

## INDEX

|    |  |                |
|----|--|----------------|
| 1. | GENERAL INFORMATION.....                                   | PAGE 18        |
|    | 1.1 MANUFACTURER   |                |
|    | <b>1.2</b> SERVICE CENTRES                                 |                |
|    | <b>1.3</b> CERTIFICATION                                   |                |
|    | <b>1.4</b> GUARENTE  |                |
|    | <b>1.5</b> PRE – ARRANGEMENTS OF CUSTOMER’S RESPONSIBILITY |                |
|    | <b>1.6</b> STRUCTURE OF THE MANUAL                         |                |
|    | 1.6.1 AIMS AND CONTENTS                                    |                |
|    | <b>1.6.2</b> WHO THE MANUEL IS FOR?                        |                |
|    | <b>1.6.3</b> CONSERVATION                                  |                |
|    | <b>1.6.4</b> SYMBOLS USED                                  |                |
| 2. | DESCRIPTION AND OPERATION OF THE APPLIANCE.....            | PAGE 19        |
|    | 2.1 DESCRIPTION  |                |
|    | <b>2.2</b> OPERATION                                       |                |
| 3. | <b>PRE – ARRANGEMENTS.....</b>                             | <b>PAGE 19</b> |
|    | 3.1 ILLUMINATION   |                |
|    | 3.2 VIBRATION  |                |
|    | 3.3 EMISSION OF SOUND                                      |                |
|    | 3.3.1 SUPPLIES ON REQUEST                                  |                |
|    | 3.4 ELECTROMAGNETIC ENVIRONMENT                            |                |
| 4. | SAFETY.....  | PAGE 20        |
|    | 4.1 GENERAL WARNING  |                |
|    | 4.2 FORESEEB USE   |                |
|    | 4.3 UNSUITABLE CONDITIONS FOR USE                          |                |
|    | 4.4 DANGER ZONES   |                |
|    | 4.5 SWITCHING OFF THE APPLIANCE                            |                |
|    | 4.6 PLAQUES  |                |
| 5. | TRANSPORT AND MOVEMENT.....                                | PAGE 21        |
|    | 5.1 TRANSPORT AND MOVEMENT                                 |                |
|    | 5.2 STORAGE  |                |
|    | 5.3 CHECKS   |                |

|       |  |           |
|-------|--|-----------|
| 6.    | INSTALLATION.....                                      | PAGE 21   |
| 6.1   | SET UP   |           |
| 6.2   | PRE- AERANGEMENTS                                      |           |
| 6.3   | CONNECTIONS  |           |
| 6.3.1 | ELECTRIC   |           |
| 6.3.2 | HYDRAULICS   |           |
| 6.3.3 | PRE-AERANGEMENTS FOR OPTIONAL                          |           |
| 7.    | OPERATION.....   | ..PAGE 23 |
| 7.1   | STAFF  |           |
| 7.2   | PUTTING INTO OPERATION                                 |           |
| 7.3   | TIMERS   |           |
| 7.4   | REGULATION OF TEMPERATURE                              |           |
| 7.5   | STORAGE OF FOOD  |           |
| 8.    | ROUTINE AND PLANNED MAINTENANCE.....                   | PAGE 23   |
| 8.1   | BASIC SAFETY RULES                                     |           |
| 8.1.1 | PROHIBITION OF REMOVAL OF PROTECTION AND SAFETY DEVICE |           |
| 8.1.2 | INDICAATIONS FOR EMERGENCY IN THE CASE OF FIRE         |           |
| 8.1.3 | CLEANING OF THE EXTERIOR                               |           |
| 8.1.4 | CLEANING OF THE CONDENSER                              |           |
| 8.1.5 | PERIODIC CHECKS TO BE CARRIED OUT                      |           |
| 9.    | NON-ROUTINE MAINTENANCE AND REPAIRS.....               | PAGE 24   |
| 10.   | TROUBLESHOOTING .....                                  | PAGE 24   |
| 11.   | SPARE PARTS.....                                       | PAGE 25   |
| 11.1  | SUPPLY OF SPARE PARTS                                  |           |

## **1. GENERAL INFORMATION**

### **1.1 MANUFACTURER**

As the company boasts considerable experience in the field of industrial refrigeration the technological know-how acquired, created during years of research and close contact with the production and marketing at an international level, representing the best guarantee that the manufacturer can offer.

