TBF SERIES

THERMALRITE®

BY EVERIDGE®

Operation and Care Manual

INDEX

1.0 INTRODUCTION

The Manufacture would like to thank you for having chosen its products and we are sure that you will be more than satisfied with their performance.
To help maintain efficiency and performance in time, the company have prepared this manual that describes the correct use and maintenance of the Blast Chiller Freezer.

1.1 Type of use and limitations

This Blast Chiller Freezer has been designed for chilling and preserving food (it rapidly lowers the temperature of cooked food in this way preserving quality and guaranteeing freshness for several days). Any other use is considered improper and incorrect. This Chiller cannot be installed outside and or in environments subject to weather conditions. The manufacturer declines all responsibility for uses other than those given in this manual.

CAUTION: THE BLAST CHILLER IS NOT A HOLDING CABINET.

⚠ After the work cycles, the blast chiller goes into the hold mode, so the product does not have to be removed immediately after the cycle ends.

1.2 Characteristics of the Blast Chiller

The equipment to which this handbook refers to, is a blast chiller/freezer, completely constructed out of AISI 304 stainless steel, providing the correct equipment with the ability to rapidly chill or freeze products from +194ºF to +38ºF in blast chilling, within 90 minutes and from +194ºF to 0ºF in blast freezing, within 240 minutes, to retard the growth of bacteria and to prolong the shelf life of the product. In doing so, this will result in;

- Retarding the growth of harmful bacteria
- Maintaining product quality
- Lock in product consistency, flavor and texture
- Uses ambient chill, for an indirect airflow, without drying out product
- Produces the same temperature on all shelves
- Engineered refrigeration system to rapidly chill/freeze product
- Continuous product temperature measurement, when using the product probe
- Maintaining the proper humidity levels, to avoid drying of product
- Maintains product temperature during the holding cycle

With any product, as soon as you take it out from the oven, it is at its quality peak. You can maintain this high-quality level by starting the chilling process soon after the cooking. Therefore, using the blast chiller, which lowers temperature rapidly, prevents your products from:

- external drying
- product degradation
- The use of a quality line of kitchen equipment should include the following

OVEN for cooking the product to the correct temperature to ensure bacteria is killed without altering product's quality
BLAST CHILLER for rapidly lowering product temperatures retarding bacterial proliferation and keeping product's quality unchanged.
The blast chiller is a needed piece of professional equipment that ensures, according to the regulations in force, the rapid chilling and freezing of product in the time limit governed by the HACCP System (Hazard Analysis Critical Control Point). And that the product is held in the hold mode at the correct temperature following the CHILLING or FREEZING cycle thanks to the probe located in the product's core.

1.3 Testing

The TBF Series Blast Chiller is shipped only after it has been tested by means of the following;

- visual inspection (fit, finish and function)
- Electric test /operational test). Final testing is certified,
  according to the relevant documentation please refer to the enclosed appendixes.

1.4 Safety standard and Certifications

The Thermalrite Platinum Line Blast chiller is manufactured and complies with the following standards;

- ETL UL 471: 2010Ed.10+R:08Dec2016 Commercial Refrigerators and Freezers
- CSA C22.2#120 and ETL NSF 7: 2016 Commercial Refrigerators and Freezers

1.5 Customer's Responsibility for a Proper Install

To avoid electrical shock, this appliance MUST be adequately grounded in accordance with local electrical codes or, in the absence of local codes, with the current edition of the national Electrical Code ANSI/ NFPA no. 70. In Canada, all electrical connections are to be made in accordance with CSA C22.1, Canadian Electrical Code Part 1 or local codes.

These appliances require a dedicated circuit and cannot be plugged into a receptacle that is shared by another appliance or damage to compressor, blown fuses or tripped circuits will be cause, which will not be covered under warranty.

Warning!

These appliances are heavy and can be easily damaged if not removed from the skid correctly. DO NOT ATTEMPT to remove this appliance from the skid by pulling it off or Extreme damage will be cause to the base and casters, which will not be covered under warranty. Use the proper lifting equipment and protect the base from damage while lifting appliance from the skid. Do not drop appliance on its base or extreme damage will occur.

Location

To ensure proper operation of this appliance and its components, this appliance must be installed on a stable and level surface, away from high humidity items and excessive heat producing equipment.

DO NOT store or use any flammable liquids or allow flammable vapors near this appliance or any other appliance.

DO NOT install this appliance in any area where it may be affected by any adverse conditions such as steam, grease, dripping water, high
temperatures, etc.

This appliance must have adequate ventilation space to allow heat to be dissipated from the condenser, as well as it needs adequate ventilation to cool the condenser. Do not locate this appliance tight against the wall or against any heat producing device or damage can occur to the unit.

Please allow a minimum or 4" air gap from the back and sides and 12" from the front for adequate ventilation. In locations with excessive dust, dirt, loose paper, flour or powdery substances, cleaning of the condenser coil may need to be performed on a regular basis. This is the customer's responsibility and must be performed by a qualified service technician or damage to the components can and will occur. Do not use caustic cleaners on the condenser coil as it may cause leaks
to the sealed system.

1.6 Safety precautions and Manufacturer's liabilities.

Every operation related to the intended use of this appliance and its overall life cycle has been carefully and thoroughly analyzed by the manufacturing company during the design phase, construction phase and the writing of the operation and care manual. It is nevertheless understood that experience, proper training and "common sense" of the personnel operating this appliance are of the utmost importance.

It is the responsibility of the operator to observe all safety precautions as outlined in this manual and to operate this appliance accordingly. The non-observance of the safety precautions or specific warnings indicated in this manual, the use of this appliance by unauthorized personnel, violation of all safety standards regarding the design, construction, and intended use of the machine, will relieve the manufacturer from all liability in the case of damage to personnel or property. The manufacturing company is therefore in no way responsible for the non-observance on the part of the user of the safety precautions listed in this manual.

1.7 GENERAL SAFETY PRECAUTIONS

1. Never touch the metal parts of the machine with wet or damp hands;
2. Do not pull on the cord to disconnect the plug from the current outlet.
3. Unqualified or untrained personnel are not allowed to use the machine

without supervision.
4. Electrical safety of the machine is ensured by a properly grounded electrical circuit, which consists of a grounded cord and cord cap and a correct electrical outlet.
5. The use of an extension cord is not allowed and may result in injury or death.
6. In the event of damage to the cord, the end user of the appliance must not attempt to replace the part. This must be performed by a qualified service personnel.
7. Always switch off and disconnect the appliance from the power supply before beginning any general cleaning or maintenance operation.
8. Clean appliance coating, panels and controls using soft and dry cloths, or cloths slightly soaked in mild detergent solution.
Installation and any other operation must be carried out by authorized personnel only. If performed by people who do not possess the necessary technical knowledge, the operation of this equipment might cause a worsening in the unit performance and cause damages to the operator.
Maintenance and service must be performed by a qualified service technician and the use of OEM parts is required for safe operation of the equipment.
The refrigeration system is located on the back and bottom of the equipment and contains a refrigerant solution. Do not use any sharp objects on the evaporator, condenser or the sides or back of the unit.
After the first installation you should wait about 30 minutes before connecting the equipment to the power supply; if the chiller has been transported in horizontal position, you should keep it in vertical position for at least four hours, to allow the oil contained in the compressor to go back to the crankcase.

1.8 Warranty

Thermalrite warrants to the original purchaser only that any original part that is found to be defective in material or workmanship will, at Thermal Rite's option, subject to provisions hereinafter stated, be replaced with a new or rebuilt part. For all other original parts, thirty-six (36) months from the date of shipment of appliance. The labor warranty period is thirty-six (36) months from the shipping date. Thermalrite will bear normal labor charges performed during standard business hours, excluding overtime, holiday rates or any additional fees. To be valid, a warranty claim must be filed during the applicable warranty period. This warranty is not transferable.

1. All machine components normally subject to wear and are considered consumables are not included in the warranty: door gaskets, rubber casters, air filter.
   Possible conditions causing electronic controls to fail include incorrect electrical supply, environmental elements, storms, lightning, water damage, could cause damages which cannot be attributed to the manufacturing company and to the manufacture of the product itself.
2. During the warranty period, for any defect in workmanship and material, all parts and labor will be covered. All warranty claims must be submitted to and conform by all statements and policies of the **OneSolutionSupport Service.**
3. During the warranty period, we will pay, not to exceed, one (1) hour travel and fifty (50) miles travel. All warranty service will be performed by an authorized service center certified by the manufacturer. All parts replaced under warranty must be returned to the manufacturer for inspection before any warranty is paid.
4. Any components considered defective (door gasket, electronic control, etc.) and is determined to be caused by misuse or abuse during the warranty period will not be considered under warranty. The end user will be responsible for any repairs or parts for repairs.
5. Equipment modified in any manner from original model, substitution of parts other than factory authorized parts, removal of any parts including legs, or addition of any parts.
6. Any losses or damage resulting from malfunction, including loss of product, food product, revenue, or consequential damages of any kind.
7. Equipment damage caused by accident, shipping, improper installation or alteration.
8. Any injury caused by failure to abide by these written instructions, improper installation, improper electrical connections, alteration to equipment will be the responsibility of the owner.

9. This warranty is exclusive and is in lieu of all other warranties, express or implied, including the implied warranties of merchantability and fitness for a purpose. In no event shall Thermalrite be liable for loss of use, loss of revenue or profit, or loss of product, or for any indirect, special, incidental, or consequential damages. No person except an officer of Thermalrite is authorized to modify this warranty or to incur on behalf of Thermalrite any other obligation or liability in connection with Thermalrite equipment.

2.0 REGULAR MAINTENANCE

2.1 Warnings

Regular maintenance work can be carried out by non-specialized personnel who, however, must always adhere to the instructions given in this manual. Before cleaning or servicing the Blast chiller, disconnect the power supply. When performing regular maintenance work do not remove any of the safety guards.

2.2 Cleaning the chiller and accessories

Before using this Blast chiller, clean the inside and all the accessories. Use warm water and a non-caustic detergent. Rinse and dry well. Do not use solvent or powder-based detergents and the use of a silicone wax will help to protect the stainless steel.

2.3 Periodically cleaning the condenser

The condenser should be cleaned periodically. Cleaning intervals will depend on how frequently it is used and the location it is installed. It is highly recommended, if located in dusty environments to clean the louver on the refrigerating unit once a month and once every three months if located in a closed and clean environment. To remove dust and dirt from the louvers use a brush or vacuum cleaner. Do not use sharp objects or tools that could damage the condenser. Do not clean using pressure washers. The filter can be removed and cleaned in hot, soapy water and allowed to dry.

CAUTION: To access the condenser it is necessary to remove the safety guards. Always use qualified and specialized personnel.

2.4 Extended Service Downtime

When the Chiller is out of service for a long period of time take the following measures:

- Remove the plug from the power socket;
- Remove all food and clean the inside of the Chiller and all accessories
- Protect all the stainless-steel surfaces with a cloth moistened
- with a stainless-steel polish
- Leave the door ajar for air circulation to prevent bad odors

3.0 Service and Repairs

CAUTION: Service and repair work must be carried out be qualified service technician

3.1 Items to check before calling service

At times malfunctions are due to simple and trivial causes and in most cases, there is no need to call a service technician, so before calling service check for the following:

The Blast chiller does not power up:

a. Check that it is plugged in

b. Check that the breaker is on or the disconnect is in the closed position.

The Blast chiller does not reach the correct internal temperature:

a. Check the temperature settings

b. Check the probe.

c. Make sure the drain plug is installed

d. Make sure the condenser is clean

The Blast chiller is excessively noisy:
a. Check that the Chiller is level. If not leveled this could cause vibrations creating excessive noise.
b. Check that the Blast chiller is not positioned up against other equipment causing vibrations.

After having proceeded with the foregoing checks and if the problem persists, contact the company giving:

- A description of the type of malfunction;
- Blast chiller model and serial number which are indicated on the metal plate.

4.0 WASTE DISPOSAL AND SCRAPPING

Storing waste:

It is possible to temporarily store special waste products that are to be scrapped. However, the user must observe and adhere to the local governing laws regarding waste management.

Disposing of the Blast chiller:

Each country has its own waste management laws; therefore, the user must observe and adhere to the local governing laws where the Chiller is to be scrapped. As a general guideline the Chiller should be handed over to a special commercial recycler. Dismantle it and divide the various components into groups according to their chemical properties. Remember that there is oil and refrigerating solutions in the condenser that can be recuperated and reused and the various components are considered special waste products and as such are treated as urban waste.

CAUTION: All dismantling operations must be carried out by authorized personnel!

4.1 Information for a correct waste disposal

To abide by current laws and health regulations and based on the sanctioned dispositions from the Directive 2002/95/CE of the European
Union in matter of limitation to the use of dangerous substances (RoHS) regarding:

- LEAD (Pb)
- MERCURY (Hg)
- HEXAVALENT CHROMIUM (Cr VI)
- CADMIUM (Cd)
- POLYBROMINATED BIPHENYL (PBB)
- POLYBROMINATED DIPHENYL ETHER (PBDE)

The following symbol on the side of the equipment indicates that the product must not be disposed of as normal waste. Disposing of commercial appliances separately avoids the negative impact on the environment and health deriving from inappropriate disposal and enables the materials to be recovered to obtain significant savings in energy and resources. As a reminder of the need to dispose of commercial appliances separately, the products are marked with a crossed-out wheeled receptacle.

5.0 THE CORRECT USE OF THE BLASTCHILLER

Before using the Blast chiller thoroughly clean the interior of the Blast chiller, using a detergent and warm water as there might be traces of manufacturing fluids due to final testing in the factory.

5.1 Optimization of the cycles

PRE-COOLING

Pre-cooling is highly recommended before carrying out a chilling or deep-freezing cycle to pre-cool the compartment to reduce working times.

CORE PROBE

The core probe shall be properly positioned in the middle of the thicker portion of product. Its point shall neither come out nor touch the pan. The probe shall be cleaned before starting any cycle, to prevent contaminations.

LIDS AND CONTAINERS

Do not cover pans and/or other containers with lids or insulating films. The more the product's surface gets in contact with the air circulating in the compartment, the less it will take to chill and deep-freeze it. Do not use cups or pans deeper than 2 ½".

POSITIONING OF THE PRODUCT

Do not stack layers of product one on top of another and make sure that they are never thicker than 2". Do not overload the unit beyond the quantity recommended by the manufacturer. Allow enough space between the pans to permit the proper air circulation. Do not place too many pans on one side of the unit but distribute them equally.

Holding

The chilled and/or frozen product shall be covered and protected (film, airtight, hermetic sealing).

