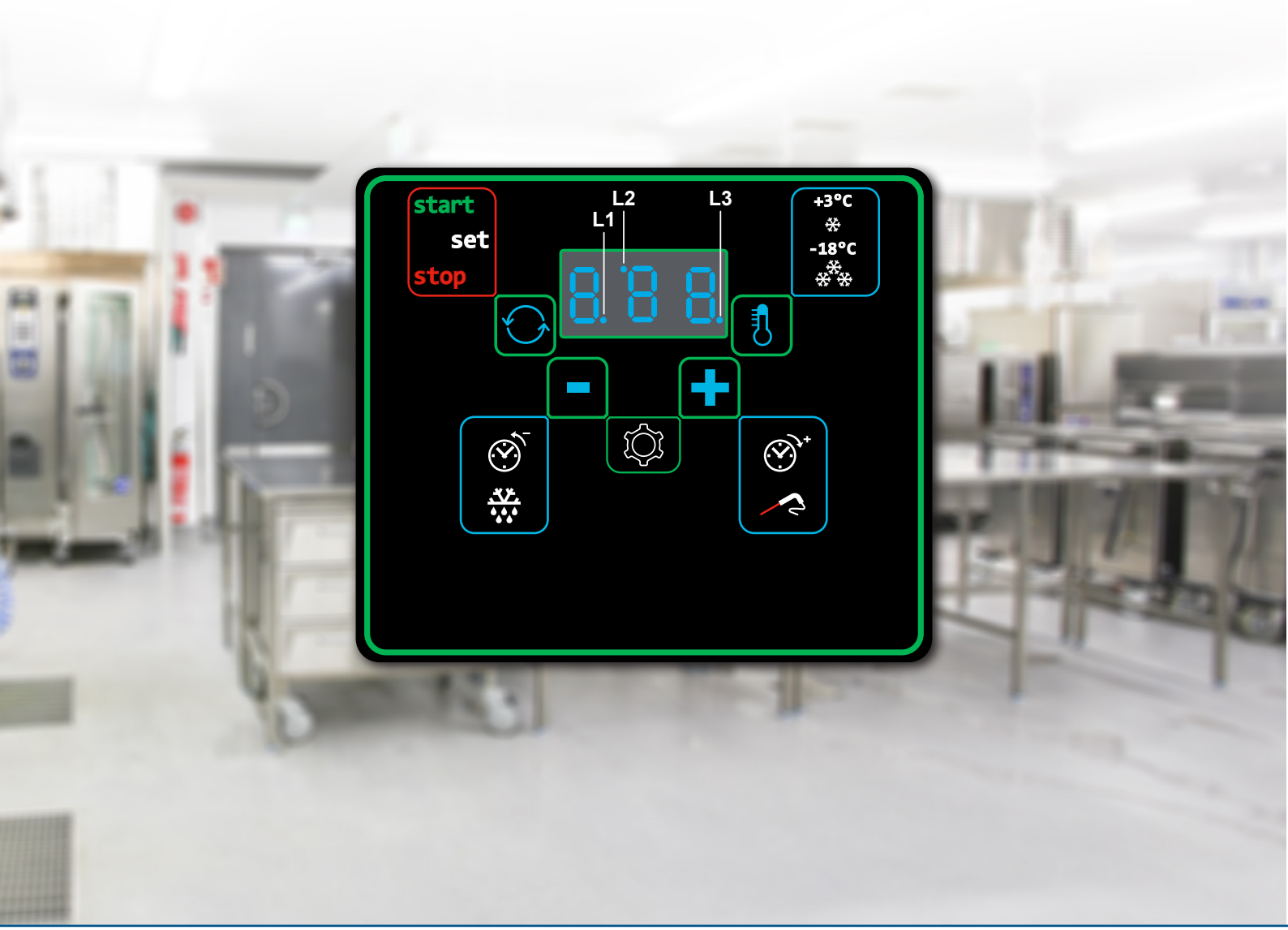
Blast Chiller - Shock Freezer

E-PRO

Installation- and user manual

Original instructions



RF50C00064 REV. 02 - 11/2022

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INSTALLATION SECTION

(reserved to skilled and authorised technicians)

This manual furnishes all necessary information for the correct installation of the device operated by skilled personnel.

Read the instructions carefully before performing any operations, as they provide essential indications concerning the safety of the device.

-  Read this manual carefully before installing and servicing the device and keep it for any further future consultation by the various operators.
- The manufacturer cannot be held liable for any use of the device in contrast with the indications provided in this manual. Remember that any type of installation or maintenance different to that indicated in the manual can cause damage, injuries or fatal accidents.
- Unauthorised actions, tampering or modifications that do not follow the information provided in this manual can cause damage, injuries or fatal accidents and shall invalidate the warranty.
- Installation and special maintenance operations must be performed by skilled and authorised technicians, with good knowledge of the refrigerating and electrical systems, according to the legal provisions in force in the country of use and in compliance with standards concerning the systems and workplace safety.
- Make sure the mains voltage and the frequency correspond to those specified in the rating plate before connecting the device to the electrical mains.
- Disconnect the device from the mains before any cleaning or maintenance (turn the main switch to OFF and disconnect the plug).
- THE MACHINE HAS NOT BEEN DESIGNED TO BE INSTALLED IN AN EXPLOSIVE ATMOSPHERE. Do not keep explosive substances, such as pressurised containers with flammable propellants in this appliance.
- Before installation, please check:
  - that the areas in which the machine will be installed are suitable for food preparation;
  - that the systems comply with the legal provisions in force in the country of use and meet the specifications on the serial number plate;
  - that a circuit breaker with high sensitivity (30 mA) is installed, to which the machine must be connected;
  - that a point of connection to the water mains is near the device;
  - that a socket with a suitable ground connection for the country of use is located near the device;
  - the planarity of the device support area, especially if it is assembled on wheels.
- During device installation:
  - transit or permanence near the work area by individuals not assigned to device installation is prohibited;
  - use the personal protection equipment (e.g. gloves, safety footwear, etc...);
  - work according to workplace safety regulations (e.g. do not approach electrical parts with wet hands or barefoot, etc...).
- ORIGINAL SPARE PARTS ARE RECOMMENDED. The manufacturer denies all liability for the use of non original spare parts.
- Given that packaging materials may be potentially hazardous, they must be kept out of reach of children or animals and correctly disposed of according to the local standards.
- The device is shipped after passing inspections: visual, electric and functional.

Fig. 1
Abb. 1

Fig. 2
Abb. 2

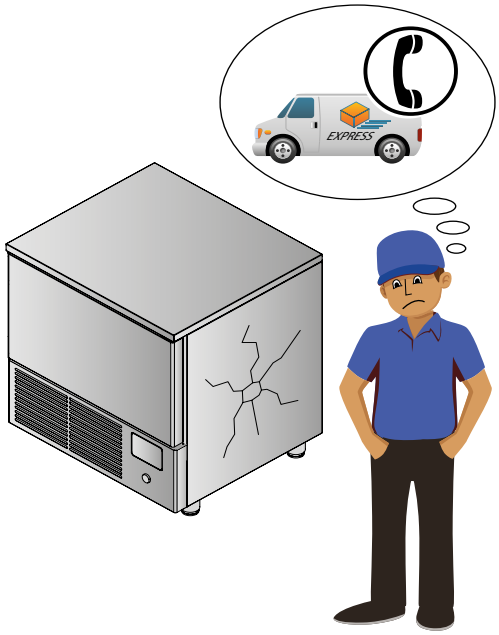
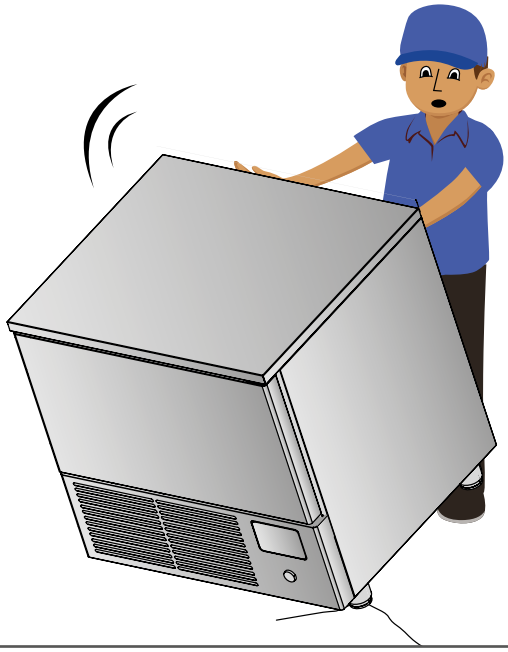


