

## Foreword



The installation, use and maintenance Manual (hereinafter Manual) provides the user with information necessary for correct and safe use of the machine (hereinafter “machine”, “refrigerator” or “appliance”). The following must not be considered a long and exacting list of warnings, but rather a set of instructions suitable for improving machine performance in every respect and, above all, preventing injury to persons and animals and damage to property due to improper operating procedures.

All persons involved in machine transport, installation, commissioning, use and maintenance, repair and disassembly must consult and carefully read this manual before carrying out the various operations, in order to avoid wrong and improper actions that could compromise the machine’s integrity or endanger persons. Make sure to periodically inform the appliance user regarding the safety regulations. It is also important to instruct and update personnel authorised to operate on the machine, regarding its use and maintenance.

The manual must be available to operators and carefully kept in the place where the machine is used, so that it is always at hand for consultation in case of doubts or whenever required.

If, after reading this manual, there are still doubts regarding machine use, do not hesitate to contact the Manufacturer or the authorised after-sales service centre, to receive prompt and precise assistance for better operation and maximum efficiency of the machine.

During all stages of machine use, always respect the current regulations on safety, work hygiene and environmental protection. It is the user’s responsibility to make sure the machine is started and operated only in optimum conditions of safety for persons, animals and property.

**The manufacturer declines any liability for operations carried out on the appliance without respecting the instructions given in this manual.**

**No part of this manual may be reproduced.**

## A.1 GENERAL INFORMATION

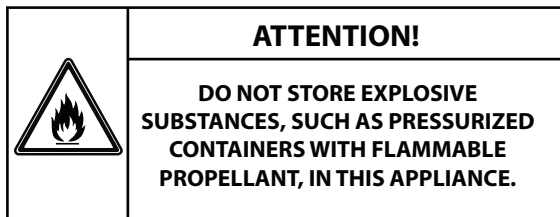
### A.1.1 INTRODUCTION

Given below is some information regarding the machine's intended use, its testing, and a description of the symbols used (that identify the type of warning), the definitions of terms used in the manual and useful information for the appliance user.

### A.1.2 INTENDED USE AND RESTRICTIONS

Our appliances are designed and optimised in order to obtain high performance and efficiency. This appliance is designed for the refrigeration and preservation of foods. Any other use is deemed improper.

The appliance must not be used by people (including children) with limited physical, sensory or mental abilities or without experience and knowledge of it, unless instructed in its use by those responsible for their safety.



**ATTENTION:** The machine is not suitable for installation outdoors and/or in places exposed to atmospheric agents (rain, direct sunlight, etc.).

**The manufacturer declines any liability for improper use of the product.**

### A.1.3 TESTING AND INSPECTION

Our appliances are designed and optimised, with laboratory testing, in order to obtain high performance and efficiency. The product is shipped ready for use.

Passing of the tests (visual inspection - electrical test - functional test) is guaranteed and certified by the specific enclosures.

### A.1.4 DEFINITIONS

Listed below are the definitions of the main terms used in the manual. Read them carefully before using the manual.

#### *Operator*

machine installation, adjustment, use, maintenance, cleaning, repair and transport personnel.

#### *Manufacturer*

Electrolux Professional SPA or any other service centre authorised by Electrolux Professional SPA.

#### *Operator for normal machine use*

an operator who has been informed and trained regarding the tasks and hazards involved in normal machine use.

#### *Technical assistance or specialised technician*

an operator instructed/trained by the Manufacturer and who, based on his professional and specific training, experience and knowledge of the accident-prevention regulations, is able to appraise the operations to be carried out on the machine and recognise and prevent any risks. His professionalism covers the mechanical, electrotechnical and electronics fields.

#### *Danger*

source of possible injury or harm to health.

#### *Hazardous situation*

any situation where an operator is exposed to one or more hazards.

#### *Risk*

a combination of probabilities and risks of injury or harm to health in a hazardous situation.

#### *Protection devices*

safety measures consisting of the use of specific technical means (guards and safety devices) for protecting operators against dangers.

#### *Guard*

an element of a machine used in a specific way to provide protection by means of a physical barrier.

#### *Safety device*

a device (other than a guard) that eliminates or reduces the risk; it can be used alone or in combination with a guard.

#### *Customer*

the person who purchased the machine and/or who manages and uses it (e.g. company, entrepreneur, firm).

#### *Electrocution*

an accidental discharge of electric current on a human body.

### A.1.5 TYPOGRAPHICAL CONVENTIONS

For best use of the manual, and therefore the machine, it is advisable to have good knowledge of the terms and typographical conventions used in the documentation.

The following symbols are used in the manual to indicate and identify the various types of hazards:



#### **ATTENTION!**

**DANGER FOR THE HEALTH AND SAFETY OF OPERATORS.**



#### **ATTENTION!**

**DANGER OF ELECTROCUTION - DANGEROUS VOLTAGE.**



#### **ATTENTION!**

**RISK OF DAMAGE TO THE MACHINE.**

Words further explaining the type of hazard are placed next to the symbols in the text. The warnings are intended to guarantee the safety of personnel and prevent damage to the machine or the product being worked.

The drawings and diagrams given in the manual are not in scale. They supplement the written information with an outline, but are not intended to be a detailed representation of the machine supplied.

The numerical values given on the machine installation diagrams refer to measurements expressed in mm.

### A.1.6 MACHINE AND MANUFACTURER'S IDENTIFICATION DATA

A reproduction of the marking or dataplate on the machine is given below:

F.Mod. xxxxxxxx	Comm.Mod.	V160TN	2017
PNC xxxxxxxxxxxx	Ser.Nr. xxxxxxxx	Cyclopentane	
W Tot. xxx kW	Volt xxx xxHz	Total Current xx A	
Potenza Sbrinamento / Defrost Power	x kW	Classe / Class x	GWP xxxx CO2-eq xxx t
Resistenza Evaporazione / Evaporation Heater El.	x kW	Refrigerante / Refrigerant xxxx	xxxx Kg
Illuminazione / Lighting	x W	Cap. xxx	
IP23			
Electrolux Professional SPA - Viale Treviso, 15 - 33170 Pordenone (Italy)			
		CE	WEEE

The dataplate gives the product identification and technical data.