5.2 Preparing the equipment for use

It is necessary to clean the Blast chiller cavity before starting to work. Use an appropriate detergent solution or a mixed solution of hot water and sodium bicarbonate to remove condensation due to the final test carried out at the manufacturer. Evaporator fan speed depends on the following factors:

- shape, type and material of the containers used use of lids on containers
- food characteristics (density, water content, fat content)
- initial temperature
- thermal food conduction

Blast chilling time and Blast freezing times are based on the type of product being treated. It is recommended to use the full speed cycle for all dense or large dough foods and in any case never exceed 8 lbs. (for 12" x 20" hotel pan, 2" deep) or 16 lbs. (for 18" x 26", 1" deep sheet trays) and the thickness of 2" during Blast freezing and 3" during Blast chilling. The low speed cycle is suitable for delicate products such as vegetables, creams, spoon desserts, or reduced-thickness products. In any case, check that the set point of 38 F, using the product probe, in the Blast chill cycle, does not exceed 90 minutes and the set point of 0 F, using the product probe, in the Blast freeze cycle, does not exceed 240 minutes. It is necessary to pre-cool the Blast chiller compartment before starting the Blast chiller or Blast freezing cycle and it is recommended to not to cover the food during the cycle to not increase the time needed. When the thickness of the product allows, always use the product probe to know the exact temperature reached at the center of the product and not to interrupt the cycle before 38 F is reached and 0 F in the case of Blast freezing.

6.0 Touch Screen

6.1 Initial information

The **Touch Screen** has the following operating modes:

- "off" (no power to the device)
- "stand-by" (the device is powered but switched off)
- "on" (the device is powered, switched on and awaiting start-up of an operating cycle)
- "run" (the device is powered, switched on and running an operating cycle)

Terminology: "switch on the device" means moving from "stand-by" to "on "mode and "switch off the device" means moving from "on" to "stand-by" mode. If the power supply fails during "stand-by" or "on" mode, when power is restored the device will return to the mode set before the failure. If the power supply fails during "run" mode, when power is restored the device will operate as follows:

- if blast chilling or blast-freezing was in progress, the cycle will resume, the cycle will continue where it left off after the power loss
- if a conservation cycle was running, this will continue using the same settings if a proofing cycle was running, the cycle will continue where it left off.

6.2 Lock/Unlock

The keypad can be locked by setting the parameter E7 to 1, locking the keyboard after a period of inactivity, set by parameter E8. If the keypad is locked, a pop up will appear when the keypad is touched indicating that it is locked and how to unlock. It can be unlocked by sliding a finger to the right.

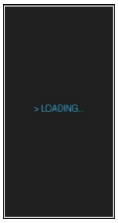
6.3 Silencing the Buzzer

Press any key while buzzer is sounding to silence it.

6.4 Door Open

When the door is opened, this icon will appear on the display, indicating the door is open and it must be closed before the unit will operate.

7.0 INITIAL SWITCH-ON



Once loading is complete, the device will display the mode it was in before being powered down:

- If the power supply has been cut off long enough to cause a clock error (RTC code), it will be necessary to reset the date and time. The date and time can be set from the settings screen, service section.

On/Stand-by screen, press the **Power** icon  to move to the **Home** screen.

To turn off press the **Red** area  to return to the **Standby Screen.**

7.0 FUNCTION MODES

The control can operate in the following modes:

- Prechilling for Blast Chilling/Freezing
- Temperature controlled Blast Chilling/Freezing and Holding
- Time controlled Blast Chilling/Freezing and Holding

- Product Probe controlled Blast Chilling/Freezing and Holding
- Optional Multi-point Product Probe Blast Chilling/Freezing and Holding
- Optional Multiple Product Probe controlled Blast Chilling/Freezing
- Continuous cycle Blast Chilling/Freezing
- Hold cycle
- Optional Multiple Product Probe continuous cycle
- Multi-timer Continuous cycle
- Proofing
- Thawing
- Defrosting
- Ice Cream Hardening
- Optional UV sterilization
- Heated Product Probe
- Drying

7.1 Selecting the operating mode

All the operating functions can be accessed from the **Home screen** by selecting the desired area.

Enables the end user to select the Blast Chilling/Freezing mode, a Product Probe or multi-timer cycle.

Enables the end user to special cycles available, such as;

- Fish Sanitation
- Thawing
- Defrosting
- Ice Cream Hardening
- Optional UV Sterilization
- Drying
- Proofing

Enables the end user to select stored menu recipes.

Enables the end user to precool the compartment before introducing hot product into the cavity to allow faster Blast Chilling/Freezing

If there is an alarm, by pressing on this icon, it will display the alarm

This allows the end user to access the HAACP data stored

8.0 Blast Chiller/Freeze Mode

By pressing on this icon, it will open the next screen for the end user to select his mode.

From this screen the end user can now select the following;

- Blast Chilling
- Blast Freezing
- Continuous cycle
- Customized

Pushing the Blast Chilling Icon, allows the end user to set the type of Blast Chilling. Time and temperature controlled or using the Product Probe.

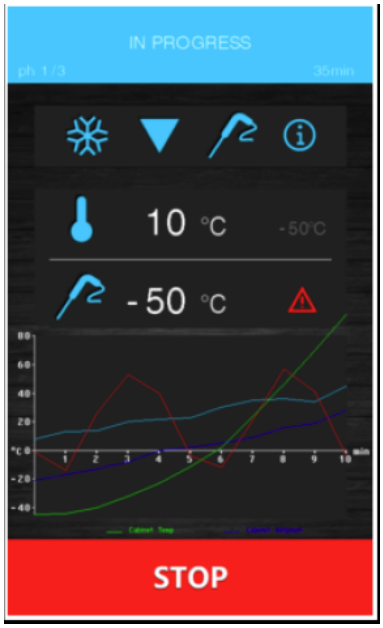
The control will always default to a product probe-controlled cycle, unless there is a defective probe and then an alarm will be displayed.

Indicates it is in a Product Probe controlled cycle, by pushing the time icon,  the end user can select a time and temperature-controlled cycle.

By pressing the Pencil Icon, it is possible to change the air set temperature, the Product Probe set temperature, or the Time if it is a Time controlled cycle and the evaporator fan speed.

If the end user wishes to perform a multiple step Blast Chill or Freeze, push the Expert Icon, then make all the settings and push the  continue icon to exit the screen.

A summary screen will appear, and it allows you to save this as a recipe or push the start icon to start the cycle. If it is a Product Probe controlled cycle, a test will be performed to ensure the Product Probe is properly inserted into the product. If the test fails, the control will automatically switch to a time and temperature-controlled cycle.



After pressing the Start Icon, this screen will appear, showing the end user that it is a Blast Chill cycle, with an air set temperature of 10C and a Product Probe set temperature of -50C. **Notice** the alarm symbol by the Product Probe temperature, this is because you cannot set the Product Probe temperature below -10C. The graph shows the end user the actual operation and how the product is chilling.

Once the product reaches the Product Probe set temperature or the end of the Time set, it will automatically switch to the Hold mode and remain there until removed. The Hold mode does not have a time limit.

To end the cycle at any time, press the Stop Icon. 

8.1 Hard Blast Chilling/Soft Blast Freezing Mode

It is possible to select a Hard Blast Chilling/Soft Blast Freezing cycle by pressing the 

or 

before selecting either mode. Before selecting either Hard Blast Chilling or Soft Blast Freezing, make sure you select the type of temperature cycle (Product Probe or Time and Temperature) you wish to run.

The cycle consists of two different phases at different set points, followed by a Holding cycle.

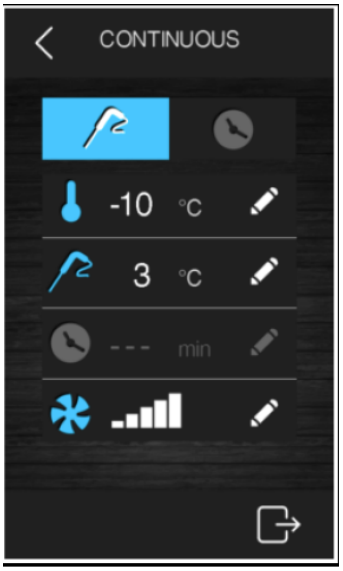
- The first phase, known as Hard for Blast Chilling and soft for Blast Freezing has set points preset by the control and cannot be changed.
- The set points for the second phase can be modified.
- The Holding temperature can also be modified.

Once a phase is completed, the control automatically moves to the next phase. The end of the first two phases are signaled by the buzzer.

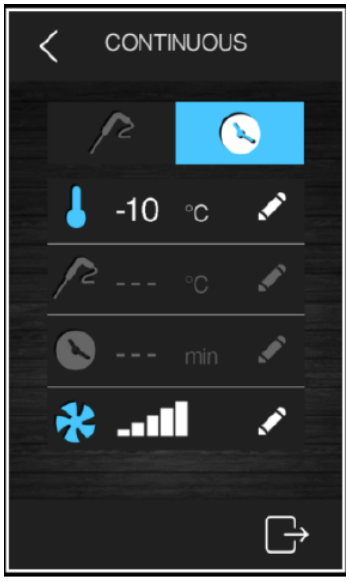
The end user can also select time and temperature mode, in which case it moves to the next phase when time has expired on each phase.

8.2 Continuous Cycle

Pushing the Continuous Cycle Icon, allows the end user to run the Chiller in a continuous mode. It can be run as a Product Probe mode (only with the optional multi-point Product Probe is used) or time and temperature mode. If a single point Product Probe is used, the multiple timer mode can be used.



Product Probe Screen



Time and Temperature screen

The set points for the air temperature, Product Probe and fan speed can all be changed, by pushing the pencil icon. Push the  continue icon to advance to the next screen, then push the start icon.

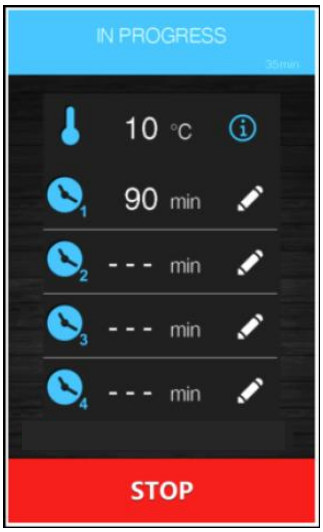
Note: By running in the continuous mode, the evaporator can ice up or freeze more rapidly.

8.3 Multiple Product Probe Mode

When using the Optional Multiple Product Probes, the controller can manage up to three Product Probes. While the cycle is running, each time the door is opened, the control performs a test to ensure the Probe is inserted correctly. The cycle is terminated only after all three probes have been satisfied. When each Probe has reached it's set temperature, the buzzer will sound, and the display will show the corresponding probe in green.

Probe one is satisfied, and the temperature has turned green, the product can now be removed.

8.4 Multiple Timer Mode



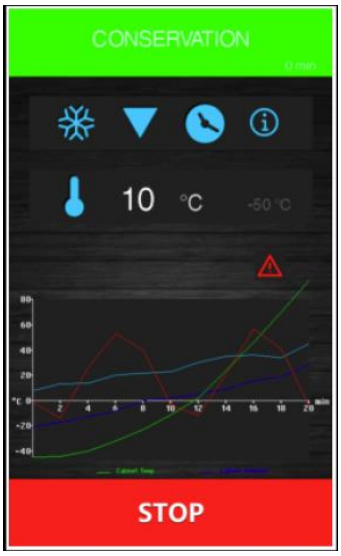
Using the Time controlled mode, it is possible to set up to four individual timers. The set temperature cannot be set for each timer, it will be the same for all four. The cycle starts with the first timer, that time can be changed by pressing the pencil icon. Once the cycle is started, then each other timer can be set by pushing the pencil icon and then setting a time value. Each timer operates independently and once the timer counts down to "0", a buzzer sounds, and the timer line shows green. The cycle terminates when all timer reach "0".

8.5 Customized Cycle Mode

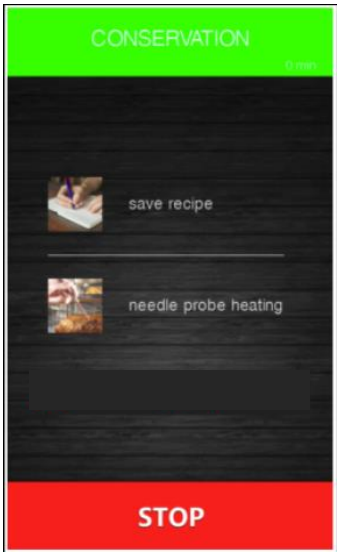
The Customized Cycle Mode enables the end user to set up to a maximum of 4 phases (3 Blast Chilling/Freezing and 1 Holding mode). They can be a combination of Product Probe or Time and Temperature phases. Phase one starts as a Product Probe mode, but can be changed to a time and temperature mode, by pushing the time icon and setting the desired time. To add more phases, push the Add icon.

To eliminate any phases, press the phase you wish to eliminate, then push the trash icon. Once the desired phases are set up, push the continue key to move to the next screen. From the summary scree, push start to start the cycle or Save to save it to the recipes.

8.6 End of Cycle



Once the Blast Chilling/Freezing cycle is ended, either by use of the Product Probe or Time and Temperature, the control automatically shifts to the Hold mode and will maintain the Hold temperature until it is stopped. To stop the cycle, push the stop icon and the following screen will appear.



You now have the option of saving this cycle to the recipe folder, turning on the Optional Heated Product Probe or stopping the cycle. The Optional Heated Product Probe is only used if you are in the Blast Freezing mode, to release the Product Probe from frozen product.
Push the Save Recipe 

icon to save this in the recipe folder.
Push the Product Probe Heater icon 

to turn on the Product Probe heater for 60 seconds.

9.0 Special Cycles Mode

By pushing the Special Icon, this will give the end user access to other functions that may or may not be activated by the parameters programmed into the control. These modes are:

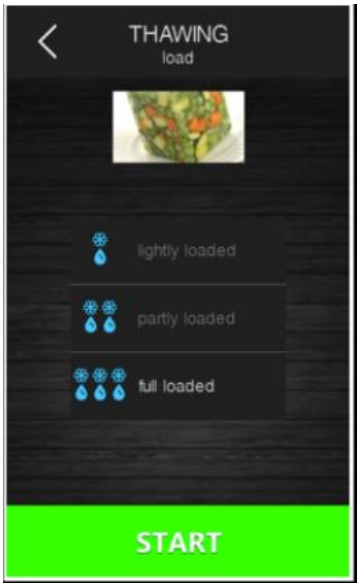
- Fish Sanitation
- Thawing
- Defrosting
- Ice Cream Hardening
- Sterilization
- Drying
- Proofing

9.1 Fish Sanitation

This is a cycle consisting of Blast Chilling, Blast Freezing and Holding over an extended period to kill the parasites that are contained in certain types of fish. This cycle can take up to 24 hrs. and is a pre-programmed cycle. The set points can be modified, but it may not kill the parasites completely if modified.

9.2 Thawing

Pushing the Thawing Icon enables the end user to activate the Thawing Cycle, which allows three choices, depending on product weight.



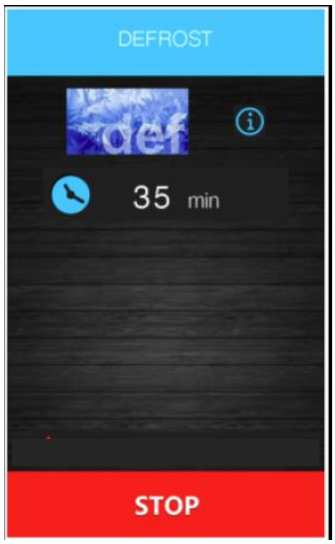
The Thawing Cycle is pre-set per the programmed parameters and they cannot be modified.