Fig. 3
Abb. 3



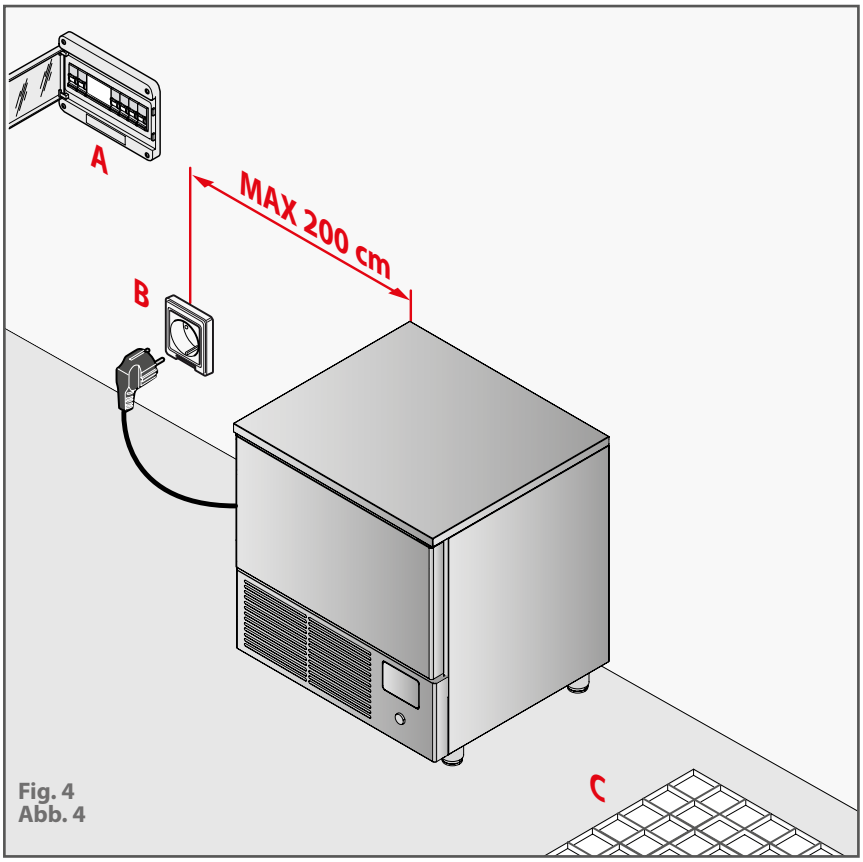


Fig. 4
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Fig. 5
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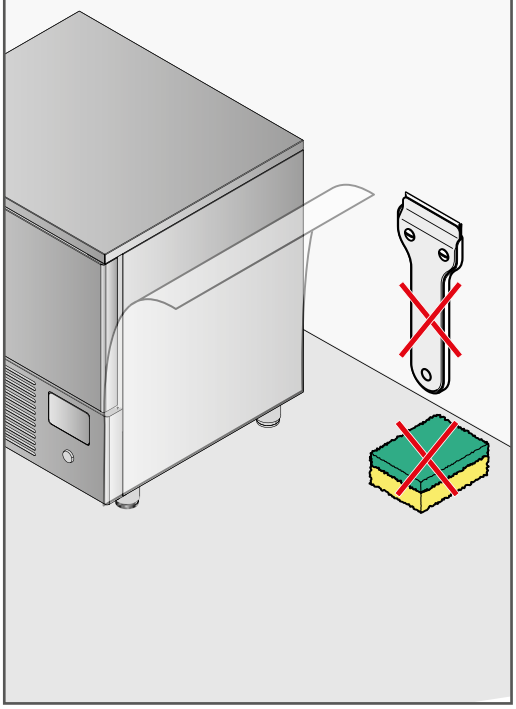

Fig. 6
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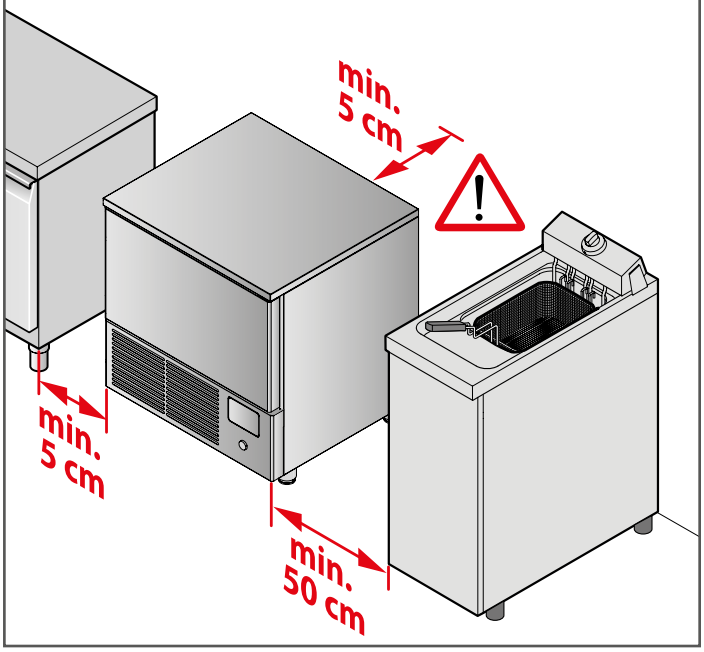

Fig. 7
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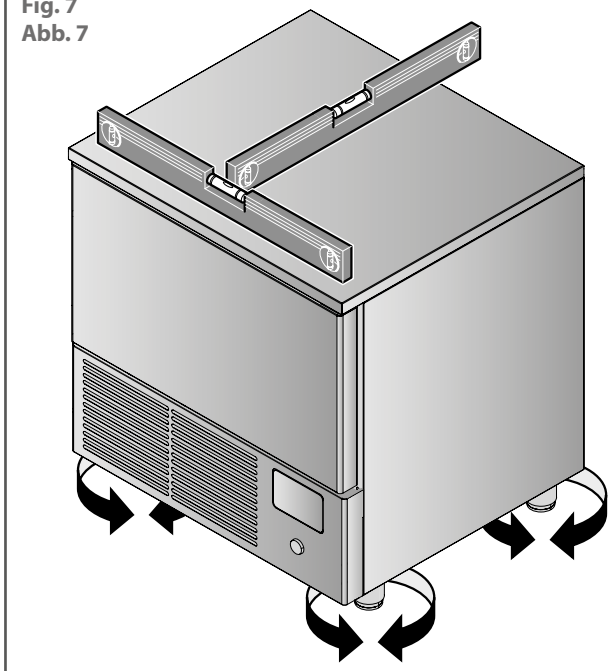

Fig. 8
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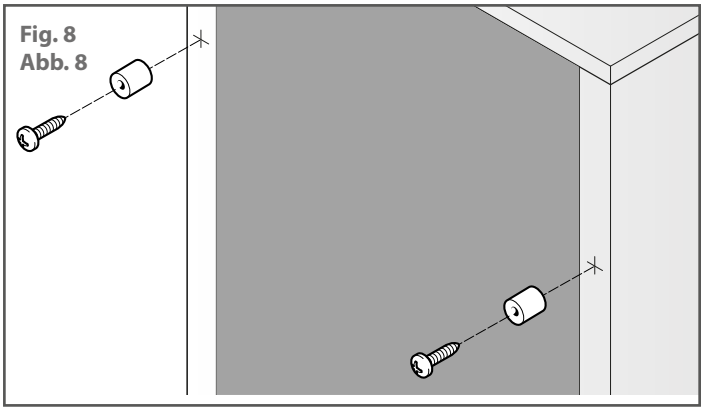

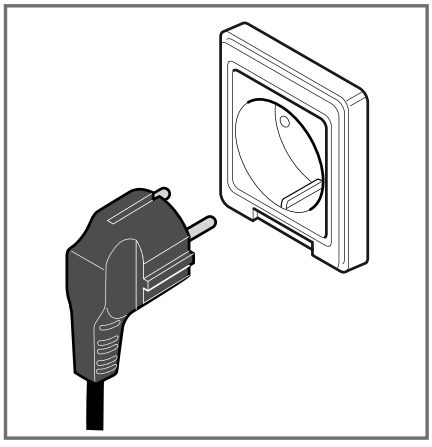

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monofase - single phase - monophasé -
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Fig. 9
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Fig. 10
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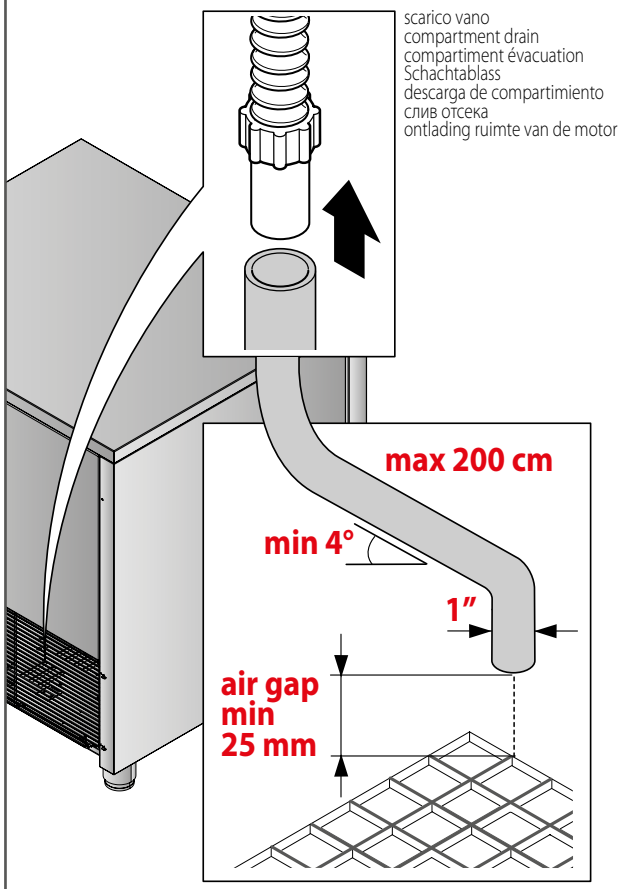

Drawings on page 8

Product transport, handling

Warning markings are printed on the packaging. They indicate the limitations that must be observed to ensure safe device loading, unloading and transport.

Fig. 1 ▶ Device transport and handling must be done exclusively as follows:
- keep the packaging in the vertical position, as per the indications printed on it (this precaution is necessary to prevent the oil contained in the compressor from circulating, which may damage the valves and cause problems when starting the motor);
- use suitable handling means. Do not handle the goods by hand. If hoisting systems are used, such as forklifts or pallet jacks, the weight must be carefully balanced.

The packaging usually consists in polystyrene and stretch film on a wooden pallet, which is secured to the bottom of the device for safer transport and handling.
The manufacturer cannot be held liable for problems due to transport in conditions other than those previously specified.

PAY PARTICULAR ATTENTION TO THE PACKAGING INCLINATION DURING TRANSPORT SINCE THE DEVICE BARYCENTRE DOES NOT CORRESPOND TO ITS GEOMETRICAL CENTRE.

Stacking limits

The devices, regardless of the model, CANNOT be stacked during transport or during storage.

Device check

Fig. 2 ▶ We recommend, after removing the packaging, you check device integrity and make sure it was not damaged during transport. If damage or anomalies are found, do not install the device and promptly inform the carrier. In any case, damaged devices cannot be returned to the manufacturer without prior notice and without prior written authorisation.

Fig. 3 ▶ AFTER UNPACKING, WHEN MOVING THE DEVICE DO NOT PUSH IT OR PULL IT IN ORDER TO AVOID THE RISK OF OVERTURNING OR DAMAGING SOME PARTS (FOR EXAMPLE THE FEET).
NEVER TILT THE DEVICE FROM THE DOOR SIDE.

Systems preparation

Fig. 4 ▶ Systems must comply with the legal provisions in force in the country of use and meet the specifications on the serial number plate.
There must be:
- **A**: a circuit breaker with high sensitivity (30 mA);
- **B**: a point of connection to the power mains;
- **C**: a point of discharge (optional).

