



REFRIGERATORS AND FREEZERS

OPERATION, MAINTENANCE AND INSTALLATION MANUAL



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I. GENERAL INFORMATION

PRODUCT DESCRIPTION LABEL

1 Product Number
2 Product Description
3 Model
4 Refrigerant (GWP)
5 CO2 Equivalent
6 IP Protection
7 Climate Class
8 Production Date
9 Power - Current
10 Voltage - Frequency
11 Heating Element
12 System Pressure
13 Blowing Agent
14 Serial Number

PRODUCT NUMBER	1
	
PRODUCT DESCRIPTION	2
MODEL	3
REFRIGERANT	4
CO2 EQUIVALENT	5
IP PROTECTION	6
CLIMATE CLASS	7
PRODUCTION DATE	8
POWER-CURRENT	9
VOLTAGE - FREQUENCY	10
HEATING ELEMENT	11
SYSTEM PRESSURE	12
BLOWING AGENT	13

S/N: 14



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Amsterdam, The Netherlands



THE PURPOSE OF USAGE

- This product is suitable for use in indoor areas only and solely for the purpose of storing food and beverages.
- The manufacturer will not be held responsible for any damages arising as a result of usage contrary to stated guideline in this book.
- While storing food in this cabinet, it is necessary to ensure that food never comes in contact with the body of this cabinet.
- All foods must be completely covered.
- Do not store hot foods or liquids in this cabinet.
- Beverages stored in boxes and glass bottles should not be stored at temperatures below 0°C (freezing point). Cans and glass bottles may burst due to expansion. All containers with lids should not be filled completely; a small amount of space should be left for expansion.
- This cabinet is equipped with an automatic self-defrosting facility. It is also possible to perform manual defrosting. The manual defrosting does not involve turning the cabinet off for long periods but can be performed via the controller. Under no circumstances should force or hand tools to be used to de-ice this cabinet, any damage arising from such action is difficult to repair.
- Do not employ any mechanical or alternative means of defrosting.
- Any electrical or mechanical changes to this cabinet will void the warranty. Changes carried out by non-authorized service engineers and changes other than those described in this manual will also void the warranty. The manufacturer will not accept any responsibility for damages arising from such changes.



CLIMATE CLASS

The cabinet is designed to run within specific ambient temperature and humidity levels. These are set out in the climate class system. These levels are never to be exceeded. The climate class for this product can be found on the product description label.

Climate Class	Ambient Temperatures and Humidity
5	+40°C with %40 RH

FIRST ACCEPTANCE AND CONTROLS

This cabinet was packed in protective packaging material for shipping. On delivery, please check the cabinet for any possible transport damage and that the cabinet model is what you ordered.

IMPORTANT

All operations listed below must fully comply with all local bylaws and safety regulations. Observe all current safety rules when operating this product.

TRANSPORTING

When lifting the product using machinery, the lifting capacity of any machinery must be verified prior to undertaking any such procedures.

IMPORTANT

When using a fork truck to move the product, please ensure that the forks are inserted into the appropriate openings in the pallet.

Once moving, attention must be paid to the stability of the product. If the centre of gravity is not central to the product, which will make it prone to tip over. When lowering the product with a fork truck ensure this is done slowly and with care.

Should it become necessary to transport any upright cabinets in a horizontal position, please make sure the cabinet has been upright for at least 2 hours before operating. It is not recommended to transport upright cabinets in the horizontal position and any damage arising from such action is not covered by warranty.

ATTENTION

Recommendations written on the outside of the transport packaging are for the user's benefit. Therefore the following recommendations should be observed:

- Carry the product carefully.
- Keep the product dry.
- Do not use the top of the cabinet for storage.

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OPENING THE PACKAGING

- Remove the cardboard and any other packaging material.
- Lift the cabinet to disconnect and remove it from the pallet.
- Place the cabinet in the desired location, standing on its own base.
- Check for any visible damage.
- Packaging materials can be recycled according to local recycling regulations.
- Verify that the product code and serial number match the same on any shipping documents.



II. OPERATING INSTRUCTIONS

ELECTRICITY

Before connecting the product to electrical power, please verify that the specified electrical power supply on the product description label corresponds with the local network electrical power supply.

The Product Description label with the specified electrical power supply can be found on the inside of the cabinet, at the top left-hand side.

Installation of the product must only be undertaken by qualified and trained service personnel as per the specifications listed in this manual.

Electrical safety of this cabinet can only be valid if its earthed in accordance to current local laws and regulations.

Earthing of the product is always required.

The manufacturer will not accept any responsibility for any damage arising from improper grounding.

Adhere to all electricity requirements stipulated by the local electrical regulations. The product's electricity plug and wall socket must have the correct earth connectivity reading. If necessary employ a qualified electrician.

