.



Set the desired setting point value and press the start button to start the pre-chilling blast chiller cycle. The screen below shows the pre-chilling cycle in progress.

This screen allows you to select other cycles. The chilling process is cancelled by pressing the key STOP .

Once the programmed temperature has been reached, the blast chiller emits an acoustic warning, and the cycle continues maintaining the preset temperature until pressing STOP or until a chilling cycle is started.

If pre-chilling is running, it will stop automatically when another cycle is selected and started.

10. DOWNLOAD HACCP DATA

Find attached a link to download an explanatory video of the BLAST CHILLER

https://youtu.be/1kTkCA1Fra8

11. ALARM

The table below lists the various alarms.

Code	Meaning
RTC	Clock error. To correct - Re-set the date and time. Main consequences - The device will not memorize the date and time an HACCP alarm happened. - The alarm output will be activated.
CABINET PROBE	Cabinet probe error. To correct - Check the parameter P0 value. - Check that the probe is undamaged. - Check the device-probe connection. - Check the cabinet temperature. Main consequences - If the error happens during stand-by, it will not be possible to set or start any operating cycle. - If the error happens during blast chilling or blast-freezing, the cycle will continue with the compressor in continuous mode. - If the error happens during conservation, the compressor will operate according to parameters C4 and C5 or C9. - If the error happens during a proofing, slow cooking or a thawing cycle, the cycle will be interrupted. - The minimum temperature alarm will never be activated. - The maximum temperature alarm will never be activated. - The door heaters will never be switched on. - The alarm output will be activated.
EVAPORATOR PROBE	Evaporator probe error. To correct: - The same as for the cabinet probe error but with reference to the evaporator probe. Main consequences - If parameter P4 is set to 1, defrosting will last for the time set by parameter d3. - Parameter F1 will have no effect. - The alarm output will be activated.

CONDENSER PROBE	Condenser probe error. To correct - The same as for the cabinet probe error but with reference to the condenser probe. Main consequences - The condenser fan will operate in parallel with the compressor. - The condenser overheat alarm will never be activated. - The compressor locked alarm will never be activated. - The alarm output will be activated.
NEEDLE PROBE SENSOR 1	Needle probe/sensor 1 error. To correct - The same as for the cabinet probe error but with reference to needle probe 1. Main consequences if parameter P3 is set to 1 (single probe) - If the error happens during stand-by, the temperature-controlled cycles will be started up as time-controlled. - If the error happens during temperature-controlled blast chilling, blast chilling will last for the time set by parameter r1 - If the error happens during temperature-controlled blast-freezing, blast-freezing will last for the time set by parameter r2 - If the error happens during needle probe heating, the heating will be interrupted. - The alarm output will be activated. Main consequences if parameter P3 is set to 2 or 3 (multineedle or multi-sensor probes) - The device will not use the probe/sensor showing the error, but the other available probes or sensors will be used.
NEEDLE PROBE SENSOR 2	Needle probe/sensor 2 error. To correct - The same as for the cabinet probe error but with reference to needle probe 2. Main consequences - The device will not use needle probe 2.
NEEDLE PROBE SENSOR 3	Needle probe/sensor 3 error. To correct - The same as for the cabinet probe error but with reference to needle probe 3. Main consequences - The device will not use needle probe 3.
THERMAL SWITCH	Thermal switch alarm To correct - Check the state of the thermal switch input. - Check the value of parameter i11. Main consequences - The cycle in progress will be interrupted - The alarm output will be activated.

HIGH PRESSURE SWITCH	High pressure alarm. To correct - Check the state of the high-pressure input. - Check the value of parameter i6. Main consequences - If the cycle underway requires use of the compressor, the cycle will be interrupted. - The alarm output will be activated.
LOW PRESSURE SWITCH	Low pressure alarm. To correct: - Check the state of the low-pressure input. - Check the value of parameter i9. Main consequences - If the cycle underway requires use of the compressor, the cycle will be interrupted. - The alarm output will be activated.
DOOR OPEN	Door open alarm. To correct - Check the door status. - Check the value of parameters i0 and i1. Main consequences - The effect set by parameter i0. - The alarm output will be activated.
HIGH TEMPERATURE	Maximum temperature alarm (HACCP alarm). To correct - Check the cabinet temperature. - Check the value of parameters A4 and A5. Main consequences - The device will memorize the alarm. - The alarm output will be activated.
LOW TEMPERATURE	Minimum temperature alarm (HACCP alarm). To correct - Check the cabinet temperature. - Check the value of parameters A1 and A2. Main consequences - The device will memorize the alarm. - The alarm output will be activated.

CYCLE DURATION	Alarm indicating that temperature-controlled blast chilling or blast-freezing has not been completed within the maximum duration (HACCP alarm). To correct - Check the value of parameters r5 and r6. Main consequences - The device will memorize the alarm. - The alarm output will be activated.
BOARD COMMUNICATIONS	User interface-control module communication error. To correct - Check the user interface-control module connection. Main consequences - Any cycle underway will be terminated and it will not be possible to start one up.
BOARD COMPATIBILITY	User interface-control module compatibility error. To correct - Check that the user interface and the control module are compatible. Main consequences - Any cycle underway will be terminated and it will not be possible to start one up.
NEEDLE PROBE	Needle probe alarm (all the needle probe sensors enabled are in alarm status) To correct - The same as for the cabinet probe error but with reference to all the needle probes. Main consequences - Any temperature-controlled cycle will be interrupted
POWER FAILURE	Power failure alarm (HACCP alarm). To correct - Check the device-power supply connection. Main consequences: - The device will memorize the alarm. - Any cycle underway will resume when power is restored. - The alarm output will be activated.
SANITATION PROBE INSERTION	Sanitation alarm. To correct - Check that the needle probe has been correctly inserted and check the value of parameters r17 and r18. Main consequences - The sanitation cycle will be interrupted.

SANITATION DURATION	Alarm indicating that sanitation has not been completed within the maximum duration (HACCP alarm). To correct - Check the value of parameter r23 Main consequences - The device will memorize the alarm. - The cycle underway will be interrupted. - The alarm output will be activated.
CONDENSER OVERHEAT	Condenser overheat alarm. To correct - Check the condenser temperature. - Check the value of parameter C6. Main consequences - The condenser fan will be switched on. - The alarm output will be activated.
COMPRESSOR LOCKED	Compressor locked alarm. To correct - Check the condenser temperature - Check the value of parameter C7 - Disconnect the device from the power supply and clean the condenser. Main consequences - If the error happens during "stand-by", it will not be possible to select or start up an operating cycle. - If the error happens during an operating cycle, the cycle will be interrupted. - The alarm output will be activated.
NEEDLE PROBE INSERTION	Needle probe not inserted alarm. To correct - Check that the needle probes have been correctly inserted and check the value of parameters r17 and r18. Main consequences - The temperature-controlled cycle in progress will be converted to a time-controlled cycle.
EXPANSION COMMUNICATIO NS	User interface-expansion module communication error. To correct - Check the user interface-expansion module connection. Main consequences - Any proofing or slow cooking cycle underway will be terminated and it will not be possible to start one up.

EXPANSION COMPATIBILITY	User interface–expansion module compatibility error. To correct - Check the user interface and expansion module are compatible. Main consequences - Any cycle underway will be terminated and it will not be possible to start one up.

12. HACCP ALARM

To access the HACCP alarm area, press area 

in the Home screen. The screen below will be displayed.

The following HACCP alarms are listed.

- Blast chilling/blast-freezing cycle duration
- Power failure
- Door open
- High temperature alarm
- Low temperature alarm

13. MAINTENANCE, CLEANING, AND CARE

13.1 Cleaning Procedure

Cleaning the device

To clean the device, follow the instructions below:

- Unplug equipment (small units) and remove all products stored in it. For large units
- Open all doors and allow time for interior to reach room temperature. Remove all interior accessories and clean them with soap and lukewarm water. Dry all accessories completely with a soft cloth.
- Once the chamber has reached room temperature, clean all interior and exterior surfaces with soapy water. Rinse thoroughly and dry with a soft cloth. Failure to dry the device properly may result in water stains. You may stainless steel cleaners available in the market, to help repair and protect the protective layer of steel surfaces.
- Put accessories back in place and plug-in unit to outlet.
- Pitting corrosion or cracks in steel are signs of material deterioration. In this case, apply stainless steel cleaners capable of repairing the steel passivation.
- Foods with acidic components can attack stainless steel (mustard, mayonnaise, lemon, tomato and other vegetables).

NOTE: Never use steel scrubbers, wire brushes or spatulas to clean the device.

NOTE: Cleaning products used must be alkaline-based or chlorine-free. Any cleaner containing chlorides will damage the protective layer of the stainless steel.

Rubber gaskets maintenance

- Rubber gaskets require regular cleaning to protect their elasticity, to ensure proper sealing, and prevent mold growth. Rubber gaskets can be cleaned with soapy water. Avoid using abrasive cleaners or sharp utensils.
- Rubber gaskets can be easily removed in case replacement is needed by pressing them against the door frame.

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Condenser cleaning

The condenser, located behind the back grill of the device, should be checked regularly. Cleaning frequency will depend on the working environment. Air must flow freely through the condenser, so its surface must be free of dirt and grease. Dirty condensers cause faulty compressors and product loss. If the condenser coil is dirty or blocked, follow the steps below:

- Disconnect the device from outlet.
- Remove the back grill from unit.
- In some models, it will be necessary to remove the screws that affix the condensing unit to the skirting board in order to clean the condenser.

- If the condenser has a protective case, it must be unscrewed and removed.
- Once the surface of the condenser is accessible, it should be cleaned using a vacuum cleaner or a soft brush. Do not use metal brushes.
- If dirt is excessive, compressed air can be used for cleaning.
- After cleaning, reinsert the protective case, return the condensing unit to its original position, and re-attach all screws.
- Finally, replace the rear grill and connect the device to the outlet.

WARNING! Do not use water to clean condensers, as it may damage nearby electrical components.

Maintenance of doors / hinges

Over time and due to normal wear and tear, door hinges may move out off place slightly. If you notice doors are not properly aligned, tighten the screws that attach the hinge brackets to the cabinet.

13.2 Spare Parts and Technical Support

WARNING! Make sure the device is disconnected from the outlet before carrying out any maintenance or repair work.

If there is no recommended technical support service provider in your area, please contact us for a list (ASA´s) Authorized Service Agencies.

If the problem persists after the appropriate troubleshooting, DO NOT MAKE ANY REPAIRS YOURSELF. Contact our National Service Department, and have model and serial number of the device at hand (located on the name plate),

WARNING! If spare parts are needed, always insist on factory OEM spare parts.

14. TROUBLESHOOTING

Many operational issues derive from causes that can be easily eliminated without the need to contact the National Service Department. The following list covers several types of issues and how to solve them.

ISSUE	POSSIBLE SOLUTION
The device does not work	1. The plug is not connected to the power outlet. 2. The plug is not carried with power because the fuse has blown, or the automatic current limiter has tripped.
The device does not cool sufficiently	1. Check the setpoint temperature on the controller. 2. Door not properly closed or frequent openings. 3. Obstruction of the device's ventilation grills. 4. Condenser is dirty. 5. The device is exposed to direct sunlight or another heat source.
Noisy operation	1. The device has not been correctly levelled. 2. Some of the tubes inside the device are rubbing against each other. 3. Loose screws on any of the parts. 4. Fan in condenser or evaporator causing vibrations. 5. Loose parts in the condensing unit.
The device creates excessive ice in the evaporator	1. Doors are not properly closed. 2. Excessive door openings. 3. Performing many cycles in a row. 4. Defrosting has not been carried out.
Compressor does not start	1. Opened switch. 2. Blown fuse. 3. Faulty wiring. 4. Open clixon. 5. Open controller contacts (defective controller, or device located in a too cold area). 6. Defective relay. 7. Low gas load in the system - check for leaks.

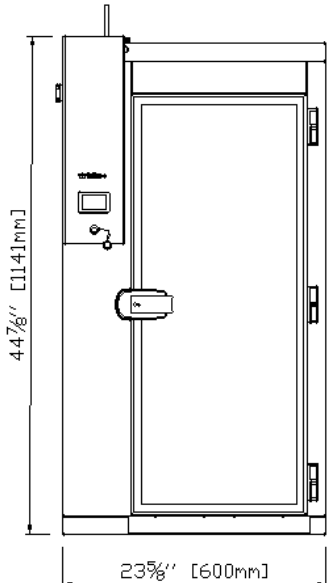
Compressor starts, but it shuts down due to overload	1. Low voltage. 2. Faulty wiring. 3. Defective start condenser. 4. Sealed start condenser. 5. Defective compressor. 6. High head pressure.
High condensation pressure	1. Overloaded unit. 2. Air or non-condensable gases in the system. 3. Condenser is dirty. 4. Defective condenser fan. 5. Device located in a too hot area. 6. Obstruction in expansion valve or filter. 7. Discharge valve partially closed. 8. Obstruction in discharge line.
Reduced condensation pressure	1. Insufficient refrigerant load. 2. Leaks in the system. 3. Device located in a too cold area.
The compressor performs short cycles	1. Differential control set at too short intervals. 2. Low refrigerant load, check the pressure. 3. Excessive refrigerant load. 4. Leaks in the discharge valve. 5. Open high-pressure switch. 6. Condenser is dirty.
Too long operating cycles, or continuous operation of the unit	1.- Insufficient refrigerant load. 2.- Obstructed or dirty condenser. 3.- Device located in a too hot area. 4.- Stuck controller relay. 5.- Air or non-condensable gases in the system. 6.- Defective or incorrectly adjusted expansion valve. 7.- Doors have remained open for too long. 8.- Insufficient or defective insulation or saturated with water. 9.- Excess of oil in the evaporator.

15. APPENDIX

15.1 Technical Characteristics

ABT20 1C

ELEVATION



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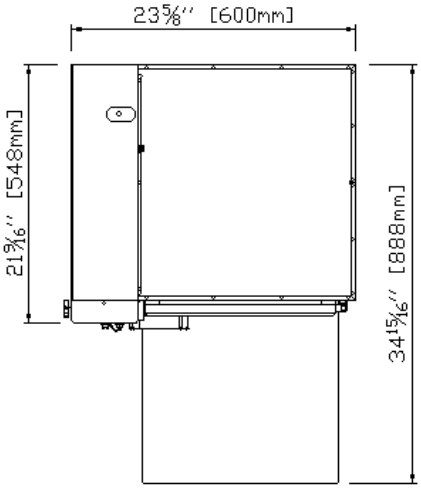

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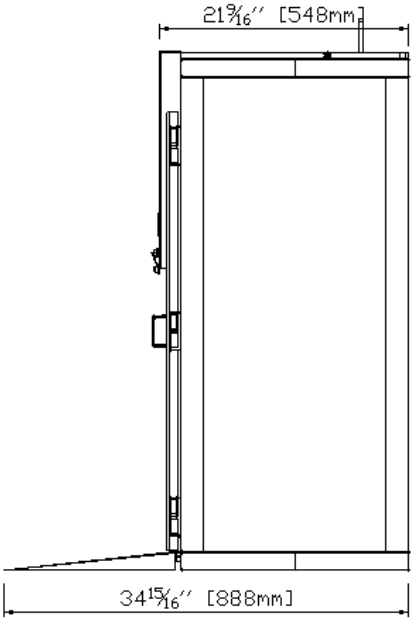

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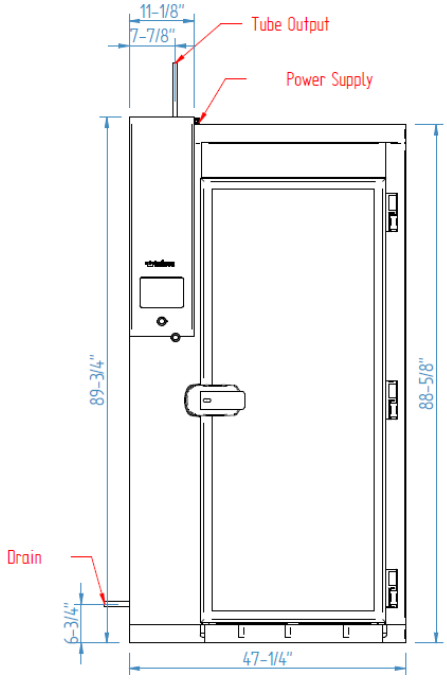

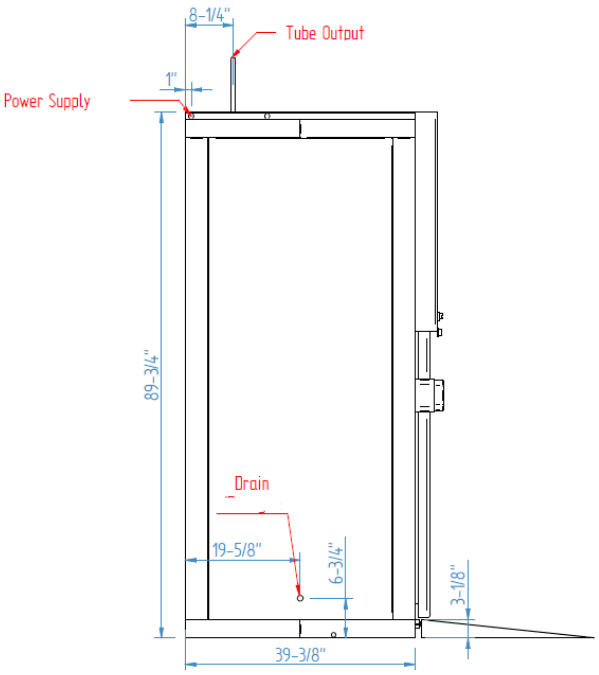

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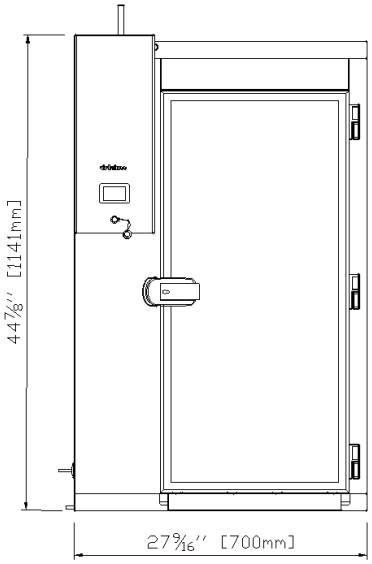

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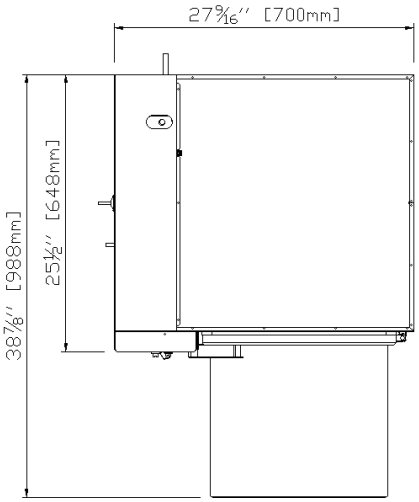

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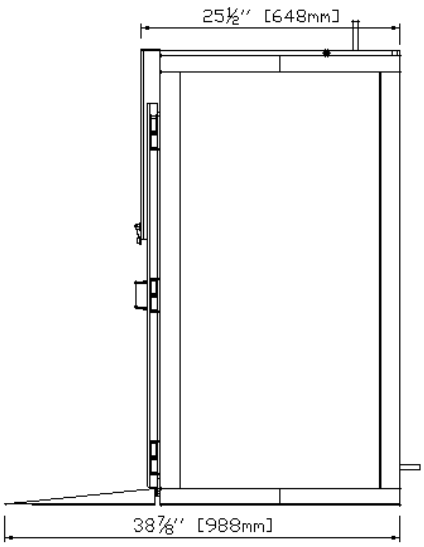

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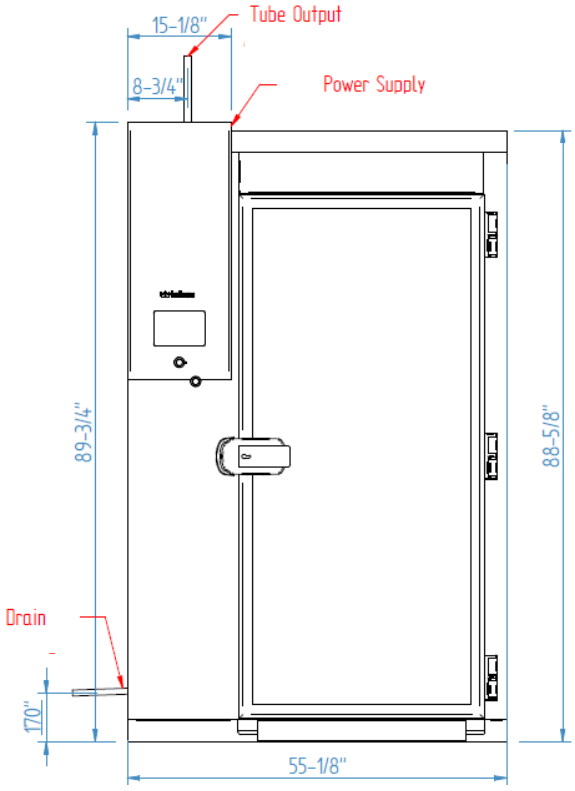

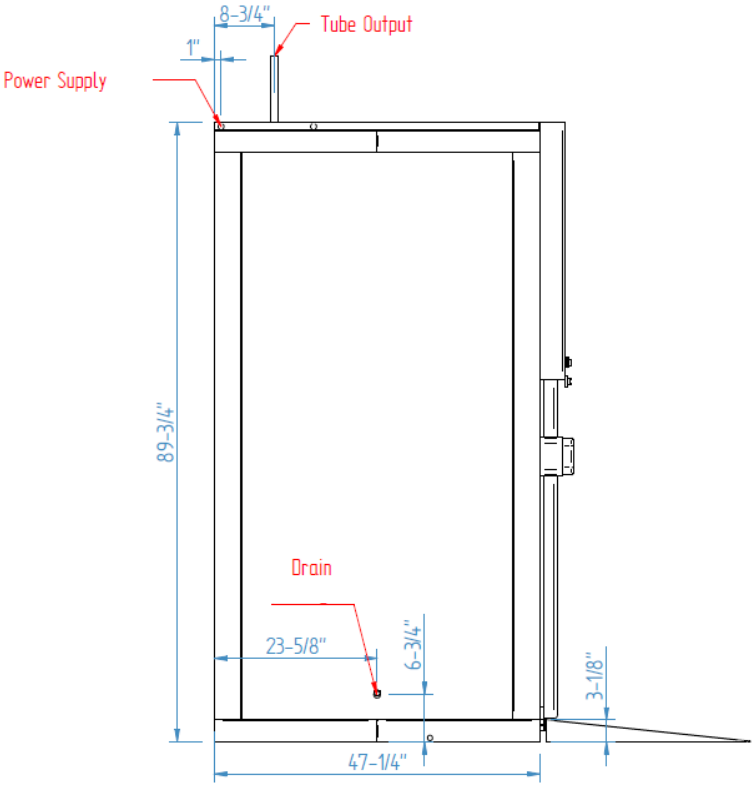

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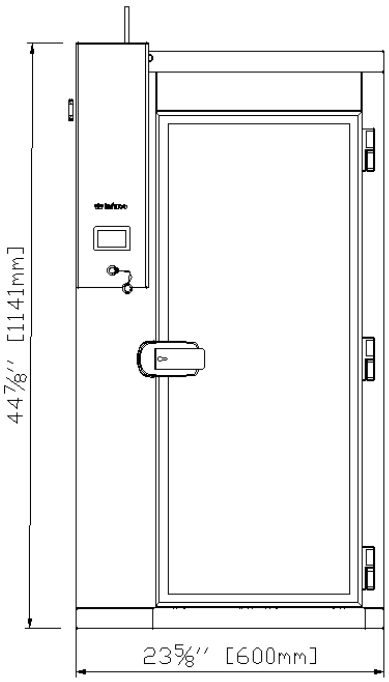

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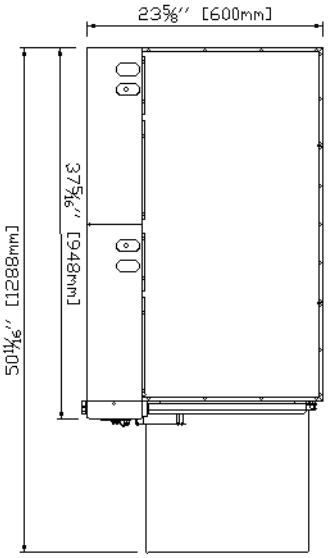

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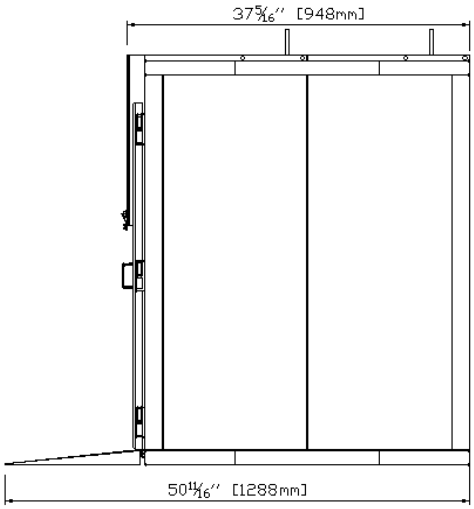

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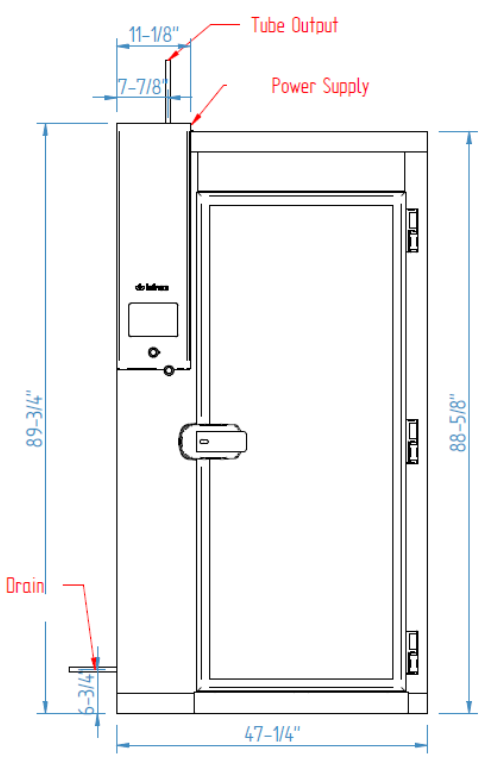

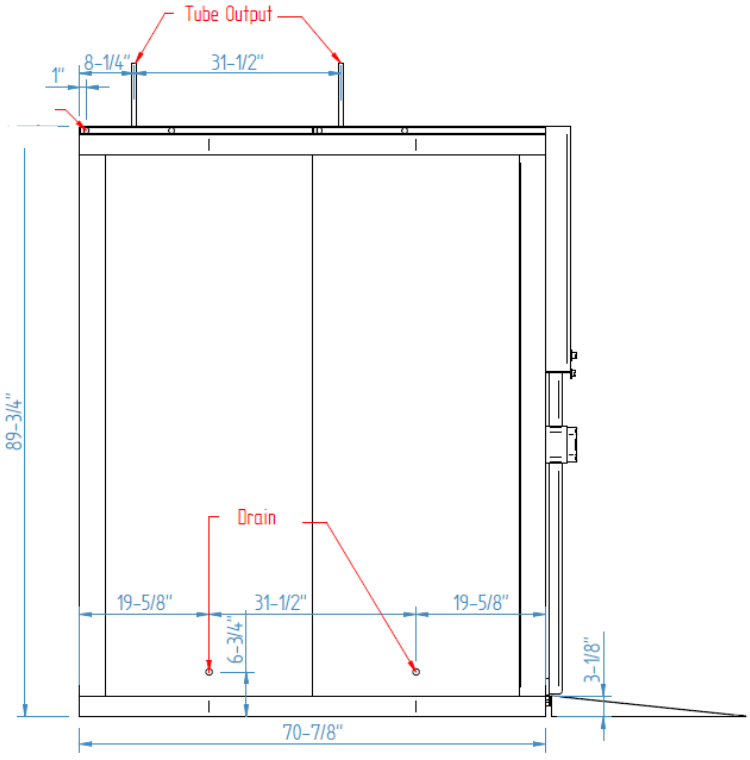

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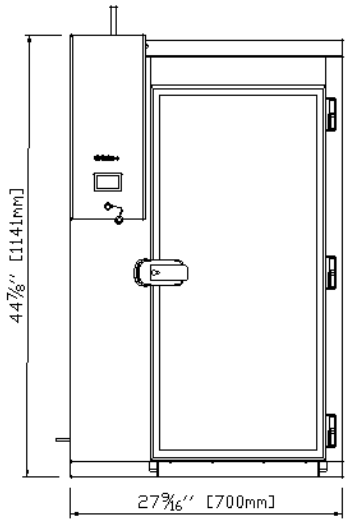

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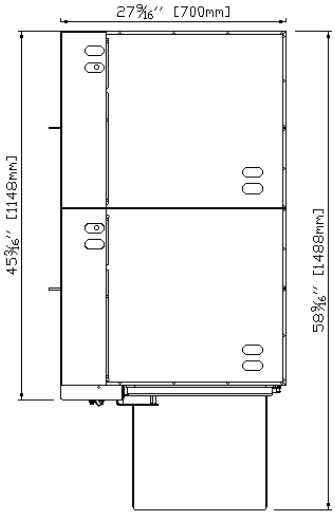

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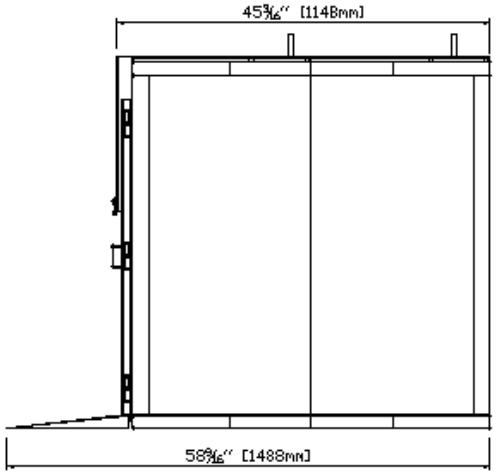

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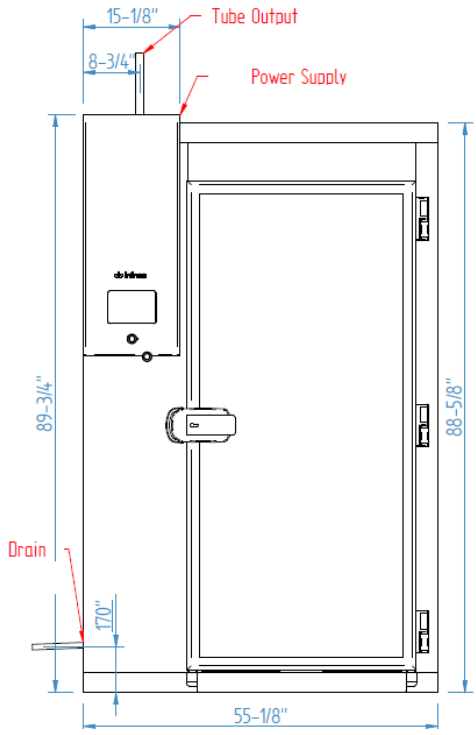

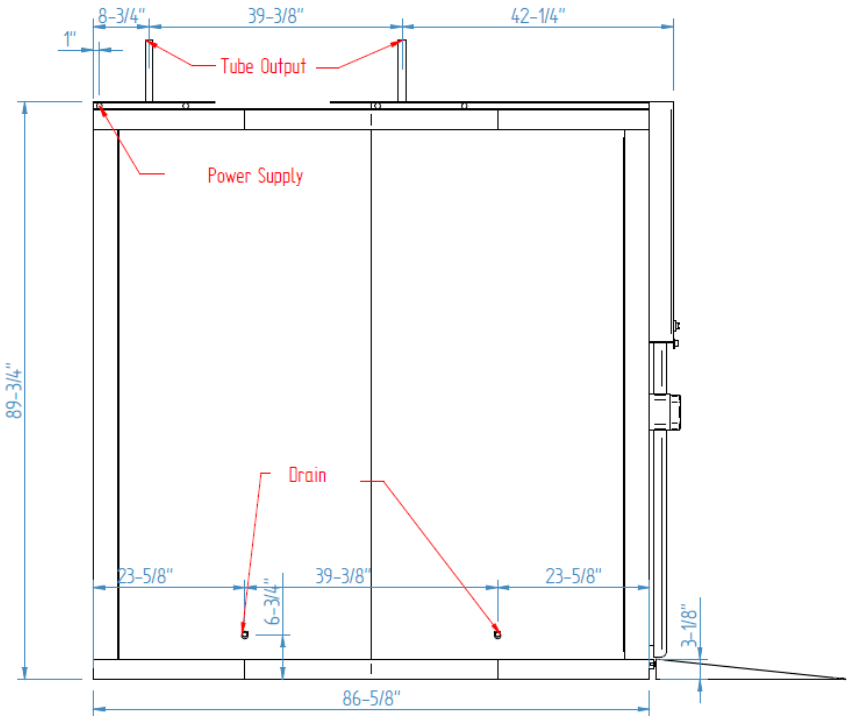

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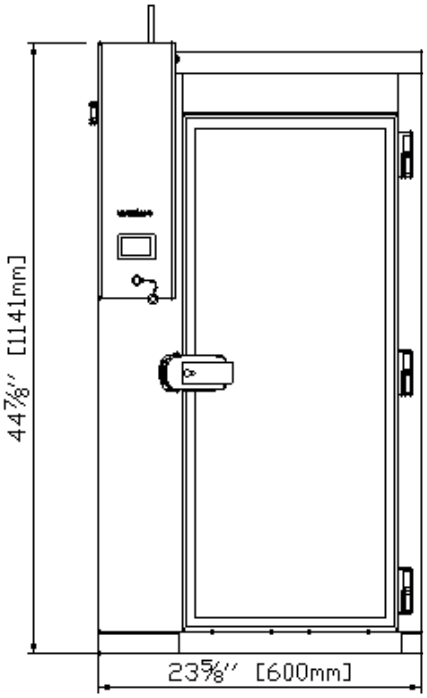

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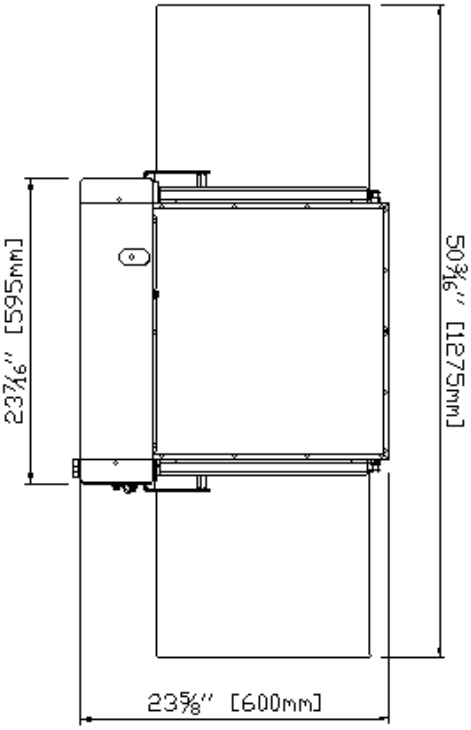

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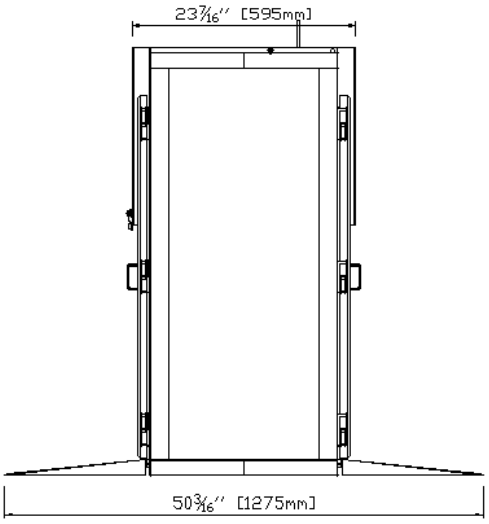

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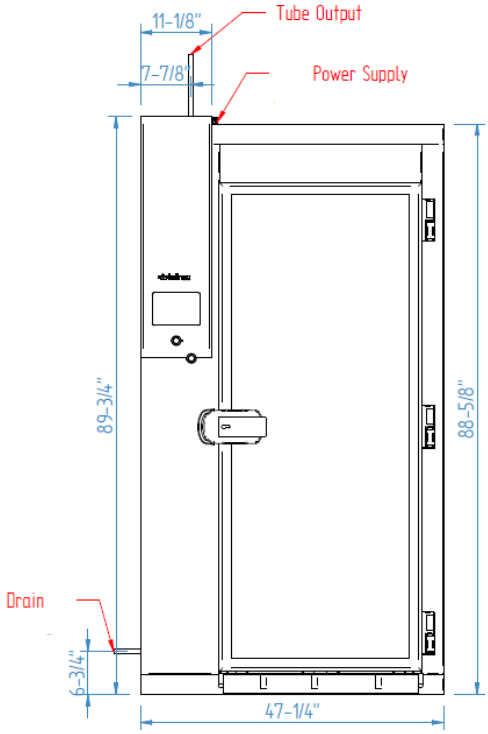

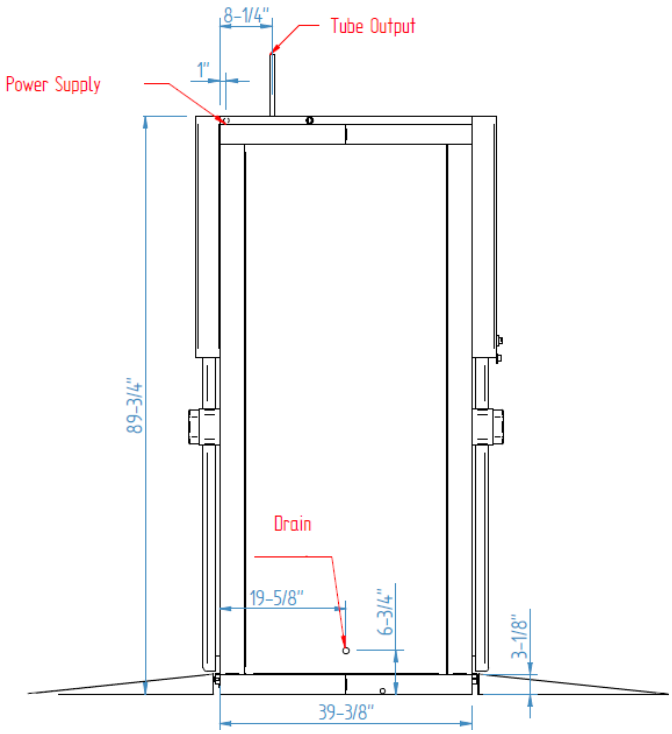

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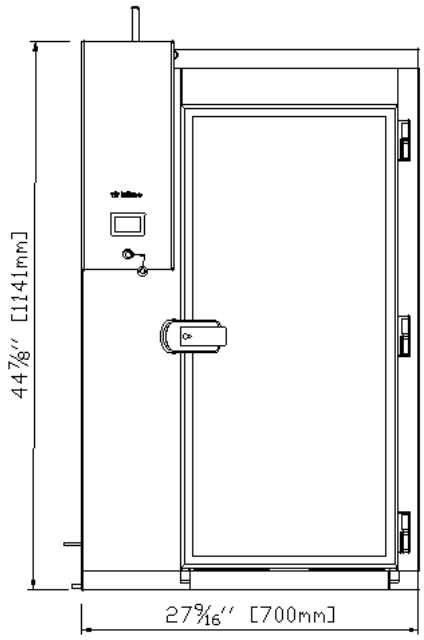

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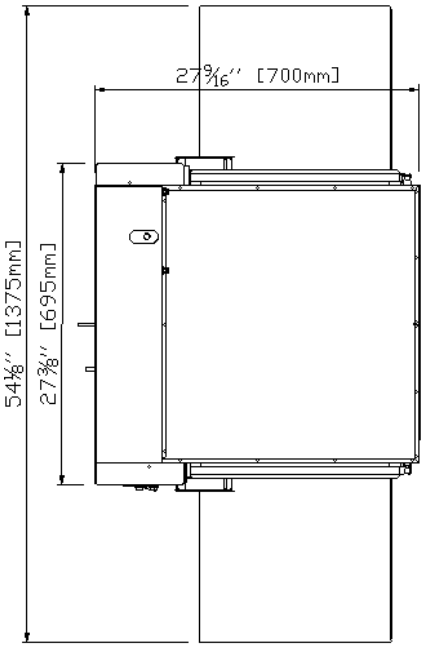

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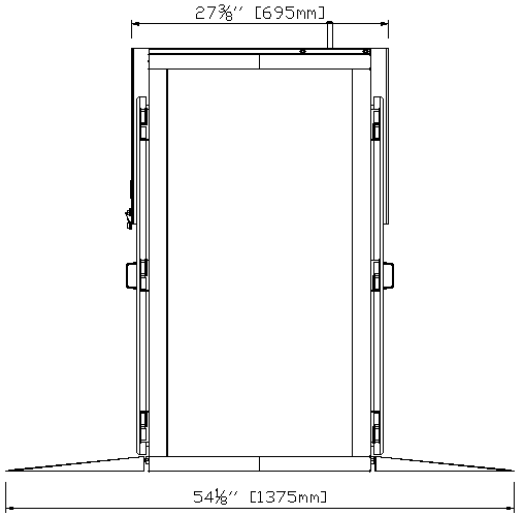

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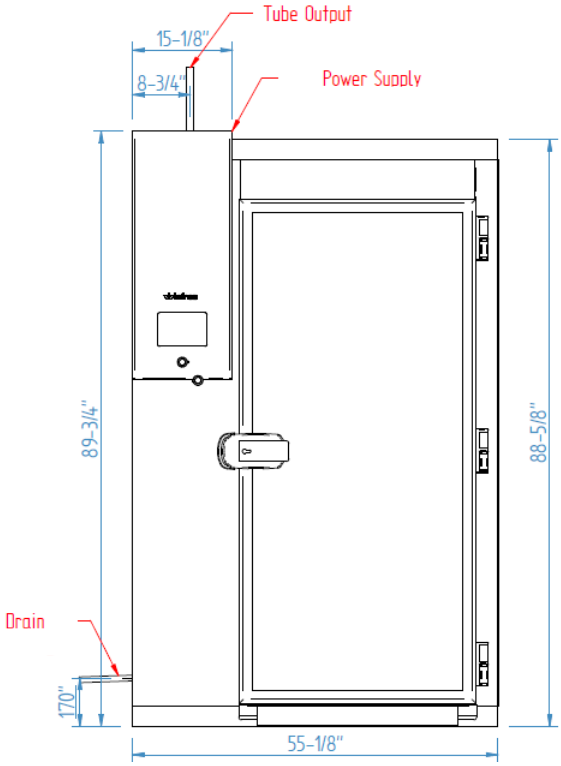

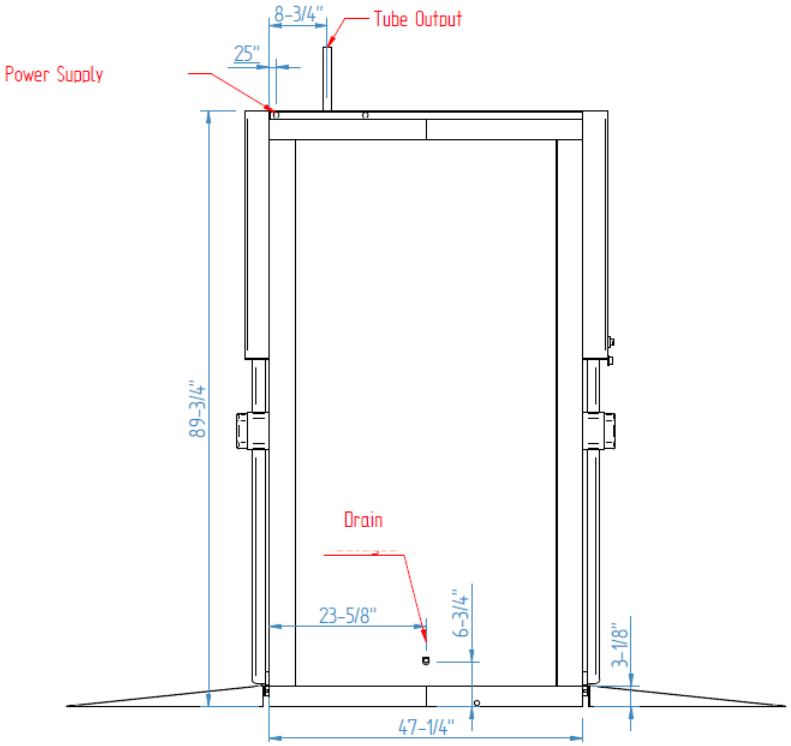

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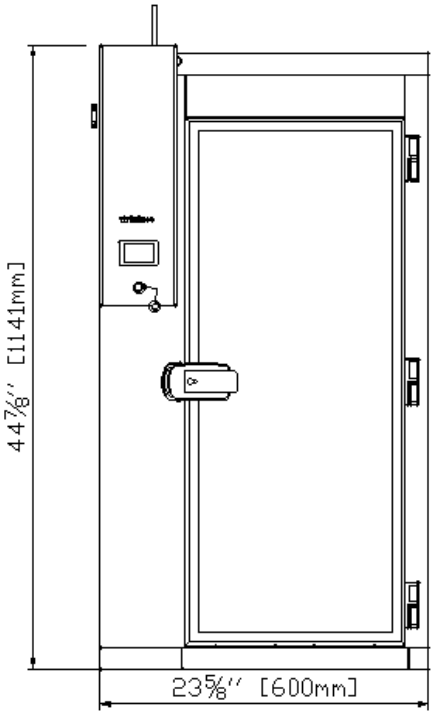

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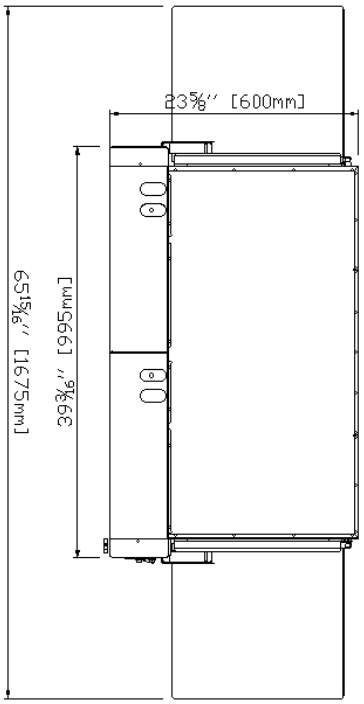

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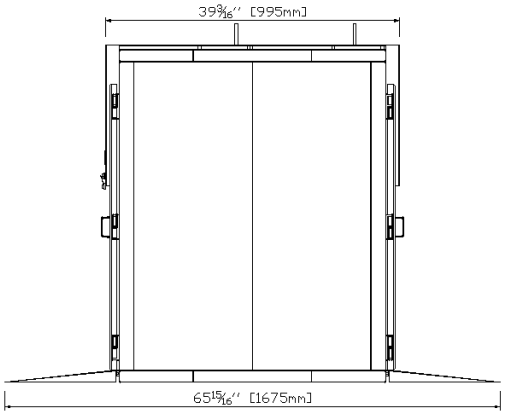

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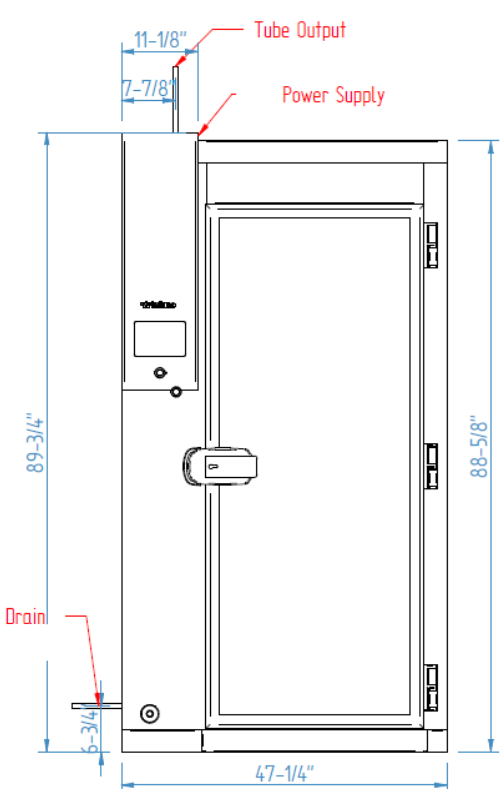

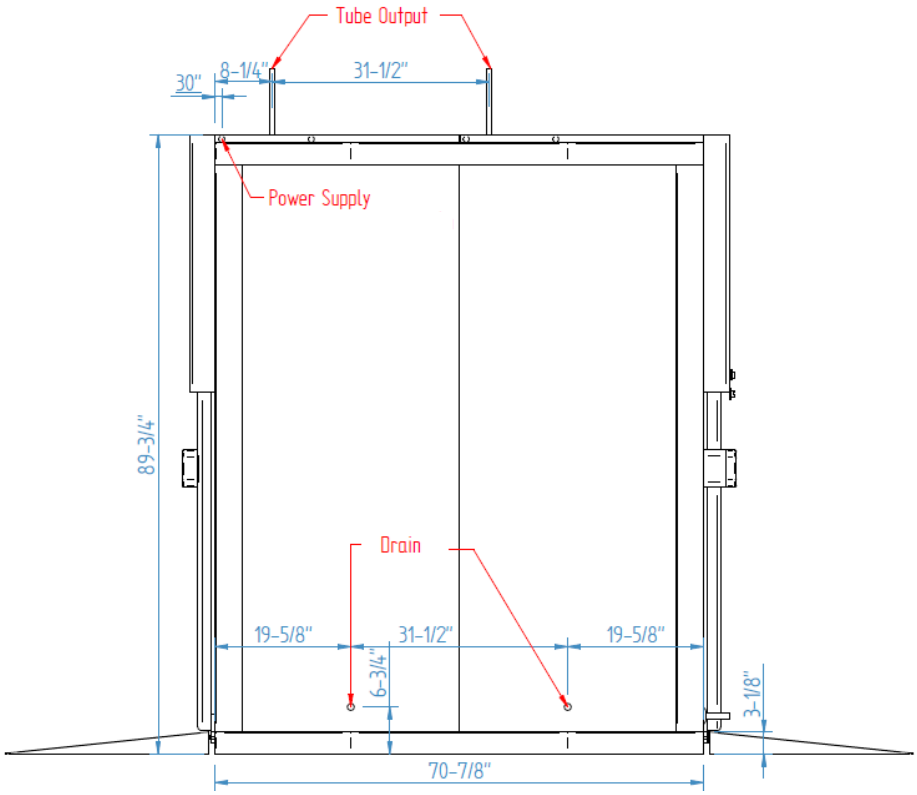

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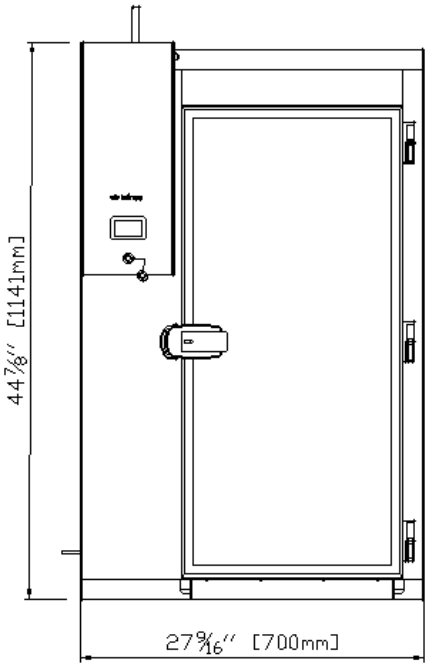

