

Medgree ^{Marecos}

Design for precision

- MANUAL DE INSTRUÇÕES (PT)
(Instruções originais)
- INSTRUCTIONS MANUAL (EN)
*(Translated from original
instructions)*

Modelos Saúde

 Olitrem

| | |
|--|----|
| 1.General Information | |
| 1.1 General Conditions | 20 |
| 1.2 Restrictions of Usage and Maintenance | 20 |
| 2.Safety Instructions | |
| 2.1 General Safety | 20 |
| 2.2 Technical Safety | 21 |
| 2.3 Recommendations for Use | 22 |
| 3. Rating Plate | |
| 3.1. Pharmacy and Laboratory Equipments | 23 |
| 3.2. Laboratory and Pharmacy Equipments – ATEX version | 23 |
| 4.Installation | |
| 4.1 Unpacking the Equipment | 24 |
| 4.2 Transport and Handling of Equipment | 24 |
| 4.3 Positioning of the Equipment | 25 |
| 4.4 Application of Accessories | 25 |
| 4.5 Before Switching On | 25 |
| 4.6 Connecting to the Electricity Mains | 26 |
| 5.Operation | |
| 5.1 Laboratory Refrigerator Easy | 26 |
| 5.2 Advance Line Pharmacy Models | 27 |
| 5.3 Product Loadind | 28 |
| 5.4 Safety Thermostat | 28 |
| 5.5 Hole for External Probe | 28 |
| 5.6 Defrost | |
| 5.6.1. Pharmacy Models | 29 |
| 5.6.2 Laboratory Models | 29 |
| 5.6.3 Advance Models | 29 |
| 6.Maintenance | |
| 6.1 Cleaning | 30 |
| 7.Reversing the direction of the door | 30 |
| 8. Replacement of Lights (Models where applicable) | 31 |
| 9. Troubleshooting Guide | 31 |
| 9.1 Repair Guide | 32 |
| 10. Recycling Instructions | |
| 10.1 Recycling the Packaging | 32 |
| 10.2 Recycling of Used Equipment | 33 |
| Annexes I - Wiring Diagram..... | |
| Annexes II - Declaration of Conformity | |



1. GENERAL INFORMATION

1.1. General Conditions

For your safety and the proper use of the equipment, please read these instructions carefully and comply with the warnings and recommendations contained therein before installing the equipment for the first time.

You should keep these instructions in a safe and dry place and always accessible to the user as they contain important information on equipment installation, operation, and maintenance. Keep all documentation for your own use or for another person who may come to own this equipment in the future.

Proper installation and rational use, in accordance with these instructions, will enable a better performance of the equipment.

1.2. Restrictions of Usage and Maintenance

The models MLRE 36, MLRE 66, MLRE 150, MLRE 350, A, MLRE 450, MLRA 700, MLRA 1400 are designed for cooling and conservation of pharmaceutical products on a safety and security form, under a temperature between +2°C and +15°C.

Models MPRA 66; MPRA 150; MPRA 350 and MPRA 450 are designed for cooling and conservation of pharmaceutical products on a safety and security form, under a temperature between +2°C and +8°C.

Models MLFE 150, MLF 450, MLFA 700, MLFA 1400, were designed to storage reagents and inflammable pharmaceutical products, under a temperature between -10°C and -25°C. There is no source of ignition inside the equipment on ATEX versions (positive versions: MLRE 66 S ATEX, MLRE 150 S ATEX, MLRE 450 S ATEX – temperature between +1°C to +10°C; negative versions: MLFE 66 S ATEX; MLFE 150 S ATEX; MLFE 450 S ATEX – temperature between -10°C to -25°C)

Note 1: MLRE (Medgree Laboratory Refrigerator Easy) 36, 66, 150, 350, 450: (dimensions/serie).

Note 2: MLRA (Medgree Laboratory Refrigerator Advance)// 66; 150; 450 ((dimensions/serie).

Note 3: MPRA (Medgree Pharmacy Refrigerator Advance)// 66; 150; 450 ((dimensions/serie).