GENERAL PRELIMINARY CHECKS

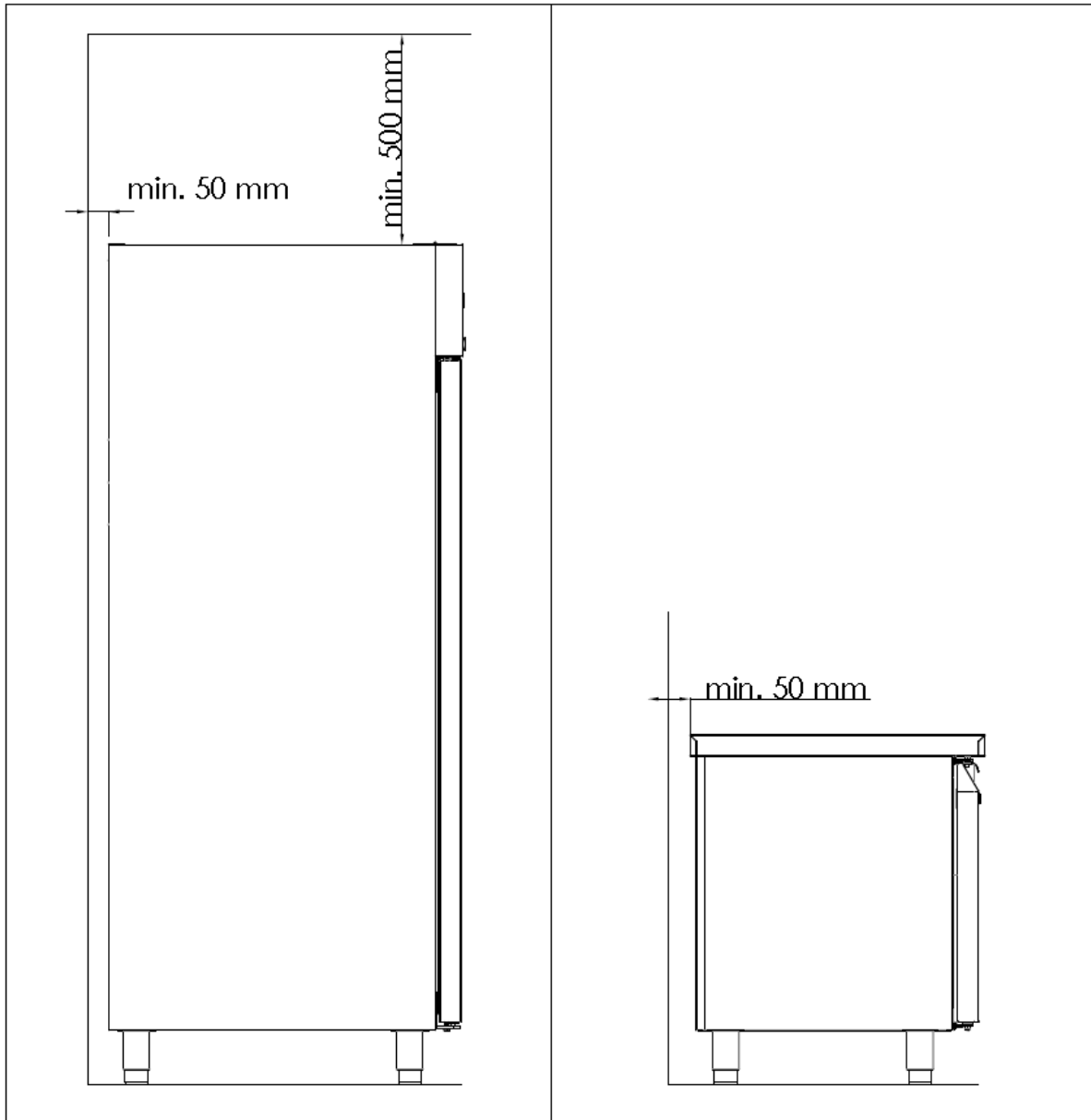
Make sure the cabinet is standing on level ground and is upright. If necessary, the adjustable feet of the cabinet can be used to achieve this. All feet should be in contact with the ground. This is necessary for the proper operation of the cabinet door.

Do not place the cabinet next to any heat generating devices such as ovens, grills, and deep fryers. Do not expose to direct sun light. Heat that may be radiated by walls or floors must be insulated with appropriate insulating material. The cabinet should be placed as far as possible from any heat source.

If the cabinet is re-located, allow three hours before re-starting. Plastic protection or tape should be removed from the outer surfaces.

Ensure the cabinet is positioned so air can flow to the cooling circuit.

- Vertical cabinets need a minimum of 50 mm from all sides and 500 mm from the top.
- Counter cabinets need a minimum of 50 mm from the rear.



PRELIMINARY ELECTRICAL CHECKS

- Check that the mains voltage and frequency of the socket conform to the information on the product description label.
- The cabinet is connected to a mains outlet with a 13-16 Amp fuse as a serial connection.
- Turn off the mains fuse connected to the power cable.
- Check that the plug on the cabinet is suitable for use with the available mains socket and that they fit together.

FIRST OPERATION AND CONTROLS

After the above checks have been completed, the cabinet can be operated.

The ON/OFF switch operates the cabinet.

After the cabinet is turned ON, the compressor will start running. The compressor will run until the factory pre-set temperature is reached. Foods should not be placed in the cabinet until the temperature setting has been adjusted to suit the foods to be cooled.

New temperature setting can be done through the controller as described in this manual.

IMPORTANT

- Allow the product to cool to the set temperature before placing food items inside.
- Never exceed the maximum load capacity indicated on the sign at the top of the cabinet or counter.
- Refer to the “General Preliminary Checks’ section of this manual for information on the amount of space required for good air ventilation around the product.
- Do not store explosive substances such as aerosol cans with a flammable propellant in this appliance

STORAGE CONDITIONS AND PERFORMANCE

Correct storage conditions are not only paramount to food hygiene and safety but improve the quality of service and reduce the energy consumption. Best performance can be achieved if the following tips and guidelines are observed: keep all food items on shelves only and never place food items on the floor of the cabinet.

Food items must be placed in the cabinet or counter in such a way as to allow good air flow all around, leaving space between items and the walls of the product. If required shelf distance can be adjusted accordingly.

CONTROL PANEL



The control panel provides the following controls and functions:

1. SET key
 - Use to enter/set input values
2. ON/OFF key
 - Hold down for 4 seconds to turn the cabinet on or off
3. DOWN key
 - Use to scroll down through the menu or to change/reduce the value
4. UP key
 - Use to scroll up through a menu or to change/increase the value
 - Hold down for 4 seconds to start MANUAL DEFROSTING



FRONT PANEL FUNCTIONS

The control panel can be locked and unlocked.

To lock the controls:

- Ensure that no procedure is in progress
- Do not operate for 30 seconds
- The display will show “LOC” for 1 second and the keyboard will lock automatically

To unlock the controls:

- Touch a key for one second: the display will show the message “UNL” for one second

TEMPERATURE SETTING

1. Ensure that the control panel is not locked and that no procedure is on progress.
2. Touch the SET key, the * LED will flash.
3. Change the temperature setting by the use of the UP and DOWN arrows.
4. Touch the SET key or do not operate for 15 secs. The * LED will stop showing and the controller will exit this procedure.
5. To exit the temperature setting procedure before it is complete.
 - a. Touch the ON/OFF key (any changes will not be saved). The working set point can also be set via the SP parameter.