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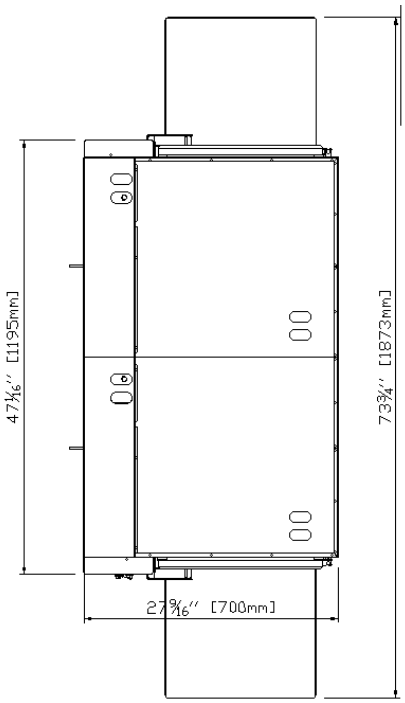

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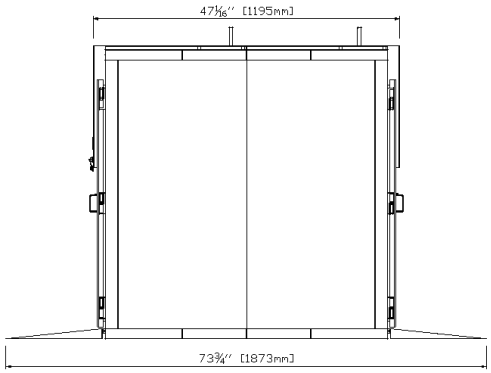

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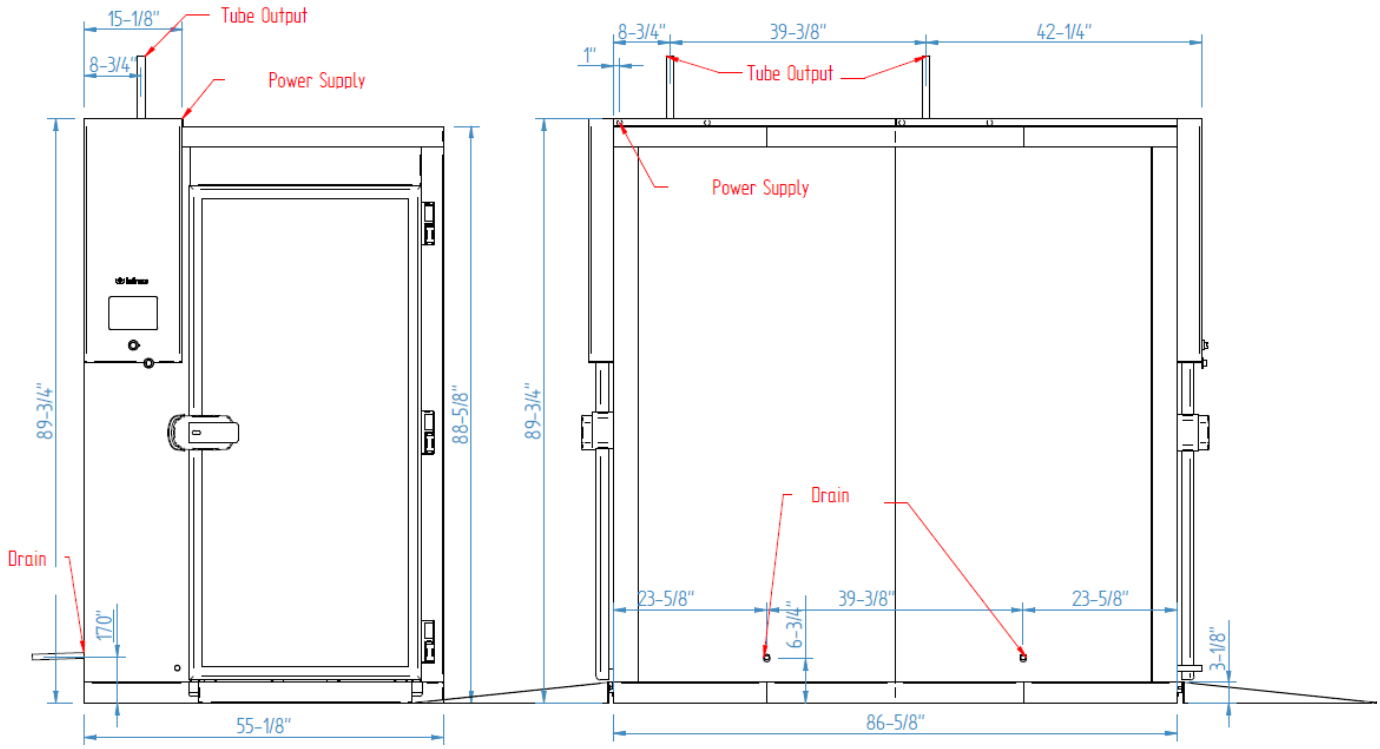

ABT20 1S

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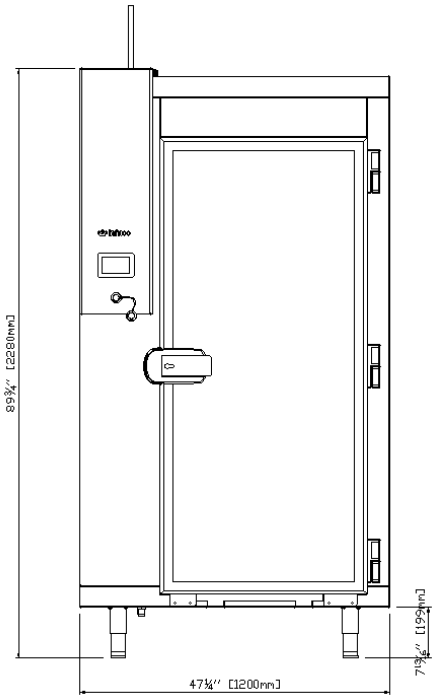
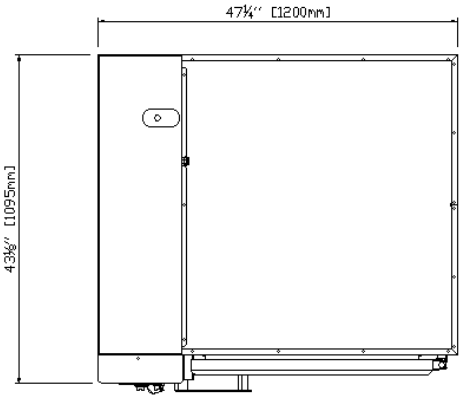
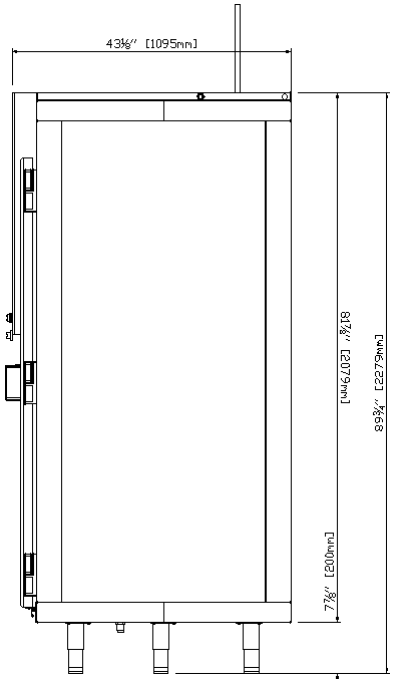


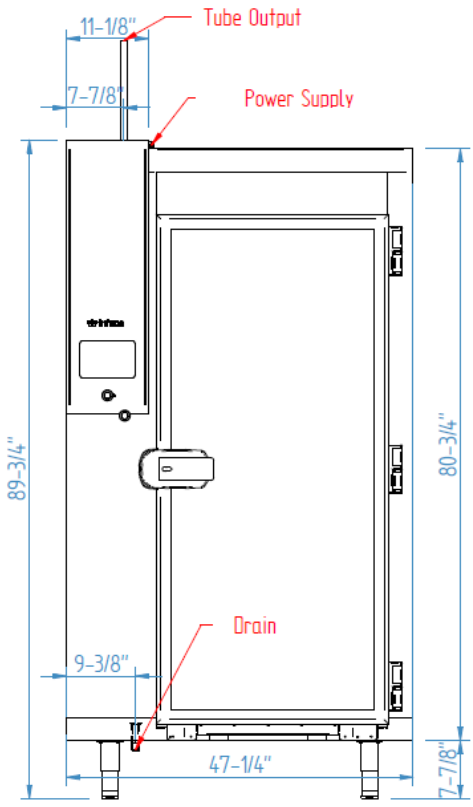
PLAN VIEW

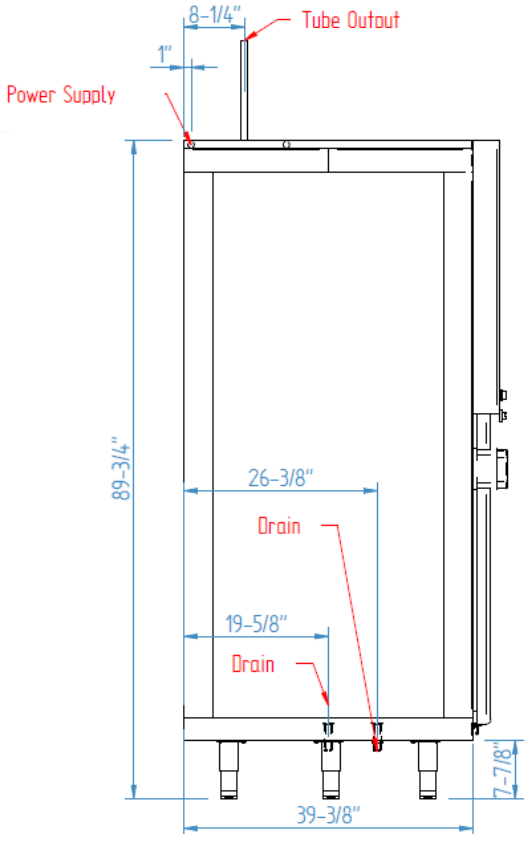


RIGHT VIEW



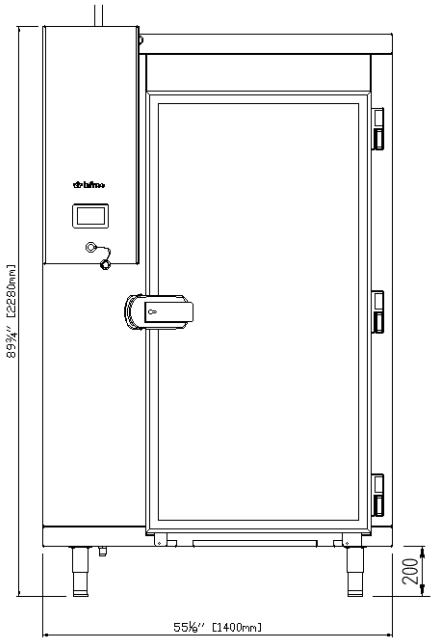
CONNECTION



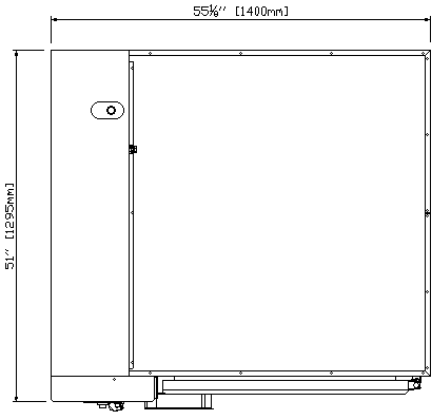


ABT20 2S

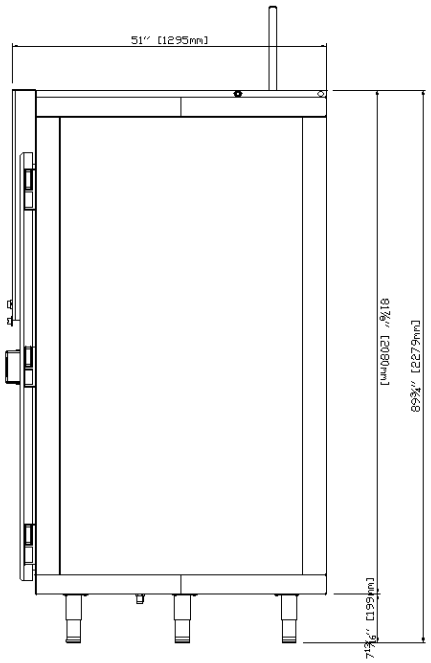
ELEVATION



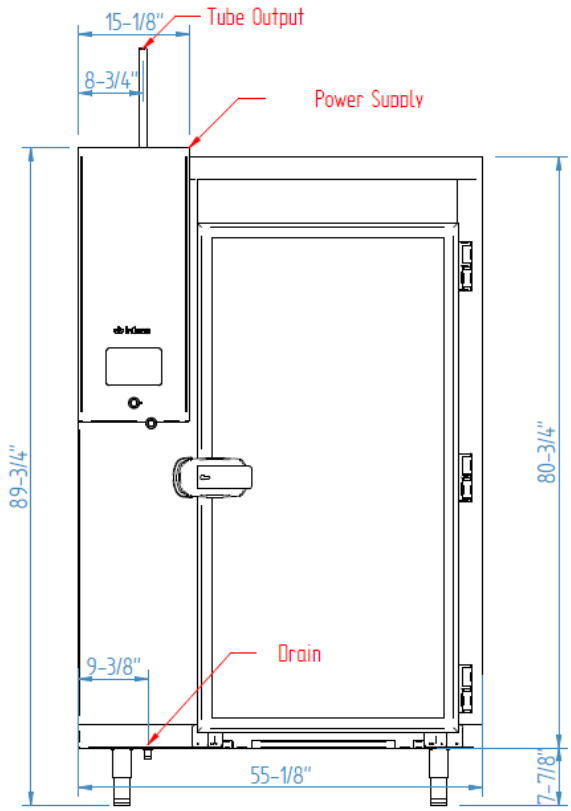
PLAN VIEW

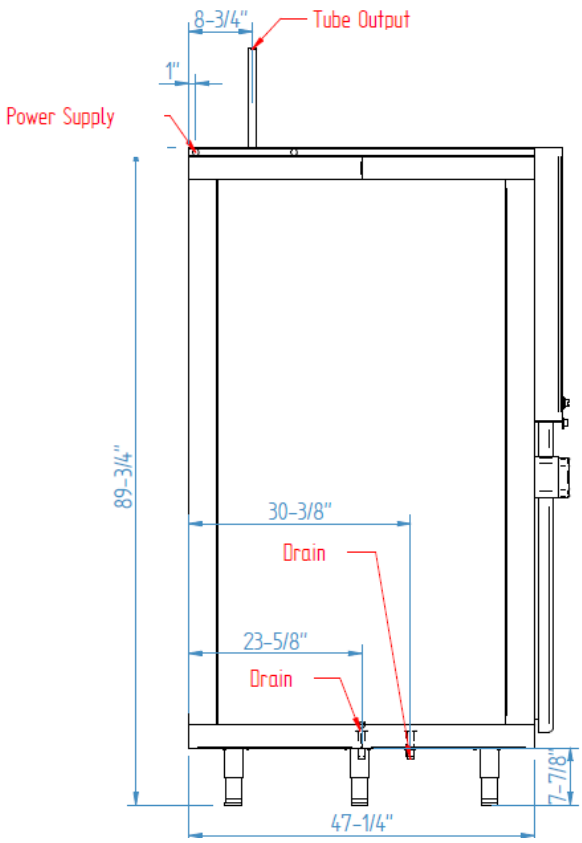


RIGHT VIEW



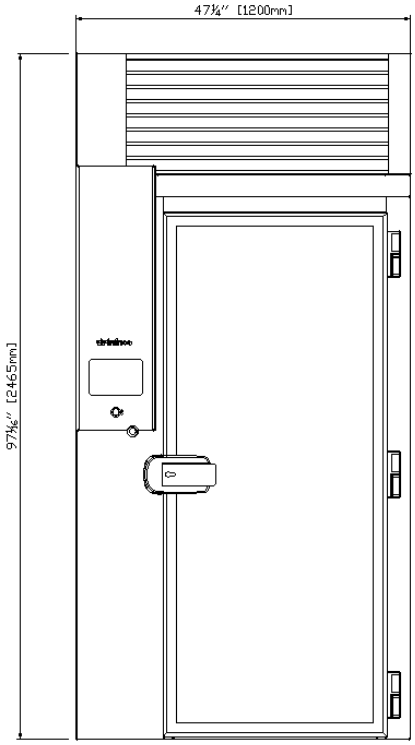
CONNECTION



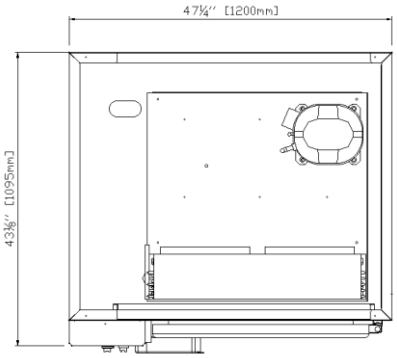


ABT20 1CBI

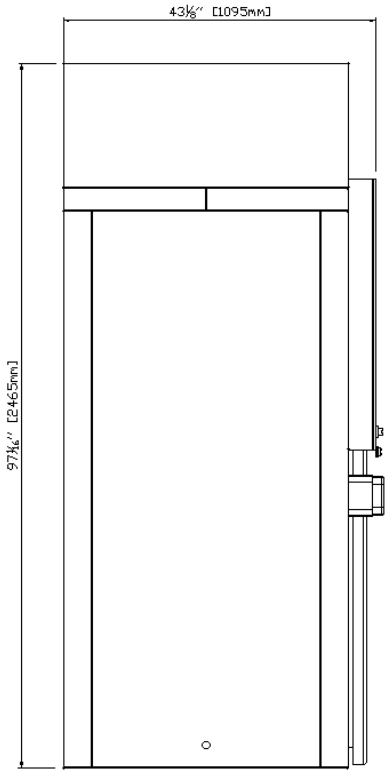
ELEVATION



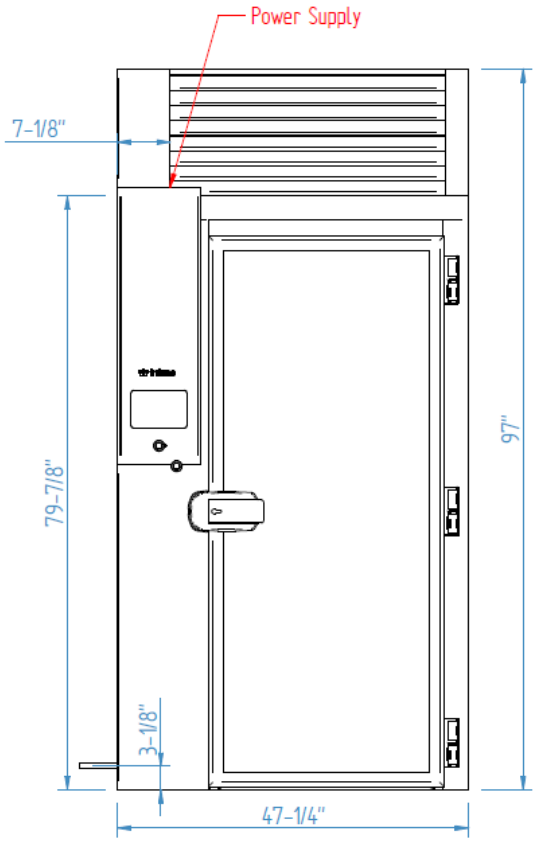
PLAN VIEW

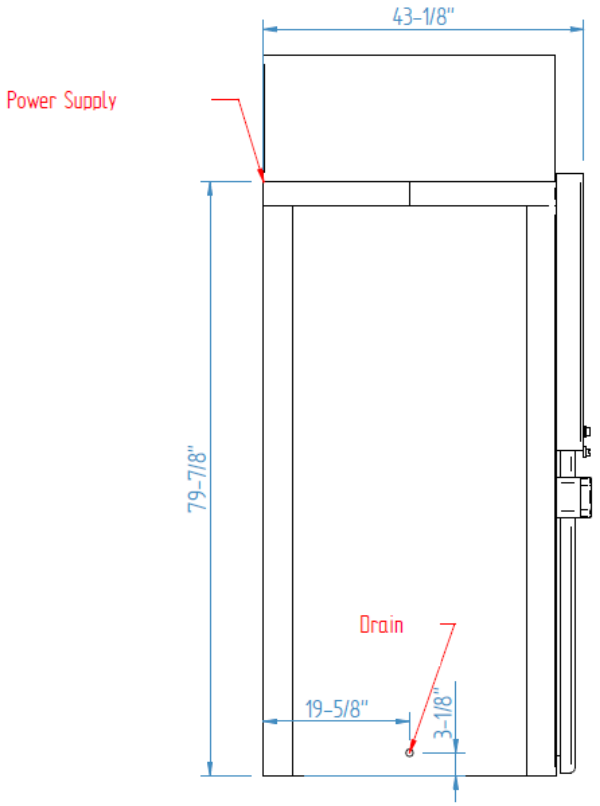


RIGHT VIEW



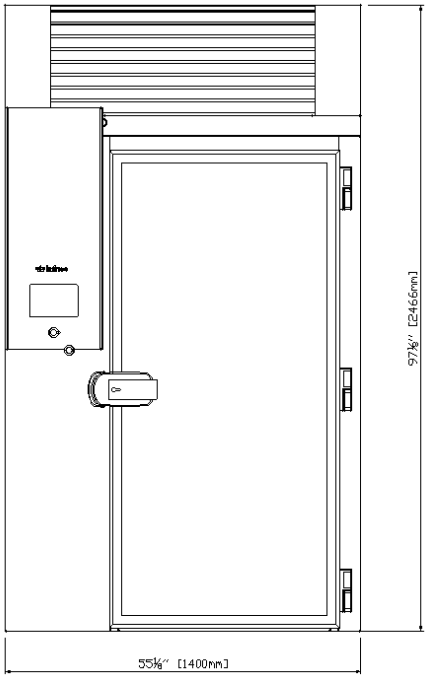
CONNECTION



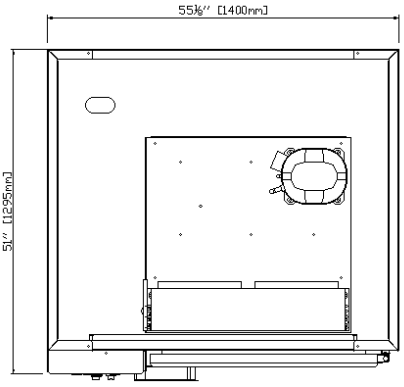


ABT20 2CBI

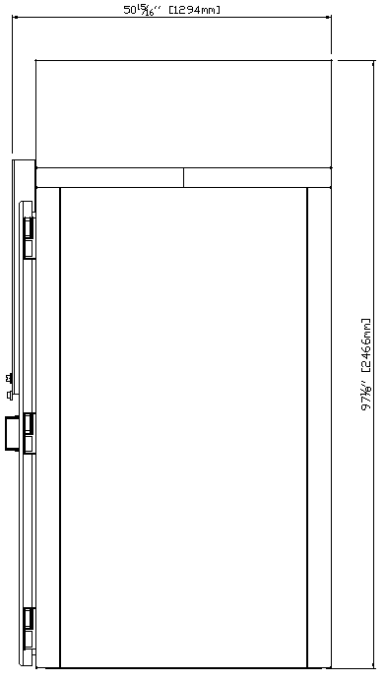
ELEVATION



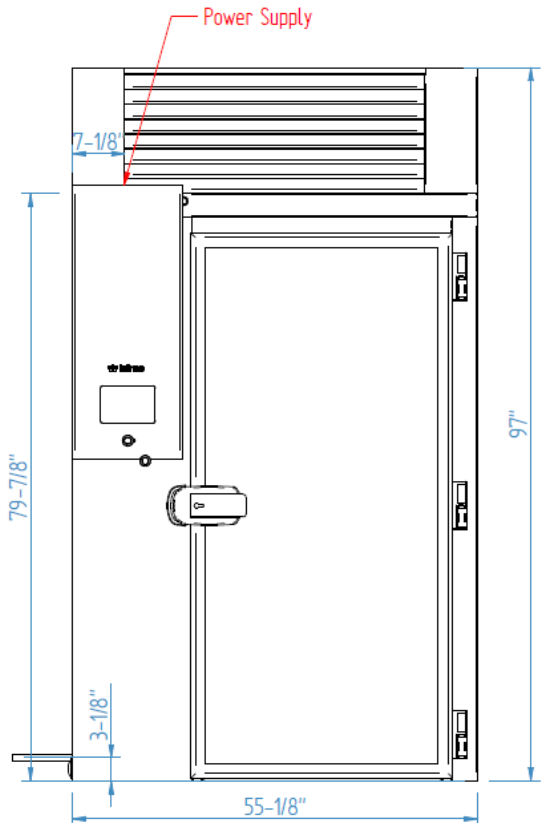
PLAN VIEW

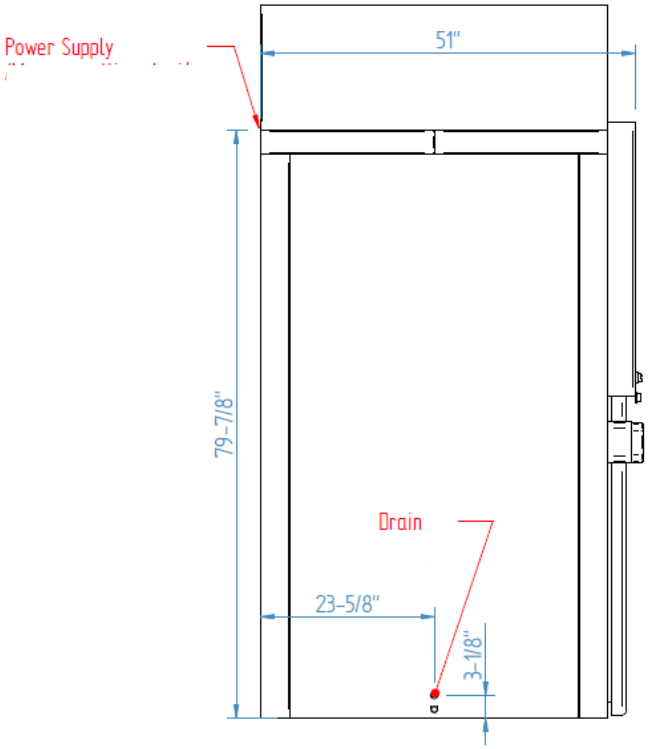


RIGHT VIEW



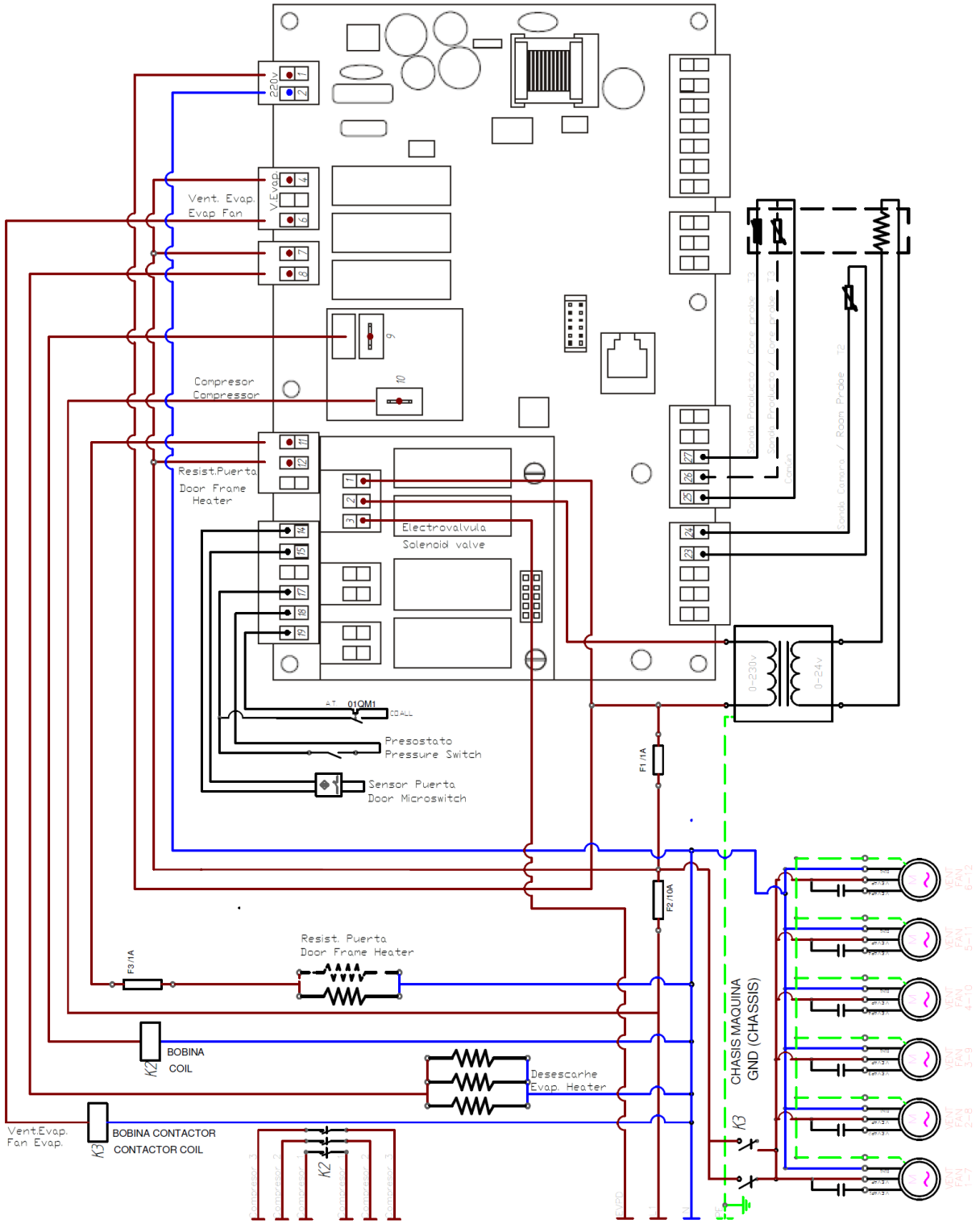
CONNECTION

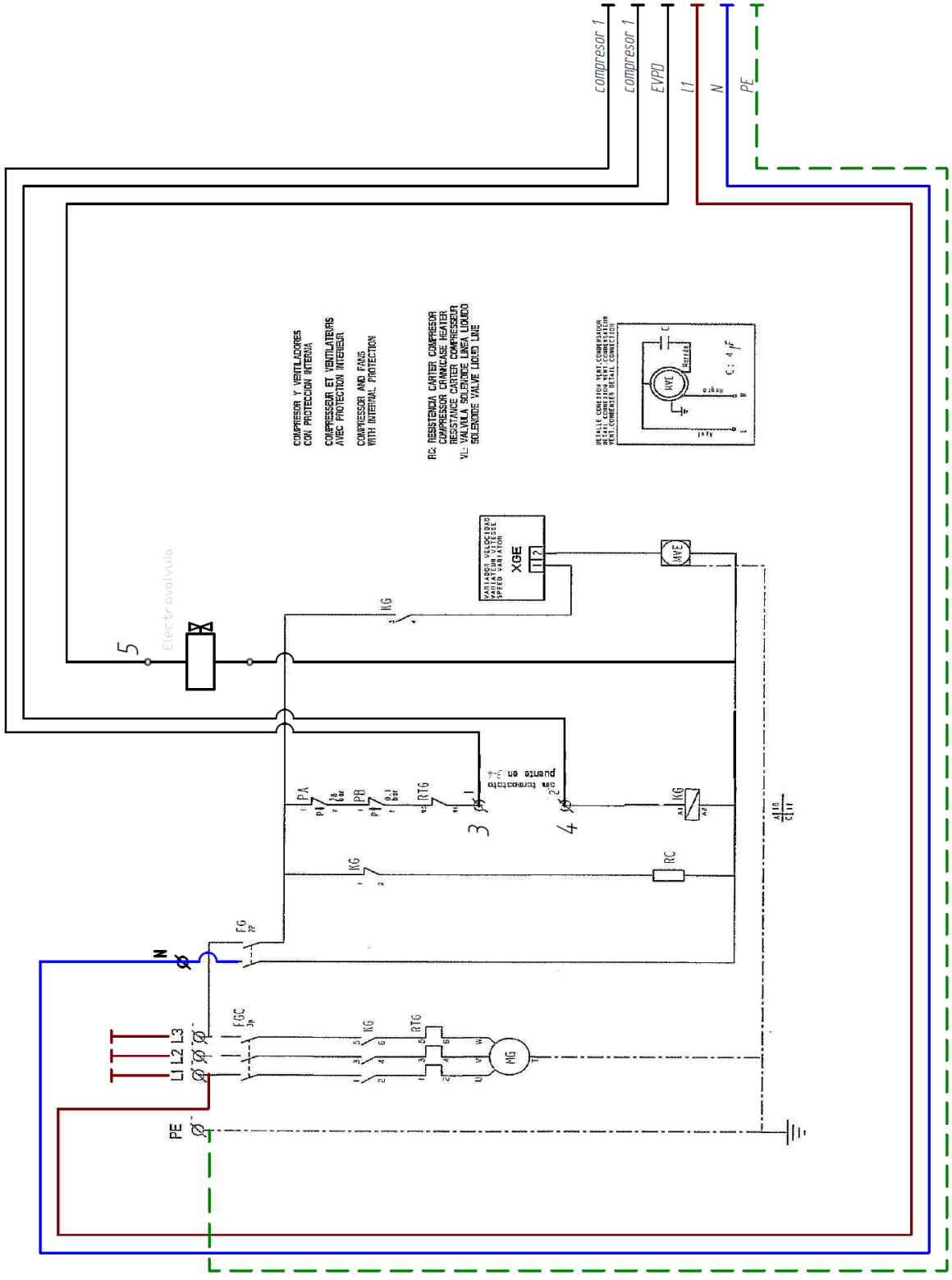


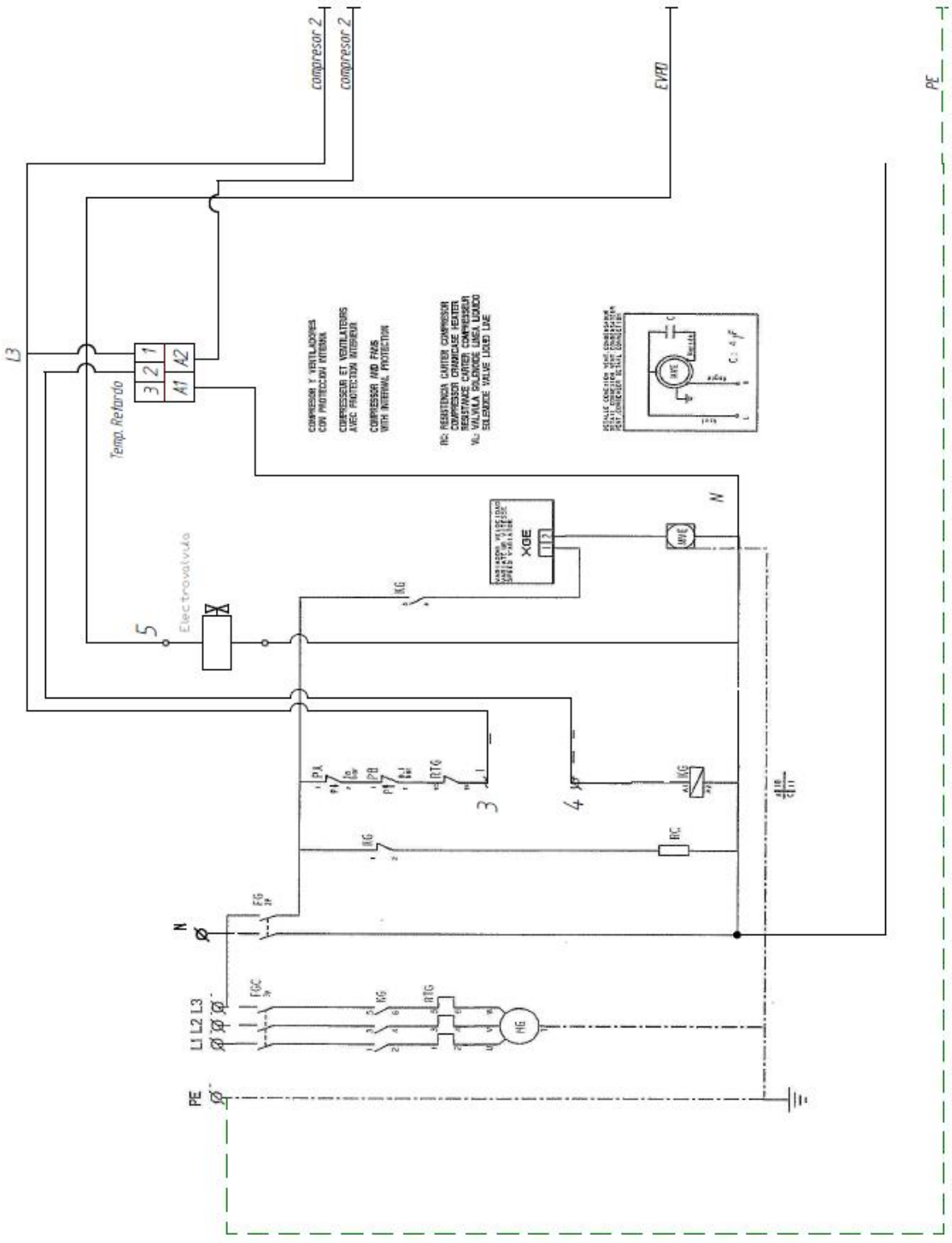


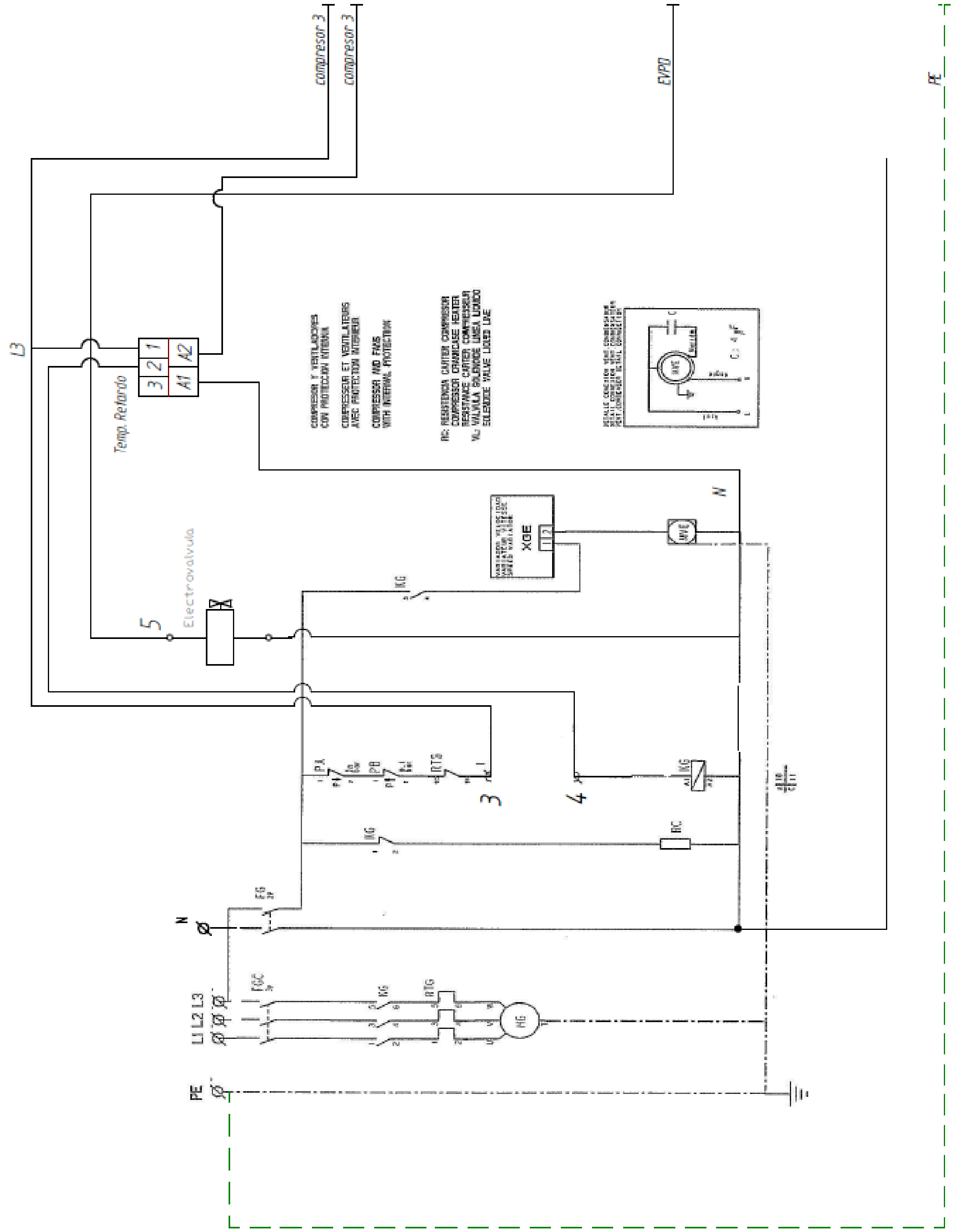
15.2 Electrical Wiring Diagrams

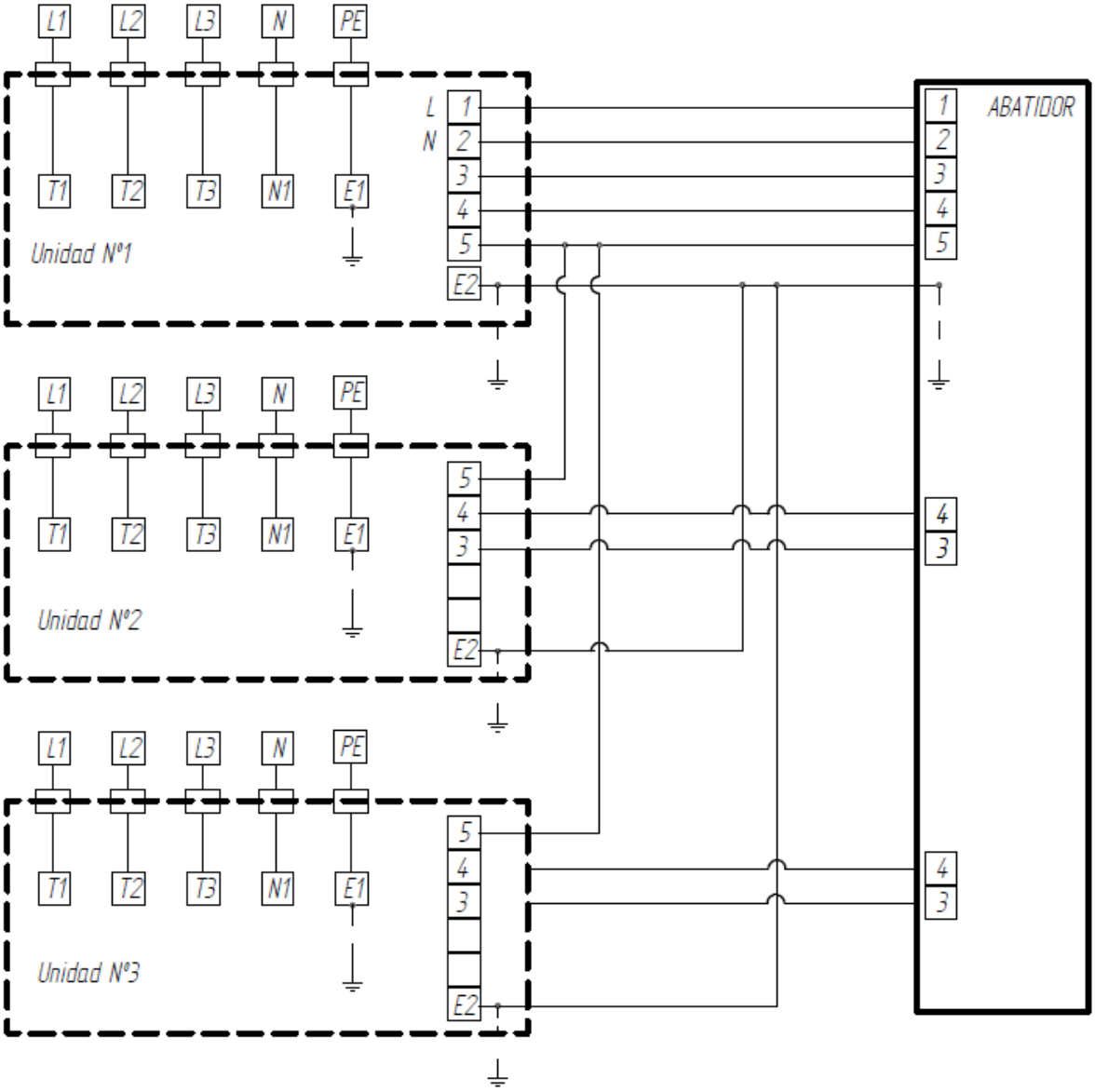
ELECTRICAL WIRING DIAGRAM 3 UNITS INTARCON 380V III 50 Hz POWERED



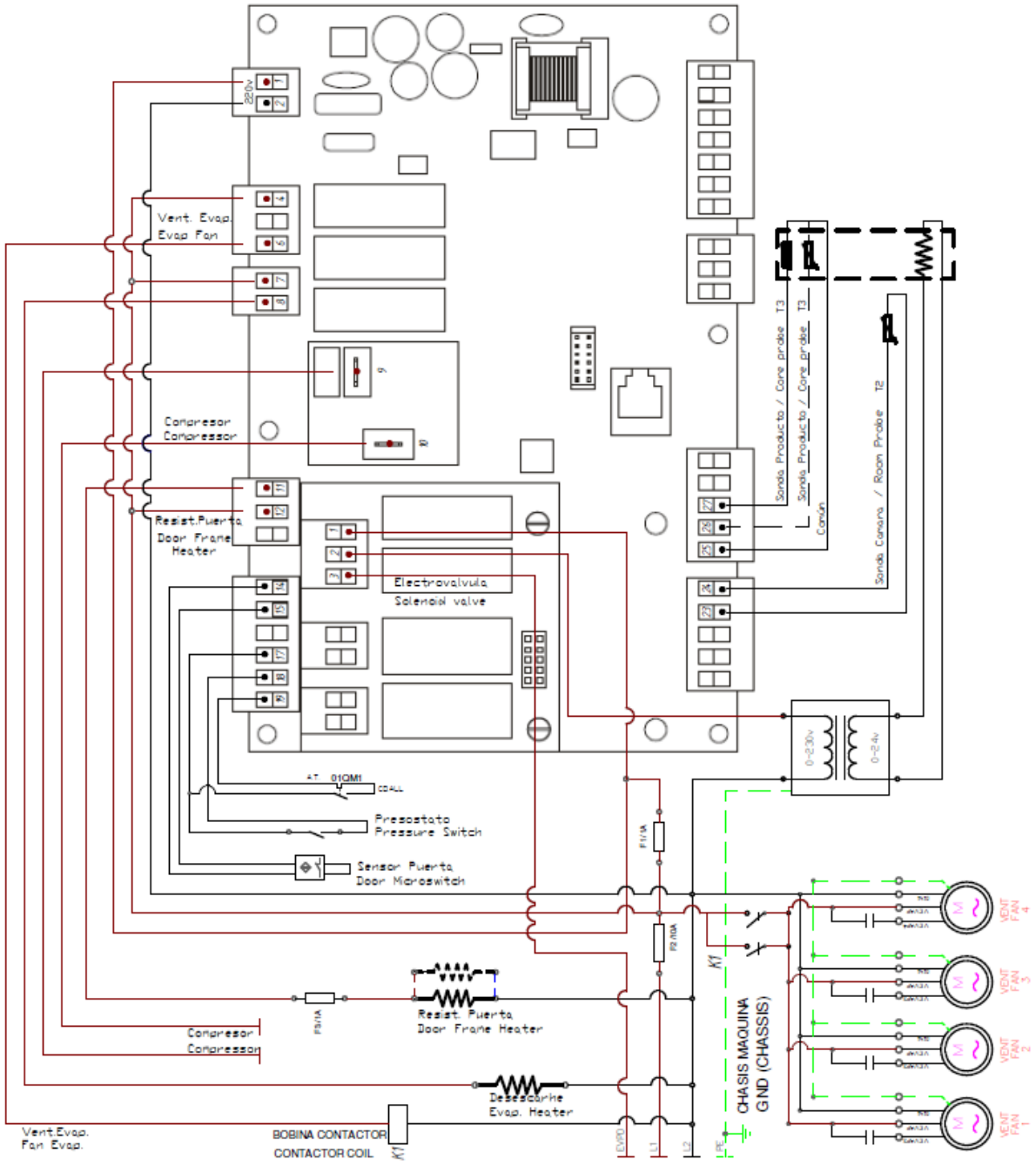

compresor 1
compresor 1
EVPD
L1
N
PE
COMPRESOR Y VENTILADORES
CON PROTECCION INTERNA
COMPRESSEUR ET VENTILATEURS
AVEC PROTECTION INTERIEUR
COMPRESSOR AND FANS
WITH INTERNAL PROTECTION
RC: RESISTENCIA CARTER COMPRESOR
COMPRESSOR CRANKCASE HEATER
RESISTANCE CARTER COMPRESSEUR
VL: VALVULA SOLENOIDE LINEA LIQUIDO
SOLENOIDE VALVE LIQUID LINE
XGE
KG
PA
PB
RTG
RC
FG
FGC
MG
L1 L2 L3
PE
N
Electrovalvula
puente en
un termostato