Load band	Initial cabinet set point	Final cabinet set point	Cycle duration
Light load	r25	r28	r32
Medium load	r26	r29	r33
Heavy load	r27	r30	r34

The Thawing Cycle is divided into five phases;
Phase 1 working set point = initial set point
Phase 2 working set point = Phase 1 set point + (initial set point – final set point)
Phase 3 working set point = Phase 2 set point + (initial set point – final set point)
Phase 4 working set point = Phase 3 set point + (initial set point – final set point)
Phase 5 work set point = final set point
The evaporator fan(s) working independent of the phases and at speeds set by the parameters. At the end of the Thawing Cycle the buzzer will sound, and the control automatically shifts to the Hold mode. If the door is opened, the heaters will shut off.

9.3 Defrosting

Pushing the Defrost Icon allows the end user to perform a manual defrost cycle. This is a pre-programmed time and will terminate automatically when the evaporator sensor reaches 40 degrees F. This is activated by pushing the Start Icon. There is an automatic defrost cycle activated at the start of every Blast Chill/Freeze cycle, to ensure the evaporator is de-iced.



9.4 Ice Cream Hardening

The Ice Cream Hardening Cycle is a time-controlled cycle and is preset by the parameters. At the end of the time set, it does not go into a Hold Cycle, but continues to run until the Stop Icon is pushed. If the door is opened in the middle of the cycle, the timer stops and will restart when the door is closed.

9.5 Cabinet Sterilization

The Sterilization Cycle is used in conjunction with a UV Lamp and air movement from the fans to help in the control of bacteria. **Note: This is not an approved option currently.**

9.6 Heated Product Probe

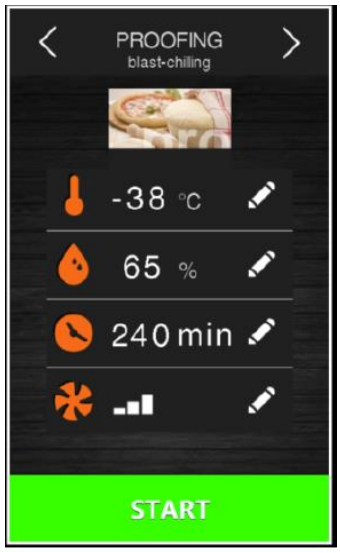
Pushing the Heated Product Probe Icon will activate the Optional Heated Product Probe. Push the Start Icon to start the Product Probe Heater. This cycle will run automatically if the Stop Icon is pushed during the Hold Cycle.

9.7 Drying Cycle

This cycle uses the evaporator fan motors to dry out the compartment and is activated with the door open or closed and runs for 1 minute. The cycle stops automatically or can be terminated by pushing the Stop Icon.

9.8 Proofing

The control provides a four-step process for the proofing cycle, by providing the complete retarding-proofing cycle automatically. The proofing cycle consists of phases with different temperatures, times and humidity to properly raise dough products.



- Blast Chilling – The first phase of the cycle cools the dough and retards proofing.
- Re-awaking - This phase raises the temperature of the cabinet to start activating the yeast.
- Proofing – This phase raises the temperature and allows the product to rise, making it ready for the oven.
- Holding – This phase holds the product in the ready state and will hold that temperature until the Stop Icon is pushed to terminate the cycle.

Here is an example of the proofing cycle. The temperatures can be modified by using the special menu icon. Once the Start Icon is pushed, the menu cannot be modified.

Blast chilling	Cabinet setting (rC3)	5°C
	Humidity setting (rU5, only if rU4=1)	---
	Duration setting (rH7)	120 min
	Ventilation setting (F42)	5
Re-awakening	Cabinet setting (rH3)	20°C
	Humidity setting (rU6)	60 %rH
	Duration setting (rH8)	240 min
	Ventilation setting (F43)	5
Proofing	Cabinet setting (rH4)	30°C
	Humidity setting (rU7)	80 %rH
	Duration setting (rH9)	180 min
	Ventilation (F44)	5
Conservation	Cabinet setting (rH5)	25°C
	Humidity setting (rU8)	80 %rH
	Enable phase	Yes (inf)
	Ventilation setting (F45)	5

10.0 Recipe Book Mode

By pushing the Recipe Icon, the next screen will open and allow the end user to build a recipe into the folder.

This scree allows the end user to tailor their recipes to three categories.

- Blast Chilling
- Blast Freezing
- Proofing

By pushing the Blast Chilling Icon, the end user can build their recipes.

By pushing the Blast Freezing Icon, the end user can build their recipes.

This is an example of the Blast Chilling recipes. The control is pre-programmed for 6 pre-set recipes. The end user can program their own recipes by pressing the My Recipe Icon  on the bottom of the screen.

Pushing any of the pre-programmed recipes will open a summary screen, showing the different phases. The recipe can be started up from the screen or can be modified by pressing the individual phase and then make the changes. After the settings have been modified, the end user has three choices;

- Start the cycle without saving the changes.
- Save the changes and over write the program
- Save the changes under a different name.

Pre-Programmed Blast Chilling Recipes
Note: Recipes shown are in C but will be converted to F in the program.

10.1

Phase 1	Cabinet setting	-25°C
	Needle probe setting	20°C
	Ventilation setting	5
Phase 2	Cabinet setting	-5°C
	Needle probe setting	3°C
	Ventilation setting	5
Conservation	Cabinet setting	5°C
	Needle probe setting	2°C
	Ventilation setting	5

Phase 1	Cabinet setting	-25°C
	Duration setting	27 min
	Ventilation setting	5
Phase 2	Cabinet setting	-5°C
	Duration setting	63 min
	Ventilation setting	5
Conservation	Cabinet setting	2°C
	Ventilation setting	5

Phase 1	Cabinet setting	-25°C
	Duration setting	27 min
	Ventilation setting	5
Phase 2	Cabinet setting	-5°C
	Duration setting	63 min
	Ventilation setting	5
Conservation	Cabinet setting	2°C
	Ventilation setting	5

Phase 1	Cabinet setting	-5°C
	Duration setting	90 min
	Ventilation setting	2
Conservation	Cabinet setting	2°C
	Ventilation setting	2

Phase 1	Cabinet setting	-5°C
	Duration setting	90 min
	Ventilation setting	5
Conservation	Cabinet setting	2°C
	Ventilation setting	5

Phase 1	Cabinet setting	-5°C
	Duration setting	90 min
	Ventilation setting	5
Conservation	Cabinet setting	2°C
	Ventilation setting	5

Pre-Programmed Blast Freezing Recipes

10.2

Phase 1	Cabinet setting	0°C
	Needle probe setting	3°C
	Ventilation setting	5
Phase 2	Cabinet setting	-12°C
	Needle probe setting	-3°C
	Ventilation setting	5
Phase 3	Cabinet setting	-30°C
	Needle probe setting	-18°C
	Ventilation setting	5
Conservation	Cabinet setting	5°C
	Needle probe setting	-20°C
	Ventilation setting	5

10.3 Saving a Recipe

Both Time and Temperature or Product Probe Recipes can be saved in the following methods;

- During the Hold Mode, after a customized Blast Chilling/Freezing cycle, when the Stop Icon STOP is pushed, the control will ask if the end user wishes to save the recipe.
- The end user can save a recipe from a customized cycle.
- The end user can select a pre-programmed recipe, modify it and then save it.

While saving is in progress, the control will ask the end user to choose a category and then it will show the open positions and what is already occupied. If the end user chooses an occupied position, the screen will ask if the end user wishes to over write it.

It is possible to over write a recipe but not delete it. When the end user over writes a recipe, the next scree will ask that they confirm it. **Once it is over written and confirmed, it will be deleted.**

11.0 Pre-Cooling Mode

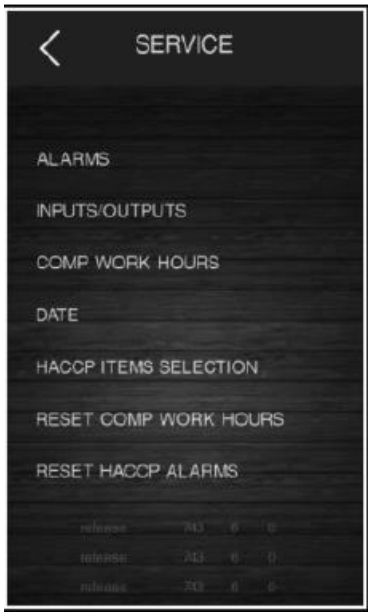
Pre-Cooling is vital to the successful operation of a Blast Chiller/Freezer. It removes the heat from inside the compartment, to allow for the unit to operate efficiently. Pre-Cooling in either the Blast Chill or Blast Freeze mode, should always be set 15 to 20 degrees lower than the the set temperature.
Push on the Pre-Cool Icon and the next screen appears.

The end user can use the + or – icons or using their finger, go right or left to raise or lower the temperature. Once the desired temperature is reached, push the green checkmark and the next screen appears showing the Pre-Cooling cycle in progress.

The fan speed is fixed, and the end user can select the next cycle or push the Stop Icon. Once the Pre-Cooling reaches the set temperature, a buzzer will sound, and it will maintain that temperature until the Stop Icon is pushed or if another cycle was selected, it will then stop when the next cycle is started.

12.0 Settings Screen

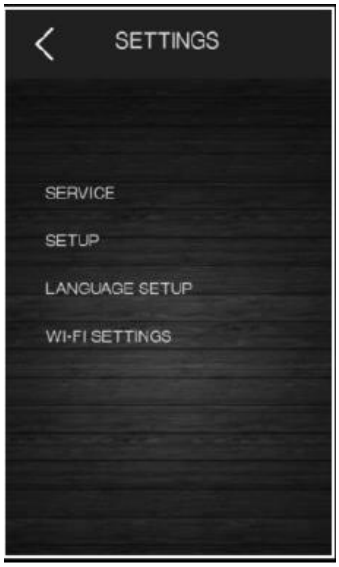
The settings screen is accessed by pushing the  Home Screen.



The Settings Screen has the following options available;

- Service
- Setup
- Language setup
- Wi-Fi Setting (Not available currently)

12.1 Service Menu



The Service Menu displays the following information;

- Alarms
- Input/output status
- Compressor operating hours
- Set Date and Time
- Select HAACP Data
- Reset compressor operating hours
- Reset HAACP Data points

The pass word for resetting compressor operating hours and HAACP data points is 149.

12.2 Setup Menu

The Setup menu is controlled by a password to protect unauthorized personnel from accessing the parameters, which will affect the operation of the unit. If access is needed, the service technician will need to call the Factory and they will assist the technician.
This menu is used to make any changes to the parameters to enhance the operation of the unit. It can also be used to reinstall the Factory Settings, in case an unauthorized person alters them.

12.3 Select Language

The following Languages are programmed into the control;

- Italian
- English
- French
- Dutch
- Spanish
- Portuguese
- Chinese (Simplified)
- Chinese (Traditional)

13.0 USB Port

The USB Port is located under the display board on the door of the unit. It can be used to access the following menu;

- Download and upload recipes
- Download and upload parameters
- Download historical HAACP data

To access this menu, power down the control from the Home Screen and insert a clean USB flash drive into the port. The following screen will appear.

The end user can now select any of the options on this screen.

13.1 Recipe Download

After inserting a clean USB Flash Drive into the USB Port and selecting "Download Recipes" or "Upload Recipes", the program will automatically be written/read in the form of a text file labeled "program.bin". Depending on the size of the recipe file, it can take several minutes to complete. Once completed, the USB Flash Drive can now be removed and if copying the recipes to another unit, follow the same procedure and upload the file to the next unit. This file cannot be opened and modified, as it is a computer language.

13.2 Download/Upload Parameters

After inserting a clean USB Flash Drive into the USB Port, select Download or Upload Parameters, depending on what is needed. The control will download the parameters into a file labeled "param.bin". This can then be uploaded into another unit, if needed to match this unit. These parameters cannot be modified, as the file is in a computer language. Once the upload or download is completed, the USB Flash Drive can be removed from the USB Port.

13.3 HAACP Data Collection

After inserting a clean USB Flash Drive into the USB Port, select HAACP Data Download. A page will appear asking the end user to select the time you want the HAACP Data collection to start (keep the day/month/year/hour tab pressed until it turns green). Use the = or – key to edit the data to be collected. Once confirmed, a CSV (Comma Separated Value) file will be written to the USB Flash Drive in a file labeled “storico.csv”. This can take several minutes and when completed the USB Flash Drive can be removed and inserted into a computer and viewed/saved. This will provide a Date, time, temperatures achieved, but will not have product names. The file can be saved under a user batch file if needed.

14.0 Configurable Parameters

The parameter are the brains of the control and tell the unit how to operate. These parameters are tested and allow normal operation of the unit to maximize efficiency and operation. **DO NOT MODIFY THESE PARAMETRS WITHOUT FACTORY GUIDENCE.** The following parameter list are the only parameters that are configurable.

Parameter	Maximum	Minimum	Programmed	Description
CA1	25C	-25C	0	Air Temp Sensor Calibration
CA2	25C	-25C	0	Evap Sensor Calibration
CA3	25C	-25C	0	Condenser Sensor Calibration
CA4	25C	-25C	0	Product Probe 1 Calibration
CA5	25C	-25C	0	Product Probe 2 Calibration
CA6	25C	-25C	0	Product Probe 3 Calibration
PO	0	1	1	Type of Probe (PTC = 0) (NTC = 1)
P2	1	0	1	Temp Measurement (0 = C) (1 = F)
P3	0	3	1	Type of Product Probe (1 = Single) (2 = Multipoint) (3 = Multiple Product Probes)
P4	0	1	1	Enable Evaporator Probe (0 = no) (1 = yes)
P5	0	1	1	Enable Condenser Probe (0 = no) (1 = yes)
P9	3	1	1	If P3 is 1, P9 is 1, If P3 is 2, P9 is 2, If P3 is 3, P9 is 3
R0	15C	2C	2C	Cabinet set point differential
R1	500min	1min	90min	Duration of time in Blast Chilling
R2	500min	1min	240min	Duration of Time in Blast Freezing
R3	99C	-50C	3C	Product end temperature Blast Chilling
R4	99C	-50C	-18C	Product end temperature Blast Freezing
R5	500min	1min	270min	Maximum time for Blast Chilling
R6	500min	1min	480min	Maximum time for Blast Freezing
R7	99C	-50C	-5C	Cabinet set point during Blast Chilling
R8	99C	-50C	-30C	Cabinet set point during Blast Freezing
R9	99C	-50C	-20C	Cabinet set point during Hard Blast Freezing
R10	99C	-50C	3C	Cabinet set point during Blast Chill Hold
R11	99C	-50C	-20C	Hold set point during Blast Freeze Hold

R12	99C	-50C	-5C	Cabinet set point during Pre-cooling
R13	99C	-50C	9C	Product set point during Hard Blast Chilling
R15	199C	-50C	71C	Product temperature below which count for Maximum duration starts
R25	99C	-50C	10C	Initial Cabinet set point for light thawing
R26	99C	-50C	15C	Initial cabinet set point for medium thawing
R27	99C	-50C	20C	Initial cabinet set point for heavy thawing
R36	99C	-50C	2C	Product set point for Custom Blast Chilling
R37	999min	1min	180min	Duration of time control custom Blast Chilling
R38	99C	-50C	3C	Cabinet set point for Hold after custom Blast Chilling
R39	99C	-50C	27C	Maximum Cabinet set point
C1	240min	0min	2min	Maximum time for 2 compressor switch-on
C2	240min	0min	2min	Minimum time between compressor switch-off And switch-on
C5	240min	0min	5min	Air sensor probe error message when compressor Is on
C6	199C	0C	70C	Condenser overheat error
C7	199C	0C	80C	Condenser overheat compressor lockout error
F1	99C	-50C	10C	Evaporator temperature above which evap fans Turn off
F3	15min	0min	1min	Duration of evap fan off time
F19	100%	0%	25%	Evap fan minimum speed
F20	100%	0%	100%	Evap fan maximum speed
F21	100%	0%	100%	Evap fan start up speed
U8	240min	0min	1min	Maximum time for Product Probe heating
E9	1	0	0	EVCO splash screen (0=no) (1 = yes)

15.0 Alarm Error Codes

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 memorise 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.