Please see the specific chapters for their specifications (for example, the chapter "Electrical connection").

Characteristics of the installation area

Install the device in areas:
- compliant with industrial food handling;
- with adequate ventilation;
- prepared with electrical and plumbing systems compliant with the legal provisions in force in the country of use and according to the workplace safety requirements in the country of use;
- with temperatures from +15° to +43°C;
- that are sheltered against the elements;
- with flooring able to support the device at full load.

If the device is assembled on wheels (kit sold separately), it cannot be levelled. Therefore the surface must be perfectly horizontal, flat and completely smooth.

Protective film removal

Fig. 5 ▶ If the machine is intact, remove the protective film slowly.

Any glue residue can be removed with a proper solvent. Do not use tools or abrasive or strong detergents that might ruin the surfaces.

The removed protective films are potentially dangerous for children and animals. DO NOT LEAVE THEM UNATTENDED IN THE INSTALLATION AREA AND CORRECTLY DISPOSE OF THEM IN ACCORDANCE WITH LOCAL STANDARDS.

Positioning

The machines must be positioned on the ground only, on floors:
- that are not sensitive to heat or flammables;
- perfectly levelled;
- with a regular surface and completely smooth;
- that can support the device at full load.

Fig. 6 ▶ Keep the illustrated minimum clearances around the device: this will facilitate connections to utilities and maintenance.
Fig. 7 ▶ Always check for perfect levelling: if this is not the case, rotate the feet until achieved.

DO NOT INSTALL THE DEVICE:
- NEAR OTHER MACHINES THAT REACH HIGH TEMPERATURES (E.G. OVENS OR FRYERS);
- NEAR WALLS OR FURNITURE THAT IS EITHER FLAMMABLE OR SENSITIVE TO HEAT.

Only use the manufacturer's wheel kit to make the device movable. For assembly, if necessary, read the instructions supplied with the kit.

Spacer installation

The devices require ventilation at the back, where the vents and refrigerating unit are found.
Therefore, do not place them against the wall but keep them approximately 5 cm away.
Fig. 8 ▶ In order to prevent accidental movements from shifting the device too close to the wall, install the provided spacers on the back of the device (especially if the device is assembled on wheels). Use supplied spacers and screws only.

Electrical connections

THE CONNECTION TO THE ELECTRICAL MAINS AND OTHER SUPPLIES MUST COMPLY WITH THE LEGAL PROVISIONS IN FORCE IN THE COUNTRY OF INSTALLATION AND MUST BE PERFORMED BY QUALIFIED PERSONNEL AUTHORISED BY THE MANUFACTURER.

In order to avoid any risks, damaged power supply cables must be replaced by the Manufacturer, by an approved technical support centre, or in any case by an individual with similar qualifications.

Before connecting the device to the mains:
- read the safety instructions provided at the beginning of this manual;
- make sure the mains voltage and frequency correspond to those indicated in the device serial number plate. A rated voltage variation of +/-10% is accepted.

THE DEVICE MUST BE CONNECTED TO AN EFFICIENT GROUND SOCKET .

THE DEVICE MUST BE INCLUDED IN AN EQUIPOTENTIAL SYSTEM COMPLIANT WITH THE LEGAL PROVISIONS IN FORCE (YELLOW GREEN CONDUCTOR WITH A MAXIMUM SECTION OF 10 MM2 - IEC EN 60335-2-42:2003-09 STANDARD). THIS CONNECTION MUST BE MADE BETWEEN VARIOUS DEVICES WITH THE TERMINAL MARKED WITH THE EQUIPOTENTIAL SYMBOL .

For mains connections, use a circuit breaker with manual reset high sensitivity (30 mA), with adequate power that permits complete cut-off in over voltage category III conditions, in order to protect the device against over voltages or short circuits.
For the sizing of the protection device, please refer to the technical data table at the end of the manual.

Fig. 9 ▶ The single-phase appliances leave the factory with the power cable and an Unel plug already installed on the terminal block: it is not allowed to make any other type of electrical connection and no dimensional modification of the cable other than its lengthening, replacing it with one having the same characteristics as the original one (rubber type, section, etc.).

Plumbing connections

THE DRAIN MUST COMPLY WITH THE LEGAL PROVISIONS IN FORCE IN THE COUNTRY OF INSTALLATION AND MUST BE PERFORMED BY QUALIFIED PERSONNEL AUTHORISED BY THE MANUFACTURER.

Outlet water

Cleansing water is collected in a tank which is under the machine.
Fig. 10 ▶ We recommend you connect the drain to a flexible hose of maximum length 200 cm (not supplied) and lead it to a grate in the floor or wall drain pipe, to avoid empting the tank too frequently.

The drain pipe must have the following characteristics:
- is fitted with a trap;
- has a minimum inclination of 4%;
- has an **air gap*** of at least 25 mm;
- does not have clamps;
- has a diameter no less than that of the drain pipe coupling.

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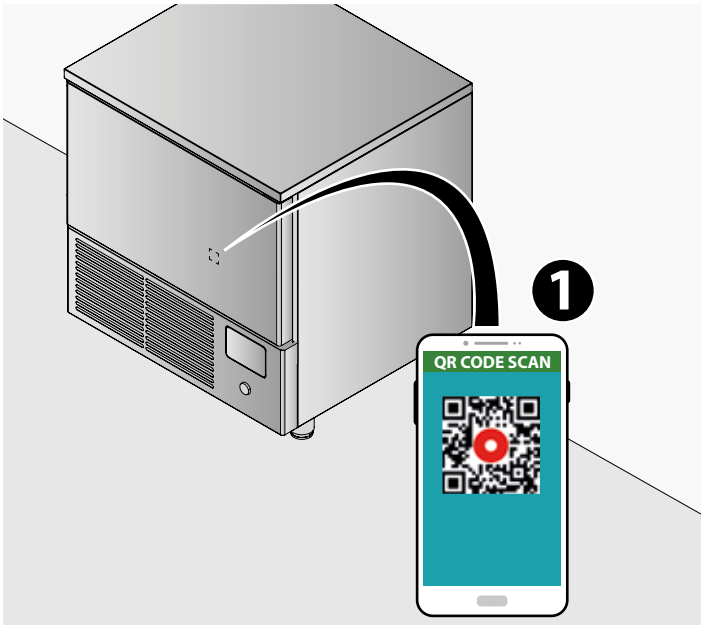
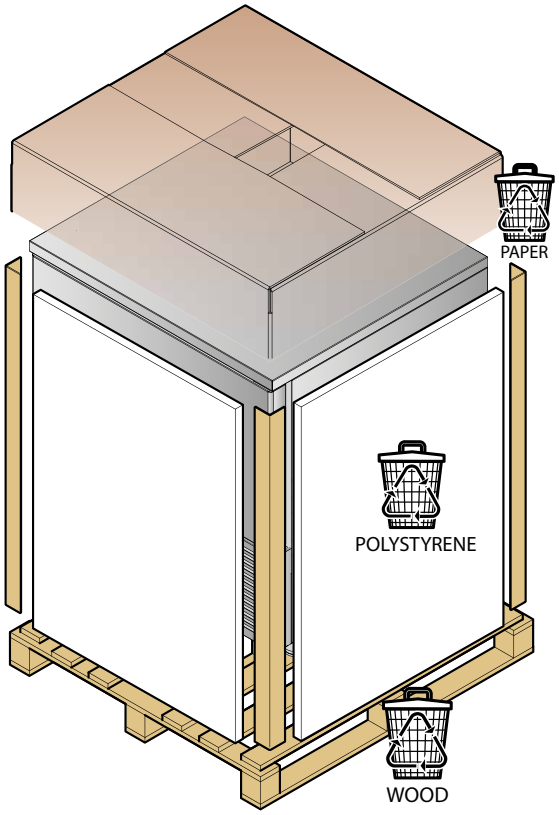


2
USER MANUAL
WIRING
DIAGRAMS

PDF

Instructions manual available in an alternative format

Maximum storage values: 60°C
Maximum transport values: 60°C
Maximum values for the installation environment: 43°C
Do not stack or store lying down.



Congratulations on having purchased our equipment!

Work is simpler due to the intuitive user interface graphics designed to simplify access to functions, which allow immediate identification and promote interaction between the user and the device.
A concentration of technology in a single machine that allows you to perform different and complementary activities for best efficiency in the kitchen: this way you'll be immediately operative, without having to run any complex procedures.

This manual furnishes all necessary information nec-essary for correct use of the device and appropriate maintenance.

Read the instructions carefully before performing any operations, as they provide essential indications con-cerning the safety of the device.

USER SECTION
(reserved to user)

-  Read this manual carefully before installing and servicing the device and keep it for any further future consultation by the various operators.
- Use and cleaning other than the types indicated and foreseen in this booklet are considered improper and can cause damage, injuries or fatal accidents, shall invalidate the warranty and release the manufacturer of any liability.
- Use is solely reserved to trained and authorised personnel who attend periodic refresher courses.
- The appliance can be used by children under the age of 8 and by people with reduced physical, sensory or mental abilities, or without experience or the necessary knowledge, as long as they are supervised and after they have received instructions relating to the safe use of the appliance and an understanding of the inherent dangers. Children must not play with the appliance. Cleaning and maintenance intended to be carried out by the user must not be carried out by unsupervised children.
- Keep away from electrical parts with wet hands or bare feet.
- It is strictly prohibited to tamper with or remove the adopted safety devices (protection grates, hazard stickers, etc.). The manufacturer cannot be held liable if these instructions are not heeded.
- Do not insert screwdrivers or other objects between guards (fan guards, evaporator guards, etc.).
- For good compressor and evaporator unit operations, never obstruct the air vents.
- In the event of fire, do not use water. Install a CO_2 (carbon dioxide) extinguisher and cool the motor compartment as quickly as possible.