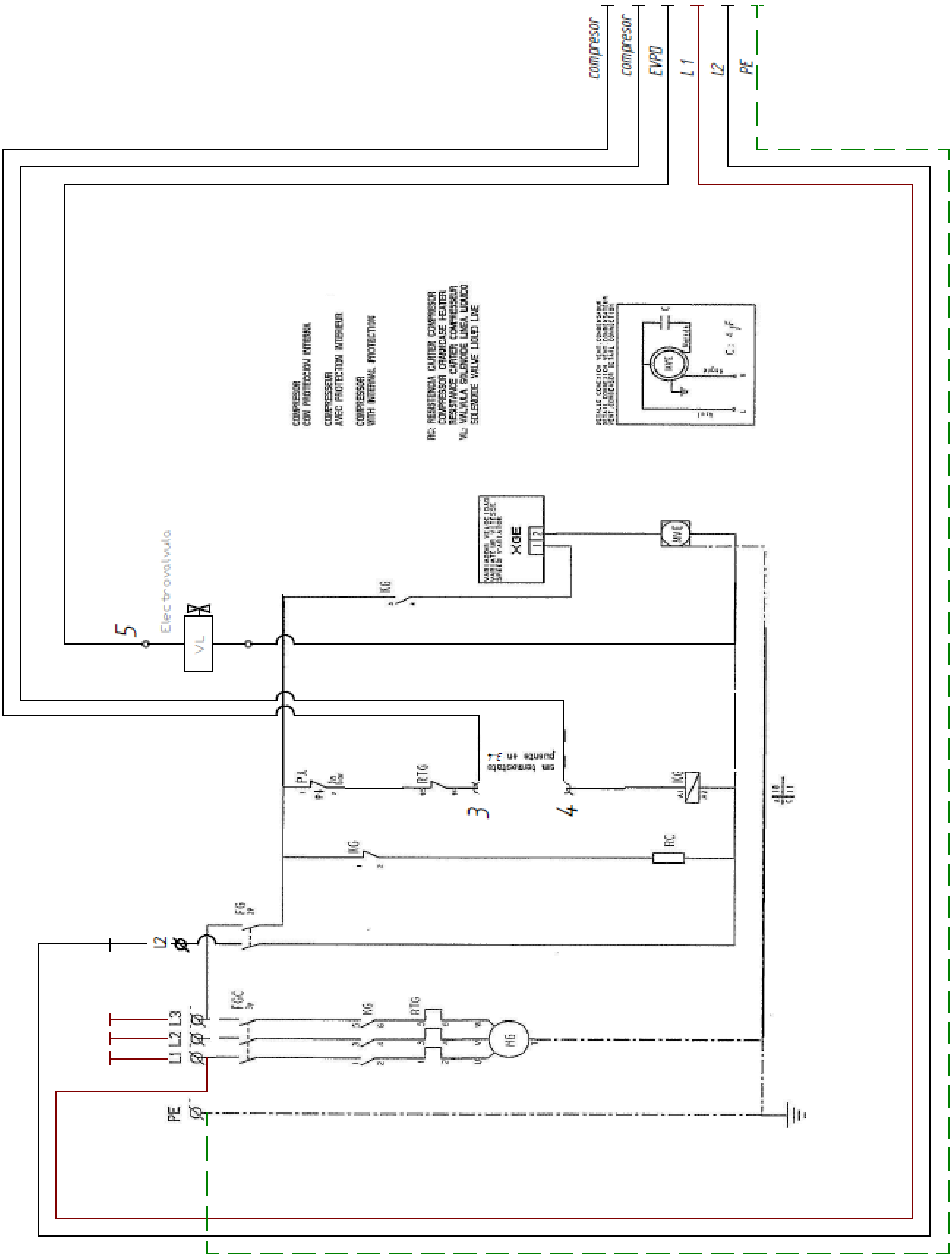

compresor 2
compresor 2
EVAP
PE
L3
Temp. Retardo
Electrovalvula
N
L1 L2 L3
PE

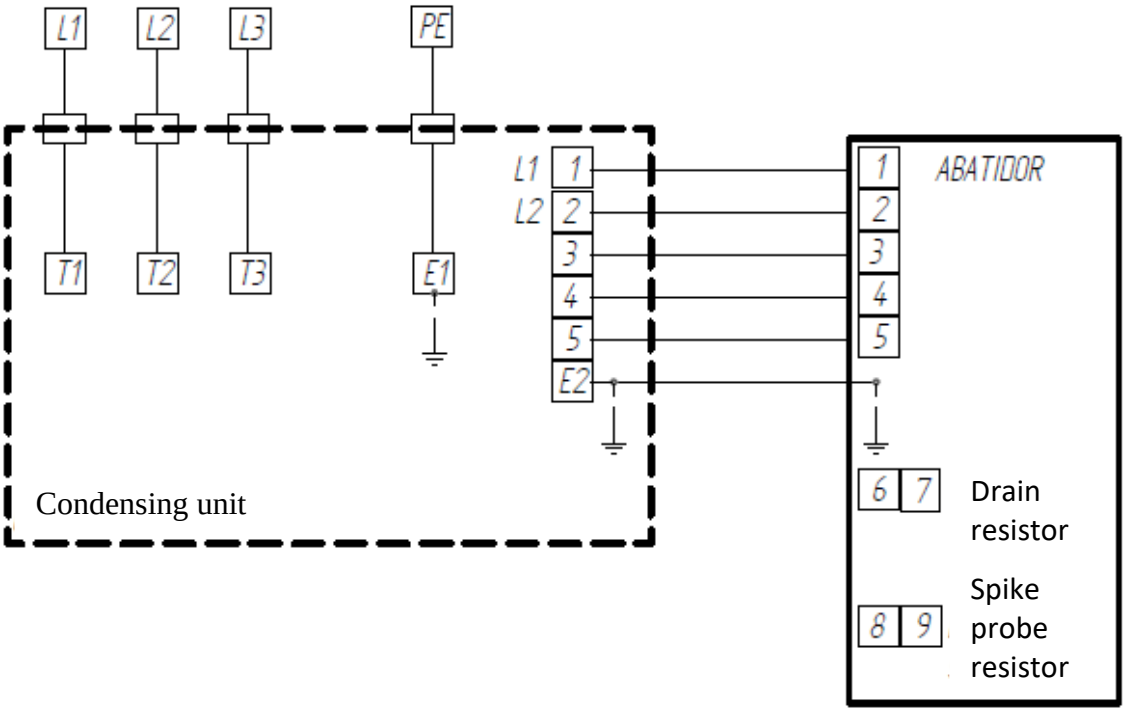

compresor 3
compresor 3
EVPD
PE
L3
Temp. Retardo
Electrovalvula
XGE
N
L1 L2 L3
PE


L1
L2
L3
N
PE
T1
T2
T3
N1
E1
Unidad Nº1
L
N
1
2
3
4
5
E2
Unidad Nº2
Unidad Nº3
ABATIDOR

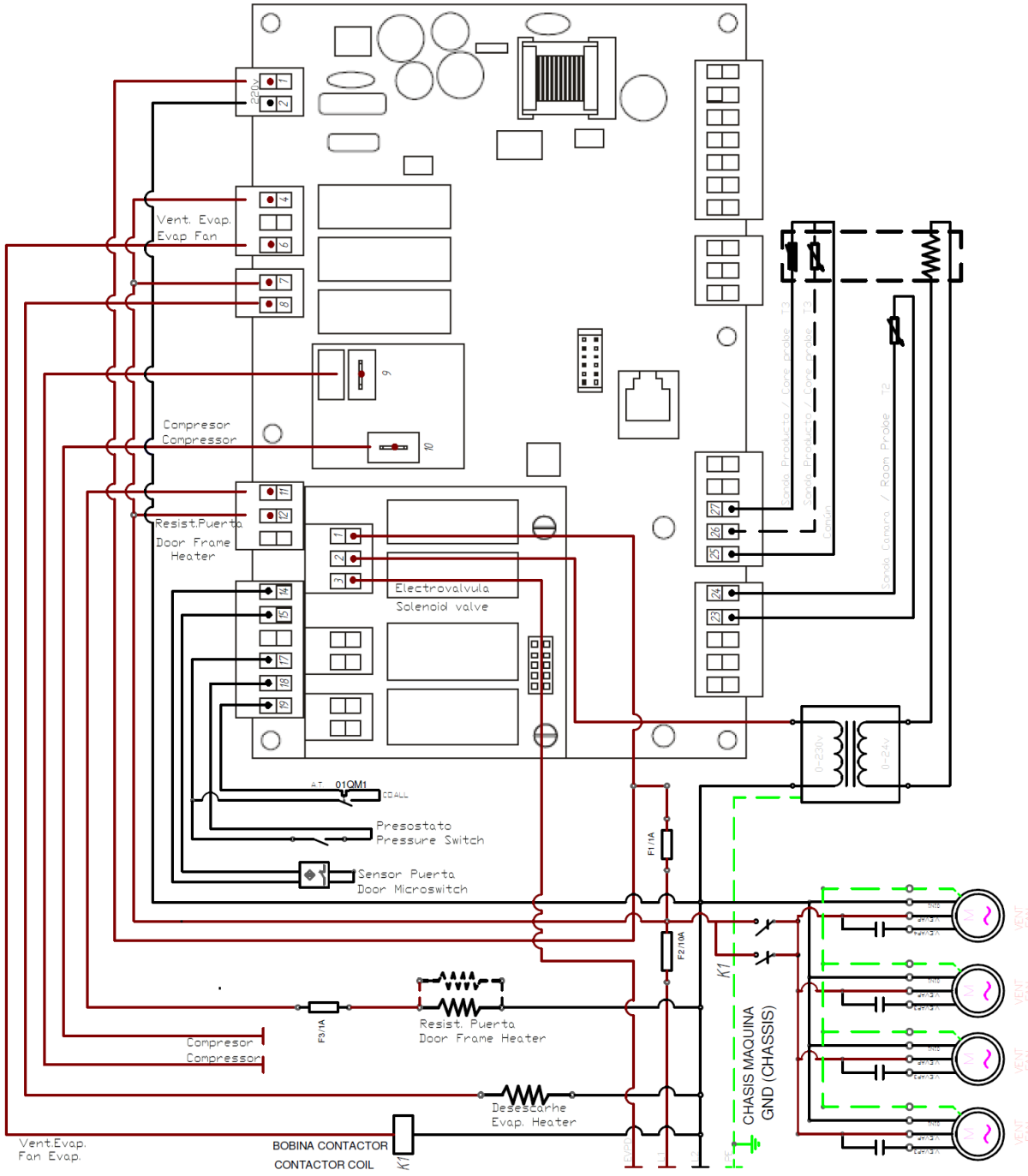
ELECTRICAL WIRIN DIAGRAM ABT 201/202 INTARCON 220V III 60Hz

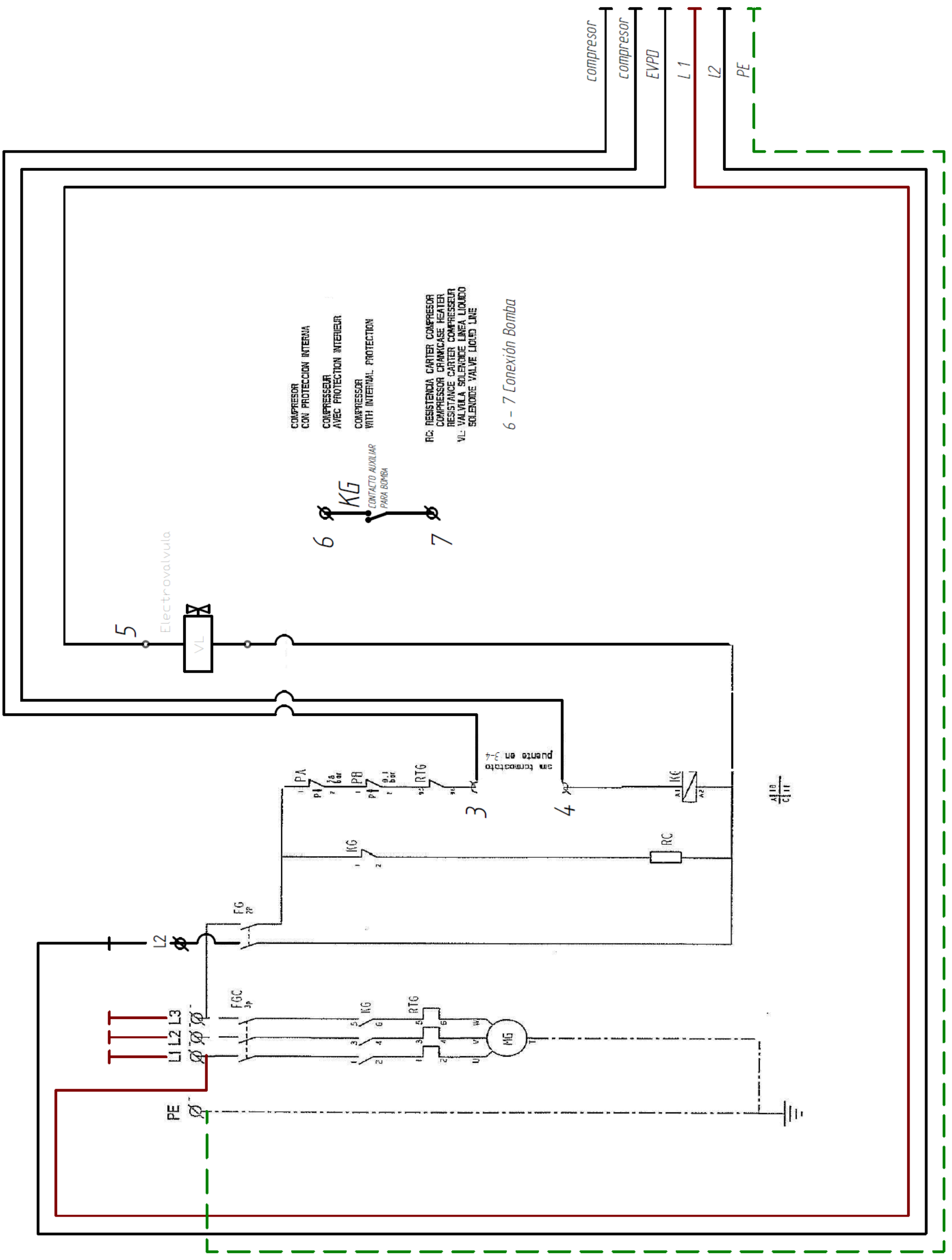


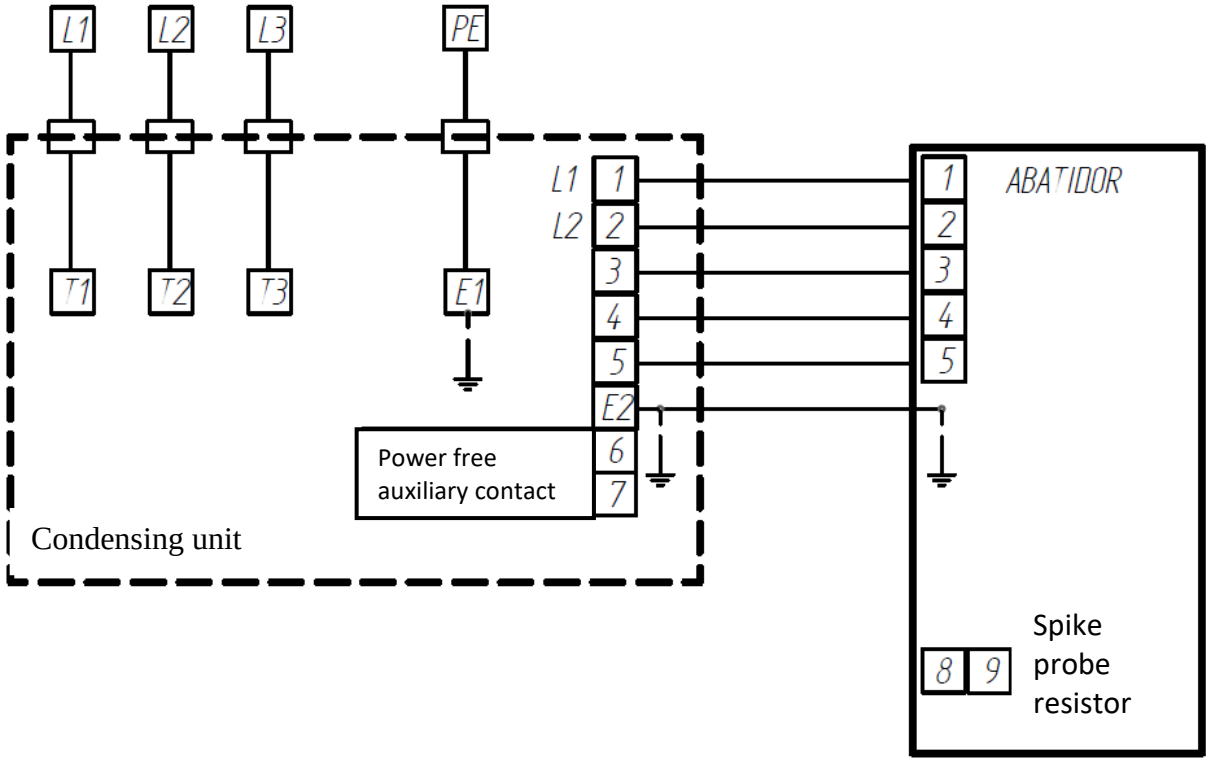

compresor
compresor
EVPO
L1
L2
PE
Electrovalvula
VL
5
3
4
XGE
MVE
KG
RTG
RC
FG
FGC
MG


L1
L2
L3
PE
T1
T2
T3
E1
L1
L2
1
2
3
4
5
E2
Condensing unit
ABATIDOR
1
2
3
4
5
6
7
Drain resistor
8
9
Spike probe resistor

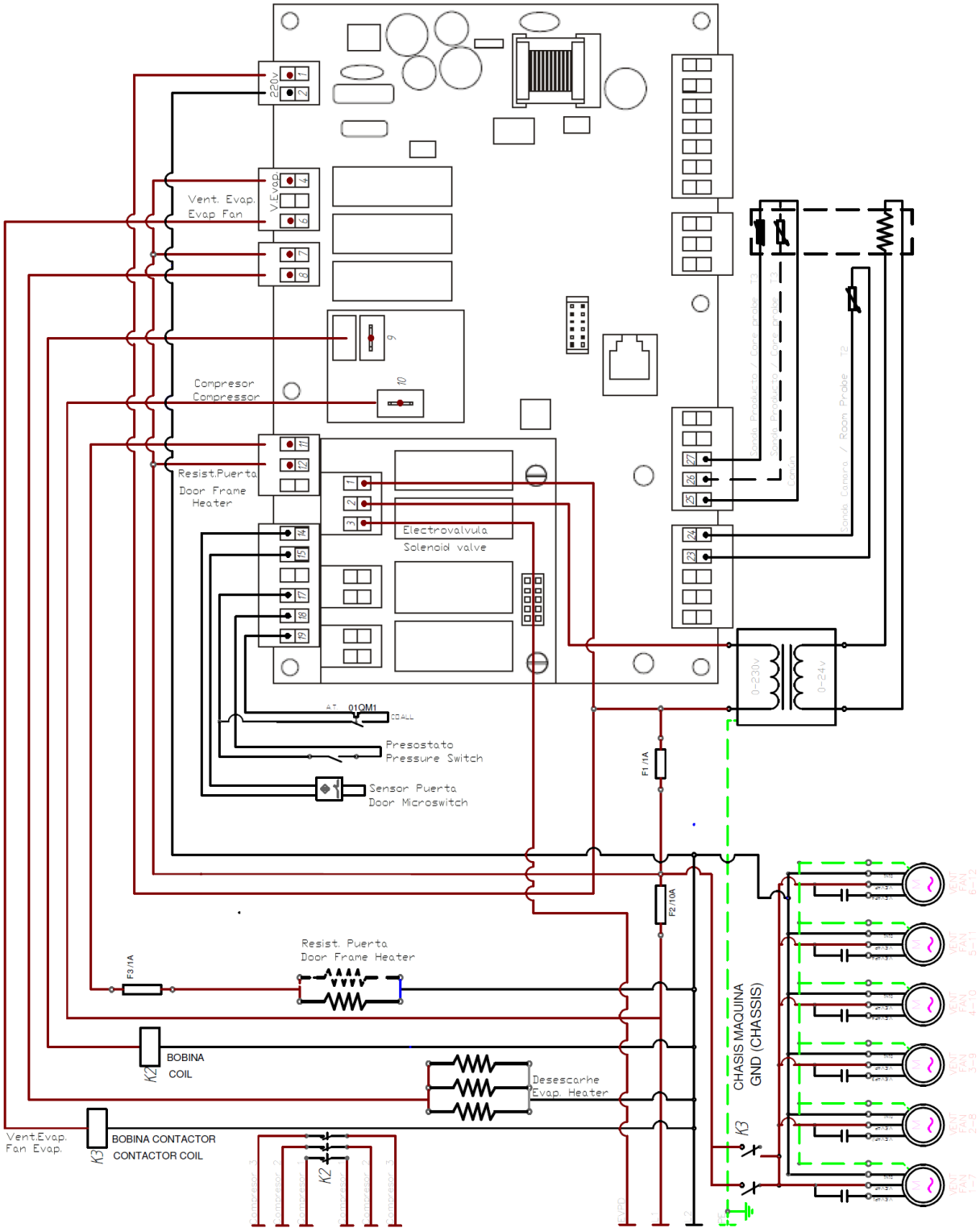
ELECTRICAL WIRING DIAGRAM ABT 201/202 INTARCON 220V III 60Hz WATER CONDENSATED

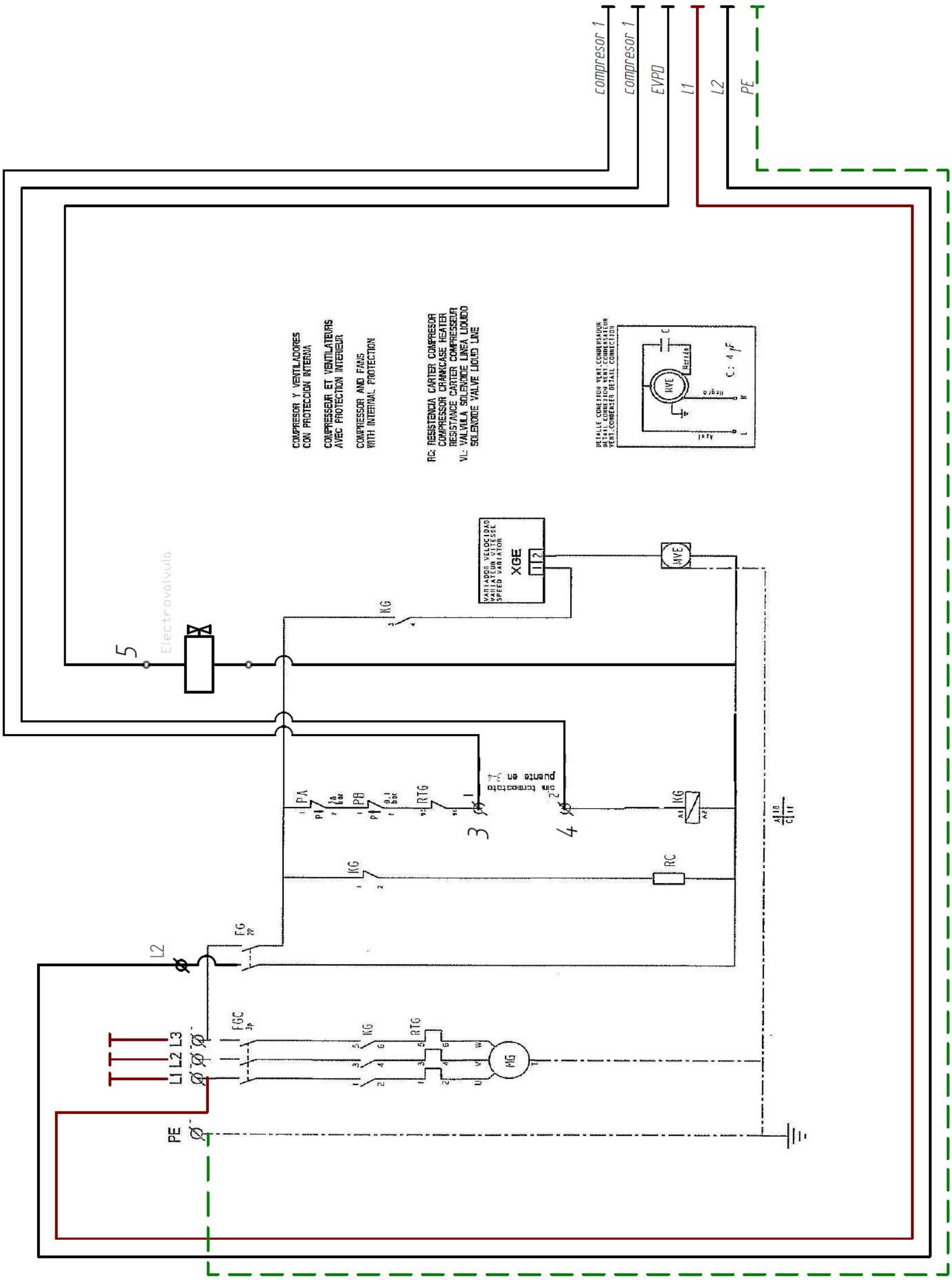


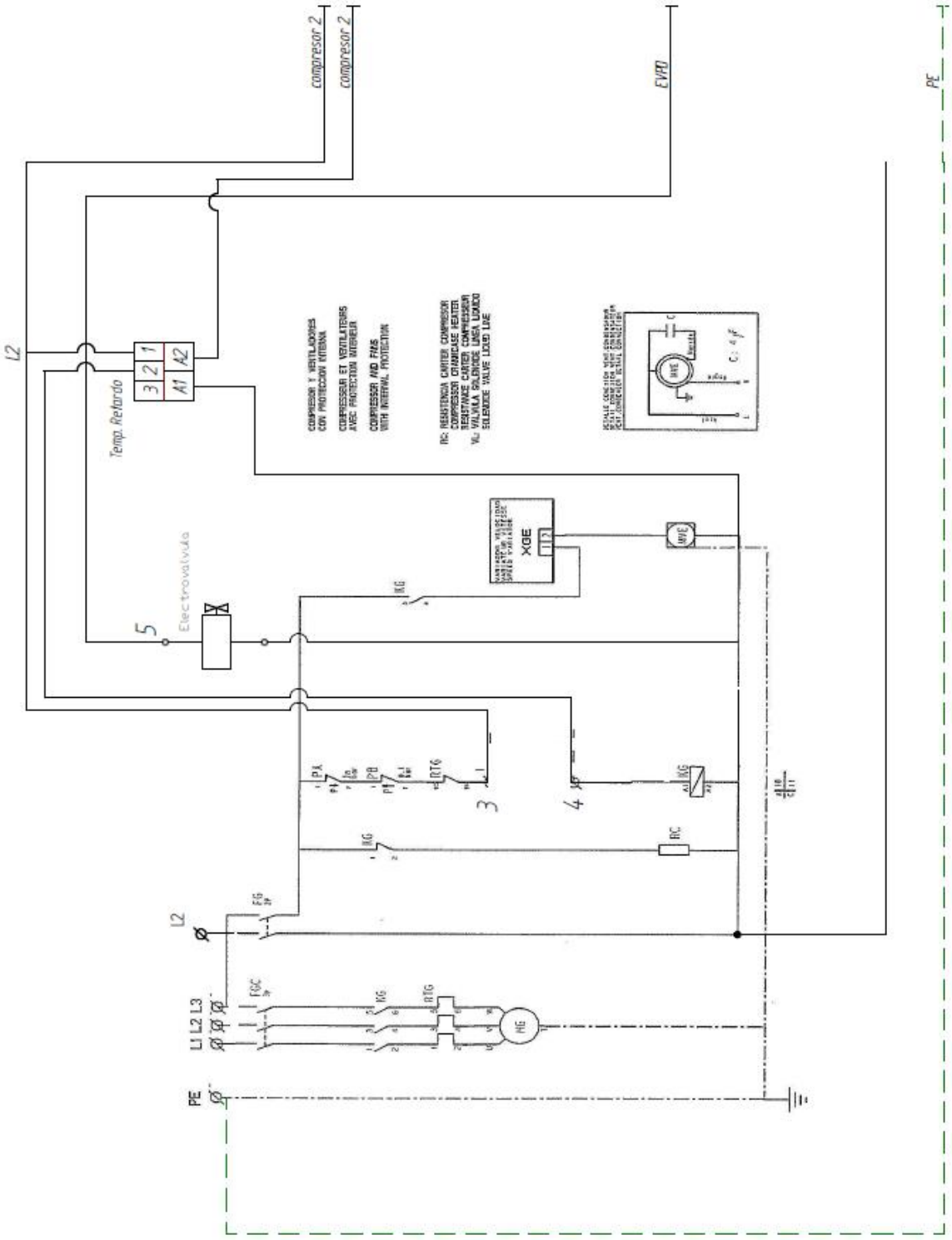

compresor
compresor
EVPD
L1
L2
PE
COMPRESOR CON PROTECCION INTERNA
COMPRESSEUR AVEC PROTECTION INTERIEUR
COMPRESSOR WITH INTERNAL PROTECTION
RC: RESISTENCIA CARTER COMPRESOR
COMPRESSOR CRANKCASE HEATER
RESISTANCE CARTER COMPRESSEUR
VL: VALVULA SOLENOIDE LINEA LIQUIDO
SOLENOIDE VALVE LIQUID LINE
6 - 7 Conexión Bomba
KG
CONTACTO AUXILIAR PARA BOMBA
6
7
5
Electrovalvula
VL
puente en 3-4 sin termostato
3
4
PA
PB
RTG
KG
RC
FG
FGC
MG
L2
L1 L2 L3
PE

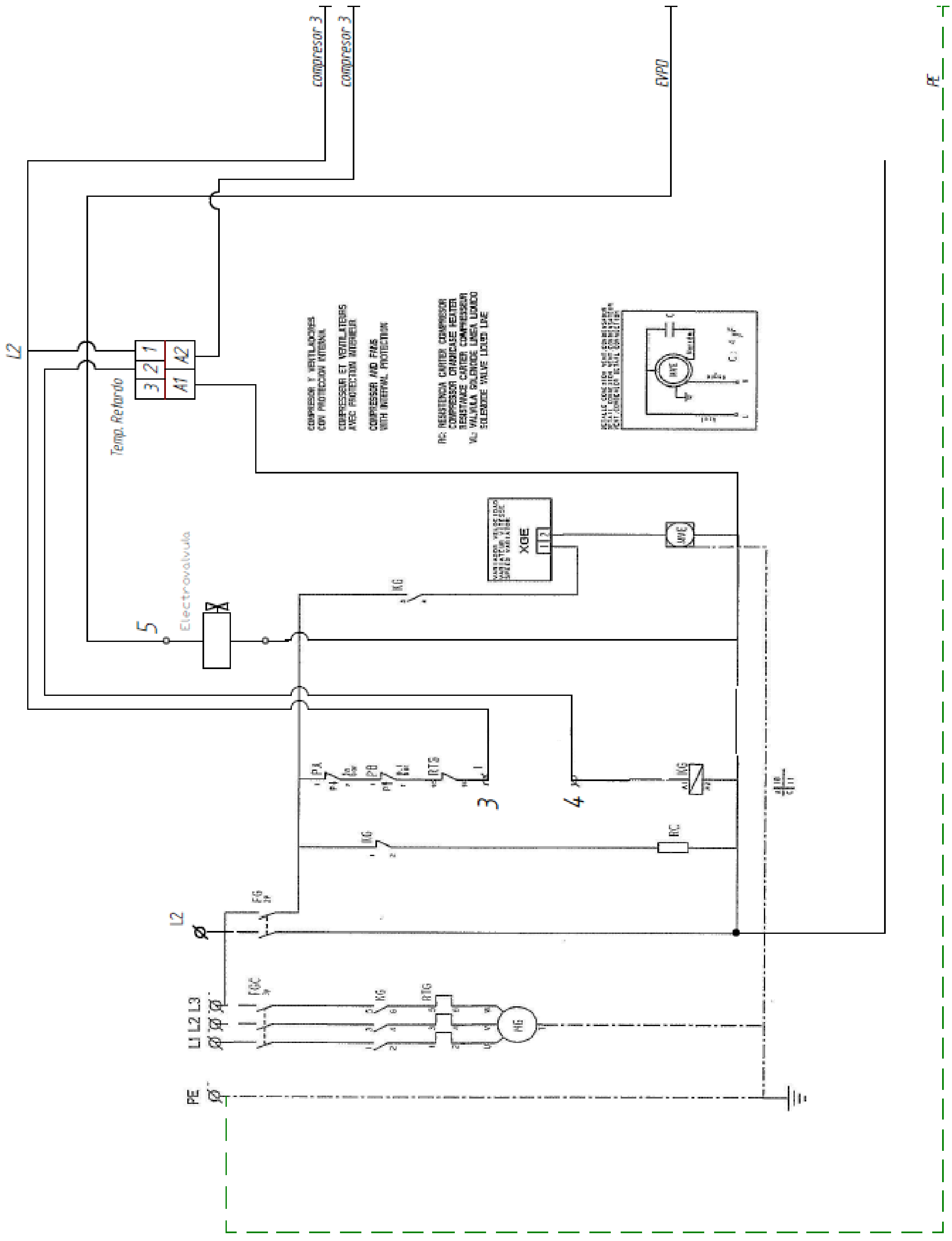

L1
L2
L3
PE
T1
T2
T3
E1
L1
L2
1
2
3
4
5
E2
6
7
Power free
auxiliary contact
Condensing unit
1
2
3
4
5
ABATIDOR
8
9
Spike
probe
resistor

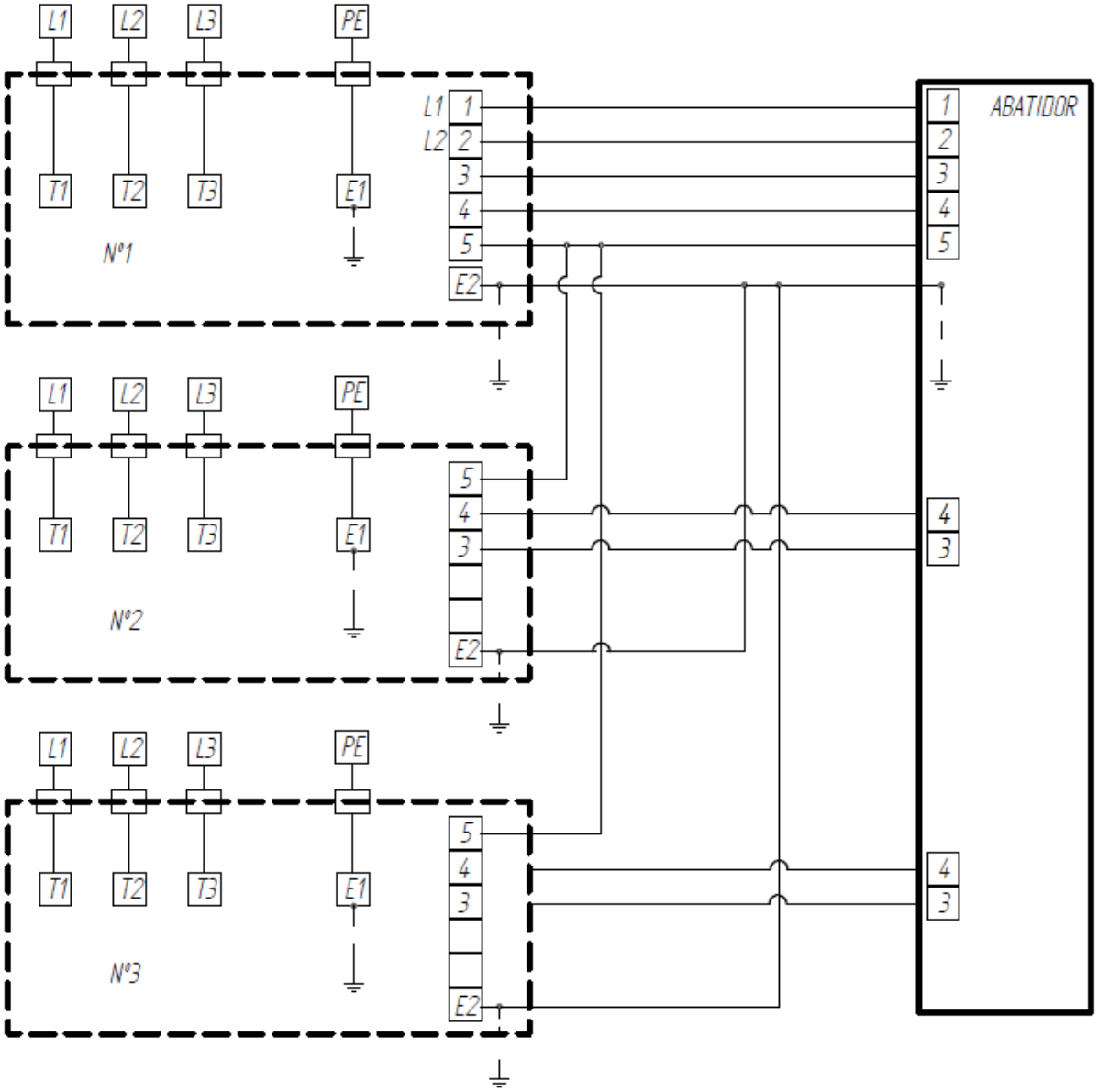
ELECTRICAL WIRING DIAGRAM 3 UNITS ABT INTARCON 220V III 60Hz POWERED



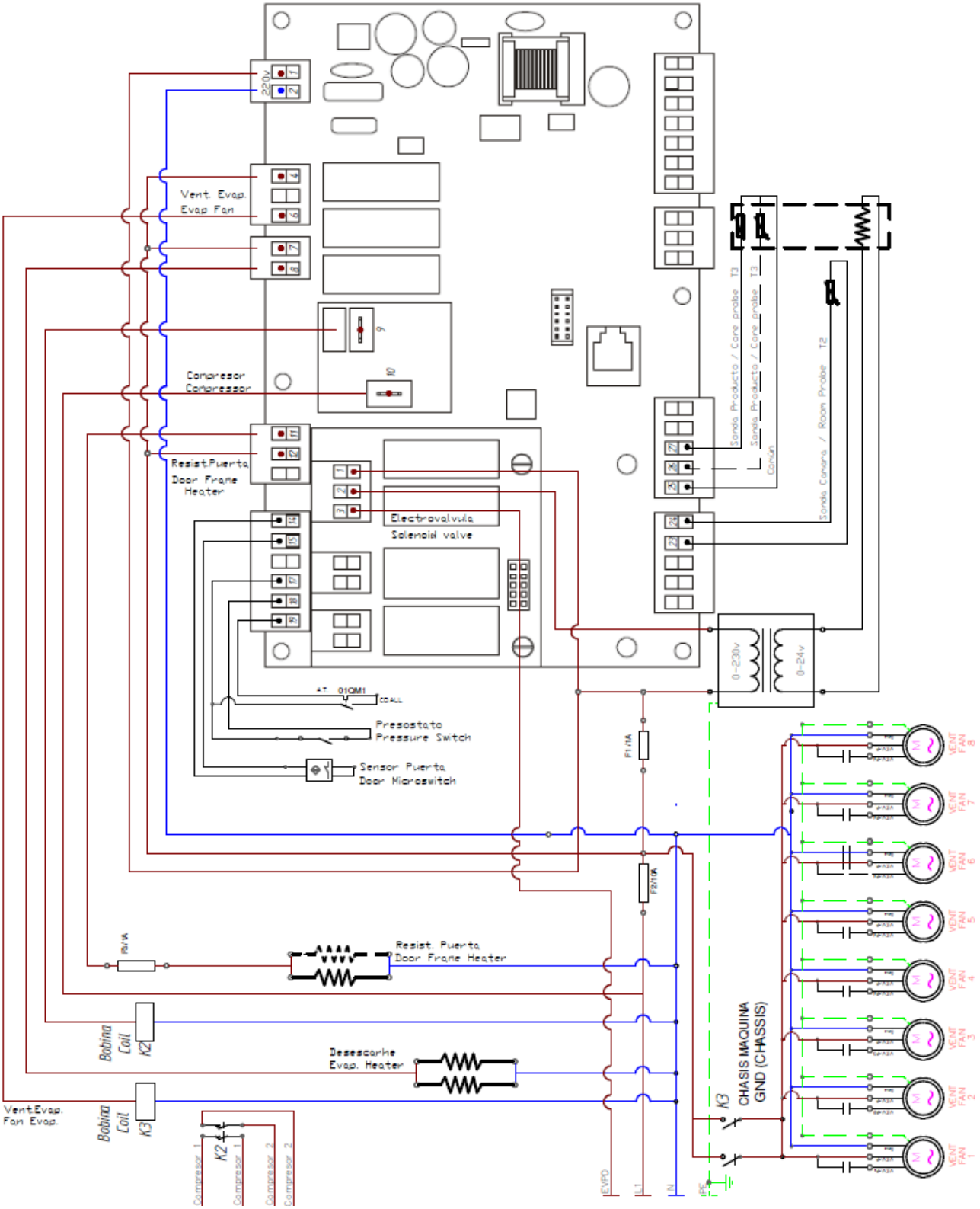

compresor 1
compresor 1
EVPD
L1
L2
PE
COMPRESOR Y VENTILADORES CON PROTECCION INTERNA
COMPRESSEUR ET VENTILATEURS AVEC PROTECTION INTERIEUR
COMPRESSOR AND FANS WITH INTERNAL PROTECTION
RC: RESISTENCIA CARTER COMPRESOR
COMPRESSOR CRANKCASE HEATER
RESISTANCE CARTER COMPRESSEUR
VL: VALVULA SOLENOIDE LINEA LIQUIDO
SOLENOIDE VALVE LIQUID LINE
XGE
MVE
Electrovalvula
KG
PA
PB
RTG
RC
FG
FGC
MG
L1 L2 L3
PE
puente en 3-4
5
3
4

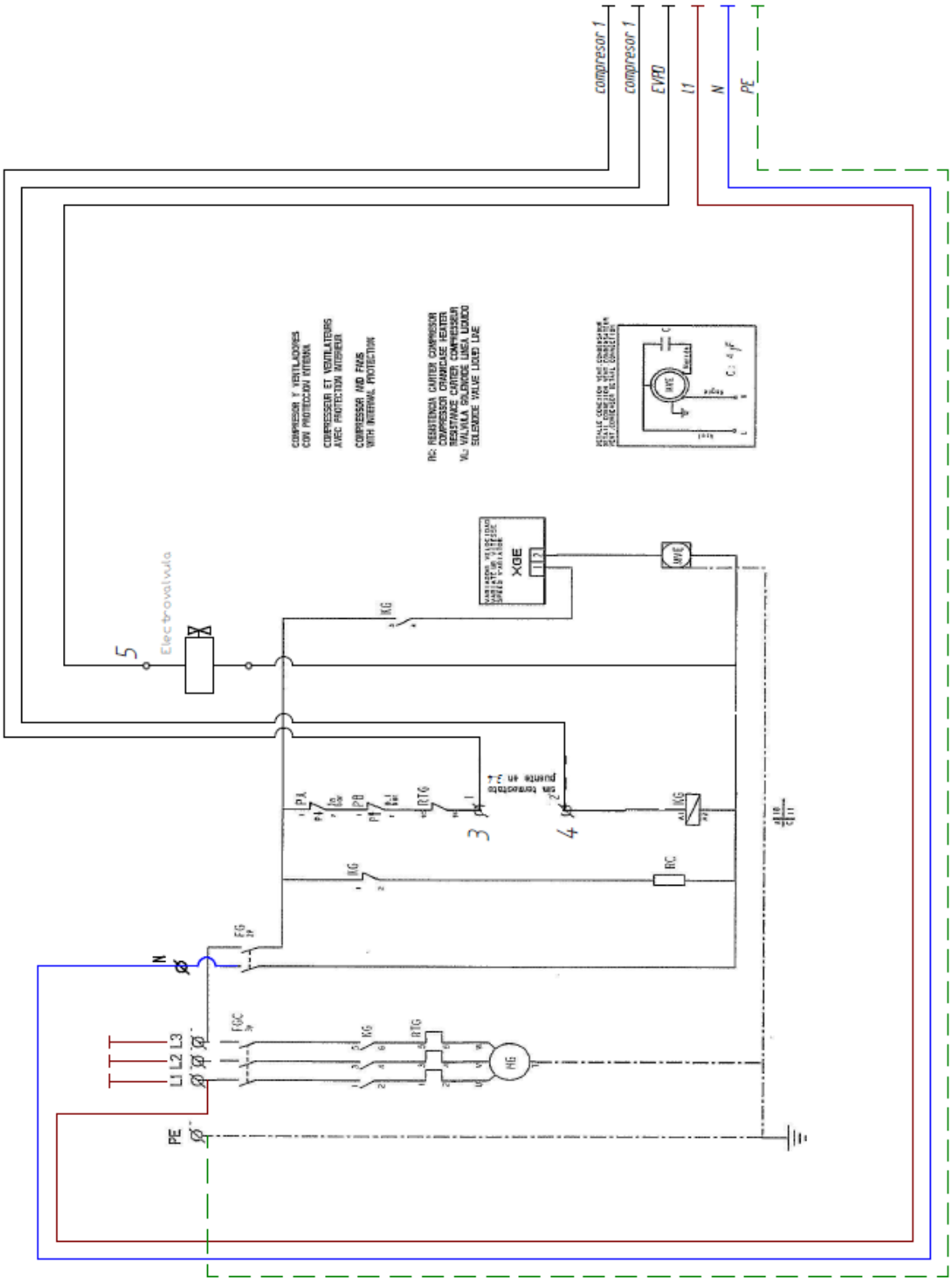

compresor 2
compresor 2
EVAP
PE
L2
Temp. Retardo
Electrovalvula
XGE
L2
L1 L2 L3
PE

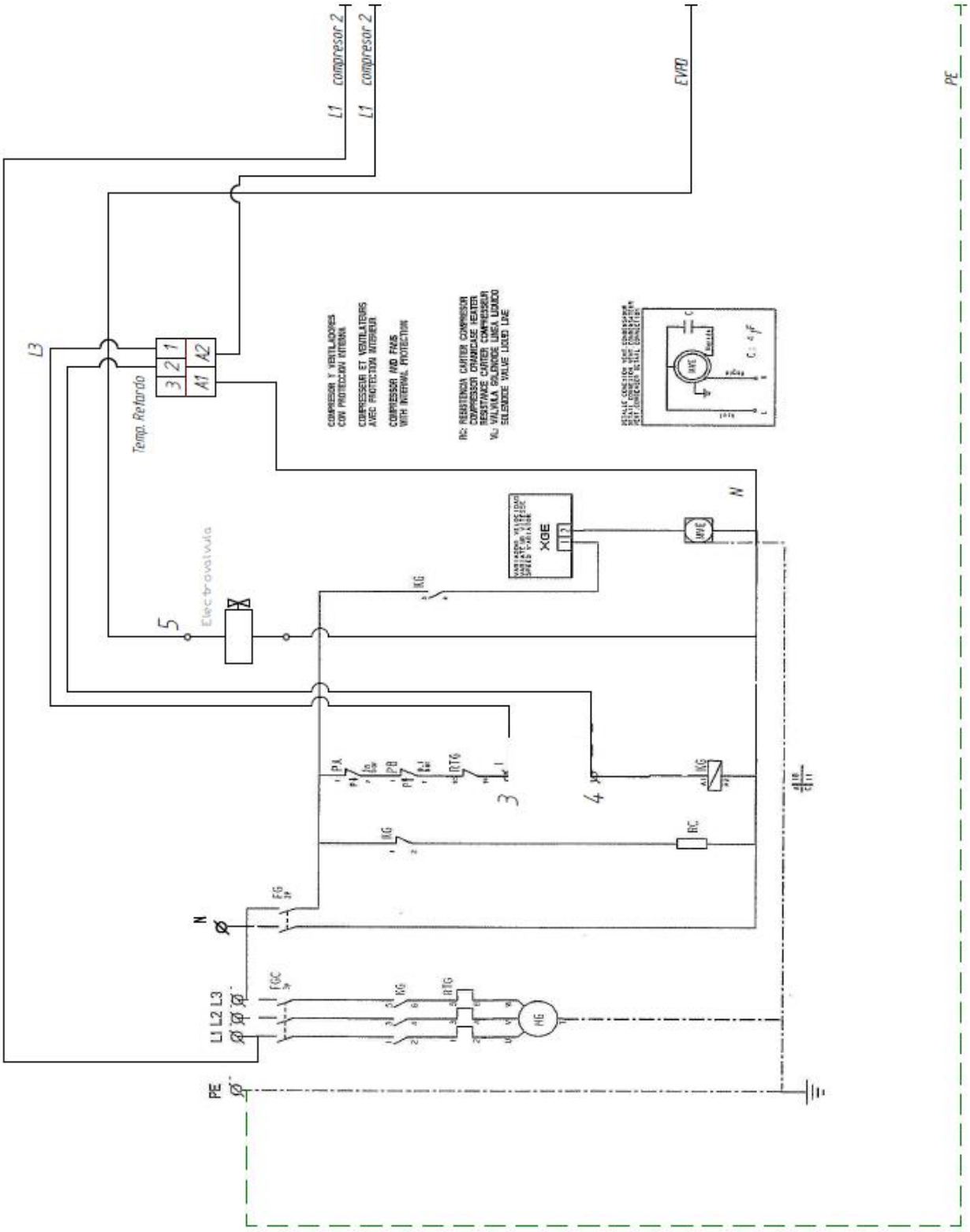

compresor 3
compresor 3
EVPD
PE
L2
Temp. Retardo
Electrovalvula
XGE
KG
RTG
RC
FG
L1 L2 L3
PE
MG
MVE