Note 4: MLFE (Medgree Laboratory Freezer Easy)

SAFETY INSTRUCTIONS

2.1. General Safety

The use and handling of this equipment is not recommended for children and persons with reduced mental, physical, or sensory abilities. The use of the equipment by persons with little experience or knowledge of the

operation of the equipment is also not recommended unless accompanied and supervised by a person who has been duly instructed and made responsible for their safety.

Children should not play with the equipment.

Keep the packaging and all its components out of the reach of children.

Choking hazard! The package may contain cartons or films.

Before connecting the equipment, check if the cable and power cord have been damaged during transport. In the event of damage, it must be replaced immediately by the manufacturer or its authorized dealer in order to avoid risk of electrocution.

The operating conditions of the equipment are shown on the nameplate inside the equipment, by means of the climate class indicator. The equipment can be classified according to the classes below:

| Climate Class | Max. Environment Temperature | Max. Relative Humidity |
|---------------|------------------------------|------------------------|
| 3 | 25°C | 60% |
| 4 | 30°C | 55% |
| 5 | 40°C | 40% |

The minimum operating temperature is 10°C.

2.2. Technical Safety

This equipment has a small amount of refrigerant (R600a or R290, depending on the model) which, while not non-polluting, is flammable. Care should be taken to ensure that the refrigerant tube is not damaged during transportation or assembly. The refrigerant may cause damage to the eyes or ignite when released.

In case of damage:

Keep the equipment away from naked flames or ignition sources;

Air out the cabinet well for a few minutes;

Disconnect the plug from the mains;

Contact the technical service.

The compartment where the equipment is installed should be as big as necessary for the refrigerant in the appliance. In very small spaces and in the event of a leak, a flammable gas/air mixture may form.

The compartment should be at least 1m³ for every 8 gr of refrigerant. The amount of refrigerant in the appliance is indicated on the rating plate inside the same appliance.



Replacement of the electrical cable and other repairs may only be carried out by qualified service personnel in order to prevent dangerous situations. Improper installation and repairs can result in a number of hazards to the user.

2.3. Usage Recommendations

- ✓ Do not touch the appliance with wet or damp hands and feet;
- ✓ Disconnect the equipment from the socket by pulling on the plug, not the power cord;
- ✓ Never use electrical appliances inside the equipment (e.g. heaters, electric ice cream makers, etc.) Risk of explosion!
- ✓ Do not store flammable products in the appliance (e.g. spray cans) and explosive products. Risk of explosion!
- ✓ Keep alcoholic liquids with a high alcohol content in a hermetically sealed container and in a vertical position;
- ✓ To defrost and clean, unplug the appliance from the wall socket;
- ✓ Never use mechanical devices or other means to speed up the defrosting process other than those recommended by the manufacturer (e.g. defrosting or cleaning the appliance with a steam

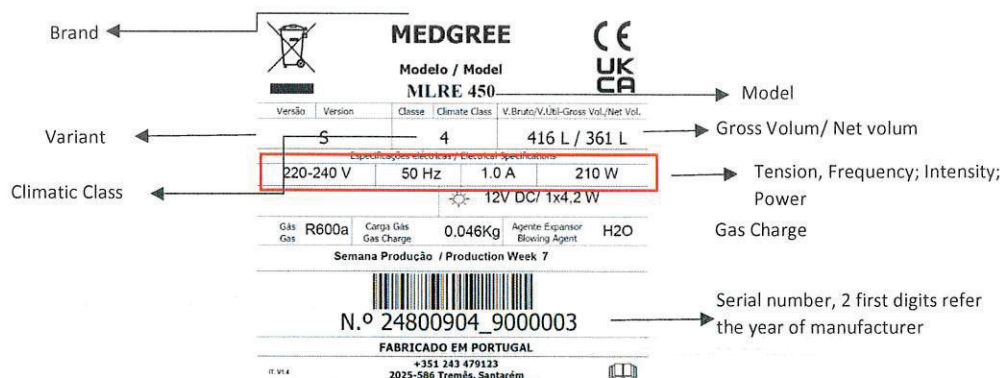
cleaner! The steam can reach the electrical components and cause a short circuit. Electrical shock hazard!