Correct use of equipment

- This equipment is considered an agri-food machine (EC Regulation no. 1935/2004), intended to process food products in industrial and professional kitchens. It is not suited to store pharmaceutical, chemical or any other non-food products.
- Specifically:
  - Blast chillers (+90/+3°C) (+90/-18°C): suited to rapidly lower food temperature to keep sensory properties unaltered.
- The following instructions must be followed for best performance of the equipment:
  - Do not place hot food (except for chiller functions), uncovered liquids, live animals, various objects or corrosive products in the equipment.
  - Package or otherwise protect foods especially if they contain aromas or spices.
  - Arrange foodstuffs inside the equipment in such a way as not to limit air circulation, avoiding placing paper, cardboard, cutting boards, etc., that can hinder the flow of air on the racks.
  - Avoid frequent and prolonged door opening as much as possible.
  - If the door was opened and closed again, wait a few seconds before re-opening it.
  - Gradually arrange the food starting from the bottom up; vice versa, remove the food starting from top to bottom. The maximum load (evenly distributed) per tray or grill is equal to 20 kg (GN 1/1) or 35 kg (GN 2/1).
- Refrigerator equipment has been constructed and designed using suitable techniques to guarantee user health and safety and does not have any hazardous corners, sharp surfaces or protruding elements. Its stability is also guaranteed with the doors open, however, hanging on doors is prohibited.
- Failure to follow these instructions may cause damage and injuries, even fatal, and shall invalidate the warranty.

In the event of equipment malfunctions...

- If the equipment does not work or functional or structural alterations are noted, disconnect it from the power and water mains and contact a service centre authorised by the manufacturer without attempting to repair it on your own. Original spare parts are recommended. The manufacturer shall not be held liable for the use of non original spare parts.
- To ensure that the device is in perfect use and safety conditions, we recommend you have it maintained and serviced by an authorised service centre at least once a year.

Risks associated with equipment use

- RISKS DUE TO MOVEMENTS ON WHEELS: if the equipment is installed on wheels, take care during movements not to suddenly push the equipment, thus preventing it from overturning and being damaged. Also look out for any roughness on the sliding surface. Equipment with wheels cannot be levelled, therefore make sure the support surface is perfectly horizontal and flat. Always lock the wheels with the specific stops.
- RISKS DUE TO MOBILE ELEMENTS: the only mobile element is the fan, which however does not constitute a risk since it is protected by a protection grate secured with screws.
- RISKS DUE TO LOW/HIGH TEMPERATURES: stickers marked "TEMPERATURE HAZARD" have been affixed near areas with low/high temperature risks.
- RISKS DUE TO ELECTRICITY: risks of electrical nature have been resolved by designing electrical systems as per regulation CEI EN 60335-1. Specific stickers marked "high voltage" identify areas with electrical hazards.

Fig. 11
Abb. 11

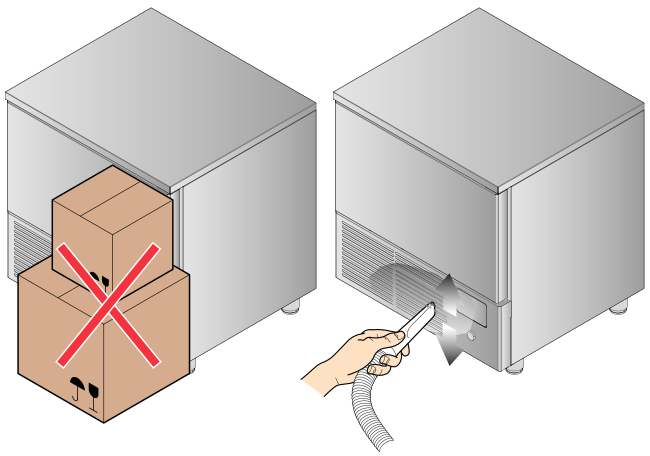


Fig. 12
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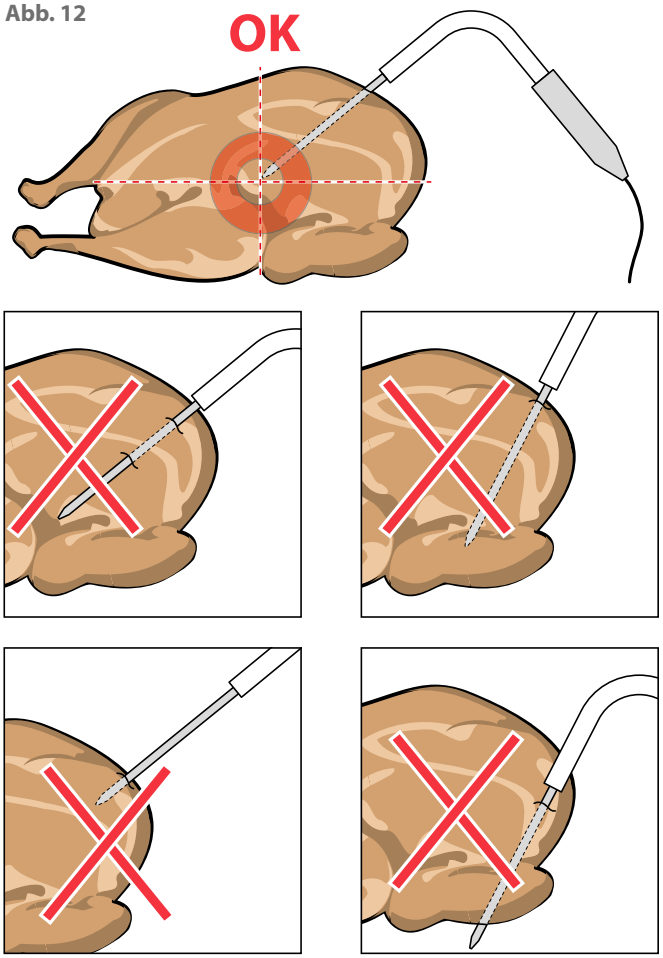


Drawings on page 30

What does a blast chiller do?

A blast chiller is a device that quickly lowers the temperature of the introduced food, whether fresh or cooked.
Fresh or just cooked food has the best sensory qualities and flavour; however, if not eaten immediately, it loses its initial qualitative properties and is subject to the proliferation of micro-organisms, which are potentially harmfuly to humans.

Positive Chilling is used when food is not eaten within two hours of its preparation, reducing the product temperature to +3°C at the core within 90 minutes. Subsequently, the product must be stored in a refrigerator at a temperature between 0/+3°C where it can be kept for up to 5 days.

Negative Chilling is used to keep all the sensory properties of the food intact. The chiller reduces the product temperature until reaching -18° C at its core. Subsequently, the product must be stored in a freezer at a constant temperature of -20 degrees and can even be eaten after 3/18 months, according to the product, provided the cold chain regulations are met.

Storage is the next step in the blast chilling cycle, in which the food product is maintained at a certain temperature in order to preserve its cooling or freezing.
It is divided into:
Positive storage, in the case of cooling;
Negative storage, in the case of freezing.

Normal refrigerators and freezers, unlike a blast chiller, are unable to rapidly lower the initial temperature of the product, which is therefore damaged in terms of its sensory properties and flavour.

Correctly loading the equipment

Food should be placed in a single layer in containers:
- that are uncovered;
- that are food-safe;
- that are resistant to the temperatures reached by chilling;
- that have low edges (maximum 4.5 cm).

Containers should be evenly placed inside the cell.
Correct container placement will allow free air circulation in the cell: avoid obstructing the air vents and overloading the equipment beyond the admissible limits.

Achieving better results and working in safe conditions

- **Fig. 11** ▶ Keep the motor compartment air vents free of objects and remove dust;
- periodically clean and replace the filter behind the motor compartment air vents:

For further information on how to remove the filter, see chapter Vent cleaning on page 47.

- arrange food to be chilled or cooked as explained in the previous chapter;
- accurately close the doors during each work cycle;
- always keep the defrost water drain hole free;
- avoid opening doors during positive/negative chilling;
- perform routine maintenance as indicated in the specific section;

For further information on how to remove the filter, see chapter Vent cleaning on page 47.

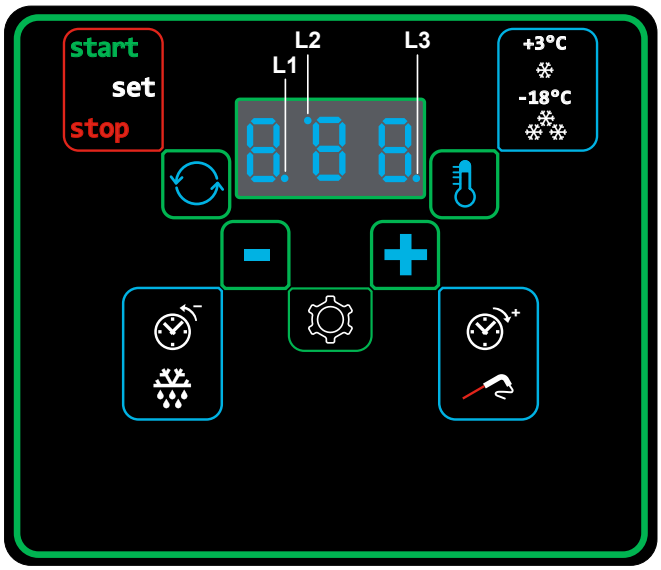
How to use the needle probe

Fig. 12 ▶ The needle probe, during chilling, reads the temperature at the food "core": when it reaches the value set by the user or default value, it means the food is chilled (**Chilling** function). The needle probe is fully inserted in the food to be chilled: make sure its tip reaches the food "core", meaning the most internal point, without exiting.

Be careful not to insert it in very fatty points and near bones.
In case of very thin food products, insert the probe parallel to the support surface.
Always keep the probe clean and sanitised.

HANDLE THE PROBE WITH CARE INSOFAR AS IT IS VERY SHARP.

The probe can be heated to facilitate removal from frozen foods, see page 39.



L1	LED with decimal point function to display the time.
L2	LED with function of indicating the negative blast chilling cycle selected
L3	steady on: LED which has the function of indicating the blast chilling cycle in progress; flashing: LED which has the function of indicating the storage phase in progress

			DESCRIPTION
SET	Short press		Blast chiller start/stop operation and confirmation
DOWN	Short press		Slow decrease of the value and buzzer switch off During a program it displays the cell probe temperature
	Long press	**x4 sec.**	Fast decrease of the value and defrost activation
UP	Short press		Slow increase of the value and cell temperature display
	Long press	**x4**	Fast increase of the value and load activation on the auxiliary output (UV lamp for sterilization, needle probe heater or auxiliary condenser fan)
SEL	Short press		Positive/negative alternate program selection
	Continuous press		Display of the elapsed time from the start of the blast chilling cycle or the duration of the blast chilling cycle **until the key is released**
	Long press	**x4 sec.**	Stand-by enable
DOWN+UP	Long press	**x4 sec.**	To access the configuration parameters press the **DOWN** and **UP** keys **simultaneously** for 4 seconds (only with blast chiller in stop phase or if there are no programs in progress).