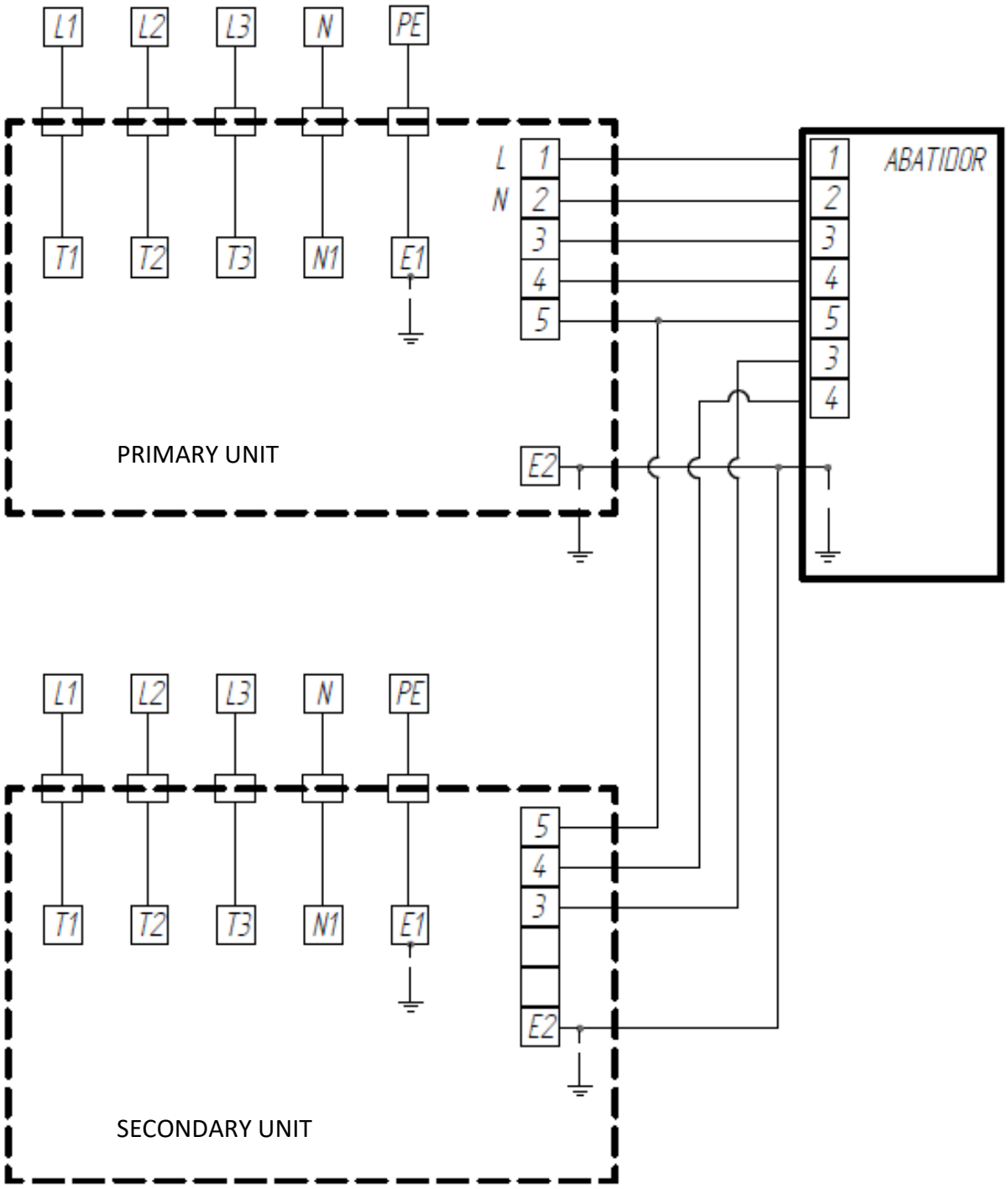

L1
L2
L3
PE
T1
T2
T3
E1
E2
Nº1
Nº2
Nº3
1
2
3
4
5
ABATIDOR

ELECTRICAR WIRING DIAGRAM ABT 203/204 INTARCON 380V III 50Hz

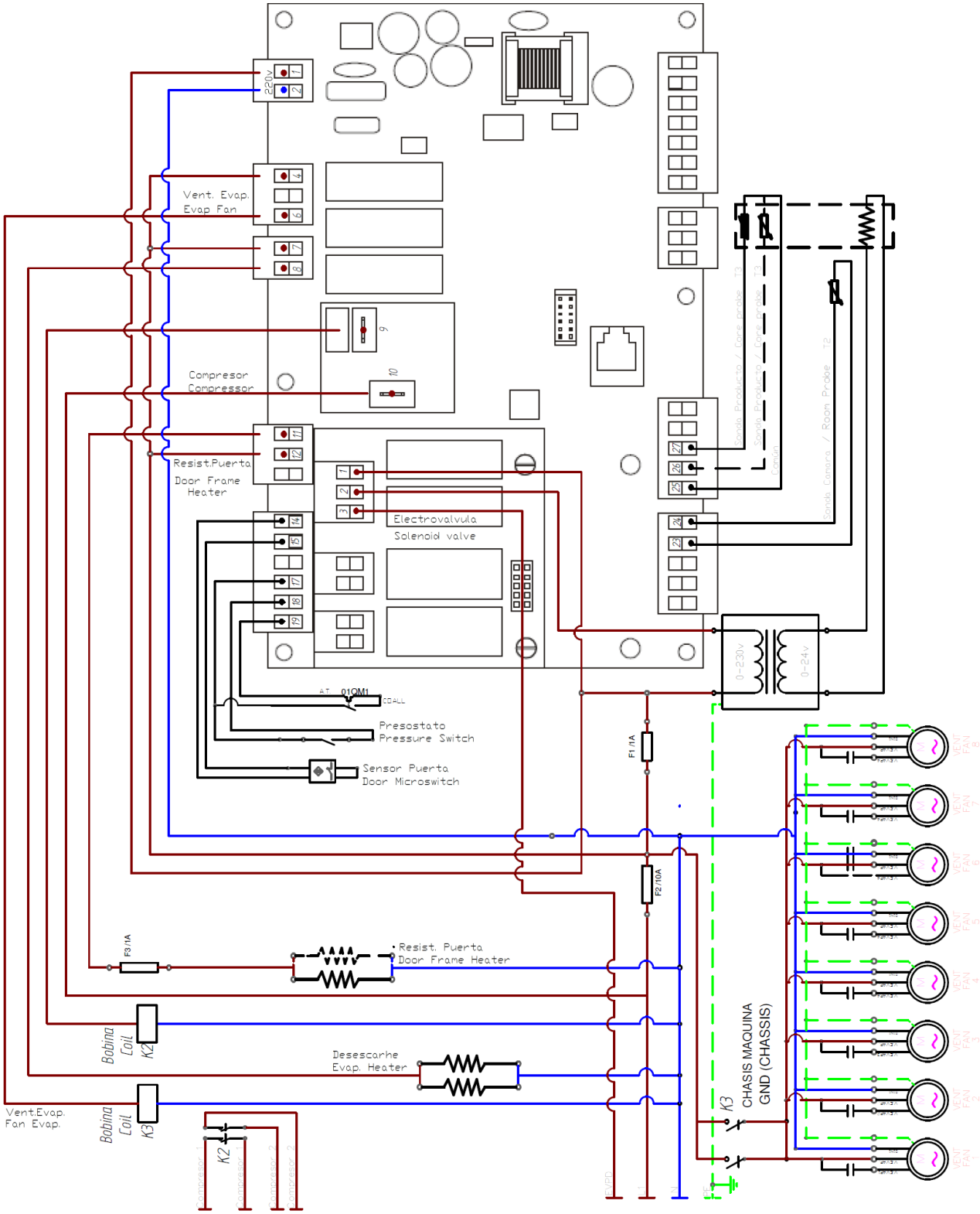


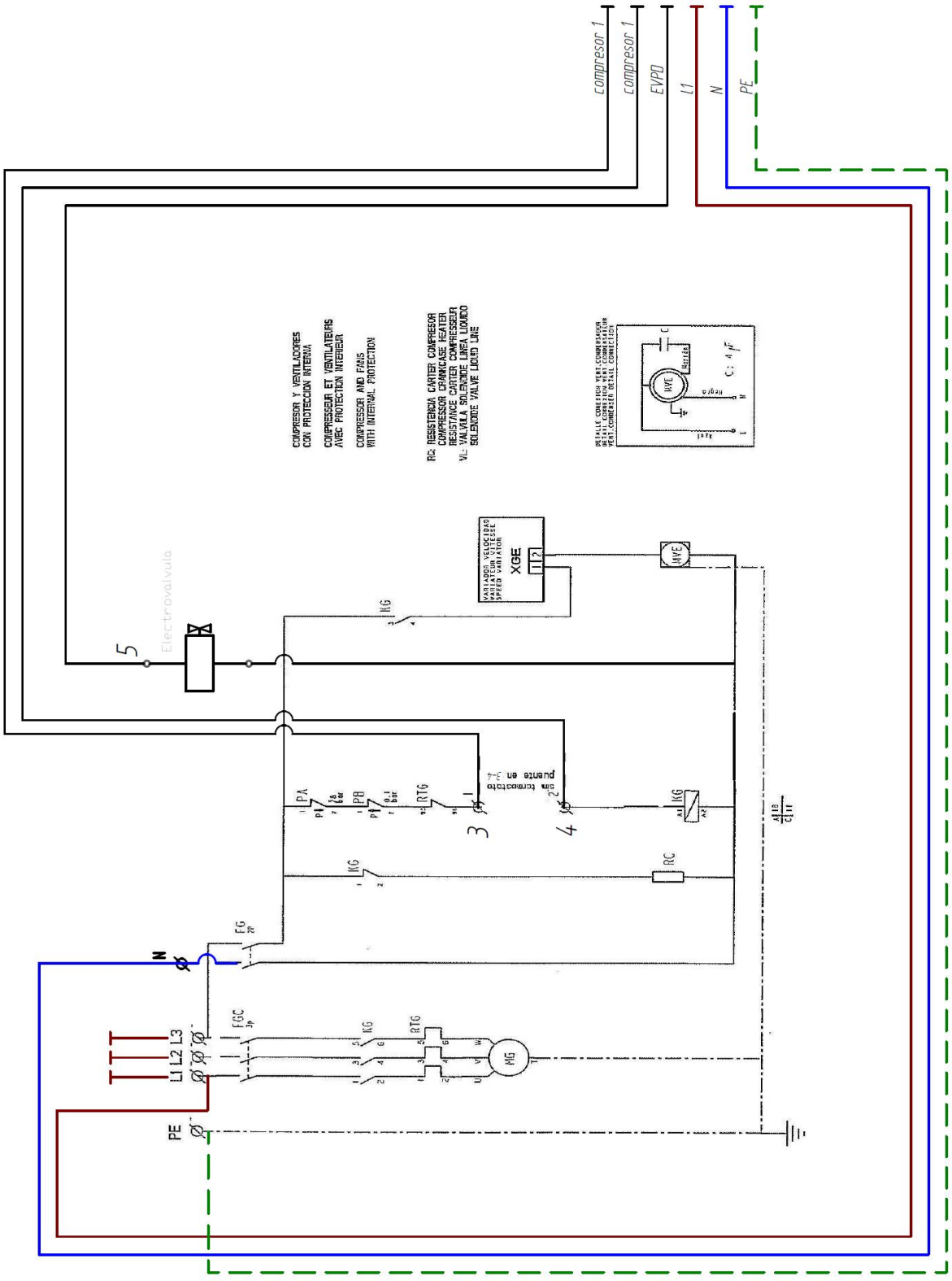

compresor 1
compresor 1
EVAP
L1
N
PE
Electrovalvula
XGE
L1 L2 L3
PE
N

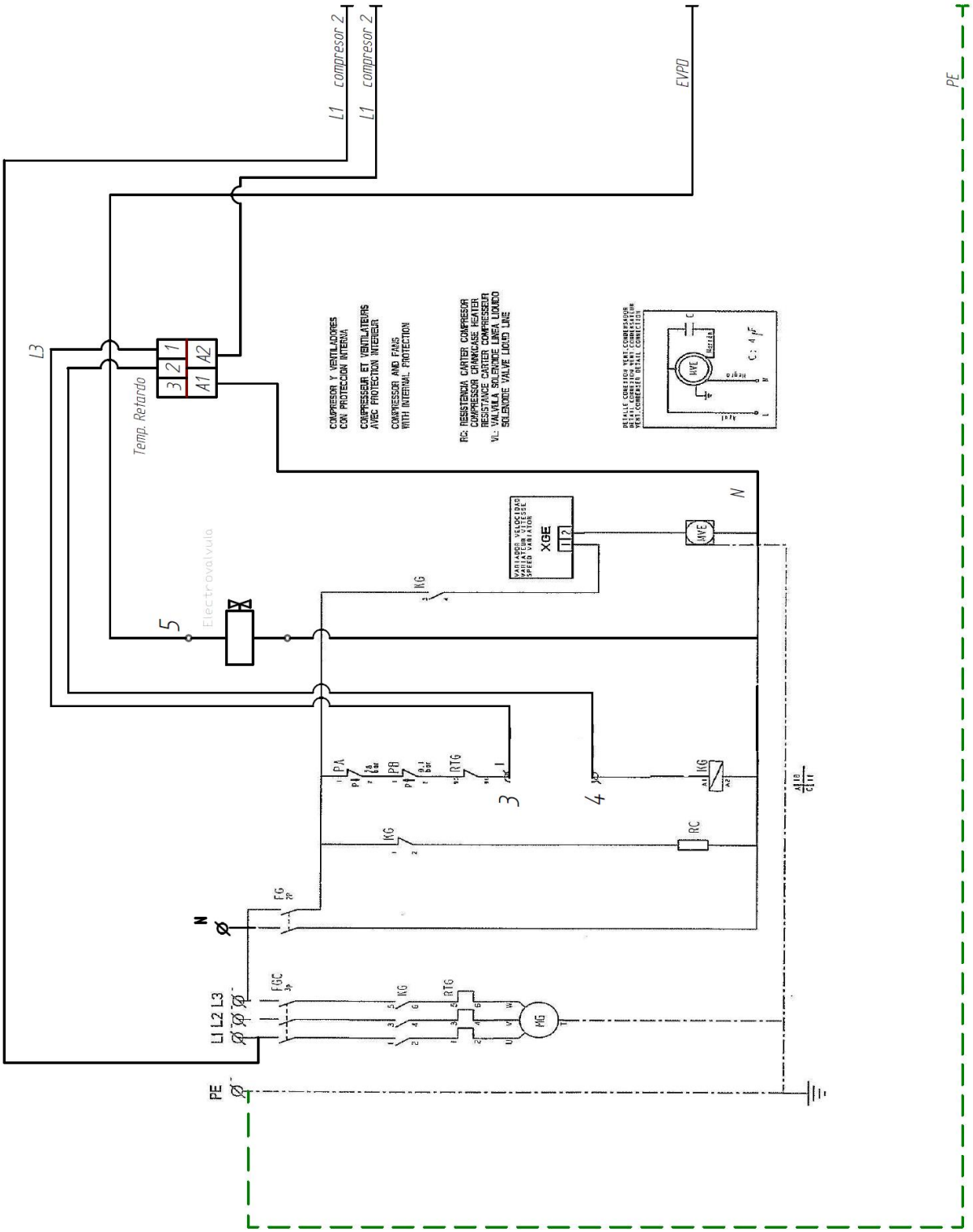

L1 compresor 2
L1 compresor 2
EVAP
PE
L3
Temp. Retardo
Electrovalvula
XGE
N
L1 L2 L3
PE

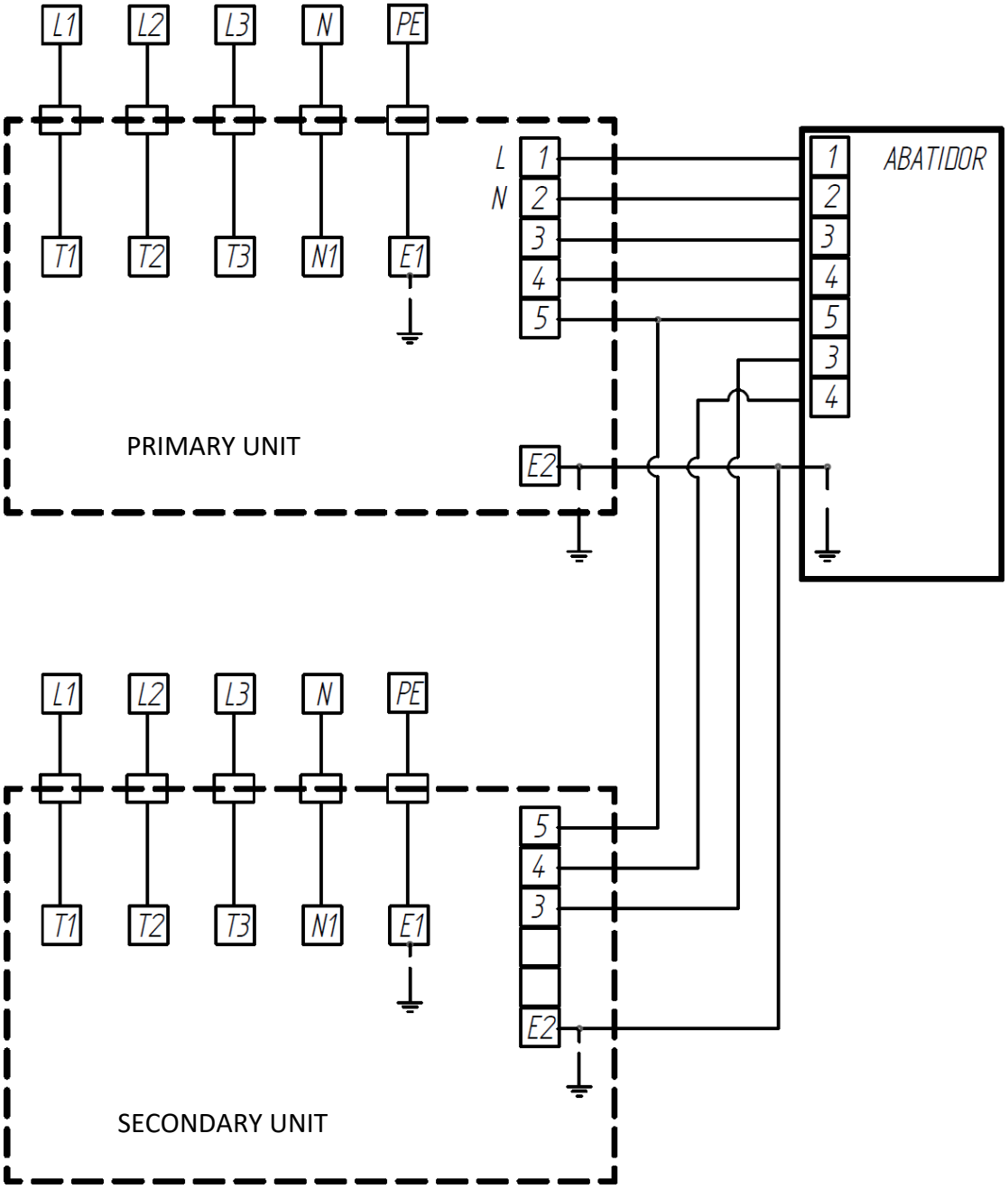

L1
L2
L3
N
PE
T1
T2
T3
N1
E1
L
N
1
2
3
4
5
E2
PRIMARY UNIT
ABATIDOR
1
2
3
4
5
3
4
L1
L2
L3
N
PE
T1
T2
T3
N1
E1
5
4
3
E2
SECONDARY UNIT

ELECTRICAL WIRING DIAGRAM ABT 203/204 INTARCON 380V III 60Hz

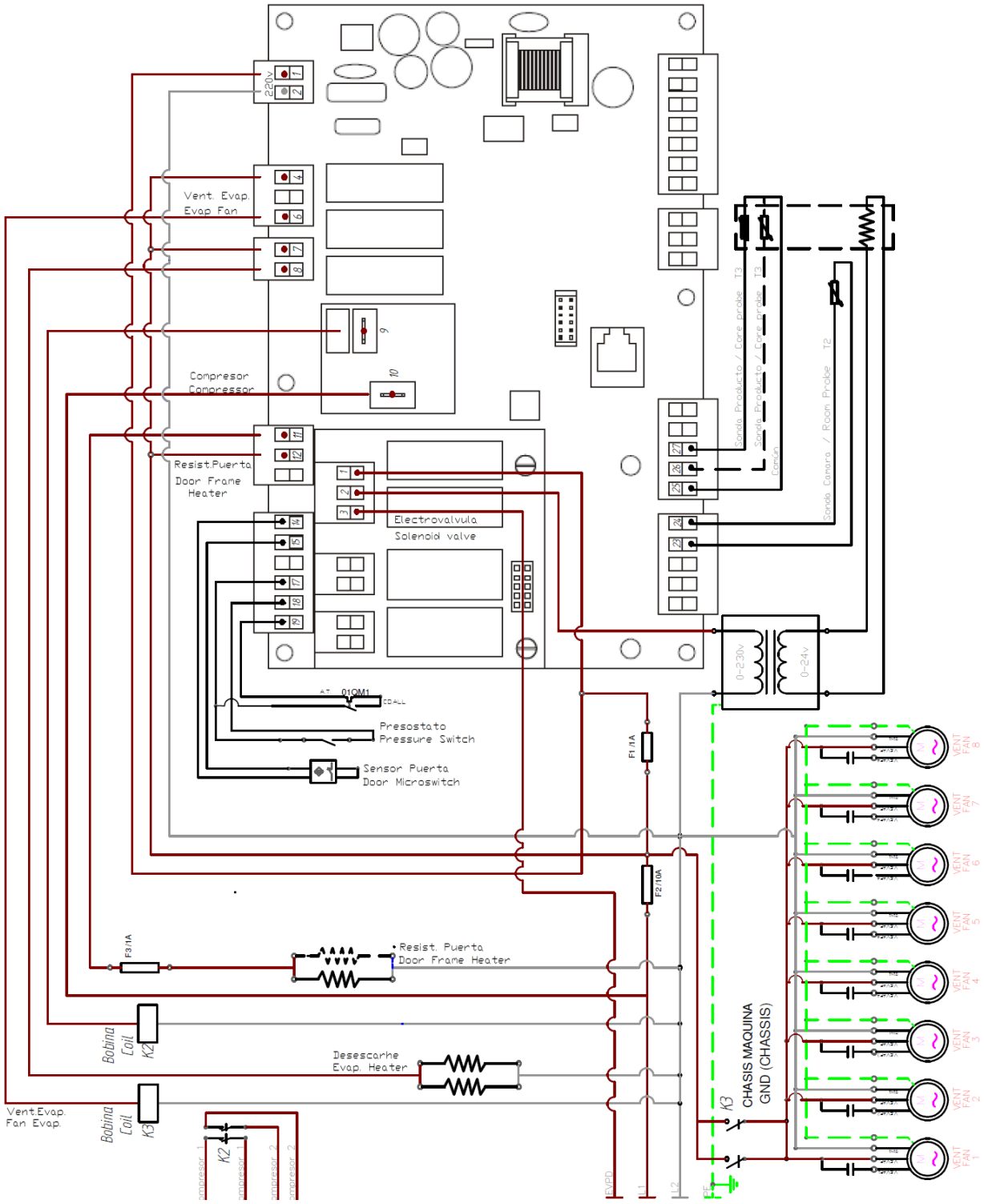


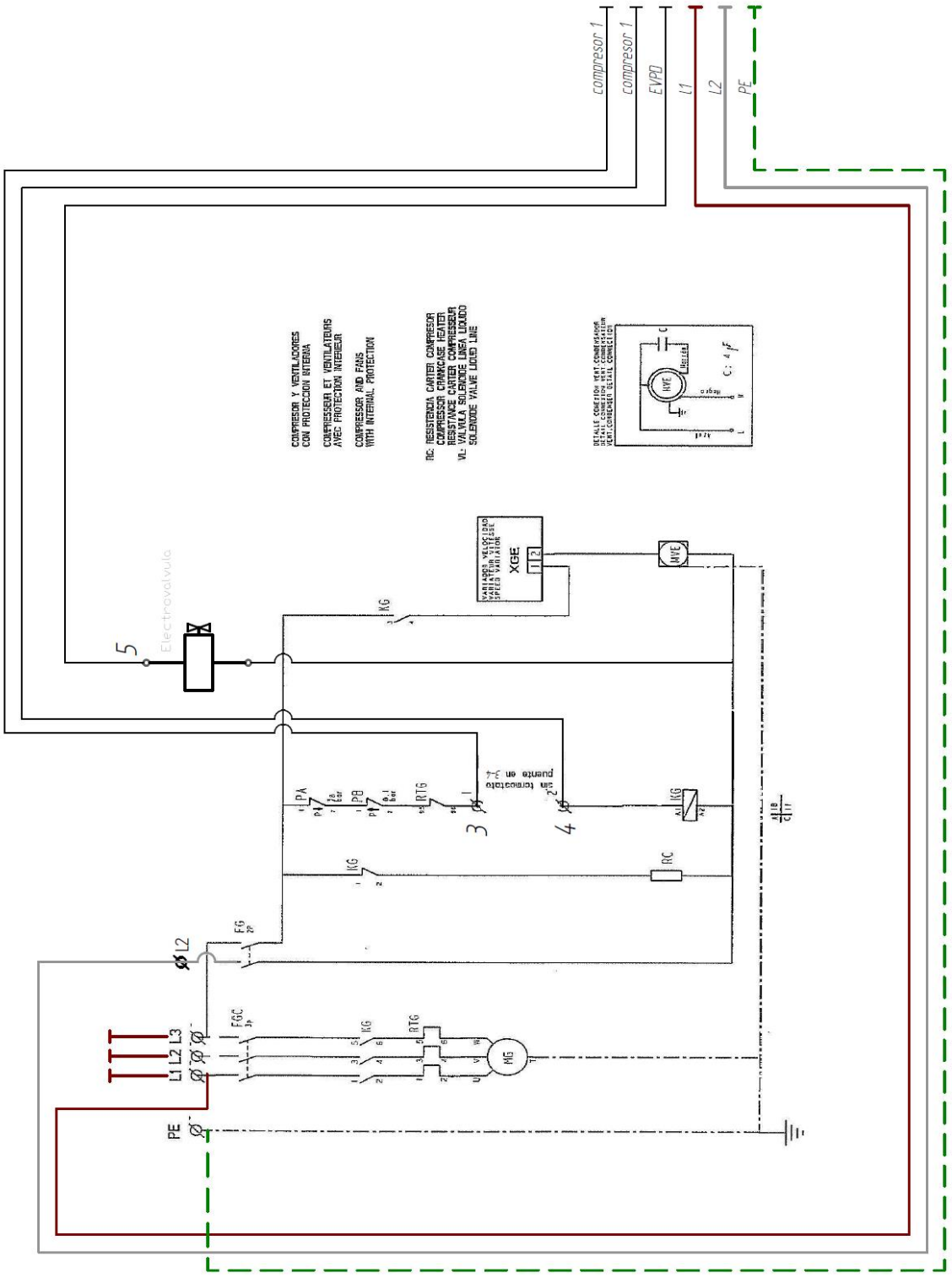

compresor 1
compresor 1
EVPD
L1
N
PE
COMPRESOR Y VENTILADORES
CON PROTECCION INTEMA
COMPRESSEUR ET VENTILATEURS
AVEC PROTECTION INTERNEUR
COMPRESSOR AND FANS
WITH INTERNAL PROTECTION
RC: RESISTENCIA CARTER COMPRESOR
COMPRESSOR CRANKCASE HEATER
RESISTANCE CARTER COMPRESSEUR
VL: VALVULA SOLENOIDE LINEA LIQUIDO
SOLENOIDE VALVE LIQUID LINE
XGE
Electrovalvula
puente en 3-4
L1 L2 L3
PE
MG

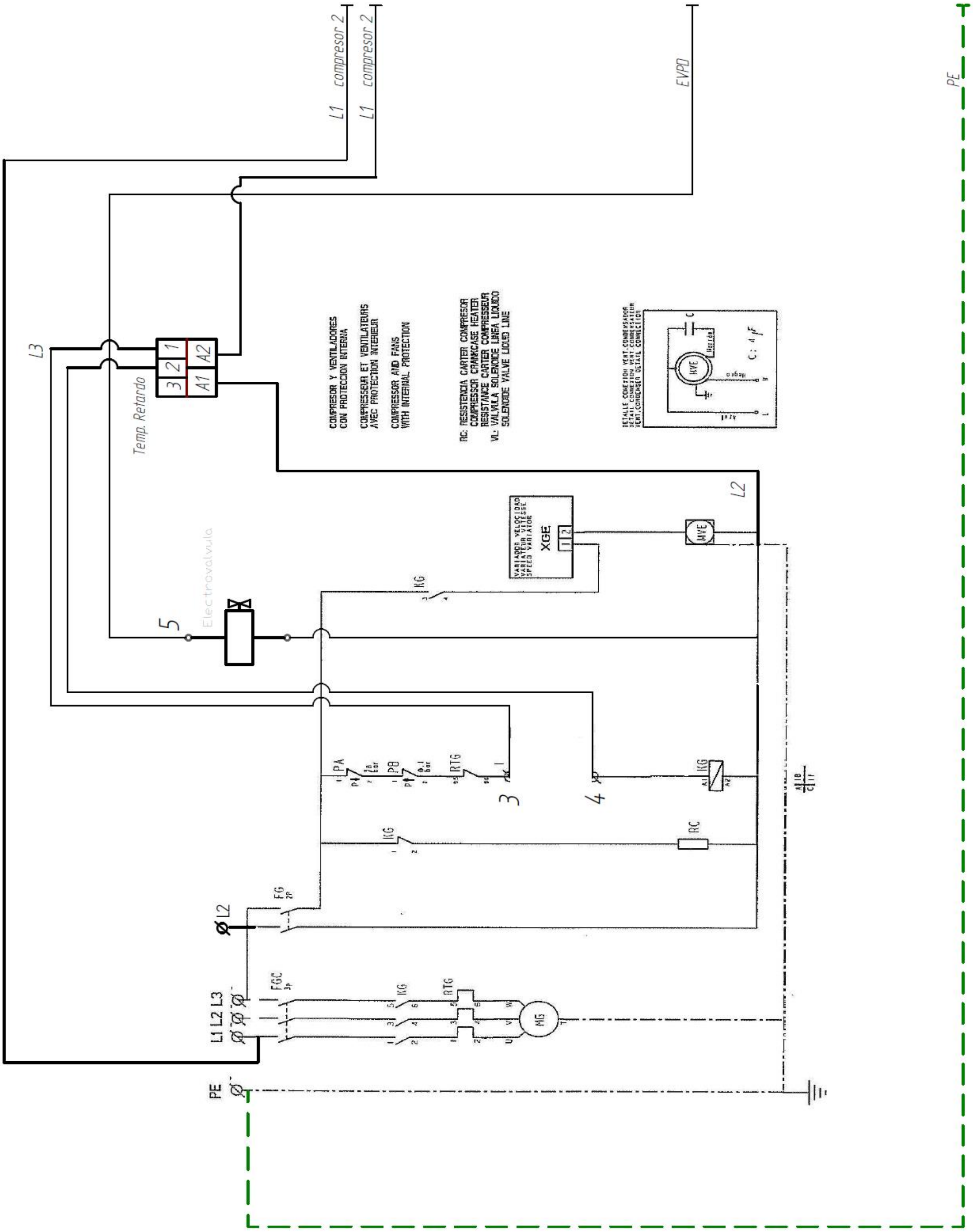

L1 compresor 2
L1 compresor 2
EVPO
PE
L3
Temp. Retardo
COMPRESOR Y VENTILADORES
CON PROTECCION INTERNA
COMPRESSEUR ET VENTILATEURS
AVEC PROTECTION INTERNE
COMPRESSOR AND FANS
WITH INTERNAL PROTECTION
RC: RESISTENCIA CARTER COMPRESOR
COMPRESSOR CRANKCASE HEATER
RESISTANCE CARTER COMPRESSEUR
VL: VALVULA SOLENOIDE LINEA LIQUIDO
SOLENOIDE VALVE LIQUID LINE
XGE
N
KG
PA
PB
RTG
RC
FG
FGC
MG
LI L2 L3
PE

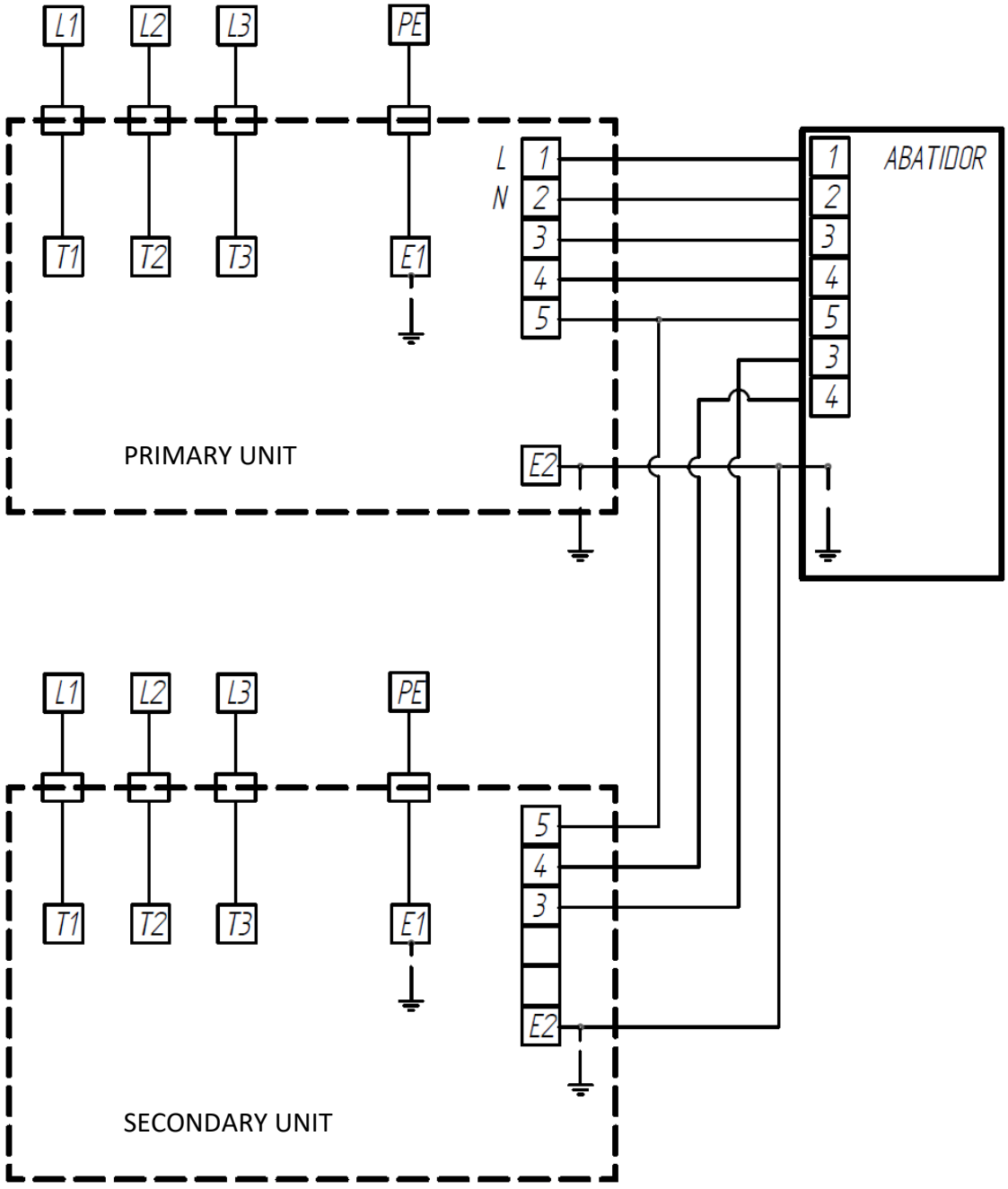

L1
L2
L3
N
PE
T1
T2
T3
N1
E1
L
N
1
2
3
4
5
E2
PRIMARY UNIT
ABATIDOR
1
2
3
4
5
3
4
L1
L2
L3
N
PE
T1
T2
T3
N1
E1
5
4
3
E2
SECONDARY UNIT

ELECTRICAL WIRING DIAGRAM ABT 203/204 INTARCON 220V III 60Hz

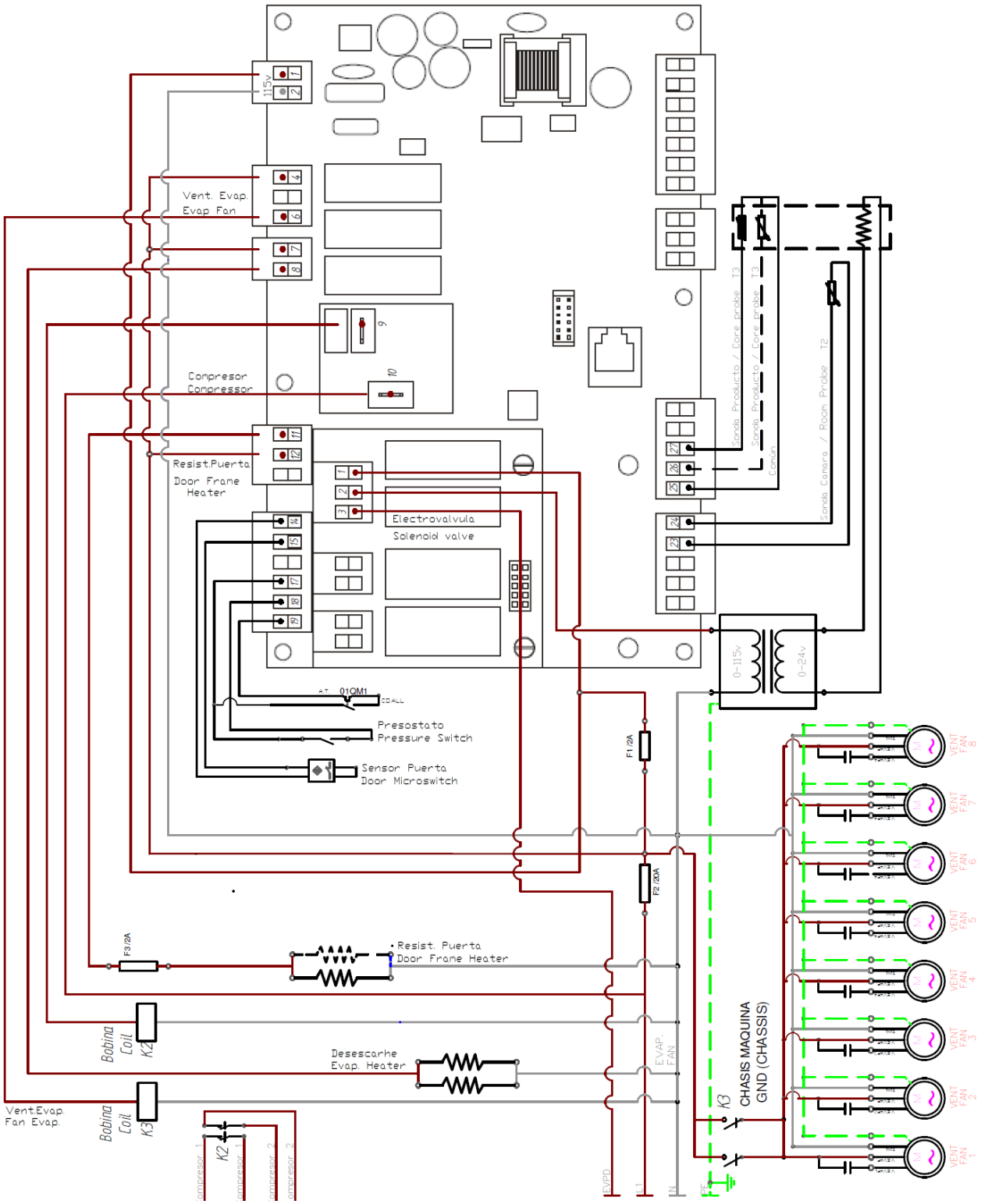


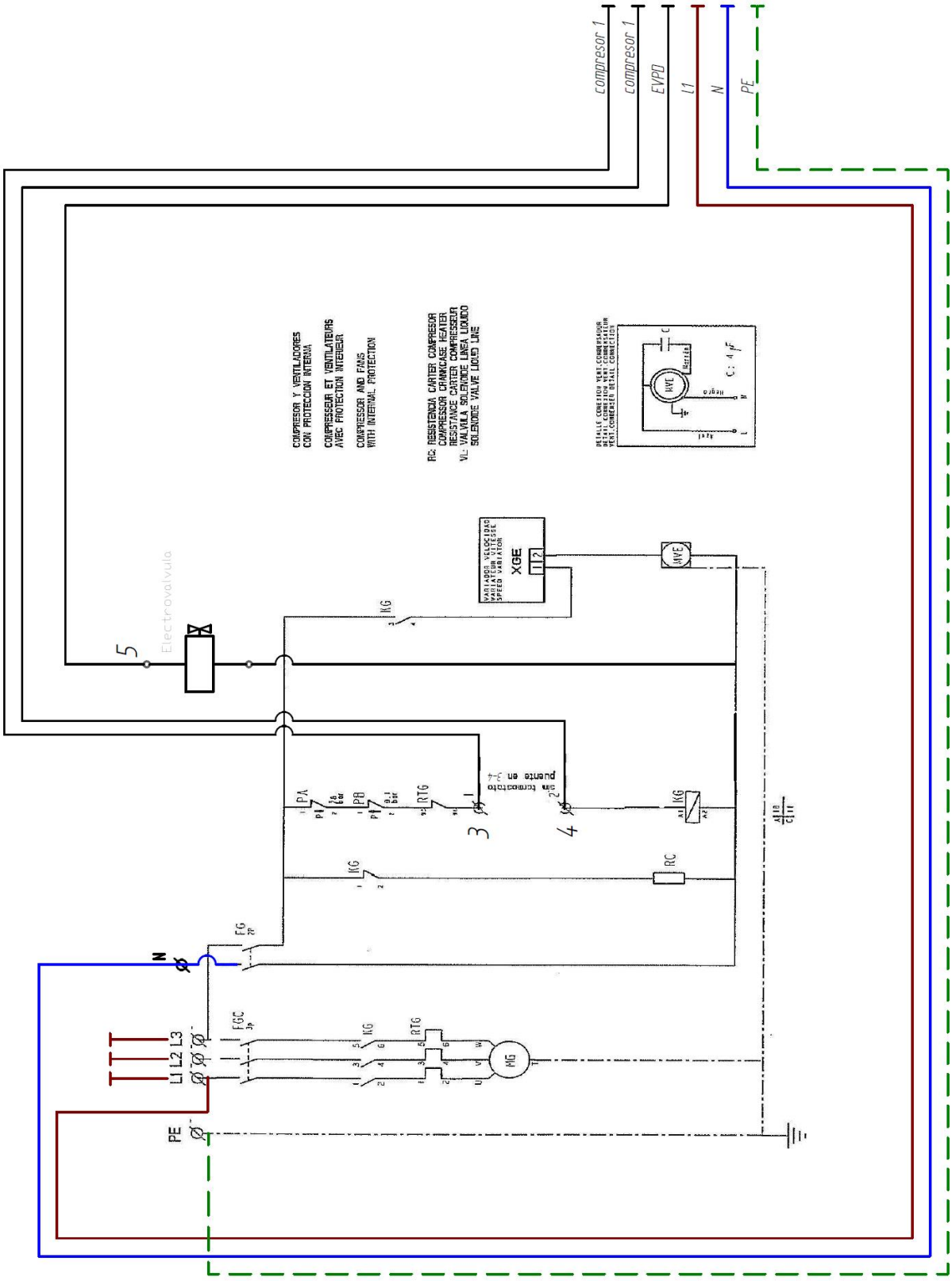

compresor 1
compresor 1
EVPD
L1
L2
PE
COMPRESOR Y VENTILADORES CON PROTECCION INTERNA
COMPRESSEUR ET VENTILATEURS AVEC PROTECTION INTERIEUR
COMPRESSOR AND FANS WITH INTERNAL PROTECTION
RC: RESISTENCIA CARTER COMPRESOR
COMPRESSOR CRANKCASE HEATER
RESISTANCE CARTER COMPRESSEUR
VL: VALVULA SOLENOIDE LINEA LIQUIDO
SOLENOIDE VALVE LIQUID LINE
DETALLE CONEXION VENT.CONDENSADOR
DETAIL CONNECTION VENT.CONDENSER
DETAIL CONNEXION VENT.CONDENSEUR
C: 4 µF
XGE
VARIADOR VELOCIDAD
VARIATEUR VITESSE
SPEED VARIATOR
Electrovalvula
puente en termostato
KG
RTG
RC
FG
FGC
MG
L1 L2 L3
PE

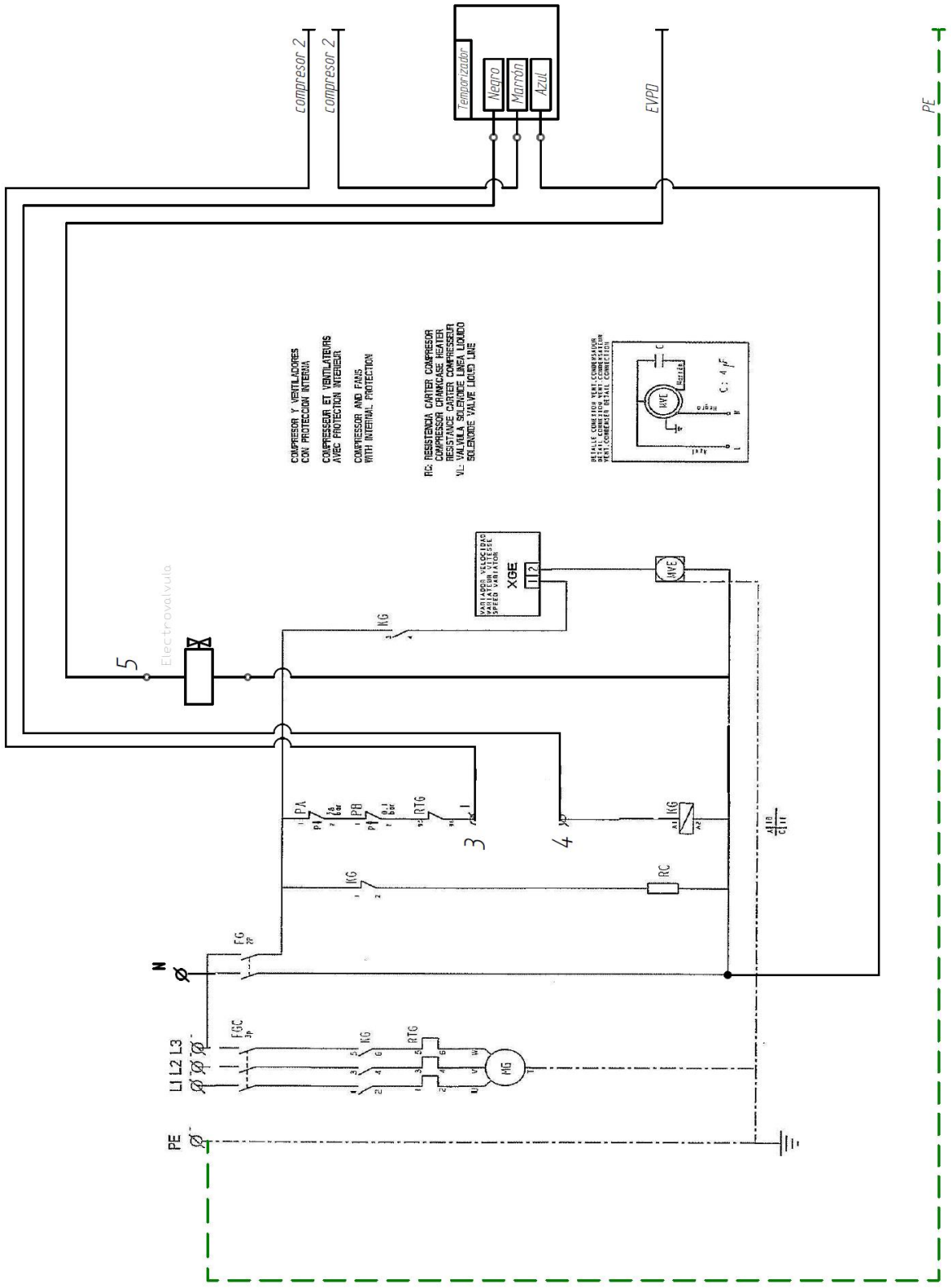

L1 compresor 2
L1 compresor 2
EVPO
PE
L3
Temp. Retardo
3 2 1
A1 A2
COMPRESOR Y VENTILADORES CON PROTECCION INTERNA
COMPRESSEUR ET VENTILATEURS AVEC PROTECTION INTERIEUR
COMPRESSOR AND FANS WITH INTERNAL PROTECTION
RC: RESISTENCIA CARTER COMPRESOR
COMPRESSOR CRANKCASE HEATER
RESISTANCE CARTER COMPRESSEUR
VL: VALVULA SOLENOIDE LINEA LIQUIDO
SOLENOIDE VALVE LIQUID LINE
C: 4 μF
L2
XGE
MVE
KG
5
Electrovalvula
PA
PB
RTG
3
4
RC
FG
L1 L2 L3
FGC
MG
PE

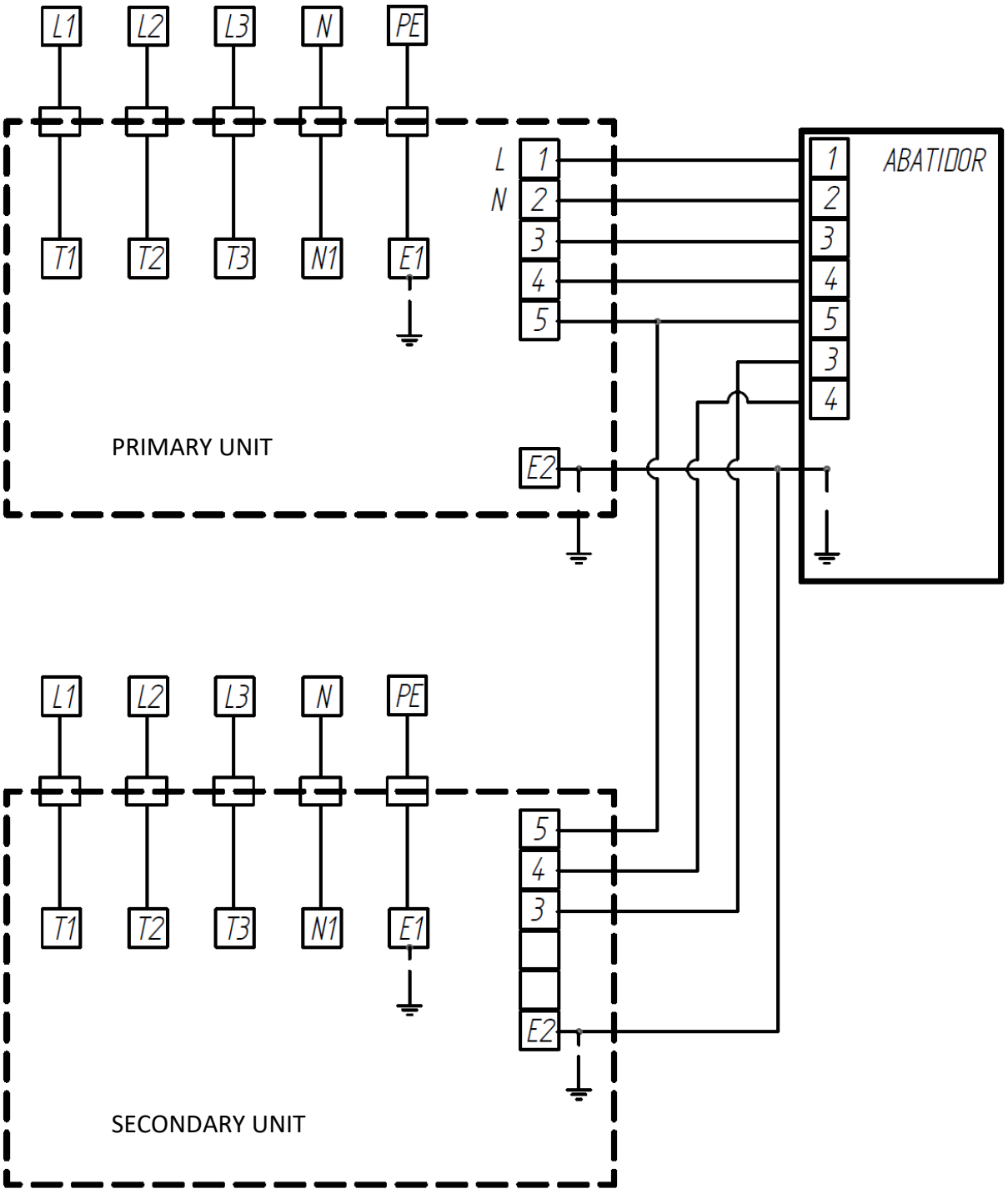

L1
L2
L3
PE
T1
T2
T3
E1
L
N
1
2
3
4
5
E2
PRIMARY UNIT
ABATIDOR
1
2
3
4
5
3
4
L1
L2
L3
PE
T1
T2
T3
E1
5
4
3
E2
SECONDARY UNIT

ELECTRICAL WIRING DIAGRAM 4 UNITS INTARCON 380V III 50Hz POWERED

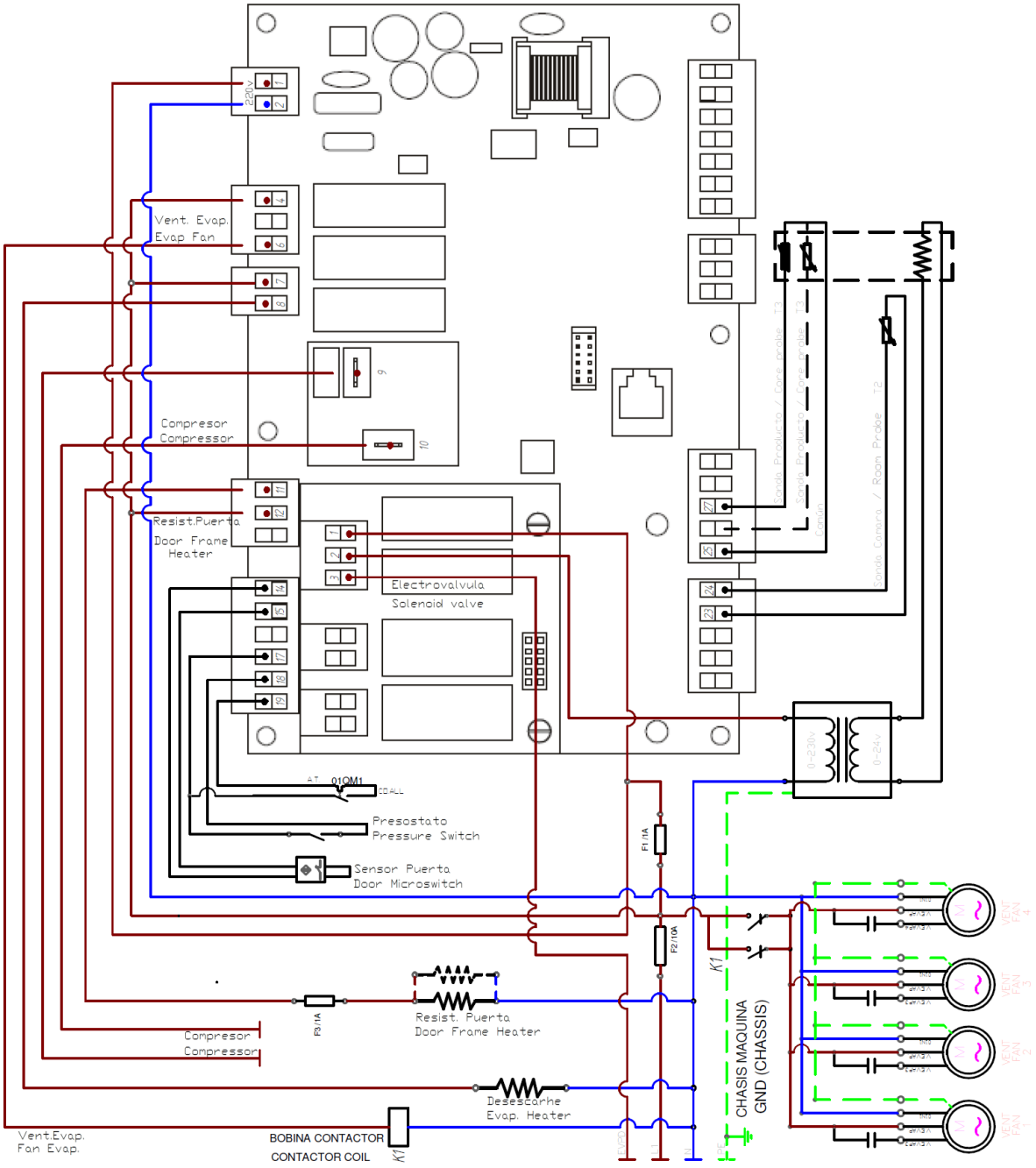


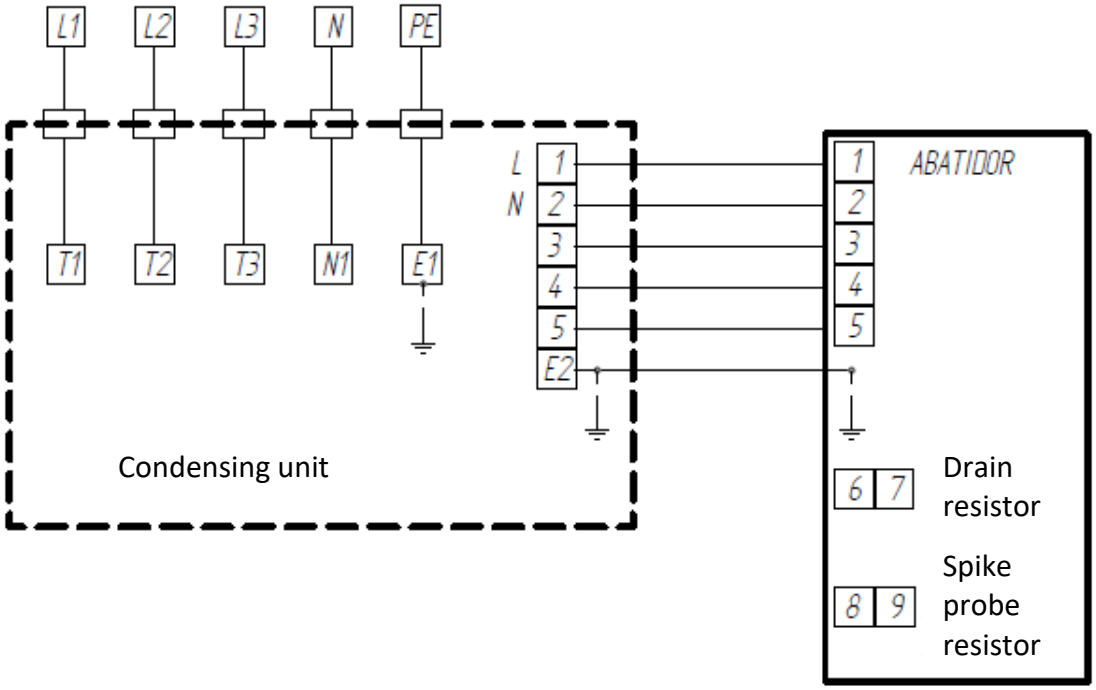

compresor 1
compresor 1
EVPO
L1
N
PE
COMPRESOR Y VENTILADORES CON PROTECCION INTERNA
COMPRESSEUR ET VENTILATEURS AVEC PROTECTION INTEGREE
COMPRESSOR AND FANS WITH INTERNAL PROTECTION
RC: RESISTENCIA CARTER COMPRESOR
COMPRESSOR CRANKCASE HEATER
RESISTANCE CARTER COMPRESSEUR
VL: VALVULA SOLENOIDE LINEA LIQUIDO
SOLENOIDE VALVE LIQUID LINE
XGE
Electrovalvula
puente en
PA
PB
RTG
KG
RC
FG
FGC
MG
L1 L2 L3
PE
N