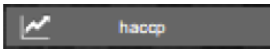
CONDENSER PROBE	Condenser probe error. To correct - The same as for the cabinet probe error but with reference to the condenser probe. Main consequences - The condenser fan will operate in parallel with the compressor. - The condenser overheat alarm will never be activated. - The compressor locked alarm 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.

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.
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 memorise 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 memorise 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 memorise 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 memorise 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 memorise 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 COMMUNICATIONS	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.

15.1 HAACP Alarms

To access the HAACP Alarms, from the Home Screen push the HAACP Icon and 

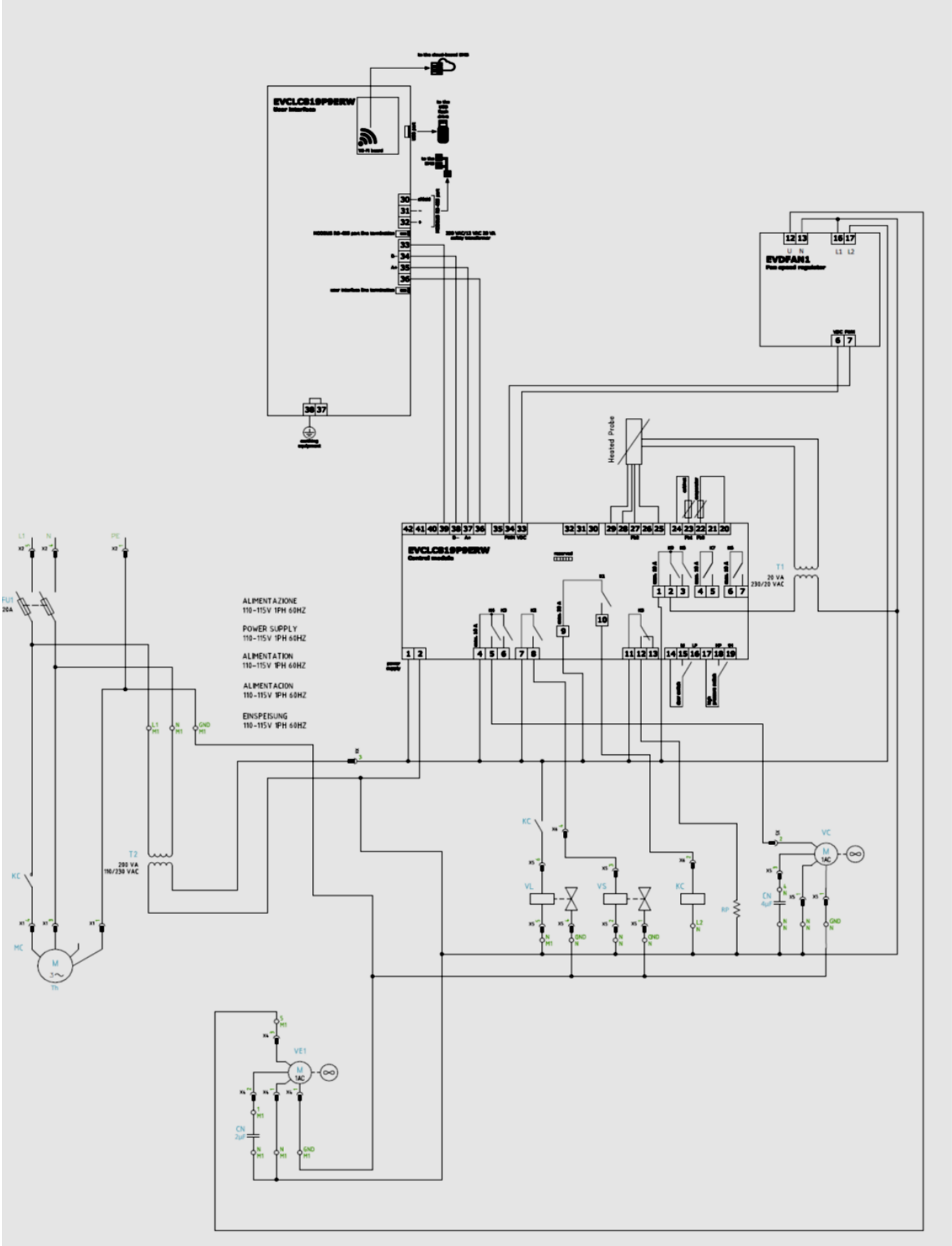
the following screen will appear;

The following critical HAACP alarms will be listed here, showing time and date, the alarm and duration

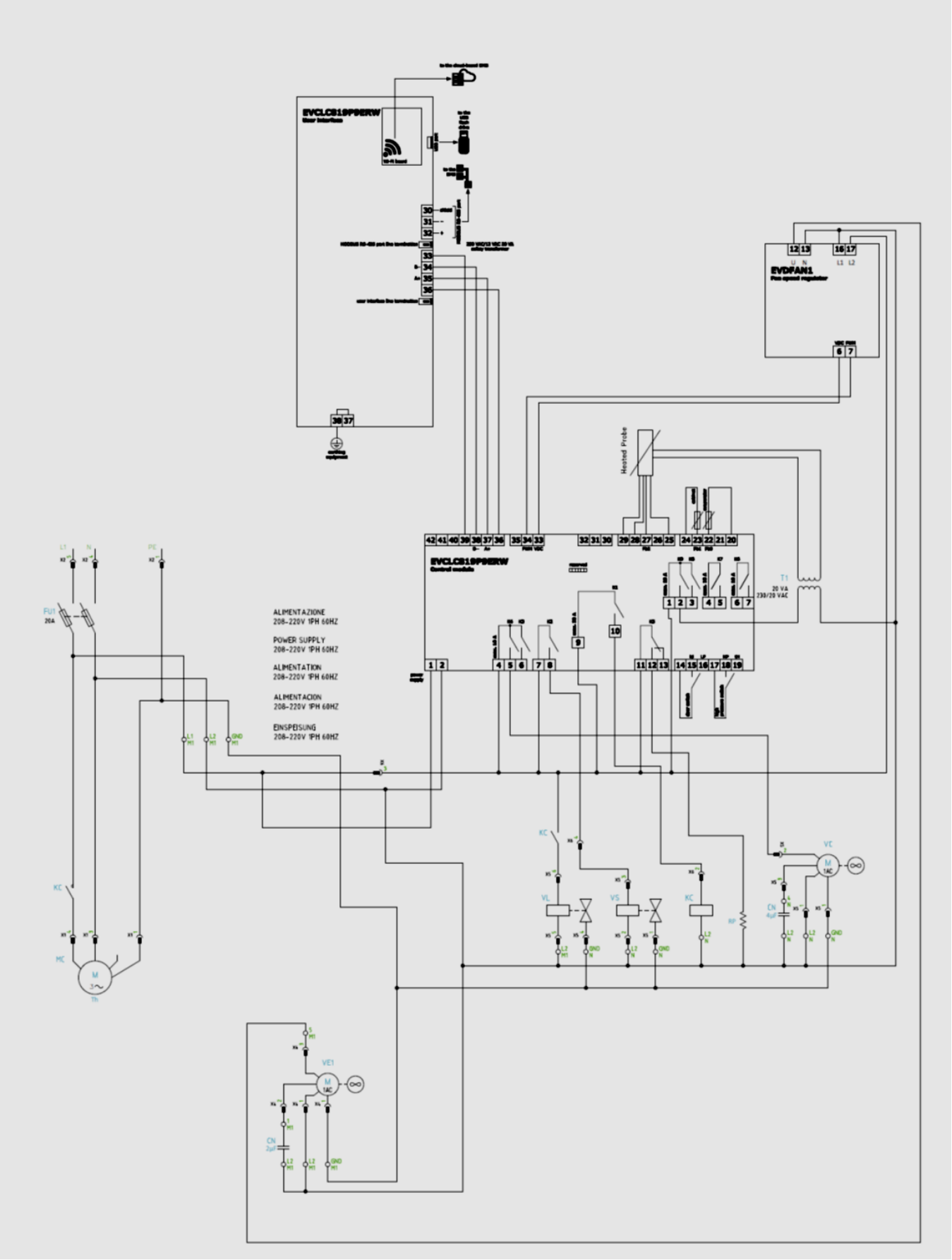
- Blast Chilling/Freezing cycle duration
- Power failure
- Door openings
- High temperature alarm
- Low temperature alarm