The meaning of the various information given on it is listed below:

<b>F.Mod.</b>	factory description of product
<b>Comm.Model</b>	commercial description
<b>PNC</b>	production number code
<b>Ser.Nr.</b>	serial number
<b>V</b>	power supply voltage
<b>Hz</b>	power supply frequency
<b>kW</b>	max. power input
<b>Cyclopentane</b>	expanding gas used in insulation

<b>Total Current</b>	current absorbed
<b>Defrost Power</b>	defrost power
<b>Evaporation Heater El.</b>	heating element power
<b>Lighting</b>	inside light power
<b>Class</b>	climatic class
<b>GWP</b>	global warming potential
<b>CO2 eq</b>	quantity of greenhouse gases
<b>Refrigerant</b>	type of refrigerant gas
<b>Cap.</b>	nominal capacity
<b>IP23</b>	dust and water protection rating
<b>CE</b>	CE marking
<b>Electrolux Professional SPA</b> <b>Viale Treviso 15</b> <b>33170 Pordenone</b> <b>Italy</b>	Manufacturer

When installing the appliance, make sure the electrical connection is carried out in compliance with that specified on the dataplate.



**ATTENTION!**  
Do not remove, tamper with or make the machine “CE” marking illegible.



**ATTENTION!**  
Refer to the data given on the machine “CE” marking for relations with the Manufacturer (e.g. when ordering spare parts, etc.).



**ATTENTION!**  
When scrapping the machine, the “CE” marking must be destroyed.

#### A.1.7 APPLIANCE IDENTIFICATION

This manual applies to various refrigerator/freezer models. For further details regarding your model, refer to par. A.2.2 DIMENSIONS, PERFORMANCE AND CONSUMPTION.

#### A.1.8 COPYRIGHT

This manual is intended solely for consultation by the operator and can only be given to third parties with the permission of Electrolux Professional SPA.

#### A.1.9 RESPONSIBILITY

The Manufacturer declines any liability for damage and malfunctioning caused by:

- non-compliance with the instructions contained in this manual;
- repairs not carried out in a workmanlike fashion, and replacements with parts different from those specified in the spare parts catalogue (the fitting and use of non-original spare parts and accessories can negatively affect machine operation and invalidates the warranty);
- operations by non-specialised technicians;
- unauthorised modifications or operations;
- inadequate maintenance;
- improper machine use;
- unforeseeable extraordinary events;
- use of the machine by uninformed and untrained personnel;
- non-application of the current provisions in the country of use, concerning safety, hygiene and health in the workplace.

The Manufacturer declines any liability for damage caused by arbitrary modifications and conversions carried out by the user or the Customer.

The employer, workplace manager or service technician are responsible for identifying and choosing adequate and suitable personal protection equipment to be worn by operators, in compliance with regulations in force in the country of use.

Electrolux Professional SPA declines any liability for any inaccuracies contained in the manual, if due to printing or

translation errors.

Any supplements to the installation, use and maintenance manual the Customer receives from the Manufacturer will form an integral part of the manual and therefore must be kept together with it.

#### A.1.10 PERSONAL PROTECTION EQUIPMENT

Given below is a summary table of the Personal Protection Equipment (PPE) to be used during the various stages of the machine's service life.

Stage	Protective garments	Safety footwear	Gloves	Glasses	Ear protectors	Mask	Safety helmet
Transport		X					
Handling		X					
Unpacking		X					
Assembly		X					
Normal use	X	X	X (*)				
Adjustments		X					
Routine cleaning		X	X (*)				
Extraordinary cleaning		X	X				
Maintenance		X					
Dismantling		X					
Scrapping		X					

Key:



PPE REQUIRED



PPE AVAILABLE OR TO BE USED IF NECESSARY



PPE NOT REQUIRED

(\*) During **Normal use**, gloves protect hands from the cold tray when being removed from the appliance.

NOTE: The gloves to be worn during **Cleaning** are the type suitable for contact with the cooling fins (metal plates).

Failure to use the personal protection equipment by operators, specialised technicians or users can involve exposure to chemical risk and possible damage to health.

#### A.1.11 KEEPING THE MANUAL

The manual must be carefully kept for the entire life of the machine, until scrapping.

The manual must stay with the machine in case of transfer, sale, hire, granting of use or leasing.

#### A.1.12 RECIPIENTS OF THE MANUAL

This manual is intended for:

- the carrier and handling personnel;
- installation and commissioning personnel;
- the employer of machine users and the workplace manager;
- operators for normal machine use;
- specialised technicians - after-sales service (see service manual).

## A.2 TECHNICAL DATA

### A.2.1 MATERIALS AND FLUIDS USED

The areas in contact with the product are in steel or coated with non-toxic plastic material. The fluorinated gases are contained in a hermetically sealed device. An HFC (R134a (GWP:1430)/R404a (GWP:3922)) refrigerant fluid complying with the current regulations is used in the refrigerating units. The type of refrigerant gas used is given on the dataplate. The CO<sub>2</sub> equivalent of the gas may be calculated multiplying GWP value by quantity of gas.

### A.2.2 DIMENSIONS, PERFORMANCE AND CONSUMPTION

Racks supplied (*):	no.	2+1
<i>Refrigerated counter rack dimensions:</i>		
- fixed rack on bottom	mm	175x475 (1)
- adjustable racks	mm	410x527 (2)

*Freezer counter rack dimensions:*  
- structure with evaporating racks  
(3 non-adjustable shelves+bottom)mm396x477 (1)

#### **Refrigerated counters with fully insulated door**

Temp. range in compartment	°C	+2/+10
Power supply voltage		220-240V 50hz
Noise level	dBA	45

#### **Freezer counters**

Temp. range in compartment	°C	-20/-15
Power supply voltage		220-240V 50hz
Equivalent sound pressure level Leq (**)	dB(A)	<70

(\*) For freezer models, a kit of 3 baskets in Rilsan for positioning in place of the racks is available on request.

(\*\*) The value could increase depending on the work station where measured.

### A.2.3 MECHANICAL SAFETY CHARACTERISTICS, HAZARDS

The appliance does not have sharp edges or protruding parts. The guards for the moving and live parts are fixed to the cabinet with screws to prevent accidental access.

### A.2.4 CLIMATIC CLASS

The climatic class given on the dataplate refers to the following values:

REFRIGERATED COUNTER:

**CLIMATIC CLASS: 5 43°C (IEC/EN 60335-2-89)**

**CLIMATIC CLASS: 4 30°C room temperature with 55% relative humidity (IEC/EN ISO 23953).**

REFRIGERATED COUNTER GLASS DOOR:

**CLIMATIC CLASS: 5 43°C (IEC/EN 60335-2-89)**

**CLIMATIC CLASS: 3 25°C room temperature with 60% relative humidity (IEC/EN ISO 23953).**

FREEZER COUNTER:

**CLIMATIC CLASS: 5 43°C (IEC/EN 60335-2-89)**

## B.1 TRANSPORT, HANDLING AND STORAGE

### B.1.1 INTRODUCTION

Transport (i.e. transfer of the machine from one place to another) and handling (i.e. transfer inside workplaces) must occur with the use of special and adequate means.