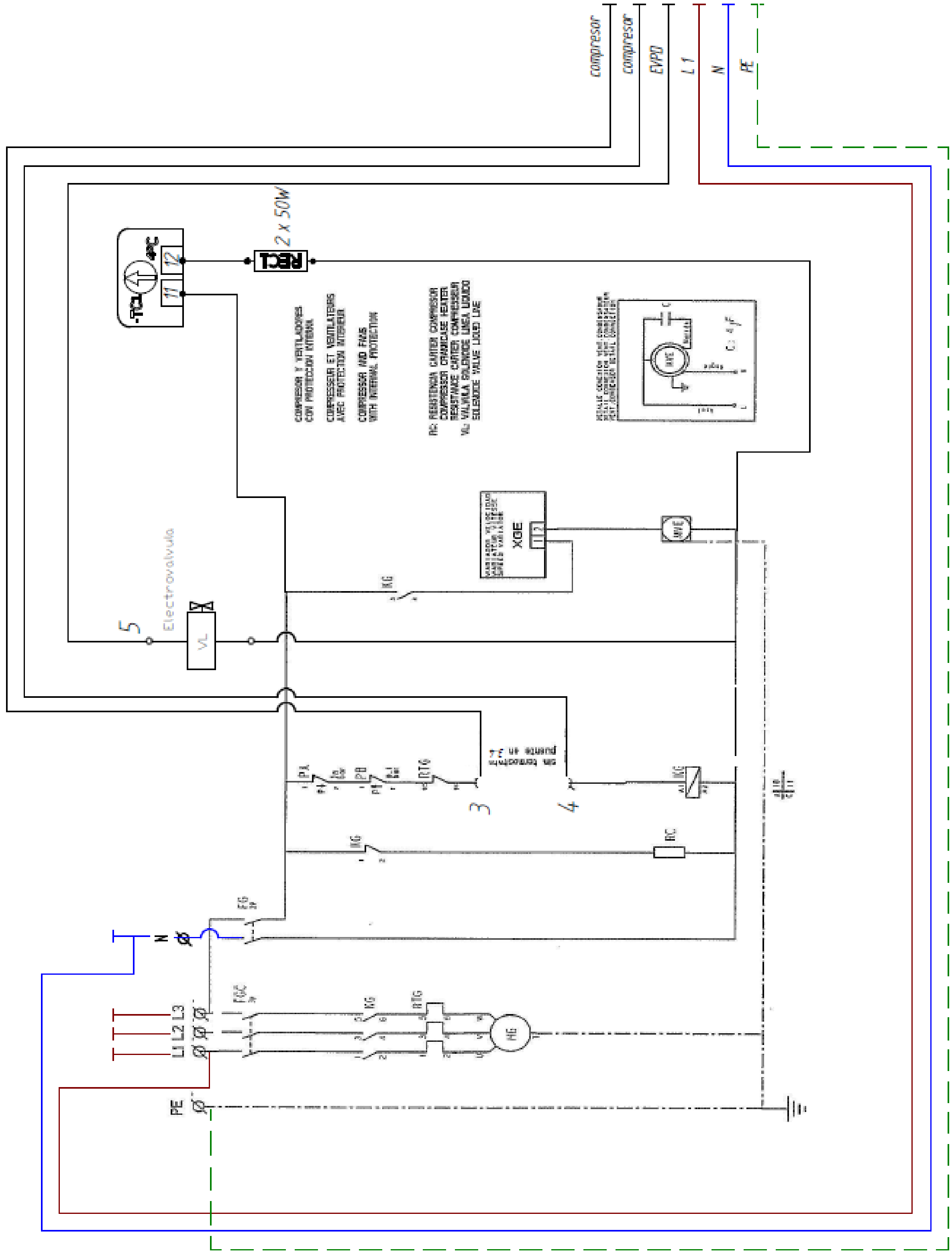

compresor 2
compresor 2
Temporizador
Negro
Marron
Azul
EVPO
PE
COMPRESOR Y VENTILADORES CON PROTECCION INTERNA
COMPRESSEUR ET VENTILATEURS AVEC PROTECTION INTERIEUR
COMPRESSOR AND FANS WITH INTERNAL PROTECTION
RC: RESISTENCIA CARTER COMPRESOR
COMPRESSOR CRANKCASE HEATER
RESISTANCE CARTER COMPRESSEUR
VL: VALVULA SOLENOIDE LINEA LIQUIDO
SOLENOID VALVE LIQUID LINE
XGE
Electrovalvula
PA
PB
RTG
NG
RC
FG
FGC
AG
N
L1 L2 L3
PE


L1
L2
L3
N
PE
T1
T2
T3
N1
E1
L
N
1
2
3
4
5
E2
PRIMARY UNIT
ABATIDOR
1
2
3
4
5
3
4
L1
L2
L3
N
PE
T1
T2
T3
N1
E1
5
4
3
E2
SECONDARY UNIT

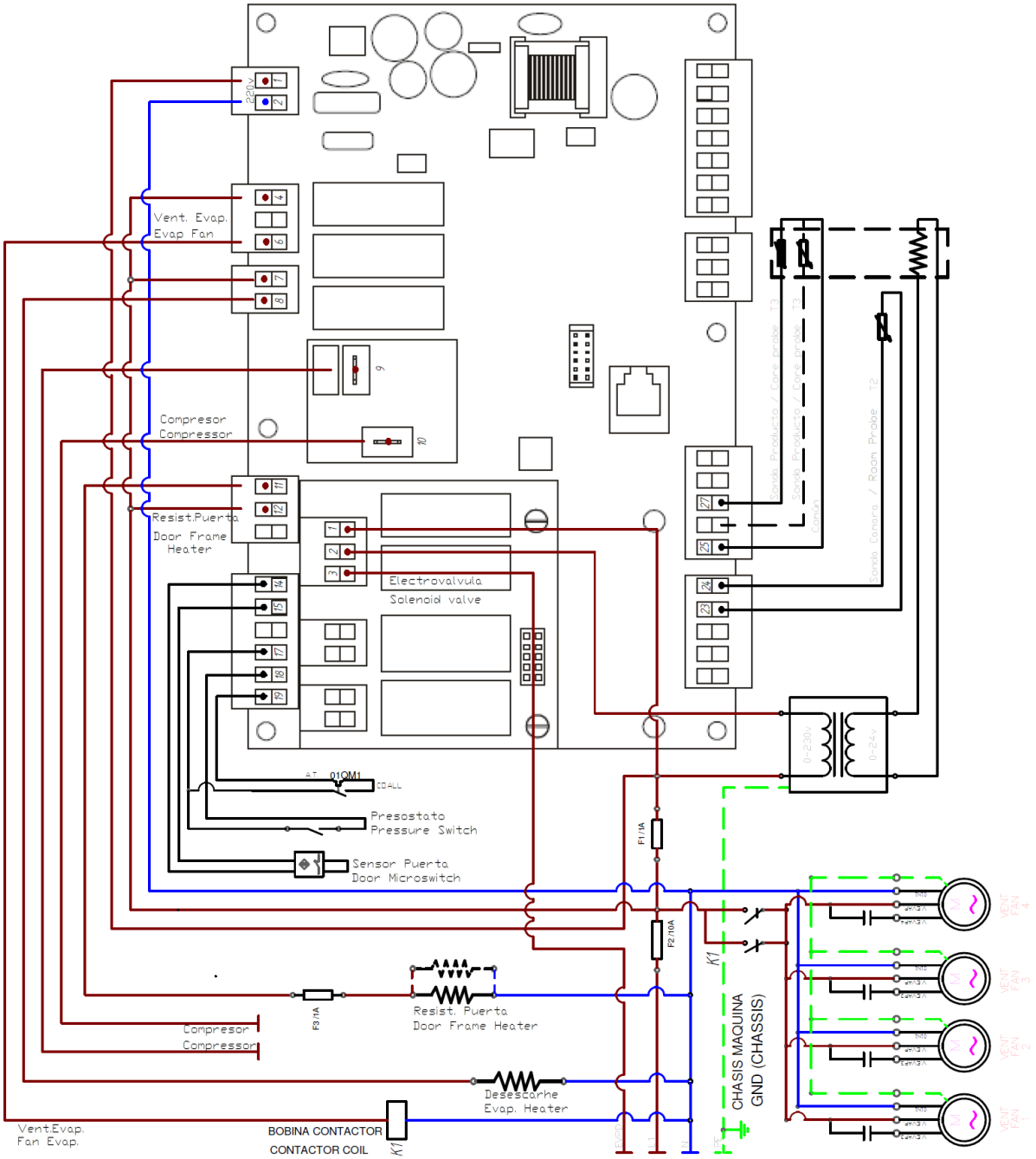
ELECTRICAL WIRING DIAGRAM ABT 201/202 INTARCON 380V III 50Hz CONDENSED CONTROL LOW TEMPERATURE

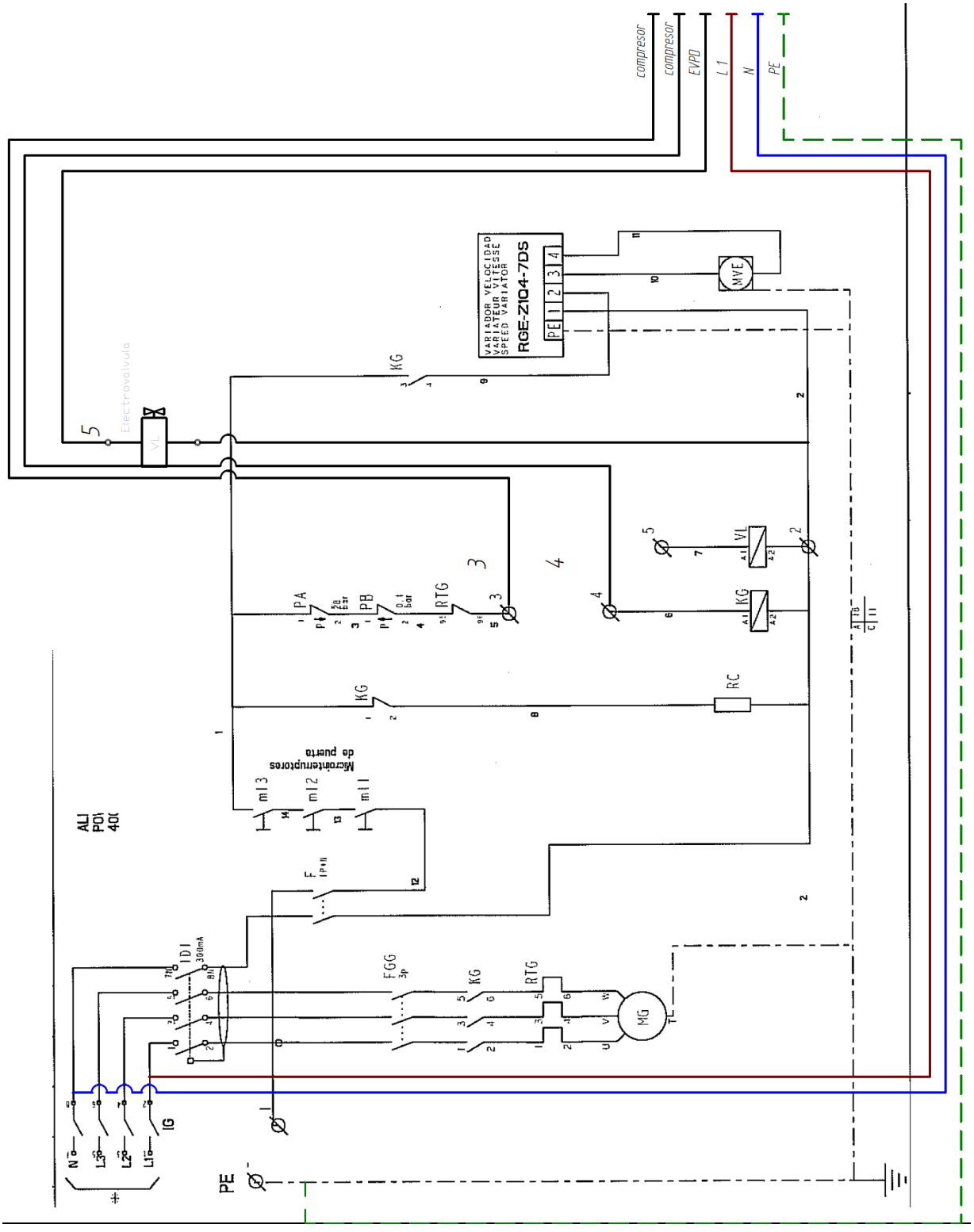


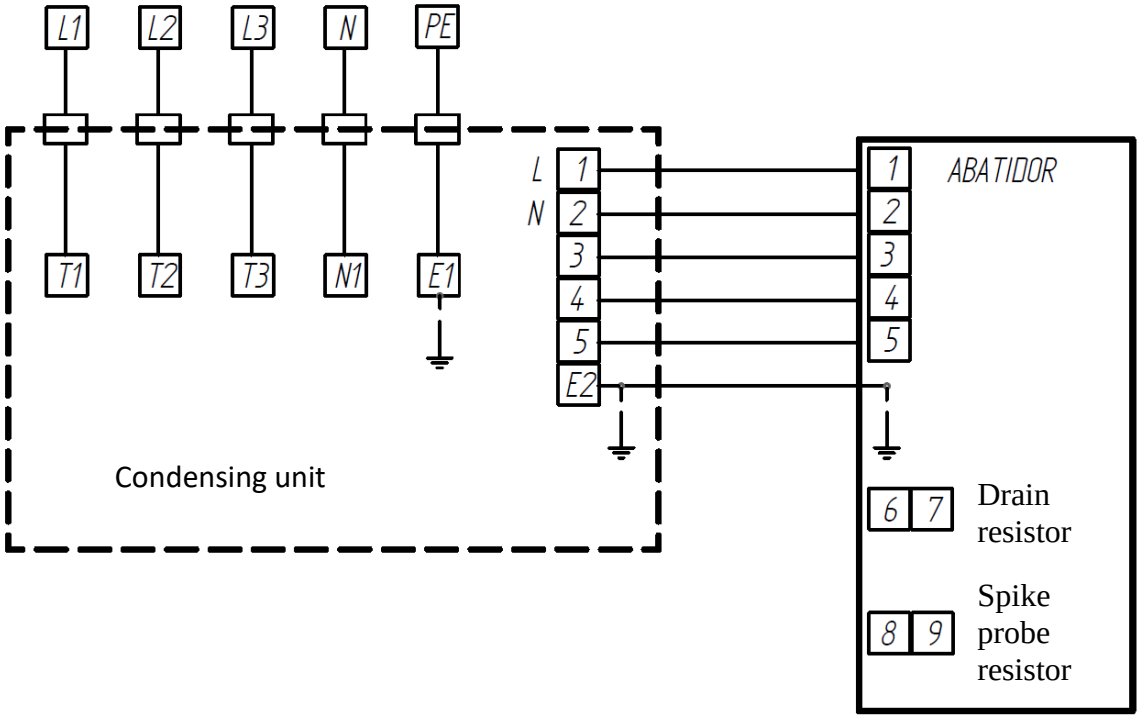

L1
L2
L3
N
PE
T1
T2
T3
N1
E1
L
N
1
2
3
4
5
E2
Condensing unit
1
2
3
4
5
ABATIDOR
6
7
Drain resistor
8
9
Spike probe resistor


compresor
compresor
EVPD
L1
N
PE
2 x 50W
RECL
Electrovalvula
VL
5
3
4
XGE
FG
N
L1 L2 L3
PE

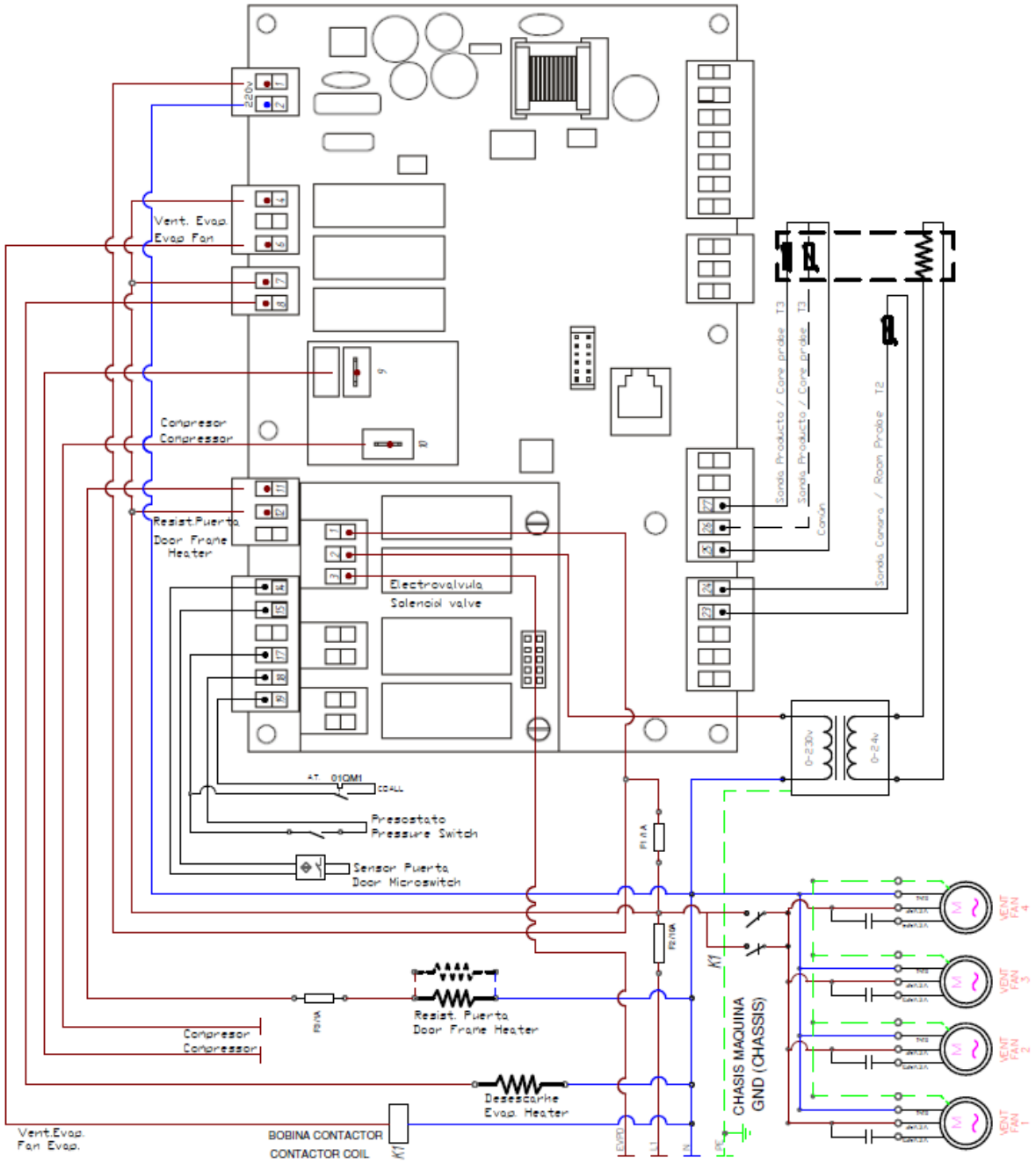
ELECTRICAL WIRING DIAGRAM ABT 201/202 INTARCON 380V III 50HZ CENTRIFUGUE

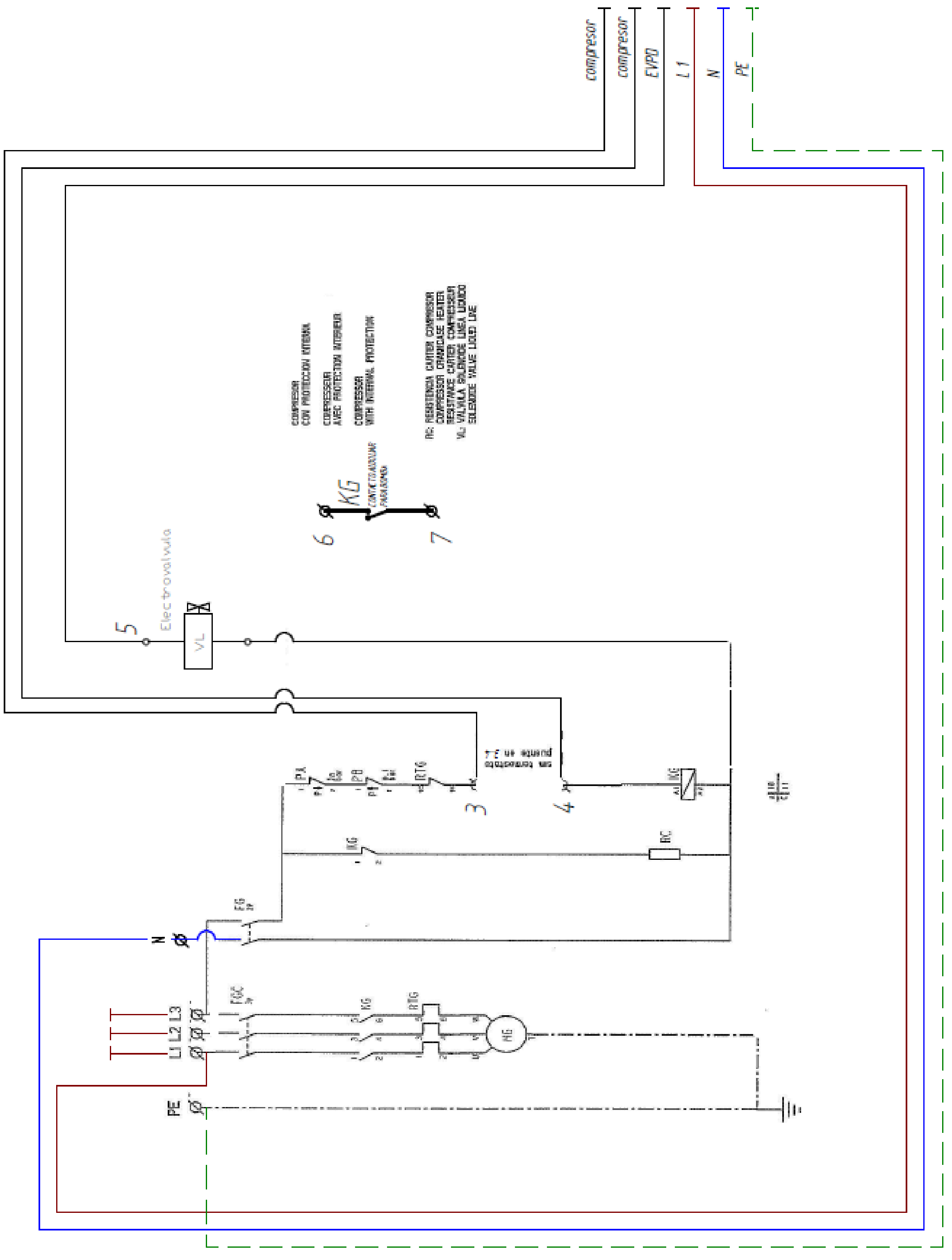


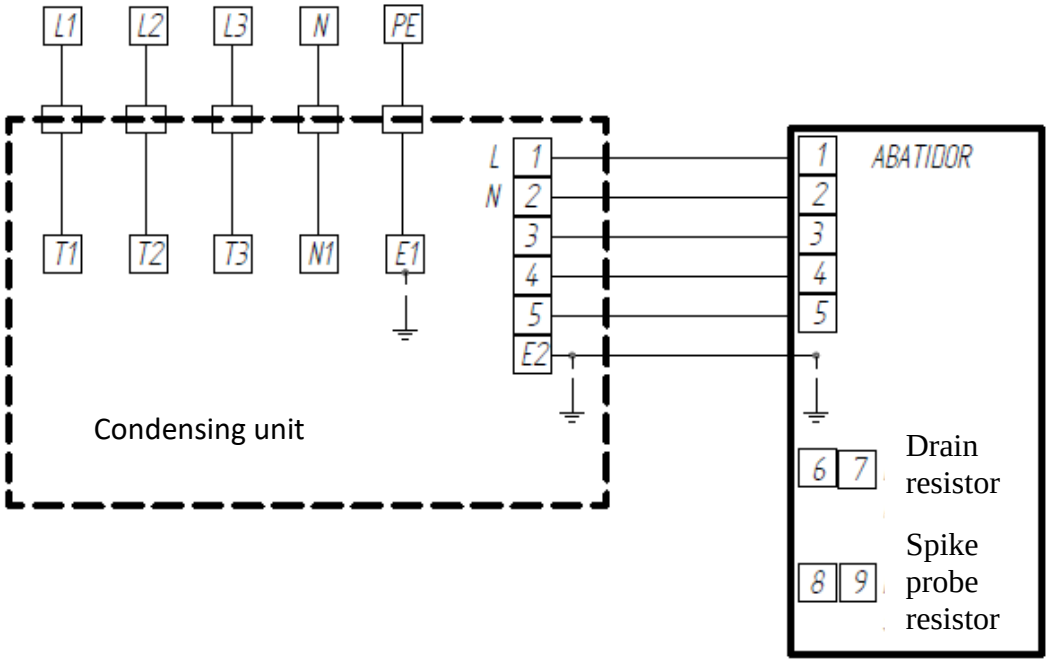

compresor
compresor
EVPD
L 1
N
PE
VARIADOR VELOCIDAD
VARIATEUR VITESSE
SPEED VARIATOR
RGE-Z1C4-7DS
MVE
KG
Electrovalvula
VL
PA
PB
RTG
RC
Microinterruptores
de puerta
ml3
ml2
ml1
ALI
POI
40K
IDI
30mA
FGG
MG
IG
N
L3
L2
L1
PE


L1
L2
L3
N
PE
T1
T2
T3
N1
E1
L
N
1
2
3
4
5
E2
Condensing unit
ABATIDOR
1
2
3
4
5
6
7
Drain resistor
8
9
Spike probe resistor

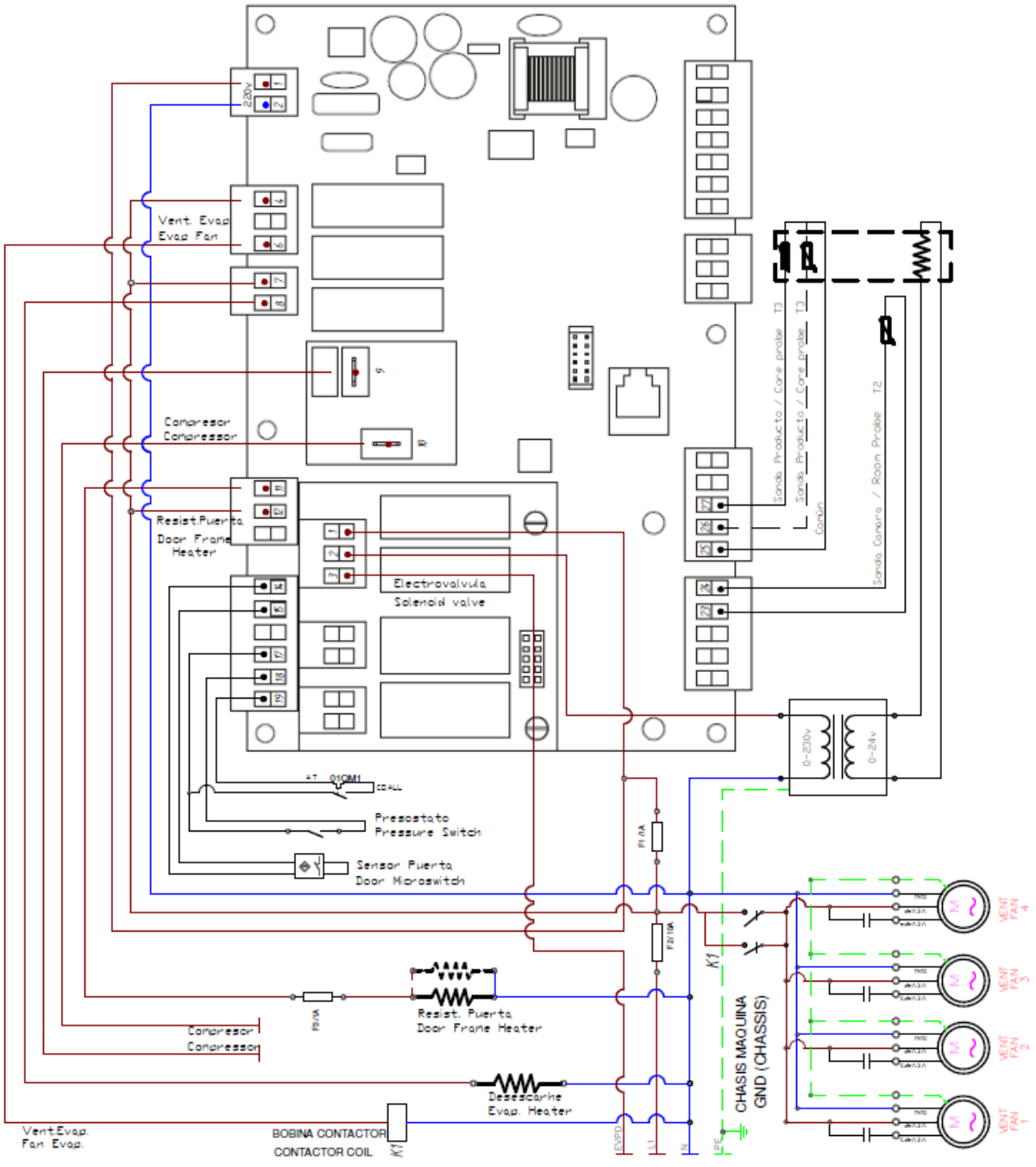
ELECTRICAL WIRING DIAGRAM ABT 201/202 INTARCON 380V III 50Hz WATER CONDENSATED

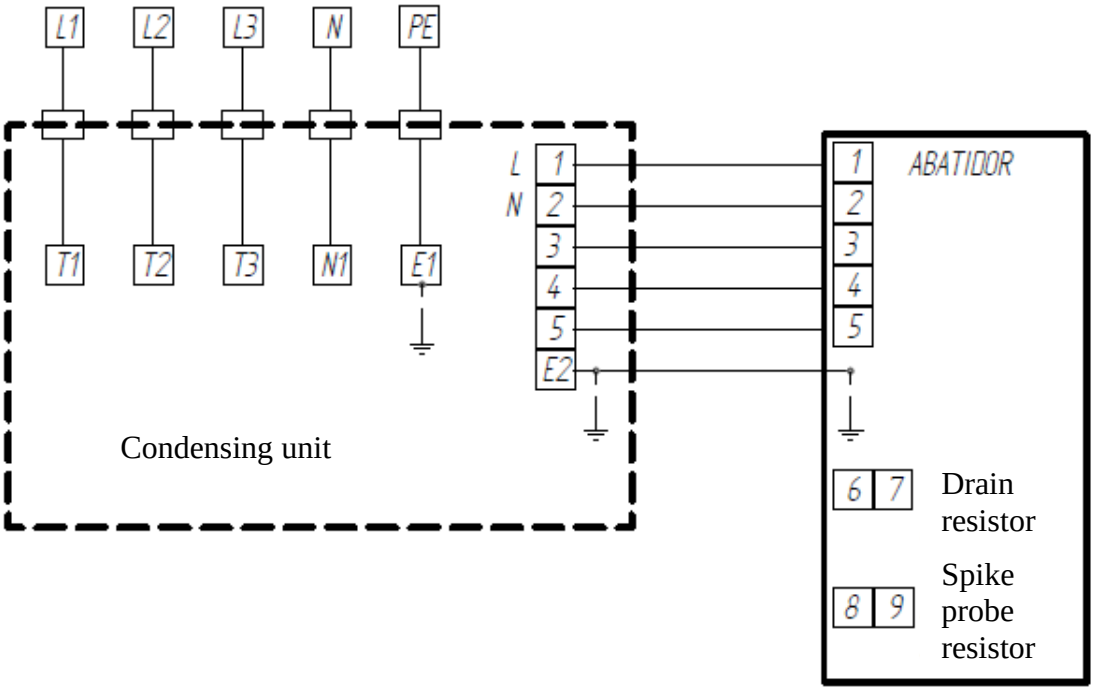


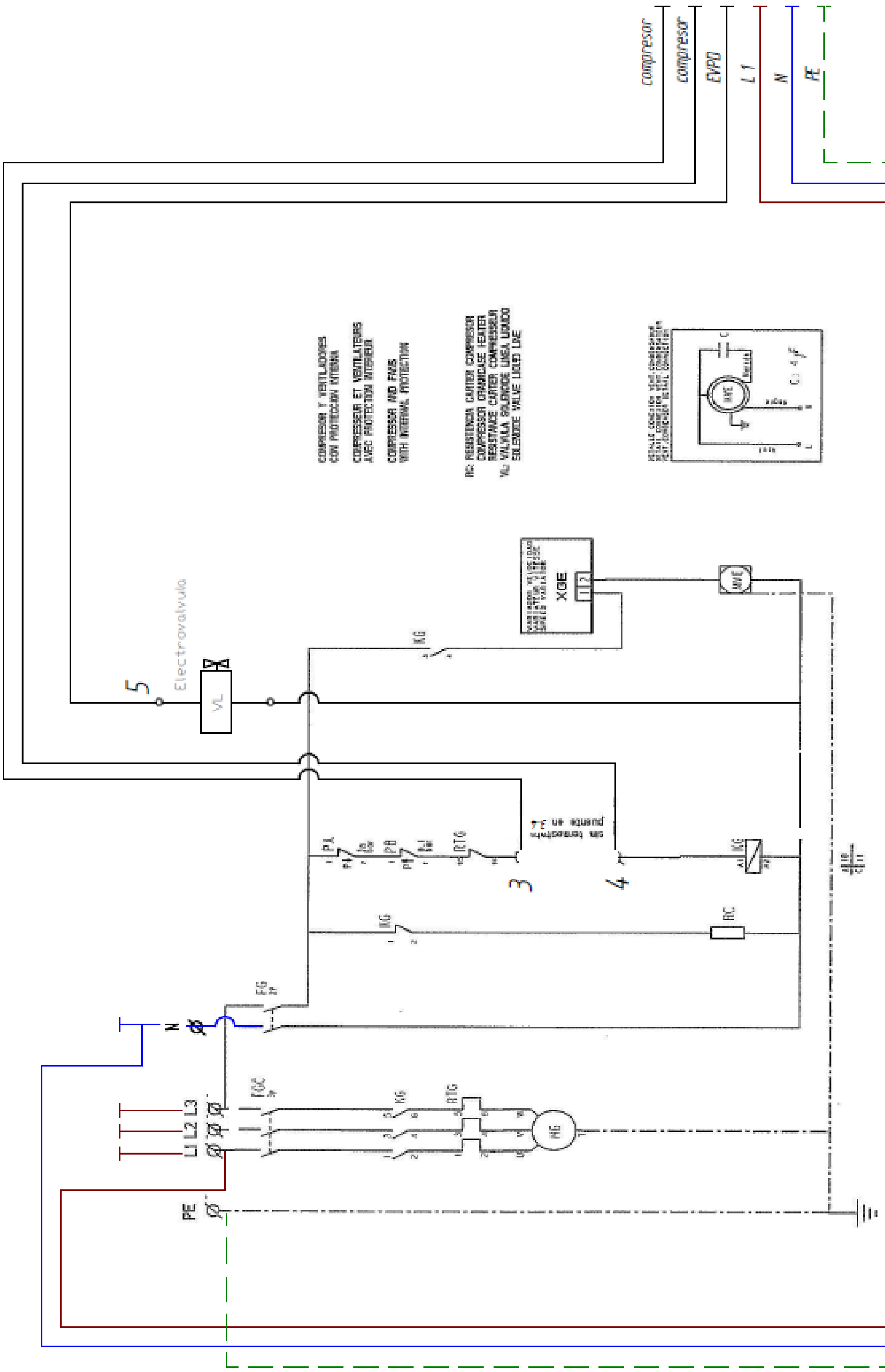

compresor
compresor
EVPO
L1
N
PE
Electroválvula
VL
KG
RC
MG
L1 L2 L3
PE
N


L1
L2
L3
N
PE
T1
T2
T3
N1
E1
L
N
1
2
3
4
5
E2
Condensing unit
ABATIDOR
1
2
3
4
5
6
7
Drain resistor
8
9
Spike probe resistor

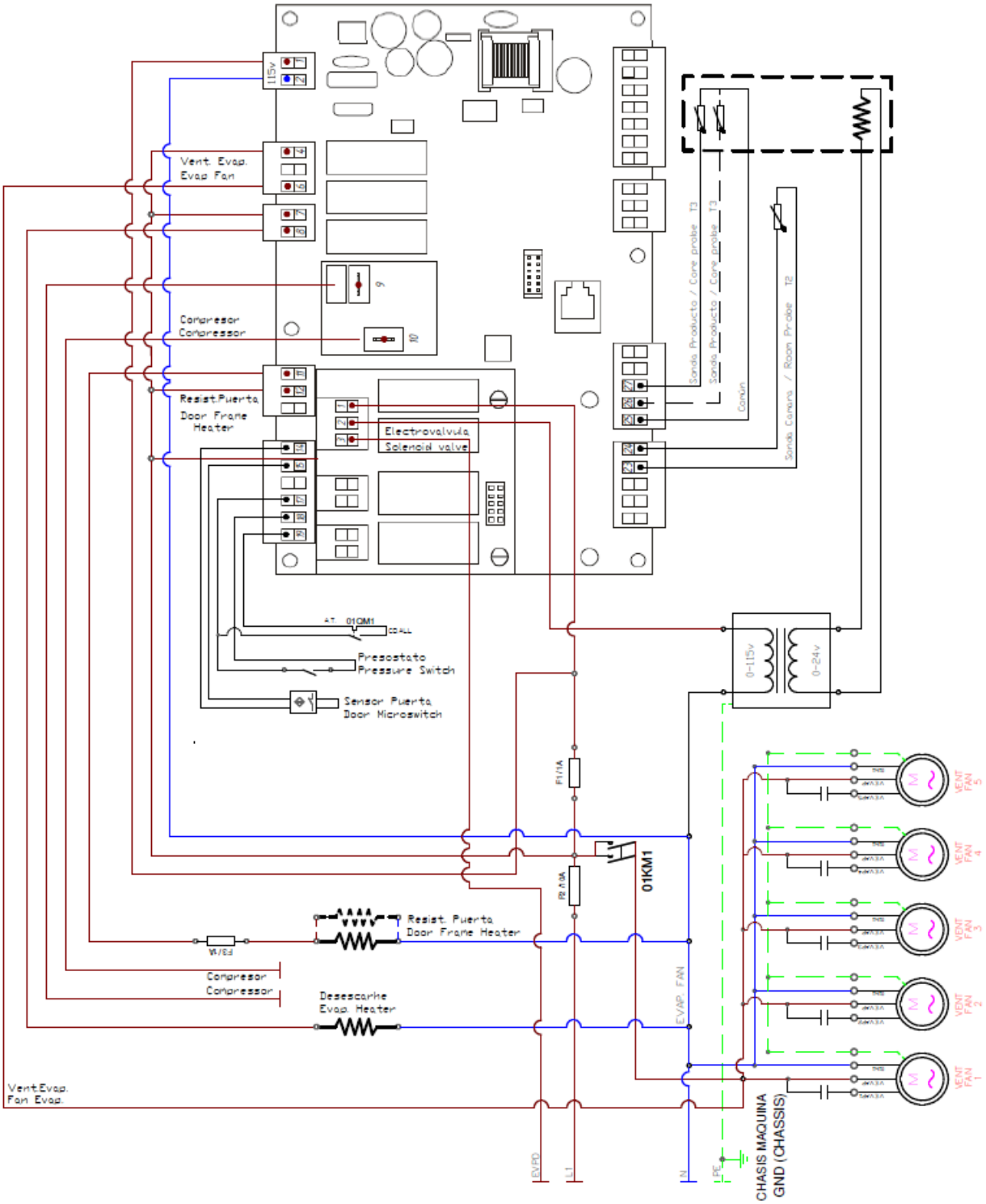
ELECTRICAL WIRING DIAGRAM ABT 201/202 INTARCON 380V III 60Hz

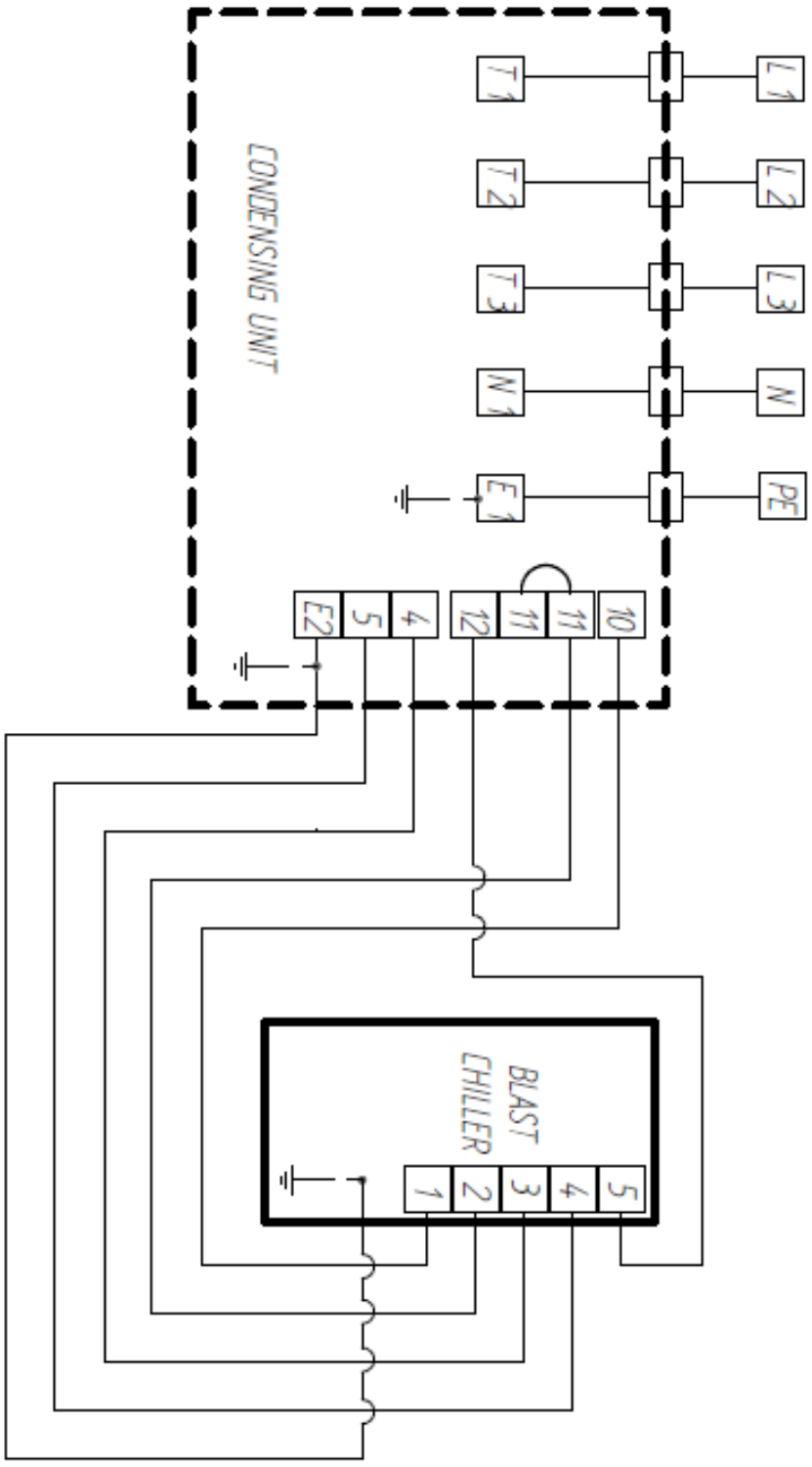


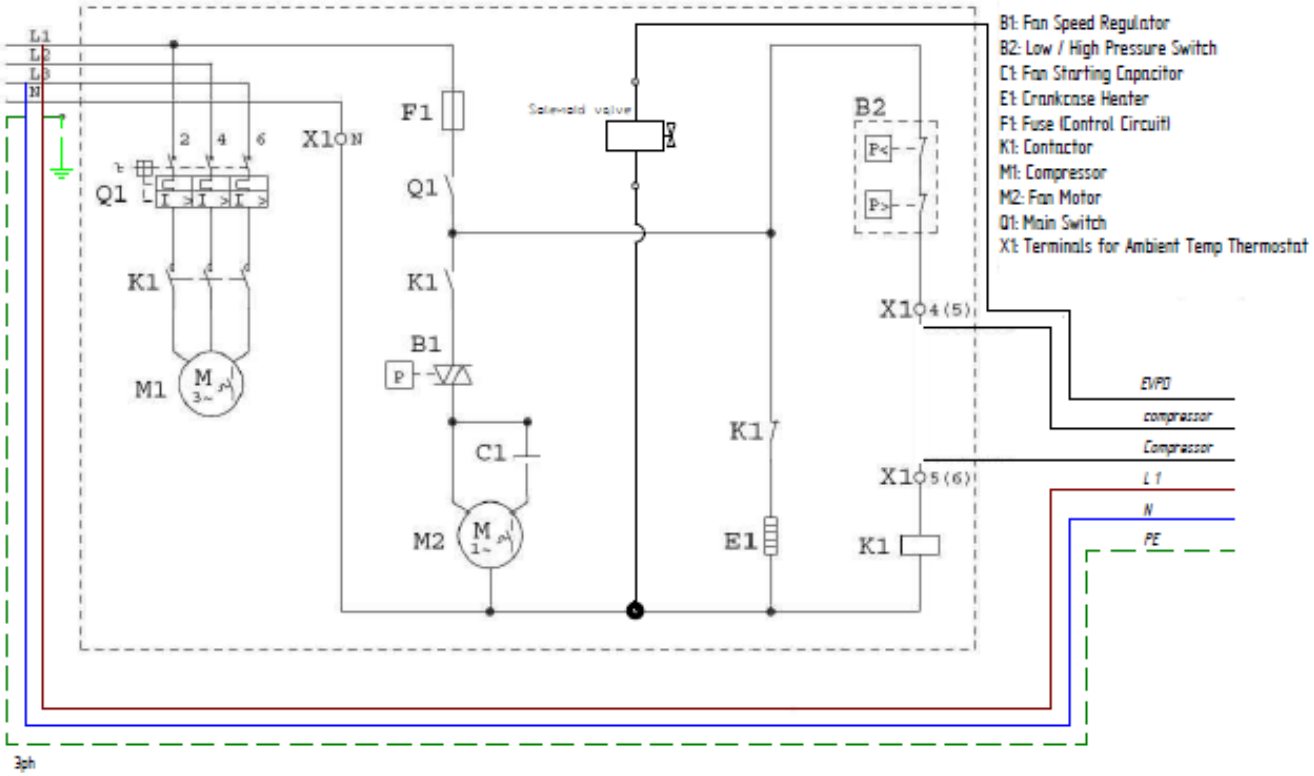

L1
L2
L3
N
PE
T1
T2
T3
N1
E1
L
N
1
2
3
4
5
E2
Condensing unit
ABATIDOR
1
2
3
4
5
6
7
Drain resistor
8
9
Spike probe resistor