This equipment has been studied inside, externally and in its components, according to the requirements specified by your market. Furthermore every aspect has been checked for functioning and for appearance before being dispatched, as shown in the documentation.

To guarantee the long life of this product, use it according to the suggestions made in this manual.

### **1.2 SERVICE CENTERS**

( sales, service, spare parts and commercial representation )

For any requirement pertaining to use, maintenance or the request for spare parts the customer should use an authorized service centre specifying the identification details of the equipment shown on the plaques.

### **1.3 CERTIFICATION**

The condensed air refrigerator cupboards and tables and refrigerator units are produced in accordance with the European Community regulations applicable at this time of its appearance on the market.

Because the refrigerator cupboard and the table do not come into the enclosed IV of the regulation 98/37/CEE the manufacturer provides self-certification with the CE marking.

### **1.4 GUARANTEE**

The new equipment is covered by a guarantee.

The guarantee certificate is included with this booklet inside every product. If this booklet is not present you can ask your supplier for it, specifying:

- The serial number ( stamped on the relevant plaque see paragraph 4.6 )
- The date of purchase

### **1.5 PRE-ARRANGEMENTS OF CUSTOMER'S RESPONSIBILITY**

It is the customer's responsibility to carry out everything specified in the documentation. Unless different prior arrangements have been made, the following are usually the customer's responsibility.

- Predisposition of the area including any building work and or canalization required.
- Electric power supply in accordance with the power regulations in the country of use
- Cleaning materials

## 1.6 STRUCTURE OF THE MANUAL

The customer must read the information contained in this manual very carefully because the correct predisposition installation and use are the basis of the customer-manufacturer agreement.

### 1.6.1 AIMS AND CONTENTS

This manual aims to provide the customer with all the information necessary for not only adequate use of the equipment but also for the safest and most autonomous use possible. It contains information regarding technical aspects operation stopping, maintenance, spare parts and safety.

Before carrying out any operation on the equipment, the user and the Qualified technicians must carefully read the instructions, call the retailer for clarification.

### 1.6.2 WHO THE MANUAL IS FOR ?

The manual is aimed at the both retailers and users and also to maintenance workers qualified to carry out work on the equipment.

The user must not carry out work reserved for qualified maintenance workers and technicians. The manufacturer is not responsible for any damage caused by lack of respect for this last regulation.

### 1.6.3 SAFEKEEPING

The manual for use and maintenance must be kept in the immediate vicinity of the equipment in an appropriate holder and above all protected from liquids and other substances that could make it illegible.

### 1.6.4 SYMBOLS USED

| SYMBOL | MEANING      | COMMENT   |
|--------|--------------|---|
|        | WARNING      | Indicates a warning or a note on a key function or useful information.<br>Pay great attention to text indicated by this |
|        | CONSULTATION | It is necessary to consult the instruction booklet before carrying out the operation                                    |

## 2. DESCRIPTION AND OPERATION OF THE APPLIANCE

### 2.1 DESCRIPTION

The upright refrigerators are condensed air refrigerator units made up of:

- A condensing unit (outside cold storage room )
- A evaporating unit ( inside cold storage room )
- A control panel ( positioned on the condensing unit )

- Defrosting is of the electric type and it is automatic
- Condensation is air based

## 2.2 OPERATION

The upright refrigerators are refrigerator units, which function by means of refrigerator compressor of the airtight type. With air tight motion and alternative motion powered by electricity ( mono phase or three phase ) and using as a refrigerant the fluid r404A/R134A.