Switch on

When the display switches on it performs a lamp-test (flashing of all segments and dots for 5 seconds).
When switched on for the first time, the display is in stand-by mode (three horizontal dashes "---" are shown on the display, one for each digit). The next time it is switched on, or when the power supply is restored, the blast chiller status varies depending on its status before the power supply failure.

If there is no program running, activate standby mode by pressing and holding **SEL** for 4 seconds.

Important information

The display shows programs for managing the following blast chiller functions:
positive blast chilling or cooling (automatic or manual),
negative blast chilling or freezing (automatic or manual)

For automatic programs, the reference value is the temperature detected by the needle probe.
For manual programs, the reference value is the time.

Both the automatic program and the manual program include a blast chilling cycle, automatically followed by a storage phase, which is positive or negative depending on the cycle chosen.
At the end of the blast chilling cycle, when the storage phase starts automatically, a buzzer sounds intermittently (this can be modified by the user under parameter P 0).
To silence the buzzer in advance, press the DOWN key.

During the execution of a program:
- the **LED L2** is off if a positive blast chilling cycle was selected, or is on if a negative blast chilling cycle was selected;
- the **L3 LED** is on during the blast chilling cycle and flashing during the storage phase;
- pressing the **UP** key determines the display of the temperature measured by the cell probe for a duration of 5 seconds;
- pressing and holding the **SET** key determines, until the key is released, the display of the time elapsed since the start of the blast chilling cycle if the blast chilling cycle is still in progress, the duration of the previous blast chilling cycle if the storage phase is in progress.

At the end of a program, before starting the next program, the display shows the data relative to the last program run.

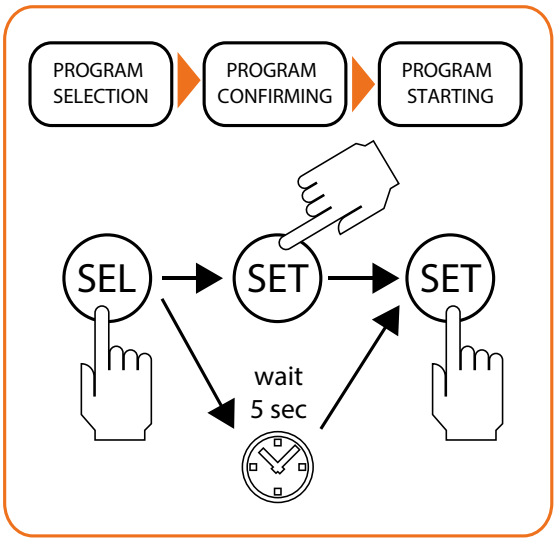
Automatic program

To select and start an automatic program (Fig. 8 on page 18), proceed as described below:
- Press the SEL key until the display shows the **positive blast chilling** cycle (default +3°C - P13 parameter) or **negative blast chilling** cycle (default -18 °C - P14 parameter).
-

The repeated pressing of the SEL key causes the display to alternately flash between the value set for the positive blast chilling cycle and the value set for the negative blast chilling cycle.

- Wait 5 seconds or press the **SET** key to confirm (the temperature display becomes fixed).
- Press the **SET** key to start the program: during the execution of an automatic program the display shows the temperature measured by the needle probe.

The temperature parameters can be modified by the User.



At the end of the blast chilling cycle the display shows the temperature measured by the needle probe, flashing if the target set has not been reached (P13 -P14 parameters).

The duration of the blast chilling cycle is determined by one of the following conditions:
- reaching the selected temperature setpoint (P13 -P14 parameters);
- exceeding the set time, even if the temperature has not been reached (parameters P19-P20).

At the end of the blast chilling cycle, the **storage** phase starts (signalled by a beep). The temperature measured by the cell probe is shown on the display.
Storage phase characteristics:
- after a positive blast chilling cycle (parameter P19) ▶ room temperature setting equal to the value set for parameter P17;
- after a negative blast chilling cycle (parameter P20) ▶ room temperature setting equal to the value set for parameter P18.

Manual program (by time)

To select and start a manual program (Fig. 9 on page 20) proceed as described below:
- press the **SEL** key until the display shows the **positive blast chilling cycle** (display of P13 parameter, default +3 °C) or negative blast chilling cycle (display of P14 parameter, default -18 °C).

The repeated pressing of the SEL key causes the display to alternately flash between the value set for the positive blast chilling cycle and the value set for the negative blast chilling cycle.

- Wait 5 seconds or press the **SET** key to confirm (the temperature display becomes fixed).

- Press the **UP** or **DOWN** key to select the **duration** of the blast chilling cycle (the starting value displayed is the one set by default, parameter P19 or P20 respectively for positive blast chilling cycle or negative blast chilling cycle).

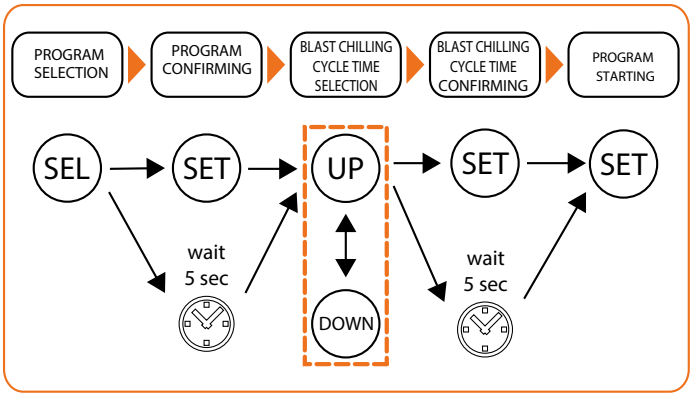
The cycle time modification is not permanent (it does not change the default values for parameters P19 and P20). When the cycle is next set, the default values set under parameters P19 and P20 will be shown again.

- Wait 5 seconds or press the **SET** key to confirm (the cycle time display becomes fixed).
- Press the **SET** key to start the program. During the blast chilling cycle the display shows the total cycle time (parameter P19 or P20 respectively for positive blast chilling cycle or negative blast chilling cycle).

The time is displayed in the form of a decimal number, where the integer part represents the hours and the decimal part represents the minutes (for example, "1.30" indicates the time 90 minutes, i.e. 1 hour and 30 minutes).

At the end of the blast chilling cycle, the **storage** phase starts (signalled by a beep). The temperature measured by the cell probe is shown on the display.

Storage phase characteristics:
- after a positive blast chilling cycle (parameter P19) ▶ room temperature setting equal to the value set for parameter P17;
- after a negative blast chilling cycle (parameter P20) ▶ room temperature setting equal to the value set for parameter P18.8.



Selecting and starting special functions

The appliance is provided with special functions to manage the following blast chilling functions:
- **manual defrost,**
- **cell sterilization** (optional, if provided by the blast chiller),
- **needle probe heating** (optional, if provided by the blast chiller)**.**

The storage phase starts automatically at the end of the special function and the buzzer will sound intermittently for the set time (this can be modified by the user under parameter P 0).
To silence the buzzer in advance, press the DOWN key.

Manual defrost

Defrosting is normally performed by the User with the blast chiller door open (cell heating). Door opening or closure has no effect on the defrost process.
To start defrosting press and hold the **DOWN** key for 4 seconds.

The defrost configuration and duration are determined by the parameters P 5, P 7, P11, which can be modified by the User. During the defrost, the display shows the "dEF" string.

Cell sterilization

Sterilization can be enabled if the value of parameter P23 is equal to 1. To activate a sterilization cycle there must be no program or other special function in progress and the blast chiller door must be closed.
To start the sterilization cycle hold down the **UP** key for 4 seconds.

The sterilization cycle start and duration are determined by the parameters P 8, P24, P25, which can be modified by the User. During the sterilization cycle the display shows the "StE" string.

In the case of a cell probe error "Er2":
- before the sterilization cycle start, the sterilization cycle does not start;
- during the sterilization cycle, the sterilization cycle continues normally.

If at start-up or during the sterilization cycle the cell temperature is lower than the reference value (parameter P25), the display will show the "cLd" string.a.

Needle probe heating

Needle probe heating can be activated if the value of parameter P23 is equal to 2. Door opening or closure has no effect on needle probe heating. To activate needle probe heating there must be no program or other special function in progress.

To start needle probe heating hold down the **UP** key for 4 seconds.

The needle probe heating configuration is determined by the parameters P28 and P29, which can be modified by the User. During needle probe heating, the display shows the "Prb" string.

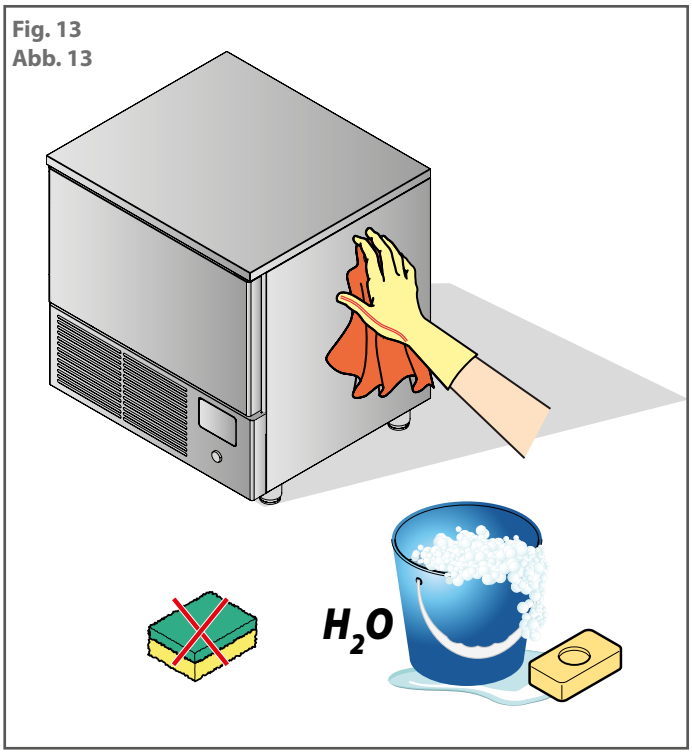
Stopping and restarting a program or a special function

During the execution of a program or a special function, press the **SET** key to stop it.
If a program has been completed, press the **SET** key again to restart from the point in which it was interrupted.