compresor
compresor
EVPD
L1
N
PE
Electrovalvula
VL
XGE
RC
L1 L2 L3
PE

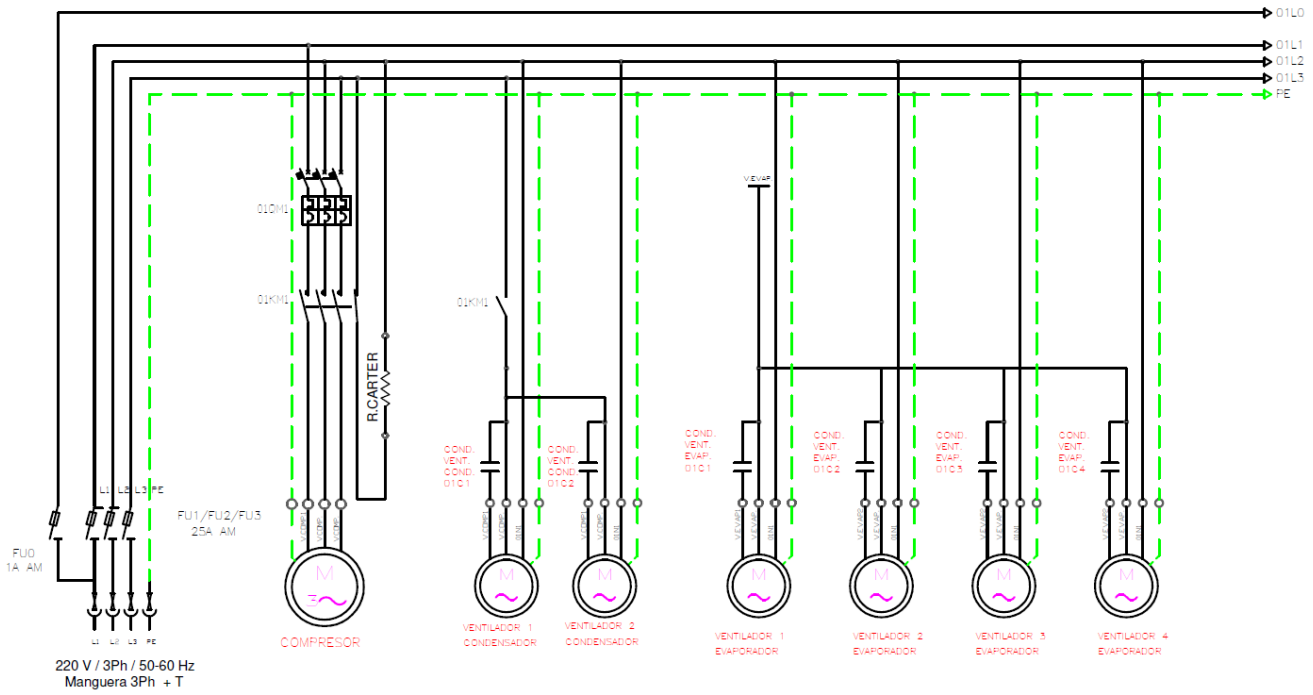
ELECTRICAL WIRING DIAGRAM ABT 201/202

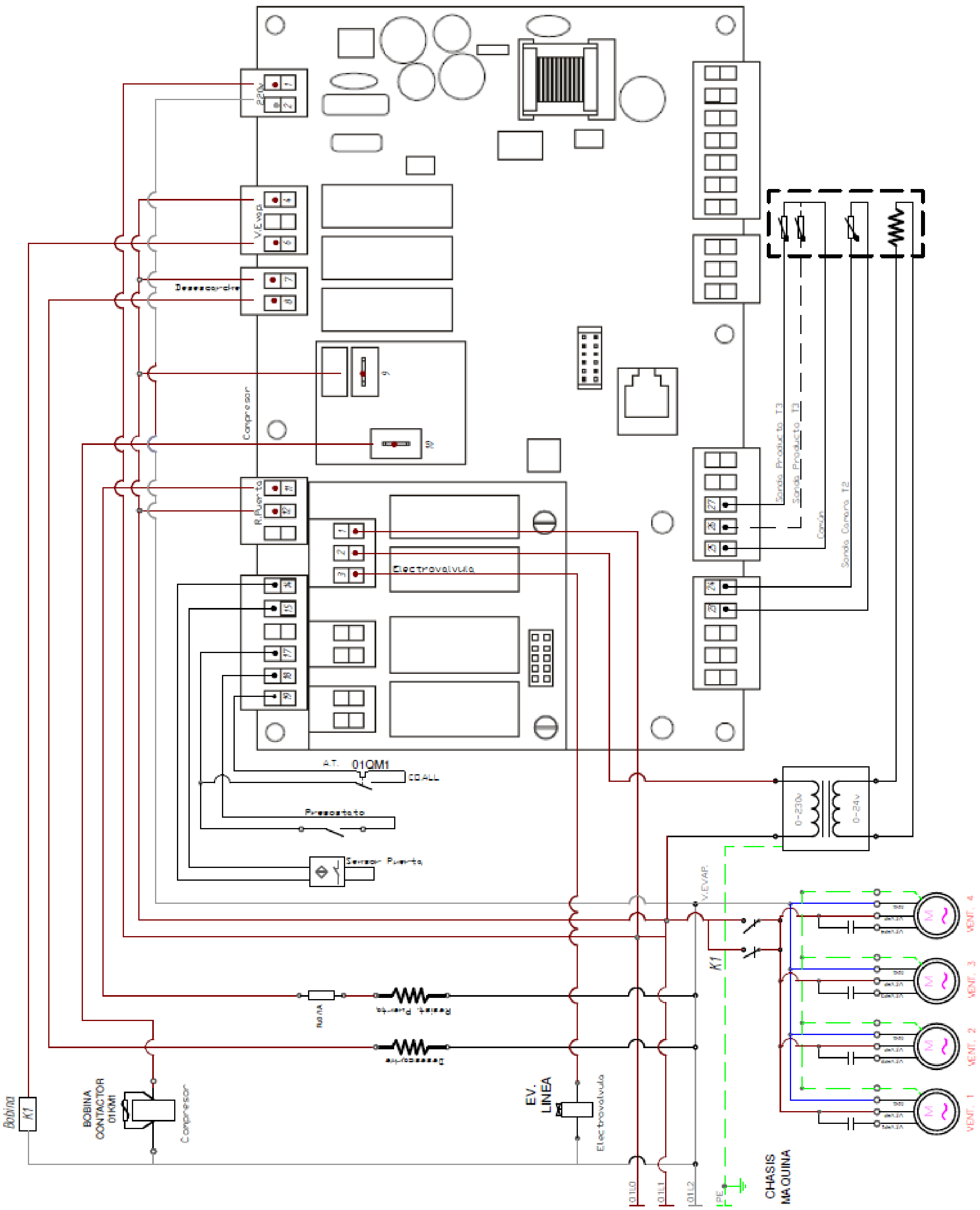



CONDENSING UNIT
T1
T2
T3
N1
E1
L1
L2
L3
N
PE
E2
5
4
12
11
11
10
BLAST CHILLER
1
2
3
4
5

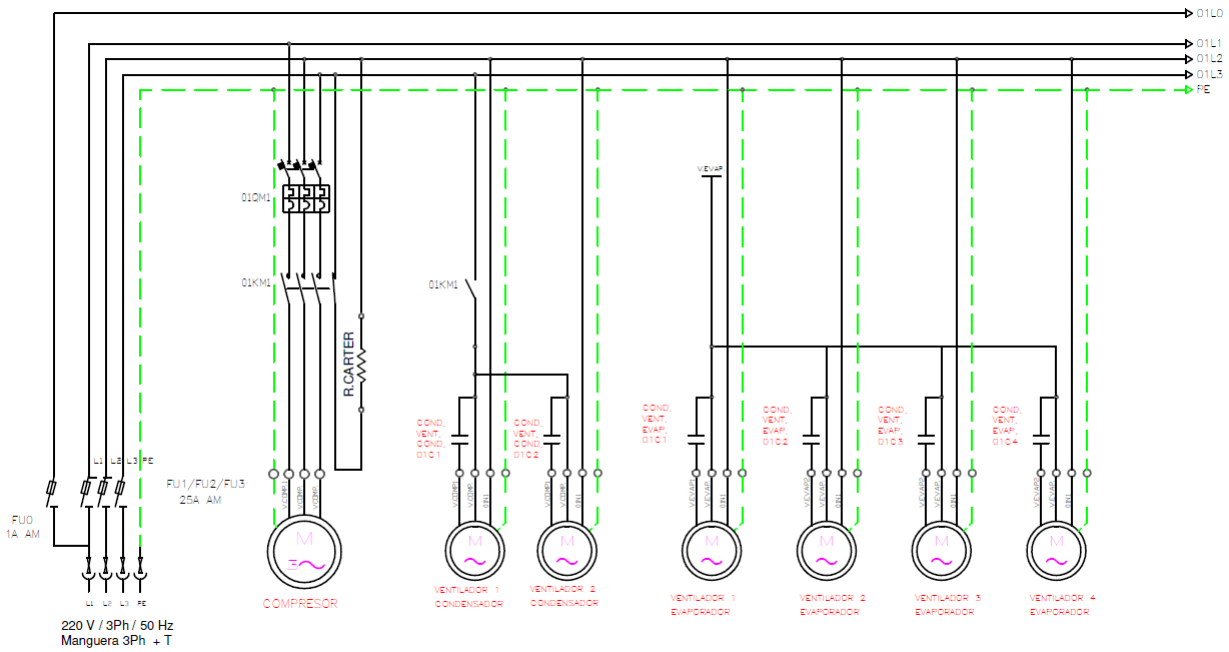


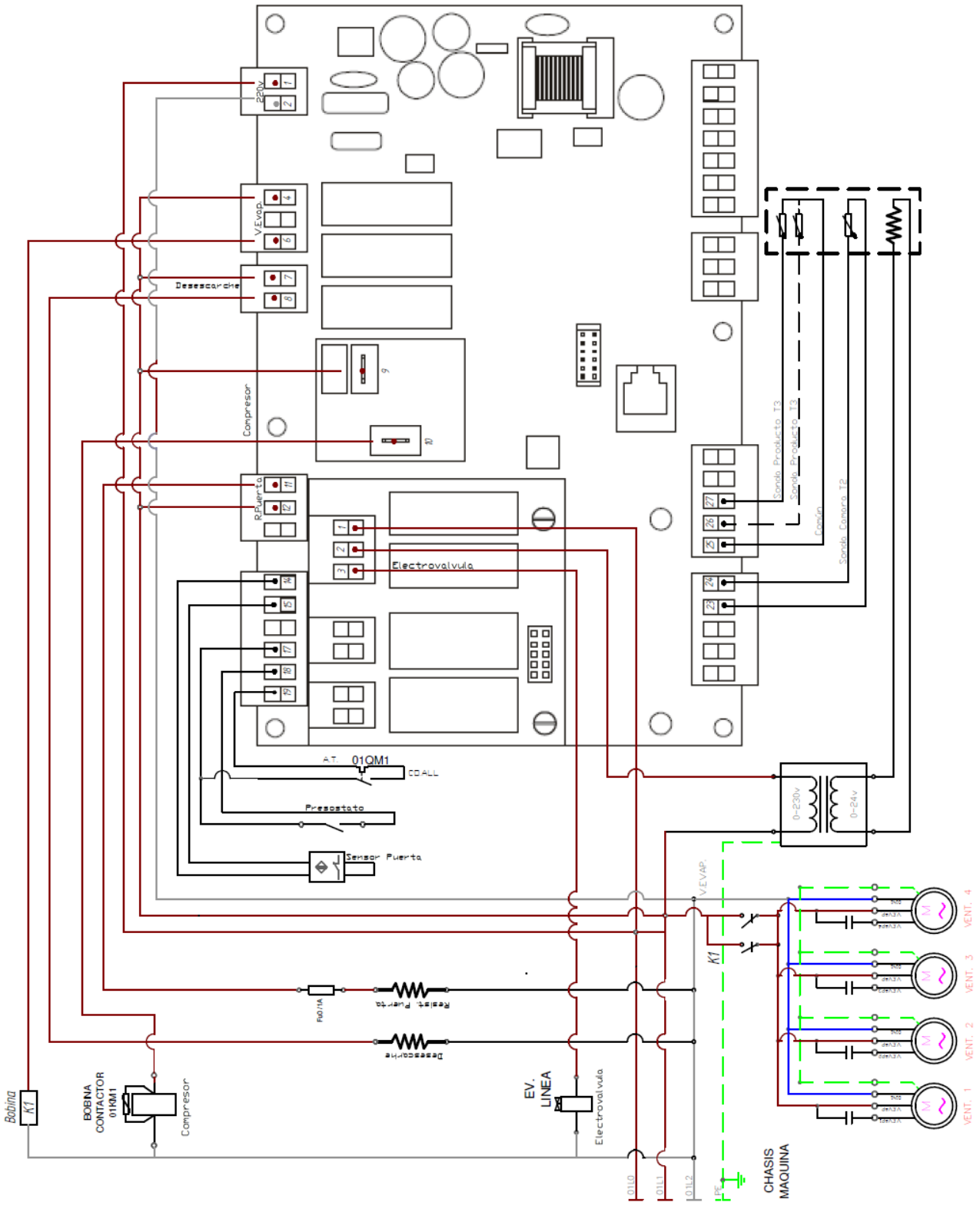
ELECTRICAL WIRING DIAGRAM ABT 201/202CBI 220V III 50-60Hz



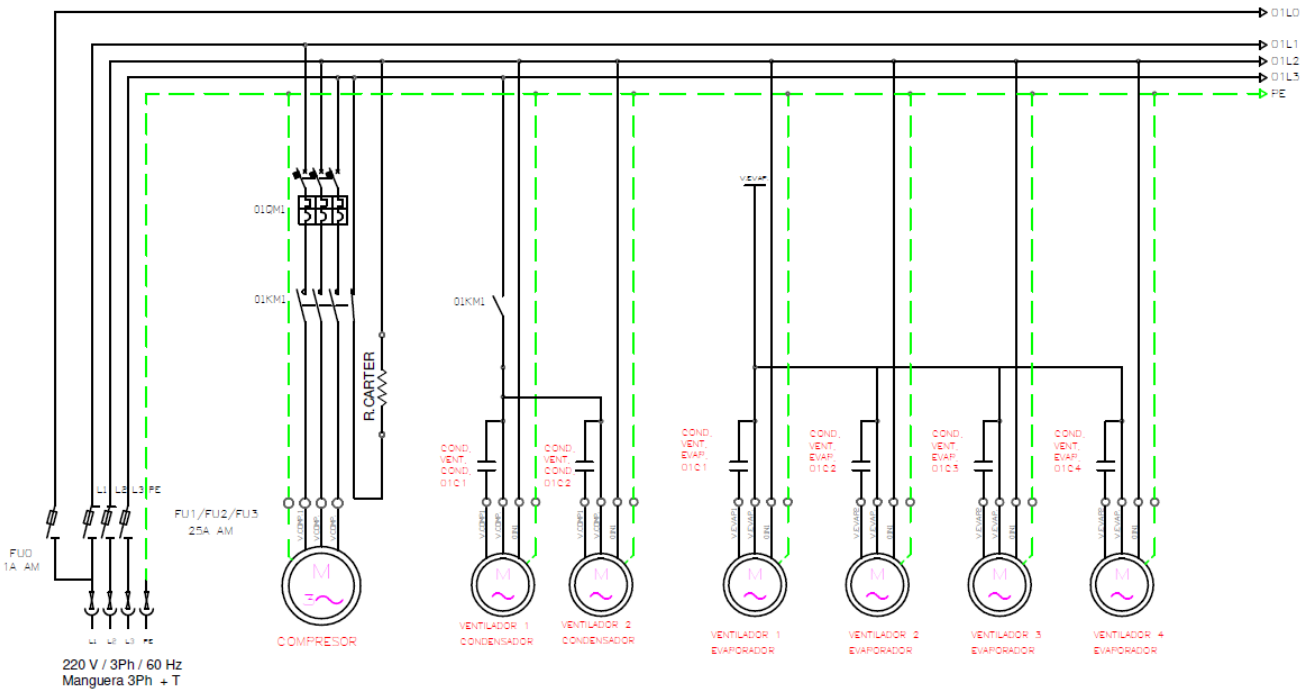

220v
V.Evap.
Desescarche
Compresor
R.Puerta
Electrovalvula
Sonda Producto T3
Comun
Sonda Camara T2
A.T.
01QM1
Presostato
Sensor Puerta
0-230v
0-24v
V.EVAP.
K1
Resist. Puerta
Desescarche
Bobina
K1
BOBINA CONTACTOR 01KM1
Compresor
EV. LINEA
Electrovalvula
01L0
01L1
01L2
PE
CHASIS MAQUINA
VENT. 4
VENT. 3
VENT. 2
VENT. 1

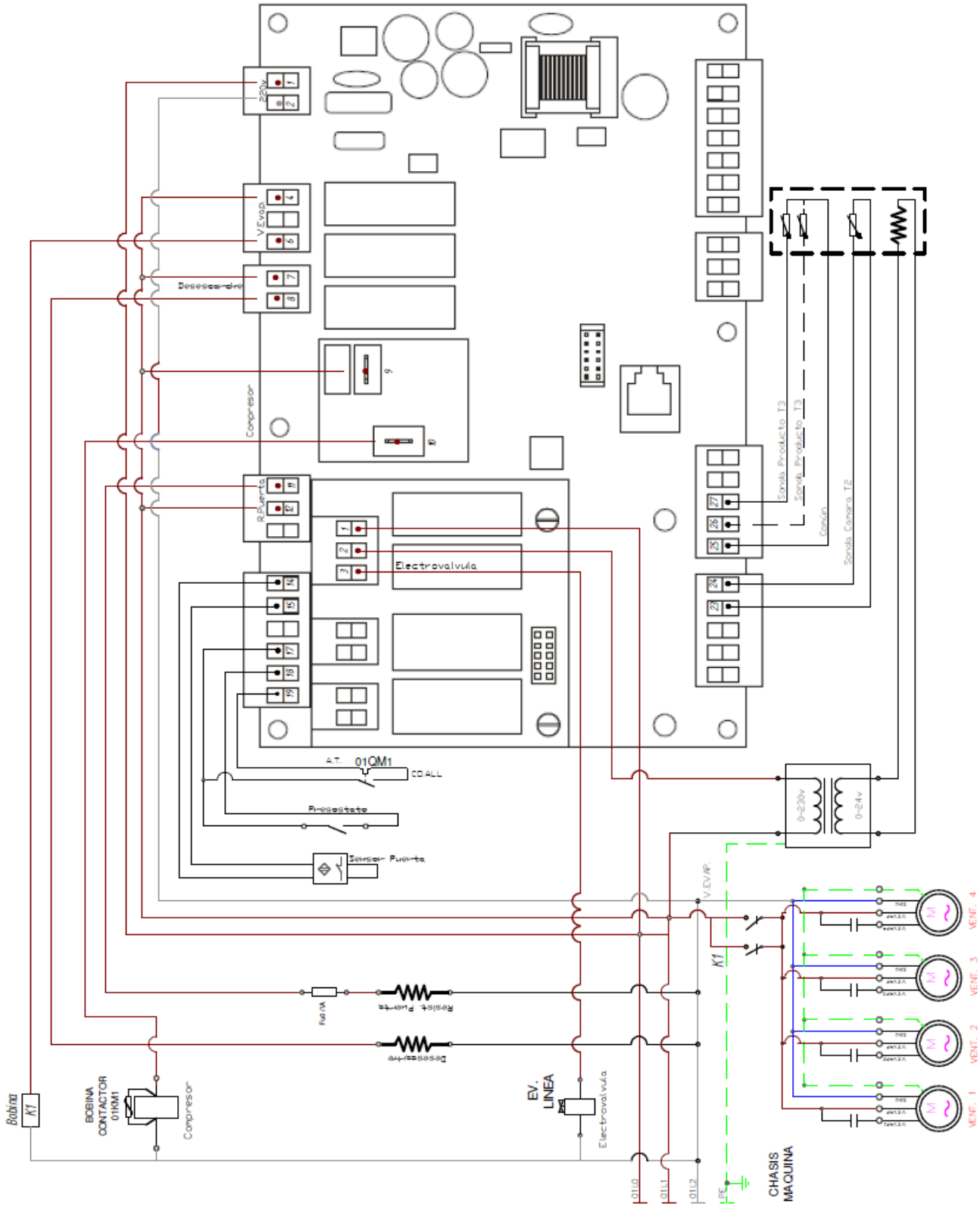
ELECTRICAL WIRING DIAGRAM ABT 201/202CBI 220V III 50Hz



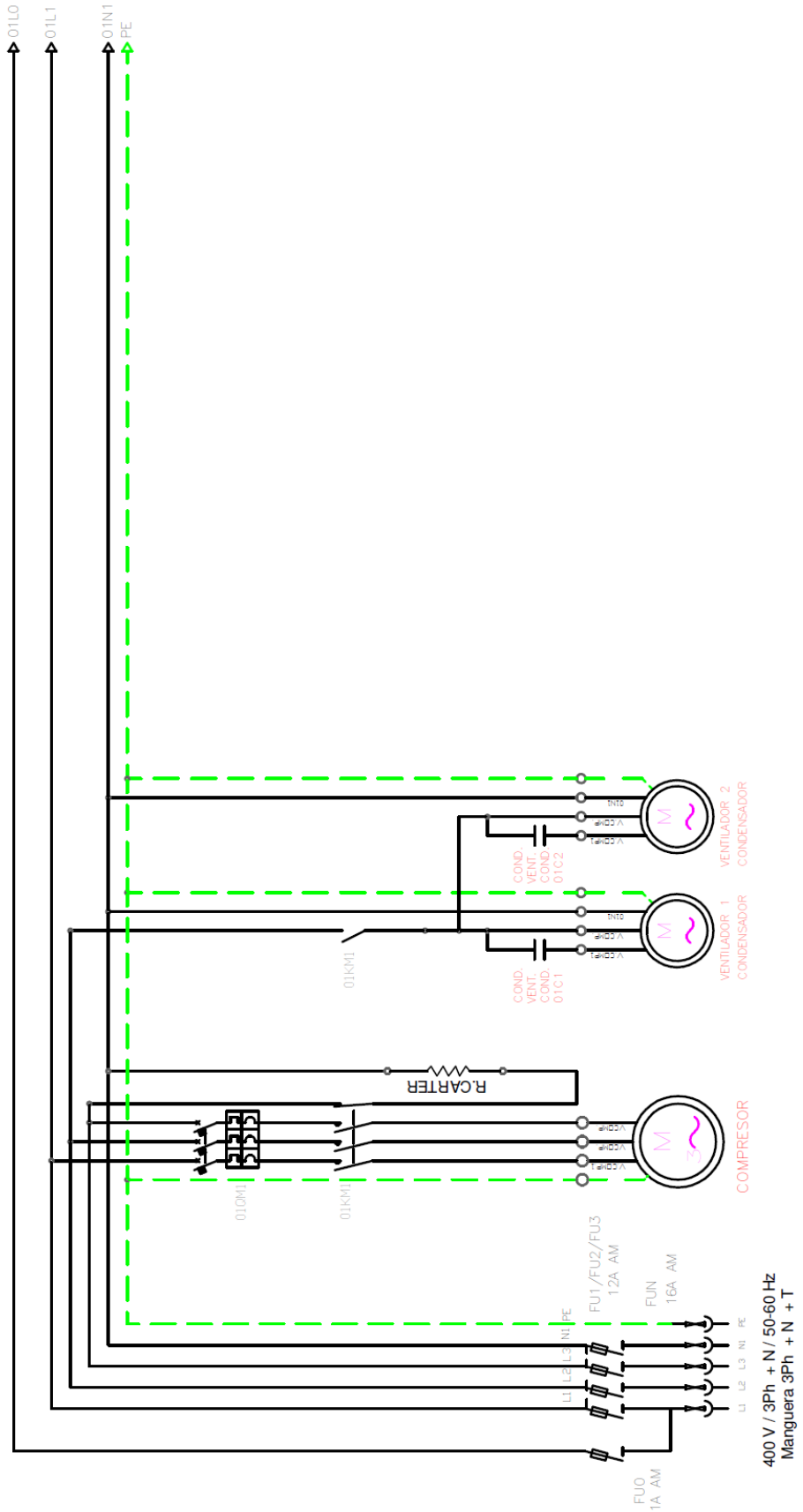

220V
V.Evap
Desescarche
Compresor
R.Puerta
Electrovalvula
Sonda Producto T3
Sonda Producto T3
Común
Sonda Camara T2
A.T. 01QM1
CO ALL
Presostato
Sensor Puerta
0-230v
0-24v
V.EVAP.
K1
VENT. 4
VENT. 3
VENT. 2
VENT. 1
Bobina
K1
BOBNA CONTACTOR 01KM1
Compresor
EV. LINEA
Electrovalvula
CHASIS MAQUINA

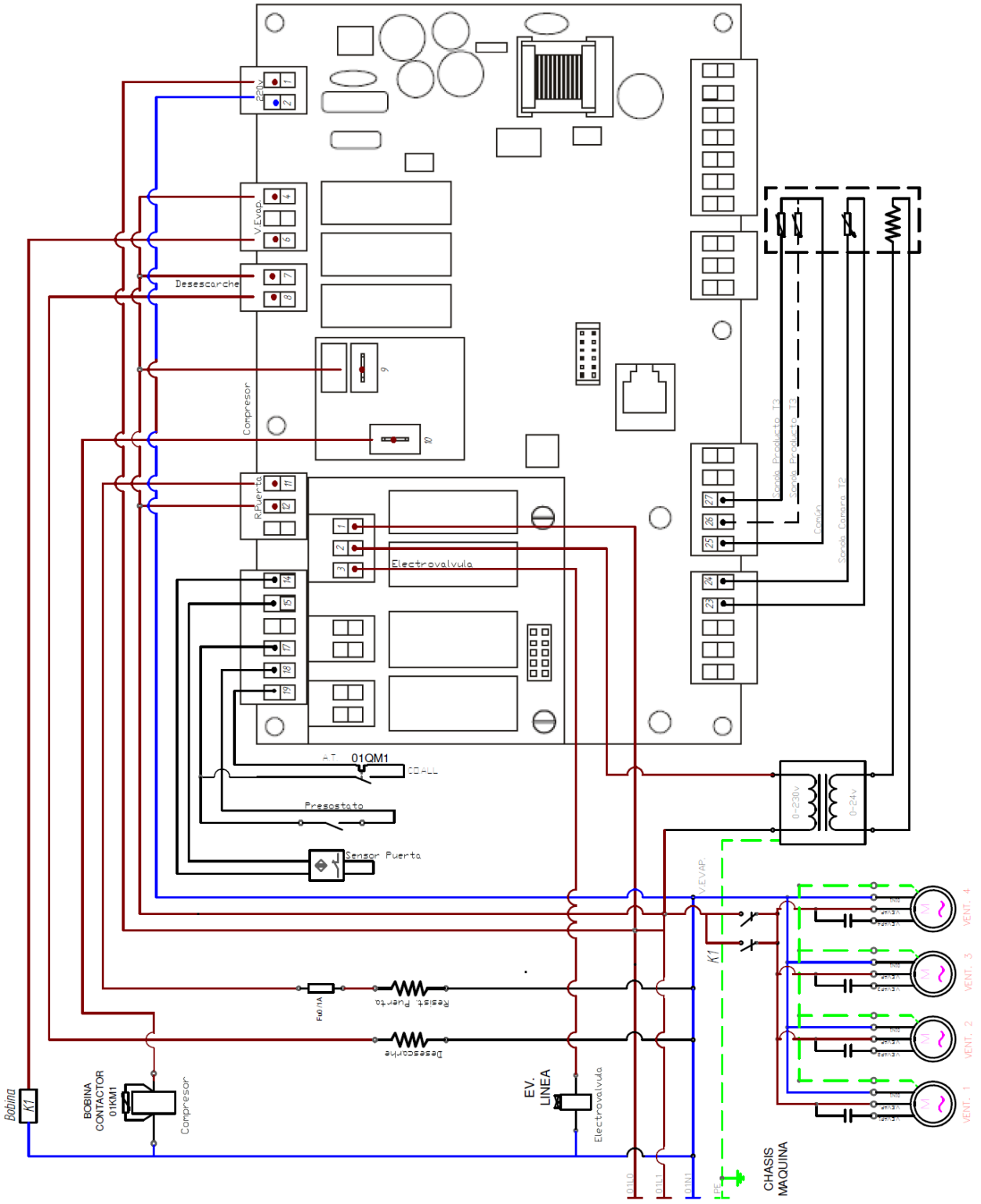
ELECTRICAL WIRING DIAGRAM ABT 201 / 202 CBI 220V III 60Hz



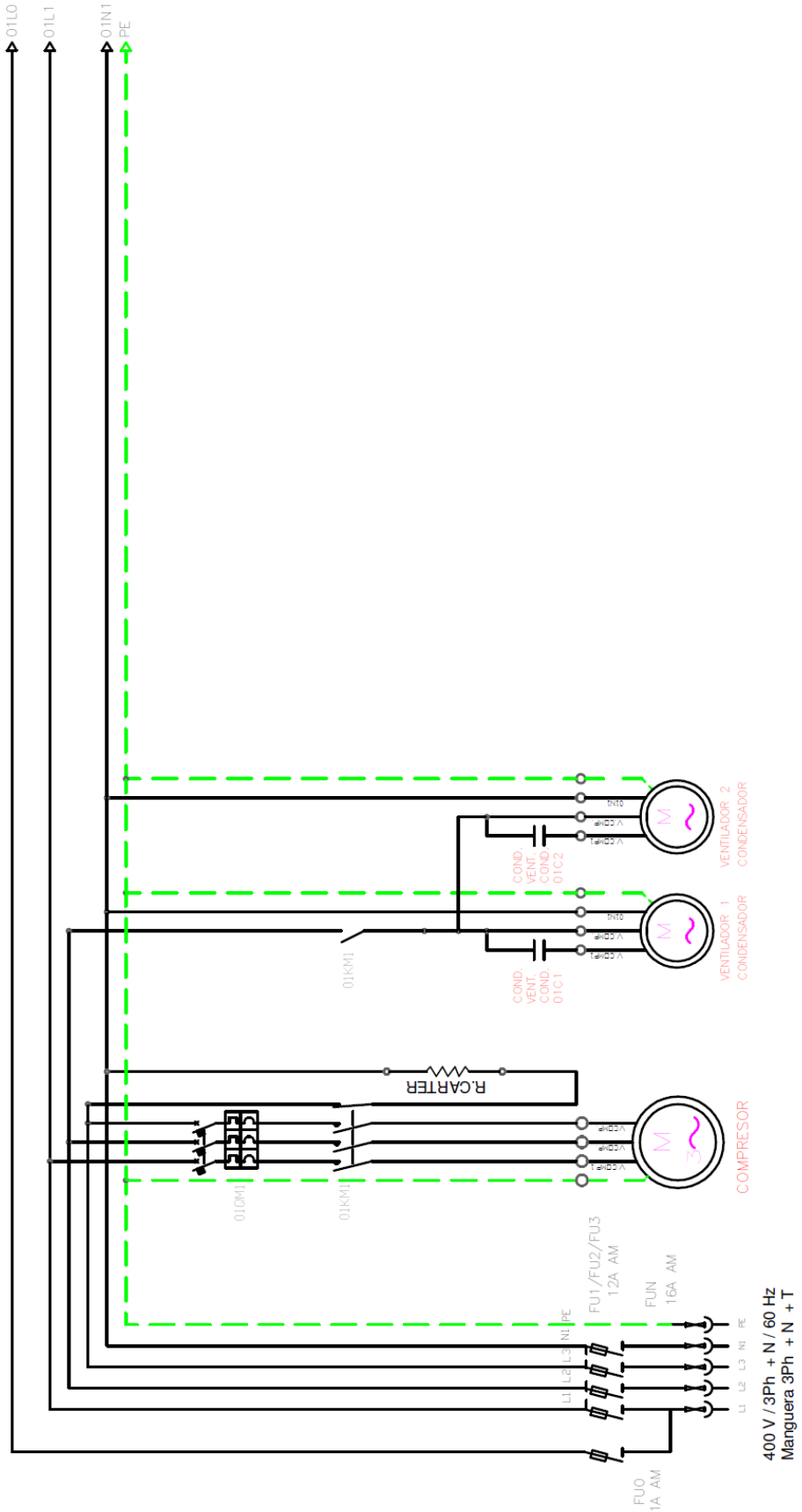

220v
V.Evap.
Desescarche
Compresor
R.Puerta
Electroválvula
Sonda Producto T3
Sonda Producto T2
Común
Sonda Cámara T2
A.T. 01QM1
CO ALL
Presostato
Sensor Puerta
0-230v
0-24v
V.EVAP.
K1
Resist. Puerta
Resistencias
Bobina
K1
BOBINA CONTACTOR 01KM1
Compresor
EV. LINEA
Electroválvula
CHASIS MAQUINA
VENT. 4
VENT. 3
VENT. 2
VENT. 1

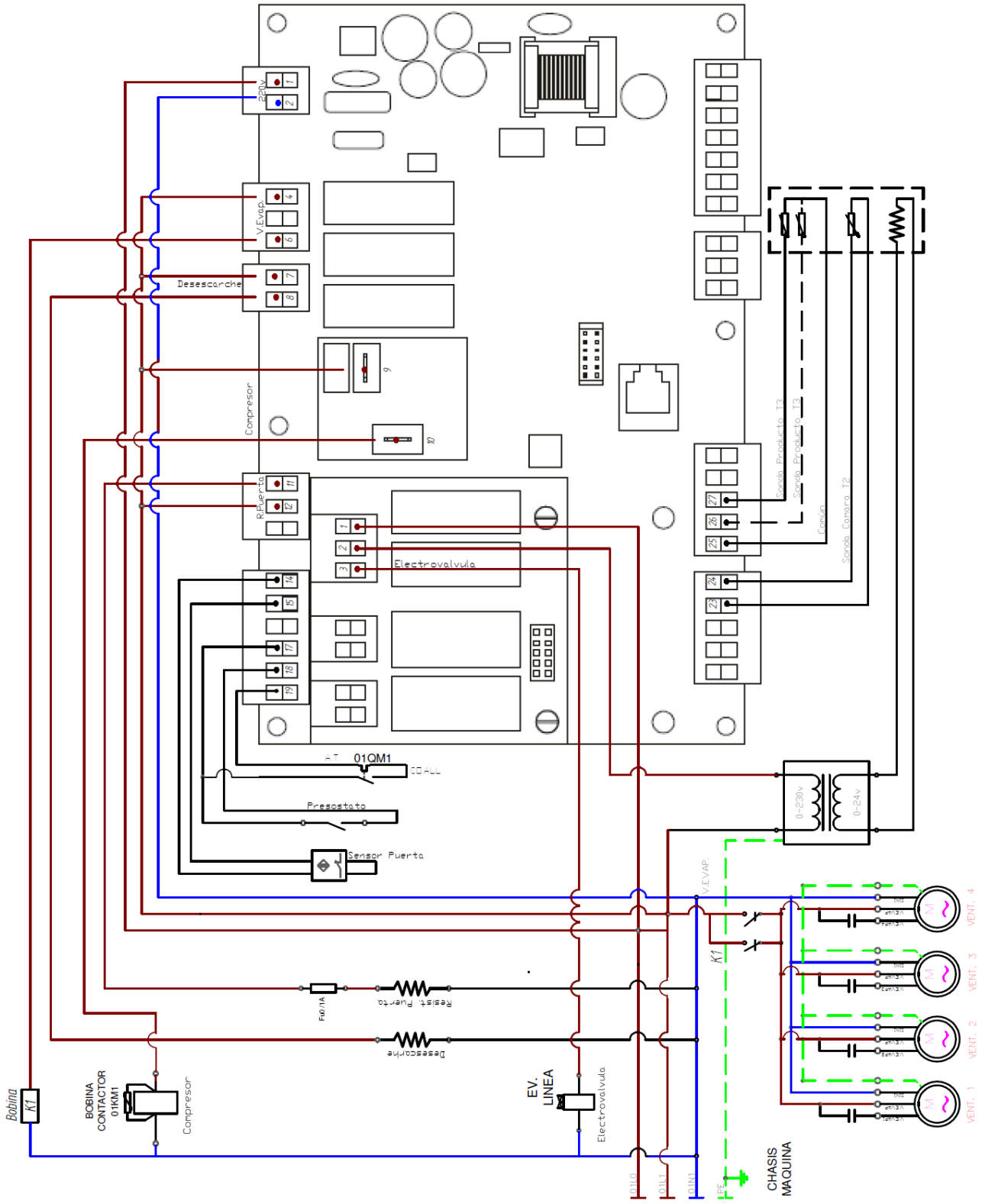
ELECTRICAL WIRING DIAGRAM ABT 201/202 CBI 220V III 60Hz



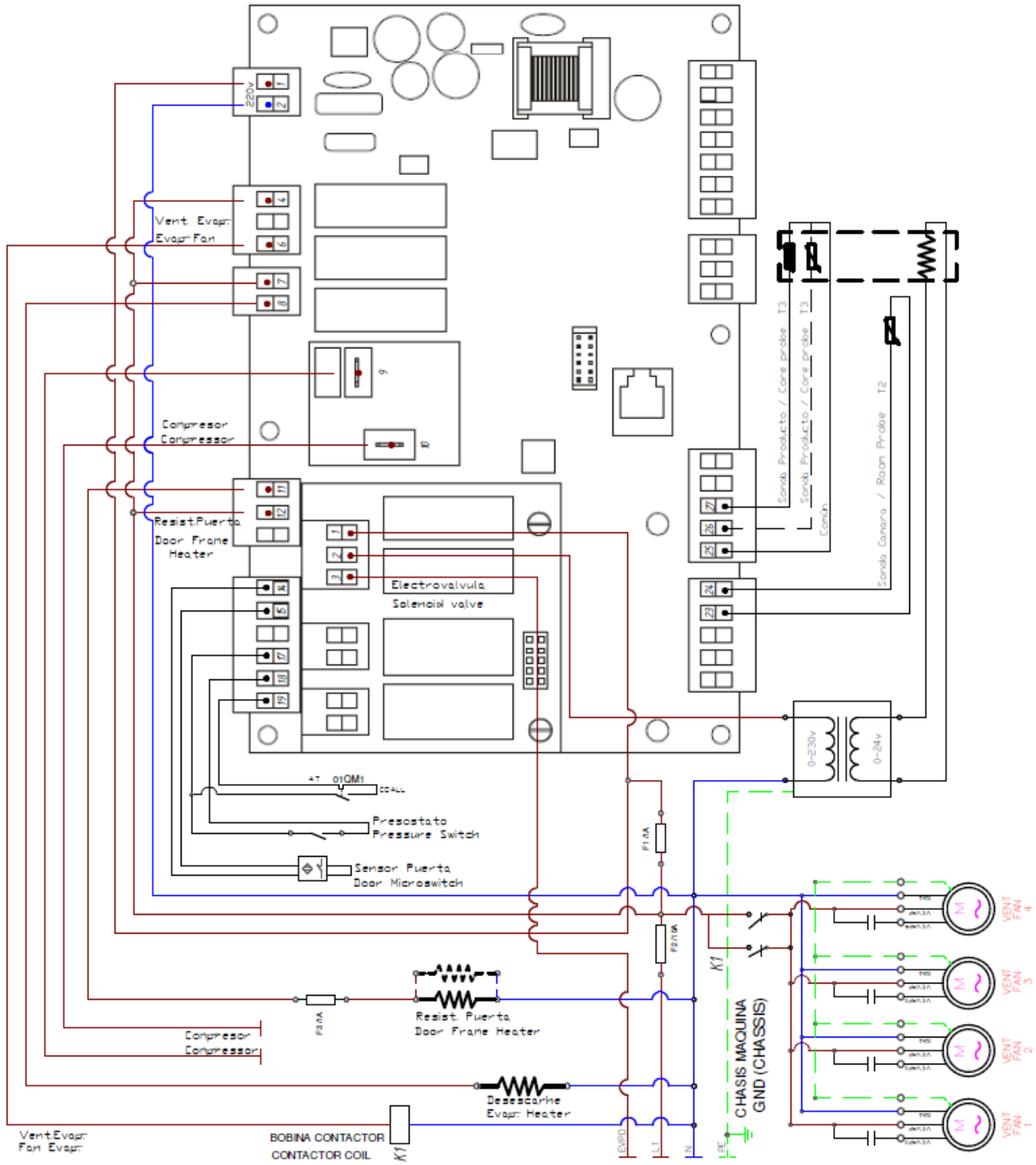

220v
V.Evap.
Desescarche
Compresor
R.Puerta
Electrovalvula
Sonda Producto T3
Sonda Producto T1
Comun
Sonda Camara T2
01QM1
Presostato
Sensor Puerta
0-230v
0-24v
V.EVAP.
K1
Fusible
Resist. Puerta
Desescarche
Bobina
K1
BOBINA
CONTACTOR
01KM1
Compresor
EV.
LINEA
Electrovalvula
CHASIS
MAQUINA
VENT. 4
VENT. 3
VENT. 2
VENT. 1

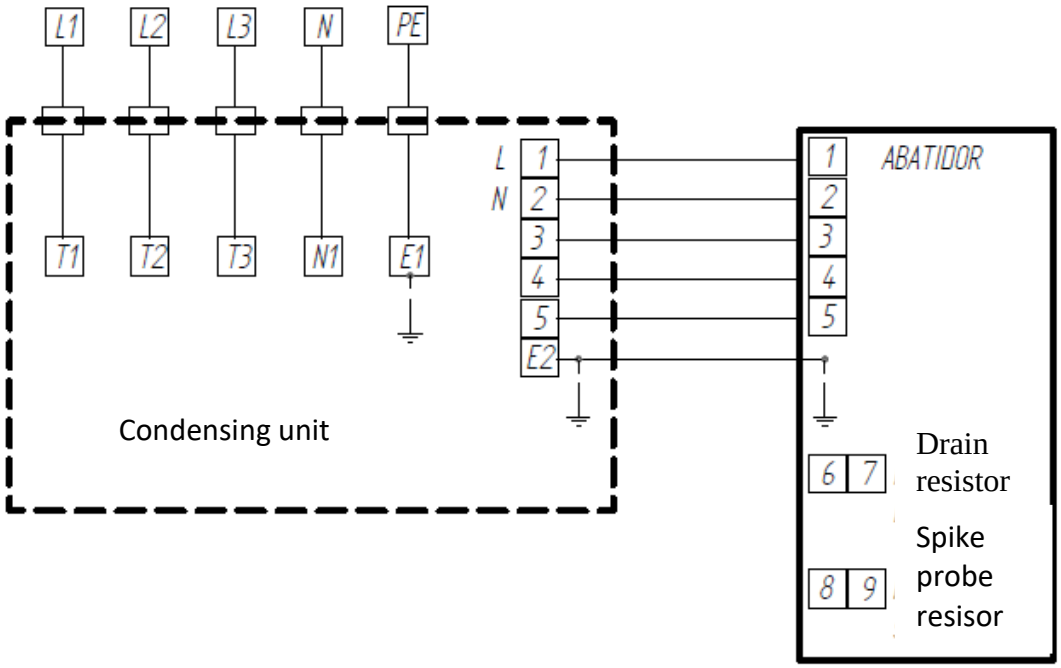
ELECTRICAL WIRING DIAGRAM ABT 201/202 CBI 380V III 60Hz

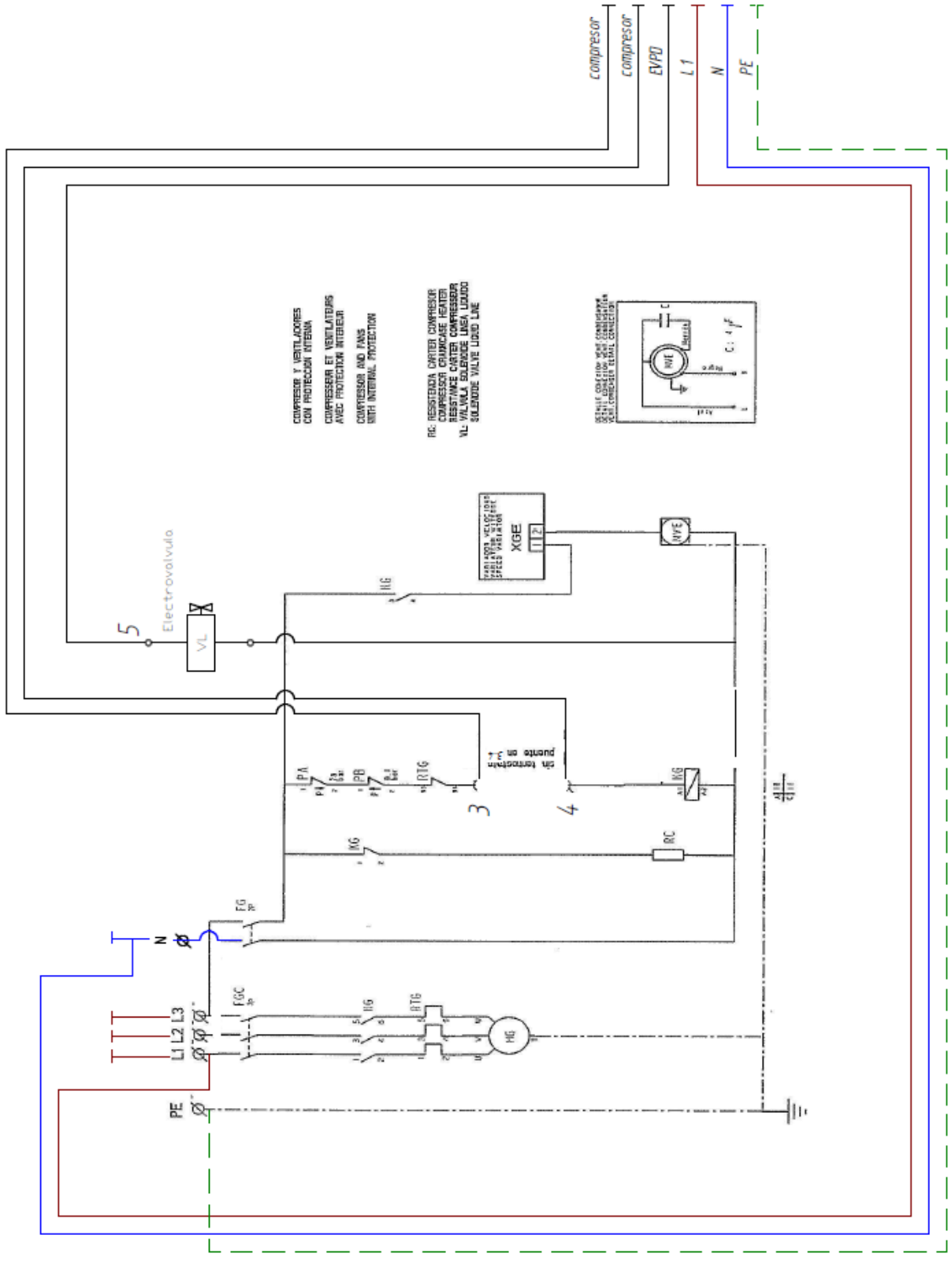



220v
V.Evap
Desescarche
Compresor
R.Puerta
Electrovalvula
Sonda Producto T3
Sonda Producto T2
Comun
Sonda Camara T2
01QM1
CO ALL
Presostato
Sensor Puerta
0-230v
0-24v
V.EVAP
K1
Resist. Puerta
Desescarche
Bobina
K1
BOBINA
CONTACTOR
01KM1
Compresor
EV.
LINEA
Electrovalvula
CHASIS
MAQUINA
VENT. 4
VENT. 3
VENT. 2
VENT. 1

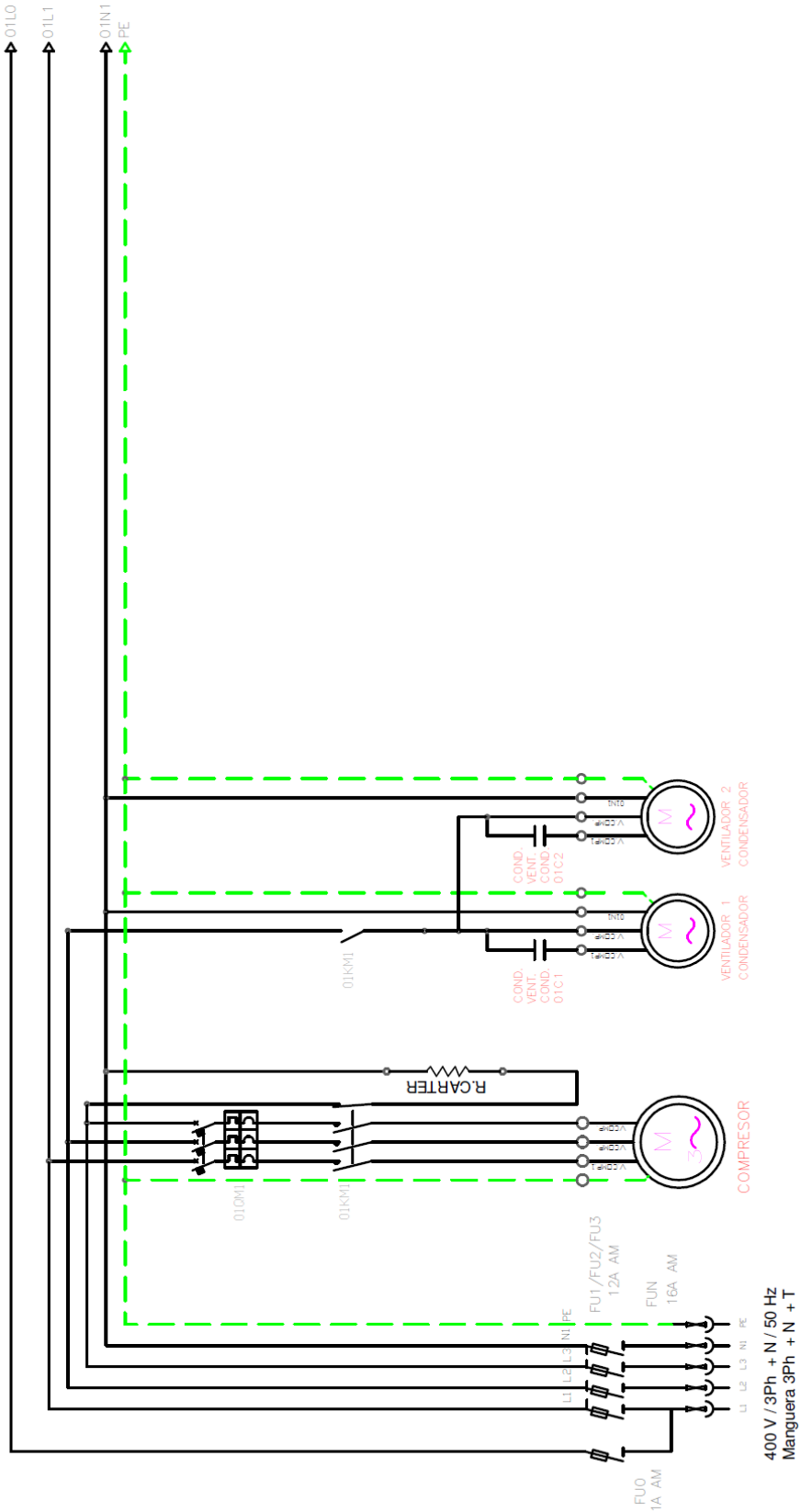
ELECTRICAL WIRING DIAGRAM ABT 201 / 202 INTARCON 380V III 50Hz

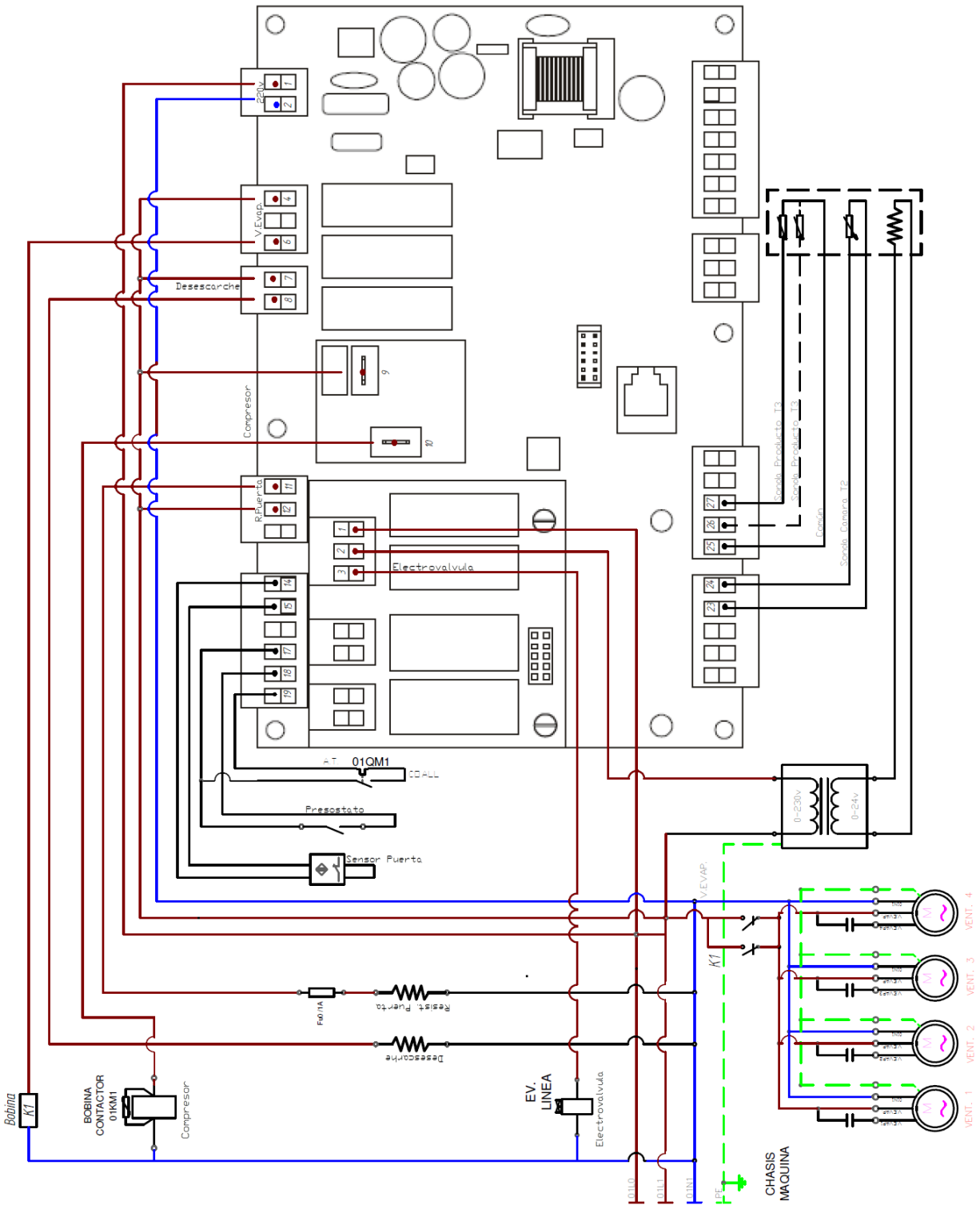



L1
L2
L3
N
PE
T1
T2
T3
N1
E1
L
N
1
2
3
4
5
E2
Condensing unit
ABATIDOR
1
2
3
4
5
6
7
8
9
Drain resistor
Spike probe resisor

