



Manuale d'uso e manutenzione
Instruction and maintenance manual
Livret d'instruction et entretien
Bedienungs- und Wartungsanleitung

**ABBATTITORI / SURGELATORI RAPIDI
BLAST CHILLERS / SHOCK FREEZERS
CELLULES DE REFROIDISSEMENT / SURGELATION RAPIDE
SCHNELLKÜHLER / SCHOCKFROSTGERÄTE**



ABF 03C-05C

Capitolo 1 NORME ED AVVERTENZE GENERALI
Section 1 STANDARDS AND GENERAL WARNINGS
Chapitre 1 NORMES ET AVERTISSEMENTS GENERAUX
Kap. 1 NORMEN UND ALLGEMEINE HINWEISE

== ABF03/05 ==

1.1 DICHIARAZIONE DI CONFORMITA' - 1.1 DECLARATION OF CONFORMITY
1.1 DECLARATION DE CONFORMITE - 1.1 KONFORMITÄTSERKLÄRUNG

DICHIARAZIONE CE DI CONFORMITA'
CE DECLARATION OF CONFORMITY
DECLARATION CE DE CONFORMITE
KONFORMITÄTSERKLÄRUNG

NOI - THE COMPANY - NOUS - DIE FIRMA

EVERLASTING S.R.L. - Fabbrica Frigoriferi Industriali
S.S. Cisa km. 161 - 46029 SUZZARA (MN) - ITALIA

Dichiaro sotto la nostra esclusiva responsabilità che il prodotto
Declares, under its own sole responsibility, that the product designated
Déclarons sous notre responsabilité exclusive que le produit
Erklärt unter der eigenen und ausschließlichen Verantwortung, daß das Produkt

ABBATTITORE
BLAST CHILLER
CELLULE DE REFROIDISSEMENT
SCHNELLKÜHLER

Numero di serie
Serial number
Numéro de série
Seriennummer

al quale questa dichiarazione si riferisce è conforme alle seguenti direttive europee:
to which the present declaration refers, complies with the following european directives:
auquel cette déclaration se rapporte, est conforme aux dispositions européennes suivantes:
auf das sich diese Erklärung bezieht, den Bestimmung folgende europäische Richtlinien entsprechen:

"Macchine" 2006/42/CE
"Bassa tensione" 2006/95/CEE e successive modificazioni
"Compatibilità elettromagnetica" 2004/108/CEE e successive modificazioni
"Materiali ed oggetti destinati a venire in contatto con i prodotti alimentari" 89/109/CEE
"Direttiva 97/23/CE" (PED - Pressure Equipment Directive) apparecchi in classe 1

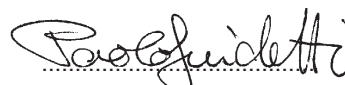
"Machines" 2006/42/CE
"Low voltage" 2006/95/EEC and subsequent modifications
"Electromagnetic Compatibility" 2004/108/EEC and subsequent modifications
"Materials and objects designed to come into contact with foodstuff" 89/109/EEC
"Directive 97/23/EC" (PED - Pressure Equipment Directive) appliances in class 1

"Machines" 2006/42/CE
"Basse Tensions" 2006/95/CEE et modifications successives
"Compatibilité Electromagnétique" 2004/108/CEE et modifications successives
"Matériels et objets destinés à entrer en contact avec des produits alimentaires" 89/109/CEE
"Directive 97/23/CE" (PED - Pressure Equipment Directive) appareils en class 1

"Maschinen" 2006/42/CE
"Niederspannung" 2006/95/EG und nachfolgende Änderungen
"Elektromagnetische Verträglichkeit" 2004/108/EG und nachfolgende Änderungen
"Zum Umgang mit Nahrungsmitteln bestimmte Materialien und Gegenstände" 89/109/EG
"Richtlinie 97/23/EG" (PED - Pressure Equipment Directive) Geräte in Klasse 1

E' vietata la messa in servizio dei modelli Split e Spm prima che i collegamenti necessari siano stati eseguiti dall'installatore e successivamente dichiarati dallo stesso conformi alle disposizioni delle suddette direttive.
It is strictly prohibited to place models Split and Spm into service before all necessary connections have been made by the qualified installer and this latter has issued a declaration confirming that the work has been carried out in compliance with the foregoing directives.
Il est interdit de mettre en service les modèles Split et Spm avant que les raccordements nécessaires aient été effectués par l'installateur et que ce dernier les ait déclarés conformes aux dispositions de la directive précitée.
Die Inbetriebnahme der Modelle Split und Spm ist vor Ausführung der erforderlichen Anschlüsse durch den Installateur und dessen nachfolgender Konformitätserklärung gemäß o.a. Richtlinien verboten.

Suzzara



1.2 TESTING AND GUARANTEE

The appliance is tested in our works in compliance with established regulations and then shipped ready for use.

Only special models Spm require additional testing at the place of installation, because these units require a series of connections to be made by a qualified installer (see headings 3.2 and 3.3).

The guarantee is valid for a full 12 months from the date of delivery of the appliance and it covers the repair or replacement of any defective parts, with the exception of electrical and electronic components.

Manifest defects or differences with respect to the client's order must be communicated to the manufacturer within five days from the receipt of the goods or they will not be covered by the guarantee terms.

Any hidden or other defects must be communicated to the manufacturer within five days from the time that they are discovered and, in any event, within the maximum guarantee term of six months. The purchaser shall be entitled only to request repair or replacement of the goods. The purchaser is not entitled to claim compensation for direct or indirect damages of any whatsoever nature. In any event, the entitlement to repair or replacement of the materials must be exercised within the maximum term of the guarantee, which is contractually stipulated to cover a shorter period than the maximum term established by law.

Repairs or replacement of defective materials will be carried out at the manufacturer's works; material returned to the manufacturer must be shipped carriage paid and will be returned to the purchaser carriage forward.

1.3 INTRODUCTION

This manual has been prepared with the scope of supplying all the instructions required for the correct use of the appliance and to maintain it in optimal condition. It also contains important user safety information.

The following professional roles are explained in order to define the responsibilities of each:

Installer: a qualified technician who positions the appliance and places it in service in accordance with the instructions in this manual.

User: the person who, after having read this manual carefully, operates the appliance in accordance with the intended use specified in this manual.

Users' responsibilities:


- to ensure that food products are conserved at suitable temperatures and not exceeding the permitted period of time
- to be aware of the regulations governing the conservation of food and to observe any whatsoever hygiene indications that may be applicable.

The user is obliged to read the manual attentively and refer to the information in the manual at all times.

Particular attention must be paid to the contents of heading 1.5 **General safety warnings**.

Routine maintenance technician: qualified technician able to perform routine maintenance of the appliance by following the instructions in this manual (see section 6).

Special maintenance technician: qualified technician, authorized by the manufacturer to perform extraordinary maintenance of the appliance (see section 7).

The symbol  appears at certain points in the manual to draw the reader's attention to important safety information.

The manufacturer declines any whatsoever responsibility in the case of improper use of the appliance deviating from the reasonably construed intended use, and for all operations carried out that are not in compliance with the instructions laid down in the manual.

This manual must be conserved in a place that is accessible and known to all operators (installer, user, routine maintenance technician, special maintenance technician).

This manual must not be reproduced or divulged, in whole or in part, using any whatsoever means or in any whatsoever form.

1.4 PRODUCT DESCRIPTION

The appliance comprises a modular single body with panelling in various materials and insulation in expanded polyurethane foam, density 42 kg/m³.

The appliance instruments are located on the front panel which closes the front of the motor unit, inside which the condenser unit and electrical wiring can be housed.

The refrigerator interior is fitted with suitable supports for wire shelves (grids) or trays and Gastronorm containers.

The doors are fitted with an automatic return device and magnetic seal elements.