If the restarted program is of the manual type, the cycle starts from the beginning for the set cycle time.

If a special function was not completed, it is not possible to restart from the point where it was interrupted.

Fig. 13
Abb. 13



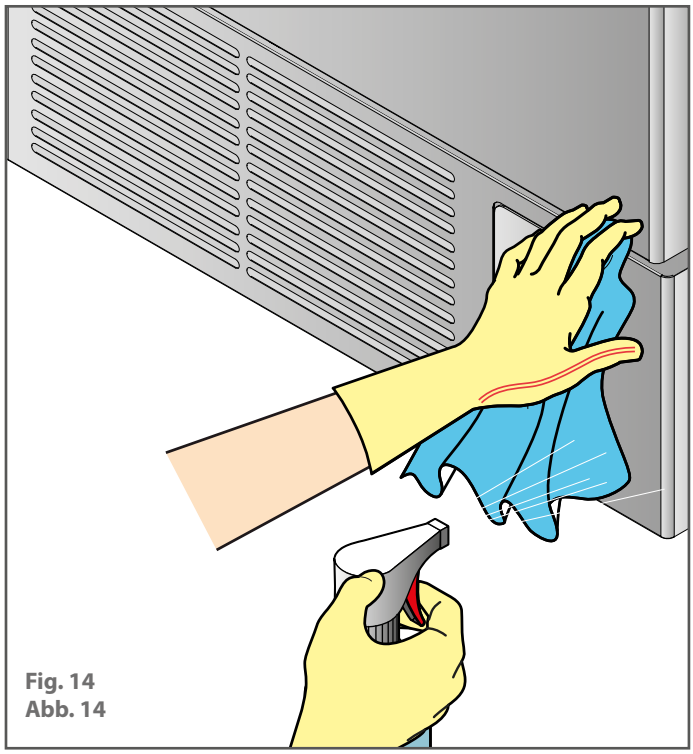


Fig. 14
Abb. 14

Fig. 15
Abb. 15

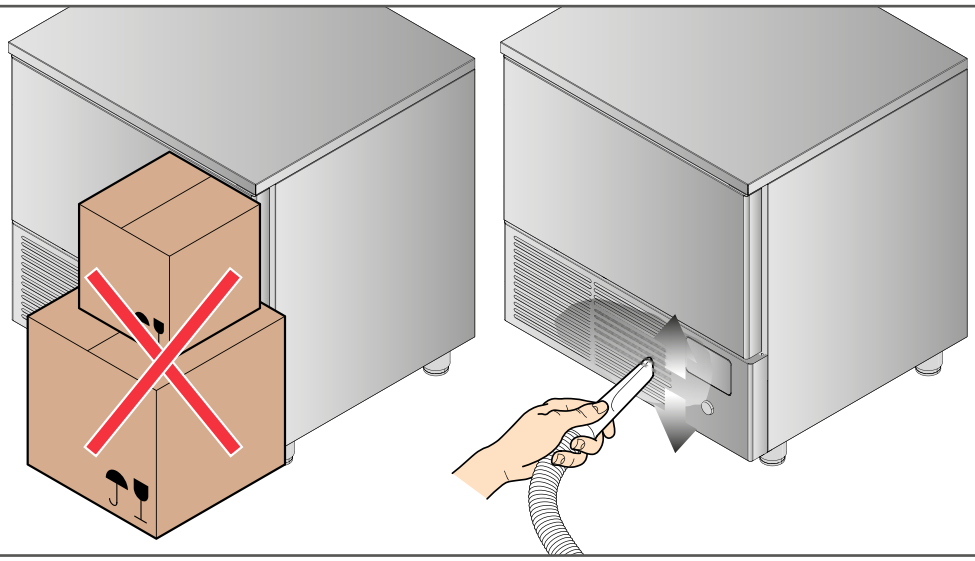
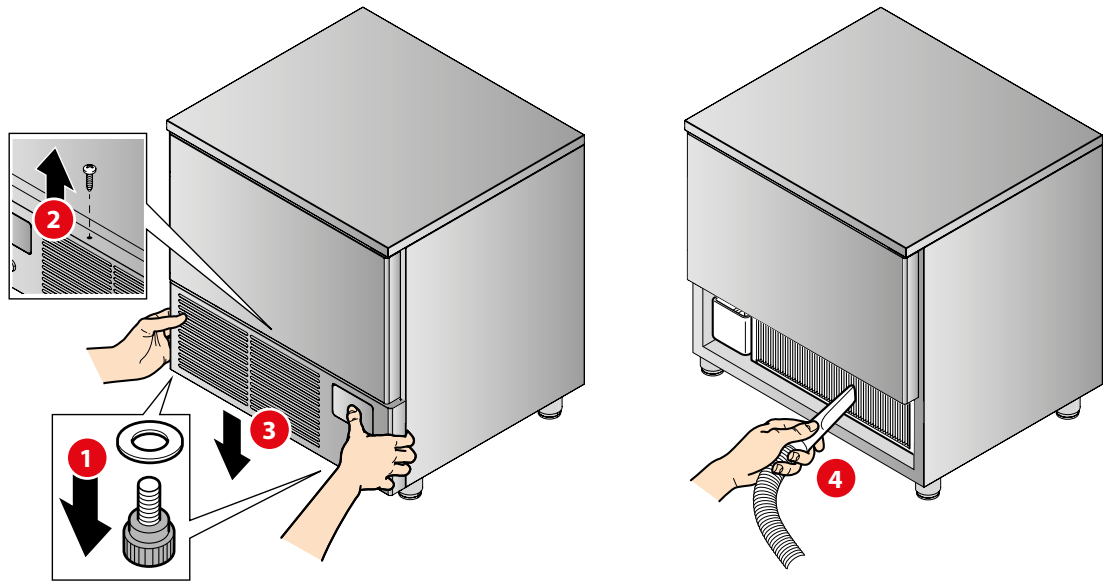


Fig. 16
Abb. 16



Drawings on page 46

BEFORE PERFORMING ANY MAINTENANCE, CUT OFF THE POWER SUPPLY TO THE MACHINE AND WEAR SUITABLE PERSONAL PROTECTIVE EQUIPMENT (E.G. GLOVES, ETC.).

THE USER MUST ONLY PERFORM ROUTINE MAINTENANCE OPERATIONS (MEANING CLEANING). FOR EXTRAORDINARY MAINTENANCE, CONTACT A SERVICE CENTRE REQUESTING SERVICE FROM AN AUTHORISED TECHNICIAN.

THE WARRANTY IS NULL AND VOID IN THE EVENT OF DAMAGES DUE TO NEGLIGENT OR INCORRECT MAINTENANCE (E.G. USE OF UNSUITABLE DETERGENTS).

Fig. 13 ▶ To clean any components or accessories, DO NOT use:
- abrasive or powder detergents;
- aggressive or corrosive detergents (e.g. hydrochloric or sulphuric acid, caustic soda, etc,). Warning! Do not use these substances even to clean the floor under the equipment;
- abrasive or sharp tools (e.g. abrasive sponges, scrapers, steel brushes, etc.);
- steamed or pressurised water jets.

At first use, wash the trays and chamber using a cloth dampened with hot soapy water and end with rinsing and drying. To eliminate work residue, run the equipment empty for about 30 minutes.

External steel surface cleaning

Fig. 14 ▶ Use a cloth dampened with hot soapy water or specific products for steel. End with rinsing and drying.

Equipment chamber cleaning

Clean the equipment chamber daily to maintain high levels of hygiene and equipment performance.
Always use a cloth dampened with hot soapy water and end with rinsing and drying.

Touch screen

Use a cloth slightly dampened with a product specific for glass following the instructions of the manufacturer of the detergent. Do not spray too much product to avoid infiltrations that could damage the display.

Vent cleaning

Fig. 15 ▶ Keep vents free of obstructions and dust, cleaning them often with a normal vacuum or brush.

Fig. 16 ▶ We recommend you remove the front panel once a week following the illustrated instructions and clean the filter with hot soapy water. If replacement is required, contact the manufacturer to order spare parts.

Disuse

In the event of disuse, cut off the electrical and water supply. Protect external parts in steel by wiping them down with a soft cloth slightly dampened with Vaseline oil. Leave the door ajar to guarantee correct ventilation.
Before resuming operations:
- accurately clean the equipment and accessories;
- reconnect the equipment to the power and water mains;
- inspect the equipment before using it;
- restart the equipment at a low temperature for at least 60 minutes without any food inside.

To ensure that the device is in perfect use and safety conditions, we recommend you have it maintained and serviced by an authorised service centre at least once a year.

Disposal at end of service life

As per Legislative Decree no. 49 art. 13 dated 2014 "Implementation of WEEE Directive 2012/19/EU on electric and electronic waste"

The barred bin marking specifies that the product was released onto the market after August 13, 2015 and should not be assimilated with other waste at the end of its service life but disposed of separately.
All equipment is made of recyclable metallic materials (stainless steel, iron, aluminium, galvanised sheet metal, copper, etc.) in percentages over 90% in weight.
Put the equipment out of order for disposal removing the power cord and any compartment or chamber lock devices (where applicable). Pay attention to managing this product at the end of its service life, reducing negative impacts on the environment and improving resource use efficiency, applying the "who pollutes pays", prevention, reuse, recycling and recovery preparation principles. Please remember that illicit or incorrect product disposal is punishable by law.

Information on disposal in Italy
WEEE equipment in Italy must be delivered to:
- collection centres (also called ecological islands or platforms)
- the dealer where new equipment is purchased, who must collect it free of charge ("one to one" collection);

Information on disposal in European Union countries
The Community Directive on WEEE equipment has been assimilated in different ways in each country. Therefore we suggest you contact your local authorities or Dealer to request the correct disposal method.

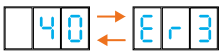
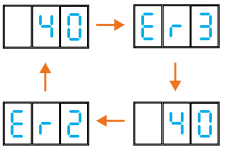
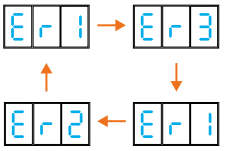
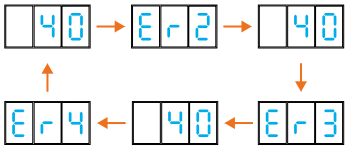
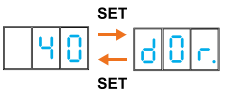
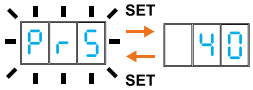
While awaiting dismantling and disposal, the equipment can be temporarily stored even outdoors, provided the electrical, refrigeration and plumbing circuits are intact and closed. Also make sure the doors cannot be closed to avoid entrapment. Follow the environmental protection laws in the user's country.