Principle of refrigerator operation cycle we intend the change of state which a certain body undergoes. The passage of the refrigerating fluid from the liquid state to the gaseous state takes place in the evaporator. Because this is an endothermic phenomenon, it needs heat which when it happens, is taken from the air which the evaporator comes into contact with. So, when coming out of the evaporator, the vapors of the refrigerating fluid are sucked out by an air compressor and sent to the condenser. If the latter takes away not only the heat that the gaseous refrigerating fluid has acquired during the course of the evaporation but also the calorific equivalent of the compression work then the fluid returns to the liquid state. Because liquefaction is an exothermic phenomenon there is production of heat which is disposed of through air and through water. The refrigerant fluid leaving the condenser passes through an expansion organ and returns to the evaporator. Thus completing the cycle.

## 3. PREARRANGEMENTS

### 3.1 ILLUMINATION

The illumination of the area must conform with the power regulations of the country in which the equipment is installed and must, in any case guarantee good visibility at all points, it must not create dangerous reflections and must allow for easy reading of the controls.

### 3.2 VIBRATIONS

In conditions of use, which comply with the indications for correct use the vibrations are not enough to create dangerous situations.

### 3.3 EMISSION OF SOUND

The refrigerator unit is designed to reduce the level of noise at source ( see attached 13.2.2 )

#### 3.3.1 SUPPLIES ON REQUEST

It is to be understood that any modification and or addition of accessories must be explicitly approved of and carried out by the manufacturer.

| SYMBOL | MEANING | COMMENT  |
|--------|---------|--|
|        | WARNING | Any alteration or modification of the fridge made by the operator and or service operator is forbidden for security reasons. The manufacturer decline any responsibility for unauthorized modifications. |

- 3.4 ELECTROMAGNETIC ENVIRONMENT** The refrigerator is designed to function correctly in an industrial electromagnetic environment, coming within the emissions and immunities foreseen by the following regulations:
- 3.5** EN50081-2 electromagnetic compatibility- general regulation for emission part 2 industrial environments ( 1993 )

EN50082-2 electromagnetic compatibility - general regulation for immunity part 2 industrial environments ( 1995 )

#### **4. SAFETY**

##### **4.1 GENERAL WARNING**

The user must read very carefully the information given in this manual, with particular attention to the appropriate precautions for safety listed in this chapter.

It is imperative that the user follows the list below:

- Keep the refrigerator clean and tidy;
- Do not remove or alter the plaques placed by the manufacturer
- Do not remove or bypass the safety systems;
- Do not touch the equipment with damp or wet hands or feet
- Do not touch the equipment with bare feet;
- Do not insert screwdrivers or anything else between the protective cover and the moving parts;
- Do not pull the power cable to disconnect the appliance from the power supply;
- Before carrying out any cleaning or maintenance operation disconnect the appliance from the electric power supply first switching off the main switch and then removing the plug.

##### **4.2 FORESEEN USE**

The upright and or table refrigerator has been conceived and built to be used in communities, restaurants, hotels etc.

##### **4.3 UNSUITABLE CONDITIONS FOR USE**

The upright and or table refrigerator must not be used :

- For purposes which differ from those shown in 4.2;
- In an explosive aggressive atmosphere or where there is a high concentration of oily substances or powders suspended in the air;
- In the atmosphere with a fire risk
- Exposed to bad weather;
- With adapters multiple sockets or extension leads.

##### **4.4 DANGER ZONE**

There are no danger zones during use because the upright and or table refrigerator has all the necessary safety devices. If repairs or maintenance have to be carried out requiring the removal of the safety devices it is necessary first to make sure that all power sources have been switched off.

For this reason in the upright and or table refrigerator it is necessary to deactivate: the electric plant, putting the main switch off and pulling out the plug.

At the end of any work it is absolutely imperative that all safety devices are re-activated.

#### 4.5 SWITCHING OFF THE APPLIANCE

For switching off the fridge or table is necessary to proceed as follow:

- Turn the main switch on off position
- Remove power cable

WARNING : if the power cable is samaged only manufacturer service or a trained person can change the cable.