#### **ATTENTION!**

**Due to their size, the machines cannot be stacked on top of each other during transport, handling and storage; this eliminates any risks of loads tipping over due to stacking.**

The machine must only be transported, handled and stored by qualified personnel, who must:

- have specific technical training and experience in the use of lifting systems;
- have knowledge of the safety regulations and applicable laws in the relevant sector;
- have knowledge of the general safety rules;
- ensure the use of personal protection equipment suitable for the type of operation carried out;
- be able to recognise and avoid any possible hazard.

### B.1.2 TRANSPORT: INSTRUCTIONS FOR THE CARRIER



#### **ATTENTION!**

**Do not stand under suspended loads during loading/unloading operations.**

**Unauthorised personnel must not enter the work area.**



#### **ATTENTION!**

**The machine's weight alone is not sufficient to keep it steady. The transported load can shift:**

- when braking;
- when accelerating;
- in corners;
- on rough roads.

### B.1.3 HANDLING

Arrange a suitable area with flat floor for machine unloading and storage operations.

### B.1.4 PROCEDURES FOR HANDLING OPERATIONS

For correct and safe lifting operations:

- use the type of equipment most suitable for characteristics and capacity (e.g. electric pallet truck or lift truck);
- cover sharp edges;

Before lifting:

- send all operators to a safe position and prevent persons from entering the handling area;
- make sure the load is stable;
- make sure no material can fall during lifting. Manoeuvre vertically in order to avoid impacts;
- handle the machine, keeping it at minimum height from the ground.



#### **ATTENTION!**

**For machine lifting, do not use movable or weak parts such as: casings, electrical raceways, pneumatic parts, etc.**

### B.1.5 TRANSLATION

The operator must:

- have a general view of the path to be followed;
- stop the manoeuvre in case of hazardous situations.



#### **ATTENTION!**

**Do not push or pull the appliance to move it, as it may tip over.**

### B.1.6 PLACING THE LOAD

Before placing the load, make sure the way is free and that the floor is flat and can take the load. Remove the appliance from the wooden pallet, move it to one side, then slide it onto the floor.

### B.1.7 STORAGE

The machine and/or its parts must be stored and protected against damp, in a non-aggressive place free of vibrations and with room temperature between -10°C and 50°C.

The place where the machine is stored must have a flat support surface in order to avoid any twisting of the machine or damage to the support feet.



**ATTENTION!**  
Machine positioning, installation and disassembly must be carried out by a specialised technician.



**ATTENTION!**  
Do not make modifications to the parts supplied with the machine. Any missing or faulty parts must be replaced with original parts.

## B.2 INSTALLATION AND ASSEMBLY

To ensure correct operation of the appliance and maintain safe conditions during use, carefully follow the instructions given below in this section.



**ATTENTION!**  
The operations described below must be carried out in compliance with the current safety regulations, regarding the equipment used and the operating procedures.



**ATTENTION!**  
Before moving the appliance make sure the load bearing capacity of the lifting equipment to be used is suitable for its weight.

### B.2.1 THE CUSTOMER'S RESPONSIBILITIES

The Customer must:

- arrange an earthed power socket of suitable capacity for the input specified on the dataplate;
- arrange a suitable high-sensitivity manual-reset differential omnipolar thermal-magnetic switch with contact gap enabling complete disconnection in category III overvoltage conditions, complying with the regulations in force. For the correct size of the switch, refer to the absorbed current specified on the appliance dataplate. For information regarding the electrical connection, refer to par. B.2.5 "Electrical connection";
- check the flatness of the surface on which the machine is placed.

### B.2.2 MACHINE SPACE LIMITS

A suitable space must be left around the machine (for operations, maintenance, etc.). This space must be increased in case of use and/or transfer of other equipment and/or means or if exit routes are necessary inside the workplace. Make sure to position the appliance at least 50 mm from any other machines present in the room (in fact, close proximity can create problems of condensate forming on the walls of the appliance), also taking into consideration the space needed for door opening.

### B.2.3 POSITIONING

Install the appliance, taking all the safety precautions required for this type of operation, also respecting the relevant fire-prevention instructions.

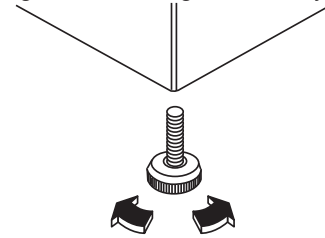
Install the appliance in a ventilated place, away from heat sources such as radiators or air conditioning systems, to allow correct cooling of the refrigerating unit components. In fact, inadequate ventilation can cause damage to the appliance and compromise its correct operation. Also, if the temperature is high, the compressor switches on more often and for longer periods, with consequent increase in power consumption. Keep the ventilation openings free of any obstruction. Never cover the condenser, even temporarily, as this can compromise its proper operation and therefore that of the appliance. If the machine is installed in a place where

there are corrosive substances (chlorine, etc.), it is advisable to go over all the stainless steel surfaces with a rag soaked in paraffin oil in order to create a protective film. The appliances maintain their performance characteristics at a room temperature of +43°C; in any case the max. room temperature at which they can operate is +43°C.

The machine must be taken to the place of installation and the packing base removed only when being installed.

Arranging the machine:

- position the machine in the required place;
- adjust the height and levelling with the adjustable feet,



also checking correct door closing.

Make sure the floor on which the appliance is placed is flat, in order to ensure its optimum operation.



**ATTENTION!**  
The appliance must be levelled; otherwise its operation could be affected.



**ATTENTION!**  
Wait at least 2 hours before starting the appliance, to allow the oil to flow back in the compressor.



**NOTE:**  
The plug must be accessible even after the appliance is positioned in the place of installation.

- wear protective gloves and unpack the machine, carrying out the following operations:
  - cut the straps and remove the protective film, taking care not to scratch the surface if scissors or blades are used;
  - remove the cardboard top, the polystyrene corners and the vertical protection pieces.

For appliances with stainless steel cabinet, remove the protective film very slowly without tearing it, to avoid leaving glue stuck to the surface. Should this happen, remove the traces of glue with a non-corrosive solvent, rinsing it off and drying thoroughly; it is advisable to go over all the stainless steel surfaces with a rag soaked in paraffin oil in order to create a protective film.