The appliance is able to perform a complete diagnostics of the blast chiller, reporting any malfunctions with specific alarms, showing the related code on the display. No beep sounds when an alarm occurs.
The following table lists the alarms, with related code, indicating the causes, effects and solutions.

	ALARM	CAUSE	EFFECTS	SOLUTIONS
Er1*	Needle probe error	Needle probe not connected properly	If an automatic program is in progress, switch to manual program	Check the connection of the needle probe to the appliance
		Faulty needle probe		Replace the needle probe
Er2*	Cell probe error	Cell proble not connected properly	If a manual program is in progress with the needle probe (parameter P 3=1), the manual program continues using the needle probe as a cell probe If a manual program is in progress without the needle probe (parameter P 3=0), the manual program stops If an automatic program is in progress, the automatic program stops	Check the connection of the cell probe to the appliance
		Cell probe failure		Replace the cell probe
Er3	Condenser probe error	Condenser probe not connected properly	/	Check the connection of the condenser probe to the appliance
		Condenser probe failure		Replace the condenser probe
Er4	Auxiliary condenser probe error	The auxiliary condenser probe is not connected properly	/	Check the connection of the auxiliary probe to the EWBC1400
		Auxiliary condenser probe failure		Replace the auxiliary probe
dOr	Door open	Blast chiller door opening with program or special function (except defrost) in progress	Cell fan deactivation Compressor deactivation (if parameter P 6=0)	Close the blast chiller door to resume the program normally
Prs	Pressure switch alarm without load locking	- Opening of the pressure switch DI2 (if parameter P27 is different to 0) - Pressure switch alarm events count <parameter P27	Increase by one unit of the alarm counter (initially zero) Blast chiller in stand-by status: - compressor deactivation (OUT1) - cell fan deactivation (OUT2) - condenser fan activation (OUT3) - auxiliary fan activation (OUT4), if parameter P23=3 - time count suspended, if a manual program is in progress	Close the pressure switch DI2 and wait for the compressor safety times (parameter P 9 and parameter P10)
	Pressure switch alarm with load locking	- Opening of the pressure switch DI2 (if parameter P27 is different to 0) - pressure switch alarm events count = parameter P27	Deactivation of all loads (OUT1, OUT2, OUT3, OUT4)	Press the SET key**

* Er1, Er2 not displayed if EWBC1400 is in stand-by mode.
* When the SET key is pressed the program or the special function in progress stops and the alarm events count is reset.
When switched on, EWBC1400 indicates the pressure switch alarm "PrS" if the DI2 pressure switch is open, as this input is normally closed (NC). The pressure switch alarm has priority over the open door alarm.

The following table summarizes the different display views depending on the alarms that occur, if the display shows the PB1 probe temperature. The vewing on the display of the probe PB1 temperature is equal to 40°C.

TYPE OF ERROR	VISUALIZZAZIONE A DISPLAY
None (continuous display of the probe PB1 temperature)	
Probe PB1 error (continuous display of "Er1"). If probe PB2 temperature is displayed, cyclic display in succession of "Er1" and probe PB2 temperature	
Probe PB2, PB3 and PB4 error (e.g. probe PB3 error: cyclic display in succession of "Er3"-"40")	
Error of two probes, one of which is PB1 (e.g. probe PB1 and PB3 error: cyclic display in succession of "Er3"-"Er1")	
Error of two probes, excluding PB1 (e.g. probe PB2 and PB3 error: cyclic display in succession of "Er3"-"40"-"Er2"-"40")	
Error of three probes, one of which is PB1 (e.g. probe PB1, PB2 and PB3 error: cyclic display in succession of "Er1"-"Er3"-"Er1"-"Er2")	
Error of three probes, excluding PB1 (probe PB2, PB3 and PB4 error: cyclic display in succession of "Er2"-"40"-"Er3"-"40"-"Er4"-"40")	
Open door, with P 1 = 1 (continuous display of "dOr"; each time the SET key is pressed, "40" or "dOr" is displayed alternately.)	
Open pressure switch with P27 different to 0 and alarm events count less than P27 (flashing display of "PrS"; every time the SET key is pressed "40" or "PrS" are displayed alternately)	
Open pressure switch with P27 different to 0 and alarm events count equal to P27 (continuous display of "PrS")	

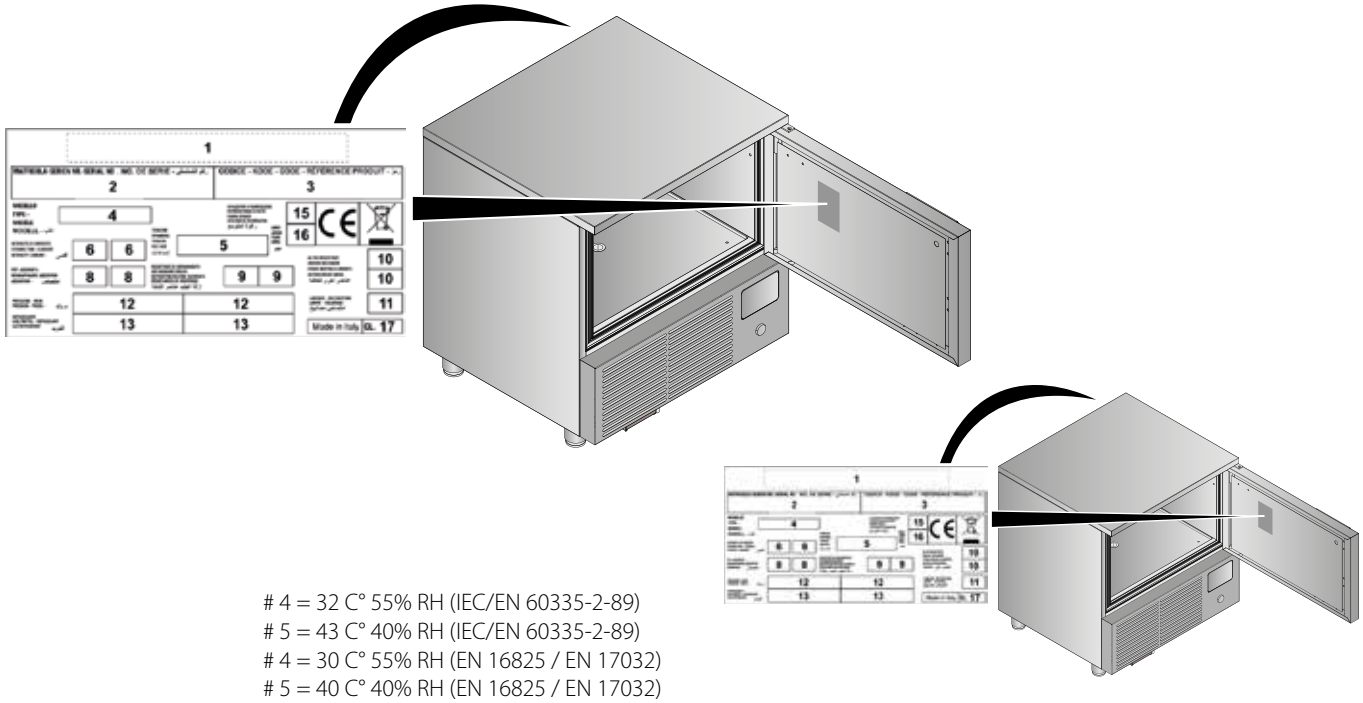
If the equipment does not work or functional or structural alterations are noted:
- disconnect it from the power and water mains;
- consult the table on page 62 to check the proposed solutions;

If the solution is not found in the table, contact a manufacturer's authorised service centre communicating:
- the nature of the defect;
- the equipment code and serial number found on its specification plate (page 64).

Require original spare parts for repairs: the manufacturer cannot be held liable and null and voids the warranty in the event non original spare parts are used.

To ensure that the appliance is in perfect use and safety conditions, we recommend you have it maintained and serviced by an authorised service centre at least once a year.

Manufacturer data:
F.R.C.
Via Treviso, 4 33083 - Taiedo di Chions (PN) - Italia
Tel. +39.0434.635411 - Fax. +39.0434.635414



4 = 32 C° 55% RH (IEC/EN 60335-2-89)
5 = 43 C° 40% RH (IEC/EN 60335-2-89)
4 = 30 C° 55% RH (EN 16825 / EN 17032)
5 = 40 C° 40% RH (EN 16825 / EN 17032)

1 Manufacturer
2 Serial number
3 Code
4 Model
5 Voltage
6 Current absorbed during operation
8 Power of the defrosting resistance
9 Power of the defrosting resistance
10 Rated power of other resistances
11 Lamp power
12 Maximum and minimum pressure
13 Coolant, type and quantity
15 Gas expanding in the insulation
16 Year of manufacture
17 Climate class (#)

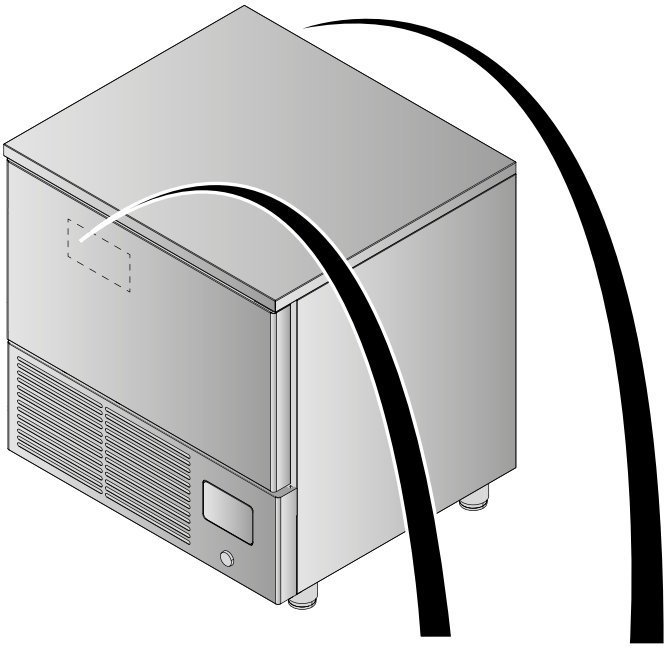
Problem type	Before contacting a service centre, check that...
The device is fully off.	- ...the system is powered and the plug is not disconnected.
The equipment does not cool enough	- ...it is not affected by an external heat source; - ...the doors are fully shut; - ...the condenser filter is not clogged; - ...the front air vents are not obstructed by objects or dust; - ...food is well distributed in the cell and does not obstruct ventilation in the cell; - ...the equipment is not overloaded with food (follow your equipment load instructions).
The equipment is very noisy	- ...there is no contact between the equipment and any other object or machine; - ...the equipment is perfectly levelled; - ...visible screws are well-tightened.