16.0 WIRING DIAGRAMS

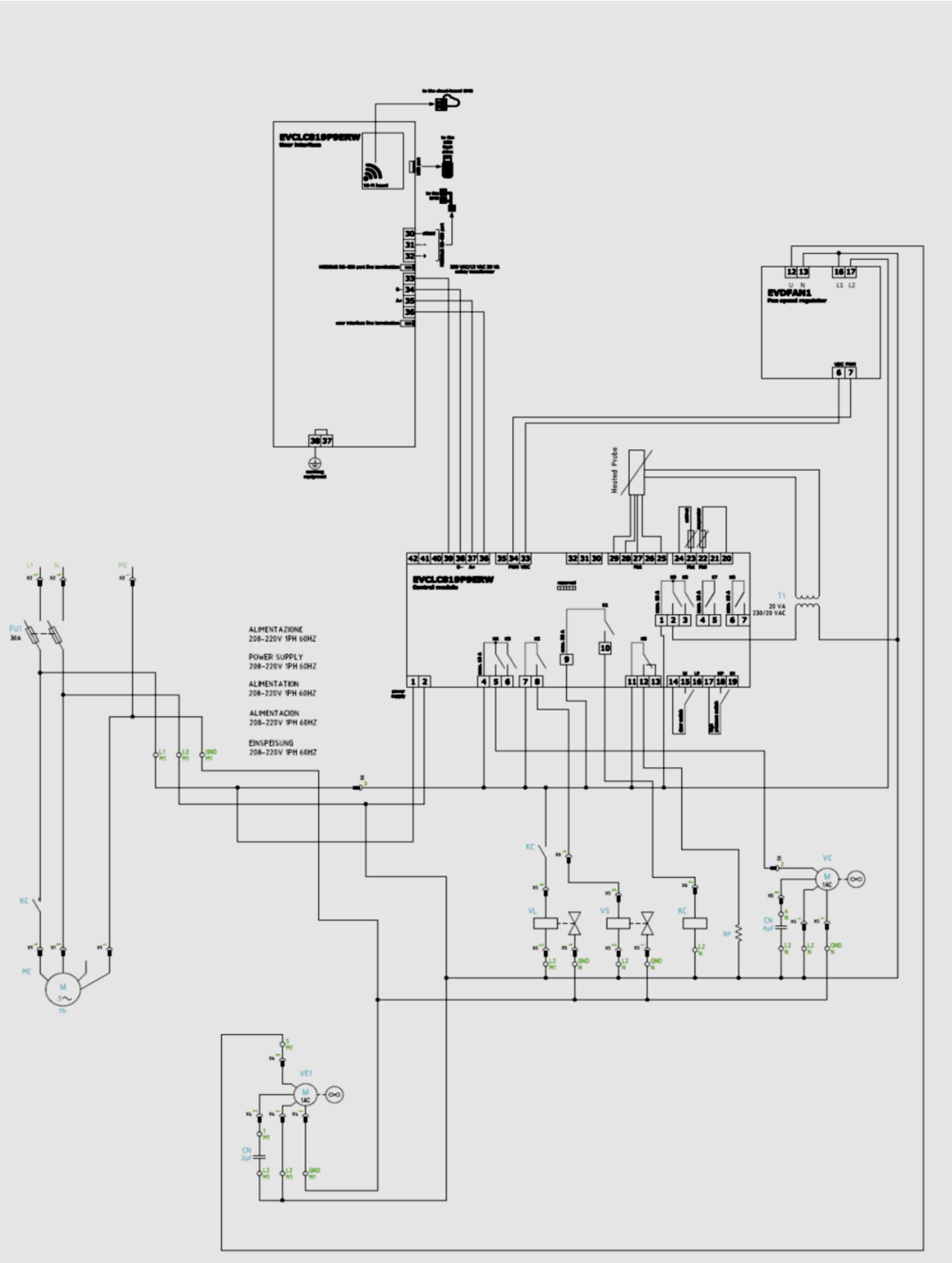
TBF5.0 120VAC 1-PH



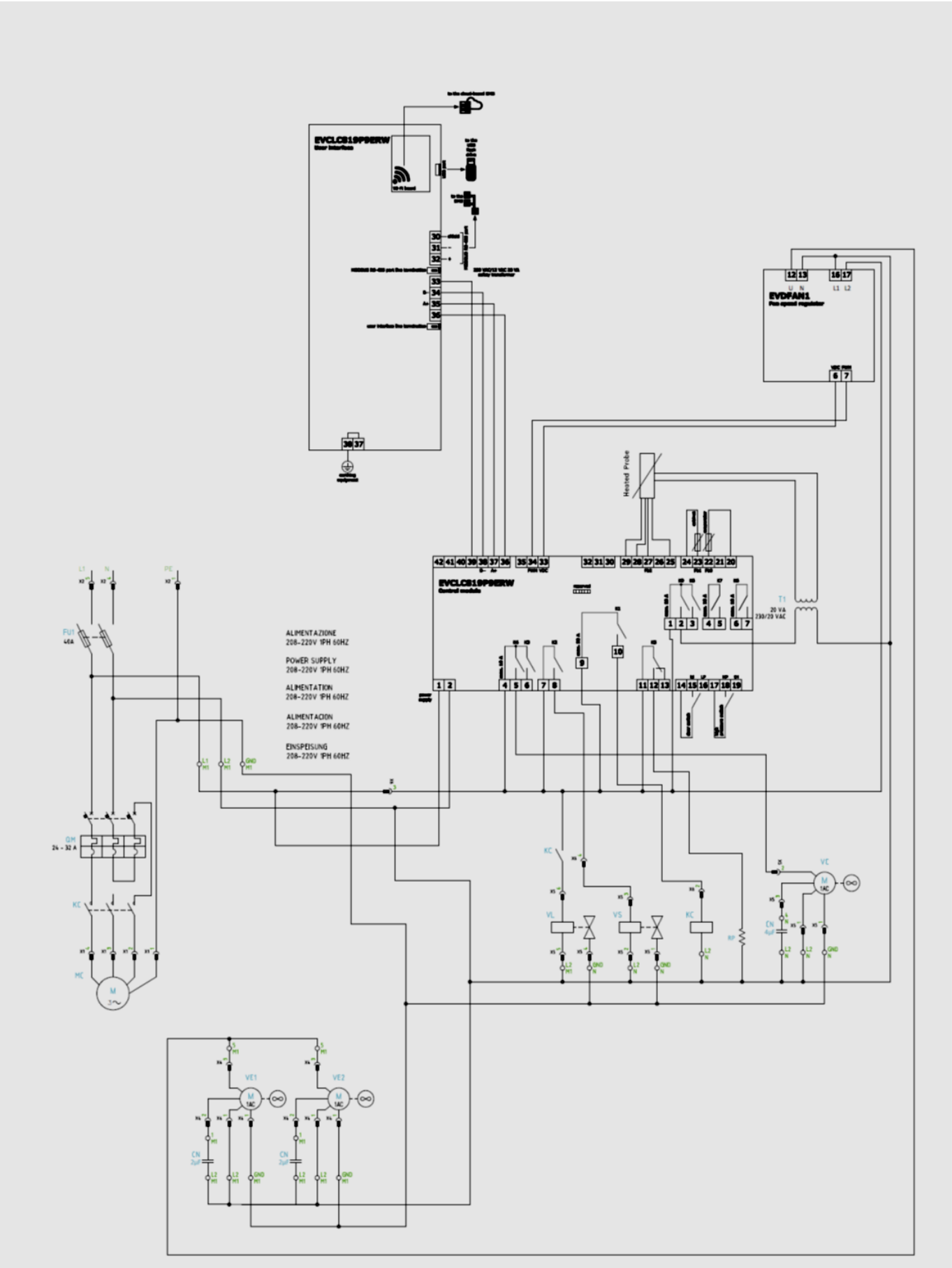
TBF5.01 208/240VAC 1PH



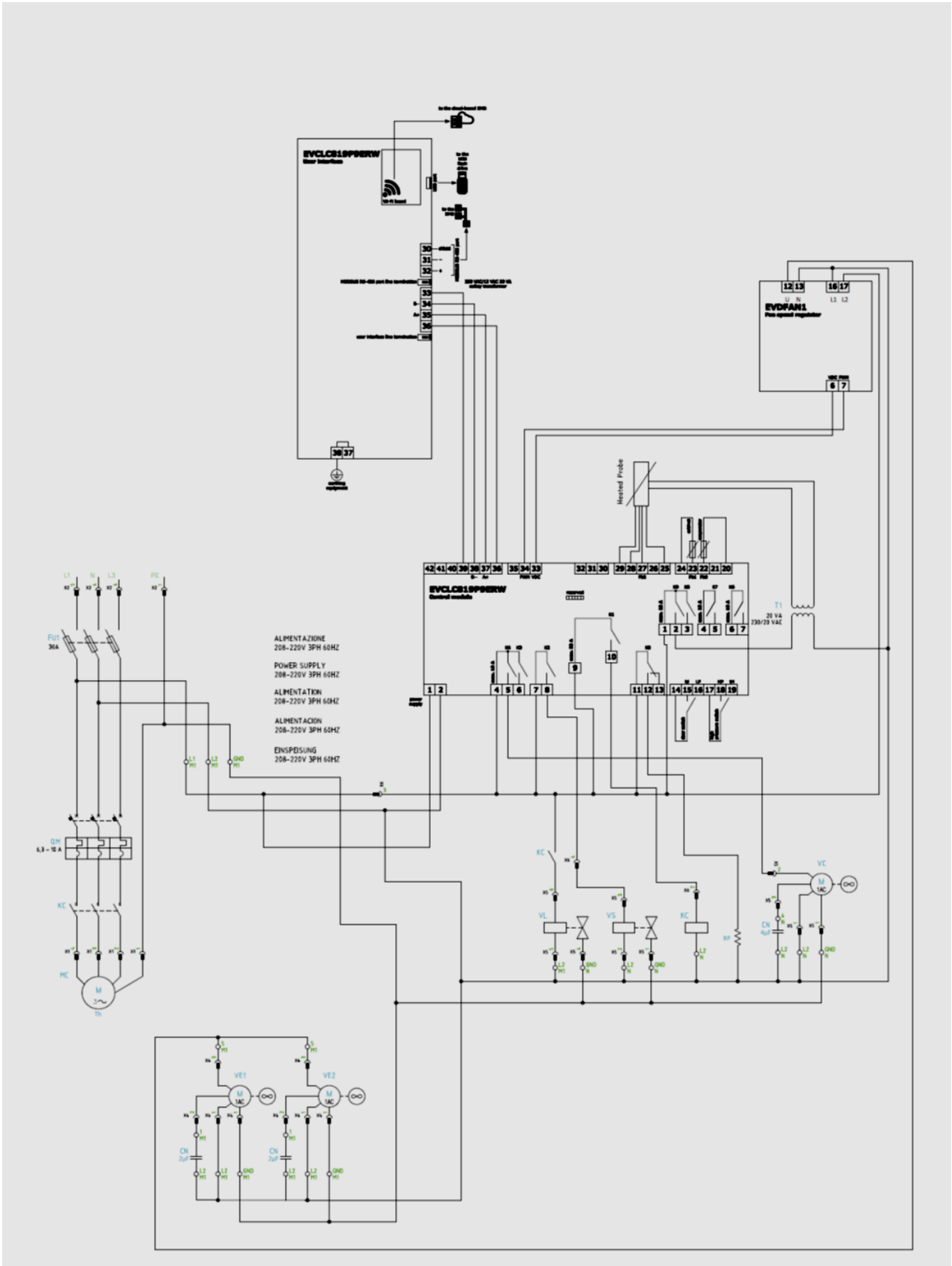
TBF7.0 208/240VAC 1 PH



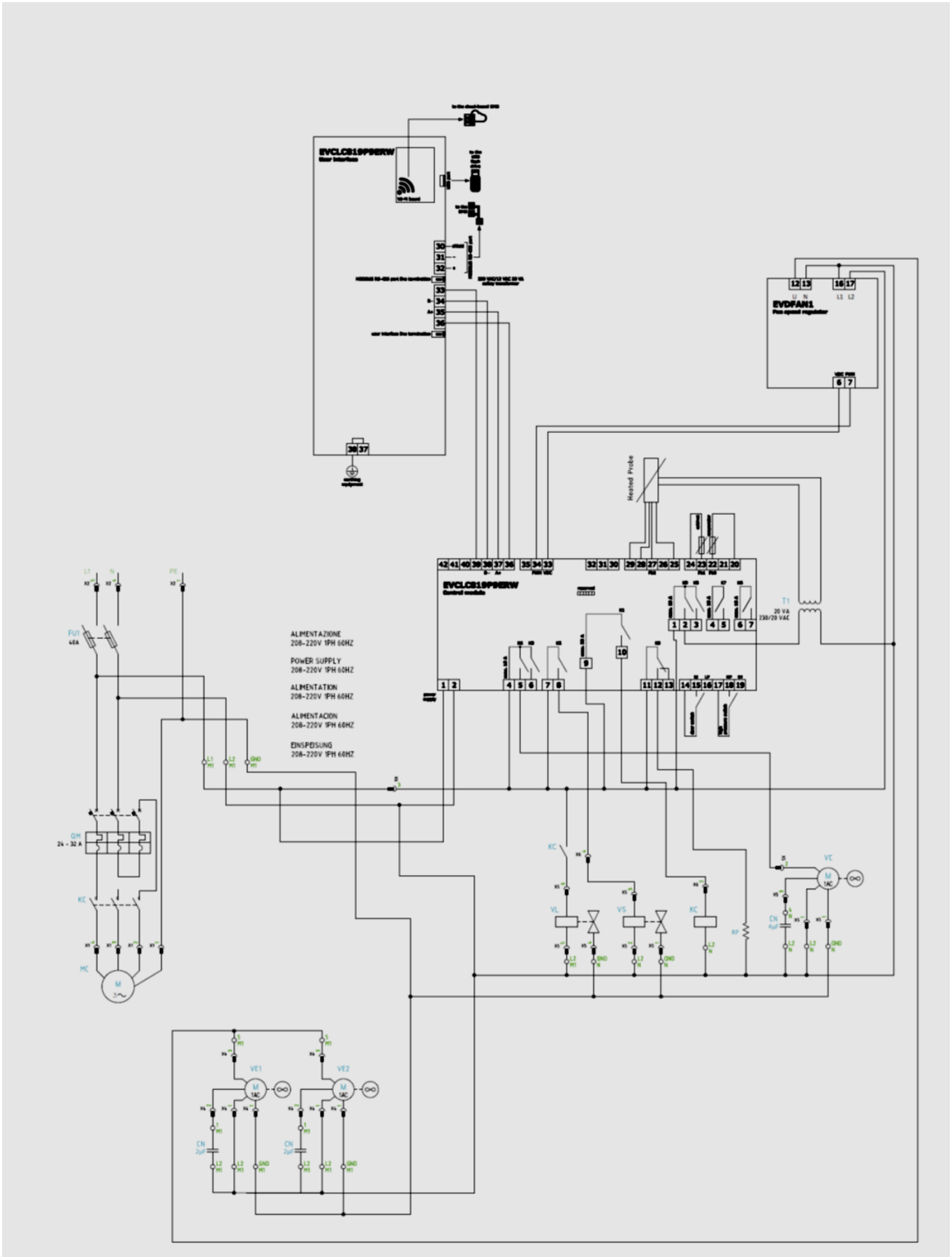
TBF12.0 208/240 1PH



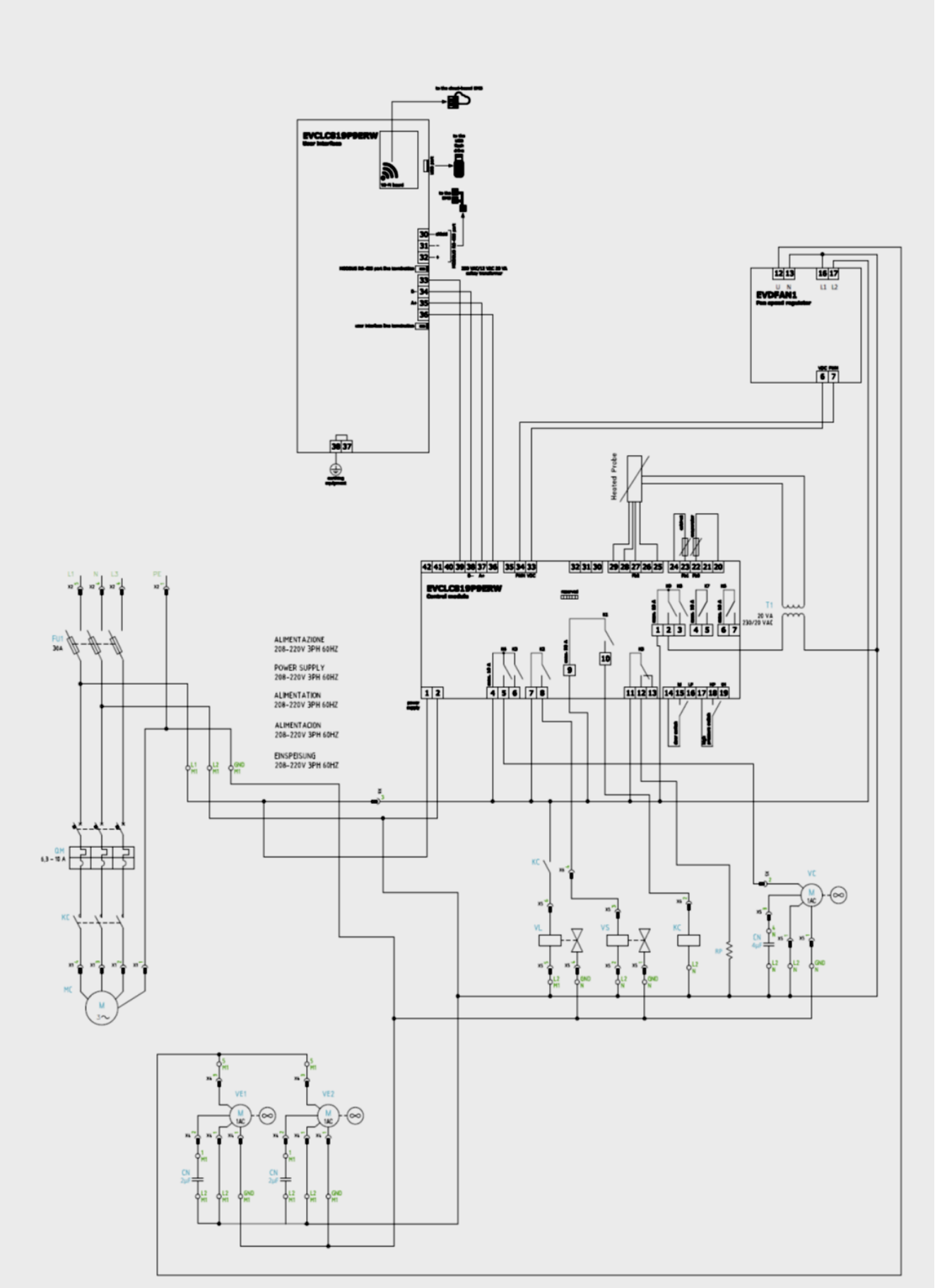
TBF12.03 208/240VAC 3PH



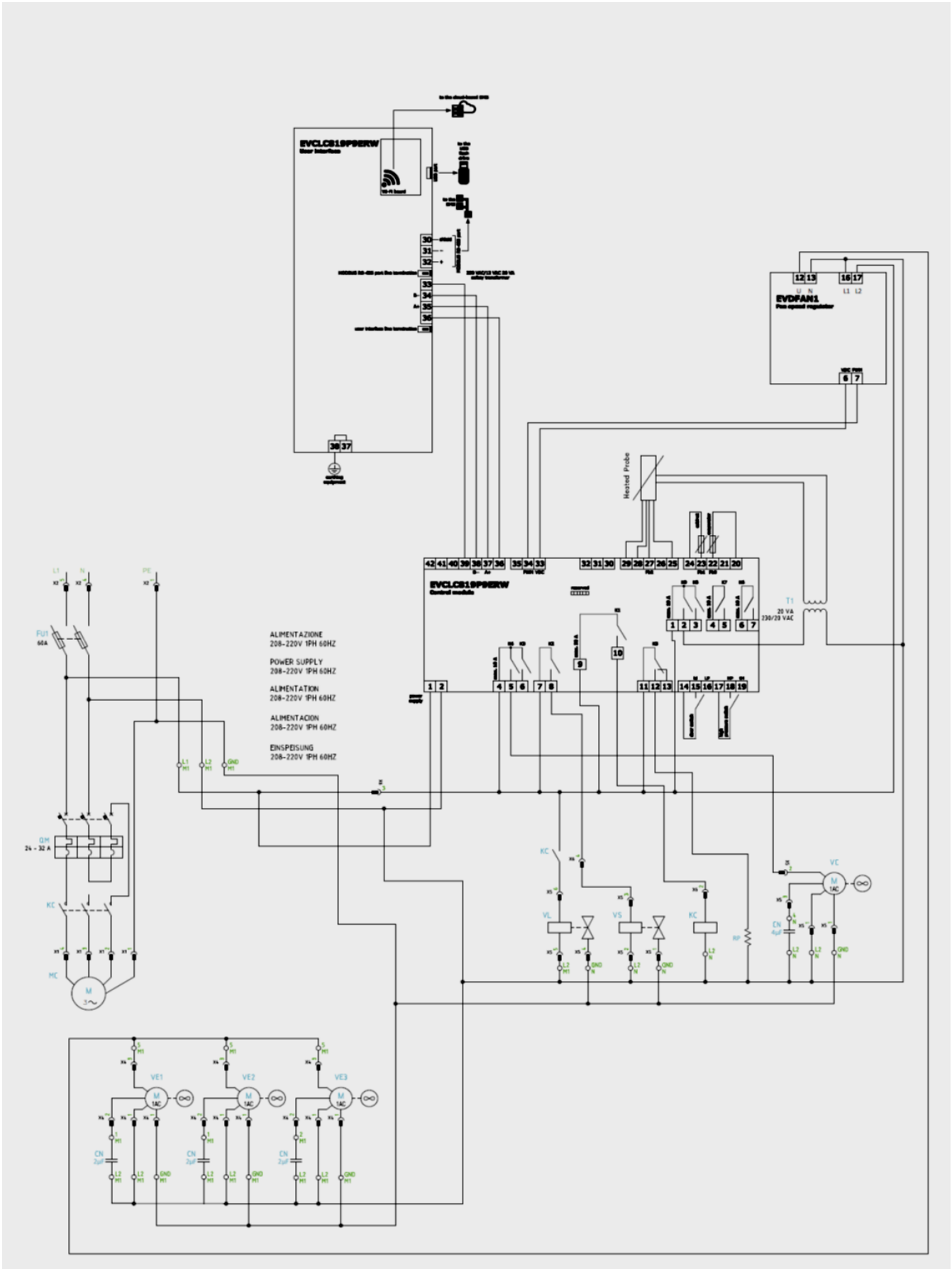
TBF15.0 208/240VAC 1 PH



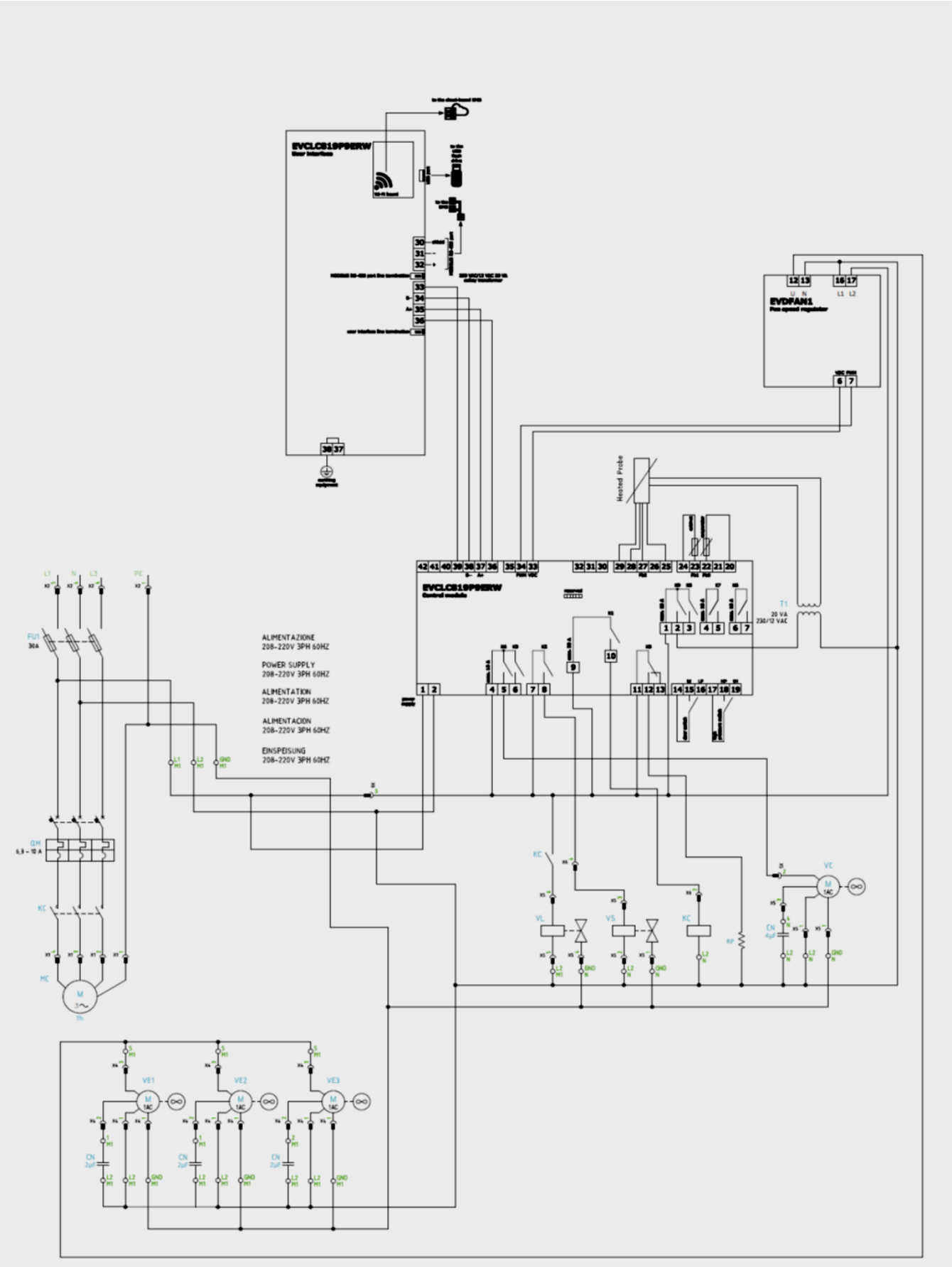
TBF15.03 208/240VAC 3 PH



TBF18.0 208/240VAC 1PH

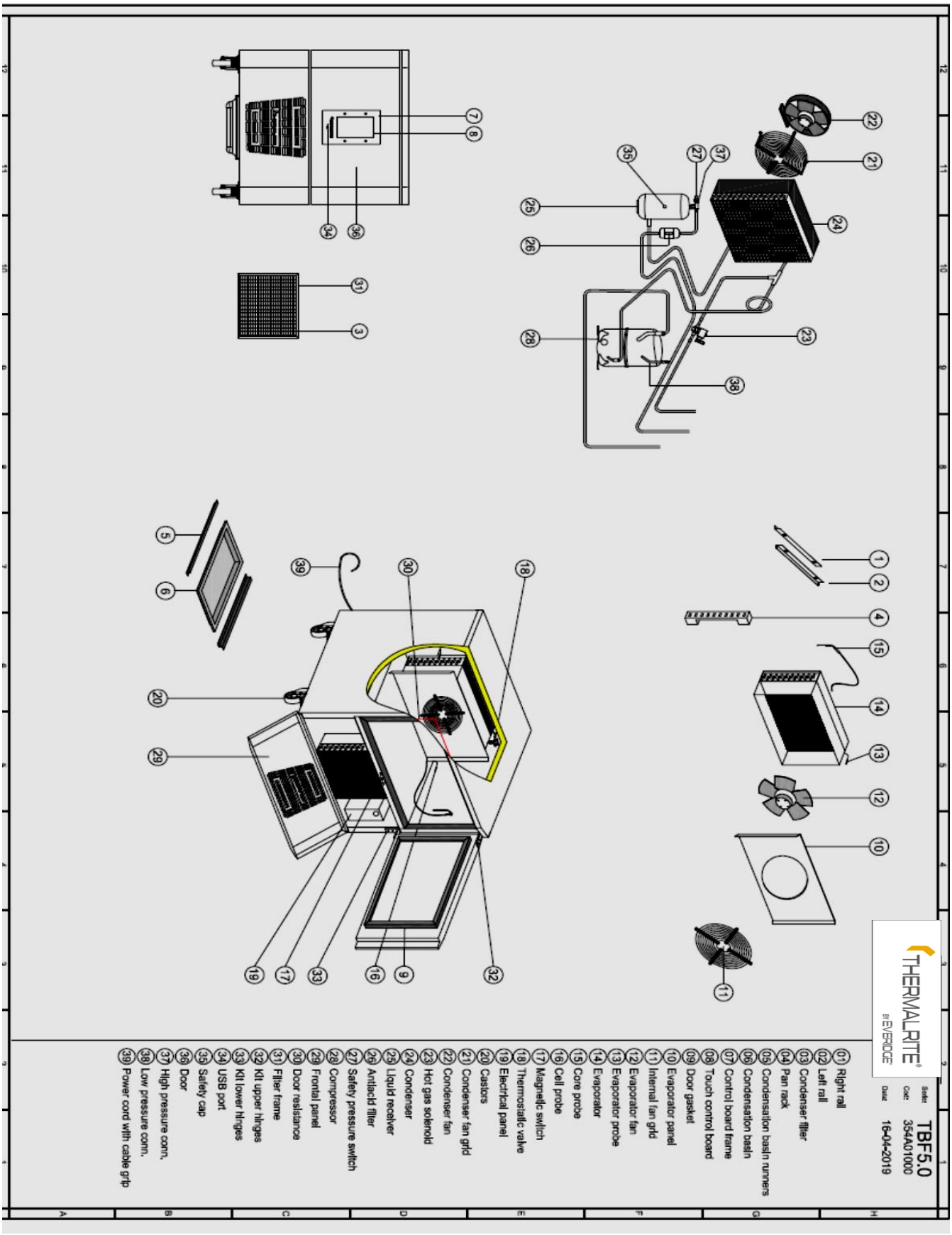


TBF18.03 208/240VAC 3PH



17.0 EXPLODED VIES AND PARTS LIST

TBF5.0 and TBF5.01



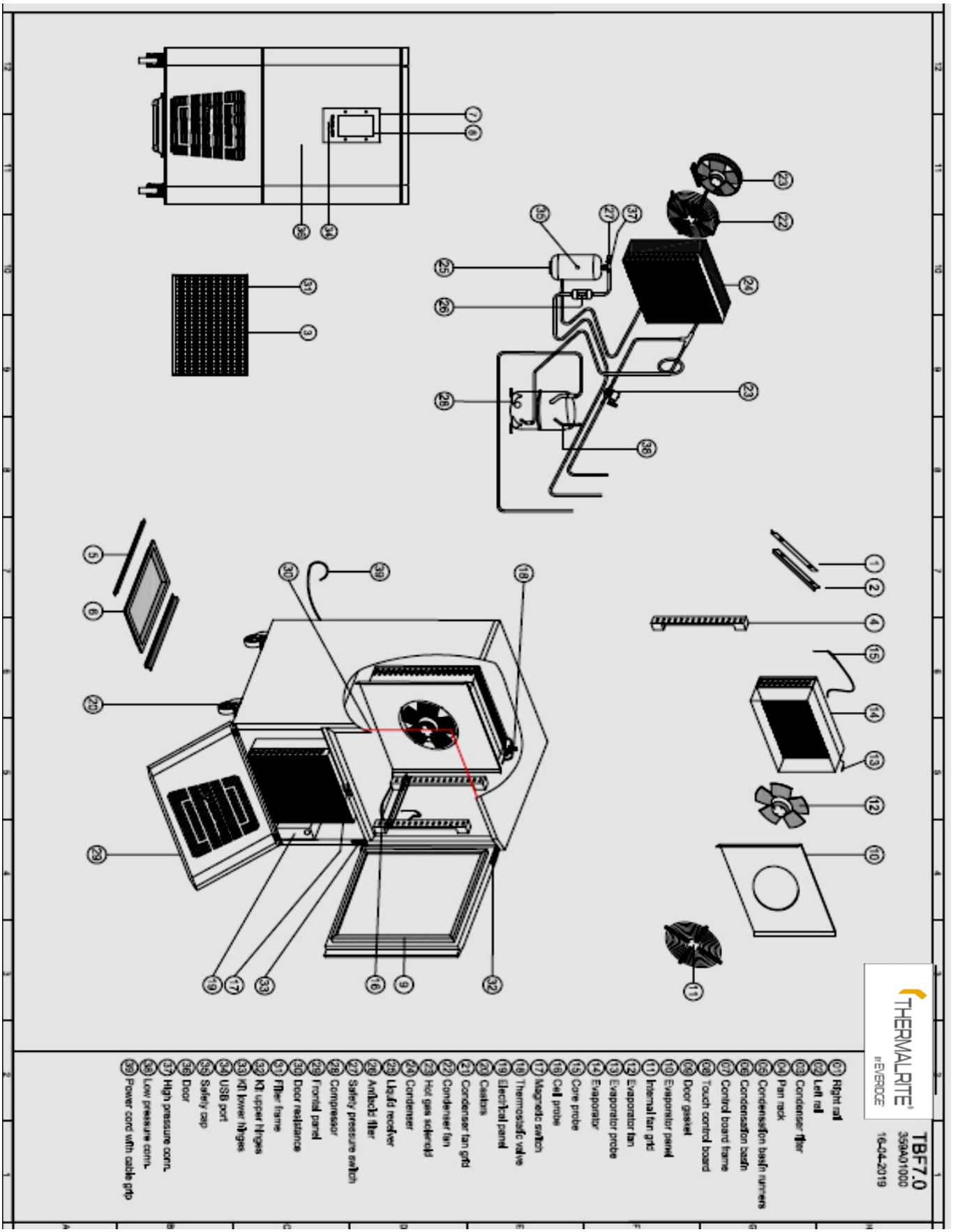
TBF5.0 Parts List

Ref. N°	Part	Description
1	354R001	RIGHT RAIL
2	354R002	LEFT RAIL
3	354R003	CONDENSER FILTER
4	354R004	PAN RACK
5	354R005	CONDENSATION BASIN RUNNERS
6	354R006	CONDENSATION BASIN
7	354R007	CONTROL BOARD FRAME
8	354R008	TOUCH CONTROL BOARD 7"