#### B.2.3.1 Instructions for undercounters

The counters can be positioned in the place of installation with or without the top, according to the user's needs. When positioning the appliance under a worktop, for height requirements the top can be removed, proceeding as follows:

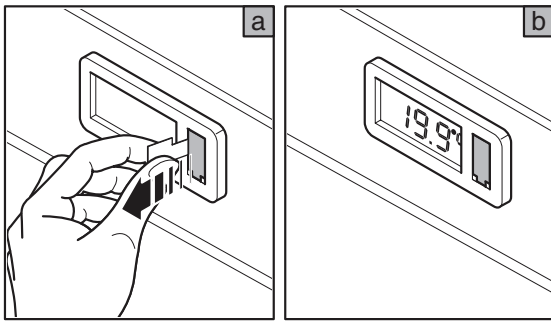
- undo the screws fixing the top to the appliance, located in the rear part;
- slide the top outwards a little to release it from the clips and remove it from its seat;
- then adjust the front and rear feet until the appliance is at the required height.

#### **NOTE:**

Freezer models already have an undercounter height, therefore the top cannot be removed.

The models with fully insulated door have a thermometer for displaying the inside temperature. To activate the thermometer for the first time, the transparent tab (a) must be removed; the display will then show the temperature (b)



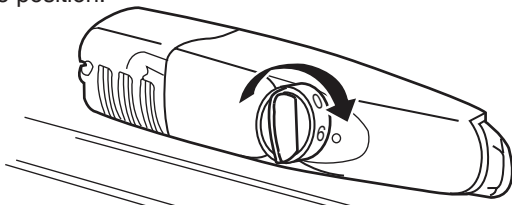


### - TEMPERATURE ADJUSTMENT AND INSIDE LIGHTING OF REFRIGERATED MODELS WITH FULLY INSULATED DOOR AND GLASS DOOR:

In these appliances the temperature is controlled automatically, but can be increased or decreased according to the user's needs. Adjustment is done with the knob on the thermostat located at the top right in the compartment. The choice of the most suitable temperature must take in account several factors:

- the room temperature where the appliance is used;
- the frequency of door opening;
- the amount of food stored;
- the position of the appliance with respect to the place where it is installed.

To modify the temperature, turn thermostat knob to "6", "1" or the middle position:



where:

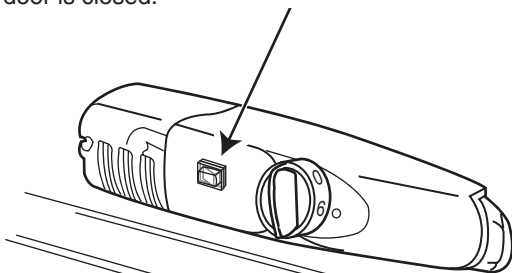
- "1" = highest inside temperature
- "6" = lowest inside temperature
- "0" = cooling deactivated / OFF

For particularly difficult operation conditions, with room temperatures above 32°C and high humidity, it is advisable to set the thermostat to positions 1 to 4.

In general, it is advisable to adjust the knob to the middle position.

#### NOTE:

On request, glass door models can be fitted with a switch located on the thermostat box, enabling the inside light to be left on even when the door is closed:



### B.2.4 DISPOSAL OF PACKING

The packing must be disposed of in compliance with the current regulations in the country where the appliance is used. All the packing materials are environmentally friendly. They can be safely kept, recycled or burnt in an appropriate waste incineration plant. Recyclable plastic parts are marked as follows:



**polyethylene:** outer wrapping, instruction booklet bag



**polypropylene:** straps



**polystyrene foam:** corner protectors

The parts in wood and cardboard can be disposed of, respecting the current regulations in the country where the machine is used.

### B.2.5 ELECTRICAL CONNECTION

Connection to the power supply must be carried out in compliance with the regulations and provisions in force in the country of use.



#### ATTENTION!

**Work on the electrical systems must only be carried out by a qualified electrician.**

Before carrying out any operation concerning the electrical connection, it is advisable to clean the compartment with lukewarm water and neutral soap or with products that are more than 90% biodegradable (in order to reduce the emission of pollutant substances into the environment), then rinse and **dry thoroughly**. Insert the plug in the socket **ONLY AFTER COMPLETING THE CLEANING OPERATIONS AND ENSURING THAT THE SURFACES ARE PERFECTLY DRY**.

**Note:** The plug must be accessible even after the appliance is positioned in the place of installation. **Also make sure it is not squashed by the appliance; in fact, a damaged power cable could overheat and catch fire or cause a short circuit.**

When making the electrical connection, carefully comply with that specified on the dataplate.

The appliance works on a single phase 220-240V 50Hz power supply.

To connect to the power supply, insert the power cable plug in the corresponding mains socket, **first making sure:**

- the socket has an efficient earth contact and the mains voltage and frequency match that given on the dataplate. In case of any doubts regarding the efficiency of the earth connection have the system checked by qualified personnel;
- the system power supply is arranged and able to take the actual current absorption and that it is correctly executed according to the regulations in force in the country of use;
- a differential thermal-magnetic switch suitable for the input specified on the dataplate, with contact gap enabling complete disconnection in category III overvoltage conditions and complying with the regulations in force, is installed between the power cable and the electric line. For the correct size of the switch, refer to the absorbed current specified on the appliance dataplate.
- after making the connection, with the machine working, check that the power supply voltage does not fluctuate by  $\pm 10\%$  the rated voltage.

**Note: If the power cable is damaged it must be replaced by the After-Sales Service or in any case by qualified personnel, in order prevent any risk.**

The connection must be made with a cable of suitable section. Insert and secure the cables with the special cable clamp. Correctly connect each wire to the corresponding terminal.

**The manufacturer declines any liability for damage or injury resulting from breach of the above rules or non-compliance with the electrical safety regulations in force in the country where the machine is used.**

### B.2.6 ELECTRICAL CONNECTION (ONLY FOR APPLIANCES WITH CABLE WITHOUT PLUG)

Connection to the power supply must be carried out in compliance with the regulations and provisions in force in the country of use.



#### ATTENTION!

**Work on the electrical systems must only be carried out by a qualified electrician.**

The information regarding the appliance power supply voltage is given on the dataplate.

Before connecting, make sure:

- the connection point has an efficient earth contact and the mains voltage and frequency match that given on the data plate. In case of doubts regarding the efficiency of the earth wire, have

- the system checked by qualified personnel;
- the system power supply is arranged and able to take the actual current absorption and that it is correctly executed according to the regulations in force in the country of use;
- the appliance must be permanently connected to the power supply, respecting the polarities:
  - brown: phase
  - yellow/green: earth
  - blue: neutral;
- a differential thermal-magnetic switch (or plug) suitable for the absorption specified on the data plate, with contact gap enabling complete disconnection in category III overvoltage conditions and complying with the regulations in force, is installed between the power cable and the electric line. For the correct sizing of the switch or plug, refer to the absorbed current specified on the appliance data plate. The chosen device must be lockable in the open position in case of maintenance.

