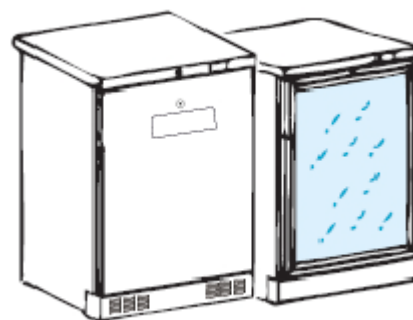


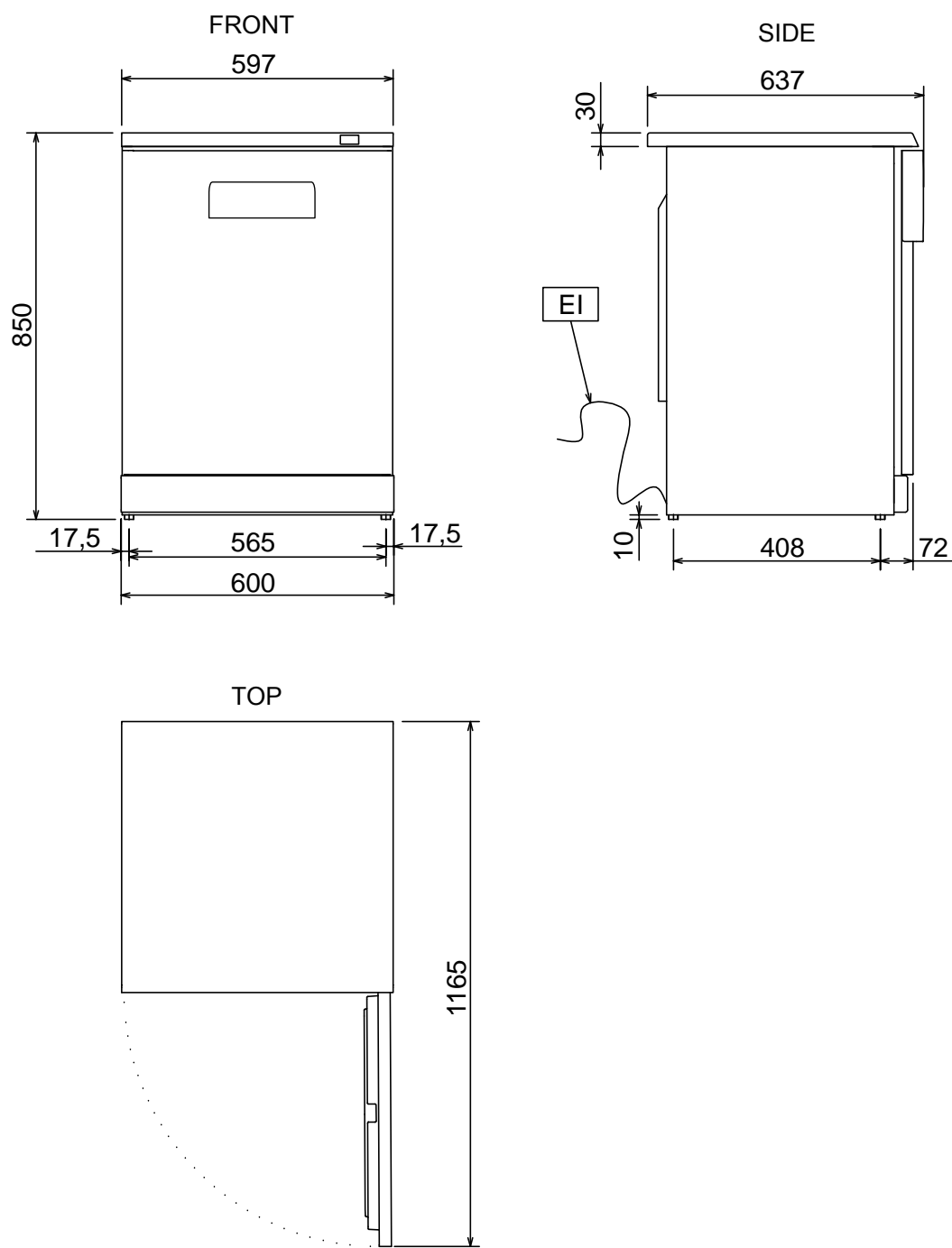
Counters/Undercounters

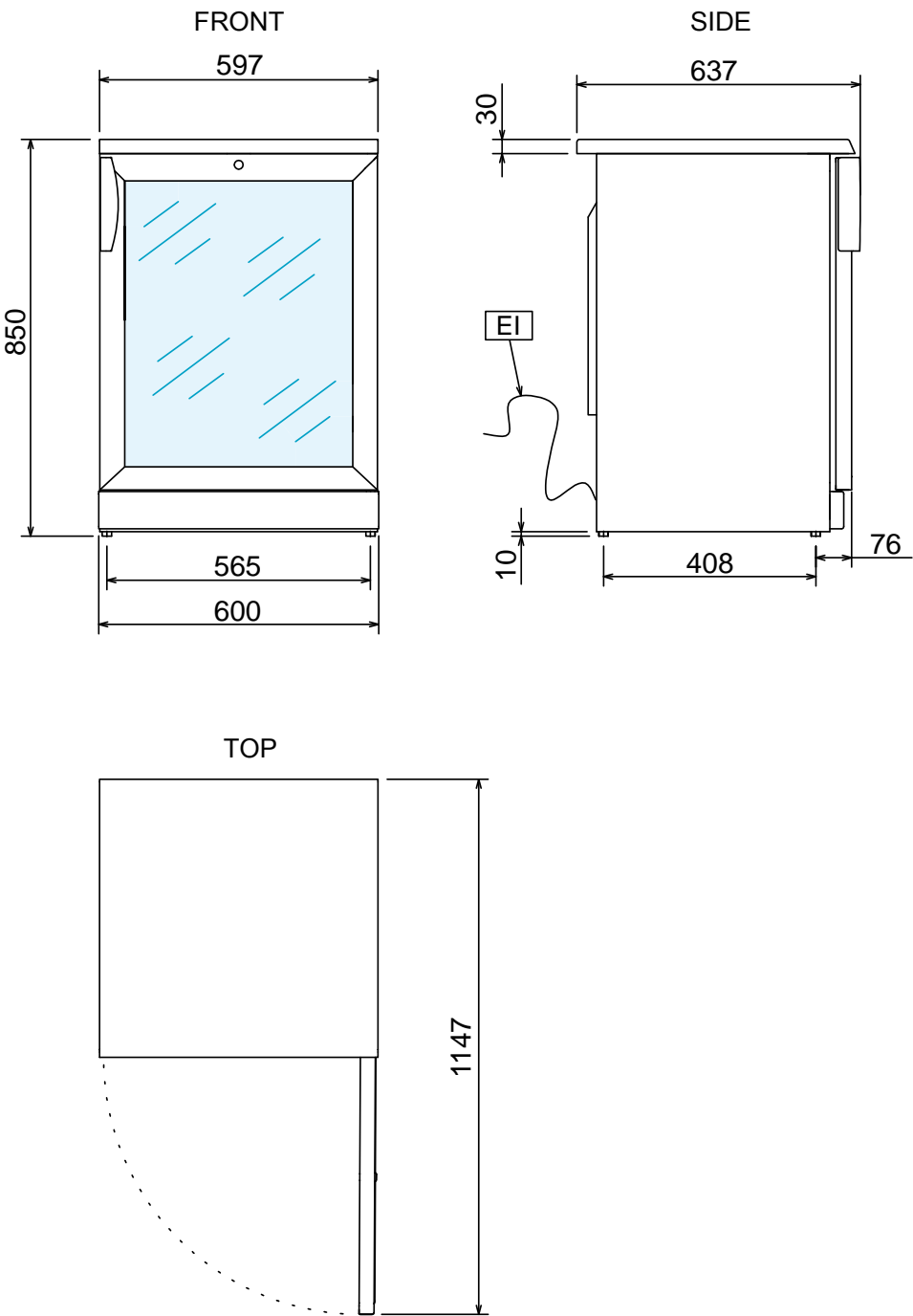
V160Line



EN Installation and operating manual *







FRONT = FRONT VIEW
SIDE = SIDE VIEW

TOP = TOP VIEW
EI = POWER CABLE

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” 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 people. Make sure to periodically inform the 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 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 people, animals and property.



IMPORTANT

- The manufacturer declines any liability for operations carried out on the appliance without respecting the instructions given in this manual.
- The manufacturer reserves the right to modify the appliances presented in this publication without notice.
- No part of this manual may be reproduced.
- This manual is available in digital format by:
 - contacting the dealer or reference customer care;
 - downloading the latest and up to date manual on the web site;
- The manual must always be kept in an easily accessed place near the machine. Machine operators and maintenance personnel must be able to easily find and consult it at any time.

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A WARNING AND SAFETY INFORMATION

A.1 General information

To ensure safe use of the machine and a proper understanding of the manual it is necessary to be familiar with 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:



WARNING

Danger for the health and safety of operators.



WARNING

Danger of electrocution - dangerous voltage.



CAUTION

Risk of damage to the machine or the product.



IMPORTANT

Important instructions or information on the product



Read the instructions before using the appliance








NOTE!

Clarifications and explanations

- Only specialised personnel are authorised to operate on the machine.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
 - Do not let children play with the appliance.
 - Keep all packaging and detergents away from children.
 - Cleaning and user maintenance shall not be made by children without supervision.
- Do not store explosive substances, such as pressurized containers with flammable propellant, in this appliance
- Do not remove, tamper with or make the machine marking illegible.
- When scrapping the machine, the marking must be destroyed.
- Save these instructions carefully for further consultation by the various operators.

A.2 Personal protection equipment

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 	Safety helmet 
Transport	—	●	○	—	○
Handling	—	●	○	—	—
Unpacking	—	●	○	—	—
Installation	—	●	○	—	—
Normal use	●	●	● ¹	—	—
Adjustments	○	●	—	—	—
Routine cleaning	○	●	● ¹	○	—
Extraordinary cleaning	○	●	●	○	—
Maintenance	○	●	○	—	—
Dismantling	○	●	○	○	—
Scrapping	○	●	○	○	—
Key:					
●	PPE REQUIRED				
○	PPE AVAILABLE OR TO BE USED IF NECESSARY				
—	PPE NOT REQUIRED				

1. 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 personnel or users can involve exposure to chemical risk and possible damage to health (depending on the model).

A.3 General safety

- 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.
- Never operate the machine, removing, modifying or tampering with the guards, protection or safety devices.
- Do not make any modifications to the parts supplied with the appliance.
- 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.



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



A.4 General safety rules

Protection devices installed on the machine

- 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 (door) 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.

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 (placed on electrical parts)

Danger	Meaning
	danger of burns
	danger of electrocution (shown on electrical parts with indication of voltage)

End of use

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

Instructions for use and maintenance

- Risks mainly of a mechanical, thermal and electrical nature exist 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 this 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.
- Make sure to periodically check correct operation of all the safety devices and the insulation of electrical cables, which must be replaced if damaged.
- Repair and extraordinary Maintenance have to be carried out by specialised authorised personnel provided with all the appropriate personal protection equipment, tools, utensils and ancillary means.
- Never operate the machine, removing, modifying or tampering with the guards, protection or safety devices.

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 personnel 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 its use, 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.

The previously described actions are prohibited!

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 deemed improper 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 pan, cooling circuit plates and pipes)	The operator deliberately or unintentionally touches some components inside the machine without using protective gloves
Electrocution	Contact with live parts during maintenance operations carried out with the electrical panel powered
Falling from above	The operator intervenes on the machine using unsuitable systems to access the upper part (e.g. rung ladders, or climbs on it)
Tipping of loads	When handling the machine or the packing containing it, using unsuitable lifting systems or accessories or with the unbalanced load
Chemical (refrigerant gas)	Inhalation of refrigerant gas. Therefore always refer to the appliance labels



IMPORTANT

In case of a significant anomaly (e.g. short circuits, wires coming out of the terminal block, motor breakdowns, worn electrical cable sheathing, etc.) the operator must immediately deactivate the machine.

A.5 Technical data

Materials and fluids used

- R290 and R600a gas are potentially flammable and explosive! Take every possible precaution to prevent any risk linked to the nature of this gas during any routine and/or extraordinary operation carried out on the appliance.

Performance

Equivalent sound pressure level Leq dB(A) ¹	<70
---	-----

1. The noise emission values have been obtained according to EN ISO 11204. The value could increase depending on the workplace where measured.

Climatic Class

The climatic class given on the data plate 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)

A.6 Transport, handling and storage

- 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.
- 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.
- Do not stand under suspended loads during loading or unloading operations. Unauthorized personnel must not enter the work area.

- The weight of the appliance alone is not sufficient to keep it steady.
- For machine lifting and anchoring, do not use movable or weak parts such as: casings, electrical raceways, pneumatic parts, etc.
- Do not push or pull the machine to move it, as it may tip over. Use proper tool to lift the machine.
- Arrange a suitable area with flat floor for machine unloading and storage operations.
- Machine transport, handling and storage personnel must be adequately instructed and trained regarding the safely use of lifting systems and personal protection equipment suitable for the type of operation carried out.

A.7 Installation and assembly

Introduction

- Machine installation and assembly 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, with adequate enclosure of the assembly area to keep out unauthorised persons.
- The operations described must be carried out in compliance with the current safety regulations, regarding the equipment used and the operating procedures.
- Disconnect the appliance from the power supply before carrying out any installation procedure.

Electrical connection

- Work on the electrical systems must only be carried out by a specialised personnel.
- Connection to the power supply must be carried out in compliance with the regulations and provisions in force in the country of use.
- The information regarding the appliance power supply voltage is given on the dataplate.
- 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 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.

- After making the connection, with the appliance running check that the power supply does not fluctuate by $\pm 10\%$ the rated voltage.
- If the power cable is damaged, it must be replaced by the Customer Care Service or in any case by specialised 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.

Electrical connection for appliances with plug

- 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 specialised 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 plug must be accessible after positioning the appliance in the place of installation;
- The plug must be in a position always visible to the operator performing the intervention during maintenance operations;

Electrical connection for appliances with cable without plug

- 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 specialised personnel;
- the appliance must be permanently connected to the power supply, respecting the polarities:
 - brown/black/gray: phase
 - yellow/green: earth
 - blue: neutral;
- An H05VV-F type power cable (code 60227 IEC 53) is used for the permanent connection to the mains; in case of replacement, use a type with at least these characteristics. When replacing the cable, the earth wire must be kept longer than the live and neutral wires.
- The differential thermal-magnetic switch must be lockable in the open position in case of maintenance.
- If 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;

Positioning

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



WARNING

- Keep the ventilation openings in the appliance casing free of any obstructions.

A.8 Product loading and unloading



WARNING

- Do not use mechanical devices or other means to speed up the defrost process, unless recommended by the manufacturer.
- Do not damage the circuit.
- Do not use electrical appliances inside the appliance compartments for storing frozen food, unless such equipment is recommended by the manufacturer.
- Regarding the maximum load for each shelf, respect that given in the table below:

SHELF MAXIMUM LOAD	10 KG
--------------------	-------

A.9 Machine cleaning and maintenance

- Before carrying out any cleaning or maintenance, disconnect the appliance from the power supply. For details see the Electrical Connection paragraph.
- Do not touch the appliance with wet hands or feet or when barefoot.
- Do not remove the safety guards.
- Use a ladder with suitable protection for work on appliances with high accessibility.
- Use suitable personal protection equipment (protective gloves).

Ordinary maintenance

- Disconnect the power supply before cleaning the appliance.
For details see the Electrical Connection paragraph.

- Do not clean the machine with jets of water.

Precaution in case of long periods

- Machine maintenance, checking and overhaul operations must only be carried out by specialised personnel or the Customer Care Service, provided with adequate personal protection equipment, tools and ancillary means.
- Work on the electrical equipment must only be carried out by specialised personnel or the Customer Care Service.
- Put the machine in safe conditions before starting any maintenance operation.
- Respect the requirements for the various routine and extraordinary maintenance operations. Non-compliance with the instructions can create risks for personnel.

Preventive Maintenance

- Preventive Maintenance reduces downtime and maximizes machines efficiency. Customer Care Service can provide advice on the best maintenance plan to be purchased based on the intensity of use and the age of the equipment.

Repair and extraordinary maintenance

- Repair and extraordinary Maintenance have to be carried out by specialised authorised personnel. The manufacturer declines any liability for any failure or damage caused by the intervention of an unauthorized technician by the Manufacturer and the original manufacturer warranty will be invalidated.

Parts and accessories

- Use only original accessories and/or spare parts. Failure to use original accessories and/or spare parts will invalidate the original manufacturer warranty and may render the machine not compliant with the safety standard.

A.10 Machine disposal

- Dismantling operations must be carried out by specialised personnel.
- Work on the electrical equipment must only be carried out by specialised personnel, with the power supply disconnected.
- Make the appliance unusable by removing the power cable and any compartment closing devices, to prevent the possibility of someone becoming trapped inside.

B APPLIANCE AND MANUFACTURER'S IDENTIFICATION DATA

An example of the marking or data plate on the machine is given below:

F.Mod. xxxxxxxx	Comm.Mod.	V160TN	2018
PNC xxxxxxxx	Ser.Nr. xxxxxxxx	Cyclopentane	
W Tot. xxx kW	Volt xxx	xxHz	Total Current xx A
Potenza Sbrinatorio / Defrost Power	x kW	Classe / Class x	GWP xxxxx CO2-eq xxx t
Resistenza Evaporazione / Evaporation Heater El.	x kW	Refrigerante / Refrigerant xxxxx	xxxx Kg
Illuminazione / Lighting	x W	Cap. xxx	
IP23			
Electrolux Professional SPA - Viale Treviso, 15 - 33170 Pordenone (Italy)			
CE			

The dataplate gives the product identification and technical data.

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

F.Mod.	factory description of product
Comm.Model	commercial description
V160TNHC	certification group
PNC	production number code
Ser.Nr.	serial number
V	power supply voltage
Hz	power supply frequency
kW	max. power input
Cyclopentane	expanding gas used in insulation
Total Current	current absorbed
Defrost Power	defrost power
Evaporation Heater El.	heating element power
Lighting	inside light power

Class	climatic class
GWP	global warming potential
CO2 eq	quantity of greenhouse gases
Refrigerant	type of refrigerant gas
Cap.	nominal capacity
IP23	dust and water protection rating
CE	CE marking
Electrolux Professional SPA	manufacturer
Viale Treviso 15	
33170 Pordenone	
Italy	

* Description of certification group (Type)

V	Vertical refrigerator
160	Range (160LT)
TN – BT	Temperature range (*) TN = refrigerated BT = freezer
HC	Refrigerant type (*) R290 R600a

(*) depending on the model



NOTE!

Refer to the data given on the machine's dataplate for relations with the Manufacturer (e.g. when ordering spare parts, etc.).

C GENERAL INFORMATION



WARNING

Refer to “Warning and Safety Information”.

C.1 Introduction

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

C.2 Additional indications

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 in millimeters and/or inches.

C.3 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.



CAUTION

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



NOTE!

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

C.4 Testing and inspection

Our appliances have been designed and optimized, 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.

C.5 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.

C.6 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.

C.7 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 personnel - Customer Care service (see service manual).

C.8 Definitions

Listed below are the definitions of the main terms used in the manual. It is advisable to read them carefully before use.

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.
Customer Care service or specialised personnel	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 etc.
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 risks.
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.

C.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 original manufacturer warranty);
- operations carried out by non-specialised personnel;
- unauthorized modifications or operations;
- missing, lack or 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 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.

D TRANSPORT, HANDLING AND STORAGE



WARNING

Refer to “*Warning and Safety Information*”.

D.1 Handling



CAUTION

The appliances must be handled in the upright position. If the appliance is handled in a horizontal position, make sure to wait a few hours before making it operational.

D.1.1 Procedures for handling operations

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.

D.1.2 Placing the load

Remove the appliance from the wooden pallet, move it to one side, then slide it onto the floor.

D.2 Unpacking



IMPORTANT

Immediately check for any damage caused during transport. Inspect the packaging before and after unloading.

Remove the packaging. Take care when unpacking and handling of the appliance to not cause any shocks on itself.



NOTE!

- The forwarder is responsible for the goods during transport and delivery.
- Make a complaint to the forwarder in case of visible or hidden damage.
- Specify any damage or shortages on the dispatch note.
- The driver must sign the dispatch note: the forwarder can reject the claim if the dispatch note is not signed (the forwarder can provide the necessary form).

To 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.

D.2.1 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 burned in an appropriate waste incineration plant. Recyclable plastic parts are marked as follows:

	Polyethylene <ul style="list-style-type: none"> • Outer wrapping • Instructions bag
	Polypropylene <ul style="list-style-type: none"> • Straps
	Polystyrene foam <ul style="list-style-type: none"> • Corner protectors

D.3 Storage

The machine and/or its parts must be stored and protected from damp, in a non-aggressive place, free of vibrations and with room temperatures between -10°C [14°F] and 50°C [122°F].

The place where the machine is stored must have a flat support surface to avoid deforming the machine or damage to the support feet.



CAUTION

The appliance must be levelled, otherwise its operation could be affected.

E TECHNICAL DATA



WARNING

Refer to “*Warning and Safety Information*”.

E.1 Materials and fluids used

The areas in contact with the food product are in steel;

The fluorinated gases are contained in a hermetically sealed device.

An HFC (R134a (GWP:1430)/R404a (GWP:3922)) or HC refrigerant fluid for models with refrigerant R600a or R290, complying with the current regulations, is used in the refrigeration units. The type and quantity of gas used are given on the dataplate.

The CO2 equivalent of the gas may be calculated multiplying GWP value by quantity of gas.

E.2 Main technical characteristics

Power supply voltage V	220–240V/50Hz
Temperature range in compartment	
Refrigerated models	+2/+10

F INSTALLATION AND ASSEMBLY



WARNING

Refer to “*Warning and Safety Information*”.

F.1 Introduction

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

F.2 The customer's responsibilities

The tasks and works required of the Customer are:

- provide an earthed power socket of suitable capacity for the input specified on the dataplate;
- provide a high sensitivity manual-reset differential thermal-magnetic switch. For information regarding the electrical connection, refer to *Electrical connection*;
- check the flatness of the surface on which the machine is placed.

F.3 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. Refer to F.4 *Positioning* for information regarding distances 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.

F.4 Positioning

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.

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 to create a protective film.

**CAUTION**

When positioning to take into account the following distances:

- at least 50 cm from the top;
- 50 cm from the sides and back.

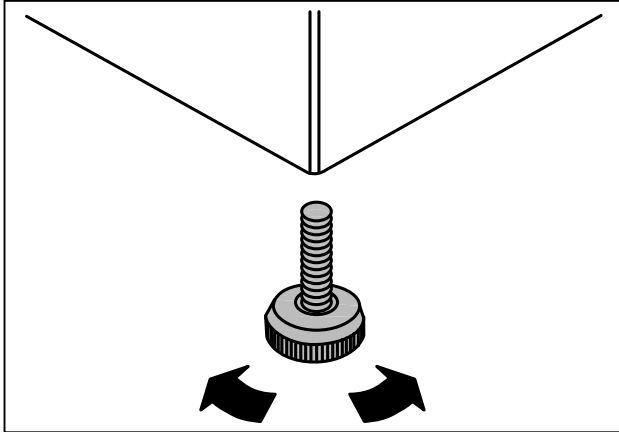
Never cover the condenser, even temporarily, as this can compromise proper operation of the condenser and therefore the appliance.

For information regarding the room temperatures in which the machine must operate, refer to *Climatic Class*.

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 adjustment feet, also checking correct door closing



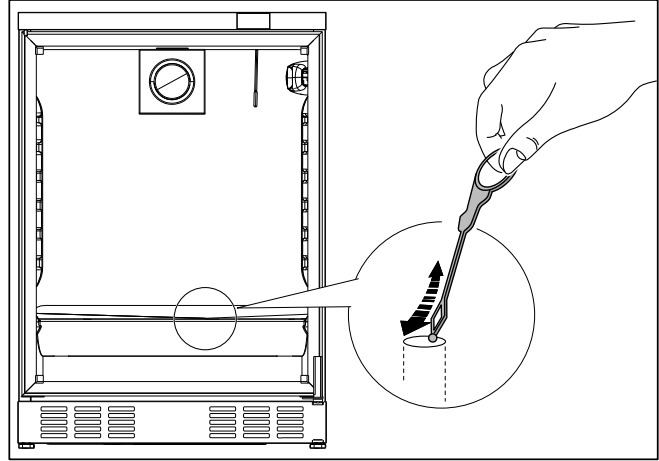
- Make sure the floor on which the appliance is placed is flat, in order to ensure its optimum operation.

**CAUTION**

The appliance must be levelled, otherwise its operation could be affected.

F.5 Defrost

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).

**WARNING**

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.

G NORMAL MACHINE USE**G.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.

G.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.

G.3 Operator qualified for normal machine use

Must have at least:

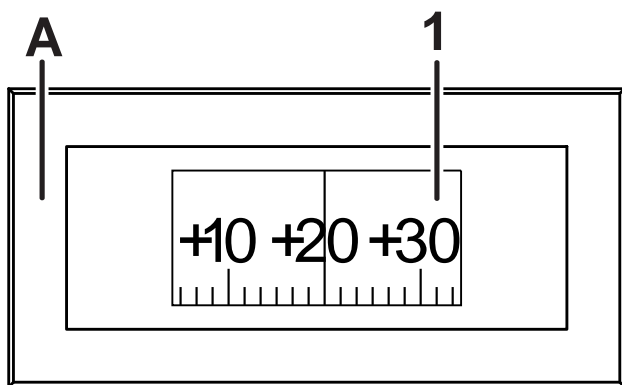
- knowledge of the technology and specific experience in operating the machine;
- adequate general basic education and technical knowledge for reading and understanding the contents of the manual, including correct interpretation of the drawings, signs and pictograms;
- sufficient technical knowledge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

In case of a significant anomaly (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.

H OPERATION

H.1 Thermometer



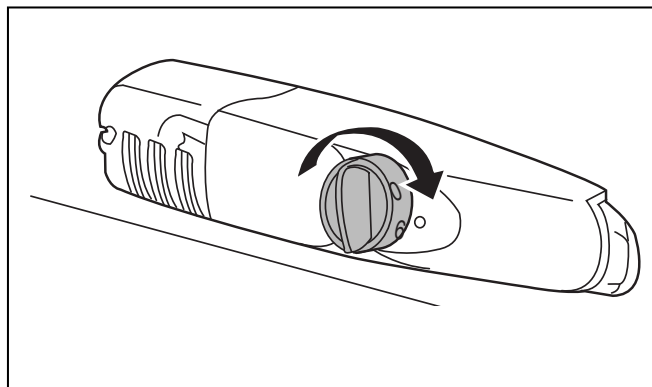
- A Thermometer
1 Temperature display

H.2 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: For particularly difficult operation conditions, with room temperatures above 32°C and high humidity, it is advisable to

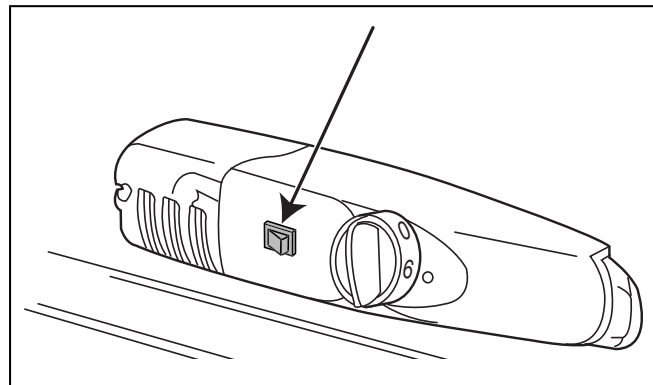
set the thermostat to positions 1 to 4. In general, it is advisable to adjust the knob to the middle position.

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



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:



H.3 Loading food

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.

Suggestions:

- 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.



IMPORTANT

Do not store bananas, potatoes, onions and garlic in the refrigerator if not packaged.

I MACHINE CLEANING AND MAINTENANCE



WARNING

Refer to "Warning and Safety Information".

I.1 Ordinary maintenance

I.1.1 Informations for maintenance

Routine maintenance operations can be carried out by non-specialised personnel, carefully following the instructions given below.



NOTE!

The manufacturer declines any liability for operations carried out on the machine without following these instructions.

I.1.2 Cleaning the cabinet and accessories

Before using the appliance, clean all the internal parts and accessories 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, where possible clean with dishwashing machine. Do not use solvent-based detergents (e.g. trichloroethylene) or abrasive powders for cleaning.

It is advisable to go over the external stainless steel surfaces with a rag moistened with paraffin oil in order to create a protective film.

Check the power cable regularly and replace it in case of signs of wear. Have the appliance checked periodically (at least once a year).



CAUTION

Do not clean the appliance with detergents containing chlorine, solvent-based cleaning products (e.g. trichloro-ethylene), abrasive powders or agents, scouring pads or sponges that could damage the surfaces. Do not use organic solvent substances or essential oils. These substances could damage the parts of the appliance made from synthetic material.



CAUTION

Do not use products (even if diluted) containing chlorine (sodium hypochlorite, hydrochloric or muriatic acid, etc.) to clean the floor under the appliance.



I.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.

I.1.4 Precautions in case of long idle periods

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

- disconnect the power supply;
- remove all food from the compartment and clean the inside and accessories;
- clean the cabinet, going over all the stainless steel surfaces vigorously with a rag moistened with paraffin oil to create a protective film;
- leave the door open so that air can circulate inside, preventing the formation of unpleasant odours.
- periodically air the premises.

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

I.1.5 Quick troubleshooting guide

In some cases, faults can be eliminated easily and quickly by following a brief troubleshooting guide:

The appliance does not switch on:

- make sure the plug is properly inserted in power socket.
- make sure the socket is powered.
- check (if present) the suitability of the fuse on the plug; otherwise contact the assistance service to replace the fuse, which must have the same characteristics as the one being replaced.

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.

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 equipment or parts which could reverberate.

If the fault persists after carrying out the above checks, contact the Customer Care Service, remembering to specify:

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



NOTE!

The appliance PNC and serial number are essential for identifying the type of appliance and date of manufacture.

I.2 Repair and extraordinary maintenance



NOTE!

Repair and extraordinary Maintenance have to be carried out by specialised authorised personnel, who can ask the manufacturer to supply a servicing manual.

I.2.1 Periodical condenser cleaning

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

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.

I.2.2 Maintenance intervals

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

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

Maintenance, inspections, checks and cleaning	Frequency	Responsability
Ordinary cleaning <ul style="list-style-type: none"> general cleaning of machine and surrounding area 	Daily	Operator
Mechanical protection devices <ul style="list-style-type: none"> check their condition and for any deformation, loosening or removed parts 	Monthly	Service
Control <ul style="list-style-type: none"> check the mechanical part, for cracks or deformation, tightening of screws: check the readability and condition of words, stickers and symbols and restore if necessary 	Yearly	Service
Machine structure <ul style="list-style-type: none"> tightening of main bolts (screws, fixing systems, etc.) of machine 	Yearly	Service
Safety signs <ul style="list-style-type: none"> check the readability and condition of safety signs 	Yearly	Service

Maintenance, inspections, checks and cleaning	Frequency	Responsability
Electrical control panel <ul style="list-style-type: none"> check the electrical components installed inside the electrical control panel. Check the wiring between the electrical panel and machine parts. 	Yearly	Service
Electrical connection cable and plug <ul style="list-style-type: none"> check the connection cable (replace if necessary) and plug 	Yearly	Service
General machine overhaul <ul style="list-style-type: none"> check all components, electrical equipment, corrosion, pipes... 	Every 10 years ¹	Service

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



NOTE!

It is advisable to stipulate a preventive and scheduled maintenance contract with the Customer Care Service.

J MACHINE DISPOSAL



WARNING

Refer to “*Warning and Safety Information*”

J.1 Waste storage

At the end of the product's life-cycle, make sure it is not dispersed in the environment. The doors must be removed before scrapping 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 user's country must be observed.

J.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 on the product indicates that this product should not be treated as domestic waste, but must be correctly disposed of in order to prevent any negative consequences for the environment and human health. For further information on the recycling of this product, contact the local dealer or agent, the Customer Care service or the local body responsible for waste disposal.



NOTE!

When scrapping the machine, any marking, this manual and other documents concerning the appliance must be destroyed.