9	354R009	GASKET DOOR
10	354R010	EVAPORATOR PANEL
11	354R011	INTERNAL FAN GRID
12	354R012	EVAPORATOR FAN
13	354R013	EVAPORATOR PROBE
14	354R014	EVAPORATOR
15	354R015	CORE PROBE
16	354R016	CELL PROBE
17	354R017	MAGNETIC SWITCH
18	354R018	THERMOSTATIC VALVE MOP. ORIF. 00
19	354R019	ELECTRICAL PANEL
20	354R020	CASTORS
21	354R021	CONDENSER FAN GRID
22	354R022	CONDENSER FAN
23	354R023	HOT GAS SOLENOID
24	354R024	CONDENSER
25	354R025	LIQUID RECEIVER LT. 1,4 UL
26	354R026	ANTIACID FILTER
27	354R027	SAFETY PRESSURE SWITCH
28	354R028	COMPRESSOR
29	354R029	FRONTAL PANEL
30	354R030	DOOR RESISTANCE
31	354R031	FILTER FRAME
32	354R032	KIT UPPER HINGES
33	354R033	KIT LOWER HINGES
34	354R034	USB PORT
35	354R035	SAFETY CAP
36	354R036	STANDARD DOOR
-	354R036L	NON-STANDARD DOOR (optional)
37	354R037	HIGH PRESSURE CONNECTION
38	354R038	LOW PRESSURE CONNECTION
39	354R039	POWER CORD WITH CABLE GRIP
40	354R040	DRAIN PLUG