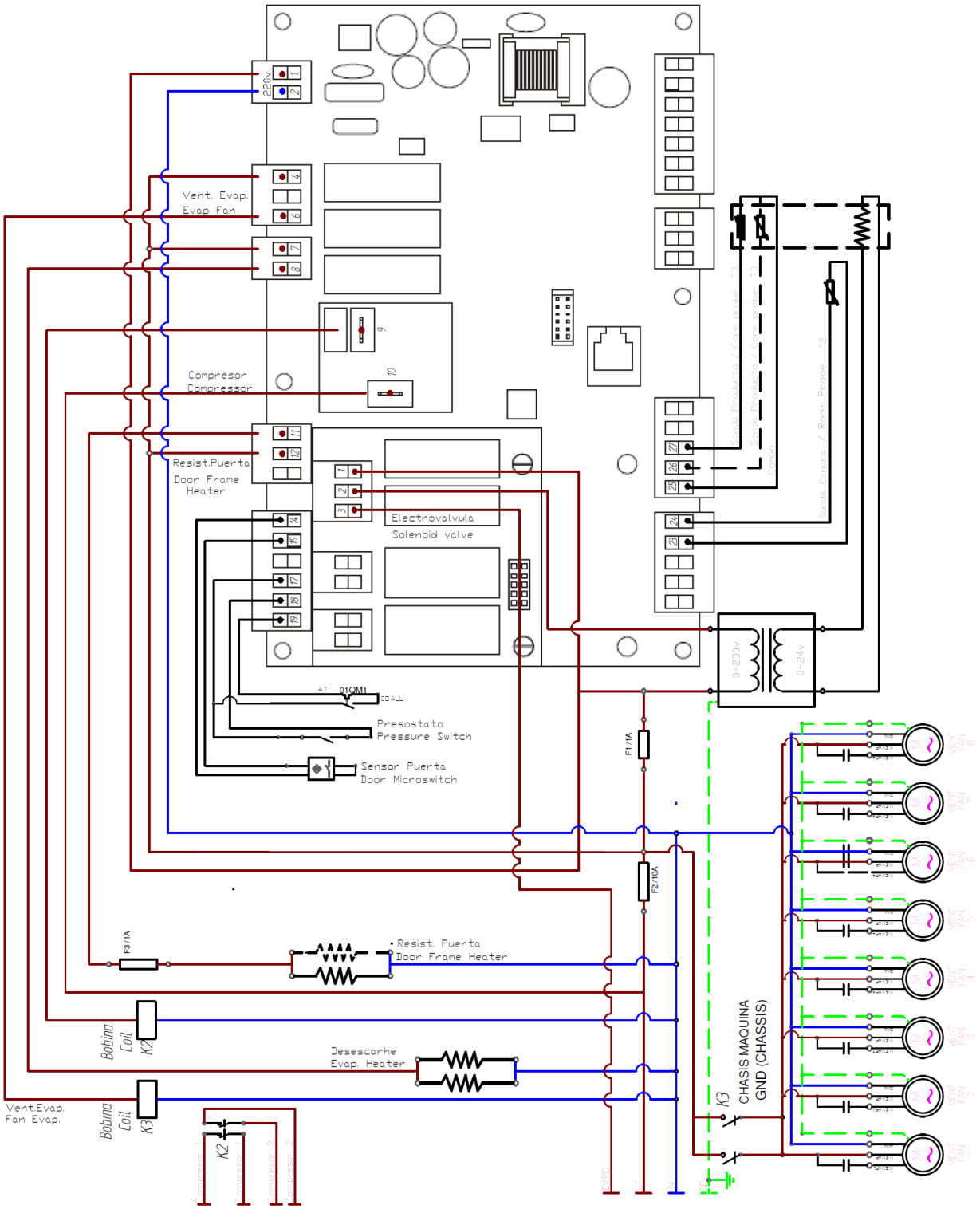

compresor
compresor
EVPD
L1
N
PE
COMPRESOR Y VENTILADORES CON PROTECCION INTERNA
COMPRESSEUR ET VENTILATEURS AVEC PROTECTION INTERIEUR
COMPRESSOR AND FANS WITH INTERNAL PROTECTION
RC: RESISTENCIA CARTER COMPRESOR
COMPRESSOR CHAMCASE HEATER
RESISTANCE CARTER COMPRESSOR
VL: VALVULA SOLENOIDE LINEA LIQUIDO
SOLENOIDE VALVE LIQUID LINE
XGE
Electrovalvula
VL
IIG
PA
PB
RTG
KG
RC
FG
FGC
HG
N
L1 L2 L3
PE

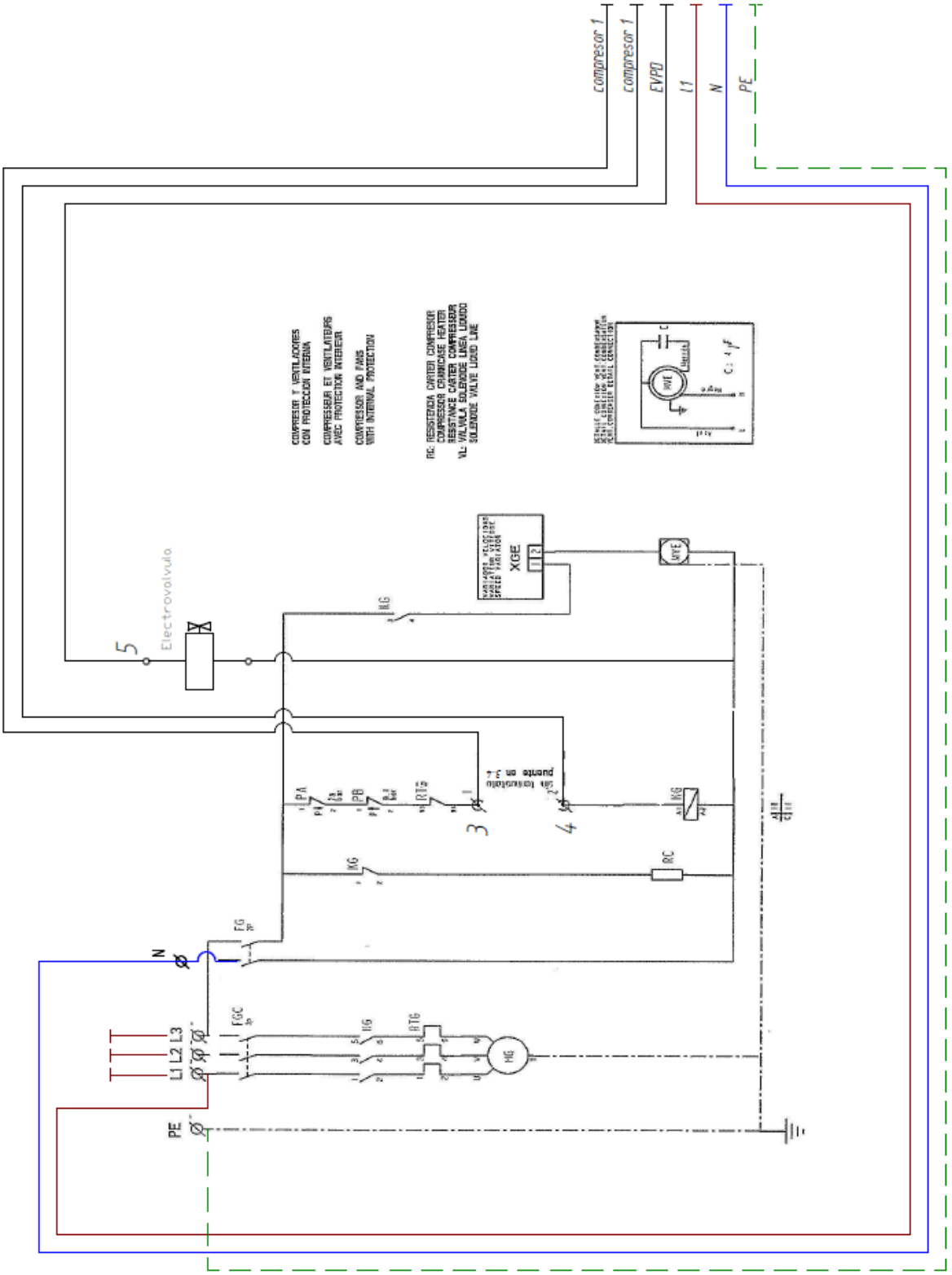
ELECTRICAL WIRING DIAGRAM ABT 201/202 CBI 380V III 50Hz

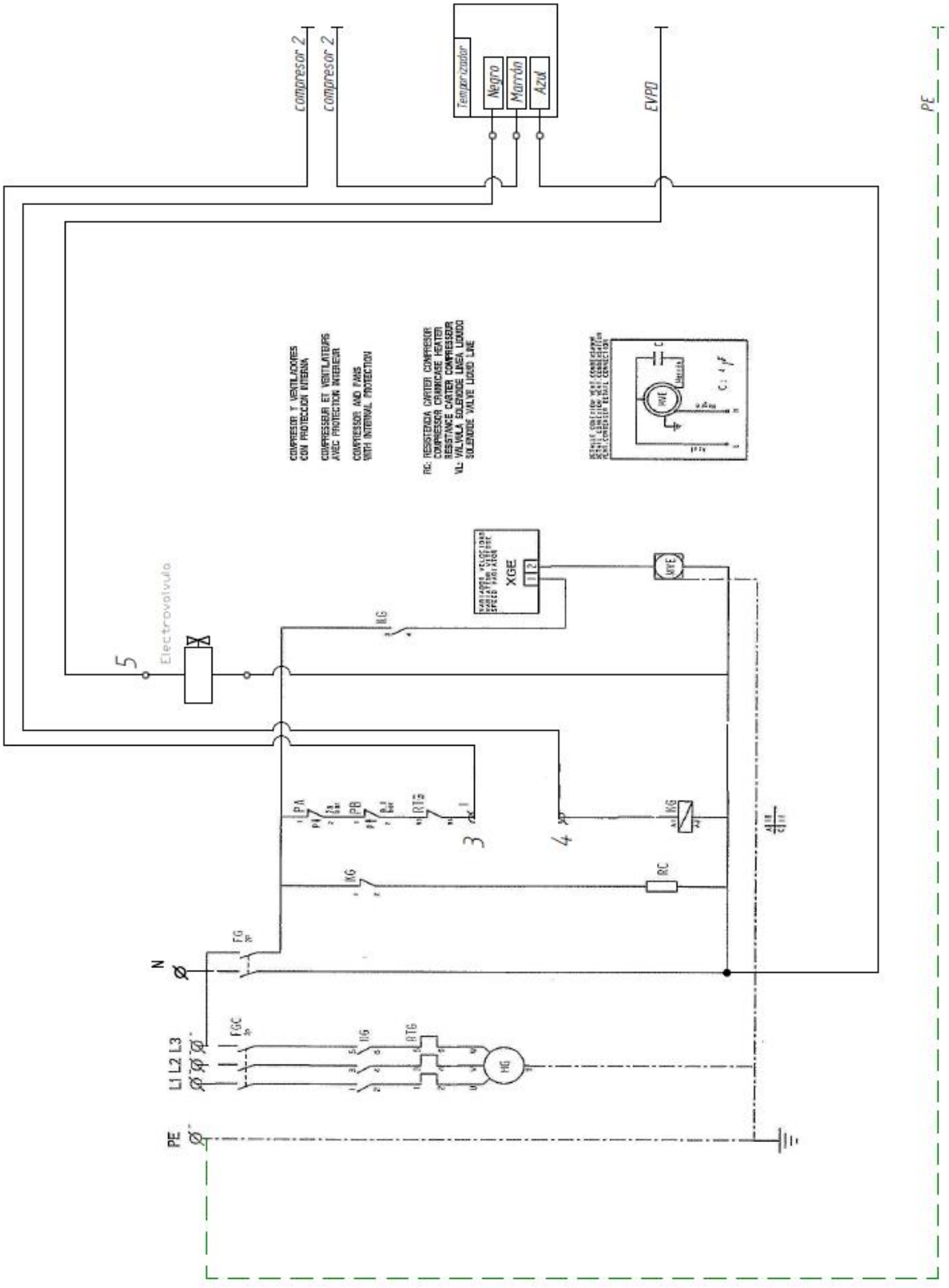


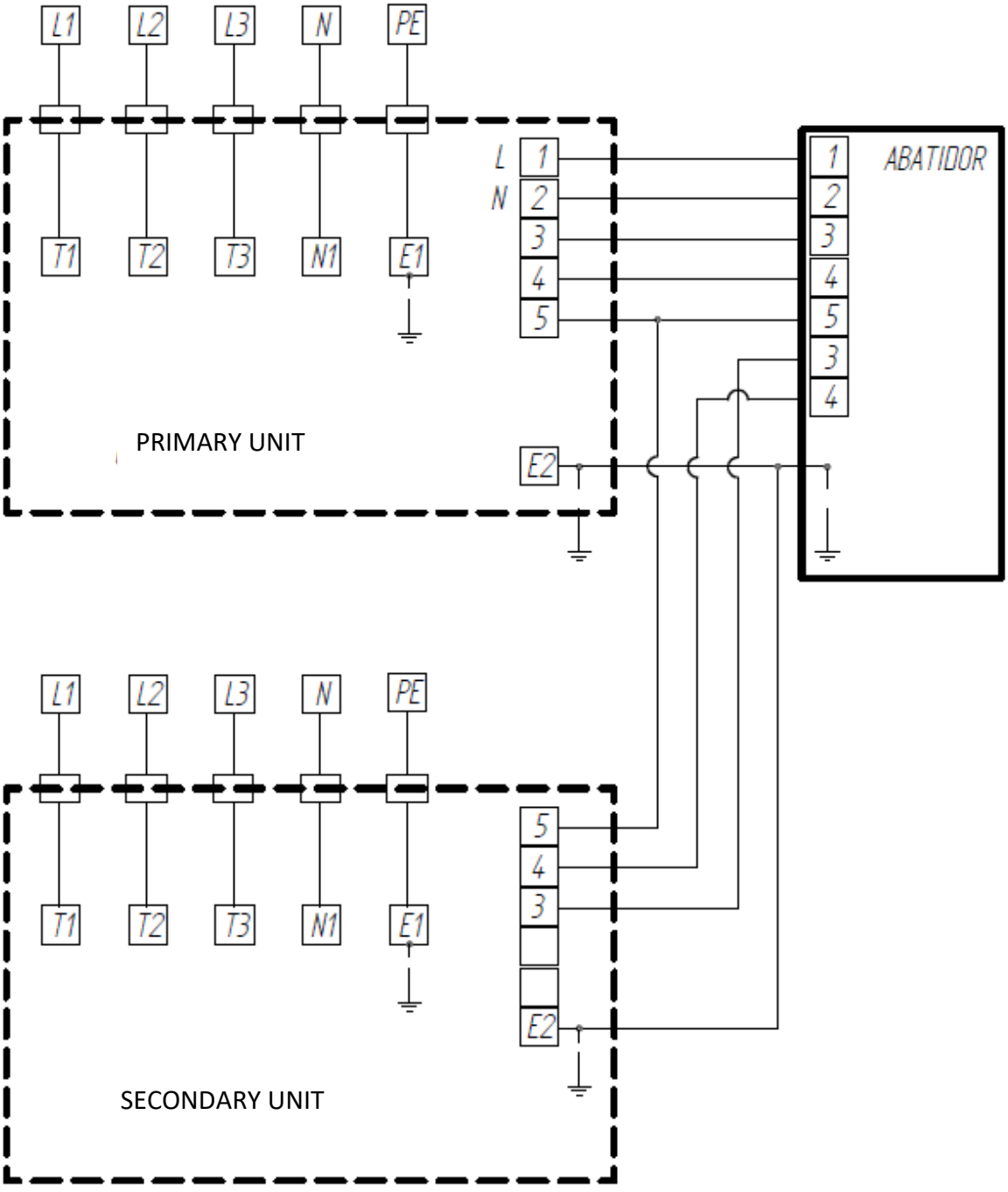

R.Puerta
V.Evap
Desescarche
Compresor
R.Puerta
Electrovalvula
Sonda Producto T3
Sonda Producto T3
Comun
Sonda Camara T2
01QM1
Presostato
Sensor Puerta
0-230v
0-24v
V.EVAP.
K1
Resist. Puerta
Desescarche
F40.1A
Bobina
K1
BOBINA CONTACTOR 01KM1
Compresor
EV. LINEA
Electrovalvula
CHASIS MAQUINA
VENT. 4
VENT. 3
VENT. 2
VENT. 1

ELECTRICAL WIRING DIAGRAM ABT 203 /204 INTARCON 380V III 50Hz POWERED

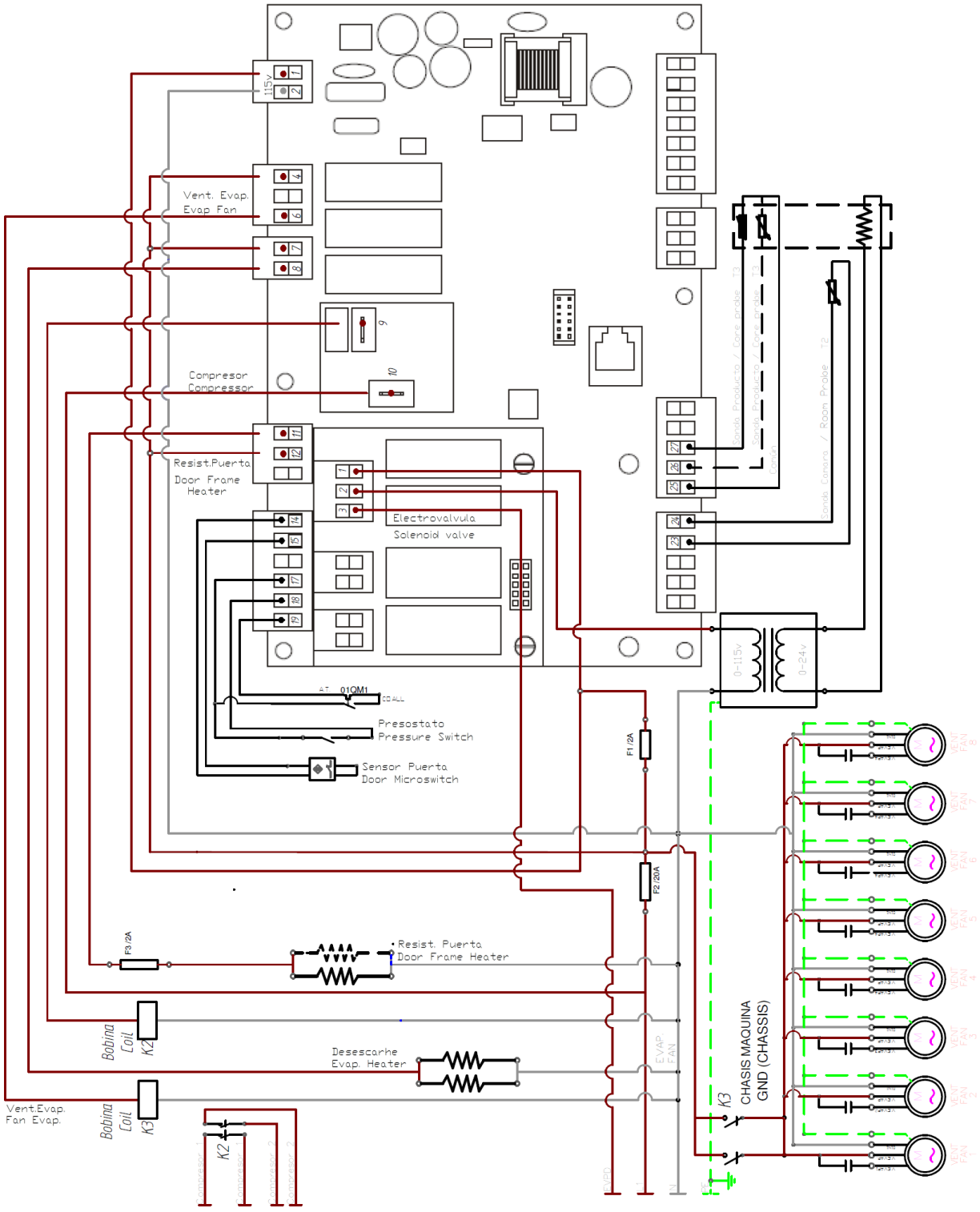



compresor 1
compresor 1
EVPD
L1
N
PE
COMPRESOR Y VENTILADORES CON PROTECCION INTERNA
COMPRESSEUR ET VENTILATEURS AVEC PROTECTION INTERIEUR
COMPRESSOR AND FANS WITH INTERNAL PROTECTION
RC: RESISTENCIA CARTER COMPRESOR
COMPRESSOR CRANKCASE HEATER
RESISTANCE CARTER COMPRESSEUR
VL: VALVULA SOLENOIDE LINEA LIQUIDO
SOLENOIDE VALVE LIQUID LINE
XGE
Electrovalvula
puente en J.T.
L1 L2 L3
PE
N


compresor 2
compresor 2
Temporizador
Negro
Marrón
Azul
EVPD
PE
COMPRESOR Y VENTILADORES CON PROTECCIÓN INTERNA
COMPRESSEUR ET VENTILATEURS AVEC PROTECTION INTERIEUR
COMPRESSOR AND FANS WITH INTERNAL PROTECTION
RC: RESISTENCIA CARTER COMPRESOR
COMPRESSOR CRANKCASE HEATER
RESISTANCE CARTER COMPRESSEUR
VL: VALVULA SOLENOIDE LINEA LIQUIDO
SOLENOIDE VALVE LIQUID LINE
XGE
Electroválvula
5
3
4
PA
PB
RTG
MG
RC
FG
FGC
N
L1 L2 L3
PE

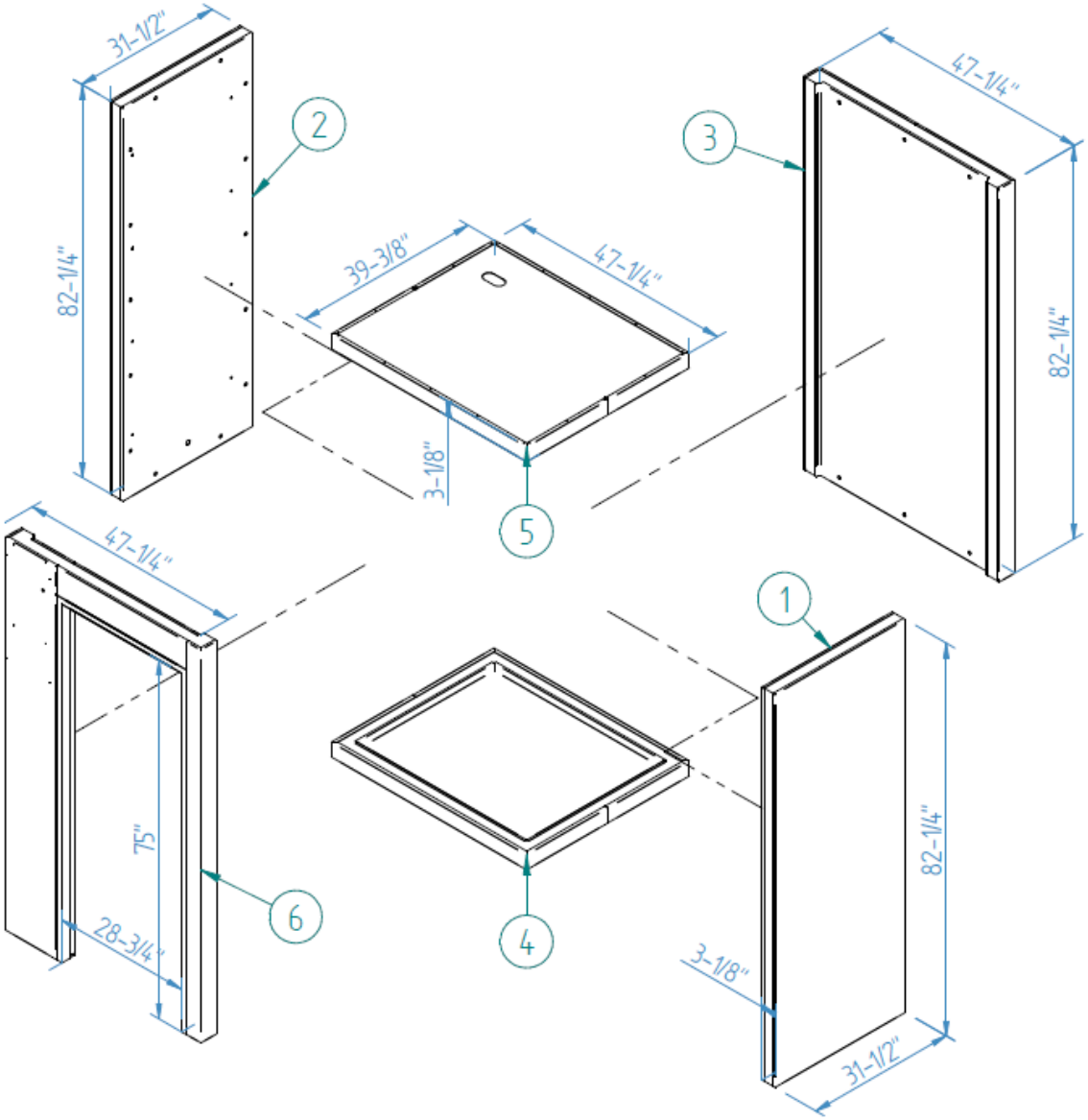

L1
L2
L3
N
PE
T1
T2
T3
N1
E1
L
N
1
2
3
4
5
E2
PRIMARY UNIT
ABATIDOR
1
2
3
4
5
3
4
L1
L2
L3
N
PE
T1
T2
T3
N1
E1
5
4
3
E2
SECONDARY UNIT

ELECTRICAL WIRING DIAGRAM ABT 203 / 204 INTARCON 115V I 60Hz



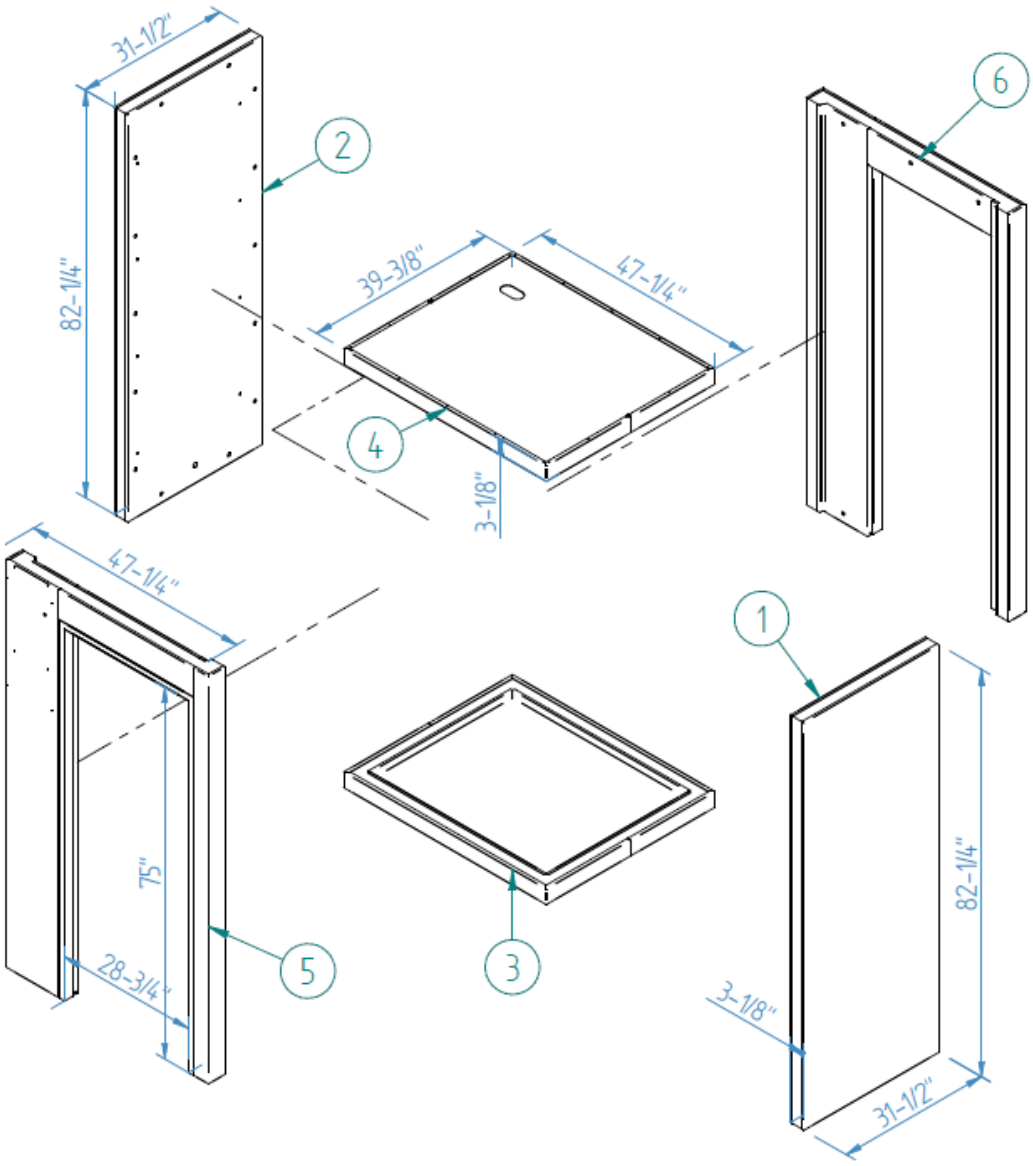
15.3 CABINET BREAKDOWN ABT20

ABT20 1C



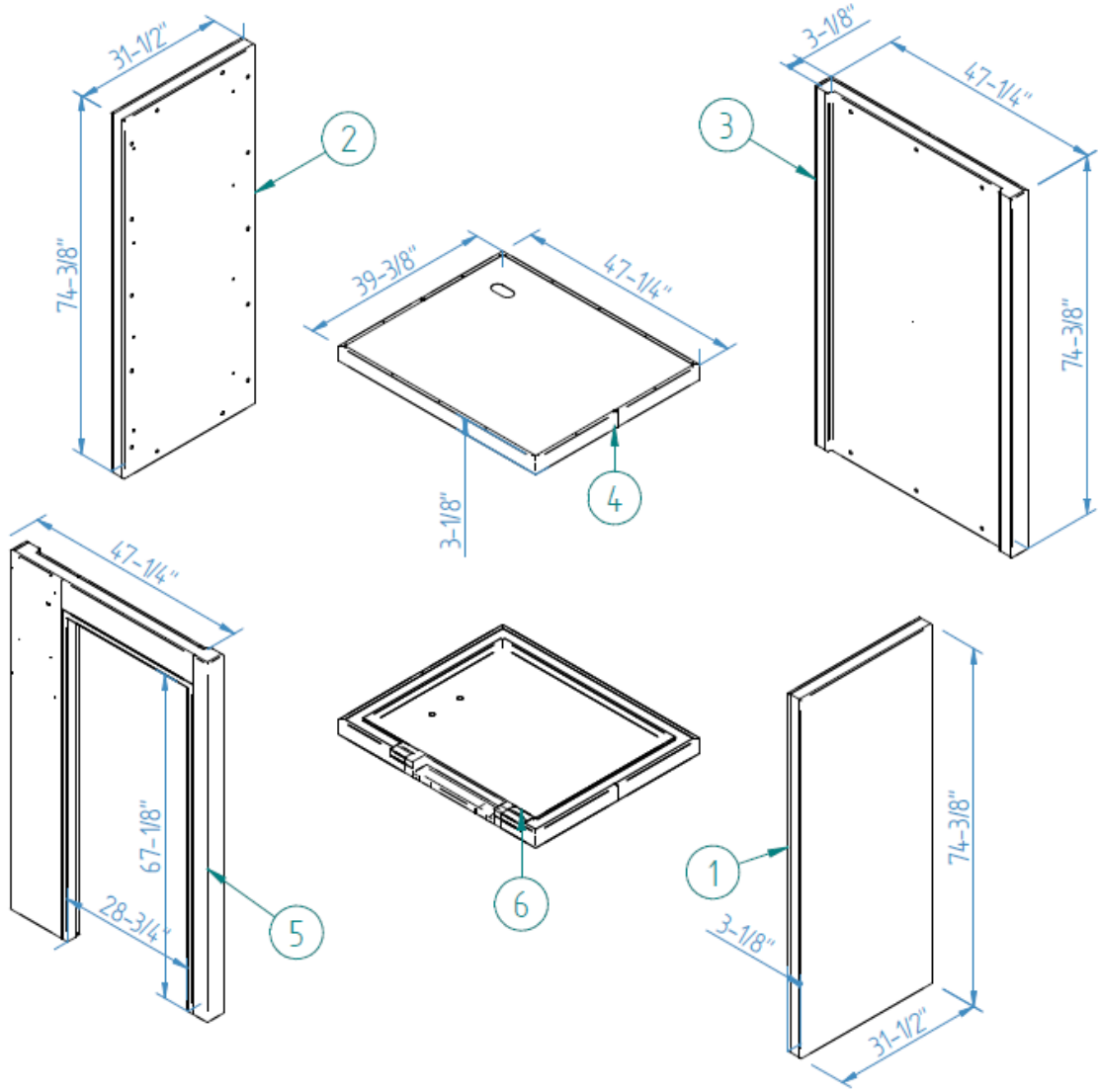
№	Code	Description	Quantity
1	201ABT01	Right side ABT 201C	1
2	201ABT02	Left side ABT 201C	1
3	201ABT03	Back ABT 201C	1
4	201ABT04	Background ABT 201C	1
5	201ABT04	Roof ABT 201C	1
6	201ABT05	Front ABT 201C	1

ABT20 1P



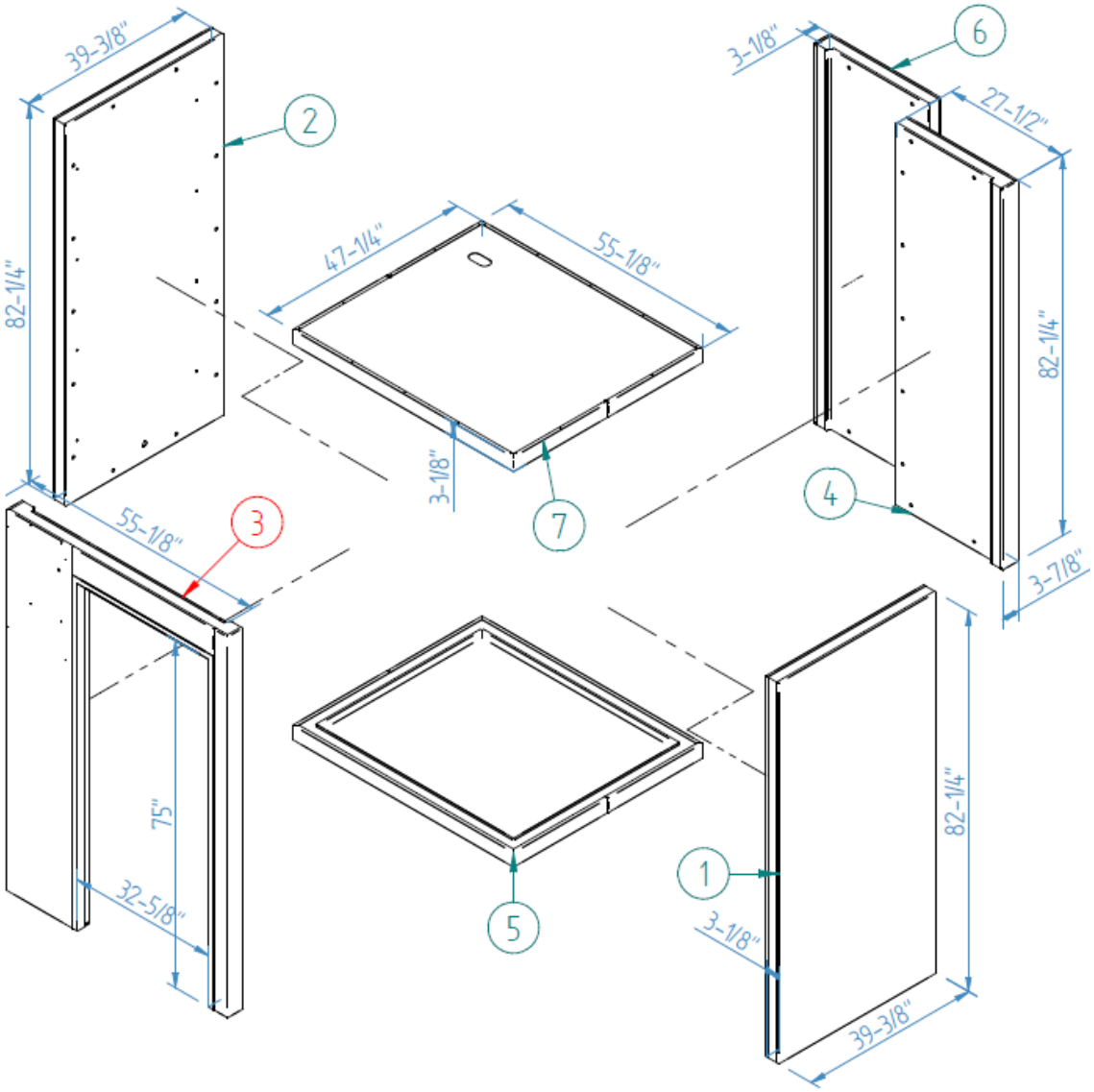
№	Code	Description	Quantity
1	201ABT01	Right side ABT 201C	1
2	201ABT02	Left side ABT 201C	1
3	201ABT03	Background ABT 201C	1
4	201ABT04	Roof ABT 201C	1
5	201ABT04	Front ABT 201C	1
6	201ABT05	Front ABT 201P	1

ABT20 1S



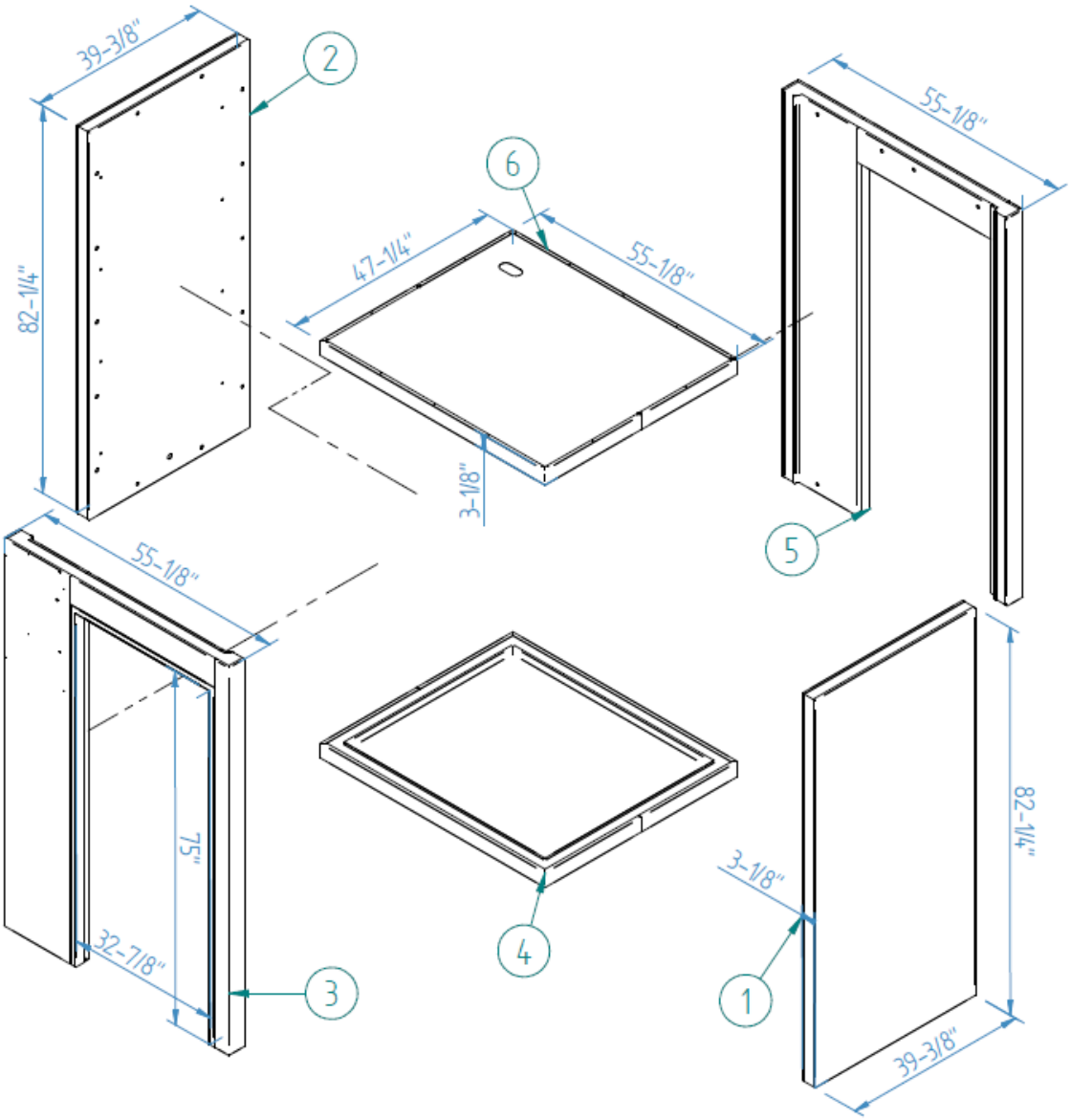
№	Code	Description	Quantity
1	201ABT01	Right side ABT 201P	1
2	201ABT02	Left side ABT 201P	1
3	201ABT03	Back ABT 201P	1
4	201ABT04	Background ABT 201P	1
5	201ABT04	Roof ABT 201P	1
6	201ABT05	Front ABT 201P	1

ABT20 2C



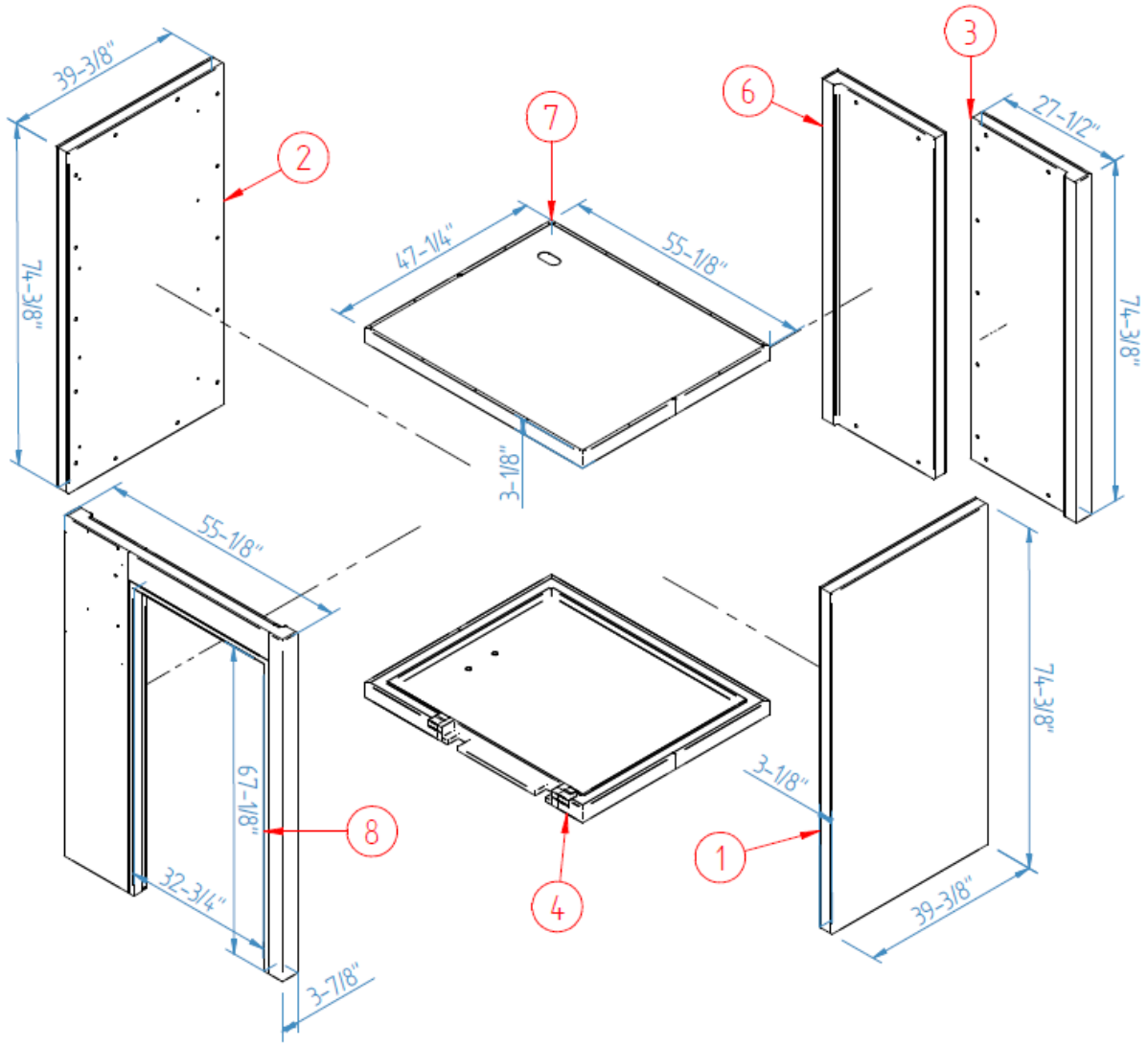
№	Code	Description	Quantity
1	201ABT06	Right side ABT 202C	1
2	201ABT07	Left side ABT 202C	1
3	201ABT08	Front ABT 202C	1
4	201ABT09	Right back ABT 202C	1
5	201ABT10	Background ABT 202C	1
6	201ABT13	Left back ABT 202C	1
7	201ABT34	Roof ABT 202C	1

ABT20 2P



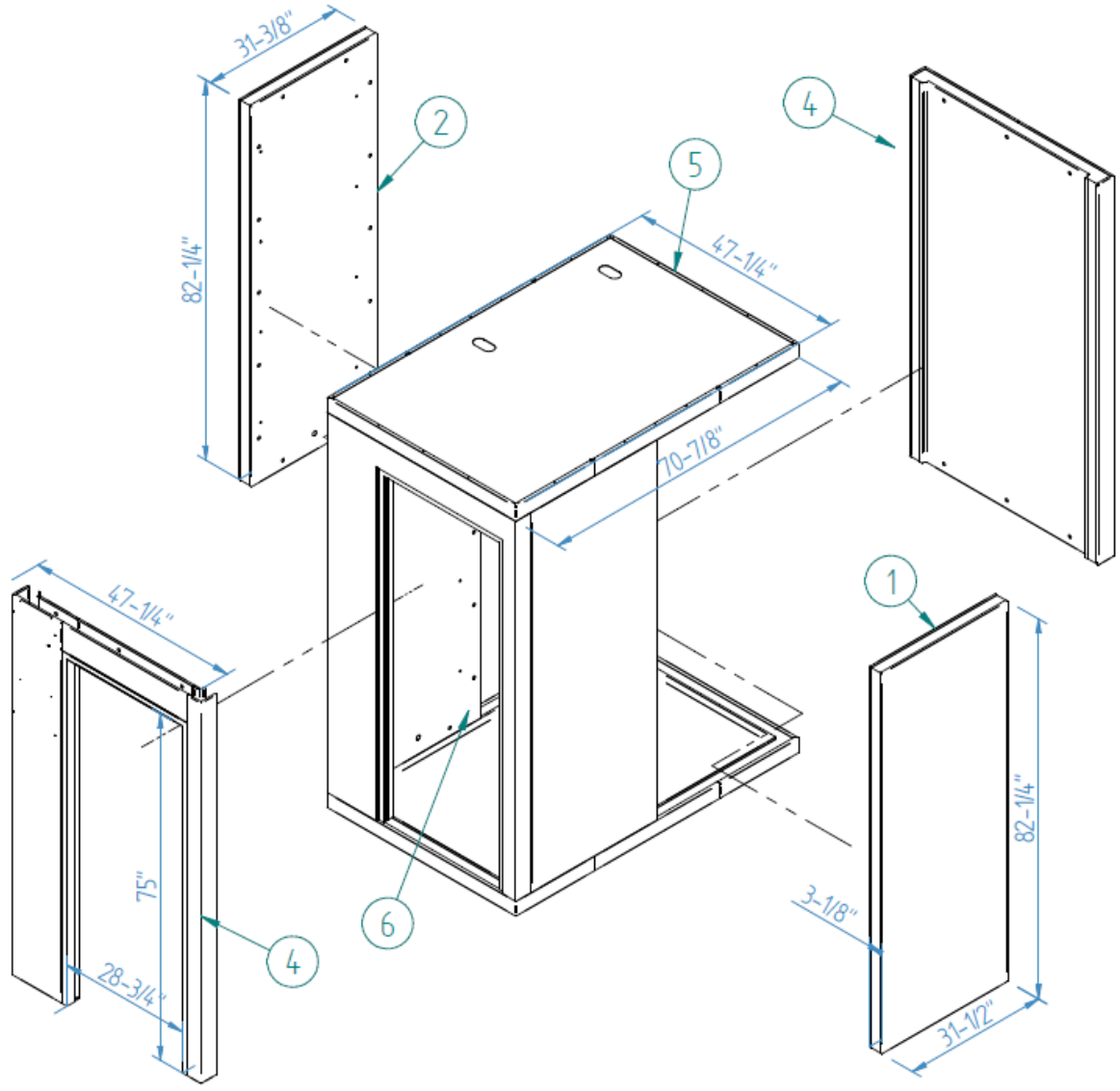
№	Code	Description	Quantity
1	201ABT06	Right side ABT 202C	1
2	201ABT07	Left side ABT 202C	1
3	201ABT08	Front ABT 202C	1
4	201ABT10	Background ABT 202C	1
5	201ABT26	Front ABT 202C	1
6	201ABT34	Roof ABT 202C	1

ABT20 2S



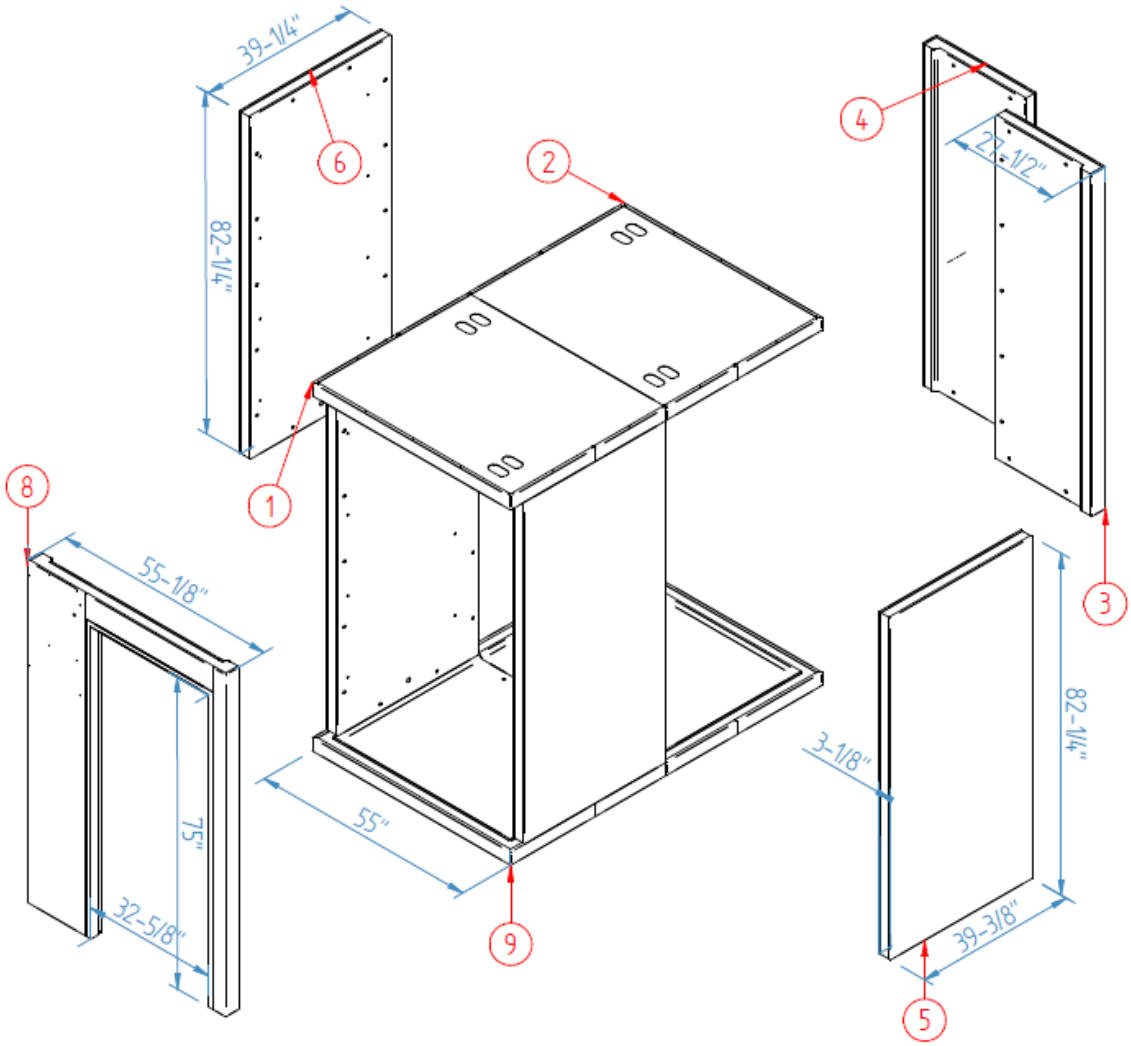
№	Code	Description	Quantity
1	201ABT06	Right side ABT 202S	1
2	201ABT07	Left side ABT 202S	1
3	201ABT09	Right Back ABT 202S	1
4	201ABT12	Background ABT 202S	1
5	201ABT12	Background ABT 202S BI	1
6	201ABT13	Left back ABT 202S	1
7	201ABT34	Roof ABT 202S	1
8	201ABT43	Front ABT 202S	1

ABT20 3C



№	Code	Description	Quantity
1	201ABT06	Right side ABT 201C	1
2	201ABT07	Left side ABT 201C	1
3	201ABT08	Back ABT 201C	1
4	201ABT09	Front ABT 201C	1
5	201ABT10	Roof ABT 203C	1
6	201ABT13	Background ABT 203C	1

ABT20 4C



№	Description	Quantity
1	Front roof ABT 204C	1
2	Rear roof ABT 204C	1
3	Right back ABT 202C	1
4	Left back ABT 202C	1
5	Right side ABT 202C	1
6	Left side ABT 202C	1
8	Front ABT 202C	1
9	Background ABT 204C	1

15.4 Assembly Instructions Heatcraft Remote Condensing Unit 6HP/ 5HP

Condensing Unit Rigging

Figure 3. Condensing Unit Rigging

Adequate rigging measures must be taken to support unit weight and to protect the unit from damage during unloading and placement process.