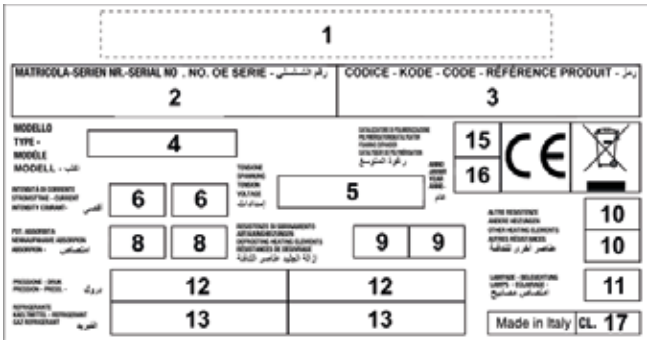
Warranty

The manufacturer's warranty on the equipment and its relative parts is for 1 year, from the invoice date, and consists in the free supply of parts, which, at its sole discretion are deemed to be defective and need to be replaced.
The manufacturer shall thus remove any faults and defects pro-vided the equipment has been installed and used correctly according to the instructions in this manual. The warranty does not cover any damage due to lime deposits, power surges or tampering by unauthorised or unskilled personnel.
Consumables such as glass, aesthetic parts, gaskets, lamps and other parts consumed during use are not covered by the warranty. During the warranty period, the cost of labour, travel or trans-fers, the transport of parts and any equipment to be replaced, shall be at the purchaser's expense.
Materials replaced under the warranty remain our property and must be returned at the purchaser's expense.

Serial number plate position

The data plate is positioned externally, on the side or back of the device, and internally in the motor compartment.
The rating plate provides important technical information: this is essential in case of device maintenance or repairs: we recommend you do not remove, damage or modify the plate.





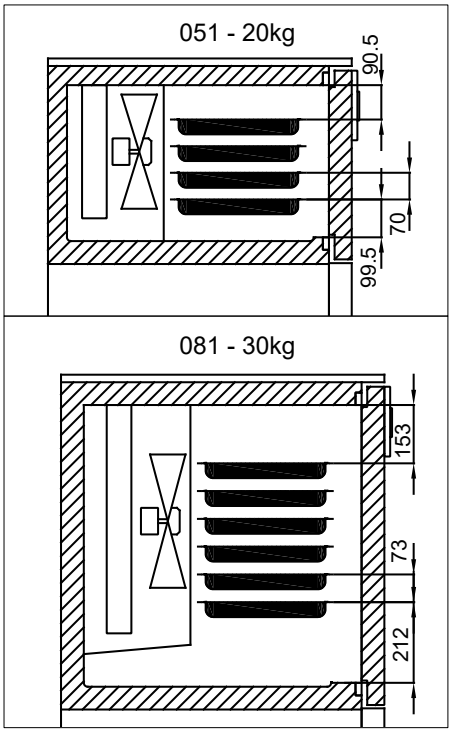
4 = 32 C° 55% RH (IEC/EN 60335-2-89)
5 = 43 C° 40% RH (IEC/EN 60335-2-89)
4 = 30 C° 55% RH (EN 16825 / EN 17032)
5 = 40 C° 40% RH (EN 16825 / EN 17032)

EN Serial number plate details

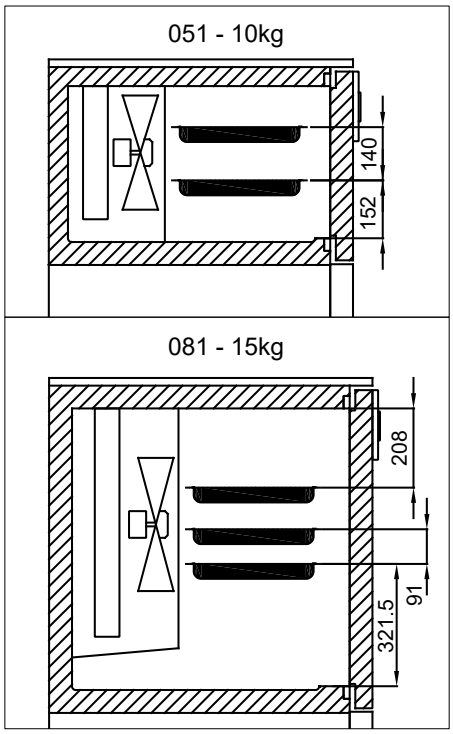
1 Manufacturer
2 Serial number
3 Code
4 Model
5 Voltage
6 Current absorbed during operation
8 Absorbed power
9 Power of the defrosting resistance
10 Rated power of other resistances
11 Lamp power
12 Maximum and minimum pressure
13 Coolant, type and quantity
15 Insulation blowing gas
16 Year of manufacture
17 Climate class (#)

Performance characteristics of blast chillers and shock freezers				BF030	CF031	050	051	081
Capacity chill **120'**	+65>+10°C EN17032		kg	6,6	10	20	20	25
Capacity freez. **270'**	+65>-18°C EN17032		kg	3,3	/	10	10	15
Type of pans / grilles				GN2/3	GN1/1	GN1/1	GN1/1	GN1/1
Interasse min. reggiteglie				40	40	70	70	70
Pan capacity t **GN 1/1 - EN1**	H 20 mm	n°		/	/	10	10	18
		step		80	80	35	35	36,5
	H 40 mm	n°		/	/	6	6	12
		step		80	80	52,5	52,5	54,75
	H 65 mm	n°		3	3	5	5	9
		step		80	80	70	70	73

EPRO R290
EN17032
+65°C > +10°C
R290



EPRO R290
EN17032
+65°C > -18°C



Model	Yield per cycle		secondo la norma EN17032 - according to standard EN17032 selon la norme EN17032 - nach Norm EN17032							
			Yield per cycle		Consumption for cycle [kWh]		Test duration [min]		Power used [kWh/Kg]	
	BC +90/+3°C	BF +90/-18°C	BC +65/+10°C	BF +65/-18°C	BC +65/+10°C	BF +65/-18°C	BC +65/+10°C	BF +65/-18°C	BC +65/+10°C	BF +65/-18°C
	[kg]	[kg]	[kg]	[kg]						
BF030	6,5	3,2	nd	nd	nd	nd	nd	nd	nd	nd
CF031	10	-	nd	nd	nd	nd	nd	nd	nd	nd
SB-050-RW	25	15	20	10	1,58	2,53	105	205	0,079	0,506
SB-050-RA	25	15	20	10	1,58	2,53	105	205	0,079	0,506
SB-050-RA-R290	25	15	20	10	1,26	2,92	91	240	0,064	0,292
SB-051-RW	25	15	20	10	1,58	2,53	105	205	0,079	0,506
SB-051-RA	25	15	20	10	1,58	2,53	105	205	0,079	0,506
SB-051-RA-R290	25	15	20	10	1,26	2,92	91	240	0,064	0,292
SB-081-RW	30	20	25	15	2,01	4,44	109	270	0,08	0,296
SB-081-RA	30	20	25	15	2,01	4,44	109	270	0,08	0,296

Model	Type gas	Compressor power supply	-10°C, +45°C - EN12900		
			Compressor: lectric power	Compressor: electrical intensity	Machine cooling capacity (list)
			[W]	[A]	[W]
BF030	R290	220-240/1N~/50	590	3,4	
CF031	R290	220-240/1N~/50	590	3,4	
SB-050-RA-R290	R290	220-240/1N~/50	791	3,8	825
SB-051-RA-R290	R290	220-240/1N~/50	791	3,8	825
SB-081-RA-R290	R290	220-240/1N~/50	1033	5,05	1137
SB-050-RA	R452a	220-240/1N~/50	913	4,18	814
SB-051-RA	R452a	220-240/1N~/50	913	4,18	814
SB-081-RA	R452a	220-240/1N~/50	1263	6,1	1127
SB-050-RA	R452a	208-230/1N~/60	1036	5,3	801
SB-051-RA	R452a	208-230/1N~/60	1036	5,3	801
SB-081-RA	R452a	208-230/1N~/60	1190	6	1038

Model	Net weight	Gross weight	DIMENSIONS											
			Useful internal					External			Packaging			
			Door span height	Door light width	Panels thickness	Backrest thickness	Depth	Width	Depth	Height	Width	Depth	Height
	[kg]	[kg]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
BF030	48	48	330	275	40	40	475	560	560	520	620	640	680
CF031	63	63	330	275	40	40	475	560	700	520	620	640	680
050	105	145	400	670	60	50	335	790	700	900	830	820	1050
051	110	150	400	670	60	50	435	790	800	900	830	920	1050
081	150	190	730	670	60	60	450	790	850	1460	830	970	1610

Noise level

L_{eq} in the noisiest part at 1m in working conditions
< 70 dB(A)
L_{pc} at 1m in working conditions
< 130 dB(C)

Test environment

Tests were conducted in a rectangular exposure room without sound insulation. There were no significant obstacles near the machine.

Standards

The sound tests were carried out in compliance with Legislative Decree 277 following the methods described in ISO 230-5 to obtain the data required by directive 2006/42/EC.

Machine operating conditions

The tests were conducted in the most severe conditions, which correspond to the starting phase called "PULL DOWN".

Materials and fluids used

To ensure environmental protection, the materials used are compliant with Legislative Decree no. 151, 25th July 2005, in implementation of the RoHS (2002/95/EC) and WEEE (2002/96/EC and 2003/108/EC) directives, concerning the reduction of hazardous substance use in electrical and electronic devices, as well as waste disposal. Coolant gases or polyurethane foam expanding gases used comply with Regulation EC 842/2006.

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