TBF5.01 Parts List

Ref. N°	Part	Description
1	354R001	RIGHT RAIL
2	354R002	LEFT RAIL
3	354R003	CONDENSER FILTER
4	354R004	PAN RACK
5	354R005	CONDENSATION BASIN RUNNERS
6	354R006	CONDENSATION BASIN
7	354R007	CONTROL BOARD FRAME
8	354R008	TOUCH CONTROL BOARD 7"
9	354R009	GASKET DOOR
10	354R010	EVAPORATOR PANEL
11	354R011	INTERNAL FAN GRID
12	354R012	EVAPORATOR FAN
13	354R013	EVAPORATOR PROBE
14	354R014	EVAPORATOR
15	354R015	CORE PROBE
16	354R016	CELL PROBE
17	354R017	MAGNETIC SWITCH
18	354R018	THERMOSTATIC VALVE MOP. ORIF. 00
19	354R819	ELECTRICAL PANEL
20	354R020	CASTORS
21	354R021	CONDENSER FAN GRID
22	354R022	CONDENSER FAN
23	354R023	HOT GAS SOLENOID
24	354R024	CONDENSER
25	354R025	LIQUID RECEIVER LT. 1,4 UL
26	354R026	ANTIACID FILTER
27	354R027	SAFETY PRESSURE SWITCH
28	354R828	COMPRESSOR
29	354R029	FRONTAL PANEL
30	354R030	DOOR RESISTANCE
31	354R031	FILTER FRAME
32	354R032	KIT UPPER HINGES
33	354R033	KIT LOWER HINGES
34	354R034	USB PORT
35	354R035	SAFETY CAP
36	354R036	DOOR
-	354R036L	NON-STANDARD DOOR (optional)
37	354R037	HIGH PRESSURE CONNECTION
38	354R038	LOW PRESSURE CONNECTION
39	354R839	POWER CORD WITH CABLE GRIP
40	354R040	DRAIN PLUG

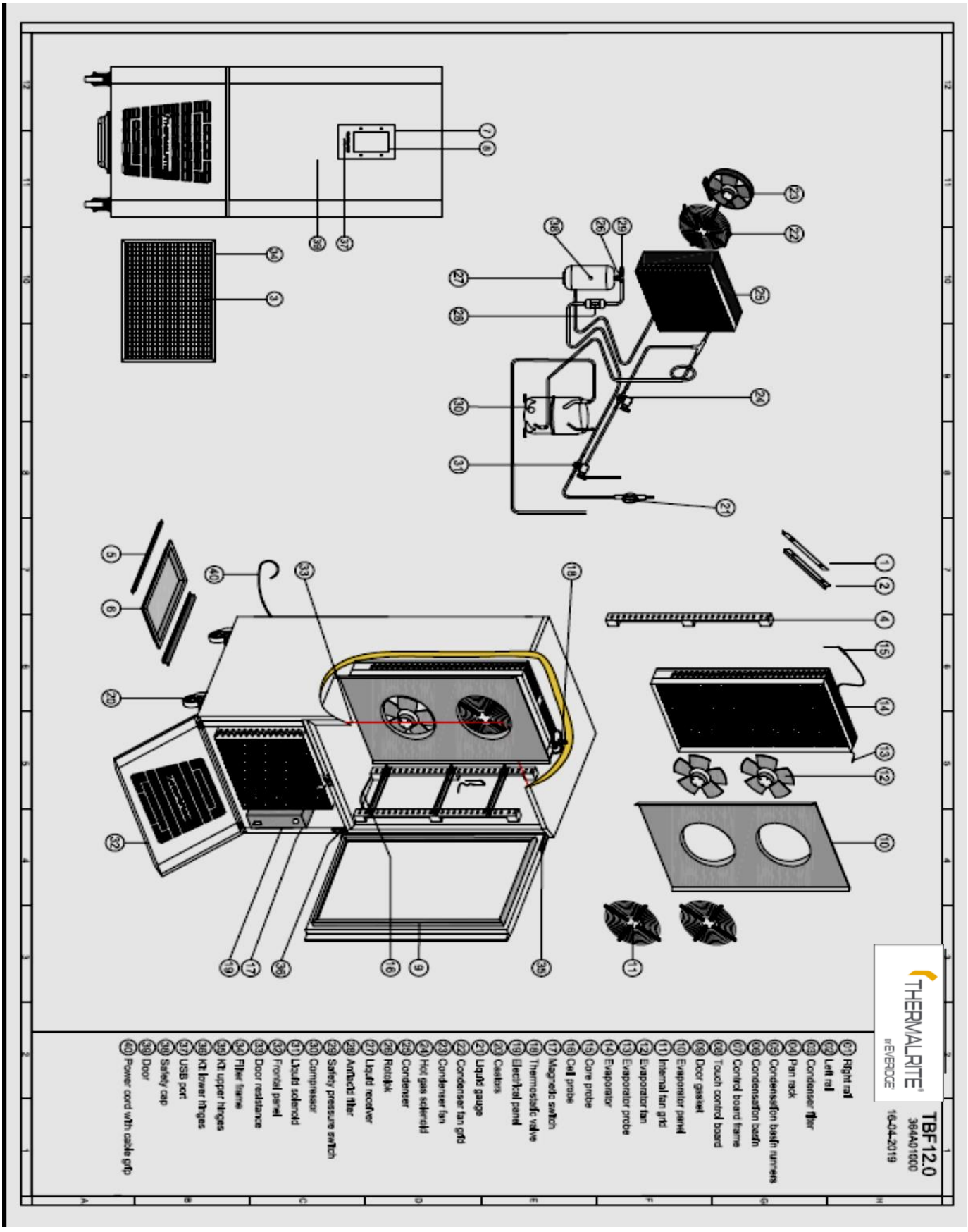
TBF7.0 EXPLODED VIEWS



TBF7.0 PARTS LIST

Ref. N°	Part	Description
1	359R001	RIGHT RAIL
2	359R002	LEFT RAIL
3	359R003	CONDENSER FILTER
4	359R004	PAN RACK
5	359R005	CONDENSATION BASIN RUNNERS
6	359R006	CONDENSATION BASIN
7	359R007	CONTROL BOARD FRAME
8	359R008	TOUCH CONTROL BOARD 7"
9	359R009	GASKET DOOR
10	359R010	EVAPORATOR PANEL
11	359R011	INTERNAL FAN GRID
12	359R012	EVAPORATOR FAN
13	359R013	EVAPORATOR PROBE
14	359R014	EVAPORATOR
15	359R015	CORE PROBE
16	359R016	CELL PROBE
17	359R017	MAGNETIC SWITCH
18	359R018	THERMOSTATIC VALVE MOP. ORIF. 01
19	359R019	ELECTRICAL PANEL
20	359R020	CASTORS
21	359R021	CONDENSER FAN GRID
22	359R022	CONDENSER FAN
23	359R023	HOT GAS SOLENOID
24	359R024	CONDENSER
25	359R025	LIQUID RECEIVER LT. 1,4 UL
26	359R026	ANTIACID FILTER
27	359R027	SAFETY PRESSURE SWITCH
28	359R028	COMPRESSOR
29	359R029	FRONTAL PANEL
30	359R030	DOOR RESISTANCE
31	359R031	FILTER FRAME
32	359R032	KIT UPPER HINGES
33	359R033	KIT LOWER HINGES
34	359R034	USB PORT
35	359R035	SAFETY CAP
36	359R036	DOOR
-	359R036L	NON-STANDARD DOOR (optional)
37	359R037	HIGH PRESSURE CONNECTION
38	359R038	LOW PRESSURE CONNECTION
39	359R039	POWER CORD WITH CABLE GRIP
40	359R040	DRAIN PLUG

TBF12.0 and TBF12.03 EXPLODED VIEWS



TBF12.0 and TBF12.03 PARTS LIST

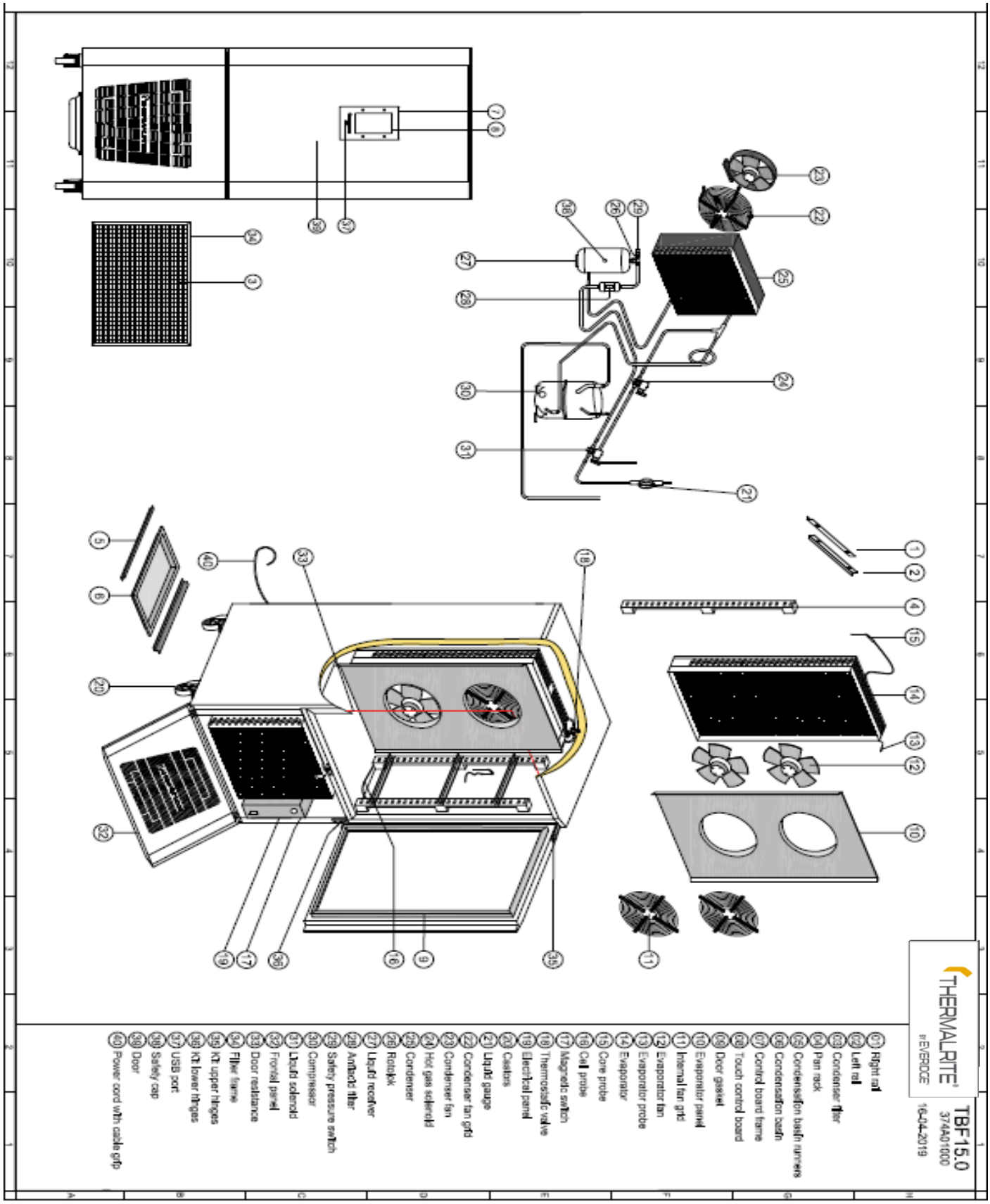
TBF12.0 PARTS LIST

Ref. N°	Part	Description
1	364R001	RIGHT RAIL
2	364R002	LEFT RAIL
3	364R003	CONDENSER FILTER
4	364R004	PAN RACK
5	364R005	CONDENSATION BASIN RUNNERS
6	364R006	CONDENSATION BASIN
7	364R007	CONTROL BOARD FRAME
8	364R008	TOUCH CONTROL BOARD 7"
9	364R009	GASKET DOOR
10	364R010	EVAPORATOR PANEL
11	364R011	INTERNAL FAN GRID
12	364R012	EVAPORATOR FAN
13	364R013	EVAPORATOR PROBE
14	364R014	EVAPORATOR
15	364R015	CORE PROBE
16	364R016	CELL PROBE
17	364R017	MAGNETIC SWITCH
18	364R018	THERMOSTATIC VALVE MOP. ORIF. 03
19	364R019	ELECTRICAL PANEL
20	364R020	CASTORS
21	364R021	LIQUID GAUGE
22	364R022	CONDENSER FAN GRID
23	364R023	CONDENSER FAN
24	364R024	HOT GAS SOLENOID
25	364R025	CONDENSER
26	364R026	ROTOLOK
27	364R027	LIQUID RECEIVER
28	364R028	ANTIACID FILTER
29	364R029	SAFETY PRESSURE SWITCH
30	364R030	COMPRESSOR
31	364R031	LIQUID SOLENOID
32	364R032	FRONTAL PANEL
33	364R033	DOOR RESISTANCE
34	364R034	FILTER FRAME
35	364R035	KIT UPPER HINGES
36	364R036	KIT LOWER HINGES
37	364R037	USB PORT
38	364R038	SAFETY CAP
39	364R039	DOOR
-	364R039L	NON-STANDARD DOOR (optional)
40	364R040	POWER CORD WITH CABLE GRIP
41	364R041	DRAIN PLUG