- ✓ Do not use any pointy objects or with sharp edges to remove single or layered ice. This may damage the tubing where the refrigerant circulates, and this may freeze, ignite, or cause injury to the eyes! Do not damage the refrigerant circuit;
- ✓ In the case of lockable appliances, keep the key out of the reach of children!

3. Rating Plate

3.1 Pharmacy Equipment

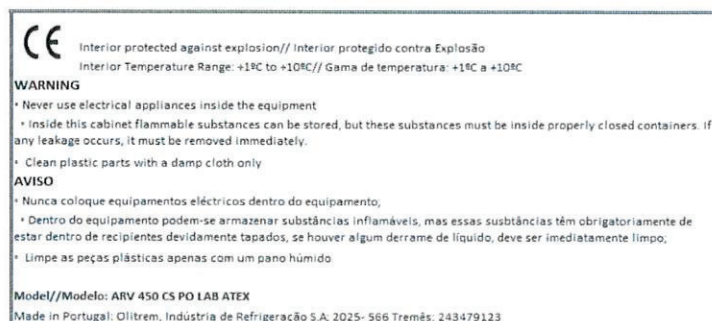
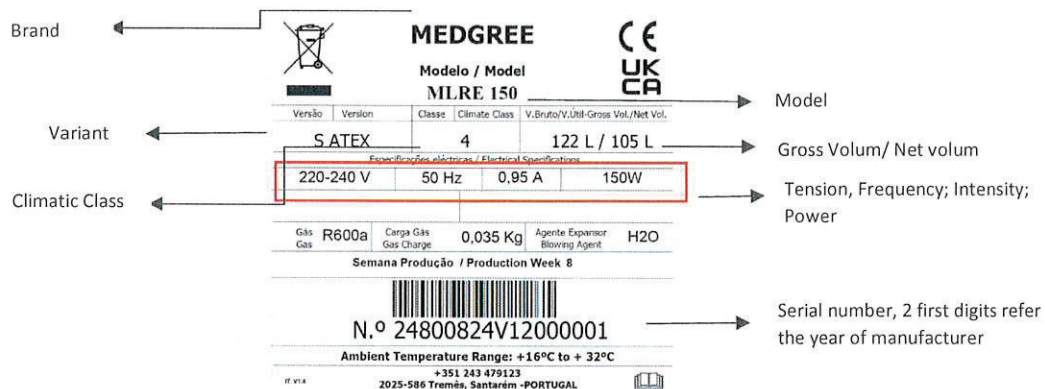
Inside of each equipment it's placed a rating plate with relevant informations.



3.2 Laboratory Equipment

ATEX marking it's placed on the rating plate placed inside the equipment, and your explanation it's given on the instructions manual. On the door equipment are a sticker with user recommendations.

Description below:



4. INSTALLATION

4.1. Unpacking the Equipment

Unpack the cabinet by removing the packaging as well as its protective packaging and packing base. Choose the storage place for the removed products carefully, keeping them out of the reach of the children, trying whenever possible to leave them in a place where they can be recycled.

4.2. Transport and Handling of Equipment

Make sure the equipment has not been damaged during transportation. If you find any damage, you must notify the carrier and mention it on the delivery note.

If the equipment is moved horizontally during transportation, it must remain vertically for a period of not less than six hours before being connected to the mains.

Lifting, moving, and transporting the appliance without proper equipment can cause personal injury or damages. Use proper lifting means to load, unload, and move equipment whenever necessary.

Never move the equipment with products inside. Before moving the equipment, unplug the equipment from the socket and remove the products from inside, storing them away.

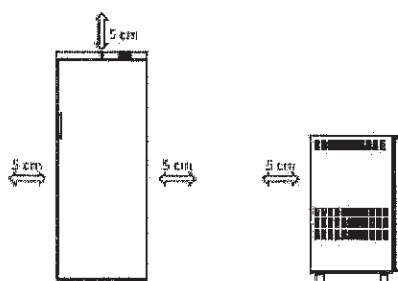
After proper storage, check that the power cord is not damaged. A damaged power cord may cause electric shock or fire. If the power cord is damaged, it must be replaced by the manufacturer, authorized dealer, or qualified personnel in order to avoid danger.