TEMPERATURE DISPLAY (as detected by probes)

1. Ensure that the control panel is not locked and that no procedure is in progress.
2. Press the DOWN arrow for 4 seconds: the display will show the first probe available.
3. Select the correct probe using the UP and DOWN arrows.
4. Press the SET key.

This table shows the codes for each of the probes.

Label	Displayed temperature
Pb1	Cabinet temperature
Pb2	Evaporator temperature

To exit the procedure, press the SET key for 60 seconds or do not operate for 60 seconds. Then press the ON/OFF key.

Note: if the evaporator probe is not present, the Pb2 code will not be displayed.

TEMPERATURE ALARMS

This is a list of alarms shown by this cabinet.

CODE	ALARM TYPE	CRITICAL VALUE
AL	Low temperature alarm	Low cabin temperature during this alarm
AH	High temperature alarm	High cabin temperature during this alarm
Id	Open door alarm	Maximum cabin temperature during this alarm

Alarm recording can only be done while the cabinet is turned on.



When the cause of the alarm is no longer present, the cabinet will return to normal operation.

ACCESS TO ALARM HISTORY

1. Press the DOWN button for 2 seconds to show the first code
2. Press and release the UP button or select LS by pressing the DOWN button
3. Press and release the SET button: one of the codes above will be shown

To select an alarm, press the UP button till AH is shown.

To show alarm information, press and release the SET key (the flashing HACCP LED will stop).

DISPLAY TEXTS AND THEIR MEANING

8.0	Critical values 8.0 °C/°F
Dur	The display shows the alarm time
h01	1-hour alarm (cont.)
n15	1 hour and 15-minute alarm
AH	Selected alarm

To exit the historical display, press and release the ON/STANDBY button repeatedly.

To exit the process, repeatedly press the UP or DOWN buttons until the display shows the cabinet temperature or wait 60 seconds without pressing any buttons.

Alternative Exit method: press and release the ON/STANDBY button. If there are no alarms recorded, the LS code will not be displayed.

ERROR CODES

Code	Description
Pr1	Cabinet probe error
Pr2	Evaporator probe error

The correction of these errors can only be undertaken by qualified technical personnel.

OPERATION STATUSES

Available operation statuses are listed below:

Status	Description
ON	The cabinet is powered up and operating
STANDBY	The cabinet is powered up but switched off
OFF	The cabinet has no power, the plug is not in the socket, or the main isolator is turned off

IMPORTANT

Do not carry out any maintenance or repair while the cabinet is in on or standby mode. Only when the power supply is completely isolated from the cabinet can any works be done.



III. MAINTENANCE INSTRUCTIONS

This section is particularly intended for the owner/user of the product. It provides important information on the correct usage and for the maximisation of the product's life span.

Few simple steps during usage and adjustment can reduce the need for expensive repairs by service technicians. These steps do not require special technical knowledge.

IMPORTANT

Before you begin cleaning and maintenance on the product, make absolutely sure the power supply has been turned off and cannot be reconnected accidentally by anyone else.

ATTENTION

Do not wash the product with high pressure water. Avoid any possibility spraying into the electrical components.

CLEANING

- It is recommended that periodically the inside of the cabinet is cleaned with disinfecting detergents. Internal cleaning of the cabinet should be carried out by using warm and slightly soapy water.
- Only pH neutral or slightly alkaline detergents may be used to clean the interior and the exterior of the cabinet.
- Damage caused by cleaning products containing chemicals that could damage stainless steel is not covered by the warranty.
- Never use metal implements, metal scouring pads nor scouring creams or powders.
- Dirt can be cleaned with a damp cloth.
- Keep the ventilation grilles of the cabinet clean and clear at all times.
- Shelves are removable for easy cleaning access.
- Ensure that the shelf runners and shelves themselves are cleaned thoroughly.

IMPORTANT

The product is made out of stainless steel. When used in normal conditions stainless steel does not corrode, however corrosion of stainless will occur if corrosive detergents are used.

ROUTINE MAINTENANCE

CONDENSER

It is very important that the condenser is capable of maximum heat transfer. Therefore, the surface of the condenser must always be clean and clear. Due to the effect of the fan, dust will accumulate on and inside the condenser fins. A vacuum cleaner with a brush attachment can be used to clean the condenser.

Pay particular attention to avoid causing any damage to the condenser fins or the fan blades.

If there is a filter, remove the filter to clean it and then replace it. Replace the filter if it is damaged or too dirty to clean properly.



DOOR/DRAWER GASKETS

A gasket in good condition will prevent humidity and warm air ingress into the cabinet, therefore it is vital for the good economical running of the cabinet.

POWER CABLE

The cabinet power cable must be in good condition at all times. Damage to the power cable insulation can be fatal. If such damage is suspected, contact an authorized service engineer immediately.

PREPARATION FOR LONG-TERM PERIODS WITHOUT USE

- Turn off the power at the main isolator or remove the cabinet plug from the socket.
- Remove all food items from the cabinet.
- Clean the cabinet (refer to cleaning section).
- Remove accumulated dust and dirt from the compressor.
- To prevent any unpleasant odours, do not fully close the door.

ATTENTION

When disconnecting the product please be aware that thawing water might drip from the cabinet on to the floor. This can cause damage to the floor and cause slippery conditions.