During the design and construction stage all measures have been adopted to implement total safety including radiused interior corners, funnel-shaped base panel to convey condensate to exterior, no rough surfaces, fixed guards protecting moving or potentially dangerous parts.

1) *The available models are described in table 1.*

1.5 GENERAL SAFETY REGULATIONS

Read this manual carefully and follow the prescriptions contained herein.

The user assumes full responsibility in the case of operations carried out without observing the instructions in the manual.

Primary general safety regulations:

- do not touch the unit with wet hands and/or feet
- do not use the appliance with bare feet
- do not insert screwdrivers or other pointed objects between guards or moving parts of the appliance
- do not pull the power cord to disconnect the appliance from the electrical mains
- make sure that the appliance is not used by children or unsuitably qualified persons
- before performing any cleaning or maintenance on the appliance disconnect it from the electrical mains by switching of the main switch and extracting the plug
- in the case of faults or malfunctions, switch off the appliance and do not attempt to repair it yourself. All service and repair operations must be performed exclusively by suitably qualified authorized technicians.

1.6 CLIENT'S RESPONSIBILITIES

The customer is required to:

- execute the electrical connection of the appliance
- prepare the place of installation
- provide consumable materials for cleaning
- perform routine maintenance
- prepare and mount, in a remote location, the condenser unit supplied with the system (**SPM special model**)
- Provide adequate protection for pipes and cables external to the appliance (**SPM special model**)

In the case of power failures or malfunctions for more than 15 minutes the blast chilling or schock freezing cycle must be interrupted because the conditions for a right process within the times established by the regulations fail.

1.7 CLIENT SERVICE REQUESTS

For all technical problems and any requests for technical service, refer exclusively to your local dealer.

1.8 ORDERING SPARE PARTS

Spare parts orders must be made by consulting the relative spare parts catalogue which gives the correct description of the part, the part reference code and the serial number of your appliance.

Consult your dealer.

Section 2 SPECIFICATIONS

2.1 DIMENSIONS

At pages 30 drawings show front and side elevations of the appliance with dimensions.

Dimensions of appliances when packed in cartons, cages and crates are shown in Table 1.

2.2 PRODUCT CONFIGURATION

The appliance is designed solely for the blast chilling and schock freezing of food products (see heading 4.1).

The products must be stored in observance of the load limits shown in the table and in figures 1a/b - 2a/b - 3a/b - 4a/b in order to ensure efficient air circulation inside the appliance.

	Blast chilling (+70°+3°C)	Schock freezing (+70°-18°C)
	kg	kg
ABF 03	7	4
ABF 05 C	18	10

Do not exceed the loading capacity stated on the preceding table at page 6 (Fig. 1a - 1b)

Do not leave the trays too close to avoid a wrong air circulation within the cabinet (Fig. 2a - 2b)

Do not set the trays too far from the evaporator (Fig. 3a - 3b)

If the unit is not completely loaded avoid to concentrate the trays in one part of the appliance and distribute them all over the available height (Fig. 4a - 4b)

2.3 POWER OUTPUT AND ABSORBED POWER

Technical data for power output and absorbed power are given in Table 1.

Bear in mind the operational limit characteristics as indicated in heading 4.4.

2.4 WEIGHTS

Unit weights of the appliance are shown in Table 1.

2.5 NOISE LEVEL


Noise level of the appliance according to the law.

2.6 MATERIALS AND REFRIGERANTS

Materials in contact or potentially in contact with food products are in compliance with the relevant directives. The appliance is designed and built so that food contact parts can be cleaned before each use. The refrigerants utilized (R404A,) comply with established regulations.

Section 3 INSTALLATION

3.1 TRANSPORT AND HANDLING

 *The appliance must be transported and handled exclusively in a vertical position, in observance of the instructions printed on the packing.*

This precaution is necessary to avoid contamination of the refrigerant circuit with compressor lube oil with resulting valve and heat exchanger coil failure and problems starting the electric motor.

The manufacturer accepts no responsibility for problems due to transport executed in conditions other than those specified above.

The accessories supplied with the appliance (runners, wire shelves, basins, trays, remote condenser with connection pipes) are supplied in separate packs shipped inside or separately from the unit.

The appliance is secured to a wooden base and wrapped in polyethylene or packed in a carton, cage or crate.

Refer to heading 3.6 for information on correct disposal of packing material.

The appliance must be handled using a fork lift truck or a pallet truck with suitable forks (fork length at least equal to 2/3 length of unit).

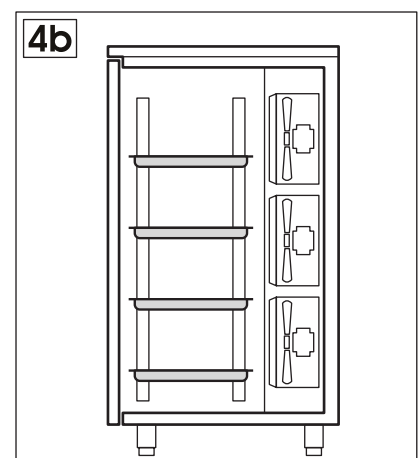
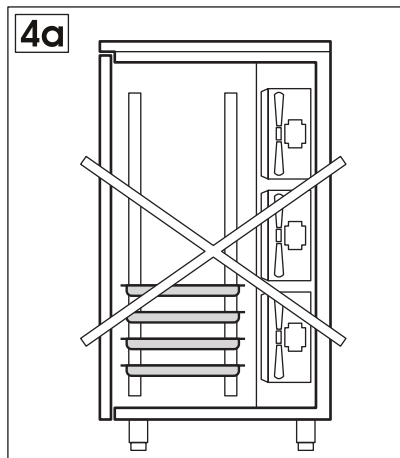
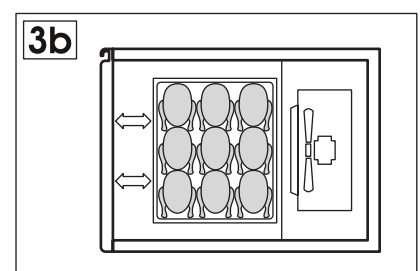
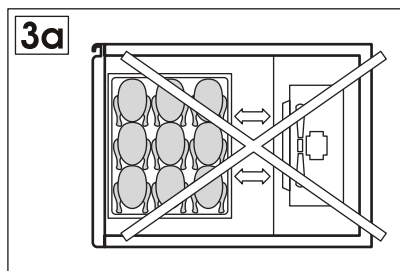
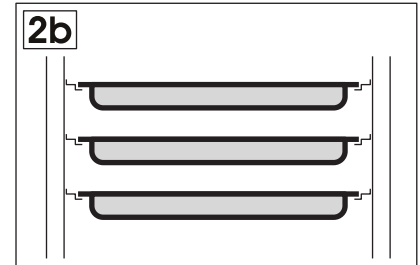
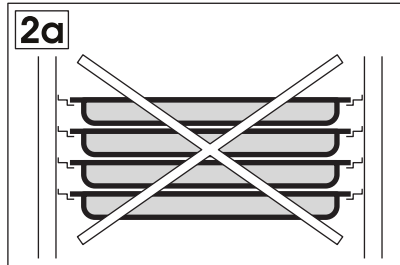
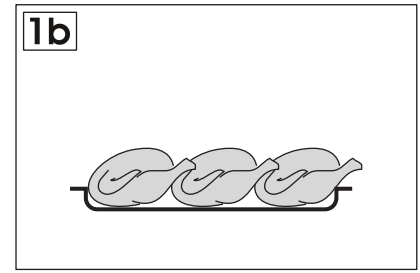
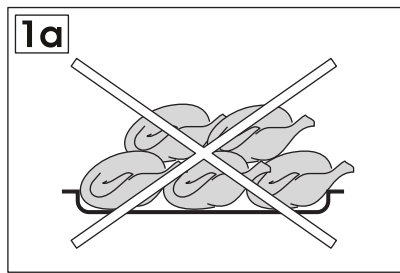
The dimensions and weight of the packed appliance are shown in Table 1.