4.3. Positioning of the Equipment

The equipment must be installed in a dry and ventilated area, on a levelled floor with the capacity to support its weight, including its maximum load. It must be positioned so that the plug is accessible.

You should avoid moving the cabinet when it has products inside.

Install the equipment leaving 5 cm between the appliance and any other furniture or wall, thus allowing for a natural circulation of air.



In order to reduce energy consumption, the equipment should be kept away from any source of heat and out of direct sunlight. Do not obstruct the lower and/or upper fan grills to allow for ventilation and maintenance.

4.4. Application of Accessories

The following accessories must be installed as applicable:

Apply the two levellers underneath the equipment at the front by screwing them into the two holes;

Apply stainless steel feet or rollers to the holes in the lower part of the unit using an Allen key;

Place the handle on the rear and the door of the appliance by tightening the screws in the holes.

Before placing the shelves, apply the brackets provided inside the equipment to the respective shelf rails.

Place the drawers: follow the instructions.

4.5. Before Switching On

Before you start the appliance for the first time, you should clean it inside with a non-alkaline cleaning solution (do not use corrosive products) and then dry thoroughly. The equipment must be disconnected from the mains while this is done.

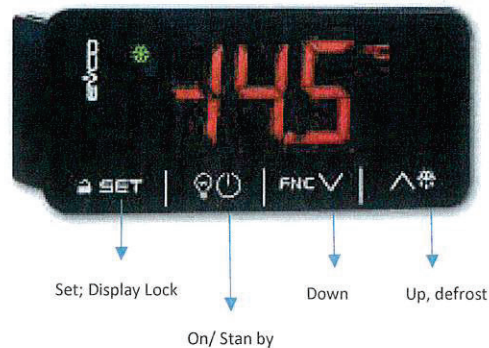
4.6. Connect to the mains

Before connecting the equipment to the mains, check that the voltage and frequency are in accordance with the specifications on the rating plate. The appliance must be connected to an earthed socket; ensure that the connecting cable does not become entangled.

If the length of the cable is not enough, it should be replaced by a qualified person. Do not use an extension cord.

5. OPERATION

5.1 Laboratory Refrigerator Easy



The operation of the equipment is totally controlled by the digital thermostat, which allows for the selection of temperature and controls the operation of the lighting using the button on the models MLRE 36, MLRE 66, MLRE 150, MLRE 350 and MLRE 450, on the following models the lightening it's controlled by a lightening switch.

Turn on the equipment to the mains, will appears temperature value on the display. If 30s have elapsed without keys being pressed, the display will show "Loc" and the keypad will lock automatically.

To unlock the display, please press **SET** for 1 second, the display will show "UnL"

It's necessary wait +/- 2 minuts for the compressor start in operation after turn on the equipment to the mains.

The factory set Point it's +5°C, can be regulated on the thermostat between +2°C and +15°C on positive models, on negative models the set point it's -20°C, the thermostat can be regulated between -25°C and -10°C. On ATEX version, the set point it's +4°C, can be regulated between +2°C and +15°C on positive models, on negative models the set point it's -22°C, can be regulated between -25°C and -10°C, to keep the temperature inside the cabinet at recommend temperatures for conservation of laboratory aplication.

The thermostat is locked at the factory, allowing only the set point to be adjusted. To do this, press the "Set" button, after the set value starts blinking, get to the desired value with the "V" e "Λ" buttons and press the "Set" key again to set the value.

The temperature shown on the display is the equipment's internal temperature. The equipment's noise level is less than 60 dB.

Note: The equipment's difference in temperature (difference between maximum and minimum permissible temperature) is set at +1,5°C at the factory for positive models, +3°C for negative models and on ATEX versions it's 2°C.