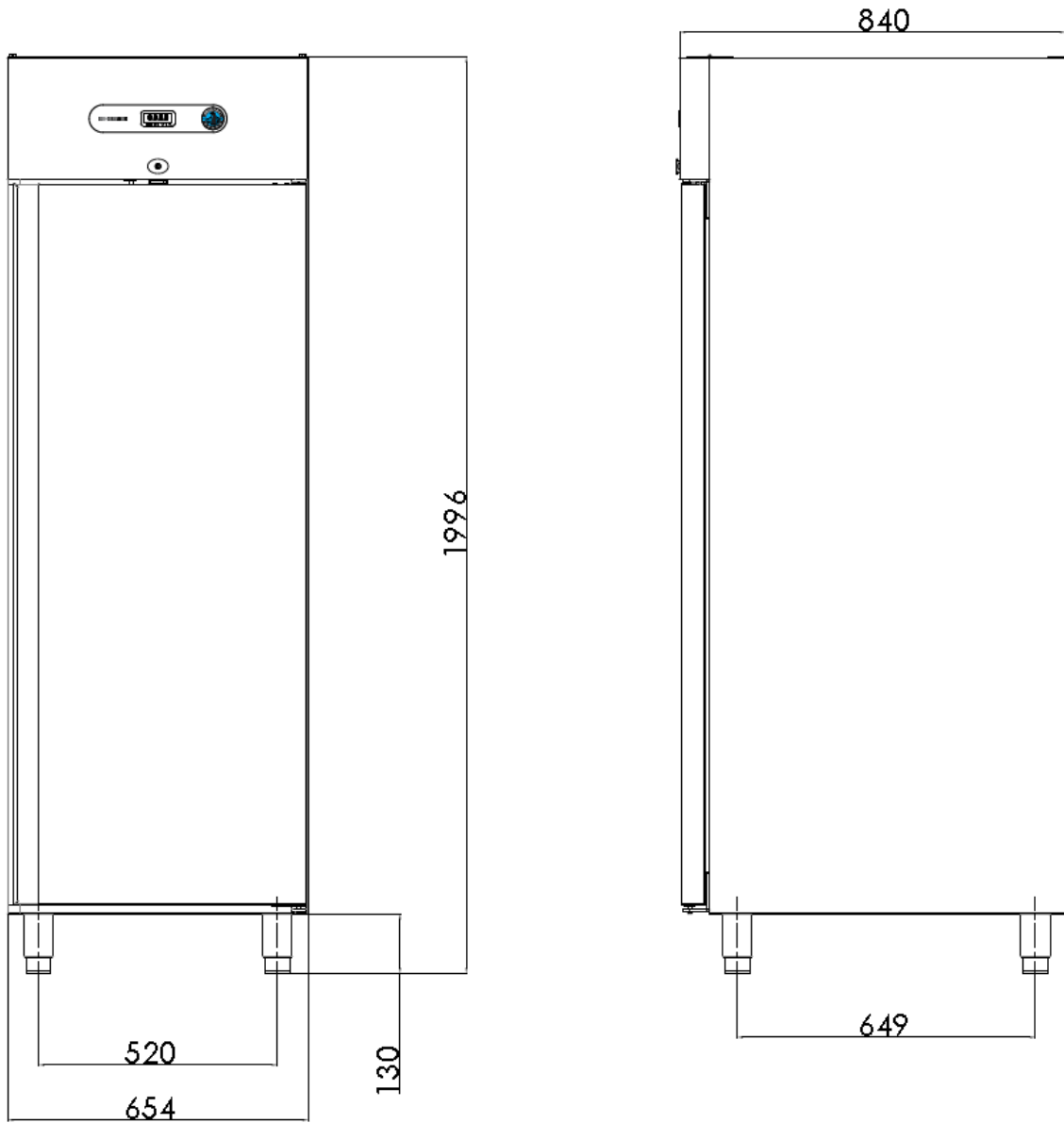
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IV. TECHNICAL INFORMATION

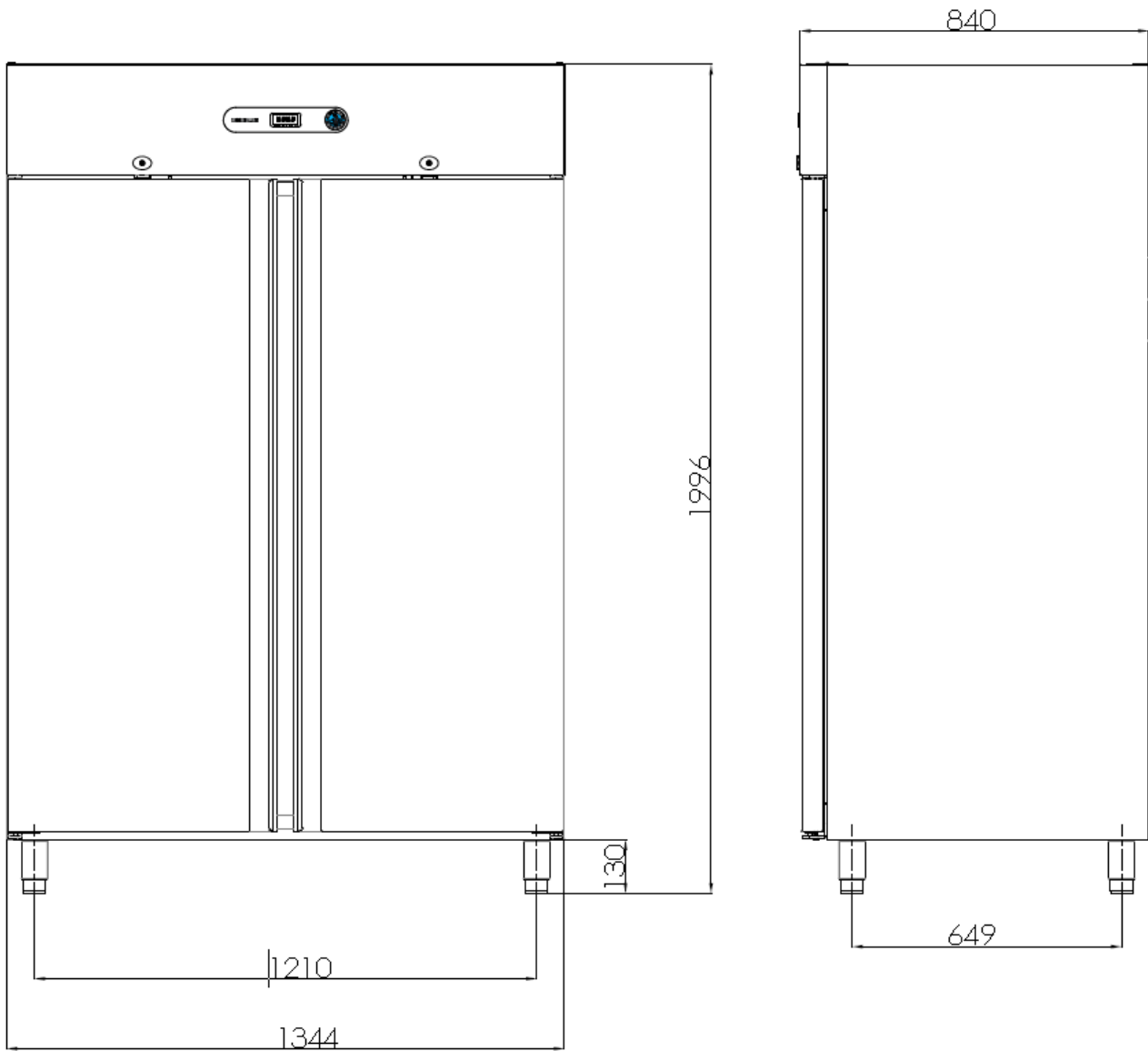
DIMENSIONS OF THE PRODUCTS

SUR-65BH-L2 & SUF-65BH-L2

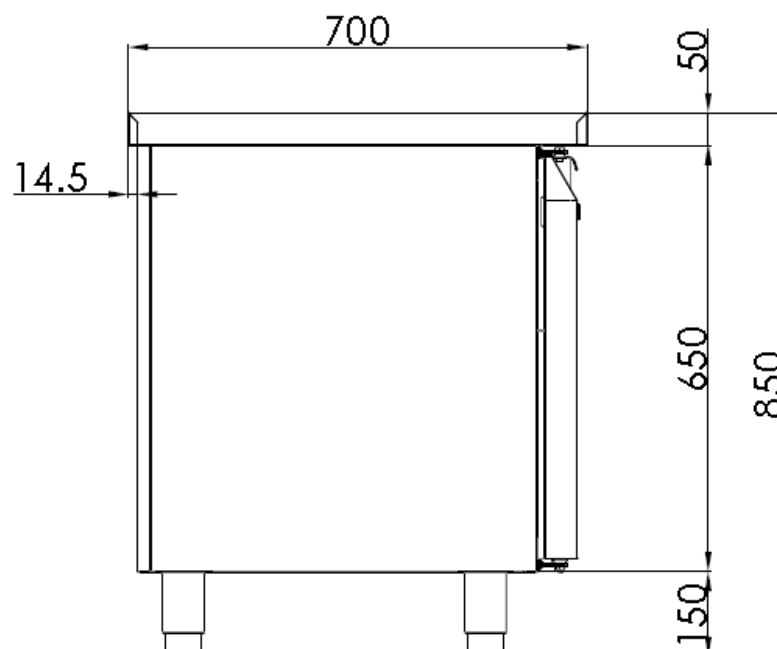
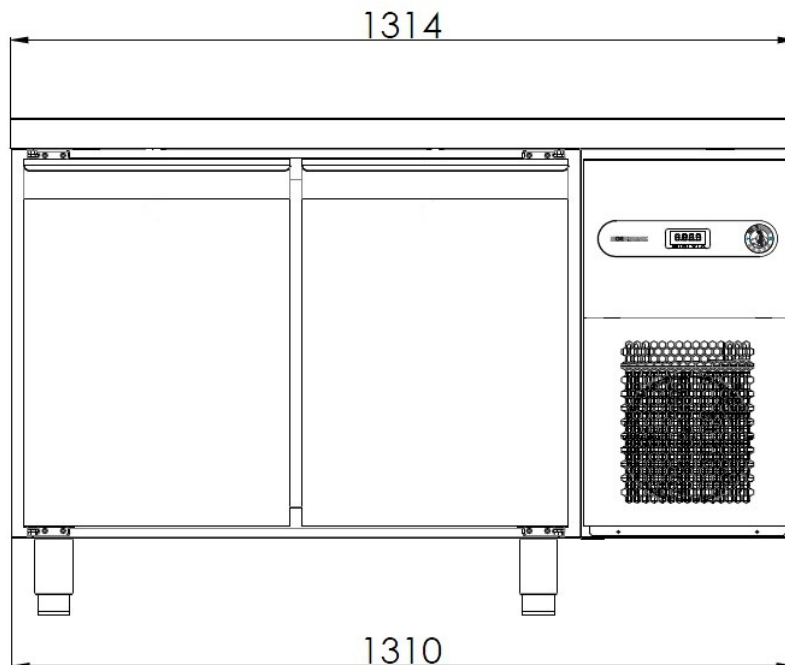




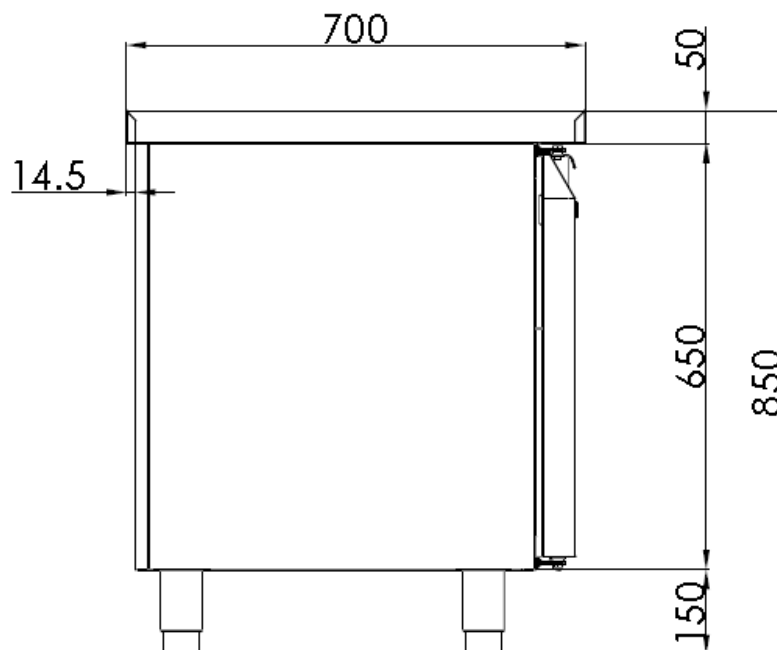
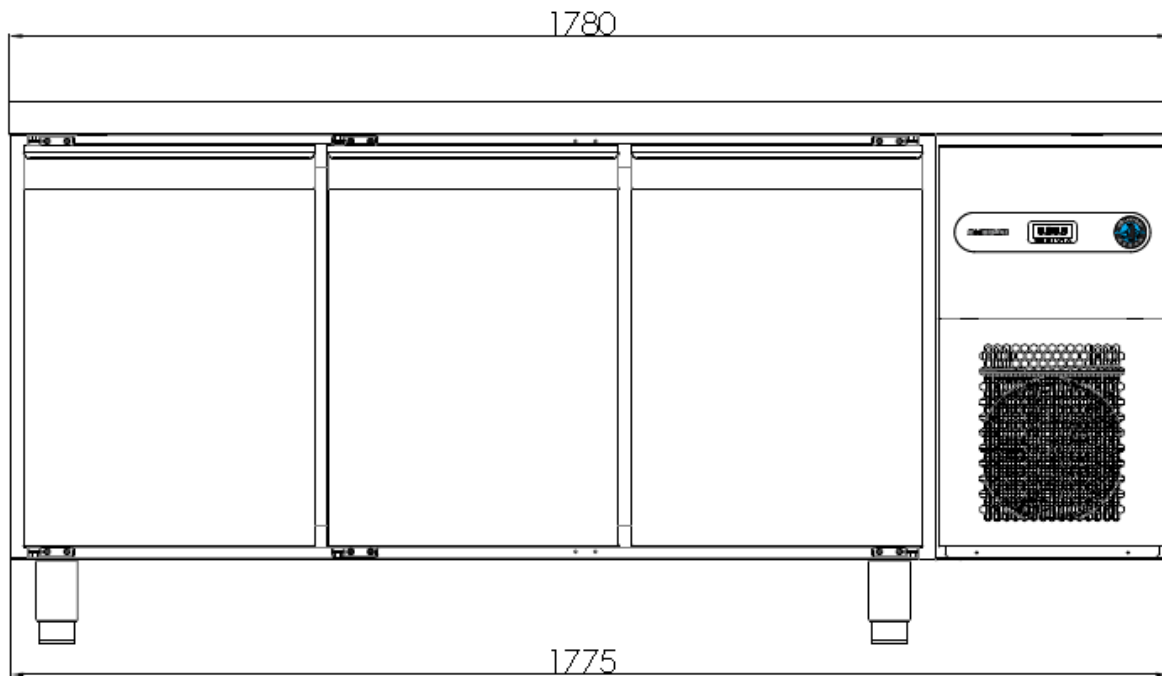
SUR-135BH-L2 & SUF-135BH-L2



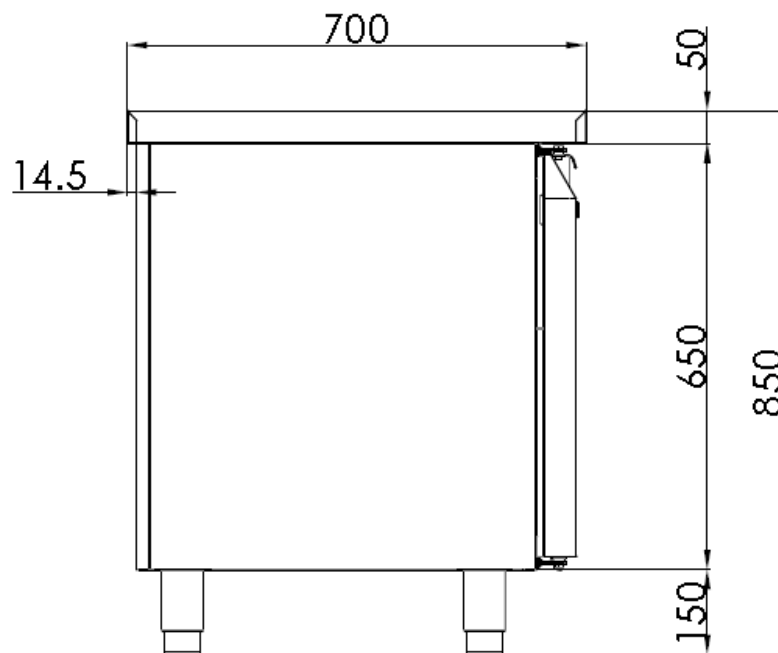
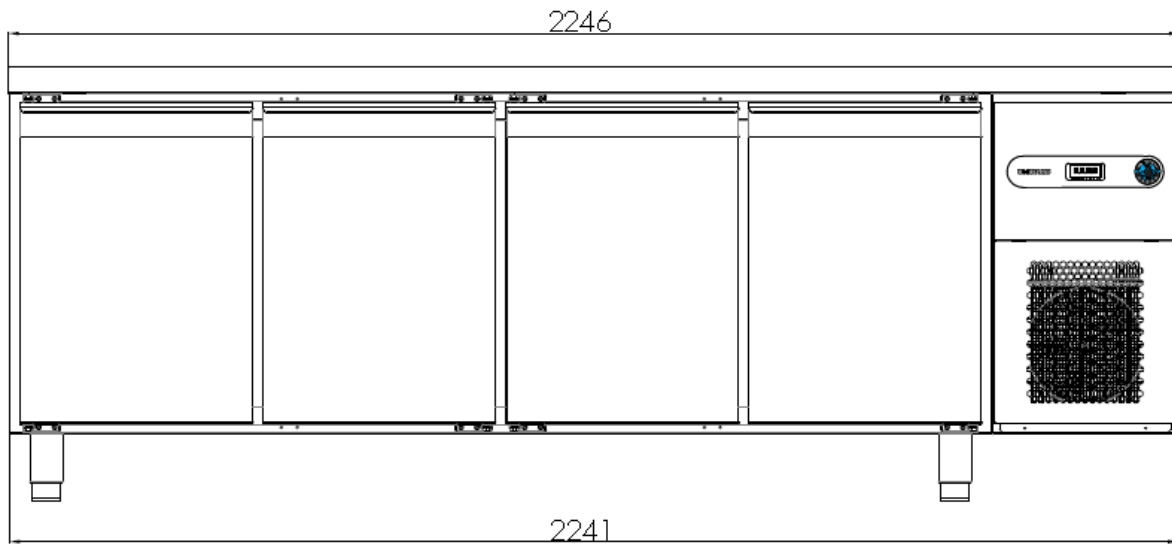
SCR-130BHRC-LR-L2