Maximum permissible stacking and the position of the centre of gravity are shown on the information label on the packing.

3.2 POSITIONING

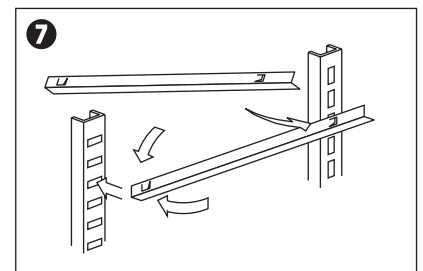
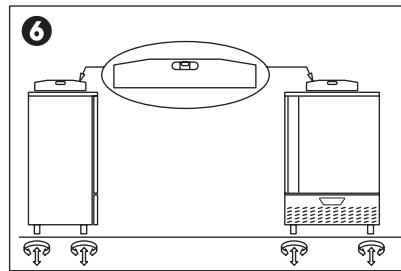
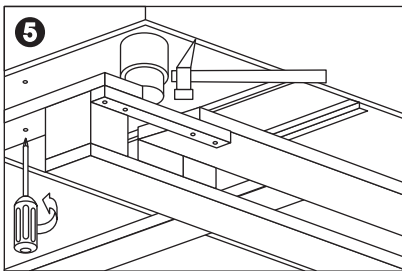
Incorrect positioning can cause damage to the appliance and generate hazardous conditions for personnel. The installer must therefore observe the following general regulations:

- make sure you maintain a minimum of 5 cm from the walls
- the room must be well ventilated
- keep well away from sources of heat
- avoid direct sunlight



Specific positioning procedures

- remove packing material (polyethylene, cardboard box, crate, cage)
- ⚠ *Polyethylene is potentially dangerous to children*
- remove accessories from inside the unit
- take away the wooden basement: by means of a hammer unnailed the feet-block hinder ledge, tilt the cabinet to one side and loosen the two thread-forming screws (Fig.5), drag the cabinet from the back side holding the basement still until the 4 feet have gone out from the containing holes, slightly tilt the cabinet backward and take the basement away pulling it from the front side.
- ⚠ *use gloves when handling wooden packing materials and the wooden base to protect the hands from splinters*
- position the appliance with the help of a spirit level. Adjust the leveling feet on the metal base of the unit if necessary (Fig.6)
- remove the protective PVC film from the external surfaces of the unit
- position the shelf runners in the holes in the uprights (Fig.7)
- insert the condensate collection tray in the relevant runners located beneath the unit. Automatic condensate water evaporation by model ABF03.



3.2.1 Spm blast chillers and schock freezers (Fig.8)

- position the unit as described above (Figs. 5-6-7)
- **N.B.:** the plant is factory pressurized with refrigerant
- arrange the two pipes coming out of the unit for subsequent connection to the relevant lines
- depressurize the circuit and then charge it with refrigerant
- make the electrical connections between the appliance and condenser.

3.3 WIRING AND ELECTRICAL HOOK-UP

The electrical plant and electrical hook-up operations must be performed by a qualified electrician

For safety reasons adhere to the following indications:

- check that the electrical plant is suitably sized for the absorbed power of the unit
- if the electrical socket and the plug on the appliance power cord are incompatible, change the plug with a suitable component, ensuring the replacement part is of the approved type
- do not use reductions or multi-way adapters (**ABF 03**)(Fig.9)

- ⚠ *It is important to connect the appliance correctly to an efficient earth system executed in compliance with the relevant legislation.*

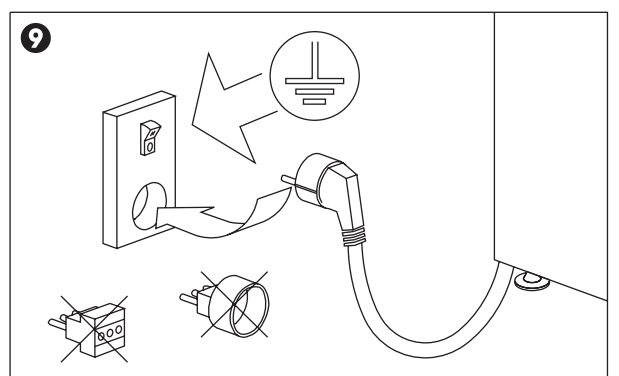
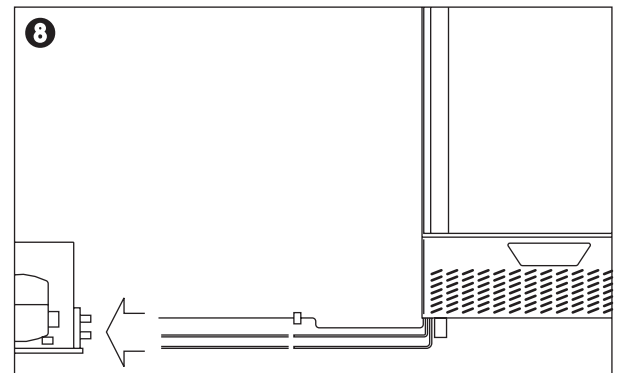
3.4 SET-UP OPERATIONS

To avoid errors and accidents, perform a series of checks for possible damage sustained during transport, installation and hook-up operations before starting up the unit.

Preliminary checks

- check the condition of the power cord (no cuts or chaffing)
- check that the feet, door hinges and shelf supports are stable
- check the condition of internal and external components (pipelines, heat exchanger elements, fans, electrical components, etc.); check also that all parts are firmly fixed into position
- check that the door seals are not damaged (broken or scratched) and that the doors close and are sealed properly
- make sure pipelines, unions are in perfect condition (**SPM special model**).

The user must also observe the following instructions to obtain the best operation from the appliance:



Indications for optimal duty

- do not block the motor compartment air vents
- arrange the food on suitable shelves or in containers. Do not place food directly on the base or against the walls, doors or fixed guards of the unit (see Fig. 1a/b -2a/b - 3a/b - 4a/b at page 7)
- make sure doors are kept closed
- keep the defrost water drain outlet clear
- avoid to open the doors during the blast chilling and shock freezing cycles
- perform routine maintenance regularly (see section 6).

3.5 RE-INSTALLATION

Observe the following procedure:

- switch off the appliance from the main switch
- disconnect the power cord from the electrical outlet
- handle the appliance in accordance with the instructions in heading 3.1
- follow the instructions in headings 3.2 and 3.3 for positioning and hook-ups in the new location

3.6 SCRAPPING AND DISPOSAL

Scrapping and disposal of the appliance must be carried out in full observance of established legislation in your country.

Section 4 OPERATION

4.1 APPLICATIONS AND INTENDED USE

4.1.1 Intended use and permitted use

The appliance is designed and built for blast chilling, shock freezing and conservation of products on commercial premises.

4.1.2 Improper and unauthorized use

1) treatment of products that require constant monitoring with indications in the case of temperature changes or interruption of refrigeration. For example:

- medicinal products
- blood and plasma
- thermo-sensitive chemical reactants

2) use in places subject to explosive atmosphere

All uses except authorized uses of the appliance shall be construed as "improper use" for which the manufacturer declines all responsibility.

4.2 SAFETY AND ACCIDENT PREVENTION

The appliance embodies various features designed to assure the safety and protect the health of the user. The following list describes the protections adopted against mechanical risks:

- **surfaces, edges, corners:** accessible parts of the appliance have no sharp corners, sharp edges or rough surfaces that could cause injury

- **moving parts:** moving parts of the unit are designed, built and configured to avoid risk. Moving parts are protected by fixed guards to prevent accidental contact that could result in injury.