On thermostat can appear the following messages

| Operating Messages | | |
|--------------------|--------------------------------|------------------------------------|
| Message | Description | Recomendations |
| Pr1 | Cabinet probe alarm | Check P0 and electrical conections |
| Pr2 | Evaporator probe alarm | Check P0 and electrical conections |
| rtc | Clock alarm | Date, time and week day |
| AL | Low temperature alarm | Check AA, A1 e A2 |
| AH | Hight temperature alarm | Check AA, A4 e A5 |
| id | Open door alarm | Check i0 e i1 |
| PF | Power failure alarm | Check electrical conection |
| COH | High condensation warning | Check C6 |
| CSd | High condensation alarm | Check C7 |
| iA | Multi purpose input alarm | Check i5 and i6 |
| Cth | Compressor termal switch alarm | Check i5 and i6 |
| th | Global thermal switch alarm | Check i5 and i6 |
| dFd | Defrost timeout alarm | Check d2; d3 e d11 |

5.2 ADVANCE LINE Pharmacy Models



To consult the operation mode of ADVANCE LINE equipments, you must read USER GUIDE supplied with this equipment.

The factory setpoint it's +5°C can be regulated on the controller between +3°C and 7°C. Any change of setpoint defined on the factory, could lead to a non-compliance with 58345 DIN standard, can't the manufacturer be responsible by this acts.

On the controller could appear the following messages:

| Operating Message | |
|-------------------|--|
| Message | Description |
| EE | Comunication error between displyary and control |
| Er | Data Logger Comunication error |
| HI | High temperature alarm |
| PF | Energy fault |
| Eb | Batery fault |
| L1 | Low temperature alarm |
| Dor | Open door |

| Power ON | Energy turned On |
|----------|----------------------|
| BL | Low battery |
| E1 | Probe 1 – Equipment |
| E2 | Probe 2 - Product |
| E3 | Probe 3 - Evaporator |
| E4 | Probe 4 - Humidity |


5.3 Product loading

Load the products in the equipment ensuring they are properly packed, avoiding accidents when handling.

Some equipment may have a load limit and are marked with a special sticker if this is the case. Do not place products above this limit otherwise it will affect the normal operation of the unit.

The maximum permissible load per shelf is 100 kg/m².

On digital thermostats, when the equipment is fully loaded, it is possible the HI alarm start to ring. On Easy Line and Laboratory line, you can press any touch to turn off the alarm and wait 12 hour for the temperature to stabilize.

On Advance line press  to silence the alarm until appear a new one. If the set temperature programmed has not been reached within that time, please contact technical services.

5.4 Safety thermostat

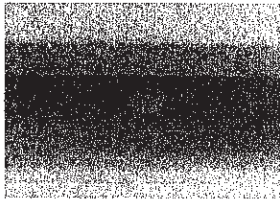
On pharmacy models with EASY thermostat and on models with ADVANCE thermostat, these models has a safety thermostat, in case of fault on digital controller, cut off the power supply to the compressor for the temperature not being less than +2°C.

If the temperature records aren't ok, with a much higher temperature differential at a higher relative humidity, you must contact immediately the technical services.

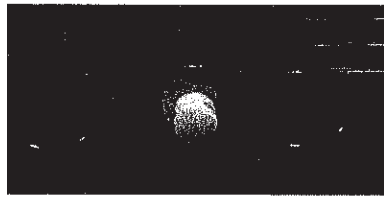
Safety thermostat are placed on the back of equipment, on the command zone. You don't must change the thermostat position.

5.5 Hole for External Probe

Pharmacy models, with EASY and ADVANCE thermostat, has a hole with 12 mm of diameter, that allows the passage of an external probe into the equipment, if they wish to connect their own supervision system. To do this, simply remove the two plugs (external and internal) and pass the probe inside. The hole must be covered with mastic or neutral silicone (do not leave the hole open where air will enter and cause an increase in internal humidity and energy consumption).



Orificio Interior



Orificio Exterior

5.6 Defrost

5.6.1 Pharmacy Models

The defrost it's automatic and controled by a own thermostat.

In Easy line, the cycle it's pre set at factory for 10 minuts every 6 hours (only if necessary).

In Advance line, the cycle it's pre set at factory, in this case must be attention at the number of hours of the compressor.

The water from defrosting process is drained throught a hole to a recipient and subsequently evaporated.

Make sure that the drain hole is not blocked.

5.6.2. Laboratory Models

On positive models cold, the defrost it's automatic and controlled by a digital thermostat. The cycle it's pre-set for 20 minutes every 6 hours on MLRE 66/150 and 15 minuts on MLRE 450, if necessary.