Rigging holes have been provided in legs and under the unit compressor compartment frame to assist.

Spreader bars may be used to protect unit from damage.

Rigging Holes

Refrigeration Piping And Line Sizing

Refrigeration Piping And Line Sizing

The system as supplied by Heatcraft Refrigeration Products, was thoroughly cleaned and dehydrated at the factory. Foreign matter may enter the system by way of the evaporator to condensing unit piping. Therefore, care must be used during installation of the piping to prevent entrance of foreign matter. Install all refrigeration system components in accordance with applicable local and national codes and in conformance with good practice required for the proper operation of the system. The refrigerant pipe size should be selected from the tables in Refrigeration System Installation Manual, Part Number 25001201. The interconnecting pipe size is not necessarily the same size as the stub-out on the condensing unit or the evaporator.

The following procedures should be followed:

(a) Do not leave dehydrated compressors or filter-driers on condensing units open to the atmosphere any longer than is absolutely necessary.
(b) Use only refrigeration grade (ACR) copper tubing, properly sealed against contamination.
(c) Suction lines should slope 1/4" per 10 feet towards the compressor (in direction of flow).
(d) Suitable P-type oil traps should be located at the base of each suction riser to enhance oil return to the compressor.
(e) For desired method of superheat measurement, a pressure tap should be installed in each evaporator suction line in the proximity of the expansion valve bulb.
(f) When brazing refrigerant lines, an inert gas should be passed through the line at low pressure to prevent scaling and oxidation inside the tubing. Dry nitrogen is preferred.
(g) Use only a suitable silver solder alloy on suction and liquid lines.
(h) L mit the soldering paste of flux to the minimum required to prevent contamination of the solder joint internally. Flux only the male portion of the connection, never the female. After brazing, remove excess flux.
(i) Wrap expansion valves with wet rags during brazing to the liquid line.

CAUTION: If the temperature gets too high, these components may be damaged. Heat absorbing compounds ~~or wet rags must be used to protect the expansion valve when brazing to the refrigerant~~ piping/line connections, and the suction line sensor must be removed per above instructions.

(j) Do not use "bull head" tees. This will cause oil return problems and can cause poor performance.
(k) If isolation valves are installed at the evaporator, full port ball valves should be used.

Refrigeration Piping

Suction Lines

NOTE: If the suction line must rise to the point higher than the suction connection on the evaporator, a suction line trap at the outlet of the evaporator must be provided.

Horizontal suction lines should slope away from the evaporator toward the compressor at the rate of 1/4' per 10 feet for good oil return. When multiple evaporators are connected in series using a common suction line, the branch suction lines must enter the top of the common suction line.

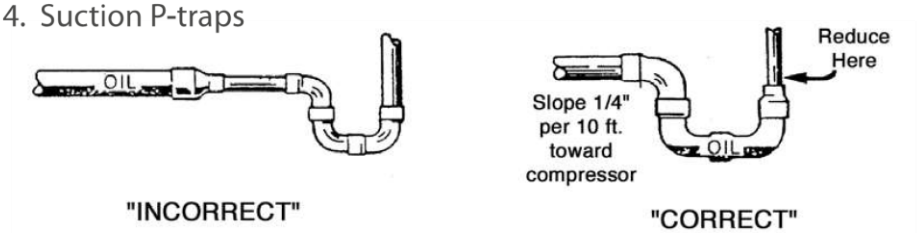
Suction lines that are outside of refrigerated space must be insulated. See "Line Insulation" for more information.

Suction Line Risers

NOTE: To provide proper oil return, a suction trap must be provided at the base of all suction risers.

Prefabricated wrought copper traps are available, or a trap can be made by using two street ells and one regular ell. The suction trap must be the same size as the suction line. For long vertical risers, additional traps may be necessary. Generally, one trap is recommended for each length of pipe (approximately 20 feet) to insure proper oil movement. See Figure 4 below for methods of constructing proper suction line P-traps.

F gure 4. Suction P-traps



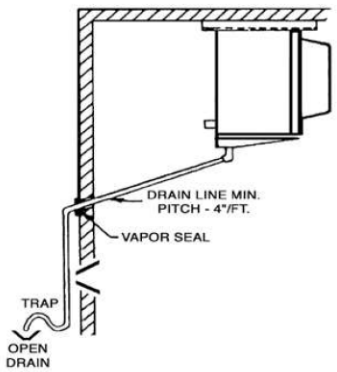
Condensate Drain Lines

Copper drain lines should be used and properly protected from freezing. In running drain lines, provide a minimum of 4 inches per foot pitch for proper drainage. Drain lines should be at least as large as the evaporator drain connection. All plumbing connections should be made in accordance with local plumbing codes. All condensate drain lines must be trapped, and run to an open drain. They must never be connected directly to the sewer systems. Traps in the drain line must be located in a warm ambient. We recommend a trap on all evaporators. Traps located outside, or extensive outside runs of drain line must be wrapped with a drain line heater. The heater should be connected so that it is continuously on. It is recommended that the drain line be insulated to prevent heat loss. A heat input of 20 watts per lineal foot of drain line for 0ºF (-18°C) room applications and 30 watts per lineal foot for -20°F (-29°C) rooms is satisfactory.

Inspect the drain pan periodically to insure free drainage of condensate. If the drain pan contains standing water, check for proper installation. The drain pan should be cleaned regularly with warm soapy water.

WARNING: All power must be disconnected before cleaning. The drain pan also serves as cover for hazardous moving parts. Operation of unit without drain pan constitutes a hazard.

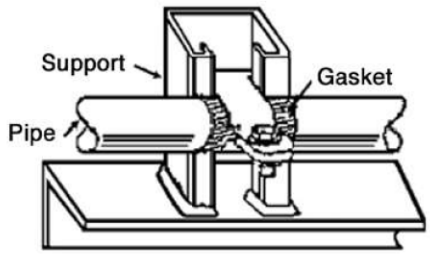
Figure 5. Drain Line



NOTE: Always trap drain lines individually to prevent vapor migration.

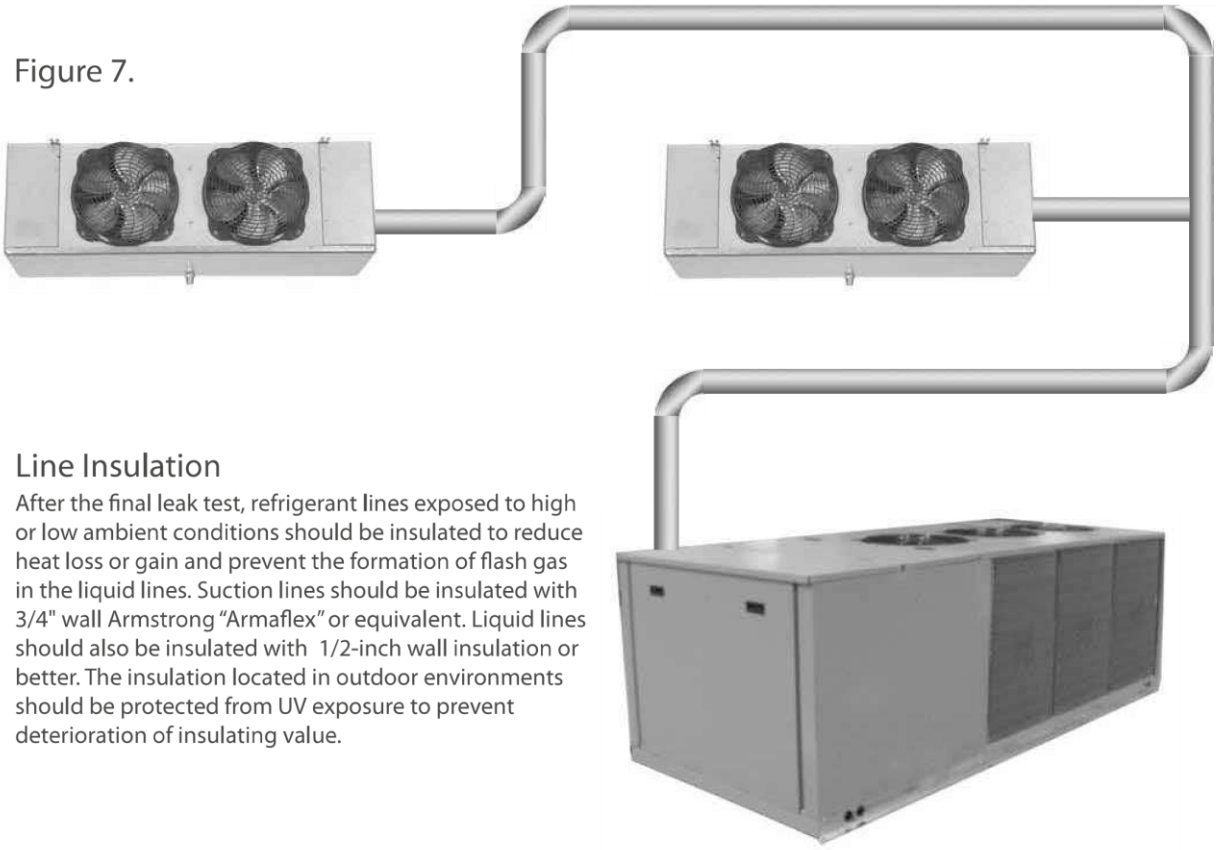
Refrigeration Piping

Figure 6. Example of Pipe Support



1. Normally, any straight run of tubing must be supported in at least two locations near each end of the run. Long runs require additional supports. The refrigerant lines should be supported and fastened properly. As a guide, 3/8 to 7/8 should be supported every 5 feet, 1-1/8 and 1-3/8 every 7 feet; and 1-5/8 and 2-1/8 every 9 to 10 feet.
2. When changing directions in a run of tubing, no corner should be left unsupported. Supports should be placed a maximum of 2 feet in each direction from the corner.
3. Piping attached to a vibrating object (such as a compressor or compressor base) must be supported in such a manner that will not restrict the movement of the vibrating object. Rigid mounting will fatigue the copper tubing.
4. Do not use short radius ells. Short radius elbows have points of excessive stress concentration and are subject to breakage at these points.
5. Thoroughly inspect all piping after the equipment is in operation and add supports wherever line vibration is s gnificantly greater than most of the other piping. Extra supports are relatively inexpensive as compared to refrigerant loss.

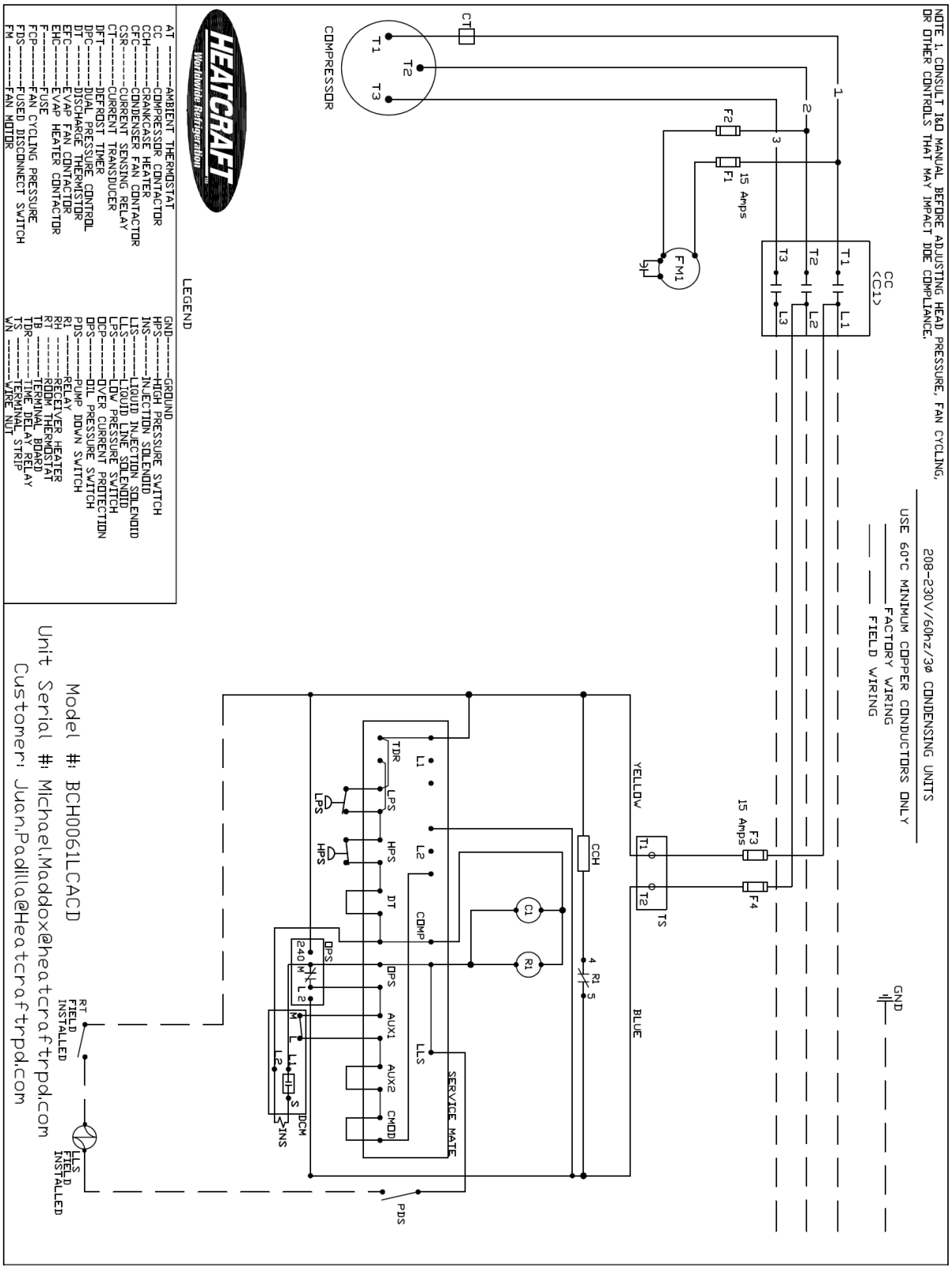
Figure 7.

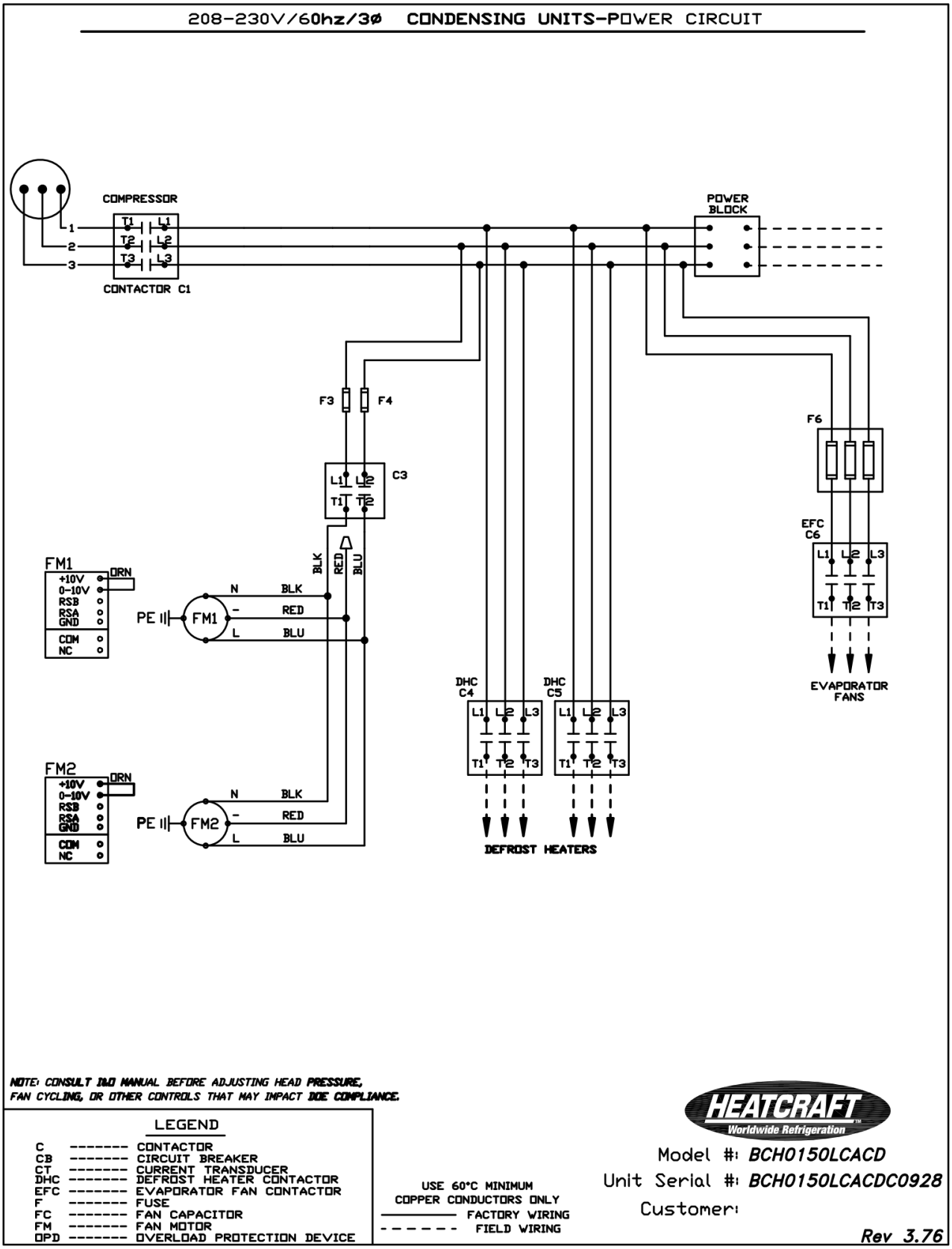


Line Insulation

After the final leak test, refrigerant lines exposed to high or low ambient conditions should be insulated to reduce heat loss or gain and prevent the formation of flash gas in the liquid lines. Suction lines should be insulated with 3/4" wall Armstrong "Armaflex" or equivalent. Liquid lines should also be insulated with 1/2-inch wall insulation or better. The insulation located in outdoor environments should be protected from UV exposure to prevent deterioration of insulating value.

16 Heatcraft Remote Wire Diagram 6HP and 15HP




208-230V/60hz/3ø CONDENSING UNITS-POWER CIRCUIT
COMPRESSOR
CONTACTOR C1
POWER BLOCK
F3
F4
F6
C3
EFC C6
FM1
FM2
DRN
+10V
0-10V
RSB
RSA
GND
COM
NC
PE
N
L
BLK
RED
BLU
DHC C4
DHC C5
EVAPORATOR FANS
DEFROST HEATERS
NOTE: CONSULT I&O MANUAL BEFORE ADJUSTING HEAD PRESSURE, FAN CYCLING, OR OTHER CONTROLS THAT MAY IMPACT DOE COMPLIANCE.
LEGEND
C ------- CONTACTOR
CB ------- CIRCUIT BREAKER
CT ------- CURRENT TRANSDUCER
DHC ------- DEFROST HEATER CONTACTOR
EFC ------- EVAPORATOR FAN CONTACTOR
F ------- FUSE
FC ------- FAN CAPACITOR
FM ------- FAN MOTOR
OPD ------- OVERLOAD PROTECTION DEVICE
USE 60°C MINIMUM COPPER CONDUCTORS ONLY
FACTORY WIRING
FIELD WIRING
HEATCRAFT Worldwide Refrigeration
Model #: BCH0150LCACD
Unit Serial #: BCH0150LCACDC0928
Customer:
Rev 3.76

17. Spec Sheet Heatcraft Remote Unit 6HP and 15HP

BCH0061LCACDA0000 - SUBMITTAL

BOHN

Project Name:		Project Location:	
Quote ID:		Item #:	1000
Submitted For:		Submitted On:	
Submitted By:		Submitted From:	
Identity #:		Tag:	

☑ For Record ☐ For Approval By:_____ Date:_____

General Product Information

Product Family:	BCH	Compressor Brand:	Copeland
Application:	Outdoor	Compressor Type:	Discus TM
Temperature Range:	Low Temp	Compressor Hp:	6.1
Voltage: (Volts/Ph/Hz)	208-230/3/60	Compressor Model:	3DA3F28KE
Refrigerant Type:	R404A	Number of Compressor(s):	1
Piping:	Standard	Coil Type:	Standard Round Tube

Note : This equipment is prohibited from use in California with any refrigerants on the "List of Prohibited Substances" for that specific end-use, in accordance with California Code of Regulations, title 17, section 95374. This disclosure statement has been reviewed and approved by Heatcraft Refrigeration Products LLC and Heatcraft Refrigeration Products LLC attests, under penalty of perjury, that these statements are true and accurate.

Technical Information

Performance Data

Ambient Temperature (°F)	Saturated Suction Temperature (°F)	Application Capacity* (BTU/H)	Altitude (ft)	AWEF Value
95	-10.0	39,100	0	3.15

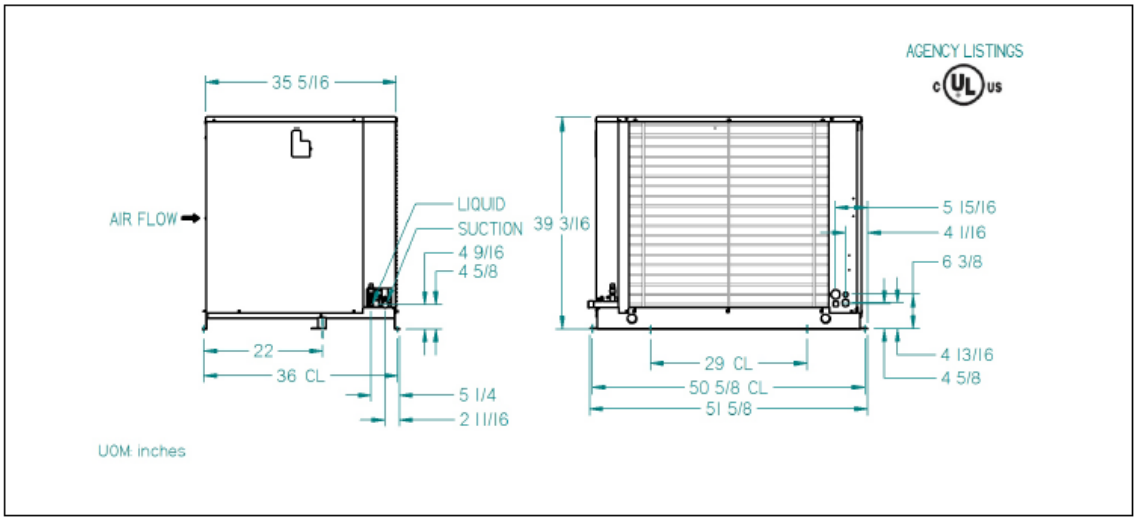
Electrical Data

Compressor(s)		Fan Motor(s)			Electric Ratings						
RLA	LRA	Quantity	Hp	FLA	Defrost Type	High or Low Amps?	Number of Contactors	MCA	MOPD	Evap.Fan Amps	Defrost Heater Amps
24	150	1	1/3	2.7	AIR DEFROST	NA		32.7	50		

Unit Specifications

Connections (in.)		Receiver 90% Full (lbs)		Fan Blade(s) Diameter (in)	Sound Data (dB)	Approx. Net Weight (lbs)
Liquid Line	Suction	Standard	Over Sized			
0.5	1.125	28.0	52.0	22	81	781

Dimensional Drawing(s)



BCH0061LCACDA0000 - SUBMITTAL

BOHN

Project Name:		*Project Location:*	
Quote ID:		*Item #:*	*1000*
Submitted For:		*Submitted On:*	
Submitted By:		*Submitted From:*	
Identity #:		*Tag:*	

Standard Features

QUALITY AND PERFORMANCE

- ALL JOINTS ARE SWEAT TYPE CONNECTIONS, NO MECHANICAL JOINTS TO LEAK
- FIXED HIGH PRESSURE SWITCH ELIMINATES CAPILLARY TUBES
- PIPING IS LAID OUT TO MINIMIZE STRESS AND VIBRATION AND IS PRE-BENT TO ELIMINATE BRAZE JOINTS WHERE POSSIBLE TO REDUCE LEAK POTENTIAL
- PRESSURE RELIEF VALVE ON RECEIVER
- REFRIGERATION DUTY, RIFLED COPPER CONDENSER TUBING
- SEPARATE SUBCOOLING CIRCUIT IN CONDENSER FOR ADDED CAPACITY AND VAPOR FREE LIQUID
- SERVICEMATE DIAGNOSTIC MODULE STANDARD ON ALL NON-BEACON CONDENSING UNITS
- SIGHT GLASS IS EASILY VIEWABLE

COMPONENTS

- DISCUS COMPRESSORS ARE SPRING MOUNTED WITH SUCTION AND DISCHARGE ELIMINATORS
- RECEIVERS ARE SIZED FOR SUFFICIENT PUMPDOWN CAPACITY WITH INLET AND OUTLET SERVICE VALVES
- SIGHT GLASS AND PERMANENT LINE FILTER

SERVICEABILITY

- CONVENIENT ACCESS PANELS TO EASILY SERVICE INTERNAL COMPONENTS
- LARGE ELECTRICAL PANEL TO FACILITATE EASE OF ACCESS
- MANUAL PUMPDOWN SWITCH ON ALL UNITS

CABINET AND CONSTRUCTION

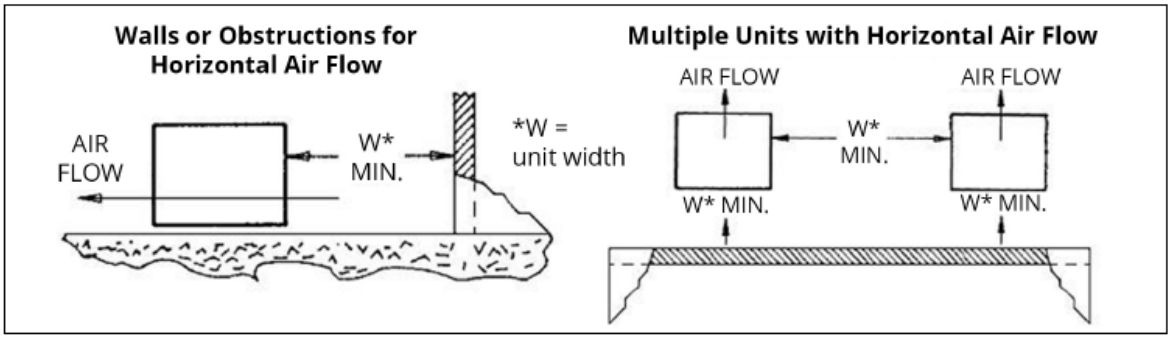
- ALL UNITS FEATURE THE FLOATING TUBE COIL DESIGN WHICH ELIMINATES TUBE SHEET LEAKS
- PAINTED STEEL CABINET FOR SUPERIOR STRENGTH AND CORROSION RESISTANCE

Options

Mounted Options

- Brand Label - BOHN
- Coil Selection - ALUMINUM FIN - COPPER TUBE
- Defrost Timer Options - NO TIMER
- Suction Line Options - SUCTION TUBE ONLY
- Cabinet Selection - Painted
- Pressure Options - ADJUSTABLE LOW - FIXED HIGH
- Phase Loss Monitor - NONE
- Electric Box Options - STANDARD EBOX
- DEMAND COOLING OPTIONS - YES
- Motor - PSC
- Receiver Options - STANDARD
- Liquid Line Options - FILTER DRIER AND SIGHT GLASS
- Discharge Line Options - HEAD PRESSURE VALVE 100#
- Fused Disconnect - NO FUSED DISCONNECT
- Crankcase Heater - CRANKCASE HEATER
- Hail Guard Factory Installed - NONE
- Fusing OPTIONS - NO

Minimum Unit Clearances



** Capacities shown are Application Capacities reflecting nominal operation at 10°F TD. For models within the scope of the DOE AWEF (Annual Walk-in Energy Factor) standard, the Net Capacity is determined by the AHRI 1250 test method. DOE will publish this compliance data at www.regulations.doe.gov*

BCH0150LCACDC0928 - SUBMITTAL

BOHN

Project Name:	Jorge 09/28/2020	Project Location:	US
Quote ID:	R1209154	Item #:	1000
Submitted For:		Submitted On:	09/28/2020
Submitted By:	Michael Maddox	Submitted From:	
Identity #:		Tag:	

☐ For Record ☐ For Approval By:_____ Date:_____

General Product Information

Product Family:	BCH	Compressor Brand:	Copeland
Application:	Outdoor	Compressor Type:	Discus TM
Temperature Range:	Low Temp	Compressor Hp:	15
Voltage: (Volts/Ph/Hz)	208-230/3/60	Compressor Model:	4DHNF63KE
Refrigerant Type:	R404A	Number of Compressor(s):	1
Piping:	Standard	Coil Type:	

Note : This equipment is prohibited from use in California with any refrigerants on the "List of Prohibited Substances" for that specific end-use, in accordance with California Code of Regulations, title 17, section 95374. This disclosure statement has been reviewed and approved by Heatcraft Refrigeration Products LLC and Heatcraft Refrigeration Products LLC attests, under penalty of perjury, that these statements are true and accurate.

Technical Information

Performance Data

Ambient Temperature (°F)	Saturated Suction Temperature (°F)	Application Capacity* (BTU/H)	Altitude (ft)	AWEF Value
95	-20.0	70,170	0	3.15

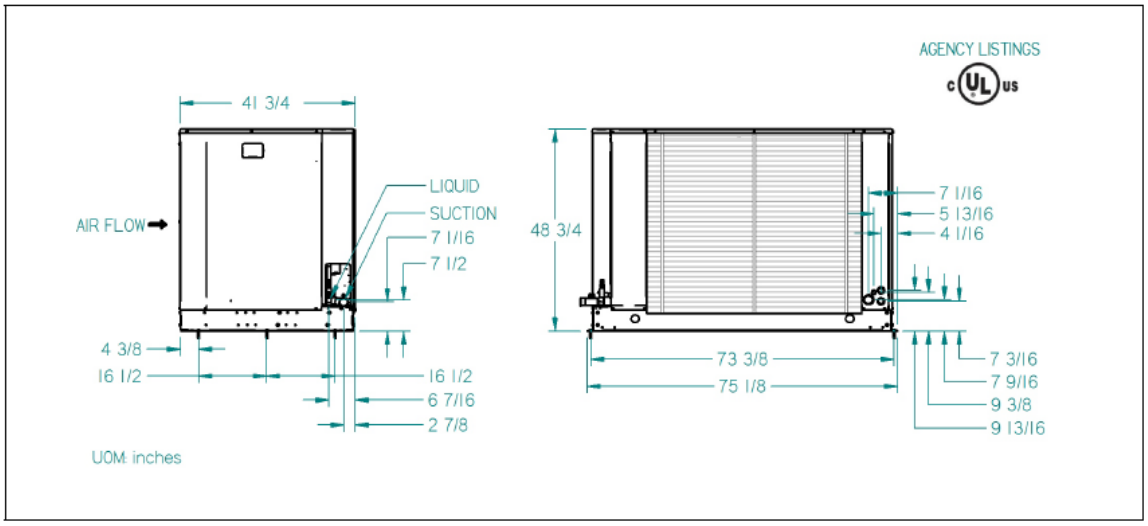
Electrical Data

Compressor(s)		Fan Motor(s)			Electric Ratings						
RLA	LRA	Quantity	Hp	FLA	Defrost Type	High or Low Amps?	Number of Contactors	MCA	MOPD	Evap.Fan Amps	Defrost Heater Amps
47.2	278	2	3/4	4.4	ELECTRIC DEFROST	High Amps	1	92.8	125	25	70

Unit Specifications

Connections (in.)		Receiver 90% Full (lbs)		Fan Blade(s) Diameter (in)	Sound Data (dB)	Approx. Net Weight (lbs)
Liquid Line	Suction	Standard	Over Sized			
0.875	1.625	87.0	98.0	24	82	1234

Dimensional Drawing(s)



BCH0150LCACDC0928 - SUBMITTAL

BOHN

Project Name:	Jorge 09/28/2020	Project Location:	US
Quote ID:	R1209154	Item #:	1000
Submitted For:		Submitted On:	09/28/2020
Submitted By:	Michael Maddox	Submitted From:	
Identity #:		Tag:	

Standard Features

QUALITY AND PERFORMANCE

- ALL JOINTS ARE SWEAT TYPE CONNECTIONS, NO MECHANICAL JOINTS TO LEAK

SERVICEABILITY

- CONVENIENT ACCESS PANELS TO EASILY SERVICE INTERNAL COMPONENTS
- LARGE ELECTRICAL PANEL TO FACILITATE EASE OF ACCESS
- MANUAL PUMPDOWN SWITCH ON ALL UNITS

COMPONENTS

- RECEIVERS ARE SIZED FOR SUFFICIENT PUMPDOWN CAPACITY WITH INLET AND OUTLET SERVICE VALVES
- SIGHT GLASS AND PERMANENT LINE FILTER

CABINET AND CONSTRUCTION

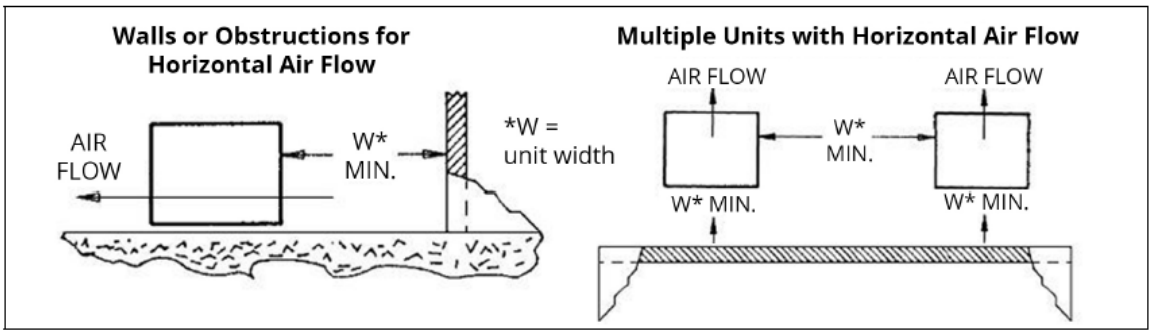
- ALL UNITS FEATURE THE FLOATING TUBE ™ COIL DESIGN WHICH ELIMINATES TUBE SHEET LEAKS
- PAINTED STEEL CABINET FOR SUPERIOR STRENGTH AND CORROSION RESISTANCE
- FIXED HIGH PRESSURE SWITCH ELIMINATES CAPILLARY TUBES
- PIPING IS LAID OUT TO MINIMIZE STRESS AND VIBRATION AND IS PRE-BENT TO ELIMINATE BRAZE JOINTS WHERE POSSIBLE TO REDUCE LEAK POTENTIAL
- PRESSURE RELIEF VALVE ON RECEIVER
- REFRIGERATION DUTY, RIFLED COPPER CONDENSER TUBING
- SEPARATE SUBCOOLING CIRCUIT IN CONDENSER FOR ADDED CAPACITY AND VAPOR FREE LIQUID
- SERVICEMATE™ DIAGNOSTIC MODULE STANDARD ON ALL NON-BEACON™ CONDENSING UNITS
- SIGHT GLASS IS EASILY VIEWABLE
- DISCUS COMPRESSORS ARE SPRING MOUNTED WITH SUCTION AND DISCHARGE ELIMINATORS

Options

Mounted Options

- Brand Label - BOHN
- Coil Selection - ALUMINUM FIN - COPPER TUBE
- Defrost Timer Options - TIMER AND CONTACTOR HIGH AMPS
- Suction Line Options - ACCUMULATOR
- Cabinet Selection - Painted
- Pressure Options - ADJUSTABLE LOW - FIXED HIGH
- Phase Loss Monitor - NONE
- Electric Box Options - STANDARD EBOX
- DEMAND COOLING OPTIONS - YES
- COMPRESSOR FUSING OPTIONS - NO
- Motor - FIXED SPEED EC
- Receiver Options - STANDARD
- Liquid Line Options - FILTER DRIER AND SIGHT GLASS
- Discharge Line Options - OIL SEPARATOR-HPV-100#
- Fused Disconnect - NO FUSED DISCONNECT
- Crankcase Heater - CRANKCASE HEATER
- Hail Guard Factory Installed - NONE
- Fusing OPTIONS - NO
- Compressor Unload OPTIONS - NO
- ETO ID - null

Minimum Unit Clearances



** Capacities shown are Application Capacities reflecting nominal operation at 10°F TD. For models within the scope of the DOE AWEF (Annual Walk-in Energy Factor) standard, the Net Capacity is determined by the AHRI 1250 test method. DOE will publish this compliance data at www.regulations.doe.gov*

BCH0061LCACDA0000 - SUBMITTAL

BOHN

Project Name:		Project Location:	
Quote ID:		Item #:	1000
Submitted For:		Submitted On:	
Submitted By:		Submitted From:	
Identity #:		Tag:	

☑ For Record ☐ For Approval By:_____ Date:_____

General Product Information

Product Family:	BCH	Compressor Brand:	Copeland
Application:	Outdoor	Compressor Type:	Discus TM
Temperature Range:	Low Temp	Compressor Hp:	6.1
Voltage: (Volts/Ph/Hz)	208-230/3/60	Compressor Model:	3DA3F28KE
Refrigerant Type:	R404A	Number of Compressor(s):	1
Piping:	Standard	Coil Type:	Standard Round Tube

Note : This equipment is prohibited from use in California with any refrigerants on the "List of Prohibited Substances" for that specific end-use, in accordance with California Code of Regulations, title 17, section 95374. This disclosure statement has been reviewed and approved by Heatcraft Refrigeration Products LLC and Heatcraft Refrigeration Products LLC attests, under penalty of perjury, that these statements are true and accurate.

Technical Information

Performance Data

Ambient Temperature (°F)	Saturated Suction Temperature (°F)	Application Capacity* (BTU/H)	Altitude (ft)	AWEF Value
95	-10.0	39,100	0	3.15

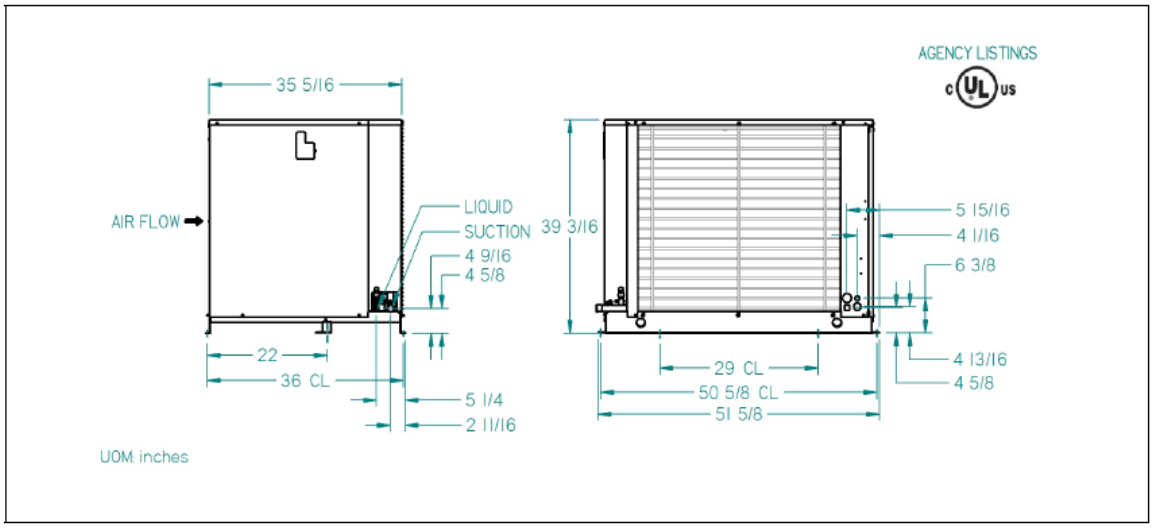
Electrical Data

Compressor(s)		Fan Motor(s)			Electric Ratings						
RLA	LRA	Quantity	Hp	FLA	Defrost Type	High or Low Amps?	Number of Contactors	MCA	MOPD	Evap.Fan Amps	Defrost Heater Amps
24	150	1	1/3	2.7	AIR DEFROST	NA		32.7	50		

Unit Specifications

Connections (in.)		Receiver 90% Full (lbs)		Fan Blade(s) Diameter (in)	Sound Data (dB)	Approx. Net Weight (lbs)
Liquid Line	Suction	Standard	Over Sized			
0.5	1.125	28.0	52.0	22	81	781

Dimensional Drawing(s)



BCH0061LCACDA0000 - SUBMITTAL

BOHN

Project Name:		*Project Location:*	
Quote ID:		*Item #:*	*1000*
Submitted For:		*Submitted On:*	
Submitted By:		*Submitted From:*	
Identity #:		*Tag:*	

Standard Features

QUALITY AND PERFORMANCE

- ALL JOINTS ARE SWEAT TYPE CONNECTIONS, NO MECHANICAL JOINTS TO LEAK
- FIXED HIGH PRESSURE SWITCH ELIMINATES CAPILLARY TUBES
- PIPING IS LAID OUT TO MINIMIZE STRESS AND VIBRATION AND IS PRE-BENT TO ELIMINATE BRAZE JOINTS WHERE POSSIBLE TO REDUCE LEAK POTENTIAL
- PRESSURE RELIEF VALVE ON RECEIVER
- REFRIGERATION DUTY, RIFLED COPPER CONDENSER TUBING
- SEPARATE SUBCOOLING CIRCUIT IN CONDENSER FOR ADDED CAPACITY AND VAPOR FREE LIQUID
- SERVICEMATE DIAGNOSTIC MODULE STANDARD ON ALL NON-BEACON CONDENSING UNITS
- SIGHT GLASS IS EASILY VIEWABLE

COMPONENTS

- DISCUS COMPRESSORS ARE SPRING MOUNTED WITH SUCTION AND DISCHARGE ELIMINATORS
- RECEIVERS ARE SIZED FOR SUFFICIENT PUMPDOWN CAPACITY WITH INLET AND OUTLET SERVICE VALVES
- SIGHT GLASS AND PERMANENT LINE FILTER

SERVICEABILITY

- CONVENIENT ACCESS PANELS TO EASILY SERVICE INTERNAL COMPONENTS
- LARGE ELECTRICAL PANEL TO FACILITATE EASE OF ACCESS
- MANUAL PUMPDOWN SWITCH ON ALL UNITS

CABINET AND CONSTRUCTION

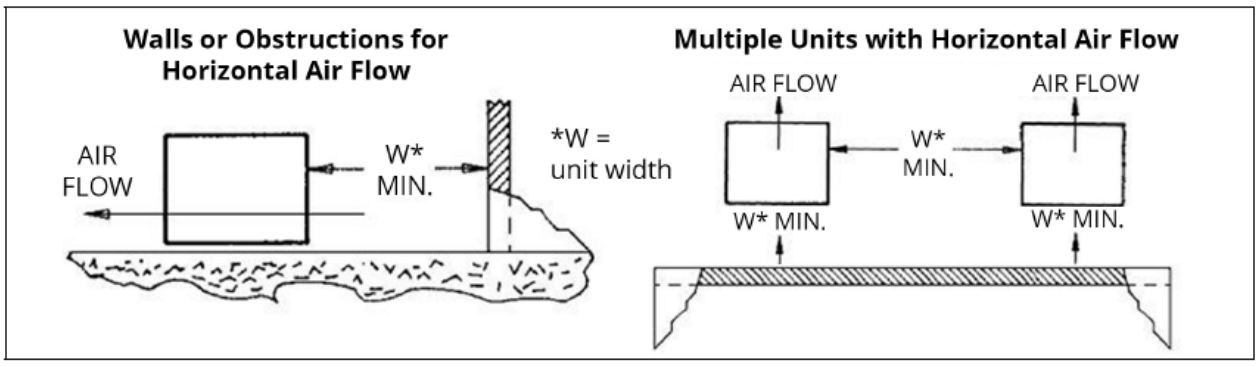
- ALL UNITS FEATURE THE FLOATING TUBE COIL DESIGN WHICH ELIMINATES TUBE SHEET LEAKS
- PAINTED STEEL CABINET FOR SUPERIOR STRENGTH AND CORROSION RESISTANCE

Options

Mounted Options

- Brand Label - BOHN
- Coil Selection - ALUMINUM FIN - COPPER TUBE
- Defrost Timer Options - NO TIMER
- Suction Line Options - SUCTION TUBE ONLY
- Cabinet Selection - Painted
- Pressure Options - ADJUSTABLE LOW - FIXED HIGH
- Phase Loss Monitor - NONE
- Electric Box Options - STANDARD EBOX
- DEMAND COOLING OPTIONS - YES
- Motor - PSC
- Receiver Options - STANDARD
- Liquid Line Options - FILTER DRIER AND SIGHT GLASS
- Discharge Line Options - HEAD PRESSURE VALVE 100#
- Fused Disconnect - NO FUSED DISCONNECT
- Crankcase Heater - CRANKCASE HEATER
- Hail Guard Factory Installed - NONE
- Fusing OPTIONS - NO

Minimum Unit Clearances



** Capacities shown are Application Capacities reflecting nominal operation at 10°F TD. For models within the scope of the DOE AWEF (Annual Walk-in Energy Factor) standard, the Net Capacity*

18. WARRANTY

18.1 Infrico Limited Warranty

INFRICO USA (further on stated as "INFRICO") warrants to the original purchaser of every new **INFRICO** refrigerated unit, the cabinet and all parts thereof, to be free from defects in material or workmanship, under normal and proper use and maintenance service as specific by **INFRICO** and upon proper installation and start-up in accordance with the instruction packet supplied with each **INFRICO** unit. **INFRICO´**s obligation under this warranty is limited to the following conditions upon each date of invoice:

Parts …… Two (2) years

Labor …… Two (2) years

Compressor …… Six (6) years

All parts covered under this specific above stated warranty that are determined as failures by **INFRICO,** are limited to the repair or replacement, including labor charges of defective parts or assemblies.

WARRANTY CLAIM PROCEDURE

All claims for labor or parts must be made directly through **INFRICO**. All claims should include model number of the unit, the serial number of the cabinet, proof of purchase, date of installation, and all pertinent information supporting the existence of the alleged defect.

Based on the reported case, **INFRICO** will program the service attention either by sending an authorized technician to the place indicated by the Customer in order to solve the situation or will send the necessary spare parts for its repair.

This contract does not apply outside the limits of the USA and CANADA. Nor does it apply to any part which has been subject to misuse, neglect, alteration, accident or to any damage caused by transportation, flood, fire, or the acts of god. This contract is not effective unless the **INFRICO** Warranty Claim Card, furnished to the distributor, is properly filled out and mailed to **service@infrico.com** within **24 HOURS from the date of delivery**. The term "Original Purchaser" as used herein shall be deemed to refer to that person, firm, association, or company for whom the refrigeration unit refers to herein is originally installed.

WHAT IS NOT COVERED BY THIS WARRANTY

INFRICO´s sole obligation under this warranty is limited to either repair or replacement of parts, subject to the additional limitations below. This warranty neither assumes nor authorizes any person to assume obligations other than those expressly covered by this warranty.

No consequential damages: **INFRICO** is not responsible for economic loss; profit loss or special indirect or consequential damages, including without limitation, losses or damages arising from food or product spoilage claims whether or not on account of refrigeration failure.

Warranty is not transferable: This warranty is not assignable and applies only in favor of the original purchaser/user to whom delivered. Any such assignment or transfer shall

void the warranties herein made and shall void all warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.

Improper use: INFRICO assumes no liability for parts or labor coverage for component failure or other damages resulting from improper usage or installation or failure to clean and/or maintain product as set forth in the warranty packet provided with the unit.

Alteration, neglect, abuse, misuse, accident, damage during transit or installation, fire, flood, acts of God: INFRICO is not responsible for the repair or replacement of any parts that **INFRICO** determines have been subjected after the date of manufacture to alteration, neglect, abuse, misuse, accident, damage during transit or installation, fire, flood, act of God or improper electrical connections. **INFRICO** is not responsible for the repair or replacement of failed or damaged components resulting from electrical power failure, the use of extension cords, low voltage, or voltage drops to the unit.

No implied warranty of merchantability or fitness for a particular purpose: There aren't any other warranties expressed, implied or statutory, except the warranties as described above. These warranties are exclusive and in lieu of all other warranties, including implied warranty and merchantability or fitness for a particular purpose. There are no warranties which extend beyond the description on the face hereof.

Outside USA & CANADA: This warranty does not apply to, and INFRICO is not responsible for, any warranty claims made on products sold or used outside the United States of America and Canada.

The return of any device due to manufacturing defects or faults MUST BE PREVIOUSLY AUTHORIZED. If this is not the case, it shall not be liable, in any case, for the costs and risks that may arise during this process. Any device whose return has been authorized by the company must be sent with the same or similar packaging as the product had at the time of receipt.

18.2 Customer Warranty Card

Please fill in the following report:

RETURN TO MANUFACTURER

User name:

_____

Address:_____ Phone:_____

Zip Code / City:_____

Distributor:_____

_

Date of purchase: _____

Model: _____ Serial No.:_____

Compressor No.: _____

Signature Seller Signature Buyer

FOR THE CUSTOMER

Username: _____

Address:_____ Phone:_____

Zip Code / City:_____

Distributor:_____

Date of purchase: _____

Model: _____ Serial No.:_____

Compressor No.: _____

Signature Seller Signature Buyer

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