**ATTENTION: When using a plug, it must comply with the national installation rules. The plug must also be:**

- accessible after the appliance has been positioned in the place of installation;
- in a position always visible to the operator performing the intervention during maintenance operations.
- After making the connection, with the appliance running check that the power supply does not fluctuate by  $\pm 10\%$  the rated voltage.



**ATTENTION!**

An H05VV-F power cable (designation 60227 IEC 53) is used for the permanent connection to the power supply; when replacing it, use a type having at least these characteristics.



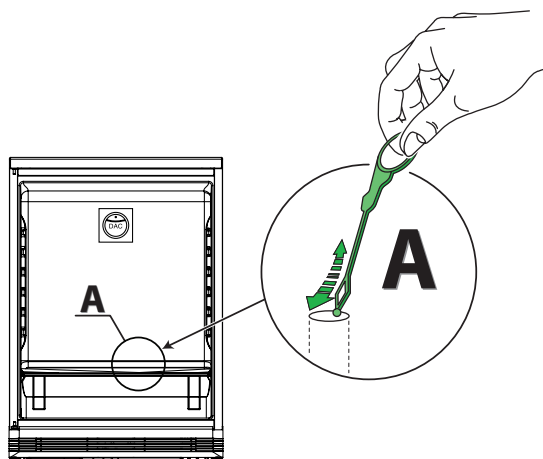
**ATTENTION!**

When replacing the cable, the earth wire must be kept longer than the live and neutral wires.

If the power cable is damaged, it must be replaced by the service centre or in any case by qualified personnel, in order prevent any risk. The manufacturer declines any liability for damage or injury resulting from breach of the above rules or non-compliance with the electrical safety regulations in force in the country where the machine is used.

### B.2.7 DEFROST IN REFRIGERATED MODELS (excluding freezer models)

Refrigerated appliances have an automatic defrost device. The defrost water is run into a tray located above the compressor and made to evaporate automatically. **Periodically clean the defrost water drain hole by means of the swab provided for the purpose, removing it from its seat whenever the cavity is clogged (see figure below)**



**ATTENTION!**

**Do not use spray products for defrosting; in fact, they can be harmful to the health and/or damage the materials the appliance is made from.**

### B.2.8 LOADING FOOD (for all models)

Distribute the product evenly inside the compartment (away from the door and back) in order to allow good air circulation. In refrigerated models the racks can be placed in different positions thanks to the guides on the compartment walls. Pay particular when pulling out baskets in freezer models, because the runners do not have stops and the baskets could come out completely and drop.

Cover or wrap food before placing it in the refrigerator and avoid putting very hot foods or steaming liquids inside. Do not leave the door open any longer than necessary when loading or removing food.

It is advisable to keep the keys in a place only accessible to authorised personnel. To prevent unauthorised personnel from using the appliance, it is advisable to always close it with the key. Regarding the max. load for each shelf, respect that given in the table below:

SHELF MAX. LOAD	
"V160" FREEZER/ REFRIGERATED COUNTER/ UNDERCOUNTER	<b>10 kg</b>

Regarding the max. load for each basket, respect that given in the table below:

BASKET MAX. LOAD	
"V160" FREEZER COUNTER/ UNDERCOUNTER	<b>10 kg</b>



### SUGGESTIONS FOR REFRIGERATED MODELS

- Meat (all types):** wrap in plastic bags and place preferably on the bottom shelf. **In this position it can be kept for only one or two days.**
- Cooked food, cold dishes, etc.:** cover well and place on any shelf.
- Butter and cheese:** wrap in plastic or aluminium foil to avoid contact with air; place on any shelf.
- Do not store bananas, potatoes, onions and garlic in the refrigerator if not packaged.**

## C.1 DOOR REVERSIBILITY

These appliances are normally supplied with right door opening. To change to left opening, refer to the service manual.


## C.2 TEMPERATURE CONTROLLER USE (for freezer models only)

### C.2.1 TEMPERATURE CONTROLLER DISPLAY

The temperature controller has a 3-digit electronic display for showing the temperature measured by the probe, and several **ICONS** (see fig.2 and par. C.2.4).

### C.2.2 BUTTONS

The temperature controller has 4 buttons for control and programming the instrument.

- Multifunction **“ON/OFF”** and **“UP”** button  for switching the appliance on and off and increasing the values.


- **“DOWN”** button  for decreasing the values.


- **“Prg/mute”** button  for silencing the alarm buzzer.


- **“SET”** button  for accessing the Set point.

### C.2.3 SWITCHING ON AND TEMPERATURE ADJUSTMENT



When switched on, the instrument performs a Lamp Test, i.e. for a few seconds the display and Icons flash, verifying its correct functioning. If the instrument displays the compartment temperature when switched on, the appliance is already on; if

**“OFF”** is displayed, press the button  for a few seconds to activate the appliance; the display shows the message **“ON”** and then the compartment temperature.

To switch the appliance off, press the button  for a few seconds; the message **“OFF”** appears on the display. To **SET** the compartment temperature, proceed as follows:

- press the button  for a few seconds and the **SET POINT** value appears on the display.

- To change the **SET** value, press the increase value button

 or the decrease value button 



. If no button is pressed for 60 seconds (**“TIME OUT”**), or by pressing the **“SET”** button once, the temperature controller memorises the last set value and the normal display is restored.

The temperature range is set from a minimum to a maximum value. Refer to par. A.2.2 for details on temperatures.

### C.2.4 TEMPERATURE CONTROLLER SIGNALLING ICONS


The temperature controller has several signalling **ICONS** that indicate:

- **Icon**  lit up indicates compressor activation.

- **Icon**  indicates that a temperature alarm has occurred during appliance operation.
- **Icon**  indicates that a service alarm has occurred during appliance operation.

### C.2.5 SIGNALLING AND ALARMS


#### C.2.5.1 Service alarms and signalling

The alarm is signalled by lighting up of the **Icon** ; Alarm signalling is also indicated by the alarm code appearing on the display.

Example: alarm signalling due to a faulty probe (compartment probe) appears directly on the instrument display with the indication **“EO”** and **“rE”** flashing alternately.

When the alarm condition ceases, the alarm goes off. Otherwise, contact the After-Sales Service.

#### C.2.5.2 Temperature alarms and signalling

The alarm is signalled by lighting up of the **Icon** ; Alarm signalling is also indicated by the alarm code appearing on the display.

Temperature alarm signalling, regarding the thermostating probe, appears directly on the instrument display with the indication **“HI”** (max. temperature alarm) and **“LO”** (min. temperature alarm).

### C.2.6 DEFROST FOR FREEZER MODELS (with evaporating grilles)

Manual defrost must be carried out for these models when the layer of frost is more than approx. 5 mm thick. To defrost, carry out these instructions:

- remove any load present in the compartment and put it in another available freezer unit;
- position the water tray (supplied) on the bottom of the compartment;
- switch off the appliance with the **“ON/OFF”** button;
- unplug the appliance;
- open the door and wait until all the ice on the evaporating grilles has melted and the water has run into the tray;
- empty the tray (several times if necessary);
- reconnect the power by plugging in the appliance;
- switch the appliance on with the **“ON/OFF”** button;
- wait for the compartment temperature to reach that required (according to the setting);
- put back the load previously removed.

## C.3 GENERAL SAFETY RULES

### C.3.1 INTRODUCTION

The machines are provided with electric and/or mechanical safety devices for protecting workers and the machine itself. Therefore the user must not remove or tamper with such devices.

The Manufacturer declines any liability for damage due to tampering or their non-use.

### C.3.2 PROTECTION DEVICES INSTALLED ON THE MACHINE

#### C.3.2.1 Guards

The guards on the machine are:

- fixed guards (e.g. casings, covers, side panels, etc.), fixed to the machine and/or frame with screws or quick-release connectors that can only be removed or opened with tools;
- interlocked movable guards (front panels) for access inside the machine;
- machine electrical equipment access doors, made from hinged panels openable with tools. The door must not be opened when the machine is connected to the power supply.







#### ATTENTION!

Several illustrations in the manual show the machine, or parts of it, without guards or with guards removed. This is purely for explanatory purposes. Do not use the machine without the guards or with the protection devices deactivated.



### C.3.3 SAFETY SIGNS TO BE PLACED ON THE MACHINE OR NEAR ITS AREA

PROHIBITION	MEANING
	Do not remove the safety devices.
	Do not use water to extinguish fires (shown on electrical parts).

DANGER	MEANING
	DANGER OF BURNS.
	DANGER OF ELECTROCUTION (shown on electrical parts with indication of voltage).



#### ATTENTION!

Do not remove, tamper with or make illegible the safety, danger and instruction signs and labels on the machine.

### C.3.4 END OF USE

When the appliance is no longer to be used, make it unusable by removing the power supply wiring.

### C.3.5 INSTRUCTIONS FOR USE AND MAINTENANCE

Risks mainly of a mechanical, thermal and electrical nature are present in the machine.

Where possible the risks have been neutralised:

- directly, by means of adequate design solutions,
- indirectly by using guards, protection and safety devices.

Any anomalous situations are signalled on the control panel display.

During maintenance several risks remain, as these could not be eliminated, and must be neutralised by adopting specific measures and precautions.

Do not carry out any checking, cleaning, repair or maintenance operations on moving parts.

Workers must be informed of the prohibition by means of clearly visible signs. To guarantee machine efficiency and correct operation, periodical maintenance must be carried out according to the instructions given in this manual. In particular, make sure to periodically check correct operation of all the safety devices and the insulation of electrical cables, which must be replaced if damaged.



#### ATTENTION!

Machine maintenance operations must only be carried out by specialised Technicians provided with all the appropriate personal protection equipment (safety shoes, gloves, glasses, overalls, etc.), tools, utensils and ancillary means.



#### ATTENTION!

Never operate the machine, removing, modifying or tampering with the guards, protection or safety devices.



#### ATTENTION!

Before carrying out any operation on the machine, always consult the manual which gives the correct procedures and contains important information on safety.

### C.3.6 REASONABLY FORESEEABLE IMPROPER USE

Improper use is any use different from that specified in this manual. During machine operation, other types of work or activities deemed improper and that in general can involve risks for the safety of operators and damage to the appliance are not allowed.

Reasonably foreseeable improper use includes:

- lack of machine maintenance, cleaning and periodical checks;
- structural changes or modifications to the operating logic;
- tampering with the guards or safety devices;
- failure to use personal protection equipment by operators, specialised technicians and maintenance personnel;
- failure to use suitable accessories (e.g. use of unsuitable equipment or ladders);
- keeping combustible or flammable materials, or in any case materials not compatible with or pertinent to the work, near the machine;
- wrong machine installation;
- placing in the machine any objects or things not compatible with refrigeration, freezing or preservation, or that can damage the machine, cause injury or pollute the environment;
- climbing on the machine;
- non-compliance with the requirements for correct machine use;
- other actions that give rise to risks not eliminable by the Manufacturer.



#### ATTENTION!

The previously described actions are prohibited!

### C.3.7 RESIDUAL RISKS

The machine has several risks that were not completely eliminated from a design standpoint or with the installation of adequate protection devices.

Nevertheless, through this manual the Manufacturer has taken steps to inform operators of such risks, carefully indicating the personal protection equipment to be used by them.

Sufficient spaces are provided for during the machine installation stages in order to limit these risks.

To preserve these conditions, the areas around the machine must always be:

- kept free of obstacles (e.g. ladders, tools, containers, boxes, etc.);
- clean and dry;
- well lit.

For the Customer's complete information, the residual risks remaining on the machine are indicated below: such actions are to be considered incorrect and therefore strictly forbidden.

RESIDUAL RISK	DESCRIPTION OF HAZARDOUS SITUATION
Slipping or falling	The operator can slip due to water or dirt on the floor.
Burns/ abrasions (e.g. heating elements, cold tray, cooling circuit plates and pipes)	The operator deliberately or unintentionally touches some components inside the machine without using protective gloves. The operator can come into contact with the compressor delivery pipe, T>60°C.
Electrocution	Contact with live parts during maintenance operations carried out with the electrical panel powered.
Falling from above	The operator works on the machine using unsuitable systems to access the upper part (e.g. rung ladders, or climbs on it).
Crushing or injury	The specialised Technician may not correctly fix the control panel when accessing the technical compartment. The panel could close suddenly.
Tipping of loads	When handling the machine or the packing containing it, using unsuitable lifting systems or accessories or with the load unbalanced.
Chemical (refrigerant gas)	Inhalation of refrigerant gas. Therefore always refer to the appliance labels.

## C.4 NORMAL MACHINE USE

### C.4.1 CHARACTERISTICS OF PERSONNEL TRAINED FOR NORMAL MACHINE USE

The Customer must make sure the personnel for normal machine use are adequately trained and skilled in their duties, as well as ensuring their own safety and that of other persons.

The Customer must make sure his personnel have understood the instructions received and in particular those regarding work hygiene and safety in use of the machine.

### C.4.2 CHARACTERISTICS OF PERSONNEL ENABLED TO OPERATE ON THE MACHINE

The Customer is responsible for ensuring that persons assigned to the various duties:

- read and understand the manual;
- receive adequate training and instruction for their duties in order to perform them safely;
- receive specific training for correct machine use.

### C.4.3 OPERATOR FOR NORMAL MACHINE USE

He must have at least:

- knowledge of the technology and specific experience in operating the machine;
- adequate general basic education and technical knowledge for reading and understanding the contents of the manual;
- including correct interpretation of the drawings, signs and pictograms;
- sufficient technical knowledge for safely performing his duties as specified in the manual;
- knowledge of the regulations on work hygiene and safety.

In case of a significant fault (e.g. short circuits, wires coming out of the terminal block, motor breakdowns, worn electrical cable sheathing, etc.) the operator for normal machine use must:

- immediately deactivate the machine.

## D.1 MACHINE CLEANING AND MAINTENANCE



#### ATTENTION!

Before carrying out any cleaning or maintenance operation, disconnect the appliance from the power supply and carefully unplug it.



#### ATTENTION!

During maintenance, the cable and plug must be kept in a visible position by the operator carrying out the work.



#### ATTENTION!

Do not touch the appliance with wet hands or feet or when barefoot. Do not remove the safety guards.



#### ATTENTION!

Use suitable personal protection equipment (protective gloves).



#### ATTENTION!

Use a ladder with suitable protection for work on appliances with high accessibility.

### D.1.1 ROUTINE MAINTENANCE



#### ATTENTION!

Disconnect the power supply before cleaning the appliance.

#### D.1.1.1 Precautions for maintenance

Routine maintenance operations can be carried out by non-specialised personnel, carefully following the instructions given below. **The manufacturer declines any liability for operations carried out on the machine without following these instructions.**

#### D.1.1.2 Cleaning the cabinet and accessories

Clean the stainless steel parts every day with lukewarm water and neutral soap or products that are over 90% biodegradable (in order to reduce the emission of pollutants into the environment), then rinse and dry thoroughly. It is advisable to go over these areas with a rag soaked in paraffin oil in order to create a protective film. Do not clean the cabinet and shelves with solvent-based detergents (e.g. trichloro-ethylene), abrasive powders or agents, scouring pads or sponges that could damage the surfaces. Do not use spray products for defrosting; in fact, they can be harmful to the health and/or damage the materials the appliance is made from. Check the power cable regularly and replace it in case of signs of wear.

Have the appliance checked periodically (at least once a year).



#### ATTENTION!

Do not clean the machine with jets of water.



#### ATTENTION!

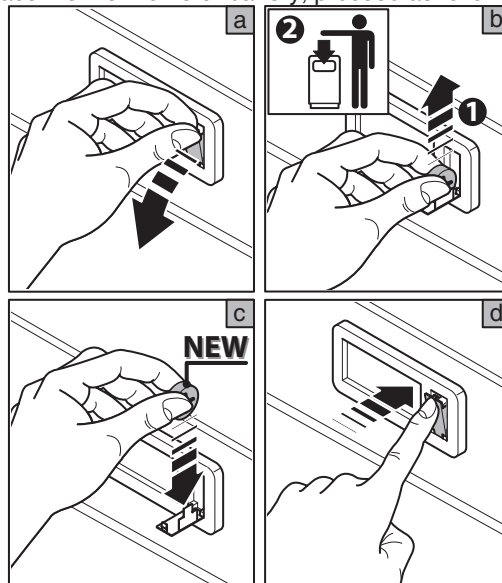
Do not use steel wool or similar material to clean stainless steel surfaces. Do not use detergents containing chlorine, solvent-based detergents (e.g. trichloro-ethylene) or abrasive powders.

#### D.1.1.3 Compartment cleaning

In refrigerated models the racks can be removed for thorough compartment cleaning (remove them before starting cleaning); to remove, just pull them out (proceed in reverse order to refit). Clean the compartment with products that are over 90% biodegradable, then rinse and dry thoroughly.

#### D.1.1.4 Thermometer battery replacement

To replace the thermometer battery, proceed as follows:



### D.1.2 PRECAUTIONS IN CASE OF LONG IDLE PERIODS

If the appliance is not going to be used for some time, take the following precautions:

- unplug it;
- remove all food from the compartment and clean the inside and accessories;
- leave the door ajar so that air can circulate inside, preventing the formation of unpleasant odours;
- air the premises periodically.



#### ATTENTION!

Machine maintenance, checking and overhaul operations must only be carried out by a specialised Technician or the After-Sales Service, provided with adequate personal protection equipment (safety shoes and gloves), tools and ancillary means.

**ATTENTION!**

**Work on the electrical equipment must only be carried out by a specialised electrician or the After-Sales Service.**

**ATTENTION!**

**Put the machine in safe conditions before starting any maintenance operation.**

After carrying out maintenance make sure the machine is able to work safely and, in particular, that the protection and safety devices are efficient.

**ATTENTION!**

**Respect the requirements for the various routine and extraordinary maintenance operations. Non-compliance with the instructions can create risks for personnel.**

**D.1.3 QUICK TROUBLESHOOTING GUIDE**

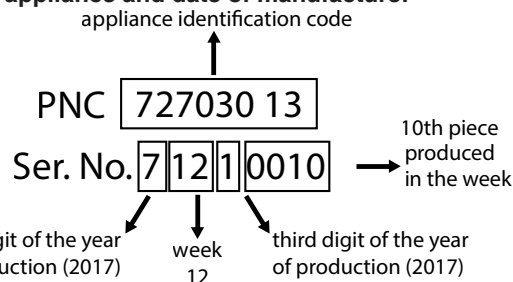
In some cases, faults can be eliminated easily and quickly; the following is a list of possible problems with solutions:

- A. The appliance does not switch on:**
- make sure the plug is properly inserted in power socket.
  - make sure the socket is powered.
- B. The inside temperature is too high:**
- check that the DAC fan is switched on and running.
  - check the thermostat setting;
  - make sure there is no heat source near the appliance;
  - make sure the door closes properly;
  - make sure the product is correctly loaded.
- C. The appliance is too noisy:**
- make sure the appliance is properly levelled. An unbalanced position can set off vibrations.
  - make sure the appliance is not touching other appliances or parts which could reverberate.