Measures adopted for protection against additional risks:

- **electrical power:** the appliance is designed, built and fitted out with the aim of preventing the risk of electric shock in compliance with established safety legislation

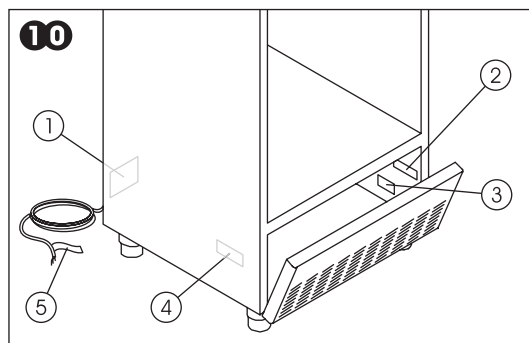
- **noise:** the appliance is designed and built to reduce risks related to the emission of airborne noise to the minimum possible.

4.3 SAFETY DATAPLATES AND GUARDS

It is strictly forbidden (Fig.10):

- to tamper with or remove the evaporator cover that protects the user from the risk of cutting on the heat exchanger fins
- to remove the dataplate fixed low behind the appliance showing technical specifications (1) and earth connection warning (2)
- to remove the dataplates on the evaporator unit cover near the electrical wiring inside the motor housing which warn the user to disconnect electrical power before working on appliance (3)
- to remove the dataplate fixed inside the motor compartment indicating earthing (4)
- to remove the data tag fixed to the power cord showing the type of power supply (5)

The manufacturer declines all responsibility for safety of the appliance if the above recommendations are not observed.



4.4 OPERATING LIMITS

The appliance is designed and built to work in ambient temperatures of between + 10°C and + 32°C with maximum relative humidity of 60%. If the ambient conditions are different it will not be possible to achieve the performance levels specified by the manufacturer. The standard power supply must be 230/240V; 50Hz.

Section 5 USER INSTRUCTIONS

The information in this section of the manual regards the user or other non-specialized personnel (see heading 1.3). After the appliance has been installed in accordance with the instructions of section 3 of this manual, it is ready for use.

GENERAL DESCRIPTION

WHAT A BLAST CHILLER IS.

- It is an appliance that reduces quickly the temperature of fresh or precooked foodstuffs.

WHY USE A BLAST CHILLER.

- The just cooked foodstuff is at best of its organoleptic qualities and goodness but if it is not served and consumed within two hours it loses the qualities that assure the edibility.

WHAT BLAST CHILLING AT POSITIVE TEMPERATURE AND SCHOCK FREEZING ARE.


- The blast chilling to positive temperature is recommended when foodstuff is consumed later than two hours from its preparation, reducing the temperature to +3°C at the product core within 90 minutes. The chilled foodstuff can be stored in a refrigerated cabinet at a temperature of 0°/+3°C preserving their wholesomeness up to 5 days; however the cold chain must not be broken. Vacuum packing increases the conservation time.

- Schock freezing to negative temperature is recommended when foodstuffs has to be preserved for longer than 5 days from its preparation. The schock freezer reduces the temperature to -18°C at the product core within 4 hours. The freezed foodstuff can be stored in a freezer cabinet at a temperature of -20°C for a period of 3/18 months according to the type of food; however the cold chain must not be broken.

BLAST CHILLING OR SCHOCK FREEZING WITHA NORMAL REFRIGERATOR.

- Normal refrigerators haven't got the power and the ventilation necessary for removing rapidly the high temperatures from hot food. The necessary time should be 12/20 times higher. Slow freezing transforms the water in macro-crystals that expanding tear the structure of the food making their qualities worse.


5.1. CONTROL PANEL DESCRIPTION (Fig. 11)

STANDBY KEY 

With card in Off:

- . The single pressure enables to set the card in standby
- With card in standby and selected cycle:*
- . The single pressure enables to start the cycle execution
- With card in cycleexecution:*
- . The single pressure enables to stop the cycle execution

NOTE: In every status the card is set the pressure uninterrupted for three seconds allows to set the card in Off.

CHILLING – TIME KEY 

With card in standby:

- . The single pressure enables to select a time-regulated blast chilling

FREEZING – TIME KEY 

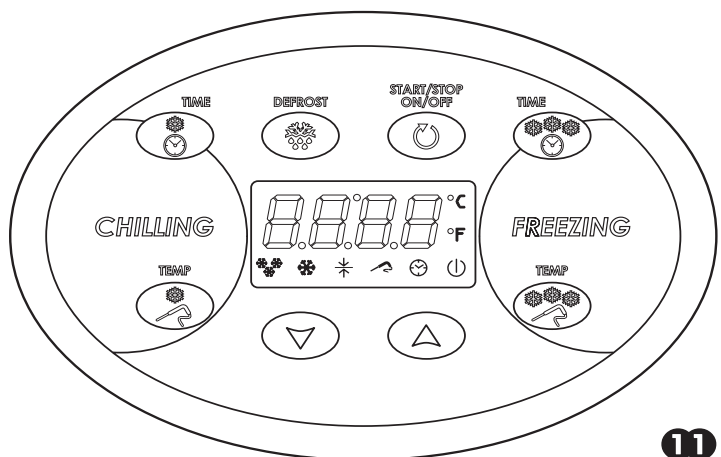
With card in standby:

- . The single pressure enables to select a time-regulated freezing

CHILLING – TEMPERATURE KEY 

With card in standby:

- . The single pressure enables to select a temperature-regulated blast chilling



FREEZING – TEMPERATURE KEY

With card in standby:

. The single pressure enables to select a temperature-regulated freezing

DEFROST KEY

With card in standby:

. The single pressure enables to start a defrosting cycle

DECREMENT KEY

Enables the decreasing of a value

INCREMENT KEY

Enables the increasing of a value

5.2. Display

The display is provided with four digits that can light up in red or green and eight icons. To simplify, the four digits will be identified as “display” and the icons will be identified independently.

FREEZING ICON

Blinks during a freezing cycle, is alight during the following conservation

CHILLING ICON

Blinks during a chilling cycle, is alight during the following conservation

CONSERVATION ICON

Lights or blinks during a conservation cycle

TEMPERATURE ICON

Lights during a temperature-regulated cycle

TIME ICON

Lights during a time-regulated cycle

OFF ICON

Lights when card is in off, light is out in any other condition

FAHRENHEIT ICON °F

Lights in red or green (depending from the display colour) when a temperature is displayed and unit measurement is Fahrenheit.

CELSIUS ICON °C

Lights in red or green (depending from the display colour) when a temperature is displayed and unit measurement is degrees centigrade.

5.2.2. Display

The four digit on the display can light in red or green. For the display details see the next paragraphs.

Note: the labels are displayed in compatibility with the display characteristics.

GENERAL DESCRIPTION

The card allows a control for blast chillers / freezers and allows blast chilling and freezing cycles with temperature control at the heart of the product and simple time-regulated cycles. A conservation cycle follows to each blast chilling/freezing cycle. A manual and/or automatic defrosting cycle is available.

If the chosen pattern allows it, it is possible to connect a printer for printing on-line temperature and alarm values.

5.3 POWER SUPPLY

When power is supplied the card executes a two second long lamp-test. At the end the card returns to the status prior to the power supply. The allowed status are OFF, STANDBY and CYCLE EXECUTION.

5.4. OFF

In Off status the light of the display and icons is out, except OFF icon, that shows that the card is under tension. All exits are disconnected.

The following keys are connected in Off status:

- STANDBY key to put the card in standby
- DEFROST AND STANDBY key, a three second long pressure to enable the access to the parameter programming (par. 5.21)

- CHILLING-TEMP key, a three second long pressure to enable the display of the firmware identifier
- CHILLING-TIME key, a three second long pressure to enable the access to the set up of print-report procedure
- DEFROST key, a three second long pressure to enable the access to the temperature display
- CHILLING-TIME and FREEZING-TIME, a three second long to enable the access to watch set-up.

5.5 STANDBY

In standby the display shows in red the temperature of the cold room probe. The OFF icon turns off.

In standby the following keys are enabled:

- Key CHILLING TEMP for selecting a temperature-regulated chilling cycle
- Key FREEZING TEMP for selecting a temperature-regulated freezing cycle
- Key CHILLING TIME for selecting a time-regulated chilling cycle
- Key FREEZING TIME for selecting a time-regulated freezing cycle
- Key DEFROST to start a defrosting cycle
- Key STANDBY to start the selected cycle

5.6 SELECTION OF A TEMPERATURE REGULATED CHILLING CYCLE

With card in standby press key CHILLING-TEMP; icon TEMP and icon CHILLING blink. The display shows in red the temperature set point for the cold room probe during the chilling, given by parameter Pr1.

With keys INCREMENT and DECREMENT it is possible to change the set point value. The pressure of key CHILLING-TEMP confirms the chosen value and displays the product temperature set point given by parameter Pr6, the icon CHILLING lights steadily and icon TEMP flashes uninterruptedly. With keys INCREMENT and DECREMENT it is possible to change the set point value.

The pressure of key CHILLING-TEMP confirms the value and displays the cold room temperature set point during conservation given by parameter Pr2, icon CHILLING lights steadily, while icon CONSERVATION and TEMPERATURE blink. With key INCREMENT and DECREMENT it is possible to change the value. The pressure of key CHILLING-TEMP confirms the new value.

The new set up values won't be saved and will remain active till the selection of an other cycle. At any time it will be possible to press STANDBY for beginning the cycle execution.

5.7 SELECTION OF A TEMPERATURE REGULATED FREEZING CYCLE

With card in standby press key FREEZING-TEMP; icon TEMP and icon FREEZING blinks. The display shows in red the temperature set point for the cold room probe during the chilling, given by parameter Pr3.

With keys INCREMENT and DECREMENT it is possible to change the set point value. The pressure of key FREEZING-TEMP confirms the chosen value and displays the product temperature set point given by parameter Pr7, the icon FREEZING lights steadily and icon TEMP flashes uninterruptedly. With keys INCREMENT and DECREMENT it is possible to change the set point value.

The pressure of key FREEZING-TEMP confirms the value and displays the cold room temperature set point during conservation given by parameter Pr4, icon FREEZING lights steadily, while icon CONSERVATION and TEMPERATURE blink. With key INCREMENT and DECREMENT it is possible to change the value. The pressure of key FREEZING-TEMP confirms the new value.

The new set up values won't be saved and will remain active till the selection of an other cycle. At any time it will be possible to press STANDBY for beginning the cycle execution.

5.8 SELECTION OF A TIME REGULATED CHILLING CYCLE

With card in standby press key CHILLING-TIME; icon TIME and icon CHILLING blink. The display shows in red the temperature set point for the cold room probe during the chilling, given by parameter Pr1.

With keys INCREMENT and DECREMENT it is possible to change the set point value. The pressure of key CHILLING-TIME confirms the chosen value and displays the product temperature set point given by parameter Pr0, the icon CHILLING lights steadily and icon TIME flashes uninterruptedly. With keys INCREMENT and DECREMENT it is possible to change the length of the cycle.

The pressure of key CHILLING-TEMP confirms the value and displays the cold room temperature set point during conservation given by parameter Pr2, icon CHILLING lights steadily, while icon CONSERVATION and TIME blink. With key INCREMENT and DECREMENT it is possible to change the value. The pressure of key CHILLING-TIME confirms the new value.

The new set up values won't be saved and will remain active till the selection of an other cycle. At any time it will be possible to press STANDBY for beginning the cycle execution.

5.9 SELECTION OF A TIME REGULATED FREEZING CYCLE

With card in standby press key FREEZING-TIME; icon TIME and icon FREEZING blink. The display shows in red the temperature set point for the cold room probe during the chilling, given by parameter Pr3.

With keys INCREMENT and DECREMENT it is possible to change the set point value. The pressure of key FREEZING-TIME confirms the chosen value and displays the product temperature set point given by parameter Pr1, the icon FREEZING lights steadily and icon TIME flashes uninterruptedly. With keys INCREMENT and DECREMENT it is possible to change the length of the cycle.

The pressure of key FREEZING-TEMP confirms the value and displays the cold room temperature set point during conservation given by parameter Pr4, icon FREEZING lights steadily, while icon CONSERVATION and TIME blink. With key INCREMENT and DECREMENT it is possible to change the value. The pressure of key FREEZING-TIME confirms the new value.

The new set up values won't be saved and will remain active till the selection of an other cycle. At any time it will be possible to press STANDBY for beginning the cycle execution.

5.10 EXECUTION OF A TEMPERATURE REGULATED CYCLE

After the selection of a chilling or freezing cycle the pressure of key STANDBY allows to start the cycle. The icon CHILLING or FREEZING blinks. The icon TEMP lights steadily, while icons CONSERVATION and TIME are extinguished. The display shows

in red the temperature of product probe. During chilling /freezing cycle it is always possible to display in green for 5 seconds the temperature of cold room probe by pressing key CHILLING-TEMP or key FREEZING-TEMP, and the length of chilling/freezing cycle by pressing key CHILLING-TIME and FREEZING-TIME. The display of the time is in minutes or in hours and minutes, according to

the choice made with parameter P8. The chilling/freezing cycle ends when the temperature of the core probe reaches the set point. At this point the conservation begins.

The icon CHILLING or FREEZING lights steadily while the icon CONSERVATION blinks and the buzzer, if present sounds at intermittence for the time determined by parameter P7. The pressure of any key silences the buzzer and icon CONSERVATION lights steadily. The display shows in red the temperature of the cold room probe. The maximum time allowed for the achievement of the set point by the core probe is fixed by parameter Pt0 for chilling cycle and Pt1 for freezing cycle. If these times are surmounted when conservation begins the display shows in red the temperature of the cold room probe while the icon TIME blinks to indicate the time overcoming.

The pressure of key CHILLING-TIME or key FREEZING-TIME allows to display the whole time used during chilling/freezing phase. In every moment it is possible to press key STANDBY to stop the cycle execution. At the following pressure of key STANDBY the cycle restarts from the beginning. To deselect the cycle select a different cycle or press for three seconds any of CHILLING-TEMP, FREEZING-TEMP, CHILLING-TIME or FREEZING-TIME keys; in this case all cycles are deselected. For details concerning compressor and ventilation see paragraph 5.14 and 5.15.

5.11 CORE PROBE CONTROL

When a temperature regulated is selected and executed a control on core probe and cold room probe is executed to value the effective core probe insertion. The control of core probe insertion can be disconnected by decreasing parameter Pr10 to 0. If after the test execution the core probe results as inserted the cycle goes on normally. If the result of the test is negative the display shows in red label AL 4 in alternation with the current display, the icon TEMPERATURE blinks and the buzzer, if present, sounds at intermittence with a five second long beep every 15 seconds. The user can decide to go on with the temperature regulated cycle by pressing key CHILLING-TEMP or FREEZING-TEMP. In this case label AL 4 disappears and icon TEMP stops to blink. The user can decide to go on with a time regulated cycle by pressing key CHILLING-TIME or FREEZING-TIME. In this case label AL 4 disappears, icon TEMP lights out and icon TIME lights up. The length of this cycle is the one given by parameter Pt0 for chilling cycle, and parameter Pt1 for freezing cycle. If after a minute from the signal that core probe is not inserted the user hasn't done any choice the appliance passes automatically to a time regulated cycle.

5.12 EXECUTION OF A TIME REGULATED CYCLE

After the selection of a chilling or freezing cycle the pressure of key STANDBY allows to start the cycle. The icon CHILLING or FREEZING blinks. The icon TIME lights steadily, while icons CONSERVATION and TIME are extinguished. The display shows in red the temperature of product probe. During chilling /freezing cycle it is always possible to display in green for 5 seconds the temperature of cold room probe by pressing key CHILLING-TEMP or key FREEZING-TEMP, and the length of chilling/freezing cycle by pressing key CHILLING-TIME and FREEZING-TIME. The display of the time is in minutes or in hours and minutes, according to the choice made with parameter P8. The chilling/freezing cycle ends when the temperature of the core probe reaches the set point. At this point the conservation begins.

The icon CHILLING or FREEZING lights steadily while the icon CONSERVATION blinks and the buzzer, if present sounds at intermittence for the time determined by parameter P7. The pressure of any key silences the buzzer and icon CONSERVATION lights steadily. The display shows in red the temperature of the cold room probe. The maximum time allowed for the achievement of the set point by the core probe is fixed by parameter Pt0 for chilling cycle and Pt1 for freezing cycle. If these times are surmounted when conservation begins the display shows in red the temperature of the cold room probe while the icon TIME blinks to indicate the time overcoming.

The pressure of key CHILLING-TIME or key FREEZING-TIME allows to display the whole time used during chilling/freezing phase. In every moment it is possible to press key STANDBY to stop the cycle execution. At the following pressure of key STANDBY the cycle restarts from the beginning. To deselect the cycle select a different cycle or press for three seconds any of CHILLING-TEMP, FREEZING-TEMP, CHILLING-TIME or FREEZING-TIME keys; in this case all cycles are deselected.

5.13 COMPRESSOR

Compressor running is ON-OFF. Thermoregulation is executed on the basis of the cold room probe temperature compared to the chilling, freezing and conservation set point. Compressor starting is subjected to the security times that have been set up with parameters PC0, PC1 and PC2. Parameter PC0 settles the minimum time of delay for compressor starting from card power on. Parameter PC1 settles the minimum time that must pass between one starting and the following and parameter PC2 determines the minimum time that must pass between a deactivation and the following reactivation of the compressor. If the cold room probe is in alarm during a chilling/freezing cycle the cycle interrupts immediately (see paragraph 26). If the cold room probe alarm starts during a conservation cycle the cycle goes on but compressor management is done by On and Off cycles fixed by parameters PC3, PC4 and PC5.

5.14 EVAPORATOR FANS

Evaporator fans functioning are different if a chilling/freezing/hard chilling or conservation cycle is working. In chilling/freezing and hard chilling fans are working, apart from compressor status, when temperature of cold room probe is lower to parameter PF1. During conservation running depends from parameter P3, PF0, PF2 and PF3 values.

5.15 CONDENSER FANS

Parameter P11 set to 0 allows to use exit K4 for condensing fans functioning. Condensing fans activates always in parallel with the compressor. Deactivation is delayed on the basis of parameter PF6. If the condensation high temperature alarm activates the condenser fans run for the whole time.

5.16 DOOR HEATER

Parameter P11 set to 1 allows to use exit K4 for door heater management. The exit K4 activates when cold room probe is lower than parameter Pr13 value and deactivates when cold room probe is higher than parameter Pr13 value plus hysteresis (Pr14). Note: When cold room probe is in alarm the heater will be active.

5.17 DEFROSTING

Defrosting can be manual or automatic. Manual defrost starts by pressing DEFROST key when the card is in standby. Manual defrosting ends by pressing DEFROST key, for timeout given by parameter Pd3 or when evaporator probe (P3=1), if present, reaches parameter Pd2.

Automatic defrosting starts during conservation phase. The first automatic defrosting cycle starts after a delay from the beginning of conservation, given by parameter Pd5, and recurs at slots defined by parameter Pd0. Automatic defrosting ends if evaporator probe is higher than parameter Pd2 value or for timeout given by parameter Pd3.

5.18 CONFIGURATION PARAMETERS

To enter parameter programming put the card in Off and press at the same time DEFROST and STANDBY key for 3 seconds. Display will show in red label PASS. Parameters for the user are displayed and can be scrolled by using INCREMENT or DECREMENT keys. For entering service parameters press key FREEZING-TEMP, the display will show in green value 0, with keys INCREMENT or DECREMENT change the value and insert the right password value (for this application the right value is -19). Confirm by pressing key FREEZING-TEMP; if the value is correct the display shows in red the first available parameter. For changing a parameter value press key FREEZING-TEMP, the display in green the present parameter value. This value can be changed with keys INCREMENT and DECREMENT. Confirm by pressing key FREEZING-TEMP and pass to visualization of the parameter list. This phase ends by pressing key STANDBY or for a 20 second long timeout.

5.19 DOOR OPENING

The door opening is not displayed immediately but with a delay given by parameters Pi1 and Pi2. After the time set with parameter Pi1 the display shows in red label "door" blinking with current display. After the time set with parameter Pi2 the open door alarm is displayed. In presence of buzzer the door opening is signaled with a 5 second long beep repeated every 15 seconds.

5.20 HIGH PRESSURE ALARM

The activation of high pressure entrance is displayed after the time set by parameter Pi6. The display shows in red label AL 2. In presence of buzzer the high pressure alarm is signaled with a 5 second long beep repeated every 15 seconds. Any cycle in progress will stop and card returns in standby. To refit put card in Off. The configuration of entrance polarity can be done through parameter Pi5.

5.21 CONDENSING HIGH TEMPERATURE ALARM

The activation of condensing high temperature entrance starts when the temperature of the condensing probe is higher than the value set by parameter P9. In presence of this alarm the condensing fans start. The display shows in red label AL 3 in alternation with current display. Any cycle in progress will stop and the buzzer, if present, will sound with a 5 second long beep repeated every 15 seconds. The alarm will stop when temperature of condensing probe goes under value P9 less P10.

5.22 BUZZER (IF PRESENT)

An external buzzer for sonorous signals can be connected to connector Con1. The buzzer starts at the end of a chilling/freezing cycle with an intermittent sound (the length of the sound is fixed by parameter P7) and in presence of an alarm with a 5 seconds long beep repeated every 15 seconds. The buzzer can be silenced by pressing any key.

Note: In presence of an alarm if there isn't any buzzer connected the first pressure of a key doesn't produce any effect, as buzzer silencer.

5.23 PROBES DISPLAY

With card in Off press for three seconds key DEFROST. The display shows in red the temperature of cold room probe and icon CHILLING blinks. Press key DEFROST, the display shows in red the temperature of product core probe temperature and icon TEMPERATURE blinks. Press key DEFROST, the display shows in red the temperature of evaporator probe, if enabled by parameter P3, and icon FREEZING blinks. If evaporator probe is not enabled it passes to display of condenser probe. Press key DEFROST, the display shows in red the temperature of condenser probe, if enabled by parameter P5, and icon CONSERVATION blinks. If condenser probe is not enabled it passes to display cold room probe. The pressure of STANDBY key or a 10 seconds long timeout brings the card back to Off.

5.24 FIRMWARE IDENTIFIER

With card in Off press for three seconds CHILLING-TEMP key. The display shows in green project code, the next pressure of CHILLING-TEMP key allows to display, in green, in the first two digits from left the code of the version and in the remaining digits the code of revision code. The two values are separated by the full stop of the second digit. Pressure of STANDBY key or a 5 second long time out brings the card back to Off.

5.25 ALARMS

Er 1 Breakdown of cold room probe:

- In standby hinders the start of chilling/freezing cycles
- In chilling/freezing the cycle stops and the card goes back to standby.
- In conservation the cycle doesn't stop and the compressor starts cyclically (paragraph 5.14)

Check connections and functioning of cold room probe.

Er 2 Breakdown of product probe:

- In standby hinders the start of temperature regulated chilling/freezing cycles
- In temperature regulated chilling/freezing cycles produces the passage to a time regulated cycle
- In conservation it doesn't produce any effect.

Check connections and functioning of product probe

Er 3 Breakdown of evaporator probe (only if evaporator probe is enabled):

- In standby, chilling/freezing, conservation does not produce any effect.
- An eventual defrosting finishes per time out

Check connections and functioning of evaporator probe

Er 4 Breakdown of condenser probe (only if condenser probe is enabled):

- Only signal on display

Check connections and functioning of condenser probe

AL 1 Open door alarm

- In standby and defrosting it doesn't produce any effect.
- For the effects on compressor and ventilation see paragraph 5.22

Close the door.

AL 2 High pressure alarm

- In standby it doesn't produce any effect.
- In chilling/freezing and conservation the cycle stops and the card goes back to standby.

Remove the alarm cause, switch off and switch on the card.

AL 3 Condensing high temperature alarm (only if condenser probe is enabled):

- Stops the cycle that is in function and deactivates all the exits, except condenser fans.

Wait lowering of condenser temperature.

AL 4 Core probe not inserted

See paragraph 5.11.

See paragraph 5.11.

Each alarm is accompanied by the sound of the buzzer (if present): a 5 seconds long beep repeats every 15 seconds. The label that shows the alarm is displayed in red and alternates with current display.

visualizza in rosso la label "AL 3", in alternanza con la visualizzazione corrente. Un eventuale ciclo in corso viene interrotto ed il buzzer (se presente) suona in modo intermittente con un beep di cinque secondi ogni 15. Il rientro dall'allarme è automatico quando la temperatura della sonda condensatore scende sotto al valore del parametro P9 meno P10.

Section 6 ROUTINE AND PROGRAMMED MAINTENANCE

The information in this section regards the user, or other non-specialized personnel, and the routine maintenance technician.

6.1 BASIC SAFETY REGULATIONS

We summarize the safety regulations already shown in heading 1.5 to ensure that the user or maintenance technician can perform the work in conditions of total safety:

- do not touch the unit with wet hands and/or feet
- do not use the appliance with bare feet
- do not insert screwdrivers or other pointed objects between guards or moving parts of the appliance
- do not pull the power cord to disconnect the appliance from the electrical mains
- before performing any cleaning or maintenance on the appliance disconnect it from the electrical mains by switching of the main switch and extracting the plug

6.1.1 Prohibited: removal of guards and safety devices

It is strictly forbidden to remove guards or safety devices when performing routine maintenance work. The manufacturer disclaims all liability that may arise if this regulation is not observed.

6.1.2 Indications on emergency measures in case of fire

- disconnect the appliance from the electrical power socket or switch off the master switch on the electrical mains line
- do not use water to douse fires
- use powder or foam extinguishers

6.2 CLEANING THE APPLIANCE

The unit is designed to preserve food products so it is important to keep it clean for reasons of hygiene and health. The appliance is thoroughly cleaned in our factory before delivery. We recommend, however, that you clean the interior of the appliance before use. Before cleaning the appliance make sure the power cord is disconnected.

6.2.1 Cleaning the interior and exterior of the appliance

- cleaning products: water and non-abrasive neutral detergent. **DO NOT USE SOLVENT OR THINNERS**
- cleaning method: use a cloth or sponge soaked in a suitable cleaning product to clean the interior and exterior parts of the cabinet
- sanitation: do not use substances that could alter the taste and smell of stored food
- rinsing: use a cloth or sponge soaked un clean water. **DO NOT USE WATER JETS**
- frequency: once a week or at different intervals in accordance with the type of food product conserved.

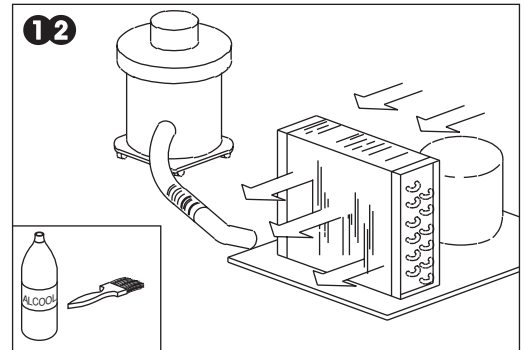
6.2.2 Cleaning the condenser

The condenser will work less efficiently if it is obstructed with foreign material so it must be cleaned once a month. Before cleaning the condenser switch off the appliance, disconnect the power cord and proceed as follows:

Open the control panel by slackening the screws and pulling it down on its hinges

Use an air jet or dry brush and, working with up and down movements (Fig.12), remove any dust or fluff that has deposited on the heat exchanger fins. If there are greasy deposits on the fins use a brush soaked in benzene or alcohol. After cleaning, start the appliance as described in heading 5.1 and 5.2 (with bottom motor models, remember to close control panel).

During this operation use the following personal safety measures: safety glasses, respirator mask, chemical resistant gloves (benzine - alcohol).



6.3 PERIODIC CHECKS

The following areas of the appliance or component assemblies require periodic checking:

- condition and efficiency of the door sealing elements
- condition of shelves in contact with food products
- condition of hinges and correct fixing of the doors
- condition of electrical cables and electrical parts

6.4 PRECAUTIONARY MEASURES FOR PROLONGED DISUSE

If the appliance is to remain unused for more than 15 days proceed as follows:

- switch off the appliance and disconnect it from the electrical supply
- clean the interior of the cabinet, shelves, trays, runners and supports, paying special attention to critical areas such as articulations and magnetic sealing strips in accordance with the indications in heading 6.2.
- leave doors slightly open to prevent accumulation of residual humidity

6.5 PREVENTIVE MAINTENANCE

6.5.1 Start-up after prolonged disuse

Before starting the appliance after prolonged disuse perform preventive maintenance. Clean the unit thoroughly as described in heading 6.2.

6.5.2 Checking warning and control devices

Check that the various controls are working properly in accordance with the indications in headings 5.1 and 5.2. We recommend you take out a service or maintenance contract with your dealer covering:

- cleaning of the condenser
- keeping a check on the refrigerant charge
- checking complete cycle operation
- electrical safety

Section 7 SPECIAL MAINTENANCE AND REPAIRS

All maintenance work not described in the previous sections must be considered "Special Maintenance".

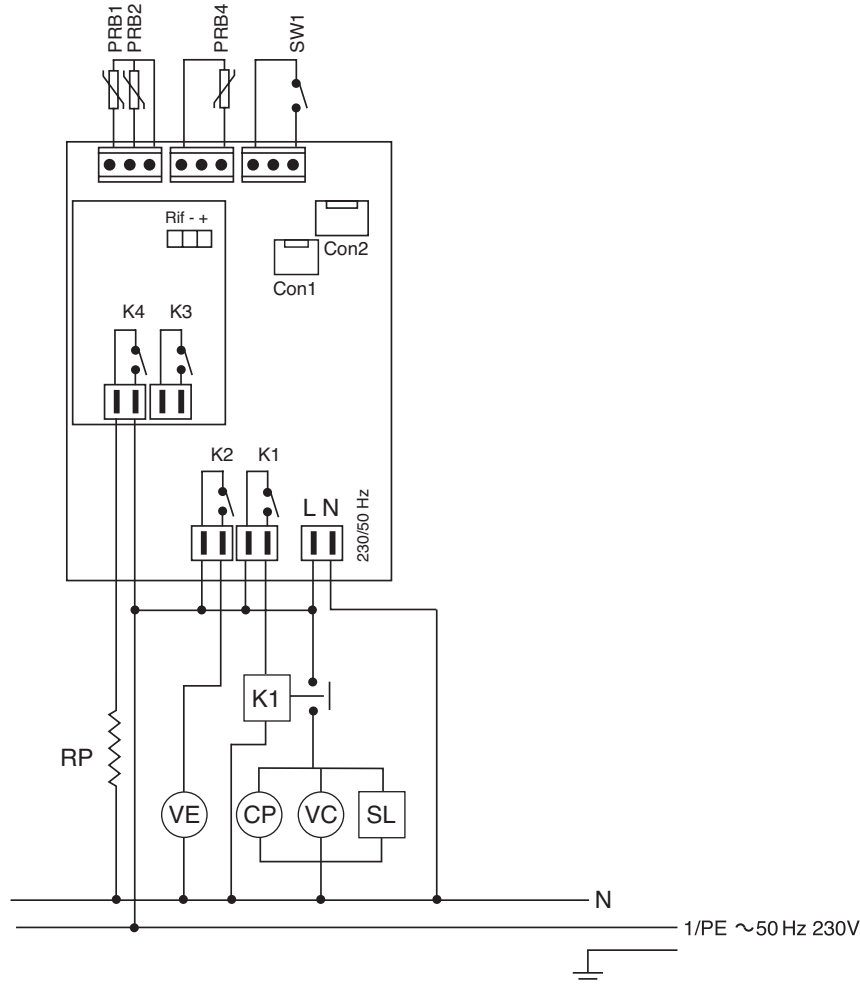
Special maintenance interventions and repairs are to be performed exclusively by specialized technicians authorized by the manufacturer.

The manufacturer declines all liability in the case of work performed by the user or unauthorized persons, or if non-original spare parts are fitted to the appliance.

Section 8 DIAGRAMS

From page 29 the electrical diagrams for each appliance divided according to temperature range are contained.

ABF 03C/05 C



LEGENDA:

- CP - COMPRESSORE
- K1 - RELE COMPRESSORE
- RP - RESISTENZA ANTICONDENSA
- VC - VENTILATORE CONDENSATORE
- SL - VALVOLA SOLENOIDE LIQUIDO
- VE - VENTILATORE EVAPORATORE
- SG - VALVOLA SOLENOIDE SBRINAMENTO
- K2 - RELE VENTILATORE EVAPORATORE
- RE - REATTORE LAMPADA GERMICIDA
- LG - LAMPADA GERMICIDA
- PRB1- SONDA SPILLONE
- PRB2- SONDA CELLA
- PRB4- SONDA EVAPORATORE
- SW1- PRESSOSTATO

LEGENDE:

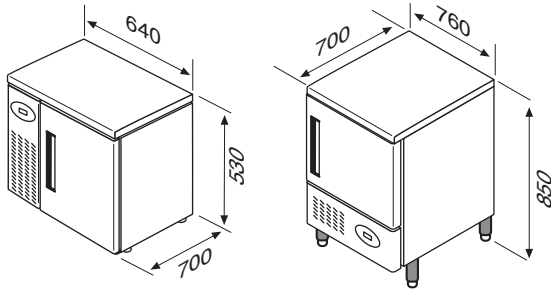
- CP - COMPRESSEUR
- K1 - RELAIS COMPRESSEUR
- RP - RESISTANCE ANTI-CONDENSATION
- VC - VENTILATEUR CONDENSATEUR
- SL - SOUPAPE SOLENOÏDE LIQUIDE
- VE - VENTILATEUR EVAPORATEUR
- SG - SOUPAPE SOLENOÏDE DEGIVRAGE
- K2 - RELAIS VENTILATEUR EVAPORATEUR
- RE - INDUCTANCE LAMPE GERMICIDE
- LG - LAMPE GERMICIDE
- PRB1 - SOND E PIN
- PRB2 - SOND CHAMBRE
- PRB4 - SOND EVAPORATEUR
- SW1 - PRESSOSTAT

LIST OF COMPONENTS:

- CP - COMPRESSOR
- K1 - COMPRESSOR RELAY
- RP - ANTI-CONDENSATE RESISTANCE
- VC - CONDENSER FAN
- SL - LIQUID SOLENOID VALVE
- VE - EVAPORATOR FAN
- SG - DEFROSTING SOLENOID VALVE
- K2 - EVAPORATOR FAN RELAY
- RE - GERMICIDAL LAMP REACTOR
- LG - GERMICIDAL LAMP
- PRB1 - PIN SENSOR
- PRB2 - ROOM SENSOR
- PRB4 - EVAPORATOR SENSOR
- SW1 - MANOSTAT

TEILEBESCHREIBUNG:

- CP - MOTORVERDICHTER
- K1 - VERDICHTERRELAIS
- RP - HEIZWIDERSTAND
- VC - KONDENSATORGEBLÄSE
- SL - FLÜßIGKEIT-SOLENOIDVENTIL
- VE - VERDAMPFERGEBLÄSE
- SG - ABTAU-SOLENOIDVENTIL
- K2 - RELAIS VERDAMPFERGEBLÄSE
- RE - KEIMTÖTENDE LAMPE REAKTOR
- LG - KEIMTÖTENDE LAMPE
- PRB1 - NADELFÜHLER
- PRB2 - RAUMFÜHLER
- PRB4 - VERDAMPFERFÜHLER
- SW1 - DRUCKWÄCHTER



ABF 03

ABF 05 C

TABELLA 1 - TABLE 1 - TABLEAU 1 - TABELLE 1							
modello model modèle Modell		ABF 03	ABF 05 C				
Temperatura ambiente max °C Room temperature max °C Température ambiante max °C Raumtemperatur max °C		38	38				
Capacità di carico Load capacity Capacité de chargement Belastungsfähigkeit		3 x GN 2/3	5 X GN 1/1 5 X BN 60X40				
Resa kg per ciclo di abbattimento +90° / +3°C Output kg for blast chilling process +90° / +3°C Rendement kg par cycle de refroidiss. +90° / +3°C Leistung kg für Schnellkühlungsprozess +90° / +3°C		10	20				
Resa kg per ciclo di congelamento +90° / -18°C Output kg for freezing process +90° / -18°C Rendement kg par cycle de congélation +90° / -18°C Leistung kg für Tiefkühlungsprozess +90° / -18°C		5	12				
Potenza frigorifera W -23,3 °C / +54,4 °C Refrigerating power W -23,3 °C / +54,4 °C Puissance frigorifique W -23,3 °C / +54,4 °C Gefrierleistung W -23,3 °C / +54,4 °C		490	750				
Potenza max assorbita kw Max absorption kw Absorption max kw Max Energieverbrauch kw		0,9	1,2				
Tensione alimentazione Voltage Tension d'alimentation Speisungsspannung		230/1/50	230/1/50				
Fluido refrigerante Kg Cooling gas Kg Kg Gaz réfrigérant Kältemittel Kg	R404 A	0,4	1,3				
Peso unitario Unit Weight Poids unitaire Einheit Gewicht	Kg	48	98				
Peso del materiale imballato Kg Shipping Weight Kg Poids du matériel emballé Kg Gewicht verpackte Geräte Kg	cartone carton Karton	50	102				
	gabbia crate cage Lattenverschlag	51	106				
	cassa case caisse Holzkiste	52	116				
Dimensioni esterne L X P X H mm. External Dimension L X D X H mm. Dimensions extérieures L X D X H mm. Außenmaße B X T X H mm.		L	P	H	L	P	H
		640	700	530	760	700	850
Ingombri del materiale imballato Dimensions of packed material Encombremments du matériel emballé Abmessungen verpackte Geräte	cartone carton Karton	642	702	532	762	702	852
	gabbia crate cage Lattenverschlag	644	704	534	764	704	854
	cassa case caisse Holzkiste	644	704	534	764	704	854



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