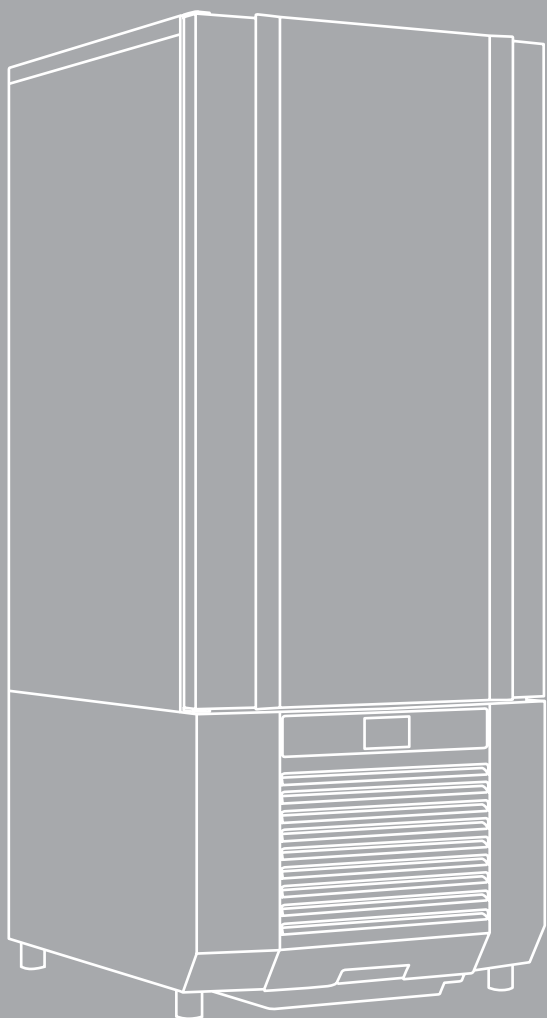




IRINOX

U S E A N D M A I N T E N A N C E I N S T R U C T I O N S

Icy ❄️

N°REV	REVISION DESCRIPTION	DATE REV.	REVISER
00	FIRST EMISSION	01/12/2015	NC

Dear Customer,

Thank you for having chosen IRINOX.

Please take the time to read this manual carefully to make the most of all the potential and benefits of your new ICY.

We would like to remind you that the perfect operation of the machine also depends on its correct use.

Keep this manual close to the ICY so that it can be consulted easily by you and anyone else.

The graphic representations of the controls in the manual have been designed to make the machine easy and intuitive to use.

Symbols key



suggestions and details for correct use of the blast chiller



standards for your safety



additional information in this manual

Information regarding the warranty and assistance

Warranty validity: of the individual parts for 12 months from the date of invoicing, as stated in the price list in force.

Contacts:

Customer service	+39.0438.5844
User assistance	+39.0438.5844
Technical - spare parts after-sales	+39.0438.2020
Fax	+39.0438.2023
E-mail	service@irinox.com
Web site	www.irinoxprofessional.com

For every request relative to your blast chiller, always indicate:

- The model
- The serial number

stated on the label on the model

SAFETY INFORMATION



Below find the main general Safety Standards:

- Do not touch or operate the machine with damp or wet feet and hands.
- Do not insert screwdrivers, kitchen tools or other between the protections and the moving parts.
- Before carrying out cleaning operations or routine maintenance, disconnect the machine from the power supply mains, switching the master switch off and removing the plug.
- Do not pull the power supply cable to disconnect the machine from the power supply mains.



If the power supply cable is damaged, it must be replaced by the manufacturer, service centre or similarly qualified staff, in order to avoid risks.

Non-mobile equipment, not equipped with disconnection devices from the power supply having a contact separation of all poles that provide disconnection in category III overvoltage conditions; must be equipped with a disconnection device incorporated in the fixed connection in compliance with the connection regulations.



Use gloves suitable for trays and cold trolleys.



Do not overload the machine beyond that indicated by the manufacturer (3.6.2. Loading the machine).
Maximum load per shelf: 5 kg



When loading the machine, the use of kitchen gloves is recommended in order to prevent burns on contact with the hot trays and trolleys.



During cleaning operations, of the condenser in particular, always wear protective gloves, safety glasses and mask for the respiratory protection.



The core probe must only be used for the purpose for which it has been designed: to detect the temperature at the centre of the food stuffs to be blast chilled and/or frozen.



It is prohibited to remove the protections and safety devices in order to perform routine maintenance.



Climatic Class:

4 (environment temperature 30°C with relative humidity 55% non condensing) according to IEC EN 60335-1, IEC EN 60335-2-89, ISO 23953-2:2005 (E) Standards



Do not store explosive substances, such as aerosol spray cans with inflammable propellant inside the equipment.

MODELS	Yield		CATERING			CONFECTIONERY		
	Blast chilling (Kg)	Shock freezing (Kg)	GN 1/1 h=20	GN 1/1 h=40	GN 1/1 h=65	400x600 h=20	400x600 h=40	400x600 h=50
ICY S	18	15	8	5	4	8	5	4
ICY M	38	35	18	12	9	18	12	9
ICY L	45	38	27	18	13	27	18	13

The yield is stated at the following conditions:

- Trays filled with water at 90°C
- Room temperature: 32°C
- No chamber pre-cooling

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1. GENERAL DOCUMENTATION

1.1. GENERAL WARNINGS

- The present manual is an integral part of the product. It supplies all of the necessary conditions for correct installation, use and maintenance of the machine.
- The user is obliged to read this manual carefully and to refer to it always. It must be kept in a known place, accessible to all authorised operators (installer, user, maintenance technician).
- The blast chiller is intended for professional use. Therefore only qualified personnel can use it.
- The blast chiller is destined to be used only for that for which it was designed.
- The Blast Chiller shall not be installed and utilized in an explosive environment (presence of explosive powder or gas)
- The manufacturer declines all liability for damage caused by improper and unreasonable use, such as:
 - improper use by untrained personnel.
 - modifications or interventions not specifically for the model.
 - use of non-original spare parts or parts not specifically for the model.
 - lack of compliance, even partial, with the instructions in this manual.

1.2. PREAMBLE

Installation must be carried out by authorised and specialised staff, respecting the instructions in this manual. The manufacturer declares and assigns a Declaration of Conformity to the 2006/42, Machinery Directive, to the 2014/35/UE Directive and to the 2014/30/UE. Directive to each individual machine In compliance with directive 97/23/EC, based on the model the equipment is supplied together with the user manuals and declarations of conformity of the:

- safety valve;
- liquid receiver;
- liquid separator;
- liquid receiver + separator;
- compressors
- oil separator;
- safety pressure switches.

The joints made by IRINOX S.p.a. comply with the standard EN14276-2

IMPORTANT NOTE: IRINOX reminds you that all the machines must undergo periodical inspections in compliance with national standards in force.

1.3. TRANSPORT AND HANDLING

- Loading and unloading the appliance from the transportation vehicle can be performed with a forklift truck or pallet mover. The forks must be longer than half the length of the appliance. The lifting device must be chosen suitably, based on the dimensions and mass of the packaged machine, indicated on the packaging labels.
- All due precautions must be taken to handle the appliance in order not to damage it, respecting the indications on the packaging.

1.4. UNPACKING

- Remove the cardboard, wooden or crate packaging upon which the blast chiller is placed. Lift the blast chiller with a suitable means (lift truck), remove the wooden base and position the machine in the intended area (see par. 2.2).
- After having removed the packaging, make sure that the blast chiller is intact.
- Remove the protective PVC film from all sides (Fig.1).



Use protective gloves to handle the packaging and wooden base.

N.B.: all of the various packaging components must be disposed of according to the Standards in force in the Country where the appliance is used. In no case must anything be dispersed into the environment.

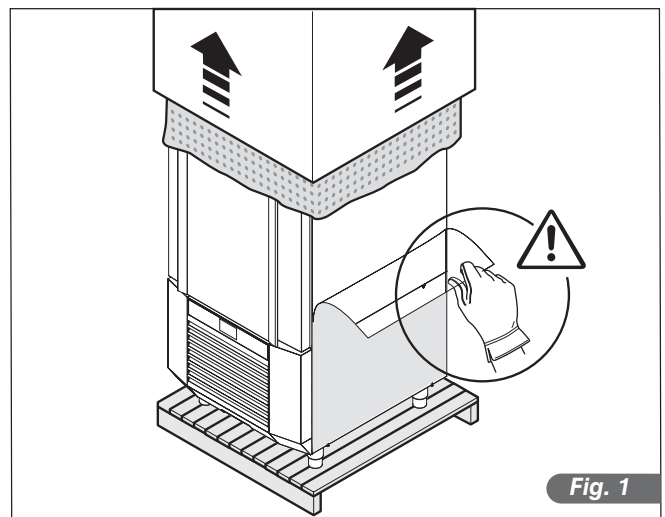


Fig. 1

1.5. ELEMENTARY SAFETY STANDARDS

The user is liable for negligence of operations on the machine which do not comply with the instructions in this manual.

Hereafter are the general safety Standards:

- Do not touch or operate the machine with damp or wet feet and hands.
- do not insert screwdrivers, kitchen utensils or anything else between the guards and the moving parts
- before carrying out cleaning or routine maintenance, disconnect the machine from the power supply network, turning off the master switch and pulling the plug
- do not pull the power cord to disconnect the machine from the power supply network.

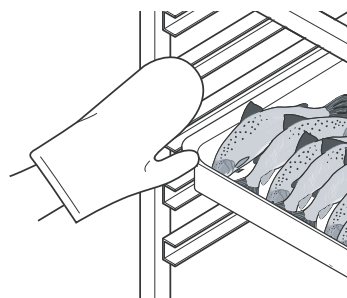
1.6. PRECAUTIONS FOR LOADING AND UNLOADING THE PRODUCTS

LOADING

- When loading the machine, use kitchen gloves in order to avoid burns due to contact with hot trays and trolleys.

UNLOADING

- When the blast chilling and/or shock freezing cycles have ended, open the door slowly until the fans stop.
- Extract the core probe/s from the product and position it/them on the probe-holder.
- Use suitable gloves for cold trays and trolleys.