#### 4.6 PLAQUES

| PLAQUE REGARDING THE ELECTRICAL APPARATUS | PLAQUE A   |
|---|--|
|   | Remove the tension before removing the protection. |

| PLAQUE REGARDING THE ELECTRICAL APPARATUS | PLAQUE B         |
|---|------------------|
|   | Earth connection |

| PLAQUE REGARDING THE ELECTRICAL APPARATUS | PLAQUE C   |
|---|--|
|   | Warning! The manufacturer and the retailer decline all responsibility if the power line is not protected by high sensitivity magnetothermic switch |

| PLAQUE INSIDE REFRIGERATOR | PLAQUE D      |
|----------------------------|---------------|
|                            | Max high load |

### 5. TRANSPORT AND MOVEMENT

**READ CAREFULLY THE WARNINGS CONTAINED IN THIS MANUAL AS THEY SUPPLY IMPORANT INFORMATION REGARDING THE SAFETY OF INSTALLATION USE AND MAINTENANCE. KEEP THIS MANUAL SAFE FOR FURTHER CONSULTATION.**

#### 5.1 TRANSPORT AND MOVEMENT

- 5.2** The transport and movement of the upright and or table refrigerators must take place in the upright position, respecting any indications shown on the packaging.

Transport must be carried out by qualified staff.

The upright and or table refrigerators must be transported in such a way as to avoid any damage .

The appliance is prepared for transport with or without packaging depending on the means of transport and the route. If packaging it is cardboard or wood, adequately protected.

Movement must be carried out using a lift truck or trans-pallets with suitable forks

| SYMBOL | MEANING | COMMENT  |
|--------|---------|--|
|        | WARNING | Damage to the appliance caused during transport and movement is not covered by the GUARANTEE. Repairs or substitution of damaged parts is at the customer's expense. |

### 5.3 STORAGE

In the case of long periods of inactivity the upright and or table refrigerators must be stored with attention to relevant storage place and time:

- Store the upright and or table refrigerator in an enclosed area;
- Protect upright and or table refrigerator from bumps or stress;
- Protect upright and or table refrigerator from high thermal variation;
- Avoid upright and or table refrigerator coming into contact with corrosive substances.

### 5.4 CHECKS

Before putting upright and or table refrigerator into operation, it is necessary to carry out a series of checks to prevent errors or accidents during the activating phase:

- Check that there has not been any damage to the upright and or table refrigerator during assembly.
- Check with care the integrity of the control panel the electric cable and the tubes.
- Check the precise connection to external energy supply.
- Check the free movement and rotation of any moving parts.

## 6. INSTALLATION

For an optimum functioning of the unit it is advisable to place the refrigerator in a zone with a good Exchange of air and far away from any sources of heat.



### **6.1 SETUP**

- Carefully remove the packaging from the refrigerator;
- Remove the white pvc protection film from the stainless steel and all the protection used by the company to reduce the risk of damage during transport;
- Place the refrigerator on a flat level surface

Before use, clean the refrigerator with a clean soft cloth or using a spray product. It is best use little water as it contains minerals that leave traces that are difficult to remove quickly;

- Wash the tray and all the internal parts using anti-bacterial detergents to be found commercially;
- Remove the detergent with a soft sponge soaked in water and dry with a clean soft cloth;

Do not use abrasive detergents or power that could make the finish opaque. During these phases do not use already stated use great quantities of water that could damage electric parts; a damp sponge is sufficient.

- Place the self support inside the refrigerator in the most suitable position for use inserting each support in on the holes on the base of the refrigerator and inserting the side tab in the appropriate place on the sides or on the table supports.
- Slide the shelf into the supports as shown in
- Slide into the appropriate runners on the lower part of the refrigerator the condensation waste tray and for appliances that have automatic trays connect the connector.

### **6.2 PREARRANGEMENTS**

- Check that the cables and the sockets are suitable for the power absorbed by the equipment.

### **THE USE OF ADAPTORS MULTIPLE SOCKETS AND OR EXTENSION LEADS IS FORBIDDEN.**

- Ensure that the upright and or table refrigerator is not installed near to sources of heat like : ovens, radiators, direct sunlight etc.
- Leave a space of at least 75 mm between the back of the upright and or table refrigerator and any wall to avoid the formation of condensation.
- The motor must be free of any obstacle that could hinder or limit the circulation through the condensing unit situated on the top side part of the refrigerator.
- The distance between the refrigerator and the ceiling must be less 50 cm
- Check that the environment has a sufficient change of air in order to guarantee the cooling of the condenser and the compressor unit.
- For a perfect functioning of the equipment, the maximum temperature of the environment should not exceed + 49 C (109F) except for static models which should not exceed +32 C (+95F).

Lack of respect for these conditions will provoke a serious decline in the functioning of the equipment early ageing of the compressor and a much higher consumption of energy than normal.

### **6.3 CONNECTION**

To avoid any kind of problem when upright and or tables are switched on is good to attend to the instruction as follow

**6.3.1 ELECTRICAL** The electrical connection of the upright and or table refrigerator is the customer's responsibility. The connection to the power supply must respect the power supply laws in the country in which the equipment is installed.

- Check that the tension of the power supply is exactly that shown on the plaque.
- Check that the socket conforms to power regulations.
- Pay particular attention that there are no uncovered wires.
- Check the earth.

### **THE EARTH CONNECTION IS A LEGAL SAFETY REQUIREMENT.**

If more than one pieces of equipment is placed in line each one must have an independent power supply.

In order to safeguard the electric plant of the refrigerator from any overloads or short circuits install a magnetothermic switch at the head of the socket with adequate interruption power.

### **6.3.2 HYDRAULICS**

If the model does not include a condenser unit it is necessary to connect it to a drainage system for the discharge of water from defrosting using a suitable tube of appropriate dimensions.

### **6.3.3 PRE-ARRANGEMENTS FOR OPTIONAL**

Locks: all the upright refrigerators are predisposed for the installation of locks even those models which do not include them.

## **7. OPERATION**

### **7.1 PERSONAL**

The staff that will use and install the appliance must possess the following skills and must understand the contents of this manual and all the relevant safety information:

- General technical knowledge enough to understand the contents of the manual
- Awareness of the main hygiene accident prevention and technological regulations.

### **7.2 PUTTING INTO OPERATIONS**

If the equipment has been mistakenly positioned horizontally during transport wait about 2 hours after putting it into a vertical position before it into operation.

### **7.3. TIMERS**

See enclosed manual for instructions.

### **7.3 TEMPERATURE REGULATION**

The choice of temperature must take into consideration:

- The type of product which is going to be kept in the cold storage room;
- The temperature of the environment;
- The frequency of opening ;

It is to be remembered that:

- Negative refrigerators(-10 C/-25C) ( 14F /32F ) are suitable for the conservation of frozen products for long periods of time and for the freezing of small quantities of fresh foodstuffs of small dimensions.

In any case before loading the equipment it is necessary to wait until the cold storage room has reached the correct temperature, checking it on its thermometer. If there are any brief interruptions to the electricity supply, it is probable that the compressor might start with some delay; this is perfectly normal.

### **7.4 STORAGE OF FOOD**

In order to obtain the best possible working of the refrigerator it is necessary to respect the following indications:

- Do not put hot foods or uncovered liquids into the cold storage room;
- Wrap up or cover all foods especially those with strong aromas or cream;
- Organize the foodstuffs inside the cold storage room in such a way as not to block the circulation of air with superfluous objects;
- Avoid to keep open the door for long periods of time;
- Wait a few moments before opening a door that has just been closed.

## **8. ROUTINE AND PLANNED MAINTENANCE**

The information contained in this chapter is aimed at the use and at the ordinary maintenance staff.

### **8.1 ELEMENTARY SAFETY REGULATIONS**

#### **8.1.1 PROHIBITION OF REMOVAL SAFETY DEVICES**

The removal of safety protection is absolutely forbidden for the carrying out of ordinary maintenance work. The manufacturer declines any responsibility for any accident caused by the lack or respect for the above written regulation

#### **8.1.2 INDICATION ON EMERGENCY OPERATIONS IN CASE OF FIRE**

- Remove the plug from the socket or switch off at the mains;
- Do not use water jets;
- Use powder or foam extinguishers.

#### **8.1.3 CLEANING OF THE EXTERNAL PARTS**

The following are indicated for his purpose;

- Cleaning products : water and neutral non abrasive deterhents
- Clening methods: wash with a cloth or a sponge ;
- Frequency: weekly

#### 8.1.4 CLEANING OF THE CONDENSER

The efficiency of the condenser unit is compromised by the blocking of the condenser that makes it necessary to clean it weekly. Before carrying out this operation, switch off the appliance, remove the power cable and proceed as follows:

- With the use of an air jet or dry brush with rigid bristkles , eliminate. Whit a vertical movement the dust and down from the wings.

In the case of oily deposits , use a brush soaked in spirit or similar product. When the operation is finished , start the appliance p in the normal way.

#### 8.1.5 PERIODIC CHECKS TO BE CARRIED OUT

It is necessary to check periodically that the electric cables and the electric parts are undamaged.

### 9. NON ROUTINE MAINTENANCE AND REPAIRS

Non - routine maintenance and repairs must be carried out by qualified personel authorized by the manufacturer. The manufacturer declines any responsibility for jobs carried out by unauthorized personel or the use of non- orijinal spare parts.

### 10. TROUBLESHOOTING

The following table shows the most frequent problems, possible causes and remedies.

| PROBLEM DESCRIPTION   | POSSIBLE CAUSE   | SOLUTION  |
|---|--|---|
| The appliance does not come on  | The main switch is ' off '<br>There is no tension<br>Other                                   | Main switch'on'<br>Check plug,socket,fuse,electric Connection<br>Contact technical assistance   |
| The refrigerator unit does not start  | Set temperature is reached<br>Defrosting is in operation<br>Control panel is broken<br>Other | Set new temperature<br>Wait foe end of cycle, switch off and switch back on<br>Contact technical assistance<br>Contact technical assistance |
| The refrigerator is continuously working but does not reach the set temperature | Room is too hot<br>Condenser is dirty<br>Refrigerator fluid is ansufficient                  | Air beter<br>Clean condenser<br>Contact technical assistance<br>Contact technical assistance<br>Check door seals                            |

|   |  |   |
|---|--|---|
|   | Condenser fan has stopped<br>Door not properly closed<br>Evaporator is frosted up<br>Defrost valve is open | Manual defrosting<br>Contact technical assistance   |
| Refrigerator does not stop at set temperature | Control panel is broken<br>Temperature probe is broken<br>Door is not airtight                             | Contact technical assistance<br>Contact technical assistance<br>Close door  |
| Ice blocks on evaporator                      | Improper use<br>Control panel is broken  | Contact technical assistance<br>Contact technical assistance  |
| Pool of water or ice in drip tray             | Blocked<br>Appliance not leveled   | Clean drain and discharge<br>Contact technical assistance   |
| Appliance is noisy                            | Appliance not leveled<br>Contact with external bodies<br>Screws or nuts loose<br>Other                     | Check that appliance is level<br>Check that no tube or ventilator fan is in contact with external bodies<br>Tighten<br>Contact technical assistance |

**IN ORDER TO GUARANTEE THE EFFICIENCY OF THE APPLIANCE AND ITS CORRECT FUNCTIONING THE MANUFACTURER'S INSTRUCTIONS MUST BE FOLLOWED AND PERIODIC SERVICING MUST BE CARRIED OUT BY PROFESSIONALLY QUALIFIED PERSONNEL.**

**(LEGAL REQUIREMENT FOR THE PREVENTION OF ACCIDENTS AT WORK AND THE INSTALLATION OF ELECTRICAL APPLIANCES )**

**IT IS OBLIGATORY TO BE IN ACCORDANCE WITH POWER SUPPLY REGULATIONS.**

## **11. SPARE PARTS**

### **11.1.SUPPLY OF ORIGINAL SPARE PARTS**

For the substitution of any parts spares can be obtained at our authorized centers on giving

- Serial number and year of manufacture ( see plaque A )
- Component identification number

Any malfunctioning due to non-original spare parts will not be recognized by our technicians.