SCR-180BHRC-LLR-L2

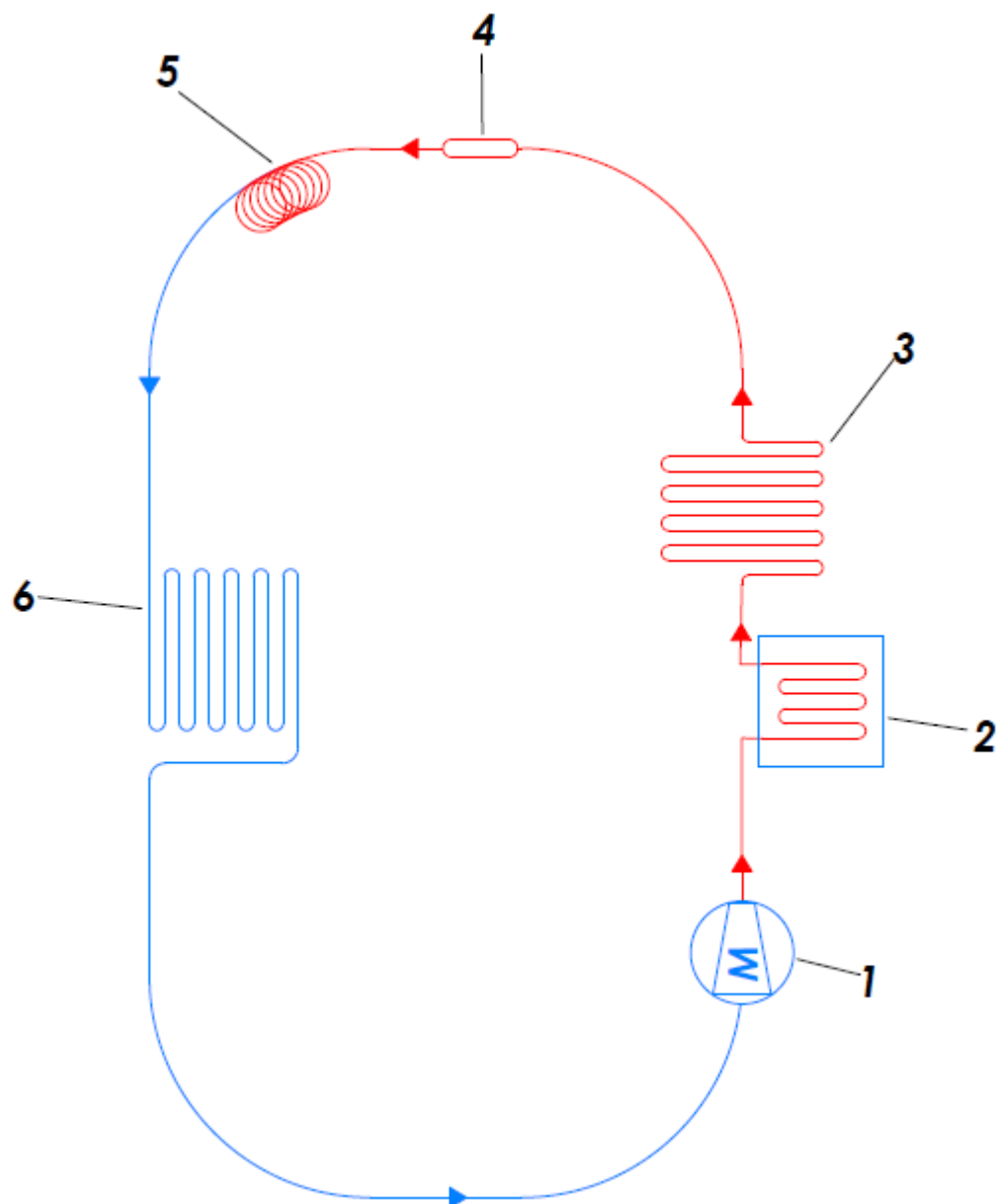


SCR-225BHRC-LRLR-L2



TECHNICAL ELEMENTS – COOLING

Standard Cooling System



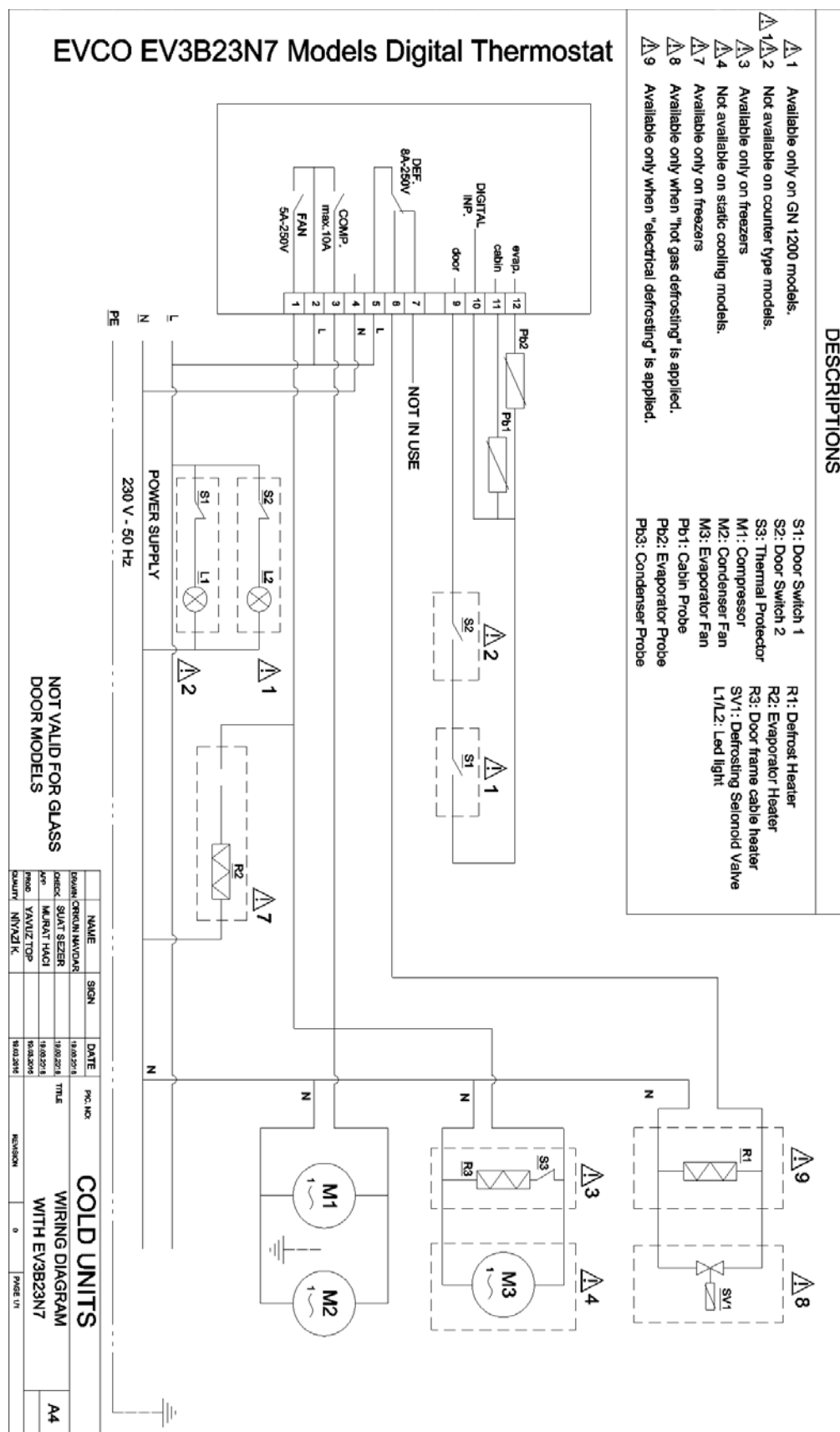
- 1 Compressor
- 2 Drain pan
- 3 Condenser
- 4 Dryer
- 5 Capillary tube
- 6 Evaporator



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TECHNICAL ELEMENTS –ELECTRICITY

EVCO EV3B23N7 Models Digital Thermostat





V. SERVICE DIAGNOSIS

The table below lists several problems that you may encounter. If an alarm code is displayed, a malfunction has occurred. Please correct any possible causes before resetting the cabinet. Potential causes and remedies are listed below.

If an error code persists after you have carried out the checks below, please contact an authorized technician. The characteristics of the error message must be determined. Product details including the serial number can be found on the nameplate of the product.

PROBLEM	POSSIBLE CAUSE	REMEDY	
The cabinet is not working	No power is supplied to cabinet	Check the power plug and cable are fault free	
The compressor seldom stops running	Ambient temperature is too high	Ventilation needs to be improved	
	Condenser or condenser filter are blocked	Check and clean condenser filter regularly	
	Low refrigerant charge	Call authorized technician to repair a leak	
	Door gaskets are not sealing properly	Call authorized technician to replace seals	
	Evaporator is iced up		Do not place hot food items in the cabinet
			Do not place food items with high water content inside cabinet unless they are stored in sealed containers
	Start a manual defrosting cycle		
	Evaporator fan/fans are faulty	Call authorized technician to replace the fan/fans	