If the fault persists after carrying out the above checks, contact the After-Sales Service, remembering to give the following details:

- the type of fault;
- the appliance PNC (production number code);
- the Ser. No. (appliance serial number).

**Note: The code and serial number are essential for identifying the type of appliance and date of manufacture:**

**D.1.4 EXTRAORDINARY MAINTENANCE****ATTENTION!**

**WEAR PROTECTIVE GLOVES AND A MASK WHEN CARRYING OUT ANY EXTRAORDINARY MAINTENANCE OPERATIONS.**

**Extraordinary maintenance must be carried out by specialised personnel, who can ask the manufacturer to supply a servicing manual.**

**D.1.4.1 Periodical condenser cleaning**

Periodical cleaning of the equipment depends on the frequency of its use.



**PAY ATTENTION TO THE ELECTRICAL CABLES!**

The condenser is located in the roof of the machine. The condenser must be cleaned periodically to ensure efficient

operation of the appliance over time. It is advisable to carefully clean the refrigerating unit condenser openings at least once a month if in dusty places, or once every three months if in closed and clean places. To remove dirt use a brush, provided the bristles are not in steel or a material that can compromise operation, and a vacuum cleaner or a small brush to remove dust. Do not use sharp objects, which could damage the condenser.

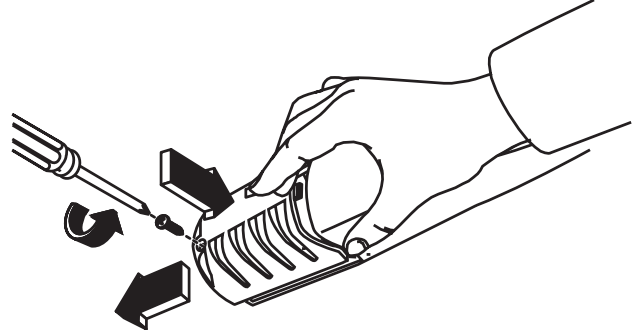
**ATTENTION!**

**Do not clean the appliance with jets of water.**

**D.1.4.2 Lamp replacement-**

To replace the inside lamp, proceed as follows:

- disconnect the power supply;
- undo the lamp cover fixing screw;
- unhook the movable part by pressing it as shown in the figure



- replace the lamp with one of equal power;
- refit the movable part;
- retighten the lamp cover fixing screw;
- reconnect the power supply.

**D.1.4.3 Maintenance intervals**

The inspection and maintenance intervals depend on the actual machine operation conditions and ambient conditions (presence of dust, damp, etc.), therefore precise time intervals cannot be given. In any case, to minimise interruptions of the service, careful and periodical machine maintenance is advisable.

It is advisable to carry out the checks with the frequency given in the following table:

MAINTENANCE, INSPECTIONS, CHECKS AND CLEANING	FREQUENCY
<b>Routine cleaning</b> General cleaning of machine and surrounding area	<b>Daily</b>
<b>Mechanical protection devices</b> Check condition, and for any deformation, loosening or removed parts.	<b>Monthly</b>
<b>Control</b> Check mechanical part, for any breakage or deformation, tightening of screws. Check readability and condition of words, stickers and symbols and restore if necessary.	<b>Yearly</b>
<b>Machine structure</b> Tightening of main bolts (screws, fixing systems, etc.) of machine.	<b>Yearly</b>
<b>Safety signs</b> Check readability and condition of safety signs.	<b>Yearly</b>
<b>Electrical control panel</b> Check electrical components installed inside the Electrical Control Panel. Check wiring between the Electrical Panel and machine parts.	<b>Yearly</b>

<b>Electrical connection cable and plug</b> Check connection cable (replace it if necessary) and plug.	<b>Yearly</b>
<b>Extraordinary machine maintenance</b> Check all components, electrical equipment, corrosion, pipes, .....	<b>Every 10 years (*)</b>

(\*) the machine is designed and built for a duration of about 10 years. After this period of time (from machine commissioning) the machine must undergo a general inspection and overhaul.



**ATTENTION!**  
It is advisable to stipulate a preventive and scheduled maintenance contract with the after-sales service.



**ATTENTION!**  
Machine maintenance, checking and overhaul operations must only be carried out by a specialised Technician or the After-Sales Service, provided with adequate personal protection equipment (safety shoes and gloves), tools and ancillary means.



**ATTENTION!**  
Work on the electrical equipment must only be carried out by a specialised electrician or the After-Sales Service.

## D.2 MACHINE DISPOSAL



**ATTENTION!**  
DISMANTLING OPERATIONS MUST BE CARRIED OUT BY QUALIFIED PERSONNEL.



**ATTENTION!**  
WORK ON THE ELECTRICAL EQUIPMENT MUST ONLY BE CARRIED OUT BY A QUALIFIED ELECTRICIAN, WITH THE POWER SUPPLY DISCONNECTED.

### D.2.1 WASTE STORAGE


At the end of the product's life-cycle, make sure it is not dispersed in the environment. Remove the door before disposing of the appliance.

Special waste materials can be stored temporarily while awaiting treatment for disposal and/or permanent storage. In any case, the current environmental protection laws in the country of use must be observed.

### D.2.2 PROCEDURE REGARDING APPLIANCE DISMANTLING MACRO OPERATIONS

Before disposing of the machine, make sure to carefully check its physical condition, and in particular any parts of the structure that can give or break during scrapping. The machine's parts must be disposed of in a differentiated way, according to their different characteristics (e.g. metals, oils, greases, plastic, rubber, etc.). Different regulations are in force in the various countries, therefore comply with the provisions of the laws and competent bodies in the country where scrapping takes place.

In general, the appliance must be taken to a specialised collection/scrapping centre. Dismantle the appliance, grouping the components according to their chemical characteristics, remembering that the compressor contains lubricant oil and refrigerant fluid which can be recycled, and that the refrigerator components are special waste assimilable with urban waste.

The symbol  placed on the product indicates that it should **not** be considered as domestic waste, but must be correctly disposed of in order to prevent any negative consequences for the environment and the health of people.

For further information on the recycling of this product, contact the local dealer or agent, the after-sales assistance service or

the local body responsible for waste disposal.



**ATTENTION!**  
Make the appliance unusable by removing the power cable and any compartment closing devices, to prevent the possibility of someone becoming trapped inside.



**ATTENTION!**  
When scrapping the machine, the "CE" marking, this manual and other documents concerning the machine must be destroyed.

## D.3 ENCLOSED DOCUMENTS

- Set of test and inspection documents
- Wiring diagram
- Installation diagram