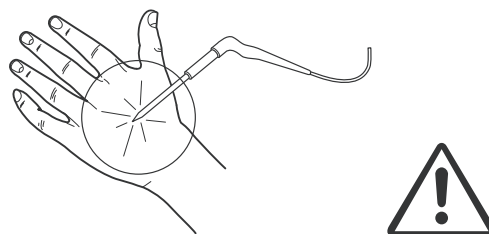
1.7. DANGEROUS USE OF THE SHARP PROBE

Use of the probe is allowed only for personnel who are authorised and trained to use the temperature blast chiller.

The core probe must be used only for the purpose for which it was designed: to detect the temperatures at the centre of the food products to be blasted and/or frozen.

Handle the probe with care. Its ends are pointed in order to facilitate its insertion in products to be blasted and/or frozen.

The ergonomic handle allows correct extraction and insertion.



1.8. PERIODICAL PERSONNEL TRAINING

All personnel who are authorised to operate the machine (installer, user, maintenance technician) should be trained periodically on safety Standards.

In order to avoid accidents or damage to the equipment, it is also advisable to instruct personnel as to the use and maintenance of the temperature blast chiller, referring to this manual which must be kept near the machine, in a known and accessible spot.



2. INSTALLATION

2.1. PLATE DATA

- Make sure that the plate data and electrical line features correspond (V, kW, Hz, phase and available power).
- The plate carrying the features of the appliance is applied on the side (fig.2).

i Remember also that the potential intervention of safety valves or fuse caps in the refrigeration circuit entails the immediate discharge of all the refrigerant used in the ambient. Therefore make sure to realise opportune means of waste disposal and first aide, as indicated on the safety cards of the refrigerant (►see par. 2.12).

Climatic class:

- **4** (30°C room temperature with 55% non-condensing relative humidity) according to Standards CEI EN 60335-1, CEI EN 60335-2-89, ISO 23953-2:2005(E)

IRINOX		31020 CORBANESE (TV) ITALY
Mod.		
s/n		
V	Ph	Hz
A	Kw	
Compressor	HERMETIC	
Refrigerant	R404A	Charge
Desing pressure (Low)	KPa	
Desing pressure (High)	KPa	
Classe	Volume	
Rated Load		
IP		
PED Code		

Model
Series n.
mm/yy/progres.
Frequency
Power
Phase
Voltage
Absorption

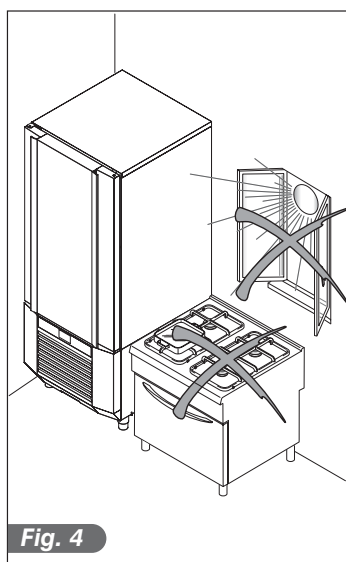
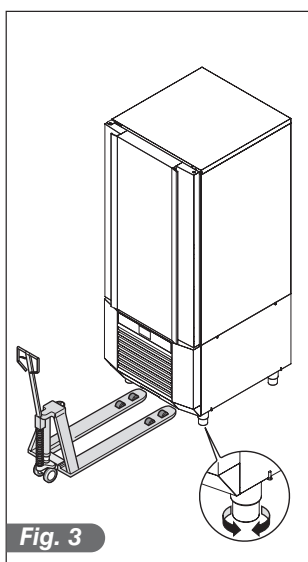
Fig. 2

2.2. POSITIONING

- The blast chiller must be installed and inspected in complete compliance with accident-prevention Law Standards, with traditional rules and with Standards now in force.
- The installer must check potential fire-prevention prescriptions (contact the nearest fire station for the due indications).
- Place the blast chiller in the intended spot.
- Level the appliance by means of the adjustment feet. Use appropriate lifts to level heavier machinery (Fig.3).
- If the appliances are not levelled, their operation and condensation outflow can be jeopardised.

To be avoided (Fig.4):

- Places exposed to direct sunlight
- Closed places with high temperatures and scarce air exchange (►see **Table 2**).
- Do not install the machine near to any heat sources.
- If the blast chiller/conserver is installed below floor level or underground, the installer must apply the clauses foreseen by the standard EN378- 1:2008+A1:2010 ANNEX D to guarantee that no one can remain locked inside the cell at the end of the work shift.
- The blast chiller/conserver can be installed underground or on a loft as long as there are adequate emergency exits as foreseen by the standard EN378- 1:2008+A1:2010 ANNEX C.
- The installer must verify the need for forced ventilation inside a room where the blast chiller/conserver is installed as foreseen by the standard EN378- 2:2008+A1:2009 chapter 6.2.14.

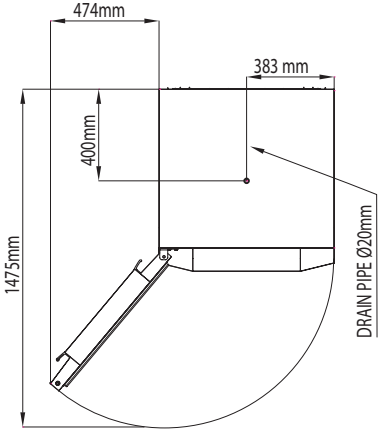
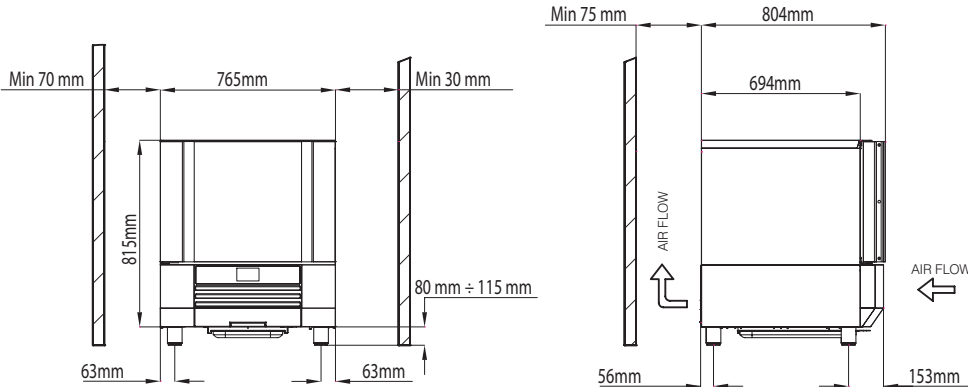


2.3. DIMENSIONAL DATA

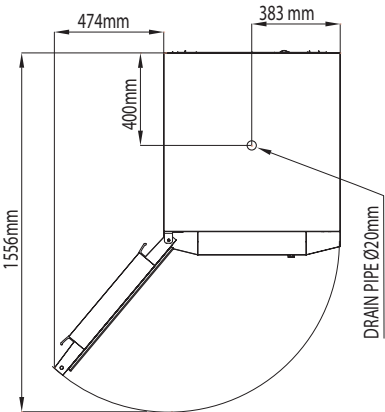
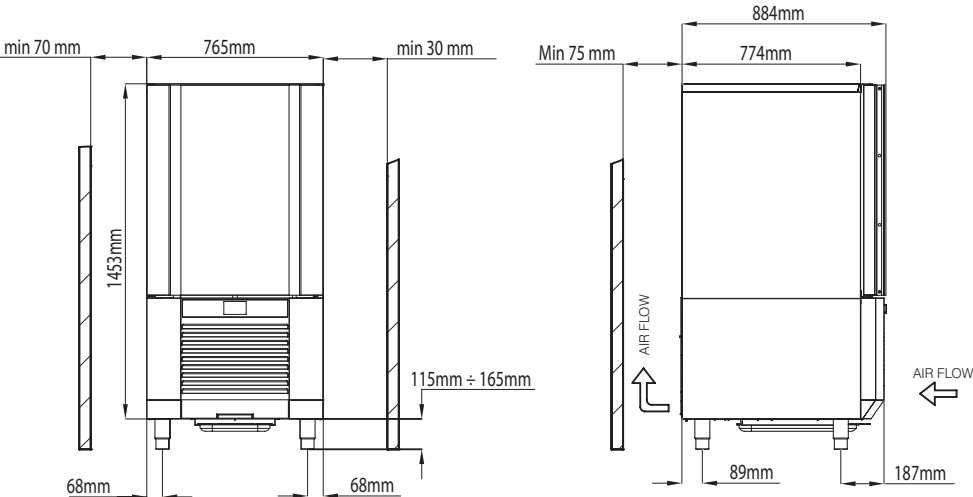
FRONT VIEW

SIDE VIEW

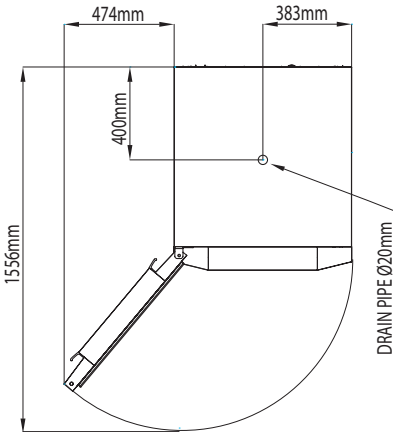
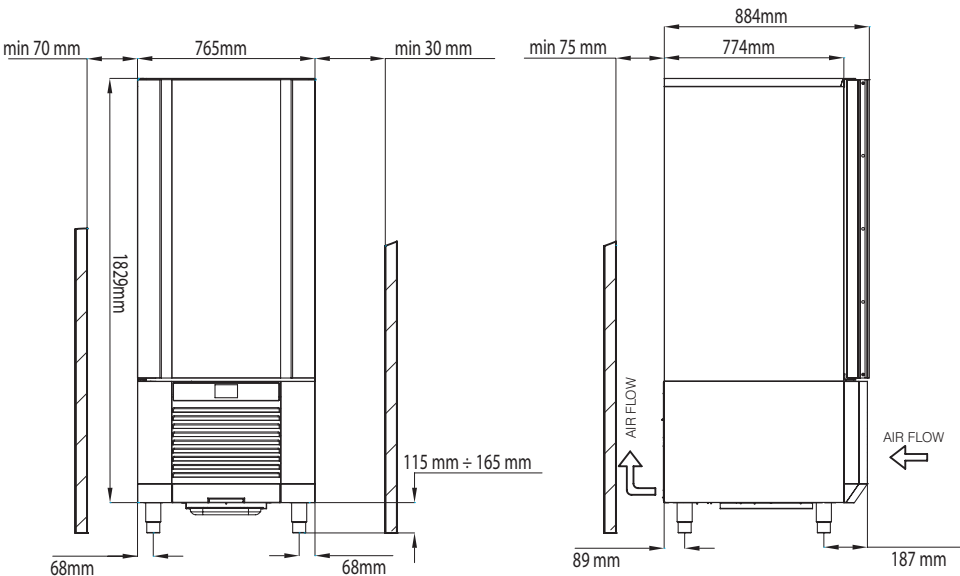
TOP VIEW



ICY S



ICY M



ICY L

2.4. ROOM TEMPERATURE AND AIR EXCHANGE

For the air condensed refrigeration units, operating room temperature must not exceed **32 °C**. The declared performances are not guaranteed beyond this temperature.

i For further details, see ► **Table 2**.

Table 2

MINIMUM AIR EXCHANGE		
MODEL	Power supply frequency (Hz)	AIR (m³/h)
ICY S	50	800
	60	1000
ICY M	50	3100
	60	3700
ICY L	50	3100
	60	3700

2.5. REFRIGERATION POWER

Table 3

MODEL	Power supply frequency (Hz)	Refrigeration output (W)	Condensation power (W)
ICY S	50	1458	2248
	60	2681	2692
ICY M	50	3987	5871
	60	4805	7008
ICY L	50	6146	8989
	60	7252	10607

Declared values at evap. T. = -10°C, cond. T. = +40°C and power supply f. = 50Hz.
Overheating in compliance with EN12900

2.6. ELECTRICAL CONNECTION

Install a differential automatic circuit-breaker switch upstream every appliance, according to the Standards in force in the Country of installation.

The size of the connection cables must comply with the information contained in the electric data of the technical files. The voltage of the plants must be within the limit of + 10% and voltage unbalance of the phases must not exceed 3%. The electric power connection must be carried out by qualified personnel, in compliance with the directives and laws of the country where the unit is installed.

The power supply must be brought to the blast chiller electrical control board, according to the data carried on **Table 4**.

- The electrical power supply cables must have the correct size and be chosen depending on the real laying conditions;
- The electrical cables must enter and be blocked in the appropriate cable sleeve and laid adequately depending on the installation ambient;
- Each conductor must be inserted in the corresponding terminal;
- The earth conductor must be connected directly to an effective earthing system.

! *The manufacturing company declines all liability and warranty obligations if persons are harmed or appliances and objects damaged, due to incorrect installation and/or lack of compliance with laws in force.*

! *If the power supply cable is damaged, it must be replaced by the manufacturer or by the technical assistance service or anyhow by a person with a similar qualification, in order to avoid every risk!!!*

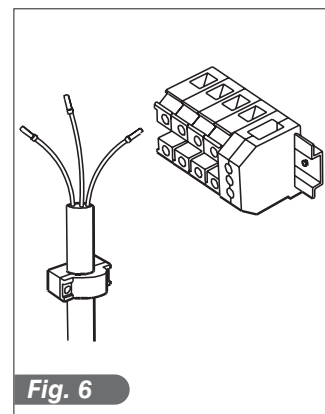
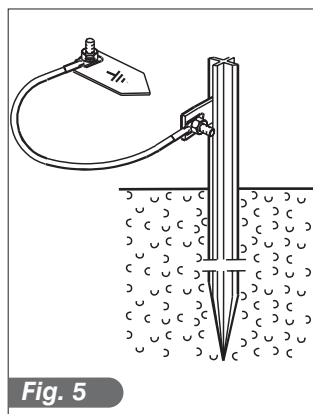


Table 4

MODEL	TYPE OF CONDENSING UNIT	POWER SUPPLY			ABSORPTION		POWER CABLE SECTION *1
		Voltage (V)	Frequency (Hz)	Poles	Power (kW)	Current (A)	
ICY S	Air	220-240	50/60	1P+N+PE	1,3	6,2	4G2,5
		200/208	50/60	2P+PE	1,3	6,8	3G12AWG
ICY M	Air	400	50/60	3P+N+PE	2,7	4,4	5G2,5
		230	50/60	3P+PE	3,0	8,9	4G2,5
		200/208	50/60	3P+PE	3,0	8,7	4G10AWG
ICY L	Air	400	50/60	3P+N+PE	4,1	7,0	5G2,5
		230	50/60	3P+PE	4,6	12,9	4G6
		200/208	50/60	3P+PE	4,6	12,8	4G10AWG

NOTES: *1 cable dimensioned for a length of 6m. Industrial voltage drop $\Delta V\% \leq 1\%$

2.7. REFRIGERATION CONNECTION

2.7.1 R404a pressure switch calibration

For calibration of the R404a pressure switches

► see **Table 5**

Table 5

MODEL	HIGH PRESSURE	SAFETY VALVE
	(Bar)	(Bar)
ICY S	27	NA
ICY M	27	30
ICY L	27	30

2.8. CONDENSATION DRAIN

The blast chillers are equipped with a small tray to gather condensation. The tray can put extracted from the bottom part of the Blast chiller.

2.9. INFORMATION FOR THE INSTALLER

Checking a correct installation and inspection:

- Check the electrical connections.
- Check the absorptions.
- Check the standard pressures.

The safety devices must be installed in such a way that leakage of refrigerant cannot cause any danger.



Inform the customer on the exact use of the equipment, with specific reference to the use and needs of the customer.



Installation and commissioning must be carried out by authorised personnel.

2.10. SAFETY AND CONTROL SYSTEMS

- Door micro switch (A): blocks fan functioning in the chamber when the door is opened.
- Protection fuses (B): they protect the circuits from short circuits and overloads.
- Fuse-holders (C): they contain the fuses and they allow the opening and isolating of the circuits.
- Circuit boards (D): on the basis of the parameters acquired, the control the various blast chiller devices connected to it.
- Cell temperature control (E): managed by a circuit board by means of a NTC probe.
- Safety pressure switch (F): it intervenes in the case of excessive pressure in the refrigerant circuit.
- Safety valve (G): intervenes when there is too much pressure in the system and when the safety pressure switch does not intervene. The intervention discharges excess gas from the ambient (only for ICY M and L)

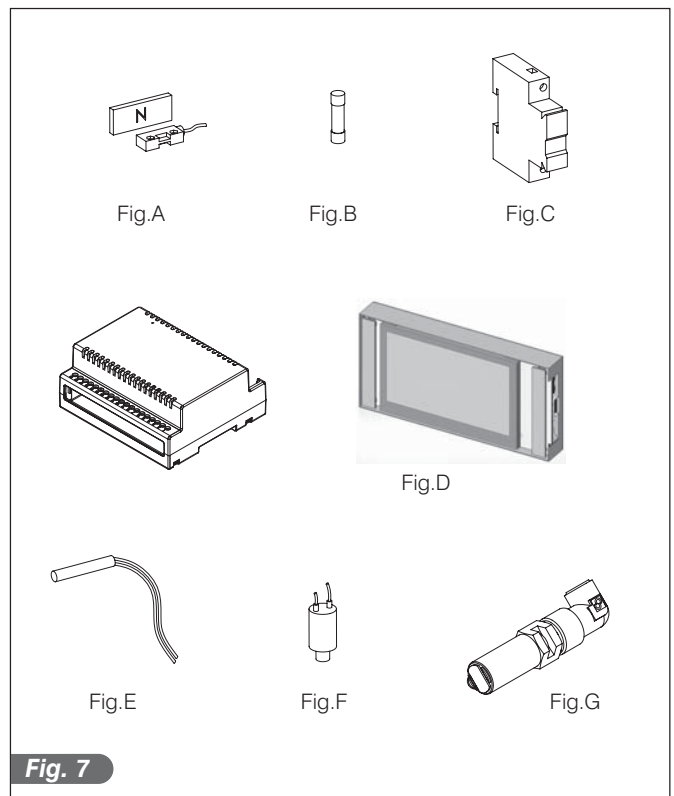


Fig. 7

2.11. DISPOSING OF THE MACHINE

The machine must be demolished and disposed of with respect to the Standards in force in the country of installation, especially regarding the compressor refrigerant gas and lubricant oil.

Avoid leakage of refrigerant gas in the environment by using suitable pressurised recipients and instruments to transfer the pressurised fluid. This operation must be entrusted to personnel skilled in refrigeration plants.

INFORMATION FOR THE USERS



On implementation of the 2011/65/CE, 2012/19/UE and 2003/108/CE Directives, relative to the reduction of use of dangerous substances in electric and electronic appliances, as well as disposal of waste.

The barred bin symbol on the appliance or package, indicates that at the end of the product's life, it must be collected separately from other waste.

The selective collection of this appliance at the end of its life is organised and managed by the manufacturer.

The user that wishes to dispose of this equipment must therefore contact the manufacturer and follow the system that the same has adopted to allow the selective collection of the appliance at the end of its life span.

The suitable selective collection for successive start-up of the equipment abandoned for recycling, treatment and compatible environmental disposal contributes to preventing possible negative effects on the environment and favours the re-use and/or recycling of the materials of which the equipment is made.

The abusive disposal of the product by the owner, leads to the application of administrative sanctions envisioned by the Standard.

2.12. R404A GAS SAFETY SHEET

• Identification of dangers

High exposure to inhalation can have anaesthetic effects. Very high exposure can cause anomalies of the heart beat and cause sudden death. The nebulised or sprayed product can cause cold burns to the eyes or skin. Dangerous for the ozone layer.

• First aid measures

Inhalation

Move the accident victim away from exposure and keep him/her warm and rested. Give oxygen if necessary. Perform artificial respiration if breathing stops or gives signs of stopping. In the case of cardiac arrest, perform external cardiac compression.

Request immediate medical assistance.

Contact with the skin

Thaw the affected areas using water.

Remove contaminated clothing.

Attention: clothing can stick to the skin in the case of cold burns. In the case of contact with the skin, wash immediately with plenty of warm water. If symptoms occur (irritation or the formation of blisters) request medical assistance.

Contact with the eyes

Wash immediately with an eyewash or clean water, keeping the eyelids open for at least 10 minutes.

Request immediate medical assistance.

Ingestion

Do not induce vomiting.

If the accident victim is conscious, rinse the mouth with water and make him/her drink 200-300 ml of water.

Request immediate medical assistance.

Further medical care

Symptomatic treatment and support therapy when indicated. Do not give adrenalin and similar sympathomimetic drugs following exposure, due to the risk of cardiac arrhythmia with possible cardiac arrest.

• Fire-prevention measures

Not inflammable.

The heat decomposition causes the emission of very toxic and corrosive vapours (hydrogen chloride, hydrogen fluoride). In the case of fire, use respiratory aids and suitable protective clothing.

Extinguishers

Use extinguishing agents that are appropriate for the fire.

• Use extinguishing agents that are appropriate for the fire.

Inhalation

Higher atmospheric concentrations can cause anaesthetic effects with possible loss of consciousness.

Very high exposure can cause anomalies of the heart beat and cause sudden death.

Higher concentrations can cause asphyxia due to the reduced content of oxygen in the atmosphere.

Contact with the skin

Sprays of liquid and the nebulised liquid can cause cold burns.

It is improbable that it is dangerous due to cutaneous absorption.

Repeated and prolonged contact can cause the removal of sebaceous matter, with consequent dryness, cracking and dermatitis.

• Ecological information

It decomposes relatively quickly in the lower atmosphere (troposphere). The decomposition products are highly dispersed and therefore have a very low concentration. Does not affect photochemical smog (i.e. it does not lie within the volatile organic compounds -VOC- according to that established by the UN/ECE agreement).

The ozone destruction potential (ODP) is 0.055 measure in comparison with a standard ODP equal to 1 for the cfc11 (according to uNeP definitions). The Global Warming Potential of the gas is 3260.

The substance is governed by the Montreal Protocol (revision dated 1992).

The discharges of the product into the atmosphere do not cause contamination of waters in the long term.

• Considerations regarding disposal

The best solution consists in recovery and recycling of the product.

If this is not possible, destruction must take place in an authorised plant equipped to absorb and neutralise the acid gases and the other toxic products.

• Measures in the case of accidental leaks

Ensure adequate personal protection (with the use of means of protection for the respiratory tract) during the elimination of spills.

If the conditions are sufficiently safe, isolate the source of the leak. In the presence of spills of modest size, leave the material to evaporate on the condition that there is suitable ventilation.

Large leaks

-ventilate the area;

-contain the leaking material with sand, earth or other suitable absorbent material;

-prevent the liquid from penetrating drains, sewers, basements and work holes, because the vapours can create a suffocating atmosphere.

• Handling

Avoid the inhalation of high concentrations of vapours.

The atmospheric concentrations must be reduced to a minimum and kept at the minimum level reasonably possible, below the professional exposure limit.

The vapours are heavier than the air and therefore the formation of high concentrations near to the ground is possible, where ventilation is usually low. In these cases, ensure adequate ventilation or wear suitable protection devices for the respiratory tract with air reserve. Avoid contact with naked flames and hot surfaces as irritant and toxic decomposition products can be formed. Avoid contact between the liquid and the eyes/skin.

3. OPERATION

3.1. USE

The temperature blast chillers have been designed to blast the temperature of just-cooked food, in order to preserve them longer, maintaining their organoleptic characteristics unchanged.

The ICY series has been studied to make this operation as easy as possible: touch screen, clear and essential information for users who approach this new system; the possibility of customising for more expert users. the possibility of customising for more expert users.

The ICY series can perform 2 types of blasting:

- DELICATE +3°
- STRONG +3°

and 2 types of freezing:

- DELICATE -18°
- STRONG -18°

3.2. DESCRIPTION OF THE CYCLES

DELICATE cycle +3°C:

With this cycle, food temperature falls rapidly until +3°C at the core, with an operation temperature between 0°C and +2°C. This cycle is particularly indicated for delicate products like:

Mousse,
Puddings and other spoon desserts,
Creams,
Desserts,
Vegetables,
Less thick foods

STRONG cycle +3°C:

With this cycle, food temperature falls rapidly until +3°C at the core, with an operation temperature between -15°C and +2°C.

This cycle allows reducing work times considerably. It is particularly indicated for products:

With a high fat content,
Very dense,
Big pieces,
Wrapped

DELICATE cycle -18°C:

This cycle has two shock freezing phases.

In the first phase, the temperature at the core of the product is brought to +6°C, with an operation temperature of 0°C. In the second phase, the core temperature of the product is brought to -18°C, with an operation temperature that can reach -40°C.

This cycle is particularly indicated for shock freezing:
- baked items

STRONG cycle -18°C:

With this cycle, the temperature of the product falls rapidly until -18°C at the core, with an operation temperature that can reach -40°C.

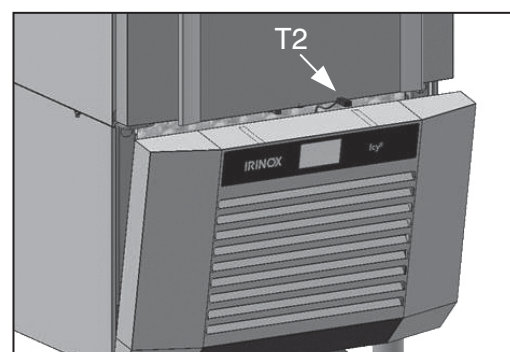
This cycle is particularly indicated for shock freezing of foods.

3.3. CONTROL PANEL



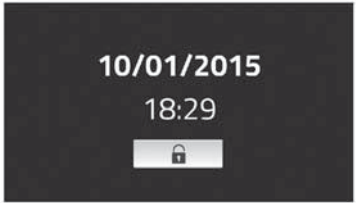
T1 – Display Touch Screen

T2 – USB cable

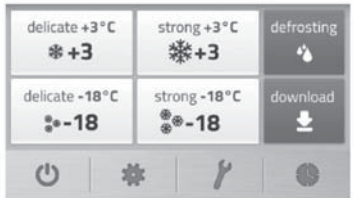


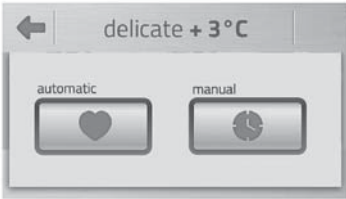
3.4. DESCRIPTION AND OPERATION

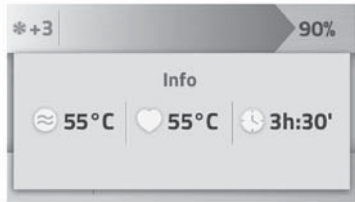
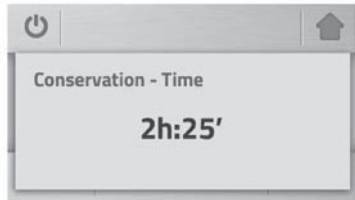
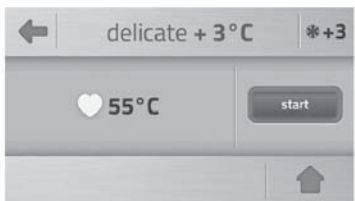
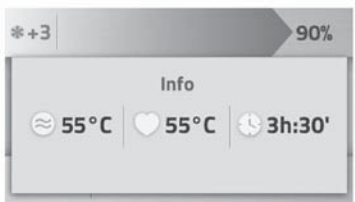
Preliminary Operations

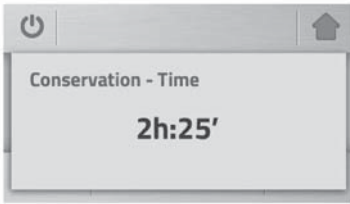
Phase	Description	Front panel screen
FIRST TURN ON		
1	Power the blast chiller and leave it at “Stand-by” for about 60 minutes. This way the sump resistance will have time to heat the compressor. This avoids breakdown at the first turn-on, due to returning refrigerant liquid.	
CHAMBER PRE-COOLING		
	Before introducing the product in the chamber, it is recommended to carry out pre-cooling.	
1	Start the chosen cycle for at least 5 minutes before putting the hot food into the blast chiller	

Blast chiller cycle selection and start-up

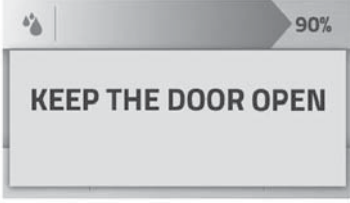
Phase	Description	Front panel screen
1	Power the Blast chiller and touch the display in stand-by to view the initial grid 	
2	Select the cycle pressing:  for the DELICATE +3°C cycle  for the STRONG +3°C cycle  for the DELICATE -18°C cycle  for the STRONG -18°C cycle	

Phase	Description	Front panel screen
3	When the cycle has been selected, the selection screen appears: Automatic or Manual. Click on  to access the automatic cycle. Click on  to access the manual cycle.	
4	In the event of an incorrect selection: Press the  key to go back to the “Automatic” or “Manual” selection. Press  to go back to the initial grid.	
MANUAL MODE		
5A	Do not insert the Core probe into the product	
6A	Close the Blast Chiller door	
7A	Once the “manual cycle” has been selected, there is the possibility to increase or decrease the cycle time by pressing the “plus” and “minus” keys   Press and hold for over two seconds to increase the time faster. Press the  key to start the selected cycle. The timer cannot be set at zero as the minimum settable time is 1 min.	
8A	Once the cycle has started, the current cycle is shown at the top to the left and the completion percentage is shown to the right. The display shows the time expressed in decreasing hours and minutes from the initial cycle start, and the probe temperature air.	
9A	Use the   keys shown on the display to change the time. Press  to put the screen in stand-by while the cycle is active. Use the  key to stop the cycle and go back to the initial grid.	

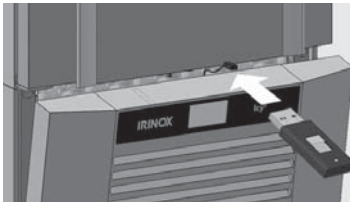
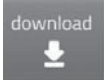
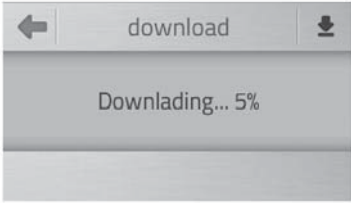
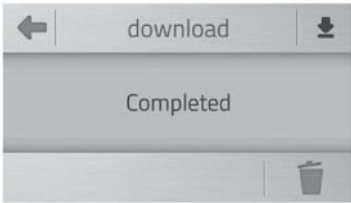
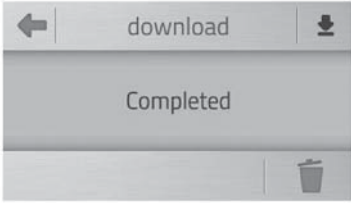
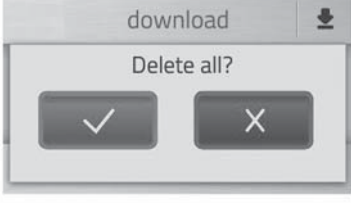
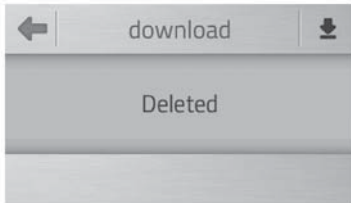
Phase	Description	Front panel screen
10A	Press the info symbol  to display the air temperature, core temperature and the cycle duration time for 3 seconds.	
11A	At the end of the cycles a sound is emitted and the system switches to preservation mode, displaying the time elapsed since the beginning of the cycle. Press  to go back to the initial grid. Press  to put the screen in stand-by while the cycle is active.  Do not use the Blast Chiller as a Holding Cabinet.	
12A	Open the Blast Chiller door, extract the trays with the blast chilled food and place them in the Holding Cabinet.	
AUTOMATIC MODE		
5B	Insert the Core probe into the product	
6B	Close the Blast Chiller door	
7B	Press the “Automatic” cycle key  to put the selected cycle in automatic mode. Press the  key to start the selected cycle.	
8B	Once the cycle has started: Press  to put the system in stand-by. Use  the key to stop the cycle and go back to the initial grid.	
9B	Press the symbol  to display the air temperature, core temperature and the cycle duration time for 3 seconds.  This function can be used to determine, when the cycle has concluded, the time necessary for blast chilling a typical product. This time can be used successively to blast chill a similar product using the MANUAL mode	

Phase	Description	Front panel screen
10B	At the end of the cycles a sound is emitted and the system switches to preservation mode, displaying the time elapsed since the beginning of the cycle. Press home  to go back to the initial grid.  Do not use the Blast Chiller as a Holding Cabinet.	
11B	Open the Blast Chiller door, remove the Core probe from the product and put it back in the relevant housing, Extract the trays with the blast chilled food and place them in a Holding Cabinet.	

Defrost cycle selection and start-up

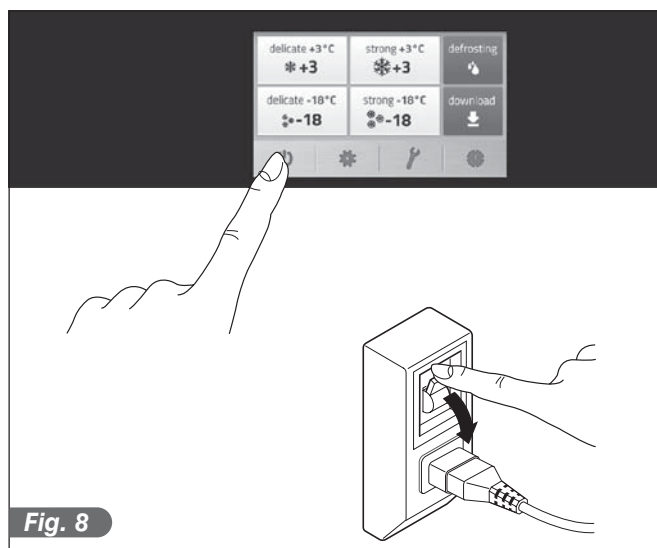
Function	Description	Front panel screen
1	Press  on the home screen, to access the defrost mode.	
2	Open the Blast Chiller door	
3	Use the   keys shown on the display to change the time. Press the  key to start the selected cycle.	
4	Once the cycle has started, the current cycle is shown at the top to the left, while the completion percentage is shown to the right. Use the   keys shown on the display Use the  key to stop the cycle and go back to the initial grid.	
5	If the door is closed during the cycle: • The cycle is suspended • The residual time timer is blocked • A message prompting to reopen the door is displayed	
6	The cycle ends on reaching the set time.	

Data printing selection and start-up

Function	Description	Front panel screen
0	Pull the front finned grill firmly, pull out the USB cable connected to the machine electronic board and connect a generic USB pen drive to the extracted cable.	
1	Press  to access the data download page. The bar at the top displays: "Download" in the centre and logo download to the right. The centre of the bar shows: "Downloading..." and the download percentage.	
2	When the download is complete, the display shows "Completed". If the download fails, or the USB pen drive is not connected, the display shows "Error" If you press the  button during the download process, the download stops, and the display goes back to the initial grid. The print logs remain in the memory.	
RESETTING THE RECORDING MEMORY		
3	On the data download page, when the download is complete ("Completed") or there has been a USB pen drive error ("Error"), press the  symbol.	
4	Press  to go back to the previous screen. Press  to delete the print log.	
5	When the deletion process is complete, the display shows "Deleted". Press  to go back to the initial grid	

3.5. STOPPING MODES

To stop the machine in an emergency, press the Stand-By key  and turn the power off on the control board (Fig. 15).



3.6. ADVICE FOR USE

Before starting the machine, the inside of the cell must be cleaned well (► see par. 4.2).

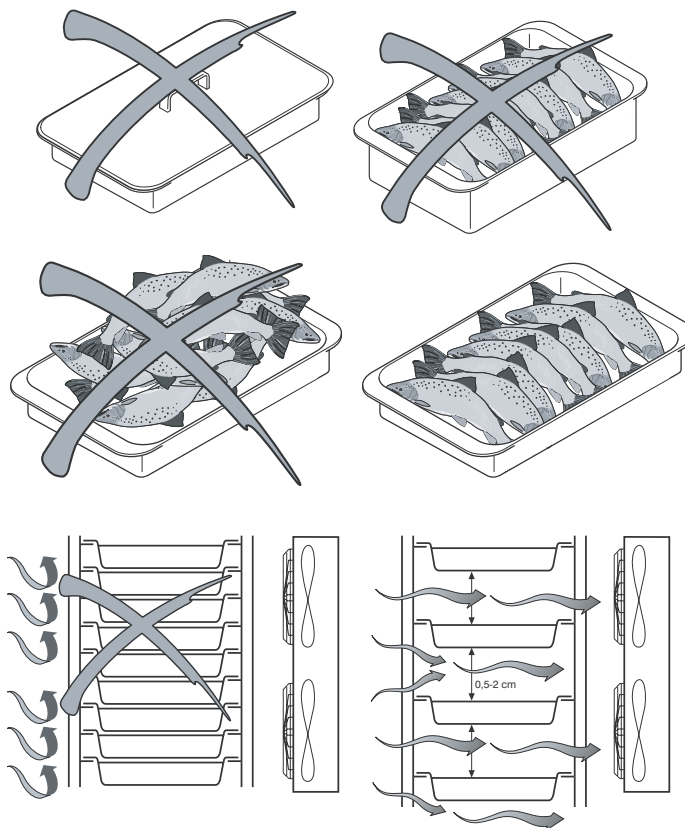
3.6.1. Loading products

Do not cover the trays and containers with lids or plastic wrap: the greater the food surface exposed to cold air, the less time will be needed for blast chilling.

It is recommended to use trays and containers as shallow as possible, and anyhow not more than 6.5 cm deep.

For better results, load the containers with a product weighing 3.5 kg and with a maximum thickness of 8 cm for blast chilling, or 5 cm for shock freezing. For difficult products and/or fats, reduce thickness even more.

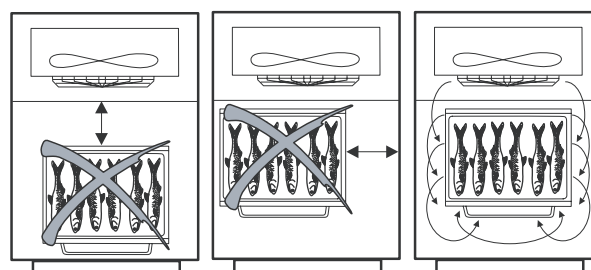
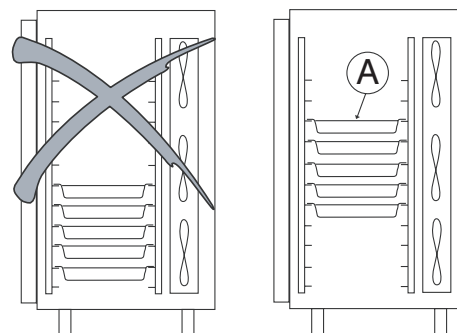
Make sure to leave enough space between the trays so that air can circulate adequately.



If the machine is not loaded completely, concentrate the trays in the middle of the blast chiller, placing an empty tray (A) above the last one.

Position the trays in the innermost part of the tray-holder, making sure that they are as close as possible to the evaporator.

Do not overload the machine beyond what the manufacturer has established (Tab. "Tray yield and capacity").



3.6.2. Loading the machine

Maximum load per shelf: 5 kg

MODELS	Yield		CATERING			CONFECTIONERY		
	Blast chilling (Kg)	Shock freezing (Kg)	GN 1/1 h=20	GN 1/1 h=40	GN 1/1 h=65	400x600 h=20	400x600 h=40	400x600 h=50
ICY S	18	15	8	5	4	8	5	4
ICY M	38	35	18	12	9	18	12	9
ICY L	45	38	27	18	13	27	18	13

The yield is stated at the following conditions:

- Trays filled with water at 90°C
- Room temperature: 32°C
- No chamber pre-cooling

3.6.3. Pre-cooling

Before a cycle of blast chilling and/or shock freezing, it is essential to pre-cool the chamber in order to further reduce work time. Therefore, before inserting the product to be blast chilled, carry out an empty SOFT or HARD cycle.

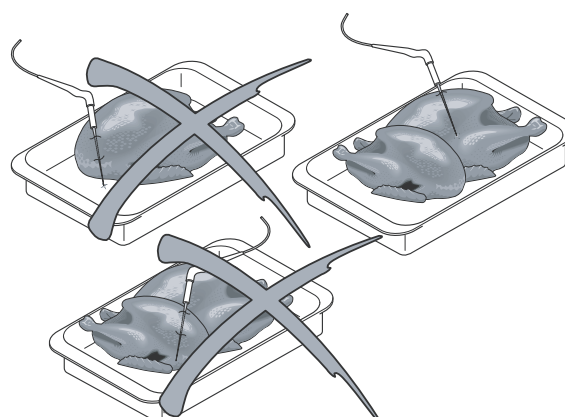
 Do not leave the hot product inside of the chamber, in order to avoid damaging the machine. As soon as the product to be treated is inserted, start the blast chilling or shock freezing cycle right away.

3.6.4. Core probe

The core probe must be positioned correctly at the centre of the largest piece or cut of the product. Make sure that the point of the probe does not come out of the product or touch the tray. The probe must be cleaned and sanitised before each work cycle in order to avoid unwanted contamination.

For better results, load the GN1/1 containers with a product weighing 3.5 kg and with a maximum thickness of 8 cm for blast chilling, or 5 cm for shock freezing.

For difficult products and/or fats, reduce thickness even more.



3.6.5. Temperature

Avoiding having the cooked food to be blast chilled and/or shock frozen remain for long at room temperature. The more moisture is lost, the less food softness will be preserved.

Start the blast chilling and/or shock freezing cycle as soon as preparation and/or cooking has ended. Make sure to put the food inside the blast chiller at a temperature that is not below +70°C. Cooked food can enter into the blast chiller even at very high temperatures (> 100°C), as long as the chamber is pre-cooled. Remember however that reference times for the cycles start at +90°C (from +90°C to +3°C or the blast chilling cycle; from +90°C to -18°C for the shock freezing cycle).

3.6.6. Preservation

Blast chilled and/or shock frozen food must be properly covered and protected (with plastic wrap, a hermetic lid or, even better, vacuum-packed) and marked with an adhesive label upon which the content, day of preparation and the assigned expiration date are carried, with indelible writing.



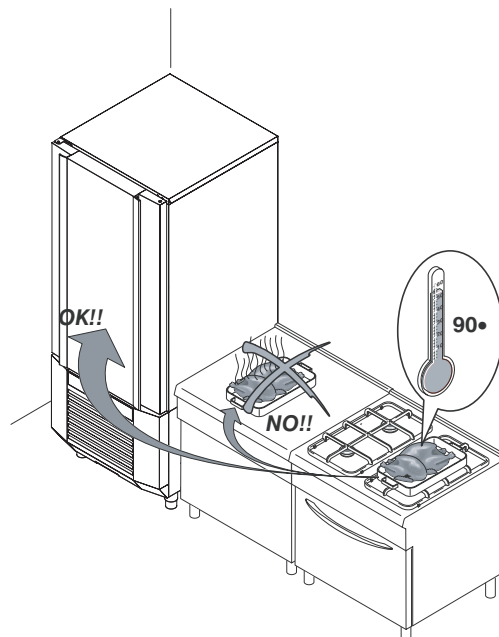
The blast chilled food must be preserved in a refrigerated cabinet at a constant temperature of +2°C.



The shock frozen food must be preserved in a freezer cabinet at a constant temperature of -20°C.



Do not use the blast chiller as a normal refrigerator!

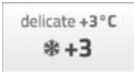
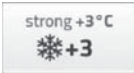
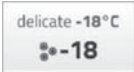
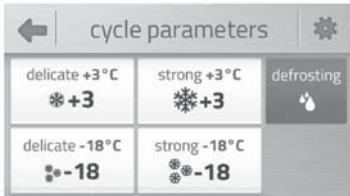
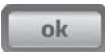
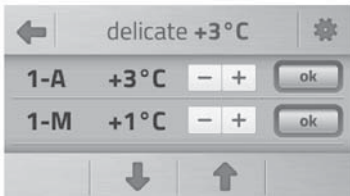


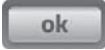
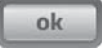
CONTENT _____

Preparation data _____

Expiration date _____

3.7. PARAMETER PROGRAMMING

Function	Description	Front panel screen
0	On the initial grid, press the following to access the parameter programming mode:  to access the cycle parameters ("PrC");  to access the user parameters ("PrO")	
1	The password is requested. Enter code 9 9 9 9 and press OK to access the parameters; press  to go back to the initial grid, press the C key to delete the entered number.	
CYCLE PARAMETERS		
2A	After accessing the cycle parameters page, select the cycle to be modified:  for the DELICATE +3°C cycle  for the STRONG +3°C cycle  for the DELICATE -18°C cycle  for the STRONG -18°C cycle  for the defrosting cycle	
3A	The list of parameters that can be modified appears after selecting the cycle. Press  and  to switch to the next/previous parameters. To save the modified parameter, press  Press the  key to go back to the previous screen; if  is not pressed after modifying a parameter, and you go back, the modification is cancelled. The  key can be used to go back to the first parameter, without exiting the cycle parameters page. Likewise  can be used to reach the last parameter	

Function	Description	Front panel screen
USER PARAMETERS		
2A	The list of parameters that can be modified appears after accessing the user parameters page. Press  and  to switch to the next/previous parameters. To save the modified parameter, press . Press the  key to go back to the previous screen; if  is not pressed after modifying a parameter, and you go back, the modification is cancelled. The  key can be used to go back to the first parameter, without exiting the cycle parameters page. Likewise  can be used to reach the last parameter	

CYCLE PARAMETERS



(+3 - DELICATE)

A= automatic cycle – M = manual cycle

Set	Description	Range	Ris.	Default	Notes
S1	STAGE_1 air set	-40 °C ÷ +40 °C	1°C	+1°C	Blast chilling air temperature
S3	Storage air Setting	-40 °C ÷ +40 °C	1°C	+2°C	
A1	STAGE_1 core temp. set	-40 °C ÷ +40 °C	1°C	+3°C	Cycle end core temperature
M1	STAGE_1 time	1 ÷ 180 min	1min	90 min.	Blast chilling duration



(+3 - STRONG)

A= automatic cycle – M = manual cycle

Set	Description	Range	Ris.	Default	Notes
S1	STAGE_1 air set	-40 °C ÷ +40 °C	1°C	-20°C	First stage blast chilling air temperature
S2	STAGE_2 air set	-40 °C ÷ +40 °C	1°C	-1°C	Cycle end blast chilling air temperature
S3	Storage air Setting	-40 °C ÷ +40 °C	1°C	+2°C	
A1	STAGE_1 core temp. set	-40 °C ÷ +40 °C	1°C	+20°C	First stage end core temperature
A2	STAGE_2 core temp. set	-40 °C ÷ +40 °C	1°C	+3°C	Cycle end core temperature
M1	STAGE_1 time	1 ÷ 180 min.	1min	30min.	Stage 1 blast chilling duration
M2	STAGE_2 time	1 ÷ 180 min.	1min	60min.	Stage 2 blast chilling duration

delicate -18°C

**(-18 - DELICATE)**

A= automatic cycle – M = manual cycle

Set	Description	Range	Ris.	Default	Notes
S1	STAGE_1 air set	-40 °C ÷ +40 °C	1°C	0°C	First stage freezing air temperature
S2	STAGE_2 air set	-40 °C ÷ +40 °C	1°C	-35°C	Cycle end freezing air temperature
S3	Storage air temp.	-40 °C ÷ +40 °C	1°C	-19°C	
A1	STAGE_1 core temp. set	-40 °C ÷ +40 °C	1°C	+6°C	First stage end core temperature
A2	STAGE_2 core temp. set	-40 °C ÷ +40 °C	1°C	-18°C	Cycle end core temperature
M1	STAGE_1 time	1 ÷ 480 min.	1min	60 min	Stage 1 freezing duration
M2	STAGE_2 time	1 ÷ 480 min.	1min	180 min	Stage 2 freezing duration

strong -18°C

**(-18 - STRONG)**

A= automatic cycle – M = manual cycle

Set	Description	Range	Ris.	Default	Notes
S1	STAGE 1 air setting	-40 °C ÷ +40 °C	1°C	-35°C	Freezing air temperature
S3	Storage air temp.	-40 °C ÷ +40 °C	1°C	-19°C	
A1	STAGE 1 core temp. set	-40 °C ÷ +40 °C	1°C	-18°C	Cycle end core temperature
M1	STAGE 1 Time	1 ÷ 480 min	1min	240 min.	Freezing duration

defrosting

**(DEFROSTING)**

Set	Description	Range	Ris.	Default	Notes
1	Defrosting cycle time	1 ÷ 120 min.	1 min.	30 min.	

User Parameters

Set No	Range	Default Values	Description	
Hour	0 ÷ 23	0	Hour setting	
Min	0 ÷ 59	0	Minutes setting	
Year	15 ÷ 99	15	Year setting	
Month	1 ÷ 12	1	Month setting	
Day	1 ÷ 31	1	Day and month setting	
DST	0 ÷ 1	0	Summer time selection setting	0 = Yes 1 = No
Scale	0 ÷ 1	0	Selection setting	0 = °C 1 = °F
Freq	1 ÷ 15 min.	15	Recording frequency setting expressed in minutes	
Mode	0 ÷ 1	0	Recording mode selection:	0 = blast chilling only 1 = blast chilling + storage
Id	1 ÷ 99	1	Machine number setting	
Lang	1 ÷ 1	1	Print language selection	1 = English
Rev			Software release display – 3 digits	
Beep	0 ÷ 1	1	Key tone enabling	0 = OFF 1 = ON
14-o	0 ÷ 1	0	Sanitising	0 = disabled 1 = active
15-o	0 ÷ 15 °C	0°C	Sanitising start temperature	
16-o	0 ÷ 6 h.	40min	Sanitising system operation time	
17-o	0 ÷ 24 h.	6 h.	Sanitising system disabling time	
18-o	1 ÷ 60 sec.	10 sec.	Evaporator fan activation time (RL2)	
19-o	1 ÷ 60 min.	10min	Evaporator fan disabling time (RL2)	
20-o	0 ÷ 10	3	Sanitising system inhibition cycle count	

3.7. SANIGEN

What is it:

Sanigen is a sanitising system which releases **active ions** in order to destroy the microbes in the treated air and on the surfaces in contact with them.

Since air is the vehicle for the sanitising process, there are no areas which are inaccessible. A complete sanitation is guaranteed everywhere.

Sanitising occurs on the surface of the food products and, most of all, in the atmosphere, which is the vehicle of 97% of bacterial contaminations for food.

Absence of bacteria allows to obtain the following advantages inside the chamber:

- continuous sanitising of the inside of the cell,
- all surfaces are treated
- there are no unpleasant odours.

When to use it:

Sanigen must be used when the Blast chiller is not performing any cycle.

How to use it:

Sanigen is installed directly in the factory, when requested. The operation parameters are set in factory and are the result of experience and tests in Irinox laboratories.

Its operation is totally automatic.



How the sanitising cycle works:

- Sanitising is active only when there is not cycle active
- When the cell temperature is $\geq 0^{\circ}\text{C}$ (parameter set in the factory)
 - The sanitizer is activated for a set time
 - The cell fans are controlled for a set time
 - When the fan operation time has ended, they remain off for a set time
 - When operation time has ended, the sanitizer goes off for the set time
 - Cell fan operation and standby times are reset.
- When the cell temperature is $< 0^{\circ}\text{C}$ (parameter set in the factory)
 - the sanitising cycle is not carried out

Routine maintenance:

EVERY 6 MONTHS: Cleaning		
0	Remove the power supply to the preserving unit and access the Sanigen	
1	Release the external tab, holding the glass cylinder still	
2	Remove the external net from the glass cylinder, paying attention not to break the glass	
3	Tighten the glass cylinder anti-clockwise, always acting on the red plastic base Wash the external net in warm water, paying attention not to deform it. Remove any dust deposits carefully	
4	Wash the external net in warm water, paying attention not to deform it. Remove any dust deposits carefully	
5	Clean the glass cylinder with a damp cloth. Remove any dust deposits carefully	
6	Tighten the glass cylinder clockwise, always acting on the red plastic base	
7	Check that the glass cylinder is not cracked. If this is the case, the glass cylinder must be replaced	
8	Insert the external net, paying attention not to overlap the internal net and keep a distance of about 5 mm from the red base	
9	Keeping the glass cylinder still, re-insert the external tab checking that it is in good contact with the external net	

YEARLY: replacement of the glass cylinder and external net

Order the glass cylinder and external net from IRINOX CODE 3880410		
0	Remove the power supply to the preserving unit and access the Sanigen	
1	Release the external tab, holding the glass cylinder still	
2	Tighten the glass cylinder anti-clockwise, always acting on the red plastic base	
3	Dispose of the glass cylinder with the external net as dry waste, as it is made from re-cyclable materials	
4	Check that the new glass cylinder is not cracked. If this is the case, the glass cylinder must be replaced	
5	Tighten the new glass cylinder clockwise with the external net, always acting on the red plastic base	
6	Check that the external net does not overlap the internal net and keep a distance of about 5 mm from the red base	
7	Keeping the glass cylinder still, re-insert the external tab checking that it is in good contact with the external net	

4. MAINTENANCE

4.1. ROUTINE MAINTENANCE

The information and instructions in this chapter are intended for all those who work with the machine: user, maintenance technician, as well as non-specialised personnel.

Elementary safety Standards

To carry out cleaning and maintenance safely, we recall the safety Standards in par. 1.5 (►►Fig. 9) :

- do not touch or operate the machine with wet or humid hands or feet,
- do not insert screwdrivers, kitchen utensils or anything else between the guards and the moving parts
- before carrying out cleaning or routine maintenance, disconnect the machine from the power supply network, turning off the master switch and pulling the plug.
- do not pull the power cord to disconnect the machine from the power supply network.



It is strictly prohibited to remove the guards and safety devices to carry out routine maintenance. The manufacturing company declines all liability for accidents caused due to lack of compliance with this obligation.



Before starting the machine, the inside of the cell must be cleaned well, as indicated in paragraph 4.2.

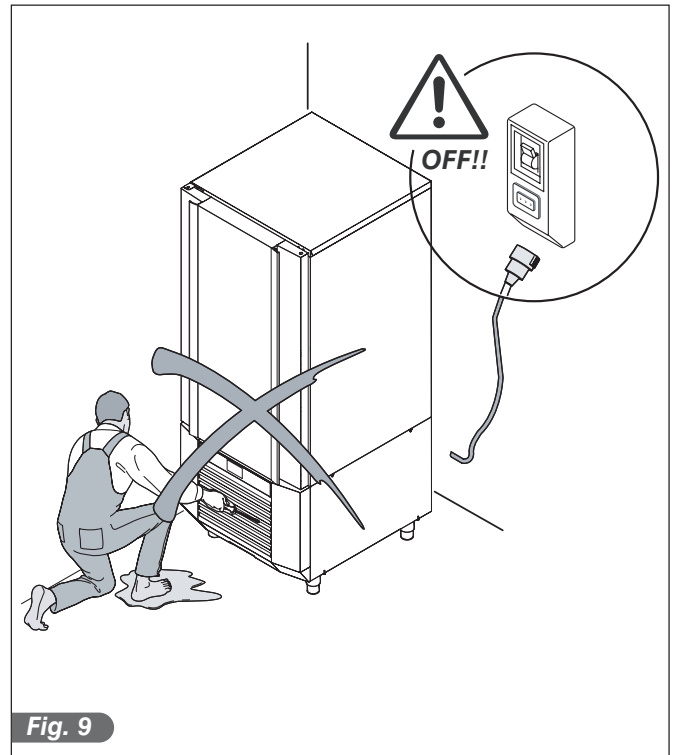


Fig. 9

4.2. CLEANING THE CELL

The inside of the cell must be cleaned at the end of every work day, in order to guarantee hygiene and to safeguard the quality of the food products treated.

A weekly cleaning is recommended.

The conformation of the cell and of the internal components allow them to be cleaned with a cloth or sponge. Clean with water and non-abrasive neutral detergents. Rinsing can be done with a cloth or sponge soaked in water, or with a light water jet (not greater than the network pressure).



Do not scrape the surfaces with sharp or abrasive elements.



Do not use abrasives, solvents or thinners.



Always wear protective gloves during the following operations.



Do not use cleaning agents containing acetic acid and derivatives or ammonia;



Do not use the blast chiller in direct contact with products emanating acetic acid and derivatives or ammonia

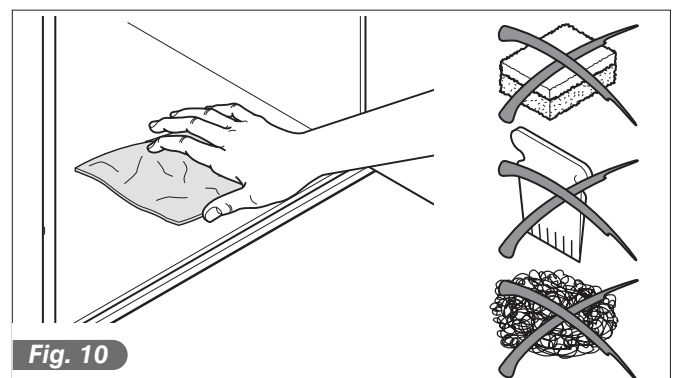


Fig. 10

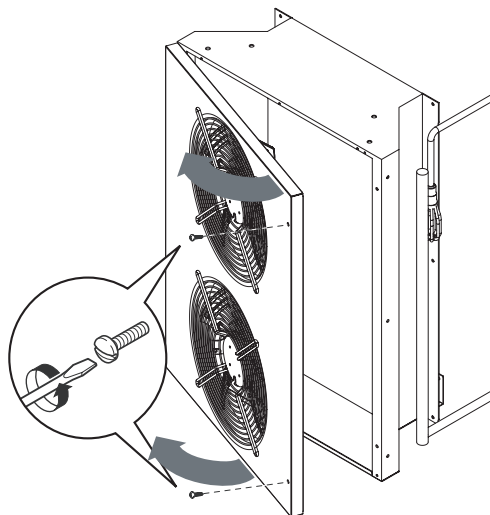
4.2.1. Washing the evaporator



Wear protective gloves during the following operations.

HOW TO ACCESS THE EVAPORATOR:

In order to clean the inside of the evaporator, use a flat-blade screwdriver to loosen the screw located at the right side of the fan-holding panel and turn it to the left.



METHODS FOR CLEANING EVAPORATOR

In order to clean the evaporator, a brush can be used with a vertical movement along the direction of the aluminium flaps.

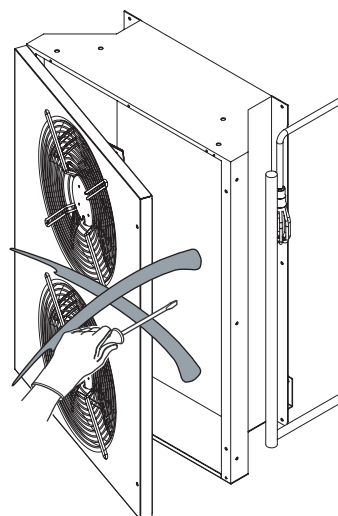
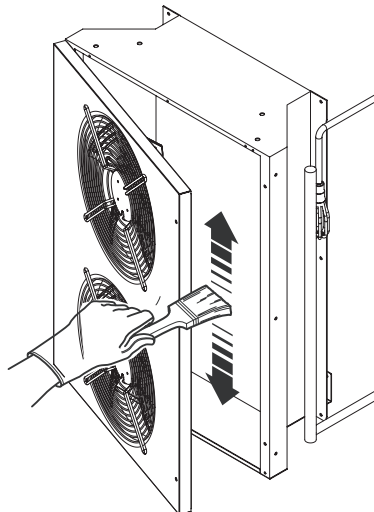
When finished, close the fan-holding panel carrying out the operations inversely.



Do not use sharp objects.



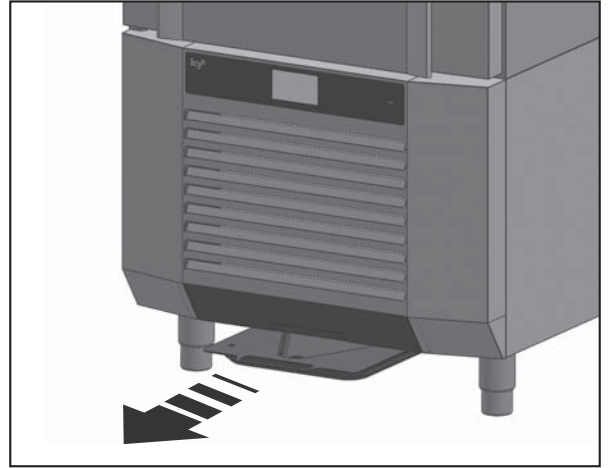
Do not use high pressure water jets



4.2.2. Emptying condensation

The Blast Chillers are equipped with a special tray to gather condensation and wash water. It is at the bottom part of the appliance.

Empty and clean the tray periodically, pulling it out from beneath the appliance using the appropriate handle.



4.3. CLEANING THE CONDENSER

Access the condenser pulling the front flapped grid with force.

This operation, which must be carried out at least every 30 days, can be done with non-metallic brushes in order to remove all dust and down from the condenser flaps. It is recommended to use a vacuum cleaner to avoid dispersing the dust in the area. Use a brush soaked in alcohol if there are oily deposits.

 Do not scrape the surfaces with sharp or abrasive elements.

 Always wear protective gloves, goggles and masks protecting the respiratory tract for these operations.

 Do not use high pressure water jets

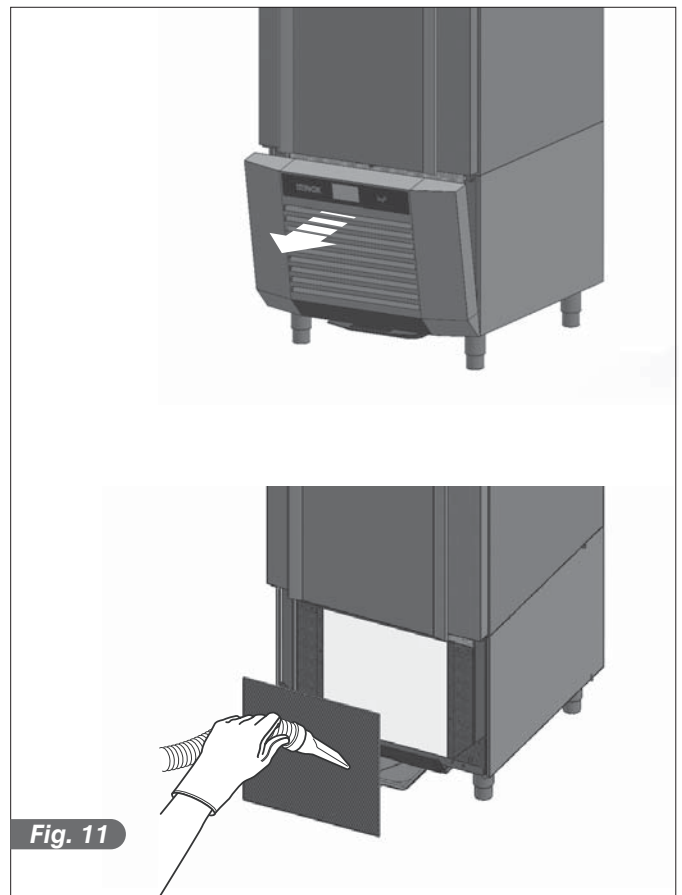


Fig. 11

4.4. TROUBLESHOOTING

The electronic control of the machinery is equipped with a visual system which signals the presence of alarms. The alarms are registered on an alarm list.

Electronically-managed diagnostics:

- This symbol turns on
- The alarm Code appears on the display



ALARM LIST

Alarm code	Description	Possible cause	Possible solution
ALD	Door open alarm (with door closed)	Magnetic contact faulty	Technician intervention
AS1	S1 cell probe faulty	S2 probe broken	Replace S1 probe
AS2	S2 cell probe faulty	Guasto della sonda S2	Replace S2 probe
AS3	Total block with probes S1 and S2 faulty	Probes S1 and S2 are broken	Probes S1 and S2 are broken

VISUALIZZAZIONE ALLARMI:

Phase	Description	Front panel screen
0	Initial condition	
1	Press for 5 seconds. The display will show the list of alarms. Up to 5 alarms can be saved and using the and keys you can scroll the list of alarms starting from the most recent one. If there are no alarms, "NO ALARM" appears Press the key to go back to the initial grid.	
RESETTING THE ALARM RECORDING MEMORY:		
2	Press to delete the alarm list	
3	A deletion request screen appears: Press to go back to the previous screen; Press to delete the alarm log	
4	When the deletion is accepted, the display will show "ALARM RESET" for 3 seconds, before going back to the initial grid	

NON electronically-managed diagnostics:

Malfunction	Possible cause	Possible solution
The front board does not turn on	No power supply	Check connection of electrical line
	Bus connector between two boards disconnected	Insert Bus cable in dedicated connector both in the Front board and in the Relay board
	Protection fuses blown	Replacement of fuses by authorised technician
The cell fans do not turn	No power supply	Check connection of electrical line
	Fan broken	Intervention of a technician to replace fan
	Relay board broken	Intervention of a technician to replace board
The compressor does not work	No power supply	Check connection of electrical line
	Auxiliary circuit protection fuses blown	Replacement of fuses by authorised technician
	Intervention of internal Klixon for overload	Intervention of a technician
	Circuit breaker switch tripped	Intervention of a technician to rearm switch and check calibration
	Pressure switch intervention for high pressure	Electronic diagnostic control (ALP alarm). Intervention of a technician
	Relay board consent missing	Intervention of a technician to replace circuit board
	Remote switch broken	Intervention of a technician to replace remote switch
The compressor works but it does not cool the cell	No refrigerant gas	Intervention of a technician
	Electrovalve broken	Intervention of a technician
	Condenser dirty	Pulire batteria condensante
	Liquid line electrovalve broken	Intervention of a technician to replace electrovalve or coil
The condensing fan does not work	No power supply	Check connection of electrical line
	Pressure switch broken	Intervention of a technician to replace device
	Fan broken	Intervention of a technician to replace fan
	Start condenser broken	Intervention of a technician to replace start condenser
	Compressor remote switch consent missing	Intervention of a technician to replace compressor remote switch
The evaporator does not defrost	Wrong defrost cycle programming	Control defrost cycle programming

4.5. EXTRAORDINARY MAINTENANCE

The information and instructions in this paragraph are intended exclusively for specialised personnel, authorised to intervene on the electrical and refrigeration parts of the machine.

4.5.1. How to access the front circuit board (Touch screen)

- Disconnect the Blast Chiller from the power supply
- Pull the front finned grill firmly
- Disconnect the board power cord
- Undo the 4 screws on the 4 corners of the board using a Phillips screwdriver



Fig. 12

4.5.2. How to access the machine electric control board

- Disconnect the Blast Chiller from the power supply
- Pull the front finned grill firmly
- Remove the rear protection grid (Fig.14) by undoing the screws with a flat-head screwdriver
- Remove the left hand side plate (with the machine in the front position – Fig.13)
- The board is positioned vertically

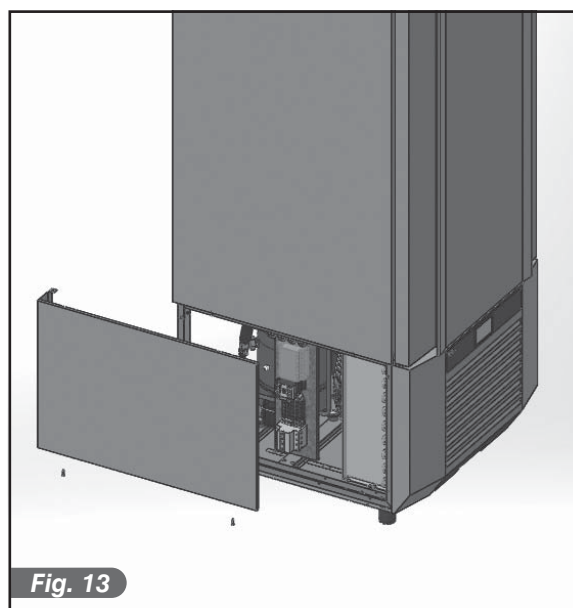


Fig. 13

4.5.3. How to access the condensing plant (where applicable):

- Remove the rear protection grid by undoing the screws with a flat-head screwdriver (Fig. 14)

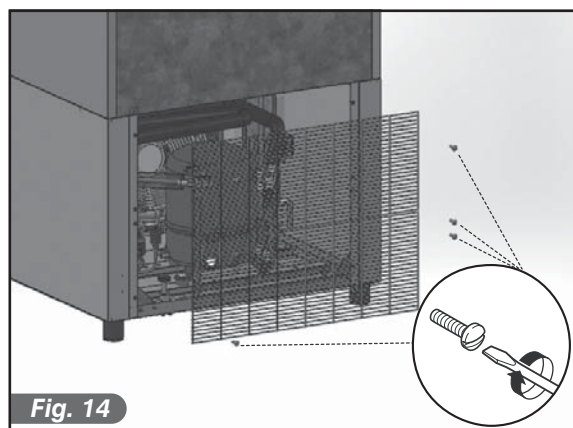


Fig. 14



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