TBF12.03 PARTS LIST

Ref. N°	Part	Description
1	364R001	RIGHT RAIL
2	364R002	LEFT RAIL
3	364R003	CONDENSER FILTER
4	364R004	PAN RACK
5	364R005	CONDENSATION BASIN RUNNERS
6	364R006	CONDENSATION BASIN
7	364R007	CONTROL BOARD FRAME
8	364R008	TOUCH CONTROL BOARD 7"
9	364R009	GASKET DOOR
10	364R010	EVAPORATOR PANEL
11	364R011	INTERNAL FAN GRID
12	364R012	EVAPORATOR FAN
13	364R013	EVAPORATOR PROBE
14	364R014	EVAPORATOR
15	364R015	CORE PROBE
16	364R016	CELL PROBE
17	364R017	MAGNETIC SWITCH
18	364R018	THERMOSTATIC VALVE MOP. ORIF. 03
19	364R319	ELECTRICAL PANEL
20	364R020	CASTORS
21	364R021	LIQUID GAUGE
22	364R022	CONDENSER FAN GRID
23	364R023	CONDENSER FAN
24	364R024	HOT GAS SOLENOID
25	364R025	CONDENSER
26	364R026	ROTOLOK
27	364R027	LIQUID RECEIVER
28	364R028	ANTIACID FILTER
29	364R029	SAFETY PRESSURE SWITCH
30	364R330	COMPRESSOR
31	364R031	LIQUID SOLENOID
32	364R032	FRONTAL PANEL
33	364R033	DOOR RESISTANCE
34	364R034	FILTER FRAME
35	364R035	KIT UPPER HINGES
36	364R036	KIT LOWER HINGES
37	364R037	USB PORT
38	364R038	SAFETY CAP
39	364R039	DOOR
-	364R039L	NON-STANDARD DOOR (optional)
40	364R340	POWER CORD WITH CABLE GRIP
41	364R041	DRAIN PLUG

TBF15.0 and TBF15.03 EXPLODED VIEWS



TBF15.0 and TBF15.03 PARTS LIST

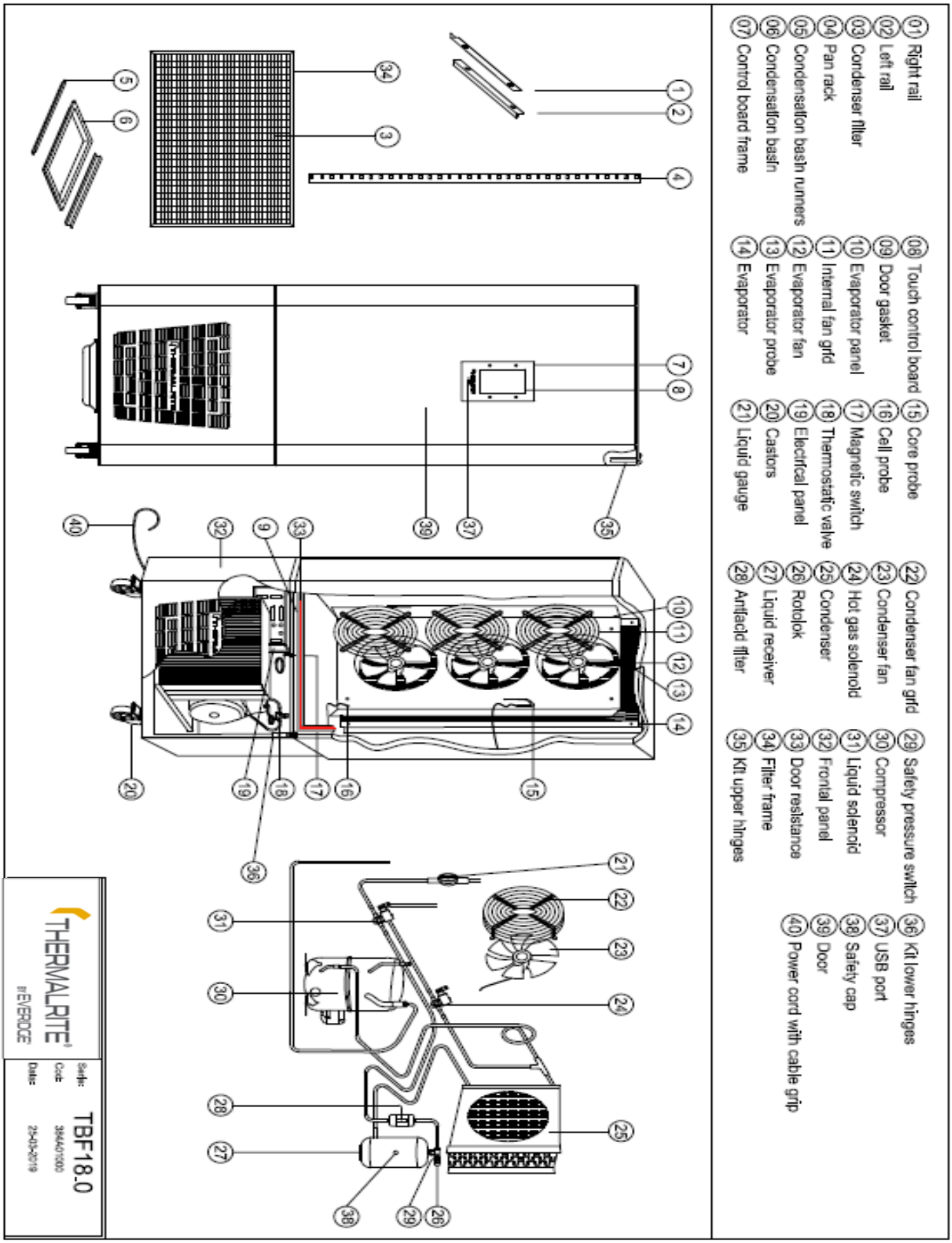
TBF15.0 PARTS LIST

Ref. N°	Part	Description
1	374R001	RIGHT RAIL
2	374R002	LEFT RAIL
3	374R003	CONDENSER FILTER
4	374R004	PAN RACK
5	374R005	CONDENSATION BASIN RUNNERS
6	374R006	CONDENSATION BASIN
7	374R007	CONTROL BOARD FRAME
8	374R008	TOUCH CONTROL BOARD 7"
9	374R009	GASKET DOOR
10	374R010	EVAPORATOR PANEL
11	374R011	INTERNAL FAN GRID
12	374R012	EVAPORATOR FAN
13	374R013	EVAPORATOR PROBE
14	374R014	EVAPORATOR
15	374R015	CORE PROBE
16	374R016	CELL PROBE
17	374R017	MAGNETIC SWITCH
18	374R018	THERMOSTATIC VALVE MOP. ORIF. 03
19	374R019	ELECTRICAL PANEL
20	374R020	CASTORS
21	374R021	LIQUID GAUGE
22	374R022	CONDENSER FAN GRID
23	374R023	CONDENSER FAN
24	374R024	HOT GAS SOLENOID
25	374R025	CONDENSER
26	374R026	ROTOLOK
27	374R027	LIQUID RECEIVER
28	374R028	ANTIACID FILTER
29	374R029	SAFETY PRESSURE SWITCH
30	374R030	COMPRESSOR
31	374R031	LIQUID SOLENOID
32	374R032	FRONTAL PANEL
33	374R033	DOOR RESISTANCE
34	374R034	FILTER FRAME
35	374R035	KIT UPPER HINGES
36	374R036	KIT LOWER HINGES
37	374R037	USB PORT
38	374R038	SAFETY CAP
39	374R039	DOOR
-	374R039L	NON-STANDARD DOOR (optional)
40	374R040	POWER CORD WITH CABLE GRIP
41	374R041	DRAIN PLUG

TBF15.03 PARTS LIST

Ref. N°	Part	Description
1	374R001	RIGHT RAIL
2	374R002	LEFT RAIL
3	374R003	CONDENSER FILTER
4	374R004	PAN RACK
5	374R005	CONDENSATION BASIN RUNNERS
6	374R006	CONDENSATION BASIN
7	374R007	CONTROL BOARD FRAME
8	374R008	TOUCH CONTROL BOARD 7"
9	374R009	GASKET DOOR
10	374R010	EVAPORATOR PANEL
11	374R011	INTERNAL FAN GRID
12	374R012	EVAPORATOR FAN
13	374R013	EVAPORATOR PROBE
14	374R014	EVAPORATOR
15	374R015	CORE PROBE
16	374R016	CELL PROBE
17	374R017	MAGNETIC SWITCH
18	374R018	THERMOSTATIC VALVE MOP. ORIF. 03
19	374R319	ELECTRICAL PANEL
20	374R020	CASTORS
21	374R021	LIQUID GAUGE
22	374R022	CONDENSER FAN GRID
23	374R023	CONDENSER FAN
24	374R024	HOT GAS SOLENOID
25	374R025	CONDENSER
26	374R026	ROTOLOK
27	374R027	LIQUID RECEIVER
28	374R028	ANTIACID FILTER
29	374R029	SAFETY PRESSURE SWITCH
30	374R330	COMPRESSOR
31	374R031	LIQUID SOLENOID
32	374R032	FRONTAL PANEL
33	374R033	DOOR RESISTANCE
34	374R034	FILTER FRAME
35	374R035	KIT UPPER HINGES
36	374R036	KIT LOWER HINGES
37	374R037	USB PORT
38	374R038	SAFETY CAP
39	374R039	DOOR
-	374R039L	NON-STANDARD DOOR (optional)
40	374R340	POWER CORD WITH CABLE GRIP
41	374R041	DRAIN PLUG

TBF18.0 and TBF18.03 EXPLODED VIEWS



TBF18.0 and TBF18.03 PARTS LIST

TBF18.0 PARTS LIST

Ref. N°	Part	Description
1	384R001	RIGHT RAIL
2	384R002	LEFT RAIL
3	384R003	CONDENSER FILTER
4	384R004	PAN RACK
5	384R005	CONDENSATION BASIN RUNNERS
6	384R006	CONDENSATION BASIN
7	384R007	CONTROL BOARD FRAME
8	384R008	TOUCH CONTROL BOARD 7"
9	384R009	GASKET DOOR
10	384R010	EVAPORATOR PANEL
11	384R011	INTERNAL FAN GRID
12	384R012	EVAPORATOR FAN
13	384R013	EVAPORATOR PROBE
14	384R014	EVAPORATOR
15	384R015	CORE PROBE
16	384R016	CELL PROBE
17	384R017	MAGNETIC SWITCH
18	384R018	THERMOSTATIC VALVE MOP. ORIF. 03
19	384R019	ELECTRICAL PANEL
20	384R020	CASTORS
21	384R021	LIQUID GAUGE
22	384R022	CONDENSER FAN GRID
23	384R023	CONDENSER FAN
24	384R024	HOT GAS SOLENOID
25	384R025	CONDENSER
26	384R026	ROTOLOK
27	384R027	LIQUID RECEIVER
28	384R028	ANTIACID FILTER
29	384R029	SAFETY PRESSURE SWITCH
30	384R030	COMPRESSOR
31	384R031	LIQUID SOLENOID
32	384R032	FRONTAL PANEL
33	384R033	DOOR RESISTANCE
34	384R034	FILTER FRAME
35	384R035	KIT UPPER HINGES
36	384R036	KIT LOWER HINGES
37	384R037	USB PORT
38	384R038	SAFETY CAP
39	384R039	DOOR
-	384R039L	NON-STANDARD DOOR (optional)
40	384R040	POWER CORD WITH CABLE GRIP
41	384R041	DRAIN PLUG

TBF18.03 PARTS LIST

Ref. N°	Part	Description
1	384R001	RIGHT RAIL
2	384R002	LEFT RAIL
3	384R003	CONDENSER FILTER
4	384R004	PAN RACK
5	384R005	CONDENSATION BASIN RUNNERS
6	384R006	CONDENSATION BASIN
7	384R007	CONTROL BOARD FRAME
8	384R008	TOUCH CONTROL BOARD 7"
9	384R009	GASKET DOOR
10	384R010	EVAPORATOR PANEL
11	384R011	INTERNAL FAN GRID
12	384R012	EVAPORATOR FAN
13	384R013	EVAPORATOR PROBE
14	384R014	EVAPORATOR
15	384R015	CORE PROBE
16	384R016	CELL PROBE
17	384R017	MAGNETIC SWITCH
18	384R018	THERMOSTATIC VALVE MOP. ORIF. 03
19	384R319	ELECTRICAL PANEL
20	384R020	CASTORS
21	384R021	LIQUID GAUGE
22	384R022	CONDENSER FAN GRID
23	384R023	CONDENSER FAN
24	384R024	HOT GAS SOLENOID
25	384R025	CONDENSER
26	384R026	ROTOLOK
27	384R027	LIQUID RECEIVER
28	384R028	ANTIACID FILTER
29	384R029	SAFETY PRESSURE SWITCH
30	384R330	COMPRESSOR
31	384R031	LIQUID SOLENOID
32	384R032	FRONTAL PANEL
33	384R033	DOOR RESISTANCE
34	384R034	FILTER FRAME
35	384R035	KIT UPPER HINGES
36	384R036	KIT LOWER HINGES
37	384R037	USB PORT
38	384R038	SAFETY CAP
39	384R039	DOOR
-	384R039L	NON-STANDARD DOOR (optional)
40	384R340	POWER CORD WITH CABLE GRIP
41	384R041	DRAIN PLUG

18.0 REVERSING THE DOOR

The same procedure is used for all models, however the part numbers for the doors are different.
The part number for each model **LEFT HAND DOOR** are as follows;

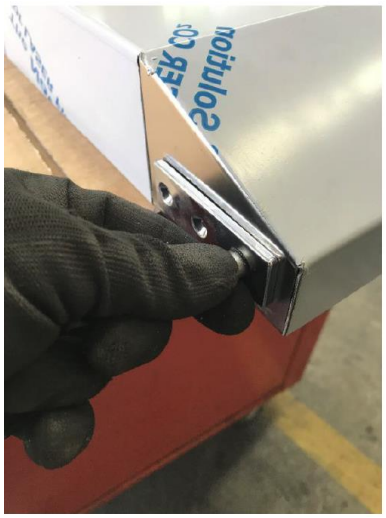
TBF5.0 – 354R036L
TBF7.0 - 359R036L
TBF12.0 - 364R039L
TBF15.0 - 374R039L
TBF18.0 - 384R039L

If the end user would like to reverse a right-hand door in the field, they must order a new left-hand door from the list above, corresponding to their model number.
Remove the control from the front of the door and remove the 4 terminal green connector, taking note of the location of the wires as they are polarized. Carefully pull the communication cable out from the bottom of the lower door hinge. This will be relocated to the opposite side.
Remove all the screws from the top door hinge and remove the bottom hinge screw and lift the door off the lower hinge plate. **The same hinge can be used to install the new door.**

Components of the hinge assembly (Part number 384R035 and 384R036)

1. Upper door Torsion Hinge
2. Hinge Screws
3. Upper Hinge Plate
4. Lower Door Bushing
5. Lower Hinge Bracket

Using a screwdriver, remove the foam from the square hole at the bottom of the new door, so the upper door torsion hinge can be installed.



Install the upper torsion hinge with the 2 screws. Carefully lay the door on its side, so the lower bushing can be installed. A file may be needed to ensure a correct fit. Then insert the lower hinge bracket into the bushing.

Because the doors are heavy and cumbersome, a helper will be needed for this next step. Position the door on the unit and fasten the 2 lower hinge bracket screws to the unit, carefully supporting the door. Once fastened, close door and attach the upper hinge plate and adjust door for squareness and then tighten all 3 screws. Using a fish tape or a stiff wire, push it up through the lower door hinge to the control cut-out in the door and pull the communication cable up to the control are and refasten the green connector to the correct wires. Install control and test operation.

NOTES: