



NUOVAIR

INNOVATION FOR REFRIGERATION



XCAB 50

USE AND MAINTENANCE



Dear customer

Thank you for purchasing the XCAB series conservator. This manual is an integral part of the machine and as such must be kept for its entire useful life.

For the correct and safe use of the machine it is necessary to follow the warnings contained in this manual.

These warnings provide information regarding:

- The use of the machine.
- Machine maintenance.

FAILURE TO COMPLY WITH THE INSTRUCTIONS PROVIDED MAY COMPROMISE THE SAFETY OF THE APPLIANCE AND IMMEDIATELY VOID THE WARRANTY CONDITIONS.

ANY EXTRAORDINARY MAINTENANCE, ADJUSTMENT AND REPAIR INTERVENTION MUST BE PERFORMED EXCLUSIVELY BY QUALIFIED TECHNICIANS.

The manufacturer of the machine is relieved of any liability relating to breakages, direct and indirect damage to people, property or pets, and any inconvenience caused, due to:

- Improper / unforeseen use of the machine
- Serious deficiencies in ordinary and extraordinary maintenance.
- Unauthorized modifications or interventions.
- Partial or total non-compliance with this manual.

NUOVAIR Srl reserves the right to make any changes it deems necessary without prior notice to improve its product or its technical manual by inserting any changes in subsequent editions.

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The original language is Italian: the Manufacturer is not responsible for any translation / interpretation or printing errors.

SAFETY	5
TERMINOLOGICAL NAMES	5
SYMBOLS IN THE MANUAL	5
WARNINGS	6
GENERALITY	7
GENERAL SAFETY RULES	9
PROTECTIVE DEVICES SIGNAL	11
PLATES DANGER WARRANTY	15
	16
SUPPORT	17
BASICS	19
WHAT IS A TEMPERATURE CONSERVATOR HOW	19
TO CORRECTLY CHARGE THE MACHINE	20
USE	23
POWER ON	23
DESCRIPTION OF THE	23
SETPOINT SCREEN DISPLAY	24
CHANGE DATE AND TIME	25
GENERAL SETTINGS	26
ALARMS	32
TEMPERATURE GRAPH	32
MAINTENANCE	35
CLEANING	35
SUPPORT	39
SERIAL PLATE	39
FAULTS AND POSSIBLE SOLUTIONS	40



SAFETY

NAMES

TERMINOLOGICAL

With the term **Machine** we mean the functioning set of storage cell connected to the built-in refrigeration system with built-in or remote condensing unit, mutually connected. This set is also called Temperature Conservator.

USEFUL DEFINITIONS

Dangerous area: Any area in the vicinity of the Machine where the presence of a person constitutes a probable risk for that person.

User / Staff: Any person who uses the machine deriving from the union of the condensing unit and the blast chilling cell, or who entrusts its use or operations related to its use to suitably trained people.

Person exposed to danger: Person who is internally or partially in a dangerous area or adjacent to it.

Mechanical maintenance technician: Qualified technician with the necessary skills to intervene in any mechanical organ to carry out adjustments, repairs, maintenance, welding and brazing.

Electrical maintenance engineer: Qualified technician with the necessary skills for electrical interventions and, where necessary, able to operate even in the presence of voltage in electrical panels or junction boxes.

Handling officer: Qualified personnel who carry out the tasks of handling the machine.

Manufacturer's technician: Qualified technician made available by the manufacturer of the machine.

Personal protective equipment: PPE, or Personal Protective Equipment, are equipment and instruments that aim to minimize the damage deriving from risks to health and safety at work.

SYMBOLS IN THE MANUAL



This symbol identifies a situation for which failure to comply with the indicated standards could cause risks for the machine and for the safety of the operator or exposed persons, with the risk of injury or death.



This symbol identifies some tips and details for correct machine operation.



Indicates the need to use head protectors, suitable for carrying out the described operation.



Indicates the need to wear suitable protective gloves for the operation to be carried out. (Dielectrics in the case of live components).



Indicates the need to use safety shoes suitable for the operation to be performed.



Indicates the need to use protective clothing suitable for the operation to be carried out.



Indicates the need to use protective goggles suitable for the operation to be carried out.



Indicates the need to use hair covers suitable for the operation to be carried out.

WARNINGS

ATTENTION!

Before using the machine it is recommended to carefully read and observe the following safety warnings, to reduce residual risks:

 This manual is an integral part of the machine and as such must be kept for its entire useful life. The manual is intended for all personnel, all operators and maintenance personnel involved, with the aim of providing the indications and instructions necessary for the use and maintenance of the machine.

 The machine is intended for professional use only, i.e. only qualified personnel can use it. The machine is therefore not intended for use by children or by people with reduced mental, sensory and physical abilities.

 This machine must only be used for the use for which it was designed, i.e. for storing food and food products. NUOVAIR Srl declines all responsibility for any direct and indirect damage deriving from inappropriate use of the machine.

 Before using the machine, carefully clean all surfaces, especially those in contact with food.

 If the power supply cable of the machine is damaged, have it replaced with a completely similar one by qualified personnel in order to reduce or eliminate the resulting risks.

 Do not tug on the machine's power cord to disconnect it from the mains.

 Do not pour water on live parts of the machine as well as on the electric cable or plugs.

 If the machine is submerged due to natural disasters, etc., disconnect the machine from the power supply by operating the main switch / disconnecter or pulling the plug and contact an authorized service center for the repair before starting the machine again.

 In the event of noise, smoke or abnormal odors coming from the machine, disconnect the power immediately and contact an authorized service center.

 Do not place the temperature conservator on unsuitable surfaces, for example on uneven surfaces or with slopes which could in some moments turn out to be anomalous and which could cause instability of the machine or of the product contained. The machine must be leveled so that the condensate drain of the self-evaporating pan works correctly otherwise condensation may escape from the top of the machine.

 Before carrying out any routine maintenance and cleaning disconnect the machine from the electrical power supply by operating the main switch / disconnecter or disconnecting the plug from the power supply and wait for the discharge times of the capacitive components (about a couple of minutes).

 Do not insert fingers, tools or objects through the fan grilles, they could damage the machine or throw parts with consequences of cutting, shearing and hitting people in the immediate vicinity of the machine.

 Do not clean and clean the temperature conservator with abrasive or aggressive detergents which could damage and alter the surface characteristics of the steel of the cell.

 Please use the handles to open the door.

 Do not rest your hands near the covers or door gaskets when closing the door, because due to the volumetric compensation of the air entering the compartment the door tends to be crushed towards the cell causing crushing of interposed objects.

GENERALITY

The temperature conservator has been designed considering the directives and related harmonized standards of the European community, as well as the relative product standards associated with it.

This manual is an integral part of the temperature conservator identified in this manual with the term Machine made by NUOVAIR Srl and forming part of the relative technical file.

NOTE:

The customer can request a copy of this documentation by sending a written request to the manufacturer, justifying this request.

DESCRIPTION OF THE MACHINE AND INTENDED USE

The temperature conservator is a machine designed for the preservation of substances or mixtures of substances, in any state of matter and unprocessed structure,

partially processed, or processed, intended to be ingested by a human being (Food Products) for the purpose of:

- keep the organoleptic characteristics of food as unaltered as possible;
- favor the extension of the average life of foods by counteracting bacterial proliferation that occurs naturally within them.

The temperature conservator is a manually operated machine. Once the machine has been started, product storage is managed automatically and does not require the constant presence of an operator except for the insertion and extraction of the product. The conservator maintains the cell temperature at a value pre-established by the user.

INCORRECT USE IS STRICTLY FORBIDDEN

The absolutely prohibited incorrect uses of the temperature conservator are the following:

- Use the conservator as a work surface or support base for other objects or machines.
- Get in and climb on the car.
- Touch the internal parts of the machine with bare, wet hands and feet.
- Insert live animals or living things inside the machine.
- Use jets of pressurized water on the evaporating coil
- Use water jets on the outside of the machine.
- Expose the machine to atmospheric agents of any kind.
- Expose the machine in potentially explosive environments.
- Expose the internal part of the machine to excessive concentrations of vapors, acid solutions, saline mist or extremely corrosive agents (eg acetic acid, yeast, ammonia, etc.).

- Install the machine on surfaces unsuitable to support the weight of the machine.
- The use of the machine by people with disabilities or with reduced mental abilities.
- Power the machine with mains voltage other than those indicated on the data plate.
- Use the machine without having secured it securely.
- Use the machine without personal protective equipment according to the provisions in the machine use and maintenance manual.
- Carry out the cleaning and maintenance of the machine (cell + condensing unit) by unqualified and trained personnel and without respecting the procedures set out in the use and maintenance manual.
- Carry out any maintenance and cleaning operations without disconnecting the power supply.
- Change the conservative in any part
- Use the machine in a dimly lit environment.
- Use the machine in an environment with minimum air renewal established by the conservator's technical data sheet.
- Move the machine without using suitable lifting means.
- Use condensing units other than those supplied by the manufacturer.

OWNERSHIP OF INFORMATION.

The information contained in this manual is the confidential property of NUOVAIR Srl and consequently all rights are reserved. This manual may not be reproduced or photocopied in parts or in its entirety without the written consent of the Manufacturer. The use of the material contained in the following use and maintenance manual is allowed only to the customer who

bought the car.

NUOVAIR Srl declares that the information contained in this manual is in accordance with the technical and safety specifications of the machines to which they refer.

The drawings, diagrams and technical data in this manual are updated at the date of publication of this document and are valid for the Machine to which they are attached.

PURPOSE AND CONTENT OF THE MANUAL

This use and maintenance manual is an integral part of the machine and as such must be kept for its entire useful life.

The manual is intended for all personnel, all operators and maintenance personnel interested in the purposes described in this point.

The manual provides the indications and instructions necessary for correct and safe use and maintenance; it also provides information regarding:

- 1.the safety devices and warnings regarding the residual risks of the machine.
- 2.intended use and reasonably foreseeable misuse

The topics are divided into sections, which are in turn divided into paragraphs and sub-paragraphs, in order to allow rapid retrieval of information.

The manual cannot in any way replace the specific training that operators must have previously achieved on similar equipment or that they will be able to achieve on this machine under the guidance of already trained personnel.

PRESERVATION OF THE MANUAL

The manual is considered an integral part of the machine and must be kept until the final dismantling of the machine. The manual must always be available for consultation and must be kept with

care, away from dust, humidity and in a safe place; in case of damage that also compromises it
partial consultation, the user is required to request a new copy from the Manufacturer.

The use and maintenance manual follows the machine even in the event of transfer of ownership.

SAFETY RULES

GENERAL

The observance of the machinery directive and the observance of the relevant paragraphs with the related harmonized standards have made it possible to eliminate or reduce the risks associated with the use of this machine during its life stages.

The necessary warning and protection measures have been adopted with regard to residual risks, that is to say those risks that it was not possible to eliminate through design choices or using shelters. For detailed information see the dedicated paragraphs.

Failure to apply these requirements could make the envisaged safety conditions inadequate. It is recommended to strictly follow the warnings and rules of conduct given here.

The personnel in charge of using and managing the temperature conservator must be instructed by their employer for correct use and on the residual risks that the machine presents, as well as on the safety devices installed and on the general accident prevention rules provided for by the Community Directives and / or the legislation in force in the country of destination of the machine. The personnel responsible for the use and management of the temperature conservator must have read these instructions in full.

The staff in charge of using the temperature conservator must be in optimal psychophysical conditions and not be under the effect of substances which, by their nature, can alternate the sense of perception or slow down reflections.

It is absolutely forbidden to use and manage the temperature conservator by children and unsuitable people and / or people with limited mental abilities who must also be kept at a distance from the conservator.

NUOVAIR Srl declines all responsibility for damage to things or persons deriving from the use of the conservator or for the physical safety of the operator or third parties deriving from the non-observance of the safety rules contained in the technical documentation supplied with the conservator. Before starting work, the operator must be perfectly aware of the characteristics of the temperature conservator, of the position and operation of all the controls; he must also have read and fully understood this use and maintenance manual.

ATTENTION!

The machine must only be used by operators who have fully understood the instructions contained in the relevant publications.

ATTENTION!

The instructions, warnings and general accident prevention rules contained in the reference publications or indicated in the signs applied on the temperature conservator must be fully respected.

ATTENTION!

The unauthorized tampering or replacement of one or more parts of the temperature conservator, the use of accessories, tools, consumables other than those recommended by the Manufacturer may represent a danger to the operator's safety and relieve the Manufacturer. from

civil and criminal liability.

ATTENTION!

- Before using the machine, make sure that any conditions dangerous to safety have been appropriately eliminated.
- Before using the machine make sure that all the guards or other protections are in place and that all the safety devices are present and efficient. After having removed the packaging, the machine is intact in all its parts, otherwise contact your dealer. Do not place solid or liquid objects on top of the machine.
- Before carrying out any cleaning or maintenance operation on the machine, isolate it from the electrical distribution network. In case of breakdown or malfunction always deactivate the machine.
- In case of breakdown and / or malfunction of the machine, switch it off and refrain from any attempt repair or direct intervention. Contact qualified personnel.

CLOTHING

The clothing of those who work or carry out maintenance on the machine must always be suitable for the type of operation in progress. Furthermore, it must comply with the safety requirements provided for by the legislation in force in the country of use. The machine itself.

In general, the operator must wear the correct PPE. Wear safety shoes with non-slip soles; the use of moccasins, clogs, slippers or any other type of footwear that can compromise the mobility of the person is not allowed.

The clothes worn must be suitable for the work to be done.

ACCESS TO THE WORK AREA

The work area (and in particular the areas where the control panels and

the emergency buttons) must never be occupied by material or other, so that nothing interferes with the operator's freedom of movement. In the event of an emergency, immediate access to the conservator must be guaranteed by the staff in charge. Using the appropriate warning signs, it is advisable to prohibit access to the work area to personnel who are not trained in the use of the temperature conservator.

It is forbidden to use the temperature conservator for children and all unsuitable people; and must therefore be kept at a distance from it.

During maintenance operations, especially when operating with open protections or safety devices disconnected, an operation permitted only to formally authorized and duly trained personnel, it is necessary to pay the utmost attention so that THE WORKING AREA IS INACCESSIBLE to people who are not directly interested in these operations.

During maintenance operations, the area where this operation is carried out must always be clean and dry.

If it is necessary to carry out interventions near electrical components, always operate with dry hands and wear dielectric gloves.

At the end of the maintenance operations, check that no tools, possibly used, are left inside the temperature conservator and that any protections removed have been put back in their position.

ENVIRONMENTAL CONDITIONS OF USE

1. TEMPERATURE AND HUMIDITY.

THE TEMPERATURE CONSERVATOR must be used in rooms with an ambient temperature between + 15 ° C and + 32 ° C and

with relative humidity below 55%.

2. WORKING ENVIRONMENT.

THE TEMPERATURE CONSERVATOR must be used sheltered from atmospheric agents (rain, hail, snow, fog, etc.) and only in industrial / artisan environments. In the case of a remote condensing unit, this must be installed in a special machine room or, if positioned outside, it must be protected from atmospheric agents (rain, hail, snow, fog, etc.) and in a place sheltered from the sun. In any case, a minimum air exchange must be guaranteed.

The use of the temperature conservator in an explosive or partially explosive atmosphere is not envisaged: it is therefore forbidden for the user to use it in such conditions.

3. LIGHTING.

The room that houses THE TEMPERATURE CONSERVATOR must be illuminated in such a way as to be able to easily identify the buttons and the control and emergency stop devices. Good industrial-type lighting for medium-accuracy processing is approximately 300-600 lux).

4. ATMOSPHERES AND AGGRESSIVE SUBSTANCES INSIDE THE CELL.

Some food products generate the release of particularly aggressive and corrosive vapors for the evaporating coil. While being protected by surface treatment, caution will be required with some products. In particular, the surface treatment adopted for the evaporating coils of the trolley temperature conservators is not suitable in the presence of:

1. NITRIC ACID.
2. SODIUM HYPOCHLORITE. (BLEACH).
3. SODIUM HYDROXIDE.
4. CHROMIC ACID.
5. FORMIC ACID.
6. FLUORHYDRIC ACID.
7. SULFURIC ACID.

8. VINEGAR-NITRILE MIX; METHANOL; TETRAHYDROFURAN; HEXANE; DICHLOROMETANO and others.

In case of doubts regarding the substances that can damage the evaporator, contact the NUOVAIR Srl service

5. RESIDUES AND ENVIRONMENTAL

CONTAMINATIONS. The user is required to comply with the standards and directives in force in the country of use of the temperature conservator for the treatment of any lubricants and fluids used in the temperature conservator.

PROTECTION DEVICES

The conservator is equipped with protective devices. All persons in charge of using the temperature conservator, however destined to come into contact with it, must carefully read this use and maintenance manual which describes the dangerous areas and the relative interventions adopted in terms of safety, as well as the areas so-called "residual risk", ie those areas which, despite the interventions adopted, still present a certain degree of danger.

ATTENTION!

The safety devices must not be removed or deactivated for any reason; any operation carried out on the temperature conservator deliberately excluding the safety devices or any type of manipulation of the devices themselves is at the risk of the person carrying out it.

PASSIVE PROTECTIVE DEVICES

The following construction devices and solutions have been adopted for the temperature conservator:

- grids to protect the rotating parts or technical compartments;
- in order to highlight the areas where

particular attention must be paid and the areas at residual risk for the safety of the operator and the people exposed, have been affixed danger warning plates.

ATTENTION!

The removal of the labels or their failure to replace in case of deterioration, causes the user to assume full responsibility for all

consequences that may arise or derive from the use of the temperature conservator without complying with the safety conditions provided by the manufacturer.

USE

RESIDUAL RISKS IN THE STAGES OF USE

In the use phase there are the related residual risks:

- operations on the machine by unqualified, untrained or improperly equipped personnel.
- burns and injuries caused by contact with high or low temperature objects or materials.
- asphyxiation caused by the gas that could escape from the machine during the operating phases.
- crushing of hands or fingers when closing or opening the door.
- **crushing with possible trauma and bruises and breaking of the phalanges of the fingers by the door once closed. The cause is due to the volumetric shrinkage of the air entering the door opening phase.**
- Musculoskeletal disorders due to the low temperatures of the air present inside the abatement cell.

Personal protective equipment required:



SPECIAL ATTENTION FOR THE USE PHASES.

Before carrying out any cleaning operation, disconnect the machine from the power supply.

- Never remove the protective grilles of the fans as they are rotating parts that can cause consequences of impact, entanglement, abrasion, shearing.
- Do not insert fingers or objects through the fan protection grilles.
- Do not work on the machine with bare feet and without the appropriate PPE, or with damp or wet hands.
- Do not wash the machine with jets of water both internally and externally.
- In case the machine is submerged from liquids before starting it, contact the manufacturer or an authorized service center and have it overhauled.
- In case of prolonged non-use, disconnect the machine from the power supply.
- Do not directly expose people to cold air flows from the temperature conservator because it could cause muscle discomfort and various kinds of ailments.
- Do not place food directly on it in contact with the cell but in special containers suitable for contact with food.
- In case of noises, and abnormal odors and in the presence of smoke coming from the machine, disconnect the power supply cable or disconnect the machine with a special switch and contact the authorized service center.
- In case of fire, do not use water to extinguish the fire but fire extinguishers which can be used on live elements.
- ATTENTION USE THE HANDLES TO OPEN THE DOOR.

- DO NOT REST YOUR HANDS IN CORRESPONDENCE WITH THE DOOR COVERS OR GASKETS DURING THE DOOR CLOSING PHASE, BECAUSE DUE TO THE VOLUMETRIC COMPENSATION OF THE AIR THAT ENTERS THE CELL, THE DOOR TENDS TO BE CRUSHED TOWARDS THE CELL. CAUSING CRUSHING OF INTERPOSED OBJECTS.

MAINTENANCE AND DEMOLITION

RESIDUAL RISKS DURING MAINTENANCE AND DEMOLITION PHASES.

In the maintenance and demolition phase there are the residual risks connected:

- Operations on partly completed machinery (storage cell and condensing unit) by unqualified, untrained, uninformed or uninformed personnel properly equipped.
- Electrocution, shock, burns, fire from Contact with live elements
- Burns and injuries caused by contact with hot elements of the machine or with instruments and equipment used.
- Impact, crushing and shearing by the machine / partly completed machine being handled, or by elements and components thrown by it during the handling and / or lifting phases.
- Trip with consequent fall at the electrical connections and refrigeration pipes.
- Damage to the machine / partly completed machine during the maintenance phase.
- Asphyxiation caused by the gas that could escape from the machine during the maintenance and demolition phases.
- Explosion of parts or pipes of the partly completed machine in the maintenance and decommissioning phase.
- Contact with refrigerant fluid.

Personal protective equipment required:



RESIDUAL RISKS DURING MAINTENANCE AND DEMOLITION PHASES.

During the maintenance and demolition phases, it is necessary to pay particular attention to the operations described below.

- Always carry out the required interventions using standard tools; always pay close attention to items that could lead to tripping or causing cuts and bruises. Always wear the appropriate PPE.
- The execution of maintenance and demolition / disposal interventions must always be carried out by qualified and specially trained personnel.
- Check that the power supplies have been properly disconnected and that no one can reactivate them before the conclusion of the maintenance interventions (including cleaning phases) and disposal. Also check that any residual energy of the heat transfer fluid has been downloaded before proceeding with any intervention.
- Operate on the machine and its pipes after having emptied them of the refrigerant gas and before proceeding to restart the machine, proceed to carry out the vacuum operations.
- Reset the position of the fan protection grids once finished the maintenance of the machine as rotating parts that I can cause consequences of impact, entanglement, abrasion, shearing.
- Do not insert fingers or objects through the fan protection grilles.
- Do not operate on the machine with bare feet and without the appropriate PPE, nor with hands humid or wet.

- Do not wash the machine with jets of water both internally and externally.
- Before restarting the machine after maintenance or cleaning operations, check that you have not left any tools inside the machine.
Check the tightening of the moving or opening parts and that you have repositioned all the safety devices that may have been removed as well as check that there are no refrigerant leaks. The correct positioning of the ball cocks and shut-off valves, if present, must also be checked.
- Before carrying out any maintenance, cleaning and disposal, disconnect the machine from the power supply.
- Do not for any reason use benzine solvents or other flammable fluids to clean the parts, but use approved, non-toxic, non-flammable detergents.
- Do not carry out modifications or transformations of the Machine that could jeopardize its safety and without first contacting and obtaining written authorization from the manufacturer.

SIGNALING PLATES

DANGER

In order to highlight the areas of the temperature conservator where particular attention must be paid and the areas at residual risk for the safety of the operator and the exposed persons, danger warning plates have been affixed.

ATTENTION!

The removal of the labels or their failure to replace in case of deterioration, causes the user to assume full responsibility for all

consequences that may arise or derive from the use of the temperature conservator without complying with the safety conditions provided by the manufacturer.

Symbols:



This symbol identifies the inability to use water, water or foam extinguishers to put out fires on electrical equipment.



This symbol identifies the prohibition to carry out work on live systems, to touch systems unless authorized, to remove the guards and safety enclosures before having disconnected the voltage.



This symbol identifies the prohibition to remove installed safety devices and protections.



This symbol identifies the danger of hot surfaces in correspondence with the surfaces where it is affixed. In our case this symbol is affixed externally to the cell but refers to the internal surfaces of the latter.



This symbol identifies low risk temperature. Also in this case the symbol is affixed externally to the cell but refers to the internal surfaces of the latter.



This symbol identifies a live electrical system.



This symbol identifies the danger of cutting oneself and is affixed to the condenser and inside the evaporator.

WARRANTY

NUOVAIR Srl guarantees the temperature conservator free from defects in material and workmanship for a period of 24 months.

Within the aforementioned terms "La NUOVAIR Srl" undertakes to replace the customer free of charge those parts which in its opinion show manufacturing defects. The warranty excludes the provision of labor, for assembly and disassembly for the replacement of defective parts, and also excludes the transport costs of the parts sent for replacement.

The assumption of responsibility by the manufacturing company excludes the termination of the contract and any other liability and obligations for other expenses, direct damages deriving from the use of the equipment, both total and partial.

TRANSACTIONS THAT INVOLVE THE WARRANTY.

NUOVAIR Srl is not responsible for defects that depend on incorrect operation of the equipment by the user, or deriving from modifications or repairs carried out by the user or by third parties without the written consent of La NUOVAIR Srl, regardless from the causal relationship between such modifications or repairs and the facts found. All tools and consumables supplied by the manufacturer are excluded from the guarantee.

The Manufacturer is responsible only for defects inherent in the parts supplied and found in compliance with the foreseen conditions of use (see paragraphs Intended use of the temperature conservator, Unintended use of the temperature conservator, Prohibitions and unauthorized uses). The manufacturer also considers himself relieved of any liability in the following cases:

- Installation of the temperature conservator in conditions other than those specified in Chapter - TRANSPORT E

INSTALLATION of the Installation manual.

- Total or partial non-compliance with the instructions contained in this manual.
- Lack of or incorrect maintenance.
- Use of non-original spare parts.
- Non-compliance with contractual obligations.

Any complaint must be communicated to NUOVAIR Srl by the user directly within eight days of receiving the machine or one of its spare parts. NUOVAIR Srl reserves the right to accept equipment sent for assistance without their original packaging. The material, replaced under warranty, must be kept by the buyer and made available to NUOVAIR Srl who will decide whether to return them at its own expense.

Even in the event of a validly proposed complaint, the buyer will not be able to suspend payments or other obligations relating to the purchase. This guarantee cancels and replaces any other form of guarantee, expressed or implied; any possible modification has no value, unless specified on an official document issued by NUOVAIR Srl

SUPPORT

The NUOVAIR Srl technical assistance service provides:

- Telephone support regarding interventions.
- Sending of documentary material.

To contact the after-sales service: **Via**

Padania 9 / C,

31020 San Vendemiano (TV) - Italy

Phone : **+ 39.0438.489097**

Fax : **+ 39.0438.488807**

Email: **service@nuovair.com**



BASICS

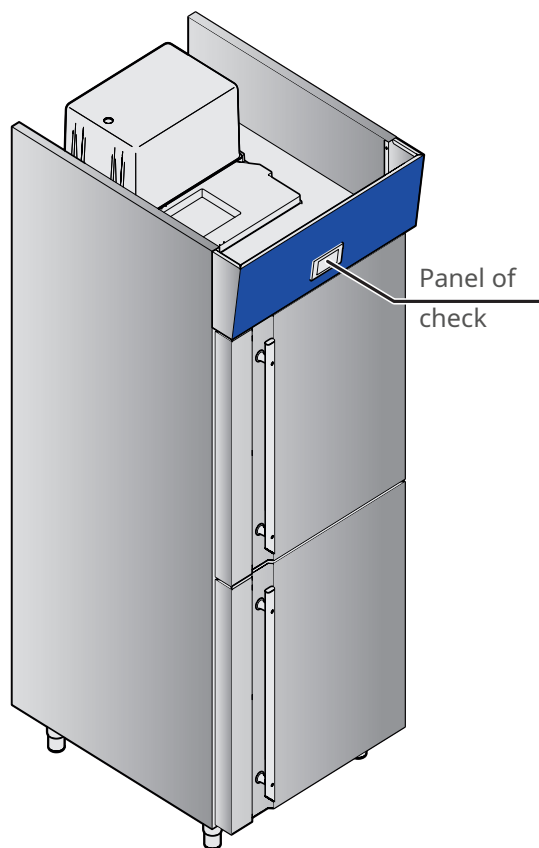
WHAT IS A TEMPERATURE CONSERVATOR

1

Knowing the machine before using it is essential. For this reason, what a temperature conservator is and its possible uses are explained in detail below.

This machine is a conservator, that is, an appliance capable of preserving food at a low temperature; it therefore becomes a fundamental tool in the cold supply chain.

Food preservation is in fact one of the fundamental processes of agri-food transformation; it has the primary purpose of preserving the consumability, nutritional value, appearance and flavor of products over time and, at the same time, to prevent accidental alterations and to stop, or at least slow down, the deterioration of food.



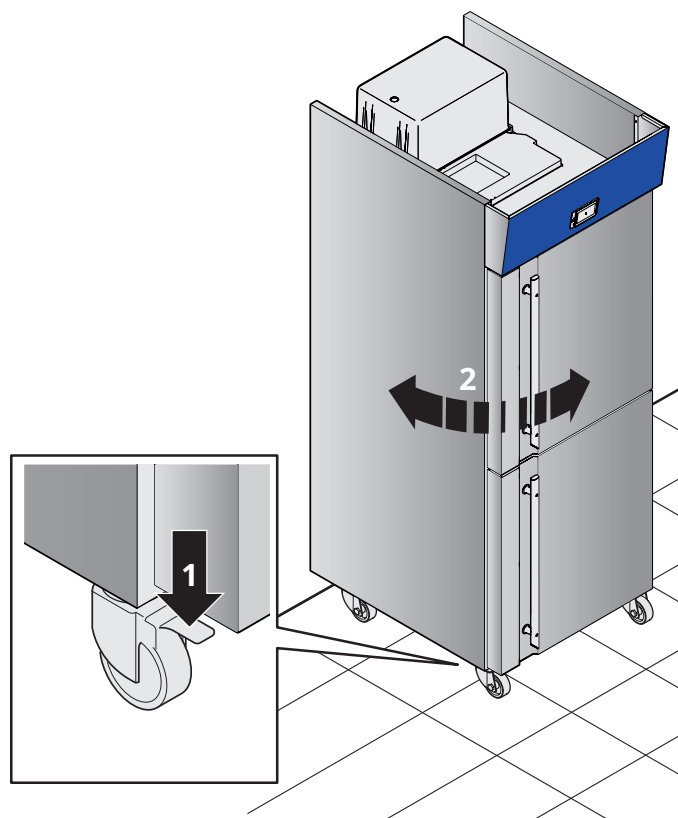
1

PIVOTING WHEELS

2

⚠ The wheels must not be used for transporting the blast chiller, but only for small movements on perfectly smooth, flat and uneven surfaces (for example for normal cleaning operations behind it).

Always brake the conservator wheels once positioned.



2

HOW TO UPLOAD CORRECTLY THE MACHINE

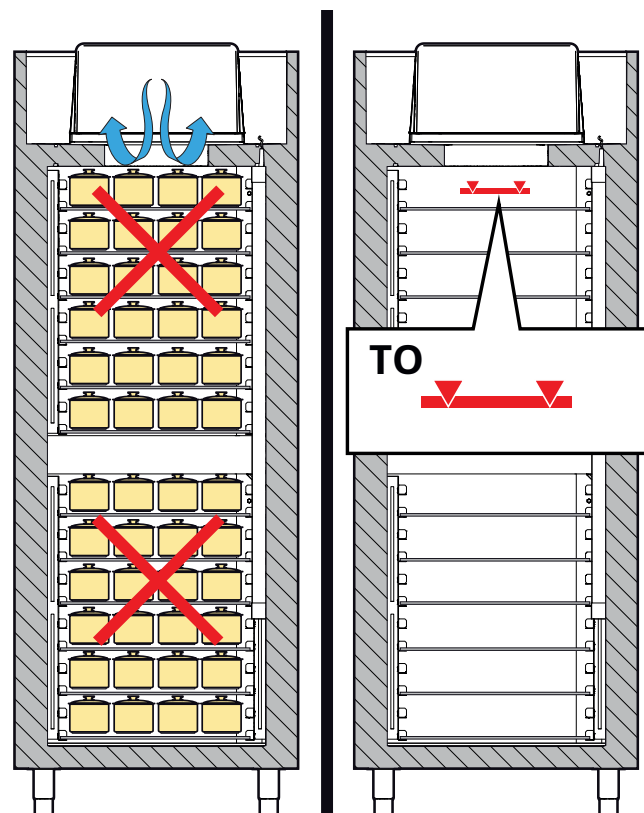
➡ 3

The correct loading of the machine is visible in the figure.

- DO NOT LOAD THE PRODUCTS IN CORRESPONDENCE WITH THE INTAKE DUCT OF THE MACHINE VISIBLE ON THE TOP OF THE SKY OF THE CELL BECAUSE THIS COULD CAUSE THE MACHINE MALFUNCTION.

ATTENTION!

Respect the maximum load limit marked with a label positioned near the top cover (see figure A).



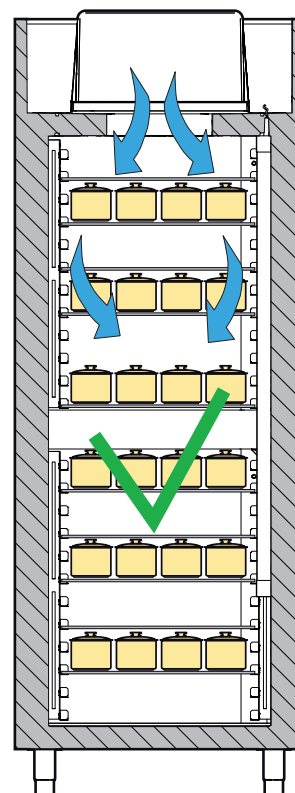
3

➡ 4

- MAINTAIN SUFFICIENT DISTANCE BETWEEN THE GRILLS OR TRAYS AND AVOID CONTACT OF THE PRODUCTS WITH THE CELL WALLS IN ORDER TO ENSURE THE CORRECT CIRCULATION OF AIR FLOWS.

ATTENTION!

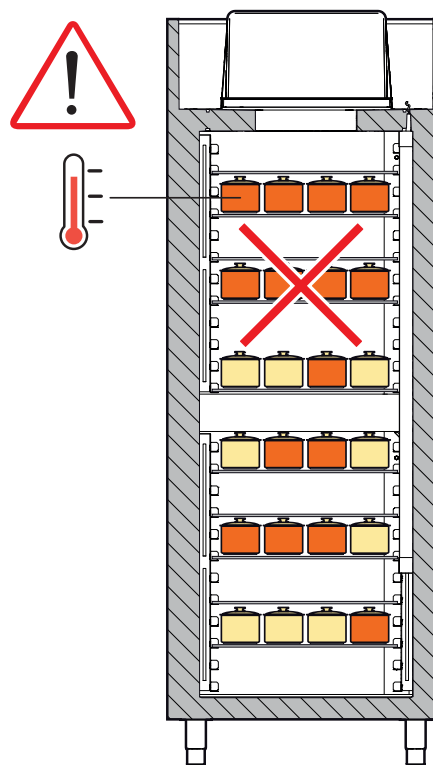
An incorrect arrangement or loading of the products to be stored beyond the limits allowed by your equipment could cause malfunctions and a less than optimal conservation of the products.



4

5

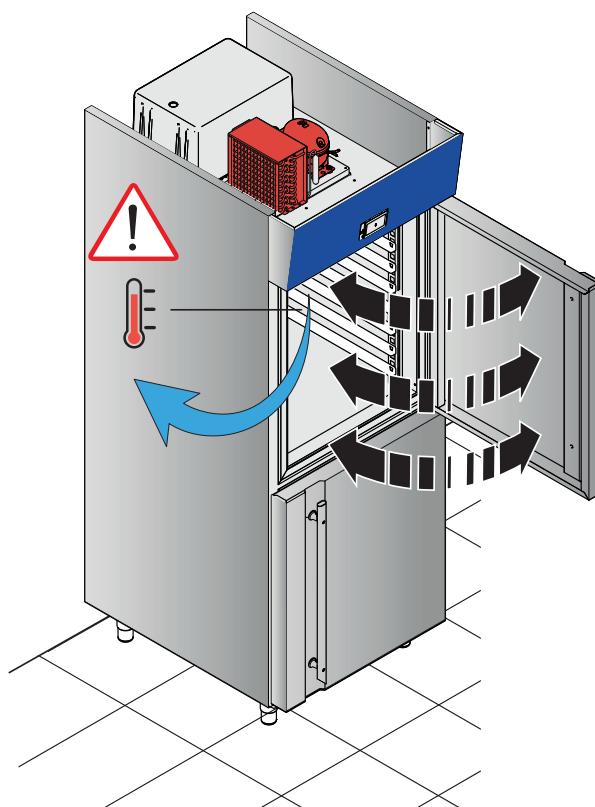
- AVOID INTRODUCING BOILING OR HOT PRODUCTS INSIDE THE CONSERVATOR, AND HOWEVER CARRY OUT THE INTRODUCTION NOT BEFORE THE MACHINE HAS REACHED THE SET COOLING TEMPERATURE.



5

6

- IF POSSIBLE, REDUCE THE NUMBER OF DOOR OPENINGS. THIS IS TO AVOID THE CONTINUOUS CHANGE OF TEMPERATURE INSIDE THE CELL THAT COULD CAUSE THE MACHINE MALFUNCTIONING.



6

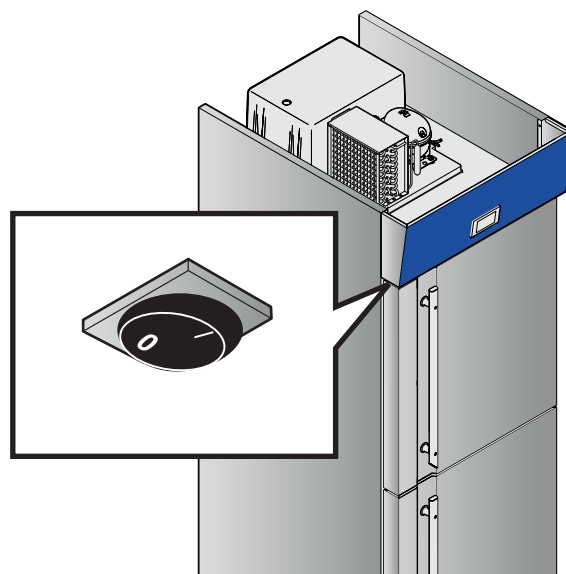


USE

POWER ON

7

The Conservator is equipped with an on / off switch located under the front panel (see figure).



7

DESCRIPTION OF THE DISPLAY

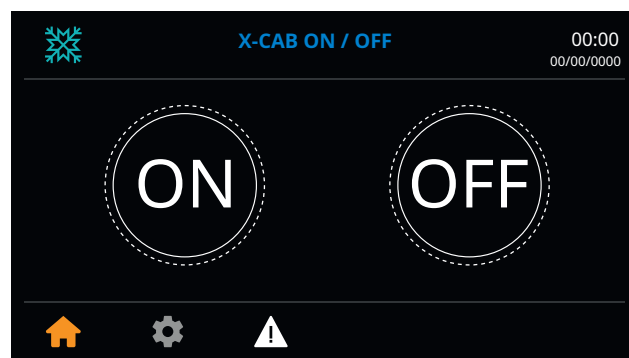
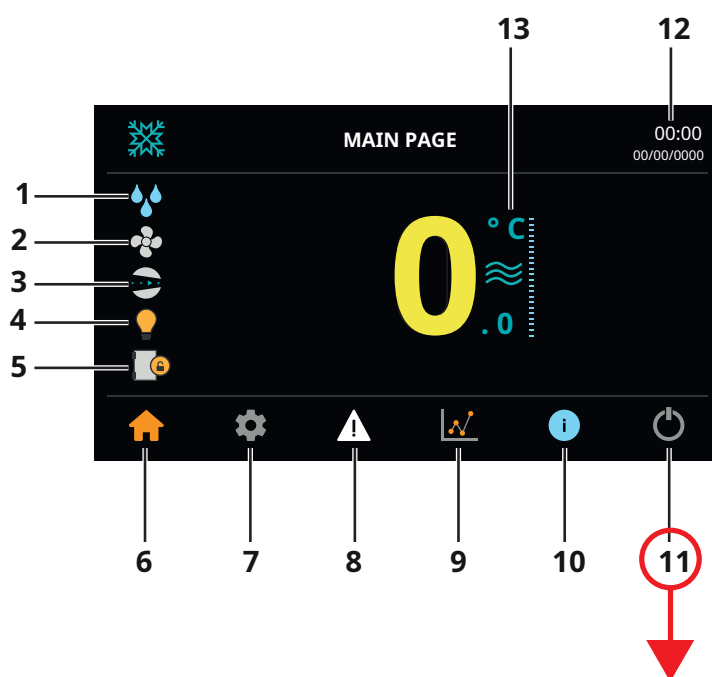
The controls for setting, adjusting or viewing the display functions are located on the side strip, on the lower strip and on the central part of the display.

HOME SCREEN

8

Symbology description:

1. Defrost in progress
2. Fans running
3. Compressor running
4. Cell light ON / OFF
5. Door OPEN / CLOSE indicator
6. Return to the home page
7. Access to all machine settings
8. Display of active alarms
9. Temperature graph
10. View cycle information
11. Starting and shutting down the machine
12. View and change the date and time
13. Cell temperature

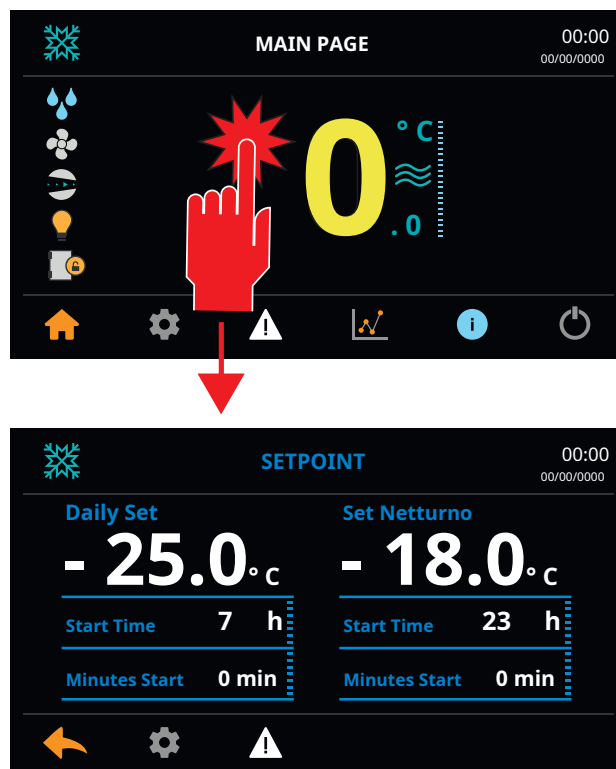


8

SETPOINT SCREEN

➔ 9

Touching the initial screen turns on the setting of the parameters relating to the function (start time, daily set, etc ...).



9

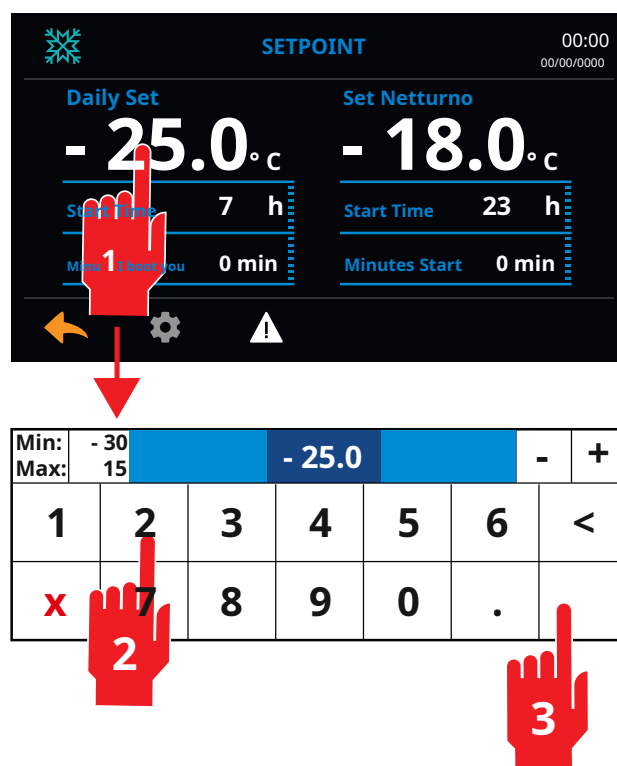
SETTING OR CHANGING THE PARAMETERS OF A FUNCTION

➔ 10

1. To change the setpoint values and the activation time, touch the value you want to change,
2. set the new value using the numeric keypad that appears
3. confirm by pressing the green tick button.

It is possible to set:

- DAY SETPOINT with start date and time
- NIGHT SETPOINT with start date and time



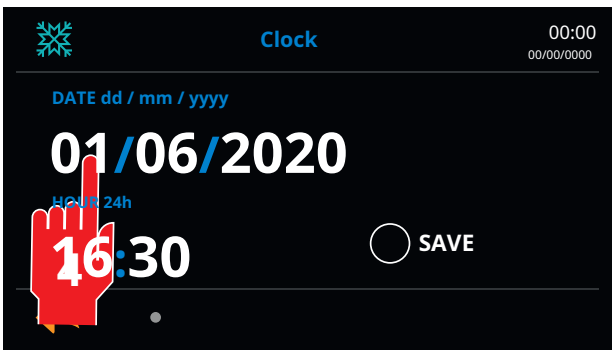
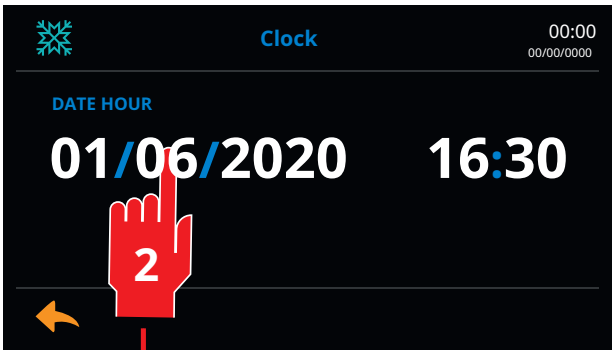
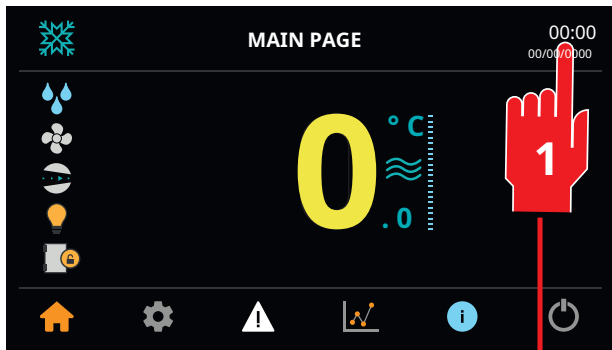
10

MEDIT DATE AND TIME

11

- 1. To change the date or time, tap the dedi field cato.
- 2. Touch the value you want to change (e.g. 06 which represents the month),
- 3. set the new value using the numeric keypad that appears
- 4. confirm by pressing the green tick button.
- 5. In the same way it is possible to set all the desired values (eg 01 which represents the day).

Min:			01		-	+
Max:						
1	2	3	4	5	6	<
x	7	8	9	0	.	



GENERAL SETTINGS

By pressing the "  "You enter the Login area.

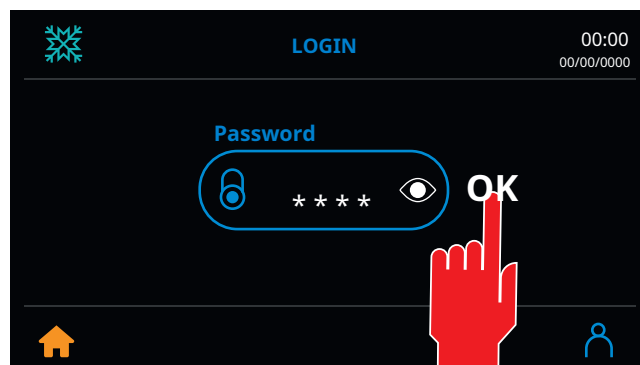
ENTER THE SETTING SCREEN

12

To access the machine settings it is necessary to type the access password "1354".

Pressing on the symbols "*****" a window will appear allowing you to type the code.

Once the password has been entered, confirm with the "OK".



12

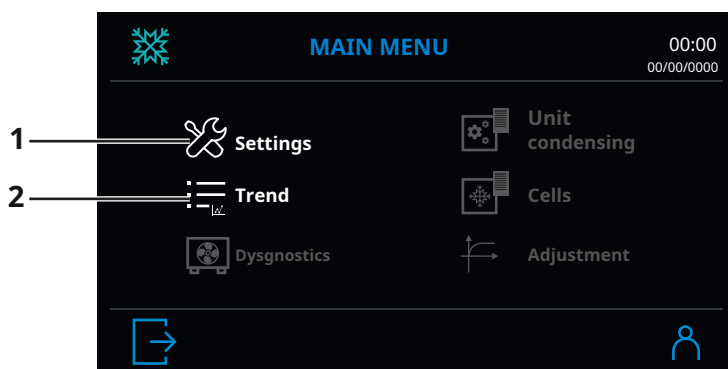
MAIN MENU

13

From this screen you can access two main menus:

- 1 - General settings of the machine
- 2 - Historical trend of the machine

The other menus are not operational as they are dedicated to specialized personnel from the Service Centers.



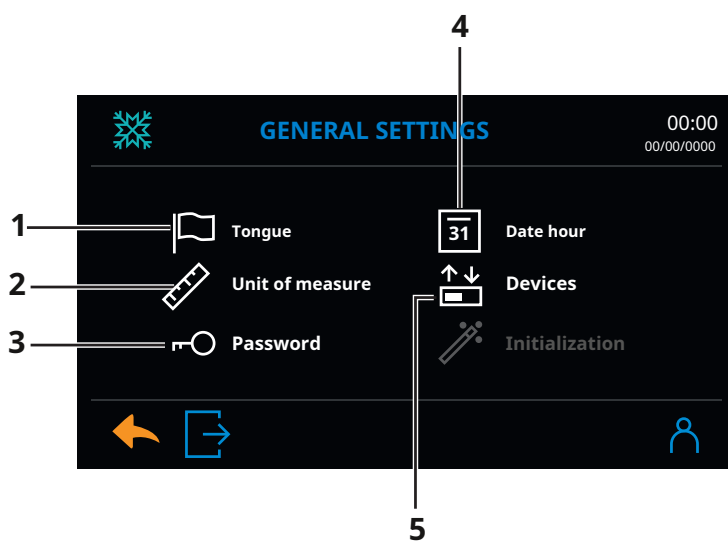
13

GENERAL SETTINGS

14

From this screen you can access the following menus:

- 1 - Language setting
- 2 - Unit of measurement
- 3 - Change password
- 4 - Date and Time setting
- 5 - Device configuration

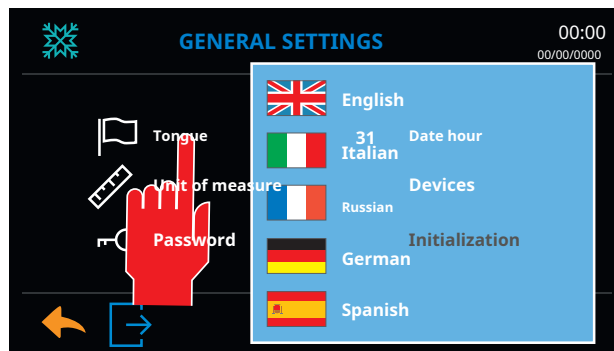


14

LANGUAGE

➡ 15

By pressing the "Language" menu it is possible to view the navigation items on the display in the chosen language.

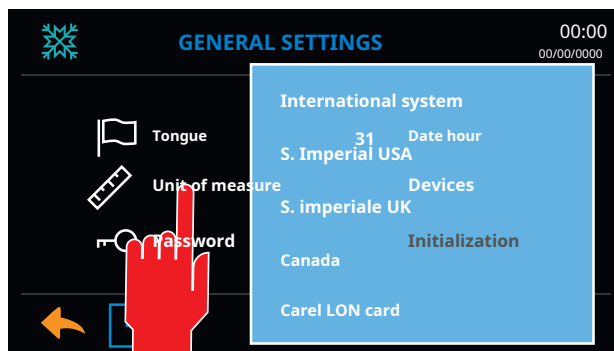


15

UNIT OF MEASURE

➡ 16

By pressing the "Measurement Units" menu it is possible to set the unit of measurement of the machine.



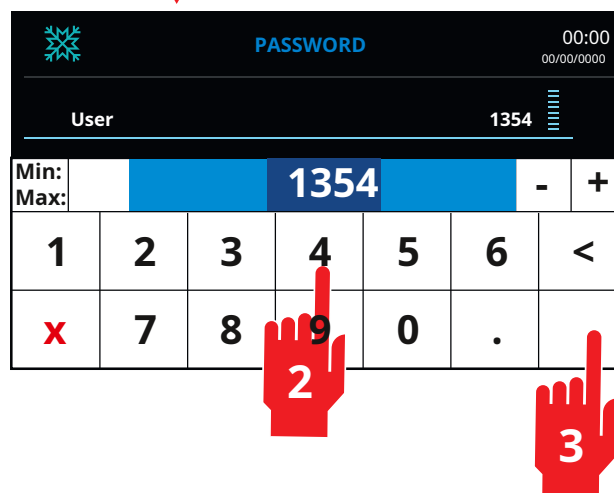
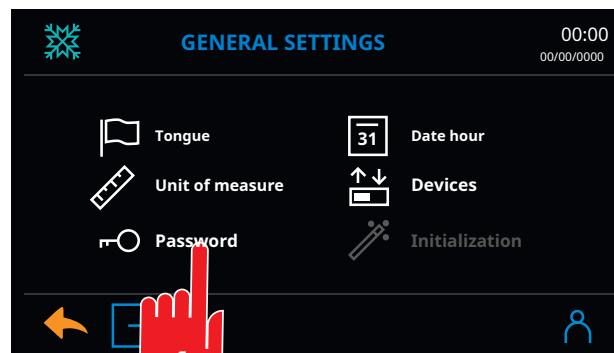
16

CHANGE PASSWORD

➡ 17

To access the screen for setting the general parameters of the machine (user), it is necessary to enter the password "1354". If you want to change it, please follow the below:

1. Touch the "Password" menu to access the screen
2. type the new password in the numeric keypad that appears;
3. confirm the new password entered by pressing the green tick button.

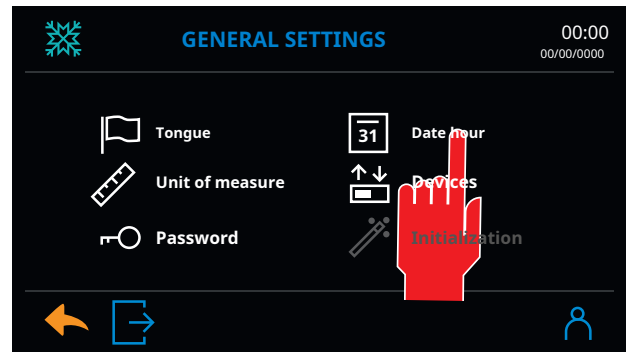


17

DATE HOUR

➡ 18

For the functions of this menu, refer to the Paragraph "MODIFY DATE AND TIME".



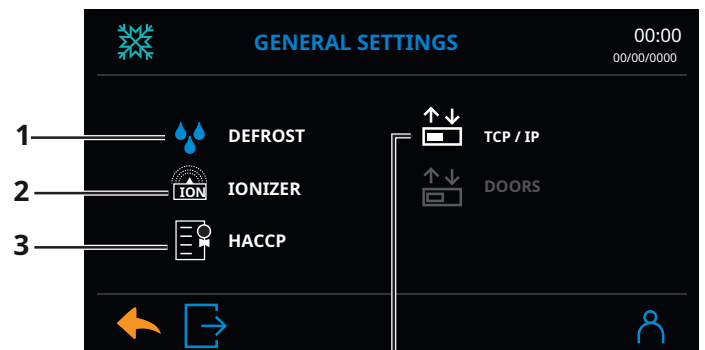
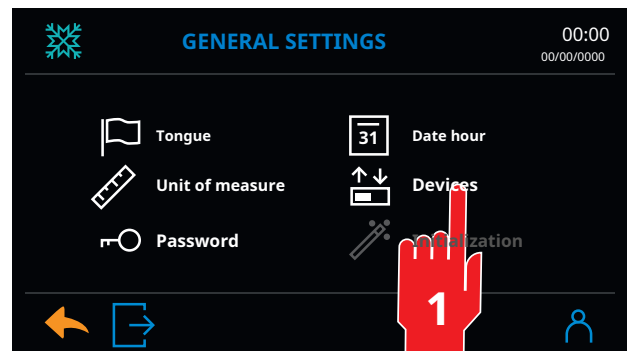
18

DEVICES

➡ 19

This menu includes the following submenus:

- 1 - DEFROST
- 2 - IONIZER
- 3 - HACCP
- 4 - TCP / IP



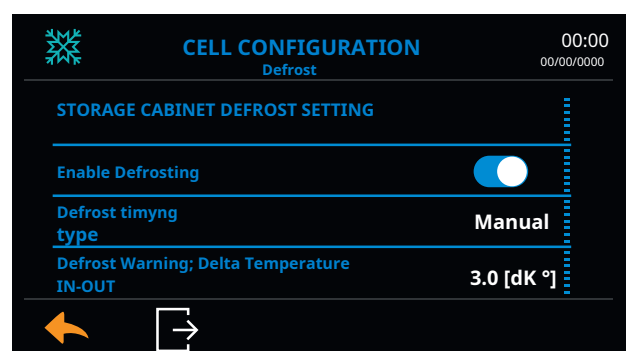
19

1 - DEFROST

➡ 20

The Xcab 50 allows you to manage the following types of defrost according to the Defrost Timing Type parameter:

- **Time:** by enabling this type of defrost, the user can choose the time at which the defrost will be carried out according to the workload or to their production needs. To set the time, use the "Defrost HH" and "Defrost MM" variables



20

- **Automatic:** By enabling this function it is possible to set up to 6 defrost events connected to the machine clock, scheduled equally spaced throughout the day. It is possible to establish the starting time of the first defrost of the day through the parameters "Defrost Hour Start" and "Defrost minute start" and the number of defrosts to be carried out.

Other parameters that can be set are the following:

to. Enabling defrost: Enable or disable the defrost feature.

b. Defrost Timing Type: It allows you to choose the type of defrost which can be automatic or manual

c. Defrost warning delta temperature IN-OUT: temperature difference between the air inlet and outlet (evaporator) which indicates the need to defrost.

d. Defrost warning Evap Temperature Threshold: Evaporating temperature indicating the need to defrost.

And. Time between two defrost: Minimum time between two consecutive defrosts.

f. Time warning after that defrost start: Time after which if the conditions of low evaporator temperature and Temperature difference between the inlet and outlet evaporating air are maintained, the machine performs a defrost.

g. Delay Time Before Reverse 4 Way Valve; Delay Time After Reverse 4 Way Valve: In the case of a 4-way valve, this represents the minimum time to move the drawer before and after defrosting.

h. Defrost Minimum time; Maximum Time: Time limits for the minimum and maximum duration of the defrost.

the. Defrost Dripping Time: Dripping time

j. Defrost Dripping Time: Post-dripping time

k. Post defrost compressor mode: Status of the compressor in the post-dripping phase

L. Delay Hot gas coil valve: Delay in activating the hot gas solenoid valve or heaters at the start of the defrost.

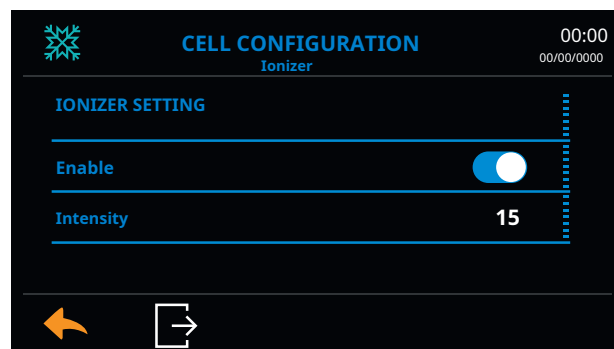
2 - IONIZER (optional)

21

It is possible to choose 15 different degrees of sanitation intensity.

In the table below you can see the characteristics of each grade.

The sanitizer condenser must be periodically checked and replaced annually to maintain optimal sanitization performance.



FIRST NAME	START-UP TIME FANS [sec]	START-UP TIME IONIZER [sec]	TIME BETWEEN TWO IGNITIONS [h]
Intensity 0	0	0	0
Intensity 1	15	180	6
Intensity 2	15	360	6
Intensity 3	15	540	6
Intensity 4	15	180	4
Intensity 5	15	360	4
Intensity 6	15	540	4
Intensity 7	15	120	3
Intensity 8	15	240	3
Intensity 9	15	360	3
Intensity 10	15	120	2
Intensity 11	15	240	2
Intensity 12	15	360	2
Intensity 13	15	120	1
Intensity 14	15	240	1
Intensity 15	15	360	1

3 - HACCP

22

HACCP (Hazard Analysis and Critical control point)

This function of the conservator allows to record possible anomalies during the conservation phase. The registered parameters are as follows:

- **AI_BlackOutCycle:** Power failure alarm during operation
- **AI_DoorOpen:** Door open alarm during cycle in progress
- **AI_SrsCirc1:** Condensate units alarm
- **Cycle_Act_Phase:** Active phase alarm
- **CycleOn_Msk:** Machine started
- **DB_CycleIdx_Active:** Index of the selected cycle (only for blast chillers)
- **Door_Open:** Indicates if the door is open
- **GlbAlrm:** General alarm
- **HACCP_T_AIR:** Air temperature
- **HACCP_T_CORE1:** Core 1 probe temperature (blast chillers only)
- **HACCP_T_CORE2:** Core 2 probe temperature (blast chillers only)
- **HACCP_T_CORE3:** Core 3 probe temperature (blast chillers only)
- **ProdBatch:** Identifies the batch of the product (blast chillers only)


HACCP DATA DOWNLOAD
00:00
00/00/0000

Dryve type

Start date

End date

USB

00: 00 - 00/00/0000

00: 00 - 00/00/0000






22

- ProdWeight: Batch or product weight (blast chillers only)

The sampling time in the HACCP record is variable. Temperatures are recorded when they undergo a variation of +/- 1 ° C and at the onset of an event such as a door opening or an alarm.

NOTE concerning the blackout: If during the operation of the conservator there is an interruption of the electric current for a time longer than the foreseen value, the blackout alarm is signaled. In addition, the date and time of the interruption and the duration of the blackout are shown on the display.

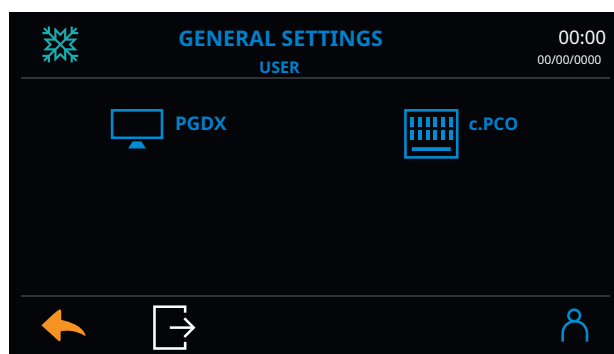
NOTE

The file generated by the machine may have the variable items arranged differently than those listed above.

4 - TCP / IP

23

By pressing the key **c.PCO** you can view the address **IP Adress** of the car.



23

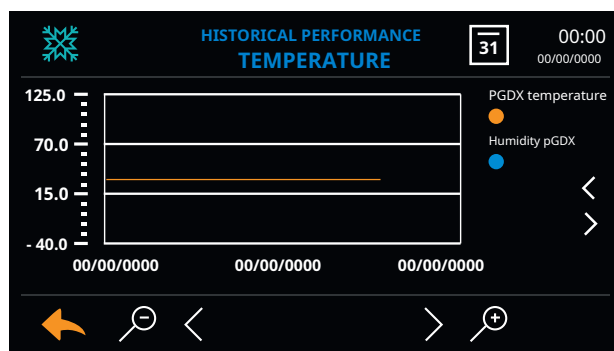
HISTORICAL PERFORMANCE

24

In this menu it is possible to check the temperature and humidity trend over a period of time from a minimum of 1 minute to a maximum of 5 years.

By pressing the "Calendar" button at the top right, a drop-down menu will appear that allows you to select the desired value.

Using the "lens" symbols it is possible to enlarge or reduce the data display field.



24

ALARMS

25

This menu allows you to view the date, time and type of alarm present in the machine, and also to be able to trace the entire history of the alarms that have occurred.

For more details on the types of alarm, refer to the alarm table reported in the paragraph; "FAULTS AND POSSIBLE SOLUTIONS".

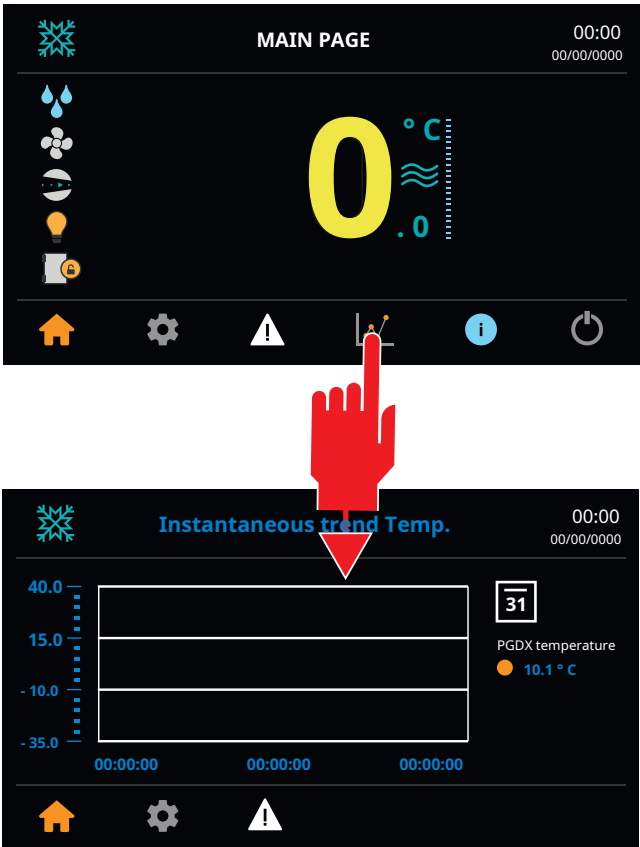


TEMPERATURE GRAPH

26

This function allows you to view the temperature trend in real time, or at time intervals.

Pressing the "Calendar" button a window appears.



NOTE

[illegible]



MAINTENANCE

⚠ BEFORE CARRYING OUT ANY ROUTINE MAINTENANCE AND CLEANING
DISCONNECT THE MACHINE FROM THE POWER SUPPLY NETWORK BY OPERATING THE MAIN SWITCH / DISCONNECTOR OR UNPLUG FROM THE POWER SUPPLY AND WAIT FOR THE CAPACITIVE COMPONENTS TO DISCHARGE (ABOUT A PAIR OF MINUTES).

⚠ THE USER MUST PERFORM THE ORDINARY MAINTENANCE OPERATIONS ONLY (INTENDED AS CLEANING). FOR EXTRAORDINARY MAINTENANCE CONTACT AN ASSISTANCE CENTER ASKING FOR THE INTERVENTION OF AN AUTHORIZED TECHNICIAN.

⚠ THE WARRANTY VOIDS IN THE EVENT OF DAMAGES CAUSED BY FAILURE OR INCORRECT MAINTENANCE (EX. USE OF UNSUITABLE DETERGENTS).

CLEANING

Ordinary maintenance consists in the daily cleaning of all parts that may come into contact with food.

A good maintenance will allow to obtain better performances, a longer life of the equipment and a constant maintenance of the safety requirements.

To clean any component or accessory **DO NOT** use:

- abrasive or powder detergents;
- aggressive or corrosive detergents (eg hydrochloric / muriatic or sulfuric acid, caustic soda, etc ...). Attention! Do not use these substances even to clean the floor under the machine;
- abrasive or pointed tools (eg abrasive sponges, scrapers, steel brushes, etc ...);
- steam or pressure water jets.

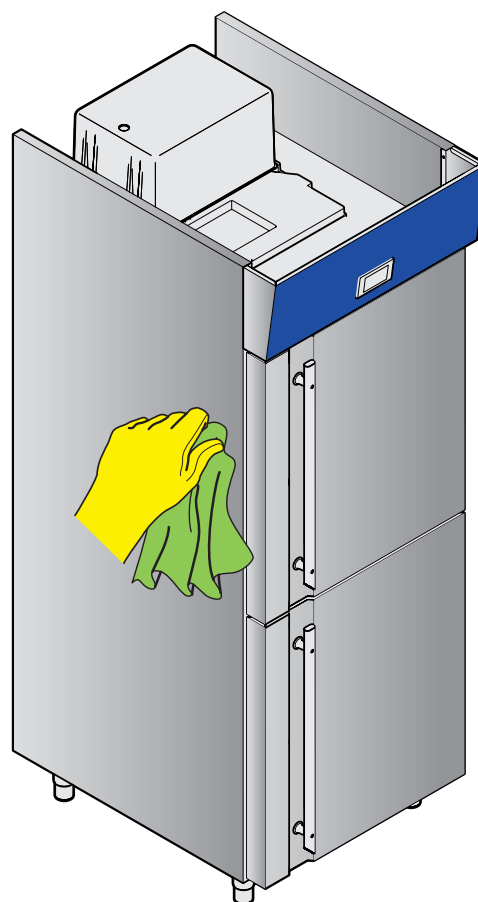
ATTENTION!

Do not use products that contain substances that are harmful and dangerous for the health of people and the environment (solvents, petrol, etc.).

STEEL SURFACES

Clean the machine chamber to maintain high levels of hygiene and machine performance. To clean, use a cloth soaked in hot soapy water and finish with rinsing and drying.

To clean stainless steel, do not use steel wool or iron brushes as they can deposit ferrous particles which oxidizing lead to rust.



REFRIGERANT GROUP

The most significant and important operations relating to ordinary maintenance can be summarized as follows:

- Check the correct seal of the gasket (1) between the boot and the sealing base (figure 27).
- Clean periodically (at least every month) the condenser by removing dust and grease (Figure 28). If the environment where the unit is installed is very dusty, it may be necessary to clean it more frequently. It is advisable to vacuum from the inside outwards, removing dust and grease.
- Visually check the entire refrigerant circuit, even inside the machines, in search of refrigerant leaks which are also indicated by traces of lubricating oil. Act promptly and investigate in case of doubt.
- To check, every four months, the noise of the compressor. This operation must be carried out with caution as it requires that the system be in operation; check for ticking or vibrations which may be signs of breakages or excessive mechanical play between the moving parts.



ATTENTION!

At the end of any maintenance or cleaning operation, reposition all the fixed guards.

TOUCH SCREEN

Use a cloth lightly soaked in a specific product for crystals following the instructions of the detergent manufacturer.

PERIODS OF INACTIVITY

During periods of inactivity, disconnect the power supply. Protect the external steel parts of the machine by wiping them with a soft cloth just soaked in vaseline oil.

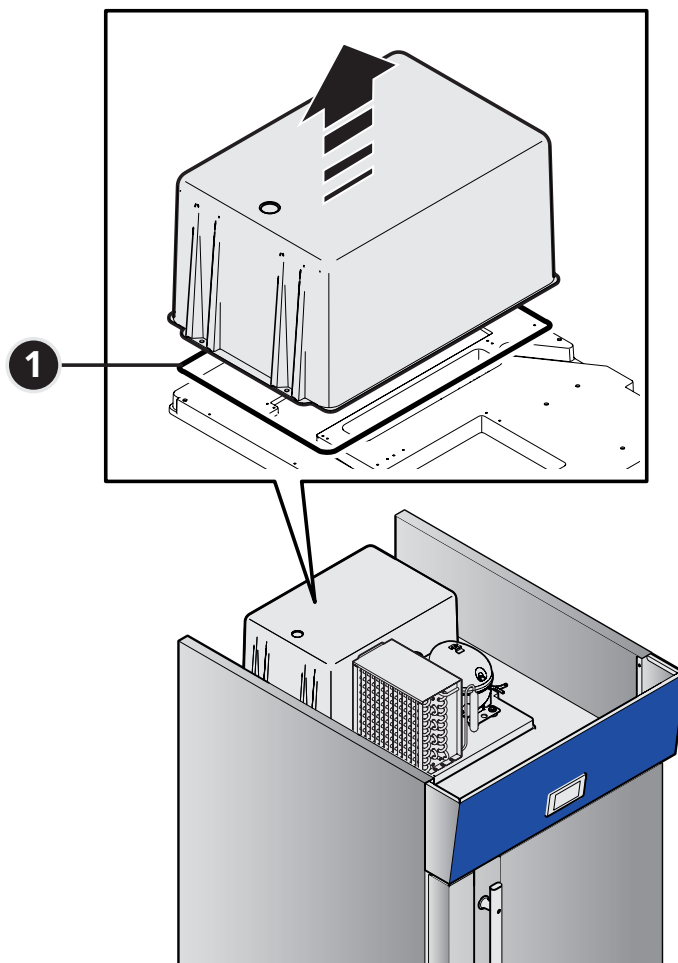
Leave the door ajar to ensure correct air exchange.

On reset, before use:

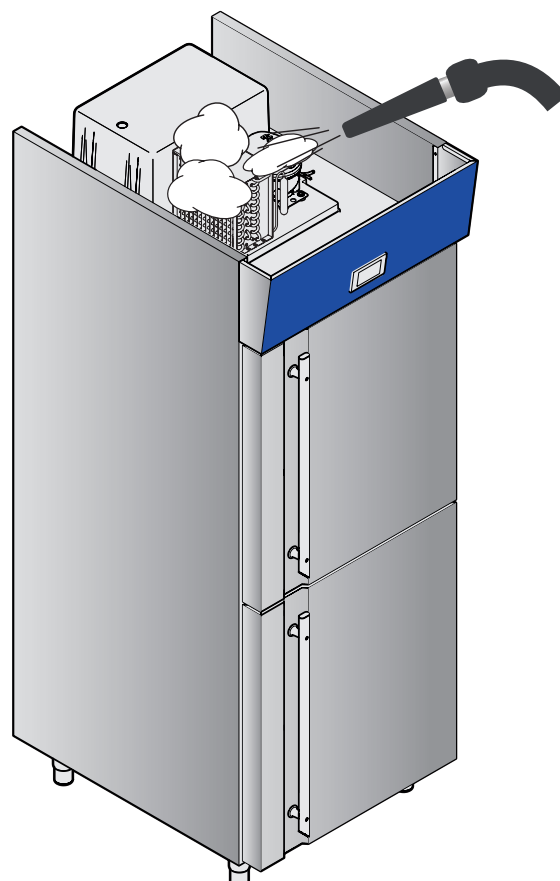
- carry out a thorough cleaning of the machine and accessories;
- reconnect the machine to the power supply;
- have the machine checked before using it again;
- restart the machine at a low temperature for at least 60 minutes without any food inside.



To ensure that the appliance is in perfect conditions of use and safety, we recommend that it be serviced and checked by an authorized service center at least once a year.



27



28

NOTE

[illegible]



SUPPORT

If the machine does not work or you notice functional or structural alterations, disconnect it from the power supply.

Contact an assistance center authorized by the manufacturer, communicating:

- the nature of the defect;
- the code and serial number of the appliance which can be found on the data plate of the same.

SERIAL PLATE

WHERE IS THE SERIAL PLATE

A special identification label with CE marking is affixed to identify the machine. In the temperature conservators, the label (A) is positioned on the left side at the top in correspondence with the dashboard, the second and third labels (B) (C), which only show the serial number, are positioned respectively under the dashboard and in correspondence of the electrical panel.

Specifically, the plate shows the data necessary for the assistance center to recognize the machine in its original characteristics:

1. Model.
2. Serial number.

DISPOSAL AT THE END OF LIFE

The disconnection operations from the electrical and hydraulic circuits must be carried out exclusively by qualified technicians.

If present, recover and dispose of correctly: refrigerant gas;

brine solutions present in the hydraulic circuits, avoiding spills or leaks in the environment.

Pursuant to art. 13 of the Legislative Decree n. 49 of 2014 "Implementation of the RA EE 2012/19 / EU Directive on waste electrical and electronic equipment" IT08020000000615



The brand of the crossed-out bin with a bar specifies that the product was placed on the market after 13 August 2015 and that at the end of its useful life it must not be assimilated to other waste but must be disposed of separately.

All equipment is made with recyclable metal materials (stainless steel, iron, aluminum, galvanized sheet, copper, etc.) in a percentage greater than 90% by weight. Make the machine unusable for

TO

2

1

B.

C.

NUOVAIR
INNOVATION FOR REFRIGERATION

Model: SN:

Rated Voltage: Max Current: A

Heating System: kW

Comp. Power: kW Comp. Type:

Refrigerant Type: Quantity gas: kg
CO2 EQ.: ton

Foaming gas type: HFC- 365mfc / 227ea HFC- 245fa

DIRECTIVE 2014/68/EU OF 15/05/2014 (PED)

PED CODE: CAT.:

Ps Hp: bar Ps Lp: bar
Ts Hp: °C Ts Lp: °C

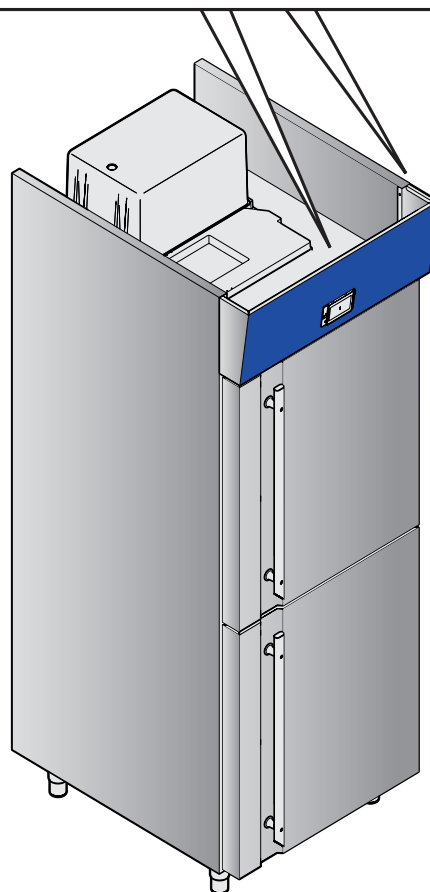
Weight: 250kg

X CAB1912001

X CAB1912001

X CAB1912001

Made in Italy



disposal by removing the power cord and any compartment or cavity closing device (where present). It is necessary to pay attention to the management of this product at the end of its life, reducing negative impacts on the environment and improving the effectiveness of the use of resources, applying the principles of "polluter pays", prevention, preparation for reuse, recycling and recovery. Please note that abusive or incorrect disposal of the product involves the application of the sanctions provided for by the current legislation.

INFORMATION ON DISPOSAL IN ITALY

In Italy, the RA EE equipment must be delivered: to the Collection Centers (also called ecological islands or ecological platforms) to the dealer where you buy a new machine, who is required to collect them free of charge ("one-on-one" collection).

INFORMATION ON DISPOSAL IN UNION COUNTRIES

European The EU Equipment Directive RA EE has been transposed differently by each country, so if you wish to dispose of this machine we suggest you contact your local authorities or your Dealer to ask for the correct method of disposal.

CONSTRUCTION MATERIALS

Stainless steel: construction of the cabinet; Parts in plastic material;
Refrigerant gas: in the refrigerant circuit;
Compressor oil: in the refrigeration circuit;
Copper: electrical system and refrigeration circuit.

FAULTS AND POSSIBLE SOLUTIONS

The blast chiller is equipped with a visual system that signals the presence of an alarm. The alarms are shown in the display.

The following table shows the list of alarms signaled by the electronics:

FIRST NAME	DESCRIPTION	CAUSES REMEDIES EFFECTS
Alarm 6	Alarm: Door Open	Door Open Alarm. Causes: • Open door. • Damaged cable, connection or micro port. • Wrong door switch positioning. • Cable disconnected from the terminal block. Defer: • Check the status of the door. • Check the connections between the door switch and the mooring device. • Check the integrity of the door mic. Main Effects: • Warning message on the cycle start screen; Inability to start a cycle. • Blocking of the fans after a preset time. • Blocking of the condensing unit after 300 s • GENERAL ALARM signaling CYCLE IN PROGRESS. • GENERAL UNIT OR CELL ALARM signal. • If available, connection to the external network, sending alert e-mails.

FIRST NAME	DESCRIPTION	CAUSES REMEDIES EFFECTS
Alarm 7	Alarm: Too many Retain memory writings	Alarm Excessive Writes in the Memory Unit Controller
		Causes: • Possible corruption of the controller ROM memory.
		Defer: • Contact Supplier.
		Main Effects: • Controller ROM memory corruption. • Inability to use the machine.
Alarm 8	Alarm: Retain memory write error	Alarm Writing error in Retain memory.
		Causes: • Possible corruption of the controller ROM memory.
		Defer: • Contact Supplier.
		Main Effects: • Controller ROM memory corruption. • Inability to use the machine.
Alarm 68	Alarm: Error Air Temperature Probe	Cell Air Probe Alarm.
		Causes: • Probe invalid. • Internal probe error, damaged or broken. • Probe configuration error. • Probe disconnected. • Probe not used.
		Defer: • Check the connection and configuration of the probe. • Replace the probe. • Contact Supplier.
		Main Effects: • Inability to use the machine. • Inability to use adaptive defrost
Alarm 69	Alarm: Error Pack Temperature Probe	Evaporating Pack Temperature Probe Alarm.
		Causes: • The same as for the cabinet Air Temperature probe error but relative to the Evaporator probe.
		Defer: • The same remedies as for the cabinet air temperature probe but with regard to the evaporator probe.
		Main Effects: • Inability to use adaptive defrost.

FIRST NAME	DESCRIPTION	CAUSES REMEDIES EFFECTS
Alarm 70	Alarm: Error Resistance Temperature Probe	Resistance Temperature Probe Alarm.
		Causes: • The same as the cabinet Air Temperature probe error but relative to the Resistance Temperature Probe.
		Defer: • The same Remedies as for the Cell Air Temperature Probe but relating to the Resistance Temperature Probe.
		Main Effects: • Inability to use the machine.
Alarm 76	Alarm: Blackout	Evaporating Side Pressure Probe Alarm.
		Causes: • Cell power supply interruption during a cycle.
		Defer: • Turn the machine's power back on.
		Main Effects: • If the cycle is not in progress, no cycle alarm will be generated • If the blackout lasts more than 5 days, the machine remains blocked for 4.30 hours in order to avoid starting with refrigerant inside the compressor crankcase. • If during a cycle in progress a blackout with a duration longer than the set one occurs, a cycle alarm is generated, see alarm 84.
Alarm 83	Alarm: Door Open during cycle	Door opening alarm during an active cycle.
		Causes: • If during a cycle in progress the door is opened for a time exceeding the set limit, the door open alarm is triggered. • Micro door damaged
		Defer: • Check that the door is closed. • Check connections and integrity of the door switch.
		Main Effects: • Block of the cycle in progress; If the alarm stops, the cycle restarts. • GENERAL ALARM signaling CYCLE IN PROGRESS. • If available, connection to the external network, sending alert e-mails.
Alarm 84	Alarm: Blackout during cycle	Blackout alarm during the cycle.
		Causes: • Power failure during a cycle in progress.

FIRST NAME	DESCRIPTION	CAUSES REMEDIES EFFECTS
		Defer: • Restore power supply.
		Main Effects: • Alarm signaling in case the blackout exceeds the set time threshold and there is a cycle in progress. • GENERAL ALARM signaling CYCLE IN PROGRESS. • If available, connection to the external network, sending alert e-mails.
Alarm 85	Alarm: High temperature in cell	Cell high temperature alarm.
		Causes: • High internal cell temperature detected (higher than the set limit).
		Defer: • Check the cell internal temperature. If necessary, intervene to restore the cell temperature. • If the problem occurs with an empty cell, disconnect the machine. • Contact the supplier.
		Main Effects: • Alarm signaling with fan block.
Alarm 87	General Cycle Alarm	General Alarm Cycle in progress
		Causes: • Alarm concatenations
		Defer: • See other alarms.
		Main Effects: • GENERAL CYCLE ALARM signal. • If available, connection to the external network, sending alert e-mails.
Alarm 89	Alarm: High temperature Cycle	Cell High Temperature Alarm during a cycle
		Causes: • High internal cell temperature detected during a cycle.
		Defer: • Review the cycle parameters. • Contact Suppliers.
		Main Effects: • Switching off the resistances If present. • GENERAL CYCLE ALARM signal. • If available, connection to the external network, sending alert e-mails.



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NUOVAIR
INNOVATION FOR REFRIGERATION



XCAB 50

INSTALLATION



Dear customer

Thank you for purchasing the XCAB series conservator. This manual is an integral part of the machine and as such must be kept for its entire useful life.

For correct and safe installation of the machine it is necessary to follow the warnings contained in this manual.

These warnings provide information regarding:

- The method of installation and commissioning.

FAILURE TO COMPLY WITH THE INSTRUCTIONS PROVIDED MAY COMPROMISE THE SAFETY OF THE APPLIANCE AND IMMEDIATELY VOID THE WARRANTY CONDITIONS.

ANY INSTALLATION INTERVENTION; MAINTENANCE, ADJUSTMENT AND REPAIR MUST BE PERFORMED BY QUALIFIED TECHNICIANS ONLY.

The manufacturer of the machine is relieved of any liability relating to breakages, direct and indirect damage to people, property or pets, and any inconvenience caused, due to:

- Incorrect installation or installation carried out by unqualified personnel.
- An incorrect power supply.
- Serious deficiencies in ordinary and extraordinary maintenance.
- Unauthorized modifications or interventions.
- The use of non-original or unspecified spare parts for the model.
- Partial or total non-compliance with this manual.

NUOVAIR Srl reserves the right to make any changes it deems necessary without prior notice to improve its product or its technical manual by inserting any changes in subsequent editions.

Partial reproduction is prohibited without the manufacturer's consent. The measurements provided are indicative and not binding.

The original language is Italian: the Manufacturer is not responsible for any translation / interpretation or printing errors.

SAFETY	5
TERMINOLOGICAL NAMES	5
SYMBOLS IN THE MANUAL	5
WARNINGS	6
GENERALITY'	7
GENERAL SAFETY RULES LIFTING	9
AND TRANSPORT PROTECTION	11
DEVICES DANGER SIGNALS	11
WARRANTY	15
	16
SUPPORT	17
TECHNICAL DATA	19
IDENTIFICATION OF THE TEMPERATURE CONSERVATOR	19
DIMENSIONAL DATA	20
TECHNICAL FEATURES	21
POSITIONING	23
PACKAGING CONTENTS	23
TRANSPORT OF THE EQUIPMENT FEATURES OF THE	24
INSTALLATION ROOM MINIMUM DISTANCES	25
	26
POSITIONING AND LEVELING	26
CONNECTIONS	29
ELECTRICAL CONNECTION	29
REFRIGERATOR CONNECTION	30
NOTES	33



SAFETY

NAMES

TERMINOLOGICAL

With the term **Machine** we mean the functioning set of storage cell connected to the built-in refrigeration system with built-in or remote condensing unit, mutually connected. This set is also called Temperature Conservator.

USEFUL DEFINITIONS

Dangerous area: Any area in the vicinity of the Machine where the presence of a person constitutes a probable risk for that person.

User / Staff: Any person who uses the machine deriving from the union of the condensing unit and the blast chilling cell, or who entrusts its use or operations related to its use to suitably trained people.

Person exposed to danger: Person who is internally or partially in a dangerous area or adjacent to it.

Mechanical maintenance technician: Qualified technician with the necessary skills to intervene in any mechanical organ to carry out adjustments, repairs, maintenance, welding and brazing.

Electrical maintenance engineer: Qualified technician with the necessary skills for electrical interventions and, where necessary, able to operate even in the presence of voltage in electrical panels or junction boxes.

Handling officer: Qualified personnel who carry out the tasks of handling the machine.

Manufacturer's technician: Qualified technician made available by the manufacturer of the machine.

Personal protective equipment: PPE, or Personal Protective Equipment, are equipment and instruments that aim to minimize the damage deriving from risks to health and safety at work.

SYMBOLS IN THE MANUAL



This symbol identifies a situation for which failure to comply with the indicated standards could cause risks for the machine and for the safety of the operator or exposed persons, with the risk of injury or death.



This symbol identifies some tips and details for correct machine operation.



Indicates the need to use head protectors, suitable for carrying out the described operation.



Indicates the need to wear suitable protective gloves for the operation to be carried out. (Dielectrics in the case of live components).



Indicates the need to use safety shoes suitable for the operation to be performed.



Indicates the need to use protective clothing suitable for the operation to be carried out.



Indicates the need to use protective goggles suitable for the operation to be carried out.



Indicates the need to use hair covers suitable for the operation to be carried out.

WARNINGS

ATTENTION!

Before installing the equipment, it is recommended to carefully read and observe the following safety warnings, to reduce residual risks:

 This manual is an integral part of the machine and as such must be kept for its entire useful life. The manual is intended for all personnel, all operators and maintenance technicians concerned, with the aim of providing the indications and instructions necessary for the installation, commissioning, maintenance and disposal of the machine.

 This appliance must only be used for the use for which it was designed, i.e. for storing food and food products. The Manufacturer declines all responsibility for any direct and indirect damage resulting from inappropriate use of the machine.

 The installation, handling, operation, maintenance and disposal of the machine must be carried out by professionally qualified and authorized personnel.

 After removing the packaging, check the integrity of the machine. If you notice structural or functional alterations do not install it and contact the Reseller or the Manufacturer.

 Do not leave the elements that make up the packaging within the reach of children or animals as they could

generate potential sources of danger (Suffocation). The elements that make up the packaging must be disposed of in compliance with current regulations.

 Before connecting the machine to the electrical network, check that the machine plate data correspond to those of the electrical distribution network where the machine is connected. The Manufacturer assumes no responsibility if the electrical connection is not made according to the regulations in force.

 The electrical safety of this appliance is only ensured when it is correctly connected to an efficient grounding system, as required by the electrical safety regulations. The manufacturer of the machine declines all responsibility for any direct or indirect damage to things, people or animals caused by the lack of grounding of the system.

 If the power supply cable of the machine is damaged, have it replaced with a completely similar one by qualified personnel in order to reduce or eliminate the resulting risks.

 Do not tug on the machine's power cord to disconnect it from the mains.

 Do not pour water on live parts of the machine as well as on the electric cable or plugs.

 Do not place the temperature conservator on unsuitable surfaces, for example on uneven surfaces or with slopes which could in some moments turn out to be anomalous and which could cause instability of the machine or product.

content. The machine must be leveled so that the condensate drain of the self-evaporating pan works correctly otherwise condensation may escape from the top of the machine.

 Do not insert fingers, tools or objects through the grill of the fans, they could damage the machine or project parts with consequences of cutting, shearing and hitting people in the immediate vicinity of the machine.

 Do not install the temperature conservator outdoors.

 Do not install the temperature conservator in potentially explosive environments.

 Do not install accessories and parts that are not original and not authorized by the manufacturer.

 Do not remove the protection grids and fan covers for any reason.

GENERALITY'

The temperature conservator has been designed considering the directives and related harmonized standards of the European community, as well as the relative product standards associated with it (see specific paragraph).

NOTE:

The customer can request a copy of this documentation by sending a written request to the manufacturer, justifying this request.

PURPOSE AND CONTENT OF THE MANUAL

This installation manual is an integral part of the machine and as such must be kept for its entire life

useful of the latter.

The manual is intended for all personnel, all operators and maintenance personnel interested in the purposes described in this point.

The manual provides the indications and instructions necessary for the correct and safe installation, commissioning, disassembly and disposal of the machine; it also provides information regarding:

- 1.The technical characteristics of the temperature conservator.
- 2.Preparation of the workplace with regard to environmental characteristics and electrical connections.
- 3.The safety devices and warnings regarding the residual risks of the machine.

The topics are divided into sections, which are in turn divided into paragraphs and subparagraphs in order to allow rapid retrieval of information.

The manual cannot in any way replace the specific training that operators must have previously achieved on similar equipment or that they will be able to achieve on this Machine / partly completed machine under the guidance of already trained personnel.

PRESERVATION OF THE MANUAL

The manual is considered an integral part of the machine / partly completed machine and must be kept until the final dismantling of the machine.

The manual must always be available for consultation and must be kept with care, protected from dust, humidity and in a safe place; in the event of damage that even partially compromises the consultation, the user is required to request a new copy from the Manufacturer.

ATTENTION!

The information contained in this chapter refers only and exclusively to the temperature conservator and, if necessary, must be integrated with the information relating to the safety standards of the system in which the conservator is used.

The entire documentation relating to the machine has been developed considering the topics indicated in the machinery directive 2006/42 / EC.

The depiction or description relating to the configuration of some parts of the machine may present differences between the manual and the real machine; that is, there may be optional equipment. Some indications

and procedures, therefore, are of a general nature.

Non-quoted drawings and photographs are used for better clarity of presentation and are provided for illustrative purposes.

Failure to comply with the instructions contained in this manual can make the safety conditions foreseen in the design phase and cause accidents for those who work with the machine.

NORMATIVE REQUIREMENTS

For the design of the machine, the principles and concepts relating to the harmonized standards indicated in the following table were followed and adopted.

NATIONAL LEGISLATION	
Dgls n. 17/2010	Implementation of directive 2006/42 / EC, relating to machinery and amending directive 95/16 / EC relating to lifts.
EUROPEAN LEGISLATION	
Directive 2014/35 / EU	Directive of the European Parliament and of the Council of 17 May 2006 relating to machinery and subsequent updates
Directive 2006/42 / EC	Directive of the European Parliament and of the European Council of 26 February 2014; Low Voltage Directive (LVD)
Directive 2014/30 / EU	The Directive 2014/30 / EU of the European Parliament and of the Council of 26 February 2014 concerning electromagnetic compatibility (EMC)
Directive 2014/68 / EU	Directive concerning the harmonization of the laws of the Member States relating to the making available on the market of pressure equipment (PED Directive).
Directive 2011/65 / EC	Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHs2 Directive)
Directive 2012/19 / EC	Waste Electrical and Electronic Equipment (WEEE) Directive
Directive 93/68 / EEC	Directive relating to the CE marking
STANDARDS	
UNI EN ISO 12100: 2010	Machinery safety - General design principles - Risk assessment and risk reduction. Part 1: Basic terminology, methodology. Part 2: Technical Principles.
UNI EN ISO 13857: 2008	Machine safety - Safety distances to prevent upper and lower limbs from reaching dangerous areas.
CEI EN 60335-2-89	Household and similar electrical appliances - Safety - Part 2: Particular requirements for commercial refrigerating appliances with built-in or remote refrigeration unit or compressor.
CEI EN 61000-6-2	Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for residential, commercial and light industrial environments.
UNI EN ISO 7010: 2017	Electromagnetic Compatibility (EMC) - Part 6-3: Generic standards - Standard emissions for residential, commercial and light industrial environments.
CEI EN 61000-6-3	Graphic signs - Colors and safety signs - Registered safety signs

SAFETY RULES

GENERAL

The observance of the machinery directive and the observance of the relevant paragraphs with the related harmonized standards have made it possible to eliminate or reduce the risks associated with the use of this machine during its life stages.

The necessary warning and protection measures have been adopted with regard to residual risks, that is to say those risks that it was not possible to eliminate through design choices or using shelters. For detailed information see the dedicated paragraphs.

Failure to apply these requirements could make the envisaged safety conditions inadequate.

It is recommended to strictly follow the warnings and rules of conduct given here.

NUOVAIR Srl declines all responsibility for damage to things or persons deriving from the use of the conservator or for the physical safety of the operator or third parties deriving from the non-observance of the safety rules contained in the technical documentation supplied with the conservator. Before starting work, the operator must be perfectly aware of the characteristics of the temperature conservator, of the position and operation of all the controls; he must also have read and fully understood this use and maintenance manual.

ATTENTION!

The instructions, warnings and general accident prevention rules contained in the reference publications or indicated in the signs applied on the temperature conservator must be fully respected.

CLOTHING

The clothing of those who work or carry out maintenance on the machine must always be suitable for the type of operation in progress. Furthermore, it must comply with the safety requirements provided for by the legislation in force in the country of use. The machine itself.

In general, the operator must wear the correct PPE. Wear safety shoes with non-slip soles; the use of moccasins, clogs, slippers or any other type of footwear that can compromise the mobility of the person is not allowed.

The clothes worn must be suitable for the work to be done.

ACCESS TO THE WORK AREA

The work area (and in particular the areas where the control panels and the emergency buttons are installed) must never be occupied by material or other, so that nothing interferes with the operator's freedom of movement. In the event of an emergency, immediate access to the conservator must be guaranteed by the staff in charge. Using the appropriate warning signs, it is advisable to prohibit access to the work area to personnel who are not trained in the use of the temperature conservator.

During maintenance operations, especially when operating with open protections or safety devices disconnected, an operation permitted only to formally authorized and duly trained personnel, it is necessary to pay the utmost attention so that THE WORKING AREA IS INACCESSIBLE to people who are not directly interested in these operations.

During maintenance operations, the area where this operation is carried out must always be clean and dry.

In case it is necessary to carry out interventions

in the vicinity of electrical components always operate with dry hands and wear dielectric gloves.

At the end of the maintenance operations, check that no tools, possibly used, are left inside the temperature conservator and that any protections removed have been put back in their position.

ENVIRONMENTAL CONDITIONS OF USE

1. TEMPERATURE AND HUMIDITY.

THE TEMPERATURE CONSERVATOR must be used in rooms with an ambient temperature between + 15 ° C and + 32 ° C and with relative humidity lower than 55%.

2. WORKING ENVIRONMENT.

THE TEMPERATURE CONSERVATOR must be used sheltered from atmospheric agents (rain, hail, snow, fog, etc.) and only in industrial / artisan environments. In the case of a remote condensing unit, this must be installed in a special machine room or, if positioned outside, it must be protected from atmospheric agents (rain, hail, snow, fog, etc.) and in a place sheltered from the sun. In any case, a minimum air exchange must be guaranteed.

The use of the temperature conservator in an explosive or partially explosive atmosphere is not envisaged: it is therefore forbidden for the user to use it in such conditions.

3. LIGHTING.

The room that houses THE TEMPERATURE CONSERVATOR must be illuminated in such a way as to be able to easily identify the buttons and the control and emergency stop devices. Good industrial-type lighting for medium-accuracy processing is approximately 300-600 lux).

4. ATMOSPHERES AND AGGRESSIVE SUBSTANCES INSIDE THE CELL.

Some food products generate it

release of particularly aggressive and corrosive vapors for the evaporating coil. While being protected by surface treatment, caution will be required with some products. In particular, the surface treatment adopted for the evaporating coils of the temperature conservators is not suitable in the presence of:

1. NITRIC ACID.
2. SODIUM HYPOCHLORITE. (BLEACH).
3. SODIUM HYDROXIDE.
4. CHROMIC ACID.
5. FORMIC ACID.
6. FLUORHYDRIC ACID.
7. SULFURIC ACID.
8. VINEGAR-NITRILE MIX; METHANOL; TETRAHYDROFURAN; HEXANE; DICHLOROMETANO and others.

In case of doubts regarding the substances that can damage the evaporator, contact the NUOVAIR Srl service

5. RESIDUES AND ENVIRONMENTAL

CONTAMINATIONS. The user is required to comply with the standards and directives in force in the country of use of the temperature conservator for the treatment of any lubricants and fluids used in the temperature conservator.

PROTECTION DEVICES

The conservator is equipped with protective devices. All persons in charge of using the temperature conservator, however destined to come into contact with it, must carefully read this use and maintenance manual which describes the dangerous areas and the relative interventions adopted in terms of safety, as well as the areas so-called “residual risk”, ie those areas which, despite the interventions adopted, still present a certain degree of danger.

ATTENTION

The safety devices must not be removed or deactivated for any reason; any operation carried out on the temperature conservator deliberately excluding the safety devices or any type of manipulation of the devices themselves is at the risk of the person carrying out it.

PASSIVE PROTECTIVE DEVICES

The following construction devices and solutions have been adopted for the temperature conservator:

- painted steel grids (outside the cell) and not (inside the cell) to protect the rotating parts or technical compartments;
- in order to highlight the areas where particular attention must be paid and the areas at residual risk for the safety of the operator and exposed persons, danger warning plates have been affixed.

ATTENTION

The removal of the labels or their failure to replace in case of deterioration, causes the user to assume full responsibility for all

consequences that may arise or derive from the use of the temperature conservator without complying with the safety conditions provided by the manufacturer.

LIFTING AND TRANSPORT

RESIDUAL RISKS DURING THE LIFTING AND TRANSPORT PHASES.

- Possible crushing and shearing of the limbs of the operators assigned to the handling caused by loss of load stability, or by kinetic or potential energy during handling, lifting and / or transport operations.
- Impacts of parts or components of the temperature conservator with people or things due to unexpected movements or incorrect behavior by the staff handling or due to the projection of moving parts of the temperature conservator not properly fixed in the packing phase.
- Unhealthy positions or excessive strain for handling and transport operators.

Personal protective equipment required:



SPECIAL ATTENTION FOR THE LIFTING AND TRANSPORT PHASES

During the lifting and transport phases, it is necessary to pay particular attention to the operations described below.

- Designate for these operations only specialized personnel trained in machinery handling procedures and able to choose and safely use the most suitable lifting and transport means.
- Before moving or lifting, check and make sure that there are any moving parts duly fixed, or if applicable

remove and reposition them after handling or lifting.

- Constrain the doors of the conservator during handling as they could generate sudden opening / closing.
- DO NOT LIFT THE PRESERVATOR FOR ANY REASON BY GRASPING IT BY PARTS THAT ARE NOT STRUCTURAL BY THE FEET OR THE WHEELS.
- Make sure that there are no people near the area where lifting, handling and unloading operations take place.
- Always warn the start of maneuvers.
- Do not pass under suspended loads, always keep a safe distance.
- Never allow loads to pass through.

UNPACKING, INSTALLATION AND CONNECTION AND TESTING

RESIDUAL RISKS DURING UNPACKING, INSTALLATION AND CONNECTION

During the installation and connection phase, the following risks are possible:

- Operations on partly completed machinery (blast chilling cell and condensing unit) by unqualified, untrained, uninformed or improperly equipped personnel.
- Electrocution, shock, burns, fire from Contact with live elements
- Burns and injuries from cold or heat.
- Impact, crushing and shearing by the machine being handled, or by elements and components thrown by it during the handling and / or lifting phases.
- Suffocation by packaging material.
- Trip with consequent fall at the electrical connections and refrigeration pipes.
- Damage to the machine / partly completed machine during the installation phase e

connection.

- Asphyxiation caused by the gas that could escape from the machine during the installation phases.
- Explosion of parts or pipes of the partly completed machine during the installation and welding phase of the refrigeration lines.

Personal protective equipment required:



SPECIAL ATTENTION FOR THE UNPACKING, INSTALLATION AND CONNECTION PHASES

During the unpacking, installation and connection phases, it is necessary to pay particular attention to the following operations.

- Follow the instructions already provided in the paragraph "Lifting and transport during the necessary machine / partly completed machine handling operations".
- Do not disperse in the environment and do not leave the packaging material within the reach of children, it can cause suffocation. Dispose of the material in full compliance with current regulations.
- The compressor discharge and suction lines could reach temperatures such as to cause burns and burns from cold and heat. Before touching the pipes, check their temperature. Always wear protective gloves.
- In case of gas leaks from the refrigerant circuit during installation and maintenance, do not touch and inhale the leaked gas. It can cause cold burns and suffocation. Before returning to the room, ventilate and ventilate the room as much as possible and check the quality of the air. (See safety data sheet of the refrigerant gas used)

- In the event that the gas leaks concern flammable fluids, in addition to the precautions of the previous point, disconnect the general power supply and evacuate the environment.
- Do not weld pipes containing refrigerant fluid as they could explode projecting sharp parts and / or molten parts that can cause perforation and collisions with people or animals in the surrounding area and in the most serious cases even death.
- After installation and maintenance of the machine, check that there are no refrigerant gas leaks.
- Do not let the electrical panel and internal components come into contact with conductive liquids.
- Do not wash the machine with jets of water as these could damage the machine and give rise to electrical and mechanical problems.
- Do not insert fingers or tools or objects through the grates of the fans, they could damage the machine or project parts with consequent cuts and collisions with people in the immediate vicinity of the temperature conservator.
- Do not yank the power cord of the temperature conservator as this may damage and cause short circuits, and causing parts to become conductive, and creating the risk of electrocution, fire and shock.
- Access to electrical parts must only be carried out by electrical maintenance technicians.
- Protect the pipes of the connections to the energy sources by means of rigid sheaths or suitable cable ducts.
- Insulate the heat transfer fluid pipes in the case of a remote condensing unit in order to eliminate condensation and avoid cold burns.
- Always carry out the required interventions using standard tools and pay

always pay close attention to elements that could lead to tripping or causing cuts and bruises.

MAINTENANCE AND DEMOLITION

RESIDUAL RISKS DURING MAINTENANCE AND DEMOLITION PHASES.

In the maintenance and demolition phase there are the residual risks connected:

- Operations on partly completed machinery (storage cell and condensing unit) by unqualified, untrained, uninformed or uninformed personnel properly equipped.
- Electrocution, shock, burns, fire from Contact with live elements
- Burns and injuries caused by contact with hot elements of the machine or with instruments and equipment used.
- Impact, crushing and shearing by the machine / partly completed machine being handled, or by elements and components thrown by it during the handling and / or lifting phases.
- Trip with consequent fall at the electrical connections and refrigeration pipes.
- Damage to the machine / partly completed machine during the maintenance phase.
- Asphyxiation caused by the gas that could escape from the machine during the maintenance and demolition phases.
- Explosion of parts or pipes of the partly completed machine in the maintenance and decommissioning phase.
- Contact with refrigerant fluid.

Personal protective equipment required:



RESIDUAL RISKS DURING MAINTENANCE AND DEMOLITION PHASES.

During the maintenance and demolition phases, it is necessary to pay particular attention to the operations described below.

- Always carry out the required interventions using standard tools; always pay close attention to items that could lead to tripping or causing cuts and bruises. Always wear the appropriate PPE.
- The execution of maintenance and demolition / disposal interventions must always be carried out by qualified and specially trained personnel.
- Check that the power supplies have been properly disconnected and that no one can reactivate them before the conclusion of the maintenance interventions (including cleaning phases) and disposal. Also check that any residual energy of the heat transfer fluid has been discharged before proceeding with any intervention.
- Operate on the machine and its pipes after having emptied them of the refrigerant gas and before proceeding to restart the machine, carry out the vacuum operations.
- Restore the positioning of the fan protection grids once the maintenance of the machine is finished as they are rotating parts that can cause consequences of impact, entanglement, abrasion, shearing.
- Do not insert fingers or objects through the protective grilles of the fans.
- Do not work on the machine with bare feet and without the appropriate PPE, nor with damp or wet hands.
- Do not wash the machine with jets of water both internally and externally.
- Before restarting the machine after maintenance or cleaning operations, check that you have not left any tools inside the machine.

Check the tightening of the moving or opening parts and that you have repositioned all the safety devices that may have been removed as well as check that there are no refrigerant leaks. The correct positioning of the ball cocks and shut-off valves, if present, must also be checked.

- Before carrying out any maintenance, cleaning and disposal, disconnect the machine from the power supply.
- Do not for any reason use benzine solvents or other flammable fluids to clean the parts, but use approved, non-toxic, non-flammable detergents.
- Do not carry out modifications or transformations of the Machine that could jeopardize its safety and without first contacting and obtaining written authorization from the manufacturer.

SIGNALING PLATES

DANGER

In order to highlight the areas of the temperature conservator where particular attention must be paid and the areas at residual risk for the safety of the operator and the exposed persons, danger warning plates have been affixed.

ATTENTION!

The removal of the labels or their failure to replace in case of deterioration, causes the user to assume full responsibility for all

consequences that may arise or derive from the use of the temperature conservator without complying with the safety conditions provided by the manufacturer.

Symbols:



This symbol identifies the inability to use water, water or foam extinguishers to put out fires on electrical equipment.



This symbol identifies the prohibition to carry out work on live systems, to touch systems unless authorized, to remove the guards and safety enclosures before having disconnected the voltage.



This symbol identifies the prohibition to remove installed safety devices and protections.



This symbol identifies the danger of hot surfaces in correspondence with the surfaces where it is affixed. In our case this symbol is affixed externally to the cell but refers to the internal surfaces of the latter.



This symbol identifies low risk temperature. Also in this case the symbol is affixed externally to the cell but refers to the internal surfaces of the latter.



This symbol identifies a live electrical system.



This symbol identifies the danger of cutting oneself and is affixed to the condenser and inside the evaporator.

WARRANTY

NUOVAIR Srl guarantees the temperature conservator free from defects in material and workmanship for a period of 24 months.

Within the aforementioned terms, "La Nuovagel" undertakes to replace the customer free of charge those parts which in its opinion show manufacturing defects. The warranty excludes the provision of labor, for assembly and disassembly for the replacement of defective parts, and also excludes the transport costs of the parts sent for replacement.

The assumption of responsibility by the manufacturing company excludes the termination of the contract and any other liability and obligations for other expenses, direct damages deriving from the use of the equipment, both total and partial.

TRANSACTIONS THAT INVOLVE THE WARRANTY.

NUOVAIR Srl is not responsible for defects that depend on incorrect operation of the equipment by the user, or deriving from modifications or repairs carried out by the user or by third parties without the written consent of La NUOVAIR Srl, regardless from the causal relationship between such modifications or repairs and the facts found. All tools and consumables supplied by the manufacturer are excluded from the guarantee.

The Manufacturer is responsible only for defects inherent in the parts supplied and found in compliance with the foreseen conditions of use (see paragraphs Intended use of the temperature conservator, Unintended use of the temperature conservator, Prohibitions and unauthorized uses). The manufacturer also considers himself relieved of any liability in the following cases:

- Total or partial non-compliance with the instructions contained in this manual.
- Lack of or incorrect maintenance.
- Use of non-original spare parts.
- Non-compliance with contractual obligations.

Any complaint must be communicated to NUOVAIR Srl by the user directly within eight days of receipt equipment or a spare part thereof. NUOVAIR Srl reserves the right to accept equipment sent for assistance without their original packaging. The material, replaced under warranty, must be kept by the buyer and made available to NUOVAIR Srl who will decide whether to return them at its own expense.

Even in the event of a validly proposed complaint, the buyer will not be able to suspend payments or other obligations relating to the purchase. This guarantee cancels and replaces any other form of guarantee, expressed or implied; any possible modification has no value, unless specified on an official document issued by NUOVAIR Srl

- Installation of the temperature conservator in conditions other than those specified in the chapter - ENVIRONMENTAL CONDITIONS OF USE.

SUPPORT

The NUOVAIR Srl technical assistance service provides:

- Telephone support regarding interventions.
- Sending of documentary material.

To contact the after-sales service: **Via**

Padania 9 / C,

31020 San Vendemiano (TV) - Italy

Phone : **+ 39.0438.489097**

Fax : **+ 39.0438.488807**

Email: **service@nuovair.com**



TECHNICAL DATA

IDENTIFICATION OF CONSERVATOR OF TEMPERATURE

A special identification label with CE marking is affixed to identify the machine. In temperature conservatories the label (A) is positioned on the left side at the top in correspondence with the dashboard, the second and third labels (B) (C), which report only the serial number, are respectively positioned under the dashboard and in correspondence with the electrical panel.

Specifically, the plate shows the following data:

1. Model.
2. Serial number.
3. Power supply voltage (Volt / Ph / Hz).
4. Absorption in (A)
5. Compressor absorption and heating resistances (Kw).
6. Compressor type.
7. Type and quantity of refrigerant.
8. Type of gas used in the insulating foam.
9. PED code and Category of the machine according to directive 2014/68 / UE.
10. Maximum working pressure Ps Hp (High pressure side) - Ps Lp (Low pressure side).
11. Maximum operating temperature Ts Hp (High pressure side) - Ps Lp (Low pressure side).
12. Equipment weight.

ATTENTION!

The Conservator is accompanied by the EC declaration of conformity. This document must be kept with care by the owner of the registrar

temperature to be exhibited at each request of the competent authorities. The EC declaration of conformity is a document that is an integral part of the machine and in case of transfer of the same must be delivered to the new owner.

The appliances have a climate class which indicates the ambient temperature within which the refrigerator works correctly. The following are the existing climate classes:

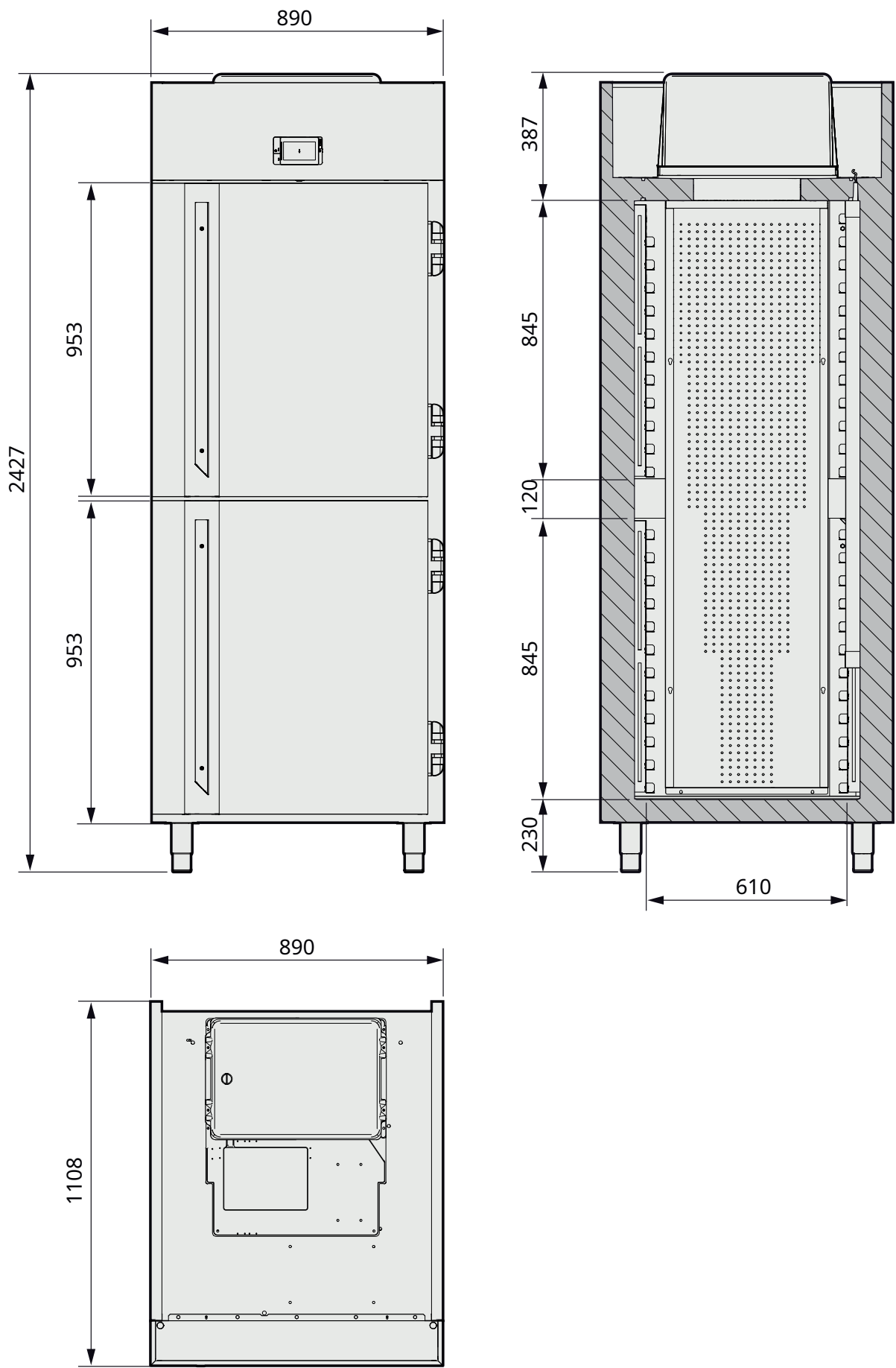
Climatic class	Temperature Environment ° C	Relative humidity %
0	20	50
1	16	80
2	22	65
3	25	60
4	30	55
5	27	70
6	40	40
7	35	75

The diagram shows a detailed identification label for NUOVAIR. It includes the following fields and callouts:

- TO** and **2** at the top.
- 1** points to the **Model:** field.
- 2** points to the **SN:** field.
- 3** points to the **Rated Voltage:** field.
- 4** points to the **Max Current:** field.
- 5** points to the **Heating System** and **Comp. Power** fields.
- 6** points to the **Comp. Type:** field.
- 7** points to the **Refrigerant Type** and **Quantity gas** fields.
- 8** points to the **Foaming gas type** field.
- 9** points to the **PED CODE** field.
- 10** points to the **Ps Hp** and **Ps Lp** fields.
- 11** points to the **Ts Hp** and **Ts Lp** fields.
- 12** points to the **Weight** field.

The label also features the NUOVAIR logo, company address (Via Padana 9/C, San Vendemiano 31020 TV - Italy), CE and EAC markings, and a barcode with the code XCAB1912001.

DIMENSIONAL DATA



TECHNICAL FEATURES

General characteristics	Unit of measure	Values
Total Power	[kW]	1.6
Total absorption	[TO]	8
Maximum air flow Cell fans	[m ^ 3 / h]	550
Capacity (-18 ° C):	Kg	160
Evaporator Power (Tev = -20; Tc = 40 ° C) *	[kW]	0.617
Capacitor Power (Tev = -20; Tc = 40 ° C) *	[kW]	1.1
Minimum air recycling	[m ^ 3 / h]	395
Liquid Diameter	[mm]	6
Suction diameter	[mm]	6
Ambient Conditions Max. (Temp./Ur)	[° C -%]	32-55%
Refrigerant	Kg (R290)	0.15

PRODUCTIVITY'	RELIABILITY'	OPERATIONS	HYGIENE
XL evaporator surface: large surface capable of quickly eliminating heat.	Cell insulation: 42 kg / m3 high density polyurethane foam.	Advanced Diagnostics: vision and control on the main display diagnostic parameters.	IP67 control panel: waterproof DIN EN 60529.
AIRPLUS SYSTEM: Pressure, Large, Uniformity, Speed	Cataphoresis protection evaporator.	Long storage HACCP data term: 1 for HACCP data storage.	AISI 304 stainless steel: external surface ed internal.
- 30 ° C / + 10 ° C	Compressor: Embraco.	Main switch to disconnect the power supply.	
Trays adjustable in height with 3.5 cm pitch.	Condensing unit ed single evaporator lock, easy replacement.	Indirect ventilation.	
Door micro to stop the fan when the door is open.			
Hot gas defrost			
Available gas: R290 or R448 for remote units			



POSITIONING

PACKAGING CONTENTS

1

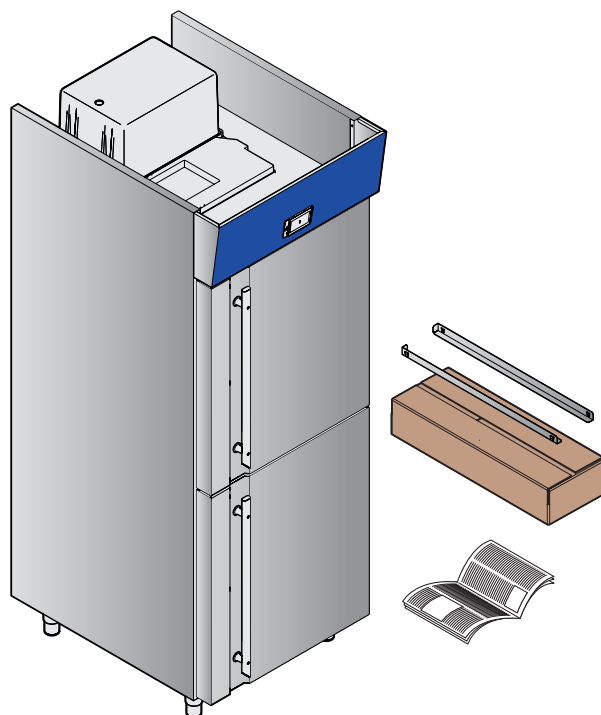
Before starting the installation, check the presence and integrity of the following components contained in the packaging:

- 20 pairs of guides for positioning trays and racks
- Use / Maintenance and Installation Manual

 If any component is missing or damaged, do not install the equipment and contact the Manufacturer.

 The packaging material, as it is potentially dangerous, must be kept out of the reach of children or animals and properly disposed of according to local regulations. NUOVAIR has been committed for years to increase the environmental compatibility of its products and to reduce energy consumption and waste.

It also wants to protect the environment and invites you to dispose of the material in special containers for separate collection.



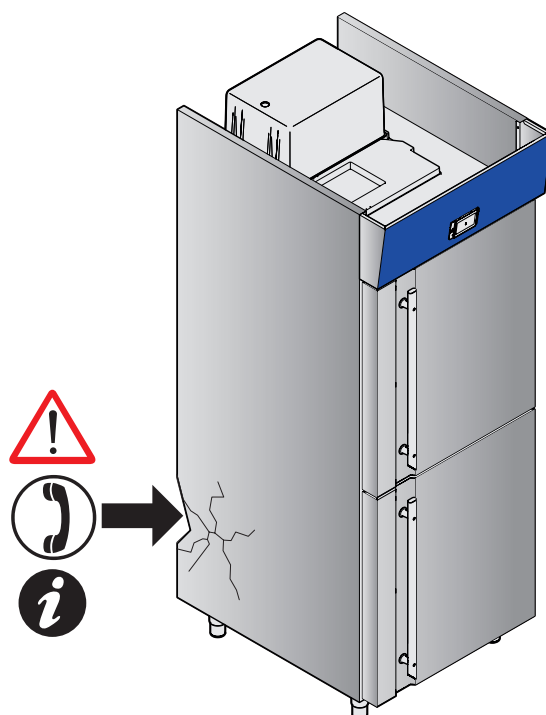
CONTROL OF EQUIPMENT

2

After unpacking, check the integrity of the equipment and the absence of damage due to transport.

If you notice damage or anomalies, do not proceed with the installation but promptly report the fact to the carrier.

 Under no circumstances may any damaged appliance be returned to the Manufacturer without prior notice and without having obtained prior written authorization.



1

2

TRANSPORT EQUIPMENT

3

The transport of the equipment must necessarily take place:

- In full compliance with their physical and mental capacities and equipped with PPE (personal protective equipment, eg gloves and safety shoes) in full compliance with the accident prevention laws and current regulations;
- With suitable means for handling suitable for the weight and dimensions of the equipment. If you use lifting systems (e.g. forklifts or transpallets) pay particular attention to weight balance.

For details see the chapter "LIFTING AND TRANSPORT" on page 11

4

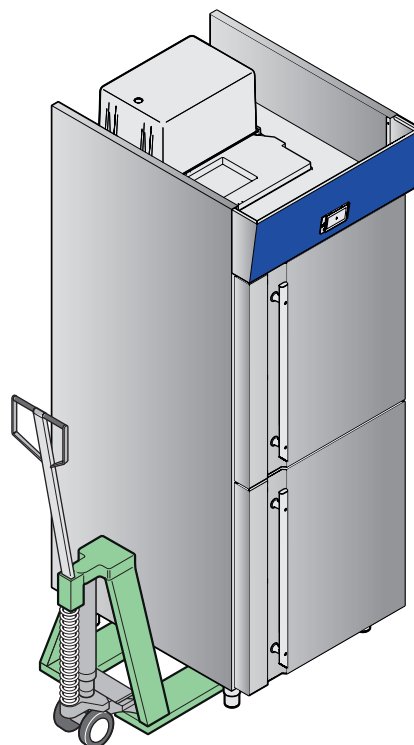
- Maintain the vertical position, to avoid the introduction into circulation of the oil contained in the compressor which would cause the breaking of the valves and starting problems of the electric motor; if for any reason this is necessary, **wait 24 hours after placing the equipment before putting it into operation.**
- When moving, do not push or drag the appliance to avoid it overturning or causing damage to some parts of the appliance (for example the feet).

 The center of gravity does not coincide with the geometric center of the equipment, therefore pay attention to the inclination when moving.

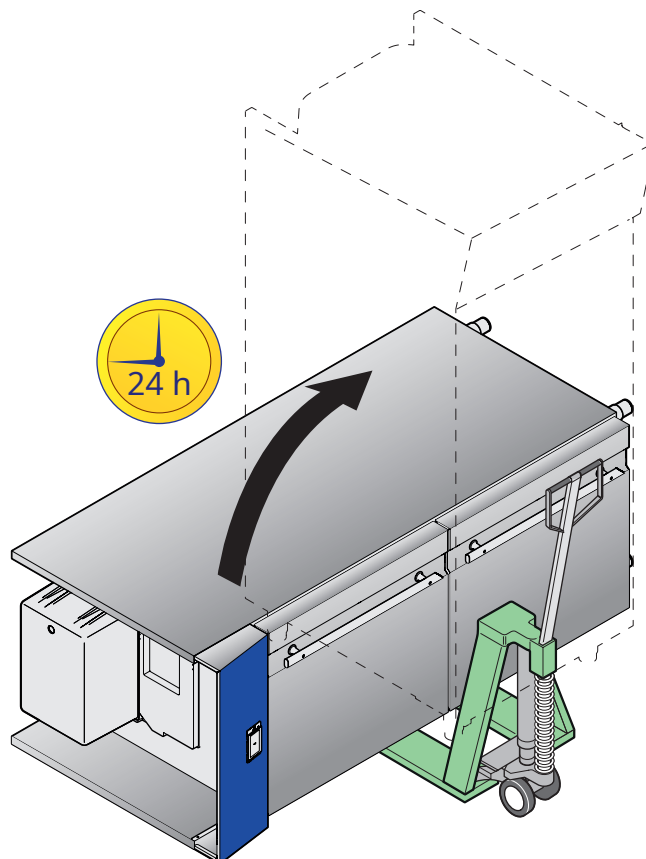
 The manufacturer disclaims any liability for inconveniences due to transport carried out in conditions other than those specified above.

 The equipment, of any model, is **NOT** stackable, neither during transport nor during storage.

 The manufacturer disclaims any liability for inconveniences due to transport carried out in conditions other than those specified above.



3



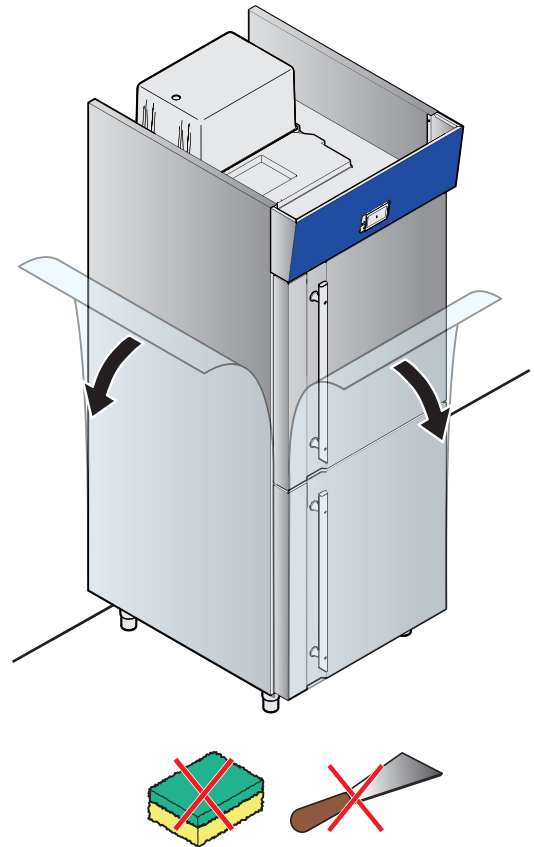
4

PROTECTIVE FILM REMOVAL

5

- When the appliance is near the place of installation, slowly remove the protective films from the appliance: clean any residual glue with a suitable detergent without using pointed, sharp or abrasive tools that could damage the surfaces or abrasive or acid detergents .

 The protective films, once removed, must not be left within the reach of children and pets as they are a potential source of danger. Dispose of films according to local regulations.



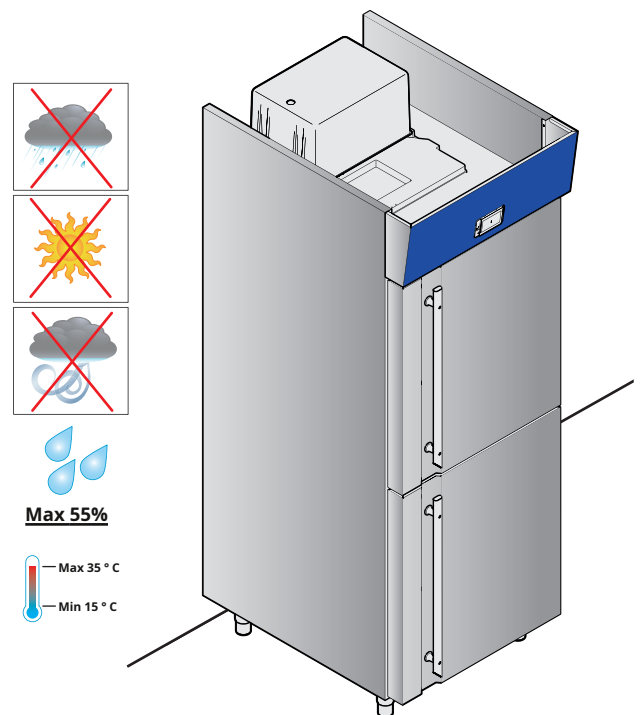
5

FEATURES OF THE INSTALLATION ROOM

6

The room where the equipment is to be placed must:

- have a floor without roughness, **perfectly leveled** and that it supports the weight of the fully loaded equipment.
- not be exposed to direct sunlight;
- have a correct air exchange and the possibility of being ventilated;
- respond to current regulations in terms of safety at work and on plants;
- do not contain potentially explosive materials or substances;
- be dedicated solely to the storage of food;
- have temperature and relative humidity within certain limits, see the table of the corresponding climatic class:



6

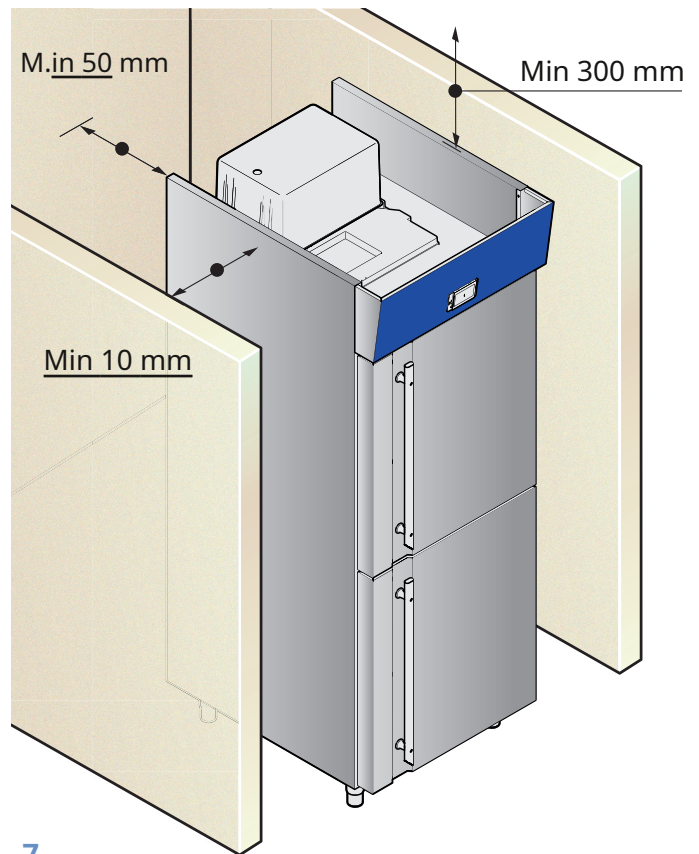
MINIMUM DISTANCES

7

Install the equipment:

- in order to have access to electrical and water connections (if provided);
- leaving a space of at least **50 mm at the rear** to the equipment;
- at a distance of **100-200 mm from hot appliances** (ex. fryers, plates, etc ...).

 **The appliance is not suitable for built-in.**



7

POSITIONING E LEVELING

 **These appliances must only be placed on the floor.**

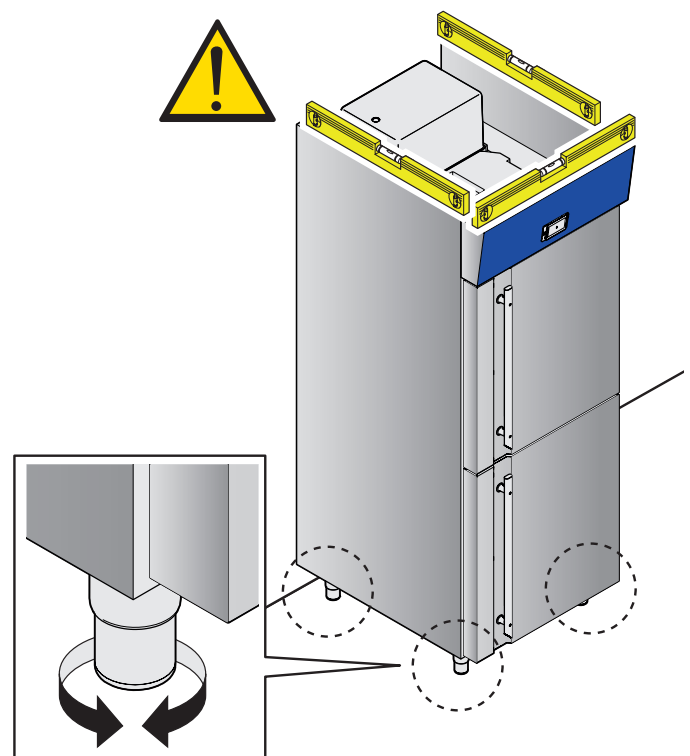
Do not insert other accessories or equipment under or on top of them.
Do not replace the feet supplied by the Manufacturer with other types of feet or supports.

FEET ADJUSTMENT

8

The appliance must be placed on the floor and be **perfectly leveled** rotating the support feet; any other different installation solution must be agreed and approved by the Manufacturer.

If the appliances are not level, their operation and condensate drainage can be compromised!



8

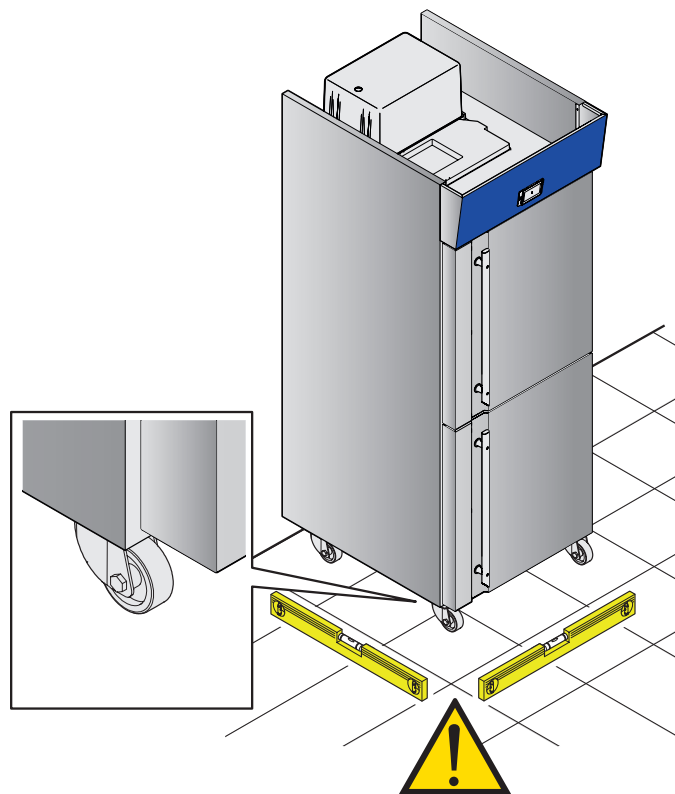
POSITIONING ON WHEELS

➔ 9

If requested when ordering, the equipment can be supplied already equipped with wheels, the only ones approved and tested by the Manufacturer.

In this case it is advisable to constrain the movement of the equipment by using / activating the locking levers placed on the wheels so as not to damage the connections in case of excessive movement.

 It is recommended not to apply wheels of a type other than those already mounted on the equipment. If there is a need to replace them because they are damaged, request original spare parts from the Manufacturer.



9



CONNECTIONS

ELECTRICAL CONNECTION

SAFETY WARNINGS

Before proceeding with the electrical connection, carefully read the safety warnings on the first pages of this manual and always compare the system data with those shown on the rating plate.

! The connection to the power supply network must comply with the regulations in force in the country where the equipment is installed and must be carried out by qualified personnel authorized by the Manufacturer: failure to comply with these regulations can cause damage and injury, invalidate the guarantee and the Manufacturer from any responsibility.

! The equipment must be connected directly and exclusively to the electricity network and must be fitted with an easily accessible switch upstream and installed in the system according to the regulations in force in the country where the equipment is installed. This switch must be dedicated exclusively to the equipment and must have a separation of the omnipolar contacts so as to guarantee complete disconnection under overvoltage category III. a correct earth connection is mandatory using a single cable without joints or interruptions, not even from the circuit breaker.

! Each equipment must be included in an equipotential system using the clamp marked with the symbol to  This terminal allows connect an earth cable according to the prescriptions of current law. The effectiveness of the equipotential system must be suitably verified according to what is reported in the legislation in force.

! When the appliance is in operation, the value of the power supply voltage must not discord by +/- 10% of the value indicated on the rating plate

! If any component is missing or damaged, do not install the equipment and contact the Manufacturer.

! The packaging material, as it is potentially dangerous, must be kept out of the reach of children or animals and properly disposed of according to local regulations. NUOVAIR has been following the philosophy for years by increasing the environmental compatibility of its products and committing itself to reducing energy consumption and waste. It also wants to protect the environment and invites to

dispose of the material in the appropriate containers for separate collection.

CONNECTION TO THE ELECTRICITY NETWORK

10

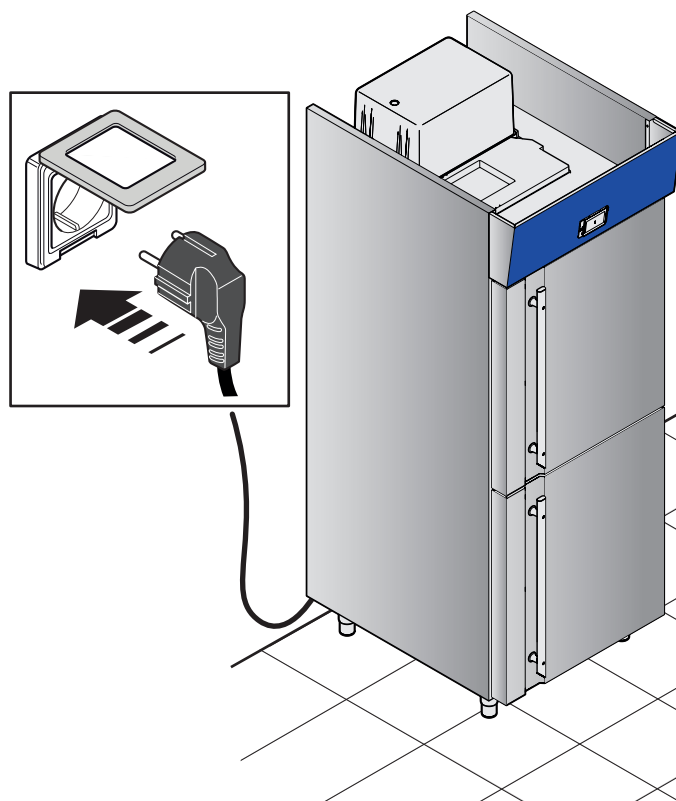
Connect to a socket fitted upstream with a dedicated switch, which is easy to access and installed in the system according to the regulations in force in the country where the appliance is installed. Do not use adapters, multiple sockets or extension cables.

! It is not possible to extend the cable of any kind.

! Do not roll up the cable if it is too long and pay attention that it is not pinched, crushed or in the way of people.

! The replacement of the electrical connection cable must only be carried out by a qualified and authorized technician.

The cable can only be replaced with one of similar characteristics. The grounding cable must always be yellow-green and approximately 3mm longer than the others.



10

CONNECTION

REFRIGERATOR

SAFETY WARNINGS

The equipment runs on propane R290, a high purity HC hydrocarbon with low environmental impact and excellent thermodynamic properties.

In the event of accidental breakage of components or pipes, all the refrigerant used in the environment is immediately discharged; consequently provide for appropriate means of disposal and first aid as indicated below.

GAS FEATURES:

- Does not damage the ozone layer (ODP = 0).
- Global warming potential (GWP) = 3
- Boiling point at 1.013 bar: -42 ° C
- Glide (temperature shift) (°C): 0
- UN number: 1978
- Safety classification: A3.
- Non-toxic but extremely flammable.

HAZARDS IDENTIFICATION

 Prolonged inhalation exposures can cause anesthetic effects, abnormal heart rhythms and cause sudden death. Nebulized or splashed product can cause frost burns to eyes or skin.

 The gas is highly flammable, keep away from heat sources, hot surfaces, sparks, open flames or other sources of ignition. Not smoking.

FIRST AID MEASURES

• Inhalation

Remove the victim from exposure by wearing self-contained breathing apparatus, take him to a warm place and keep him stretched out. If necessary, give artificial respiration, give oxygen or give heart massage. Seek immediate medical attention.

• Skin contact

Thaw the affected areas with water. Remove contaminated clothing, as they may adhere to the skin in case of gel burns and wash immediately and abundantly with lukewarm water. If skin irritation or blistering occurs, seek medical attention.

• Eye contact

Immediately wash off with clean water, holding the eyelids apart, for at least 15 minutes. Seek medical assistance.

• Ingestion

Do not induce vomiting! If the victim is conscious, rinse the mouth with water and give 200-300 ml of water to drink. Seek immediate medical attention.

• Fire-fighting measures

Highly flammable. Incomplete thermal decomposition causes the emission of very toxic and corrosive vapors (carbon monoxide). In the event of a fire, use self-contained breathing apparatus and suitable protective clothing, do not use water, use a CO2 (carbon dioxide) fire extinguisher and cool the area of the engine compartment as quickly as possible

• Fire fighting

Water spray or dry powder.

Do not use water jets to extinguish the fire or carbon dioxide.

• Accidental spills and disposal

In the event of accidental leaks of flammable gas from the refrigeration circuit of the machine, disconnect the power cable, open the windows to ventilate the room and contact technical assistance immediately. Do not touch or inhale the escaped gas.

After repairing the machine, always check that there are no refrigerant gas leaks.

Disposal must take place in an equipped and authorized facility; if in doubt contact local authorities for additional disposal information.

REMOTE GROUP INSTALLATION

GENERAL CRITERIA TO BE SATISFIED IN THE INSTALLATION OF REMOTE GROUPS:

1. Slope of the pipelines (Fig.A)
All refrigeration lines must be designed to allow correct oil return to the compressor. When there are sections of horizontal line it is important that the suction pipes have a slope of at least 3% towards the condensing unit, in order to facilitate the return of oil to the compressor.
2. Clamping brackets on insulated pipes.
3. Make welding and lines according to EN378-1 / EN378-2
4. VACUUM:
For optimal operation of the machine it is necessary to carry out a correct degree of vacuum in the refrigeration circuit. For a correct degree of vacuum it is necessary to reach a pressure of 15 Pa with rises not exceeding 200 Pa.
ATTENTION!
Do not start the compressor at this stage to avoid irreparable damage to it.
5. Check the vacuum tightness of the pipes.
6. Opening the shut-off cocks on the condensing unit.
7. Check for leaks.
8. Check the exact gas charge by means of the liquid passage indicator light located on the condensing unit.
9. Liquid line $\varnothing 10$; Suction line $\varnothing 12$; maximum length to be defined.

The recommended diameters and gas loads are valid up to 10 m of equivalent line length.

For lengths greater than those indicated, it is necessary to perform a new dimensioning of the line diameters.

The pipes must be supported on the wall near the curves or welds and every 2 m of straight section.

The joints between the pipes must be hermetically sealed by brazing with a suitable filler alloy.

ATTENTION

In the event that the line is very long, it is necessary to keep the oil level under control at the first start-up and in the following days and to top it up if necessary.

In the case of machines with remote condensing unit with refrigeration lines exceeding 10m, it is necessary to load additional gas into the system.

For a correct charging operation, once the vacuum of the cell and the line is finished, carry out the "breaking of the vacuum" and start the compressor by charging the remaining part of gas.

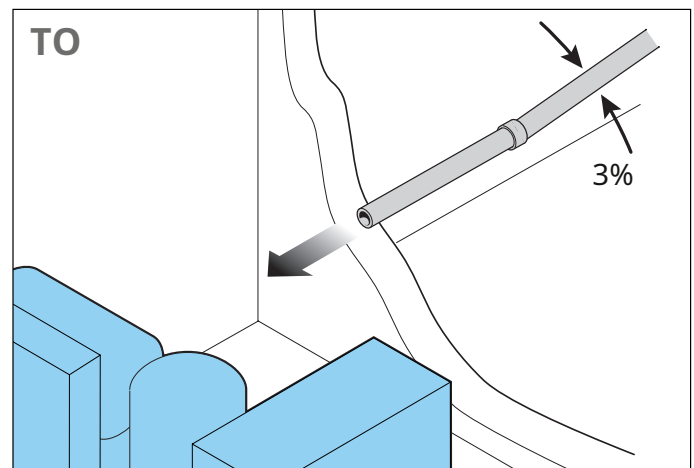
To correctly quantify the gas charge introduced, use pressure gauges connected to the dedicated pressure points and a precision balance.

ATTENTION!

Gas mixtures must be loaded into the system only in the liquid state.

INSULATION OF REFRIGERATING LINES

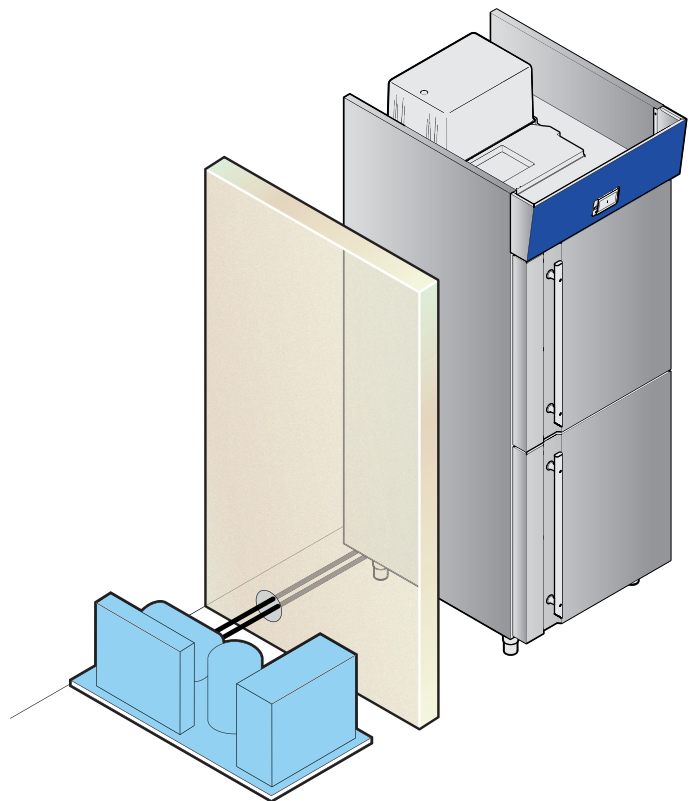
Insulate the suction pipes with an anti-condensation pipe with a minimum thickness of 19 mm.



INSTALLATION AT EQUAL LEVEL

➡ 11

The criteria given in the previous paragraph are sufficient for installations at the same level.

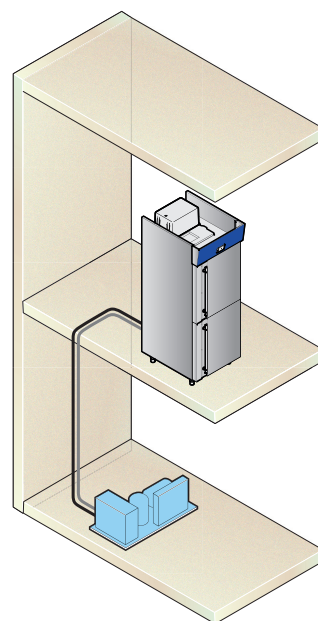
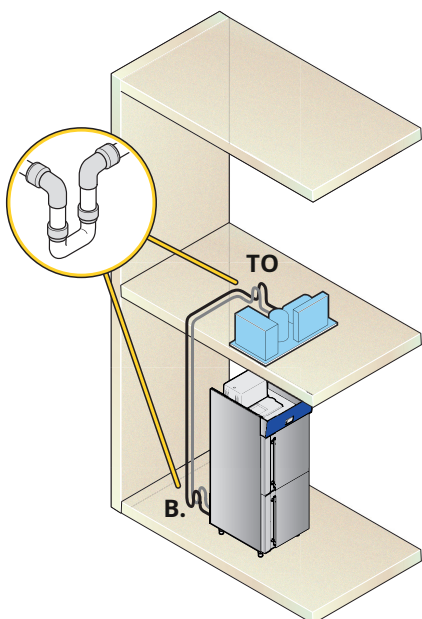


11

INSTALLATION AT DIFFERENT LEVELS

➡ 12

If the remote group is installed higher than the appliance, a siphon must be inserted at each start or ascent (A), every 1.8 meters of height difference along the suction pipe, and at each arrival (B).



If the remote group is installed lower than the appliance, no siphon is required.

12

NOTE

[illegible]