The water from defrosting process is drained by a hole to a recipient inside the equipment, and it must be dumped manually, when necessary.

Make sure that the drain hole is not bloqued.

On models with negative cold, the defrost it's manual, and should be carried every 6 months. Disconnect the mains plug from the wall outlet and allow the unit to defrost.

You must collect the excess of water with a cloth. Do not use sharp objects to remove Ice as these may damage the inside of the equipment. Do not use mechanical, electrical, or chemical processes to speed up the defrosting process.

5.6.3. Advance Models

Defrosting Negative Models

Defrosting is automatic every 6 hours for 10 minutes.

For this equipment to work properly, it must be located in a place where the temperature is between +20°C and +32°C.

Defrosting Positive Models

Defrosting is automatic every 6 hours for 30 minutes (if necessary).

For this equipment to work properly, it must be located in a place where the temperature is between +20°C and +32°C.

6. MAINTENANCE

CAUTION: The equipment's power cord must be disconnected from the mains before any inspection, maintenance, and cleaning work so as to avoid any electrical shock or injury. During maintenance, do not breathe in dust or aerosols near the equipment as they may be harmful to your health.

Frequent and correct maintenance is essential to ensure performance and functionality of the equipment, consequently, maintenance is recommended at least twice a year and cleaning at least once a month;

The following operations must be carried out for efficient maintenance:

- ✓ Lubricate the hinges and gaskets. Wipe off any excess lubricant;
- ✓ Check that the appliance is levelled. If necessary, adjust the levellers/feet;
- ✓ Inspect all seals and gaskets. Make sure they are still soft and flexible.

Keep the equipment clean by avoiding the build-up of dust or other materials in the ventilation grills.

Maintenance operations must be carried out by the manufacturer, the service agents, or qualified personnel in order to avoid danger. They should not be carried out by children without supervision.

6.1. Cleaning

The equipment should be cleaned at least once a month. The following operations are to be carried out:

- ✓ Always keep the equipment free of ice. Use a soft cloth or soft brush to remove loose ice. Never use sharp tools and be careful not to damage the seal. Keeping the equipment free of ice prolongs its useful life;
- ✓ Clean the outside and inside of the appliance with a dry, soft cloth or water and a neutral detergent solution;
- ✓ Clean all seals and gaskets using a damp cloth. Remove all dirt and wipe off with a dry cloth afterwards;
- ✓ Do not spill water directly into the equipment. Water spills can damage insulation materials and electrical components;
- ✓ Remove dust from the inside of the compressor compartment using only a dry brush or vacuum cleaner;
- ✓ The cooling system parts of this unit are completely sealed. They do not require any lubrication.

7. REVERSING THE DIRECTION OF THE DOOR

Instructions applicable to models MLRE 36, MLRE 66, MLRE 150, MLRE 350, MLRE 450 in all versions, and in the opaque door models MLF 66, MLF 150. For other models, the change must be made at the factory.

The equipment must be disconnected from the mains. Unscrew the top cover or bottom grill, removing the two screws on the front and rear or bottom and top. Pay attention to the connections of the digital thermostat, so that they do not become disconnected.

Remove the bottom bracket from the door and loosen the door's top spring using a star screwdriver and an Allen key 10mm.

Remove the door and turn it 180°. Reapply the spring hinge and the bearing so that there is enough spring pressure to close the door.

Tighten the spring on the top bracket and tighten the lower bracket. The handle should be inserted into the existing holes.

Adjust the door so that it has a correct seal. Confirm that the connections of the digital thermostat remain connected properly and close the top cover.

8. REPLACEMENT OF LIGHTING (applicable Models)

LED lights, with power equal to 12W/m. 12V DC power supply.

This operation must be carried out by the manufacturer, authorized representatives, or qualified personnel in order to avoid danger.