Overflowing water from the condenser water tray	Frequent placement of hot food items in the cabinet	Do not place hot food items in the cabinet	
		Only place food items with high water content in sealed containers in the cabinet	
	Frequent opening of door or drawers	Verify whether cabinet specifications confirm it is suitable for current usage	
Cabinet temperature is high	Condenser is blocked with dirt and dust	Check and clean condenser filter regularly	
	Air flow within cabinet is blocked	Remove items of food blocking the air flow	
	Ambient air is entering cabinet	Ensure door is closed	
		Check for damage to the door and drawer seals	
	Contact an authorized technician		
	Evaporator is iced up	Start a manual defrosting cycle	



VI. REMOVAL AND REPLACEMENT

REPLACING THE INTERIOR LIGHTBULB

- Turn off the power at the main isolator or remove the cabinet plug from the socket.
- Open the door.
- Remove the screw securing the canopy and then lift the canopy.
- Ensure that the new bulb has the same rating as the old bulb. Voltage and wattage are printed on the bulb.
- Remove and replace the lightbulb.

DISPOSING OF THE CABINET

- The cooling gas present in the cabinet can be identified from the nameplate.
- The cabinet is produced from recyclable materials in accordance with EU regulations. Therefore, at the end of its economic life, the cabinet must be passed to the appropriate recycling centre for disposal.
- Do not recycle the cabinet as metal or household waste.
- Do not compact the cooling plant refrigeration circuit.

IMPORTANT

Adhere to local by-laws and regulations during disposal of the cabinet.



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Hoshizaki reserves the right to change any features and the information in this manual.

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