9. TROUBLESHOOTING GUIDE

| Problem | Solution |
|--|---|
| The Appliance is not working | Check for power outage |
| | Check if there is current in the socket |
| The equipment works, but it is not very cold | Check for the build-up of dust on the condenser |
| | Check controller setting |
| | Check if fans (when applicable) are working or are stuck |
| | Check ice build-up on the evaporator |
| | Check that the door is properly closed |
| Water appears on the bottom of the equipment | Check that the drain hole is not blocked or that the tube is not in the direction of the recipient in the compressor compartment |
| | Check equipment levelling |
| High temperature alarm (HI) | Check ice build-up on the evaporator |
| | Check that the fans work (when applicable) |
| | Make sure the door was not left open for too long |
| Low temperature alarm (LO) | Check thermostat temperature |
| | Turn the equipment off for 5 minutes and then switch on again |
| Lighting does not work | Turn the digital key on/off with the light switch function |
| Excessive build-up of ice (negative cold storage models) | Check the temperature and humidity of the environment in which the equipment is inserted, according to the climatic class shown on the nameplate. |
| | Check door seal |
| Damaged power cord | If the power cord is damaged, it must be replaced by the manufacturer, authorized service agent, or qualified personnel in order to avoid danger |

9.1 Repair Guide

| Internal fan does not work | | | | |
|--|---|---|---|--|
| Temperature below the limits | | | | |
| LED lights do not light up | | | | |
| Light does not turn off | | | | |
| Led light flashing | | | | |
| Does not reach the temperature, but stops and starts | | | | |
| Suction line Ice | | | | |
| It is cold, it does not reach the temperature | | | | |
| Possible cause / repairs | | | | |
| • | • | • | • | Fan wires off / Check connection |
| • | • | • | • | Incorrect wire in the thermostat |
| • | • | • | • | Door open (door open alarm/ close the door and see door micro connection) |
| • | • | • | • | Faulty fan/ Replace fan |
| • | • | • | • | Faulty Digital thermostat relay/ Replace digital thermostat |
| • | • | • | • | Temperature of evaporator above 10°C, fan off/ Wait for equipment to cool down |
| • | • | • | • | Fan stuck/ Check fan position |
| • | • | • | • | Set Point temperature / Check settings |
| • | • | • | • | Wrong thermostat connections / Check connections |
| • | • | • | • | Safety thermostat/ See position |
| • | • | • | • | Glass door Thermostat/ Press AUX |
| • | • | • | • | Opaque door/ Close door open door |
| • | • | • | • | Incorrect transformer wires/ Check Connections |
| • | • | • | • | Faulty transformer/ Replace transformer |
| • | • | • | • | Faulty Led lights / Replace led lights |
| • | • | • | • | Too much gas/ Check gas charge |

If the malfunction continues after these checks, technical assistance should be requested from your authorized dealer.

Please indicate the type of malfunction, type of appliance, serial number, and date of purchase (invoice). The serial number and type of appliance are described on the equipment information label (normally located inside the equipment, on the side).

In case of need for accessories or spare parts, you should also request them from your authorized dealer, always mentioning the equipment data described above.

Note: For the protection of persons and property against direct/ indirect contacts, the use of a differential protection of the power outlet directly to this equipment with a trip sensitivity of 300 mA is mandatory.

10. RECYCLING INSTRUCTIONS

10.1. Recycling of the Packaging

The packaging protects your equipment from damage during transportation. The materials used are reusable.

Be attentive to the storage area of the products used for packaging the equipment and always keep them out of the reach of children, leaving them, whenever possible, in a place where they can be recycled.

Help us protect the environment by recycling the packaging. Contact your service agent or municipal services for information on how to proceed.

10.2. Recycling of Used Equipment



This appliance is marked in accordance with the European Directive 2012/19 EC on electrical and electronic equipment (Waste of electrical and electronic equipment - WEEE). The Directive defines the manner for collection and treatment of end-of-life appliances in EC countries. Used appliances are not worthless rubbish. Disposing of them while respecting the environment will allow us to get back precious raw materials.

WARNING!

This is an out-of-service appliance therefore:



- ✓ Disconnect the plug from the mains;
- ✓ Do not use the power supply cord.

Refrigeration equipment contains refrigerant and chemical compounds in the insulation. Both should be properly disposed of.

Care should be taken not to damage the refrigerant tubing until it is properly recycled.

Do not puncture the compressor or piping (risk of explosion and oil spillage).